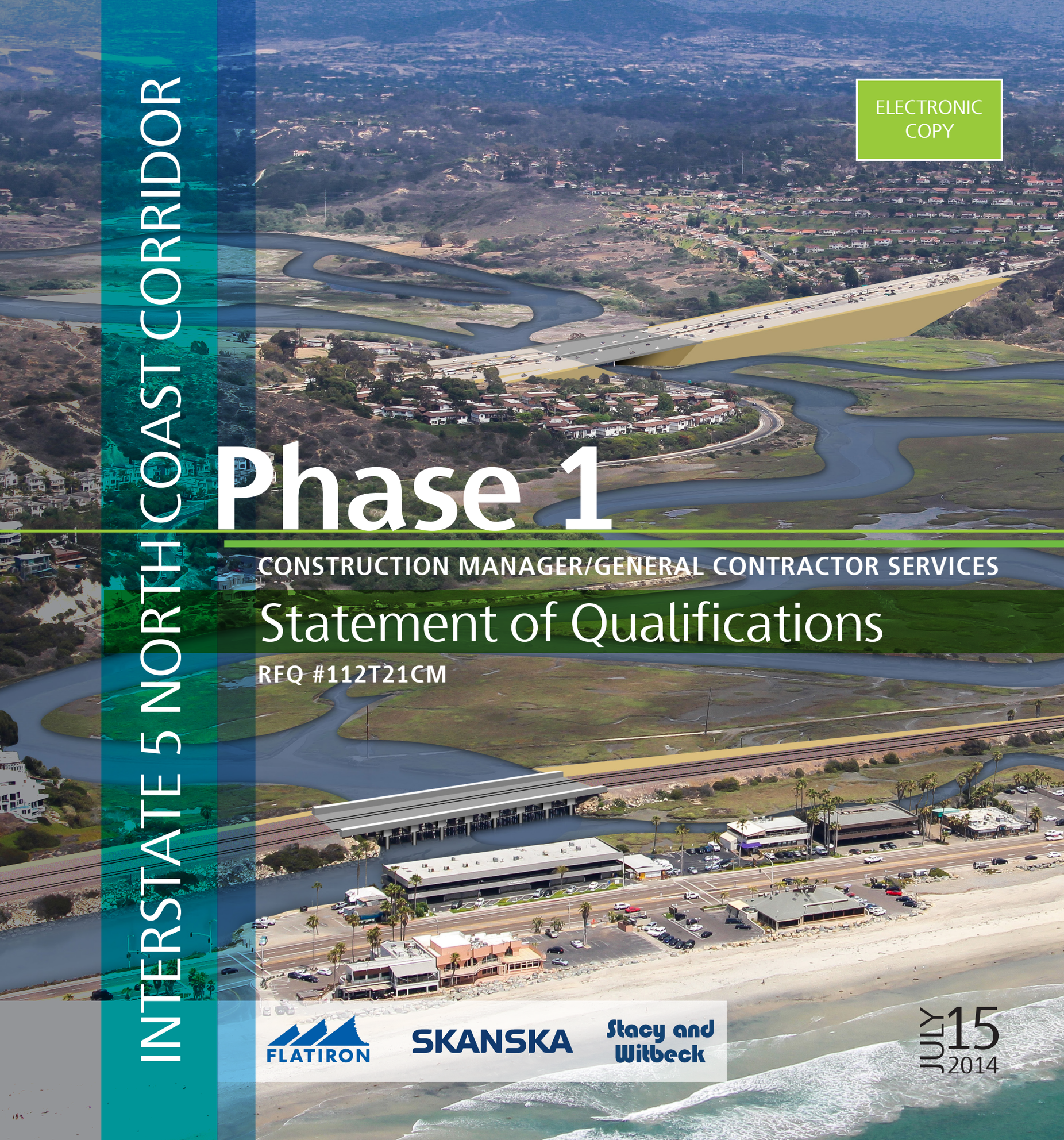

ELECTRONIC COPY

INTERSTATE 5 NORTH COAST CORRIDOR

Phase 1

CONSTRUCTION MANAGER/GENERAL CONTRACTOR SERVICES

Statement of Qualifications

RFQ #112T21CM

FLATIRON SKANSKA Stacy and Witbeck

JULY 15 2014

FLATIRON SKANSKA Stacy and Witbeck

North Coast Corridor Evaluation Committee:

The Joint Venture of Flatiron West, Inc. (Flatiron), Skanska USA Civil West (Skanska), and Stacy and Witbeck, Inc. (Stacy and Witbeck), was assembled to provide Caltrans a fully integrated team that delivers superior personnel, capabilities, experience and the necessary resources to assist in planning and ultimately delivering the North Coast Corridor Phase 1 Project as the Construction Manager/ General Contractor. Our Joint Venture team, in conjunction with Marathon Construction Corporation as our exclusive dedicated subcontractor for lagoon restoration on the project, has a commitment to this landmark project for San Diego like no other proposer.

We understand the regional significance of The North Coast Corridor Program as a balanced solution to improve mobility for I-5 and coastal rail/ transit, improve access to beaches and the coastline, provide environmental restoration and enhancements to the precious coastal lagoons, and maintain environmental protection. We understand this not only because of the proposal requirements, but more importantly because our team and people live and work in San Diego and will share the benefits of this program as part of the community for years to come.

Our team delivers unmatched experience in working with Caltrans, SANDAG and the project stakeholders, in partnership, to deliver transportation and environmental projects. Our team understands the strong relationship that exists between Caltrans and SANDAG in San Diego and how that team has brought the North Coast Corridor Program to its current status. You have our team's commitment to exceed the goals of the project:

Safety/ Mobility/ Quality/ Environmental/ Customer- Stakeholder Satisfaction/ Budget/ DBE- UDBE

Our team understands that the CMGC project delivery method is new to Caltrans and SANDAG. Our goal is to be part of a team that works collaboratively together to understand the project, assist Caltrans and SANDAG in planning for the budget and schedule, identifying and mitigating risks, and identifying opportunities to innovate and exceed the expectations of the stakeholders. This process will result in a successful project driven by our most important shared asset, experienced and dedicated people on the project that are trusted. Our team offers key personnel that not only exceed the project requirements, but are known to Caltrans and SANDAG.

As Team Leader for the North Coast Corridor Phase 1 Project, as well as part of our joint venture executive committee, you have my personal guarantee and commitment for the personnel, resources and dedication needed to deliver a successful project for Caltrans, SANDAG and San Diego.

Sincerely,

Jeff A. Turner
Team Leader

Flatiron-Skanska-Stacy and Witbeck, a Joint Venture

Transmittal Letter and Proposer SOQ Certification

form A

Transmittal Letter

Form A
TRANSMITTAL LETTER

SOQ Date: July 15, 2014

California Department of Transportation
Division of Procurements and Contracts
1727 30th Street
Sacramento, CA 95816-7006
Attn: Denetia Floyd-Smith, Contract Analyst

The undersigned ("Proposer") submits this proposal and statement of qualification submittal (this "SOQ") in response to that certain Request for Qualifications dated as of May 30, 2014 (as amended, the "RFQ"), issued by California Department of Transportation ("Department") to provide preconstruction services and construct the related facilities within the State Route 78 as described in the RFQ.

Enclosed, and by this reference incorporated herein and made a part of this SOQ, are the following:

Transmittal Letter (this Form A)

Form G, Proposer's SOQ Certification

Section 1: Legal Structure

Section 2: Financial Capacity

Section 3: Safety Program

Section 4: Firm Experience and Past Performance

Section 5: Proposer Organization and Key Personnel

Section 6: Project Understanding and Approach

Appendices A & B (Resumes and Legal Documents)

Proposer acknowledges receipt, understanding, and full consideration of all materials posted on the BidSync website (http://www.BidSync.com) as set forth in Section 1.3, and the following addenda and sets of questions and answers to the RFQ:

Addendum #1, 5/30/14 Q&A Question #'s 1-14

Proposer represents and warrants that it has read the RFQ and agrees to abide by the contents and terms of the RFQ and the SOQ. If the Proposer consists of more than one entity, all members of the Proposer entity agree to accept joint and several liability for performance under the Contract. Proposer understands that Department is not bound to award a contract and may reject each SOQ Department may receive. Proposer further understands that all costs and expenses incurred by it in preparing this SOQ and participating in the Project procurement process will be borne solely by the Proposer.

Proposer agrees that Department will not be responsible for any errors, omissions, inaccuracies, or incomplete statements in this SOQ. This SOQ shall be governed by and construed in all respects according to the laws of the State of California.

Proposer's business address:

1770 La Costa Meadows Drive
(No.) (Street) (Floor or Suite)

San Marcos, CA 92078 USA
(City) (State or Province) (ZIP or Postal Code) (Country)

State or Country of Incorporation/Formation/Organization: California

1. Sample signature block for partnership or joint venture:

Flatiron-Skanska-Stacy and Witbeck a Joint Venture

By: *Flatiron West, Inc.*

By: _____

Print Name: Jeffrey A. Turner

Title: Vice President

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

State of California

County of _____ Please See attached Certificate.

On _____ before me, (here insert name and title of the officer), personally appeared _____ _____ who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to within the instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public Signature Notary Public Seal

ADA Notice: For individuals with sensory disabilities, this document may be available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT
CIVIL CODE § 1189

State of California
County of San Diego

On July 15, 2014 (*Date*) before me, Jannette M. Carter, Notary Public (*Name and Title of the Officer*),

personally appeared Jeffrey A. Turner (*Name(s) of Signer(s)*),

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Jannette M. Carter
Signature of Notary Public

JANNETTE M. CARTER
Commission # 2047538
Notary Public - California
San Diego County
My Comm. Expires Nov 28, 2017

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Transmittal Letter Document Date: July 15, 2014

Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: Jeffrey A. Turner
☑ Corporate Officer — Title(s): Vice President
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: Flatiron West, Inc.

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

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2. Sample signature block for partnership or joint venture:

Flatiron-Skanska-Stacy and Witbeck a Joint Venture

By: *Skanska USA Civil West California District Inc.*

By: _____

Print Name: Jeff Langevin

Title: Vice President

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

State of California

County of Riverside

On July 15, 2014 before me, Irene C. Rumbaugh, Notary Public (here insert name and title of the officer), personally appeared Jeff Langevin who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to within the instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public Signature _____ Notary Public Seal

ADA Notice: For individuals with sensory disabilities, this document may be available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

IRENE C. RUMBAUGH
Commission # 1949009
Notary Public - California
Riverside County
My Comm. Expires Aug 21, 2015

3. Sample signature block for partnership or joint venture:

Flatiron-Skanska-Stacy and Witbeck a Joint Venture

By: *Stacy and Witbeck, Inc.*

By: _____

Print Name: George J. Furnanz

Title: President

CALIFORNIA ALL PURPOSE ACKNOWLEDGMENT

State of California

County of Alameda

On July 15, 2014 before me, Sylvia Nguyen, Notary Public, personally appeared George J. Furnanz who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to within the instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Notary Public Signature

Notary Public Seal

SYLVIA NGUYEN
Commission # 2028416
Notary Public - California
Alameda County
My Comm. Expires Jun 10, 2017

ADA Notice: For individuals with sensory disabilities, this document may be available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

form G

Proposer SOQ Certification

Form G
PROPOSER SOQ CERTIFICATION

A COPY OF THIS CERTIFICATION MUST BE COMPLETED AND SIGNED BY PROPOSER AND, IF A PROPOSER IS A PARTNERSHIP, LIMITED PARTNERSHIP, JOINT VENTURE OR OTHER ASSOCIATION, THEN A SEPARATE CERTIFICATION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF EACH MEMBER AND SUBMITTED WITH THE STATEMENT OF QUALIFICATIONS.

DECLARATION

STATE OF California _____)
)SS:
COUNTY OF San Diego _____)

I, (printed name) Jeffrey A. Turner, being first duly sworn, state that I am the (title) Attorney-in-Fact of Flatiron-Skanska-Stacy and Witbeck a joint venture, the major participant of the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for theI-5 North Coast Corridor Phase 1 CMGC Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

_____
(Signature)

Jeffrey A. Turner_____
(Name Printed)

ACKNOWLEDGMENT

State of California
County of _____

Please see attached certificate

On _____ before me, (here insert name and title of the officer) personally appeared, _____ _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature Notary Public Seal

NOTICE TO APPLICANTS:
A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT
CIVIL CODE § 1189

State of California
County of San Diego

On June 27, 2014 (*Date*) before me, Jannette M. Carter, Notary Public (*Name and Title of the Officer*),

personally appeared Jeffrey A. Turner (*Name(s) of Signer(s)*),

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Jannette M. Carter
Signature of Notary Public

JANNETTE M. CARTER
Commission # 2047538
Notary Public - California
San Diego County
My Comm. Expires Nov 28, 2017

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: Proposer SOQ Certification Document Date: June 27, 2014

Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: Jeffrey A. Turner
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☑ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

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Form G
PROPOSER SOQ CERTIFICATION

A COPY OF THIS CERTIFICATION MUST BE COMPLETED AND SIGNED BY PROPOSER AND, IF A PROPOSER IS A PARTNERSHIP, LIMITED PARTNERSHIP, JOINT VENTURE OR OTHER ASSOCIATION, THEN A SEPARATE CERTIFICATION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF EACH MEMBER AND SUBMITTED WITH THE STATEMENT OF QUALIFICATIONS.

DECLARATION

STATE OF California)

)SS:

COUNTY OF San Diego)

I, (printed name) Jeffrey A. Turner, being first duly sworn, state that I am the (title) Vice President of Flatiron West, Inc. ,a joint venture member of the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for theI-5 North Coast Corridor Phase 1 CMGC Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

_____
(Signature)

Jeffrey A. Turner_____
(Name Printed)

ACKNOWLEDGMENT

State of California
County of San Diego

Please Separate Certificate.

On _____ before me, (here insert name and title of the officer)personally appeared, _____ _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature Notary Public Seal

NOTICE TO APPLICANTS:
A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT
CIVIL CODE § 1189

State of California
County of San Diego

On June 27, 2014 before me, Jannette M. Carter, Notary Public,
Date *Name and Title of the Officer*

personally appeared Jeffrey A. Turner
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Jannette M. Carter
Signature of Notary Public

JANNETTE M. CARTER
Commission # 2047538
Notary Public - California
San Diego County
My Comm. Expires Nov 28, 2017

Place Notary Seal Above

OPTIONAL

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Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: Jeffrey A. Turner
☑ Corporate Officer — Title(s): Vice President
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: Flatiron West, Inc.

Signer's Name: _____
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator
☐ Other: _____
Signer Is Representing: _____

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DECLARATION

STATE OF CALIFORNIA)

)SS:

COUNTY OF RIVERSIDE)

I, (printed name) Jeff Langevin, being first duly sworn, state that I am the (title) Vice President of Skanska USA Civil West California District Inc. (a joint venture member of) the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for theI-5 North Coast Corridor Phase 1 CMGC Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

(Signature)

Jeff Langevin

(Name Printed)

ACKNOWLEDGMENT

State of California

County of Riverside

On 7/8/14 before me, Irene C. Rumbaugh, Notary Public [here insert name and title of the officer] personally appeared, Jeff Langevin [Insert name of signer above], who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature Notary Public Seal

NOTICE TO APPLICANTS:

A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

IRENE C. RUMBAUGH
Commission # 1949009
Notary Public - California
Riverside County
My Comm. Expires Aug 21, 2015

Form G
PROPOSER SOQ CERTIFICATION

A COPY OF THIS CERTIFICATION MUST BE COMPLETED AND SIGNED BY PROPOSER AND, IF A PROPOSER IS A PARTNERSHIP, LIMITED PARTNERSHIP, JOINT VENTURE OR OTHER ASSOCIATION, THEN A SEPARATE CERTIFICATION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF EACH MEMBER AND SUBMITTED WITH THE STATEMENT OF QUALIFICATIONS.

DECLARATION

STATE OF California)
)SS:
COUNTY OF Alameda)

I, (printed name) George Furnanz, being first duly sworn, state that I am the (title) President of Stacy and Witbeck, Inc. ,a joint venture member of the Proposer.

I certify that I have read and understood the information contained in the Request for Qualifications issued by the California Department of Transportation for theI-5 North Coast Corridor Phase 1 CMGC Project and the attached Statement of Qualifications (SOQ), and that to the best of my knowledge and belief all information contained herein and submitted concurrently or in supplemental documents with this SOQ is complete, current, and true. I further acknowledge that any false, deceptive, or fraudulent statements in the SOQ will result in denial of pre-qualification status.

(Signature)

George Furnanz
(Name Printed)

ACKNOWLEDGMENT

State of California
County of Alameda

On June 24, 2014 before me, Sylvia Nguyen, Notary Public personally appeared, George Furnanz, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Signature

SYLVIA NGUYEN
Commission # 2028416
Notary Public - California
Alameda County
My Comm. Expires Jun 10, 2017

Notary Public Seal

NOTICE TO APPLICANTS:
A material false statement, omission, or fraudulent inducement made in connection with this Statement of Qualifications is sufficient cause for denial of the application. In addition, such false submission may subject the person or entity making the false statement to criminal charges. (Title 18 USC 1001, false statements; California Penal Code section 132, offering altered or antedated or forged documents or records; and section 134, preparing false documentary evidence).

section 1

Legal Structure

Section 1 Legal Structure

3.2 A Legal Structure of Proposer

Flatiron-Skanska-Stacy and Witbeck a Joint Venture (FSSW) is a joint venture comprised of Flatiron West, Inc. (Flatiron), Skanska USA Civil West California District Inc. (Skanska), and Stacy and Witbeck, Inc. (SWI). Flatiron is the managing Joint Venture Partner with an equity share of 40%, Skanska with 40% and SWI with 20%.

3.2 C Major Participants

- Flatiron West, Inc.
- Skanska USA Civil West California District Inc.
- Stacy and Witbeck, Inc.

3.2 D Major Participants on Different Proposer Organizations

None of the Major Participants on the Flatiron-Skanska-Stacy and Witbeck Team are owned by the same parent company as other Major Participants on a different Proposer organization, therefore no conflict of interest exists.

Licenses, Registrations, and Credentials

FSSW has obtained a California Contractors License per the below information. A copy of the printout from the Contractors State License Board is provided in Appendix B reflecting the status of Active, as FSSW has not yet received the license card. There have been no revocations or suspensions of any licenses, credentials, or registrations for neither the joint venture nor any of the joint venture members.

Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Date Obtained: 2/26/14
Type: California Contractor's License
CA License No: 990887
Classification: Class A General Engineering
Issuing Agency: State of California Contractors State License Board
Expiration Date: 2/29/16

Flatiron West, Inc.

Date Obtained: 12/13/99
Type: California Contractor's License
CA License No: 772589
Classification: Class A General Engineering
Issuing Agency: State of California Contractors State License Board
Expiration Date: 12/31/15

Skanska USA Civil West California District Inc.

Date Obtained: 8/3/53
Type: California Contractor's License
CA License No: 140069
Classification: Class A General Engineering
Issuing Agency: State of California Contractors State License Board
Expiration Date: 5/31/16

Stacy and Witbeck, Inc.

Date Obtained: 11/24/81
Type: California Contractor's License
CA License No: 414305
Classification: Class A General Engineering
Issuing Agency: State of California Contractors State License Board
Expiration Date: 11/30/15

The following organizational documents can be found in Appendix B:

- FSSW Joint Venture Agreement
- Copy of FSSW's California Contractor's License Printout
- Power of Attorney
- Corporate Resolutions for Flatiron, Skanska, and SWI

form E

Proposer's Organization Information

Form E
PROPOSER'S ORGANIZATION INFORMATION

Name of Proposer: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Instructions for Form completion: Responses to each subject area shall be addressed within the table below. Should additional space be needed, Proposers are advised to increase space following question as appropriate. Form E shall have no SOQ page limitation.

Proposer (Individual Firm / Joint Venture / Partnership / LLC)			
Name of Entity:	**Flatiron-Skanska-Stacy and Witbeck a Joint Venture**		
Address:	1770 La Costa Meadows Drive, San Marcos, CA 92078		
Contact Name:	Jeffrey A. Turner	Title:	Attorney-in-Fact
Telephone No.:	(760) 916-9100	Fax No.: (760) 916-9101	E-mail: jturner@flatironcorp.com
Local / Regional Contact			
Name:	**Jeffrey A. Turner**		
Address:	1770 La Costa Meadows Drive, San Marcos, CA 92078		
Telephone No.:	(760) 916-9100	Fax No.: (760) 916-9101	E-mail: jturner@flatironcorp.com

Form E
PROPOSER'S ORGANIZATION INFORMATION

Name of Proposer: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Instructions for Form completion: Responses to each subject area shall be addressed within the table below. Should additional space be needed, Proposers are advised to increase space following question as appropriate. Form E shall have no SOQ page limitation.

Proposer (Individual Firm / Joint Venture / Partnership / LLC)	
Name of Entity:	**Flatiron West, Inc.**
Address:	1770 La Costa Meadows Drive, San Marcos, CA 92078
Contact Name:	Jeffrey A. Turner Title: Vice President
Telephone No.:	(760) 916-9100 Fax No.: (760) 916-9101 E-mail: jturner@flatironcorp.com
Local / Regional Contact	
Name:	**Jeffrey A. Turner**
Address:	1770 La Costa Meadows Drive, San Marcos, CA 92078
Telephone No.:	(760) 916-9100 Fax No.: (760) 916-9101 E-mail: jturner@flatironcorp.com

Form E
PROPOSER'S ORGANIZATION INFORMATION

Name of Proposer: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Instructions for Form completion: Responses to each subject area shall be addressed within the table below. Should additional space be needed, Proposers are advised to increase space following question as appropriate. Form E shall have no SOQ page limitation.

Proposer (Individual Firm / Joint Venture / Partnership / LLC)
Name of Entity: Skanska USA Civil West California District Inc. Address: 1995 Agua Mansa Road Riverside, CA 92509 Contact Name: Jeff Langevin Title: Vice President Telephone No.: (951) 684-5360 Fax No.: (951) 788-2449 E-mail: jeff.langevin@skanska.com
Local / Regional Contact
Name: Jeff Langevin Address: 1995 Agua Mansa Road Riverside, CA 92509 Telephone No.: (951) 684-5360 Fax No.: (951) 788-2449 E-mail: jeff.langevin@skanska.com

Form E
PROPOSER'S ORGANIZATION INFORMATION

Name of Proposer: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Instructions for Form completion: Responses to each subject area shall be addressed within the table below. Should additional space be needed, Proposers are advised to increase space following question as appropriate. Form E shall have no SOQ page limitation.

Proposer (Individual Firm / Joint Venture / Partnership / LLC)			
Name of Entity: Stacy and Witbeck, Inc.			
Address:	2800 Harbor Bay Parkway Alameda, CA 94502		
Contact Name:	Jim Abramson	Title:	Senior Vice President
Telephone No.:	510.748.1870	Fax No.: 510.748.1205	E-mail: jabramson@stacywitbeck.com
Local / Regional Contact			
Name:	Jim Abramson		
Address:	2800 Harbor Bay Parkway Alameda, CA 94502		
Telephone No.:	510.748.1870	Fax No.: 510.748.1205	E-mail: jabramson@stacywitbeck.com

form F

Proposer's DBE/UDBE Project Goal Declaration Affidavit

Form F

PROPOSER'S DBE/UDBE PROJECT GOAL DECLARATION AFFIDAVIT

Name of Proposer: Flatiron-Skanska-Stacy and Witbeck a Joint Venture

It is understood and agreed by the Proposer that it has carefully examined all documents that form this Request for Qualifications (RFQ) and acknowledges that California Department of Transportation (Department) has established a proposed Project DBE goal of 5.1 % and a Project UDBE goal of 5.1% for the preconstruction phase based on the total Contract value for the Preconstruction Services Contract. This affidavit further serves to confirm that Flatiron-Skanska-Stacy and Witbeck a Joint Venture will aggressively exercise good faith efforts to the satisfaction of Department to meet the proposed Project DBE/UDBE goals in accordance with DBE Program requirements defined in the Construction Contract documents, when issued.

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE)

Each of the undersigned, being first duly sworn, deposes and says that Jeffrey A. Turner is the Vice President of
(Contact Name) (Title)
Flatiron West, Inc. and Jeff Langevin is the Vice President of Skanska USA Civil West California District Inc.
(Company) (Contact Name) (Title) (Company)
and George J. Furnanz is the President of Stacy and Witbeck, Inc., which entity(ies) are the
(Contact Name) (Title) (Company)
Joint Venture members of Flatiron-Skanska-Stacy and Witbeck a Joint Venture, the entity making the
(Joint Venture/Partnership, Other) (Joint Venture Company)

foregoing Statement of Qualification.

The Proposer hereby affirms that it will either meet the DBE goals described in this solicitation or exercise and provide demonstrable evidence to the satisfaction of the California Department of Transportation (Department) that it has aggressively exercised Good Faith Efforts to do so in accordance with defined program requirements, including contractual and regulatory provisions set forth under Title 49, Code of Federal Regulations (CFR), Part 26 and subsequently published in the Federal Registrars.

(Signature)

Jeffrey A. Turner
(Name Printed)

Vice President
(Title)

State of California
County of San Diego
Subscribed and sworn to (or affirmed) before me on this 27th day of June, 2014, by Jeffrey A Turner, proved to me on the basis of satisfactory evidence to be the person(~~s~~) who appeared before me.

Notary Public Signature Jannette M. Carter

Notary Public Seal

JANNETTE M. CARTER
Commission # 2047538
Notary Public - California
San Diego County
My Comm. Expires Nov 28, 2017

[Duplicate or modify this form as necessary so that it accurately describes the entity making the proposal and so that it is signed on behalf of all partners/members of the proposing firm.]

(Signature)

Jeff Langevin
(Name Printed)

Vice President
(Title)

State of California
County of Riverside
Subscribed and sworn to (or affirmed) before me on this 8th day of July, 2014, by Jeff Langevin, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public Signature Irene C. Rumbaugh

Notary Public Seal

[Duplicate or modify this form as necessary so that it accurately describes the entity making the proposal and so that it is signed on behalf of all partners/members of the proposing firm.]

IRENE C. RUMBAUGH
Commission # 1949009
Notary Public - California
Riverside County
My Comm. Expires Aug 21, 2015

(Signature)

George J. Furnanz
(Name Printed)

President
(Title)

State of California
County of Alameda
Subscribed and sworn to (or affirmed) before me on this 24th day of June, 20 14, by George Furnanz, proved to me on the basis of satisfactory evidence to be the person(s) who appeared before me.

Notary Public Signature

NGUYEN
mission # 2028416
Notary Public - California
Alameda County
Comm. Expires Jun 10, 2017

Notary Public Seal

[Duplicate or modify this form as necessary so that it accurately describes the entity making the proposal and so that it is signed on behalf of all partners/members of the proposing firm.]

section 2

Financial Capacity

Surety Letter

June 30, 2014

State of California, Department of Transportation
District 11 Office
Division of Project/Program Management
4050 Taylor Street
San Diego, CA 92127

Re: Flatiron-Skanska-Stacy and Witbeck a Joint Venture
Request For Qualifications Interstate 5 North Coast Corridor Phase 1
Construction Manager/General Contractor Services
Contract No. 112T21CM – Project No. 1114000058
Estimated Contract Value: $550,000,000

Gentlemen:

This letter confirms that Flatiron-Skanska-Stacy and Witbeck, a Joint Venture comprised of Flatiron West, Inc., Skanska USA Civil West California District Inc., and Stacy and Witbeck, Inc. is supported by the following co-sureties, Liberty Mutual Insurance Company, Travelers Casualty and Surety Company of America, Zurich American Insurance Company, Federal Insurance Company, The Continental Insurance Company, and XL Specialty Insurance Company. All Sureties are listed in the U.S. Treasury listing dated July 1, 2013 and licensed to do business in all states.

The undersigned sureties agree that, Flatiron-Skanska-Stacy and Witbeck a Joint Venture is well qualified to perform the above captioned project. Furthermore, the undersigned sureties confirm the joint venture has current bonding capacity sufficient to meet the bond requirements as stated in Section 1.15.1 of the RFQ. It is our intention to provide Performance and Payment Bonds if the Joint Venture is awarded and signs the captioned contract. After reviewing each participant's backlog and work-in-progress, in addition to current financial strength, we offer the following information on each participant of the Flatiron-Skanska-Stacy and Witbeck Joint Venture.

With respect to Flatiron West, Inc., this entity is included as part of an overall surety work program commitment totaling $6.5 Billion. Available bonding capacity is $2.5 Billion. The Flatiron West, Inc. organization has a current backlog of approximately $4.0 Billion.

With respect to Skanska USA Civil West District Inc., this entity is included as part of an overall surety work program commitment totaling $7.5 Billion. Available bonding capacity is $3.5 Billion. Skanska USA organization has a current backlog of approximately $4.0 Billion.

With respect to Stacy and Witbeck Inc., this entity is included as part of an overall surety work program commitment totaling $1.4 Billion. Available bonding capacity is $900 Million. The Stacy and Witbeck organization has a current backlog of approximately $500 Million.

The standard underwriting procedures in the surety industry would be performed prior to any final approvals and would be contingent on the satisfactory review of contract documents, confirmation of financing, acceptable payment provisions, acceptable bond forms, etc. As this letter is provided to document the abilities of Flatiron/Skanska/Stacy and Witbeck, a Joint Venture, we assume no liability to third parties or to you by issuance of this letter.

We are pleased to share with you our favorable experience and high regard for Flatiron-Skanska-Stacy and Witbeck a Joint Venture.

Sincerely,

Liberty Mutual Insurance Company – A.M. Best Rating - A XV
175 Berkeley Street, Boston, MA 02116 (Massachusetts Corporation)

Travelers Casualty and Surety Company of America – A.M. Best Rating - A++ XV
Construction Services, One Tower Square, Hartford, CT 06183 (Connecticut Corporation)

Continued

June 30, 2014

Flatiron-Skanska-Stacy and Witbeck a Joint Venture
Request For Proposals for CM/GC Services – Contract No. 112T21CM – Project No. 1114000058
Interstate 5 North Coast Corridor Phase 1

Sureties Continued---

Zurich American Insurance Company – A.M. Best Rating - A+ XV
1400 American Lane, Schaumburg, IL 60196 (New York Corporation)

Federal Insurance Company – A.M. Best Rating – A++ XV
15 Mountain View Road, Warren, NJ 07061 (Indiana Corporation)

The Continental Insurance Company – A.M. Best Rating – A XV
333 Wabash Avenue, Chicago, IL 60604 (Pennsylvania Corporation)

XL Specialty Insurance Company – A.M. Best Rating - A XV
Seaview House, 70 Seaview Avenue, Stamford, CT 06902 (Delaware Corporation)

By:_____
Mary R. McKee Attorney-In-Fact

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of Liberty Mutual Insurance Company the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

Liberty Mutual. SURETY

LIBERTY MUTUAL INSURANCE COMPANY

FINANCIAL STATEMENT — DECEMBER 31, 2013

Assets

Cash and Bank Deposits	$1,118,180,550
*Bonds — U.S Government	1,888,225,943
*Other Bonds	12,039,490,815
*Stocks	9,030,962,112
Real Estate	251,301,907
Agents' Balances or Uncollected Premiums	4,781,042,931
Accrued Interest and Rents	149,855,386
Other Admitted Assets	15,216,749,451
Total Admitted Assets	**$44,475,809,095**

Liabilities

Unearned Premiums		$5,940,431,054
Reserve for Claims and Claims Expense		17,305,063,560
Funds Held Under Reinsurance Treaties		212,659,311
Reserve for Dividends to Policyholders		1,226,236
Additional Statutory Reserve		63,348,980
Reserve for Commissions, Taxes and Other Liabilities		5,826,683,629
Total		**$29,349,412,770**
Special Surplus Funds	$55,686,852	
Capital Stock	11,250,000	
Paid in Surplus	7,898,288,167	
Unassigned Surplus	7,161,171,306	
Surplus to Policyholders		**15,126,396,325**
Total Liabilities and Surplus		**$44,475,809,095**

LIBERTY MUTUAL INSURANCE COMPANY INCORPORATED 1912 MASSACHUSETTS

* Bonds are stated at amortized or investment value; Stocks at Association Market Values. The foregoing financial information is taken from Liberty Mutual Insurance Company's financial statement filed with the state of Massachusetts Department of Insurance.

I, TIM MIKOLAJEWSKI, Assistant Secretary of Liberty Mutual Insurance Company, do hereby certify that the foregoing is a true, and correct statement of the Assets and Liabilities of said Corporation, as of December 31, 2013, to the best of my knowledge and belief.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation at Seattle, Washington, this 20th day of March, 2014.

T A Mikolajewski

Assistant Secretary

S-1262LMIC/a 4/13

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 6573315

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alice McLaughlin; Maria L. Spadaccini; Mary R. McKee; Nicholas F. Walsh; Sherryanne M. DePirro

all of the city of Woodcliff Lake, state of NJ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 12th day of May, 2014.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 12th day of May, 2014, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 30th day of June, 20 14.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of Travelers Casualty and Surety Company of America the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

HARTFORD, CONNECTICUT 06183

FINANCIAL STATEMENT AS OF DECEMBER 31, 2013

CAPITAL STOCK $ 6,480,000

ASSETS		LIABILITIES & SURPLUS	
CASH AND INVESTED CASH	$ 67,799,624	UNEARNED PREMIUMS	$ 808,717,671
BONDS	3,452,214,898	LOSSES	809,863,176
INVESTMENT INCOME DUE AND ACCRUED	47,758,502	LOSS ADJUSTMENT EXPENSES	460,670,453
OTHER INVESTED ASSETS	265,099,610	COMMISSIONS	31,781,136
PREMIUM BALANCES	190,836,462	TAXES, LICENSES AND FEES	12,482,322
NET DEFERRED TAX ASSET	61,575,098	OTHER EXPENSES	38,437,893
REINSURANCE RECOVERABLE	11,361,414	FUNDS HELD UNDER REINSURANCE TREATIES	94,401,464
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	4,910,772	CURRENT FEDERAL AND FOREIGN INCOME TAXES	18,387,407
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	30,772,481	REMITTANCES AND ITEMS NOT ALLOCATED	13,577,503
STATE SURCHARGES RECEIVABLE	258,771	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	23,615,357
OTHER ASSETS	14,872,822	RETROACTIVE REINSURANCE RESERVE ASSUMED	1,511,674
		POLICYHOLDER DIVIDENDS	6,462,513
		PROVISION FOR REINSURANCE	3,970,484
		ADVANCE PREMIUM	1,078,609
		PAYABLE FOR SECURITIES LENDING	4,910,772
		DERIVATIVES	112,003
		CEDED REINSURANCE NET PREMIUMS PAYABLE	(64,954,254)
		ESCHEAT LIABILITY	471,948
		OTHER ACCRUED EXPENSES AND LIABILITIES	242,236
		TOTAL LIABILITIES	$ 2,285,740,367
		CAPITAL STOCK	$ 6,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,441,436,327
		TOTAL SURPLUS TO POLICYHOLDERS	$ 1,881,720,088
TOTAL ASSETS	$ 4,147,460,454	TOTAL LIABILITIES & SURPLUS	$ 4,147,460,454

STATE OF CONNECTICUT)

COUNTY OF HARTFORD) SS.

CITY OF HARTFORD)

MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST ,Y OF DECEMBER, 2013.

Michael J Doody

SECOND VICE PRESIDENT

SWORN TO BEFORE ME THIS
CH, 2014

NOTARY PUBLIC

SUSAN M. WEISSLEDER
Notary Public
My Commission Expires November 30, 2017

SUSAN M. WEISSLEDER NOTARY PUBLIC CONNECTICUT

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

TRAVELERS

POWER OF ATTORNEY

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

Attorney-In Fact No. 227173

Certificate No. 005864354

KNOW ALL MEN BY THESE PRESENTS: That Farmington Casualty Company, St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company are corporations duly organized under the laws of the State of Connecticut, that Fidelity and Guaranty Insurance Company is a corporation duly organized under the laws of the State of Iowa, and that Fidelity and Guaranty Insurance Underwriters, Inc., is a corporation duly organized under the laws of the State of Wisconsin (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint

Alice McLaughlin, Mary R. McKee, Sherryanne M. DePirro, Maria L. Spadaccini, and Nicholas F. Walsh

of the City of Woodcliff Lake, State of New Jersey, their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed and their corporate seals to be hereto affixed, this 14th day of April, 2014.

Farmington Casualty Company
Fidelity and Guaranty Insurance Company
Fidelity and Guaranty Insurance Underwriters, Inc.
St. Paul Fire and Marine Insurance Company
St. Paul Guardian Insurance Company
St. Paul Mercury Insurance Company
Travelers Casualty and Surety Company
Travelers Casualty and Surety Company of America
United States Fidelity and Guaranty Company

State of Connecticut
City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the 14th day of April, 2014, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.
My Commission expires the 30th day of June, 2016.

Marie C. Tetreault, Notary Public

58440-8-12 Printed in U.S.A.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, Kevin E. Hughes, the undersigned, Assistant Secretary, of Farmington Casualty Company, Fidelity and Guaranty Insurance Company, Fidelity and Guaranty Insurance Underwriters, Inc., St. Paul Fire and Marine Insurance Company, St. Paul Guardian Insurance Company, St. Paul Mercury Insurance Company, Travelers Casualty and Surety Company, Travelers Casualty and Surety Company of America, and United States Fidelity and Guaranty Company do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is in full force and effect and has not been revoked.

WARNING: THIS POWER OF ATTORNEY IS INVALID WITHOUT THE RED BORDER

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 30th day of June, 20 14.

Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, call 1-800-421-3880 or contact us at www.travelersbond.com. Please refer to the Attorney-In-Fact number, the above-named individuals and the details of the bond to which the power is attached.

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of Zurich American Insurance Company the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

ZURICH AMERICAN INSURANCE COMPANY
COMPARATIVE BALANCE SHEET
ONE LIBERTY PLAZA, 165 BROADWAY, 32nd FLOOR, NEW YORK, NY 10006
As of December 31, 2013 and December 31, 2012

	12/31/2013	12/31/2012
Assets		
Bonds	$ 18,990,565,123	$ 18,907,466,866
Preferred Stock	-	-
Common Stock	2,411,755,638	2,123,025,432
Other Invested Assets	2,505,133,631	2,035,077,824
Short-term Investments	327,019,081	126,053,209
Receivable for securities	123,767,865	134,410,839
Cash and cash equivalents	(65,045,469)	728,298,115
Securities lending reinvested collateral assets	208,060,537	225,335,750
Employee Trust for Deferred Compensation Plan	142,420,097	130,493,778
Total Cash and Invested Assets	$ 24,643,676,503	$ 24,410,161,814
Premiums Receivable	$ 3,358,946,105	$ 3,649,247,239
Funds Held with Reinsurers	2,383,155	3,681,443
Reinsurance Recoverable	391,812,478	215,451,507
Accrued Investment Income	113,886,701	121,729,727
Federal Income Tax Recoverable	940,033,456	930,267,731
Due from Affiliates	183,852,738	187,274,289
Other Assets	549,410,052	493,265,075
Total Assets	$ 30,184,001,188	$ 30,011,078,824
Liabilities and Policyholders' Surplus		
Liabilities:		
Loss and LAE Reserves	$ 13,894,112,327	$ 14,244,436,264
Unearned Premium Reserve	4,321,146,577	4,159,670,241
Funds Held with Reinsurers	185,460,548	212,412,675
Loss In Course of Payment	357,922,606	408,170,112
Commission Reserve	68,132,284	64,038,359
Federal Income Tax Payable	290,773,995	16,190,044
Remittances and Items Unallocated	111,710,550	196,410,982
Payable to parent, subs and affiliates	154,428,297	57,540,814
Provision for Reinsurance	43,942,761	66,649,220
Ceded Reinsurance Premiums Payable	807,651,125	551,510,878
Securities Lending Collateral Liability	208,060,537	225,335,750
Other Liabilities	1,942,241,242	2,166,453,164
Total Liabilities	$ 22,385,582,849	$ 22,368,818,502
Policyholders' Surplus:		
Common Capital Stock	$ 5,000,000	$ 5,000,000
Paid-In and Contributed Surplus	4,394,131,321	4,394,131,321
Surplus Notes	-	430,000,000
Special Surplus Funds	34,865,000	43,259,000
Cumulative Unrealized Gain	505,136,565	331,857,594
Unassigned Surplus	2,859,285,454	2,438,012,408
Total Policyholders' Surplus	$ 7,798,418,339	$ 7,642,260,323
Total Liabilities and Policyholders' Surplus	$ 30,184,001,188	$ 30,011,078,824

I, Dennis F. Kerrigan, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2013, according to the best of my information, knowledge and belief.

Corporate Secretary

State of Illinois
County of Cook } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 15th day of March, 2014.

Notary public

OFFICIAL SEAL
DARRYL JOINER
Notary Public - State of Illinois
My Commission Expires May 3, 2014

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND
POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That the ZURICH AMERICAN INSURANCE COMPANY, a corporation of the State of New York, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, a corporation of the State of Maryland, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND a corporation of the State of Maryland (herein collectively called the "Companies"), by **JAMES M. CARROLL, Vice President,** in pursuance of authority granted by Article V, Section 8, of the By-Laws of said Companies, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, do hereby nominate, constitute, and appoint **Sandra K. WOLF, Alice MCLAUGHLIN, Mary R. MCKEE, Maria L. SPADACCINI and Sherryanne M. DEPIRRO, all of Woodcliff Lake, New Jersey, EACH** its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver, for, and on its behalf as surety, and as its act and deed: **any and all bonds and undertakings,** and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Companies, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the ZURICH AMERICAN INSURANCE COMPANY at its office in New York, New York., the regularly elected officers of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at its office in Owings Mills, Maryland., and the regularly elected officers of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at its office in Owings Mills, Maryland., in their own proper persons.

The said Vice President does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article V, Section 8, of the By-Laws of said Companies, and is now in force.

IN WITNESS WHEREOF, the said Vice-President has hereunto subscribed his/her names and affixed the Corporate Seals of the said **ZURICH AMERICAN INSURANCE COMPANY, COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and FIDELITY AND DEPOSIT COMPANY OF MARYLAND**, this 21st day of June, A.D. 2012.

ATTEST:

ZURICH AMERICAN INSURANCE COMPANY
COLONIAL AMERICAN CASUALTY AND SURETY COMPANY
FIDELITY AND DEPOSIT COMPANY OF MARYLAND

By: _____
Assistant Secretary
Eric D. Barnes

_____
Vice President
James M. Carroll

State of Maryland
City of Baltimore

On this 21st day of June, A.D. 2012, before the subscriber, a Notary Public of the State of Maryland duly commissioned and qualified, **JAMES M. CARROLL, Vice President, and ERIC D. BARNES, Assistant Secretary,** of the Companies, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and acknowledged the execution of same, and being by me duly sworn, deposeth and saith, that he/she is the said officer of the Company aforesaid, and that the seals affixed to the preceding instrument are the Corporate Seals of said Companies, and that the said Corporate Seals and the signature as such officer were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporations.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.

_____
Maria D. Adamski, Notary Public
My Commission Expires: July 8, 2015

POA-F 093-0064D

EXTRACT FROM BY-LAWS OF THE COMPANIES

"Article V, Section 8. Attorneys-in-Fact. The Chief Executive Officer, the President, or any Executive Vice President or Vice President may, by written instrument under the attested corporate seal, appoint attorneys-in-fact with authority to execute bonds, policies, recognizances, stipulations, undertakings, or other like instruments on behalf of the Company, and may authorize any officer or any such attorney-in-fact to affix the corporate seal thereto; and may with or without cause modify of revoke any such appointment or authority at any time."

CERTIFICATE

I, the undersigned, Vice President of the ZURICH AMERICAN INSURANCE COMPANY, the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY, and the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing Power of Attorney is still in full force and effect on the date of this certificate; and I do further certify that Article V, Section 8, of the By-Laws of the Companies is still in force.

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY at a meeting duly called and held on the 15th day of December 1998.

RESOLVED: "That the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the Seal of the Company may be affixed by facsimile on any Power of Attorney...Any such Power or any certificate thereof bearing such facsimile signature and seal shall be valid and binding on the Company."

This Power of Attorney and Certificate may be signed by facsimile under and by authority of the following resolution of the Board of Directors of the COLONIAL AMERICAN CASUALTY AND SURETY COMPANY at a meeting duly called and held on the 5th day of May, 1994, and the following resolution of the Board of Directors of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND at a meeting duly called and held on the 10th day of May, 1990.

RESOLVED: "That the facsimile or mechanically reproduced seal of the company and facsimile or mechanically reproduced signature of any Vice-President, Secretary, or Assistant Secretary of the Company, whether made heretofore or hereafter, wherever appearing upon a certified copy of any power of attorney issued by the Company, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seals of the said Companies, this 30th day of June, 2014.

Geoffrey Delisio

Geoffrey Delisio, Vice President

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of Federal Insurance Company the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2013

(in thousands of dollars)

ASSETS		*LIABILITIES AND SURPLUS TO POLICYHOLDERS*	
Cash and Short Term Investments	$ 352,393	Outstanding Losses and Loss Expenses	$ 12,129,450
United States Government, State and Municipal Bonds	9,295,185	Unearned Premiums	3,504,583
Other Bonds	5,535,360	Ceded Reinsurance Premiums Payable	338,026
Stocks	1,000,938	Provision for Reinsurance	61,351
Other Invested Assets	1,452,598	Other Liabilities	986,628
TOTAL INVESTMENTS	17,636,474	TOTAL LIABILITIES	17,020,038
Investments in Affiliates:			
Chubb Investment Holdings, Inc.	3,364,996	Capital Stock	20,980
Pacific Indemnity Company	2,771,422	Paid-In Surplus	3,106,809
Executive Risk Indemnity Inc.	1,218,625	Unassigned Funds	11,613,523
Chubb Insurance Investment Holdings Ltd.	1,111,941		
CC Canada Holdings Ltd.	629,592		
Great Northern Insurance Company	478,838	SURPLUS TO POLICYHOLDERS	14,741,312
Chubb Insurance Company of Australia Ltd.	449,419		
Chubb European Investment Holdings SLP	281,312		
Vigilant Insurance Company	264,883		
Other Affiliates	472,259		
Premiums Receivable	1,586,676		
Other Assets	1,494,913		
TOTAL ADMITTED ASSETS	$ 31,761,350	TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS	$ 31,761,350

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners. At December 31, 2013, investments with a carrying value of $452,687,680 were deposited with government authorities as required by law.

State, County & City of New York, — ss:

Yvonne Baker, Assistant Secretary of the Federal Insurance Company being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2013 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2013.

Subscribed and sworn to before me this March 11, 2014.

Jeanette Shipsey
Notary Public

JEANETTE SHIPSEY
Notary Public, State of New York
No. 02SH5074142
Qualified in Nassau County
Commission Expires March 10, 2015

Yvonne Baker
Assistant Secretary

Form 15-10-0313A (Rev. 3/14)

Chubb Surety	POWER OF ATTORNEY	Federal Insurance Company Vigilant Insurance Company Pacific Indemnity Company	Attn: Surety Department 15 Mountain View Road Warren, NJ 07059

Know All by These Presents, That **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, and **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, do each hereby constitute and appoint **Sherryanne M. DePirro, Mary R. McKee, Alice McLaughlin, Maria L. Spadaccini and Nicholas F. Walsh of Woodcliff Lake, New Jersey** ----------

each as their true and lawful Attorney- in- Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** have each executed and attested these presents and affixed their corporate seals on this **1st** day of **February, 2014.**

Dawn M. Chloros, Assistant Secretary

David B. Norris, Jr., Vice President

STATE OF NEW JERSEY

ss.

County of Somerset

On this **1st** day of **February, 2014** before me, a Notary Public of New Jersey, personally came Dawn M. Chloros, to me known to be Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros, being by me duly sworn, did depose and say that she is Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By- Laws of said Companies; and that she signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that she is acquainted with David B. Norris, Jr., and knows him to be Vice President of said Companies; and that the signature of David B. Norris, Jr., subscribed to said Power of Attorney is in the genuine handwriting of David B. Norris, Jr., and was thereto subscribed by authority of said By- Laws and in deponent's presence.

Notarial Seal

KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No 2316685
Commission Expires July 16, 2014

Notary Public

CERTIFICATION

Extract from the By- Laws of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY:

> "All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys- in- Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Dawn M. Chloros, Assistant Secretary of FEDERAL INSURANCE COMPANY, VIGILANT INSURANCE COMPANY, and PACIFIC INDEMNITY COMPANY (the "Companies") do hereby certify that

(i) the foregoing extract of the By- Laws of the Companies is true and correct,

(ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in the U.S. Virgin Islands, and Federal is licensed in American Samoa, Guam, Puerto Rico, and each of the Provinces of Canada except Prince Edward Island; and

(iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 30th day of June, 2014

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903- 3493 Fax (908) 903- 3656 e-mail: surety@chubb.com

Form 15-10- 0225B- U

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of The Continental Insurance Company the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

THE CONTINENTAL INSURANCE COMPANY
Radnor, Pennsylvania
Statement of Net Admitted Assets and Liabilities
December 31, 2013

ASSETS

Bonds		$ 1,684,328,034
Stocks		158,773,278
Cash and short-term investments		187,796,353
Amounts recoverable from reinsurers		193,598,356
Net deferred tax asset		73,211,237
Other assets		47,825,939
Total Assets		$ 2,345,533,197

LIABILITIES AND SURPLUS

Losses		$ 908,894,332
Loss adjustment expense		34,732,682
Unearned premiums		-
Ceded reinsurance premiums payable (net of ceding commissions)		26,174,058
Funds held by company under reinsurance treaties		719,991,228
Provision for reinsurance		76,000,000
Other liabilities		(787,119,094)
Total Liabilities		978,673,206
Surplus Account:		
Capital paid up	53,566,360	
Gross paid in and contributed surplus	1,423,436,994	
Special Surplus	105,639,025	
Unassigned funds	(215,782,388)	
Surplus as regards policyholders		1,366,859,991
Total Liabilities and Capital		$ 2,345,533,197

I, OJ B. Magana, Assistant Vice President of The Continental Insurance Company hereby certify that the above is an accurate representation of the financial statement of the Company dated December 31, 2013, as filed with the various Insurance Departments and is a true and correct statement of the condition of The Continental Insurance Company as of that date.

The Continental Insurance Company

By _____
Assistant Vice President

Subscribed and sworn to me this 12th day of March, 2014.

My commission expires:

Kathleen M Schroeder
Notary Public

"OFFICIAL SEAL"
KATHLEEN M SCHROEDER
Notary Public State of Illinois
My Commission Expires 08/16/15

POWER OF ATTORNEY APPOINTING INDIVIDUAL ATTORNEY-IN-FACT

Know All Men By These Presents, That The Continental Insurance Company, a Pennsylvania insurance company, is a duly organized and existing insurance company having its principal office in the City of Chicago, and State of Illinois, and that it does by virtue of the signature and seal herein affixed hereby make, constitute and appoint

Alice Mc Laughlin, Mary R Mc Kee, Maria L Spadaccini, Sherryanne M De Pirro, Nicholas F Walsh, Individually

of Woodcliff Lake, NJ, its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred to sign, seal and execute for and on its behalf bonds, undertakings and other obligatory instruments of similar nature

- In Unlimited Amounts -

and to bind them thereby as fully and to the same extent as if such instruments were signed by a duly authorized officer of the insurance company and all the acts of said Attorney, pursuant to the authority hereby given is hereby ratified and confirmed.

This Power of Attorney is made and executed pursuant to and by authority of the By-Law and Resolutions, printed on the reverse hereof, duly adopted, as indicated, by the Board of Directors of the insurance company.

In Witness Whereof, The Continental Insurance Company has caused these presents to be signed by its Vice President and its corporate seal to be hereto affixed on this 9th day of January, 2014.

The Continental Insurance Company

Paul T. Bruflat — Vice President

State of South Dakota, County of Minnehaha, ss:

On this 9th day of January, 2014, before me personally came Paul T. Bruflat to me known, who, being by me duly sworn, did depose and say: that he resides in the City of Sioux Falls, State of South Dakota; that he is a Vice President of The Continental Insurance Company, a Pennsylvania insurance company, described in and which executed the above instrument; that he knows the seal of said insurance company; that the seal affixed to the said instrument is such corporate seal; that it was so affixed pursuant to authority given by the Board of Directors of said insurance company and that he signed his name thereto pursuant to like authority, and acknowledges same to be the act and deed of said insurance company.

J. MOHR
SEAL NOTARY PUBLIC SOUTH DAKOTA SEAL

My Commission Expires June 23, 2015

J. Mohr — Notary Public

CERTIFICATE

I, D. Bult, Assistant Secretary of The Continental Insurance Company, a Pennsylvania insurance company, do hereby certify that the Power of Attorney herein above set forth is still in force, and further certify that the By-Law and Resolution of the Board of Directors of the insurance company printed on the reverse hereof is still in force. In testimony whereof I have hereunto subscribed my name and affixed the seal of the said insurance company this 30th day of June, 2014.

The Continental Insurance Company

D. Bult — Assistant Secretary

Form F6850-4/2012

Authorizing Resolutions

ADOPTED BY THE BOARD OF DIRECTORS OF THE CONTINENTAL INSURANCE COMPANY:

This Power of Attorney is made and executed pursuant to and by authority of the following By-Law duly adopted by the Board of Directors of the Company at a meeting held on May 10, 1995.

> "RESOLVED: That any Group Vice President may authorize an officer to sign specific documents, agreements and instruments on behalf of the Company provided that the name of such authorized officer and a description of the documents, agreements or instruments that such officer may sign will be provided in writing by the Group Vice President to the Secretary of the Company prior to such execution becoming effective."

This Power of Attorney is signed by Paul T. Bruflat, Vice President, who has been authorized pursuant to the above resolution to execution power of attorneys on behalf of The Continental Insurance Company.

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the Company by unanimous written consent dated the 25th day of April, 2012:

> "Whereas, the bylaws of the Company or specific resolution of the Board of Directors has authorized various officers (the "Authorized Officers") to execute various policies, bonds, undertakings and other obligatory instruments of like nature; and
>
> Whereas, from time to time, the signature of the Authorized Officers in addition to being provided in original, hard copy format, may be provided via facsimile or otherwise in an electronic format (collectively, "Electronic Signatures"); Now therefore be it resolved: that the Electronic Signature of any Authorized Officer shall be valid and binding on the Company."

CORPORATE ACKNOWLEDGMENT

Form 152

STATE OF NEW JERSEY

COUNTY OF BERGEN

On this 30th day of June, 2014, before me personally came Mary R. McKee to me known, who, being by me duly sworn, did depose and say that **she**/he resides in Saddle Brook, NJ that **she**/he is the Attorney In Fact of XL Specialty Insurance Company the corporation described in and which executed the above instrument that **she**/he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that **she**/he signed her/his name thereto by like order.

(SEAL)

Esther Caban
Notary Public for New Jersey
My Commission Expires
February 18, 2019

XL SPECIALTY INSURANCE COMPANY
STATUTORY STATEMENT OF ADMITTED ASSETS, LIABILITIES, CAPITAL AND SURPLUS
December 31, 2013
(U.S. Dollars)

Assets:		**Liabilities:**	
Bonds	243,078,129	Loss & loss adjustment expenses	202,897,195
Stocks	47,367,742	Reinsurance payable on paid loss and loss adjustment expenses	550,213
Cash and short-term investments	103,941,689	Unearned premiums	36,049,248
Receivable for securities		Ceded reinsurance premium payable	
Total Invested Assets	**394,387,560**	Funds held by company under reinsurance treaties	10,668,107
		Payable for Securities	
		Other Liabilities	32,063,624
		Total Liabilities	**282,228,387**
Agents Balances	25,747,167	Capital and Surplus:	
Funds held by or deposited with reinsured companies		Aggregate write-ins for special surplus funds	
		Common capital Stock	5,812,500
Reinsurance recoverable on loss and loss adjustment expense payments		Gross paid in and contributed surplus	127,462,739
Accrued interest and dividends	1,346,314	Unassigned surplus	25,067,804
Other admitted assets	19,090,389	**Total Capital and Surplus**	**158,343,043**
Total Admitted Assets	**440,571,430**	**Total Liabilities, Capital and Surplus**	**440,571,430**

I, Andrew Robert Will, Vice President and Controller of XL Specialty Insurance Company (the "Corporation") do hereby certify that to the best of my knowledge and belief, the foregoing is a full and true Statutory Statement of Admitted Assets, Liabilities, Capital and Surplus of the Corporation, as of December 31, 2013, prepared in conformity with the accounting practices prescribed or permitted by the Insurance Department of the State of Delaware. The foregoing statement should not be taken as a complete statement of financial condition of the Corporation. Such a statement is available upon request at the Corporation's principal office located at Seaview House, 70 Seaview Avenue, Stamford, CT 06902-06040.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Corporation at Stamford, Connecticut.

Vice President and Controller

State of Connecticut

County of Fairfield

The foregoing financial information was acknowledged before me this 24th of March, 2014 by Andrew Robert Will of XL Specialty Insurance Company on behalf of the corporation.

DENISE HOPKINS
My Commission
NOTARY
PUBLIC
EXPIRES
04-30-2018
CONNECTICUT

Denise Hopkins

Notary Public

XL Group Insurance Reinsurance

Power of Attorney
XL Specialty Insurance Company
Greenwich Insurance Company
XL Reinsurance America Inc.

THIS IS NOT A BOND NUMBER
UNLIMITED POWER OF ATTORNEY
XL1511912

KNOW ALL MEN BY THESE PRESENTS: That XL Specialty Insurance Company, Greenwich Insurance Company, Delaware insurance companies with offices located at 505 Eagleview Blvd., Exton, PA 19341, and XL Reinsurance America Inc., a New York insurance company with offices located at 70 Seaview Avenue, Stamford, CT 06902, , do hereby nominate, constitute, and appoint:
Nicholas F. Walsh, Sherryanne M. DePirro, Maria L. Spadaccini, Alice McLaughlin, Mary R. McKee

each its true and lawful Attorney(s)-in-fact to make, execute, attest, seal and deliver for and on its behalf, as surety, and as its act and deed, where required, any and all bonds and undertakings in the nature thereof, , for the penal sum of no one of which is in any event to exceed UNLIMITED.

Such bonds and undertakings, when duly executed by the aforesaid Attorney (s) - in - Fact shall be binding upon each said Company as fully and to the same extent as if such bonds and undertakings were signed by the President and Secretary of the Company and sealed with its corporate seal.

The Power of Attorney is granted and is signed by facsimile under and by the authority of the following Resolutions adopted by the Board of Directors of each of the Companies on the 20th day of March 2014.

RESOLVED, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch are hereby appointed by the Board as authorized to make, execute, seal and deliver for and on behalf of the Company, any and all bonds, undertakings, contracts or obligations in surety or co-surety with others and that the Secretary or any Assistant Secretary of the Company be and that each of them hereby is authorized to attest the execution of any such bonds, undertakings, contracts or obligations in surety or co-surety and attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that Gary Kaplan, David Hewett, William Mills, Gregory Boal and Kevin Mirsch each is hereby authorized to execute powers of attorney qualifying the attorney named in the given power of attorney to execute, on behalf of the Company, bonds and undertakings in surety or co-surety with others, and that the Secretary or any Assistant Secretary of the Company be, and that each of them is hereby authorized to attest the execution of any such power of attorney, and to attach thereto the corporate seal of the Company.

RESOLVED, FURTHER, that the signature of such officers named in the preceding resolutions and the corporate seal of the Company may be affixed to such powers of attorney or to any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be thereafter valid and binding upon the Company with respect to any bond, undertaking, contract or obligation in surety or co-surety with others to which it is attached.

IN WITNESS WHEREOF, the XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this March 20th, 2014.

XL SPECIALTY INSURANCE COMPANY CORPORATE SEAL DELAWARE

GREENWICH INSURANCE COMPANY CORPORATE SEAL DELAWARE

XL SPECIALTY INSURANCE COMPANY
GREENWICH INSURANCE COMPANY

By: David S. Hewett
SENIOR VICE PRESIDENT

Attest: Toni Ann Perkins
SECRETARY

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

On this 20th day of March, 2014, before me personally came David S. Hewett to me known, who, being duly sworn, did depose and say: that he is Senior Vice President of XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY, described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to the aforesaid instrument is such corporate seals and were affixed thereto by order and authority of the Boards of Directors of said Companies; and that he executed the said instrument by like order.

KIM D. SLIVA NOTARY PUBLIC My Commission Expires June 30, 2016 STATE OF CONNECTICUT

Kim D. Sliva
NOTARY PUBLIC

STATE OF CONNECTICUT

SB-0034 – 3/11

COUNTY OF FAIRFIELD

I, Toni Ann Perkins, Secretary of the XL SPECIALTY INSURANCE COMPANY and GREENWICH INSURANCE COMPANY a corporation of the State of Delaware, do hereby certify that the above and forgoing is a full, true and correct copy of Power of Attorney issued by said Company, and that I have compared same with the original and that it is a correct transcript there from and of the whole of the original and that the said Power of Attorney is still in full force

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation, at the City of Hartford, this 30th day of June 2014.

XL SPECIALTY INSURANCE COMPANY CORPORATE SEAL DELAWARE

GREENWICH INSURANCE COMPANY CORPORATE SEAL DELAWARE

Toni Ann Perkins

SECRETARY

IN WITNESS WHEREOF, XL REINSURANCE AMERICA INC. has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officers this 20th day of March, 2014.

XL REINSURANCE AMERICA INC.

XL REINSURANCE AMERICA INC. CORPORATE SEAL NEW YORK

by: [signature]

SENIOR VICE PRESIDENT

Attest Toni Ann Perkins

SECRETARY

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

On this 20th day of March, 2014, before me personally came John P. Welch to me known, who, being duly sworn, did depose and say: that he is President & CEO of XL REINSURANCE AMERICA INC., described in which executed the above instrument; that he knows the seal of said Corporation; that the seal affixed to the aforesaid instrument is such corporate seal and was affixed thereto by order and authority of the Board of Directors of said Corporation, and that he executed the said instrument by like order.

KIM D. SLIVA NOTARY PUBLIC My Commission Expires June 30, 2016 STATE OF CONNECTICUT

Kim D. Sliva

NOTARY PUBLIC

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

I, Toni Ann Perkins, Assistant Secretary of the XL REINSURANCE AMERICA INC. a corporation of the State of New York, do hereby certify that the person who executed this Power of Attorney, with the rights, respectively of XL REINSURANCE AMERICA INC., the above and forgoing is a full, true and correct copy of a Power of Attorney issued by said Corporation, and that I have compared same with the original

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Corporation, at the City of Hartford, this ___ day of _____ _____.

XL REINSURANCE AMERICA INC. CORPORATE SEAL NEW YORK

Toni Ann Perkins

SECRETARY

This Power of Attorney may not be used to execute any bond with an inception date after March 20, 2019
SB0041

THIS DOCUMENT IS PRINTED ON A BLUE BACKGROUND

SB-0034 – 3/11

Insurance

BUILDING ASSURANCE

June 18, 2014

State of California Department of Transportation
District 11 Office
Division of Project/Program Management
4050 Taylor Street
San Diego, CA 92127

Subject: Flatiron-Skanska-Stacy and Witbeck a Joint Venture
Statement of Insurability
Request for Qualifications

Contractor: Flatiron-Skanska-Stacy and Witbeck a Joint Venture
Project: Interstate 5 North Coast Corridor
Project # ***RFQ 112T21CM***

As the insurance broker of record, duly licensed to do business in the State of California for Flatiron-Skanska-Stacy and Witbeck, a Joint Venture, please be advised that we have read the insurance requirements that have been set forth for the Interstate 5 North Coast Corridor Project, ***RFQ 112T21CM*** and the limits set forth in the Preconstruction Services Contract.

Please accept this letter as formal confirmation that for Flatiron-Skanska-Stacy and Witbeck a Joint Venture - or any Prime Professional Subcontractor working on their behalf has the capacity to meet or exceed all of the owner's insurance and indemnity requirements, including but not limited to Commercial General Liability, Railroad Protective Insurance, Errors and Omissions, Auto Liability, Workers' Compensation/Employers' Liability, Pollution Liability and Professional Liability as defined in the RFQ **Financial Capacity, Section 3.3B** and the draft **Preconstruction Services Contract** with major insurance markets rated by AM Best Rating Service as *A VIII* or better and limited only by commercial availability.

Sincerely,

Glenn L. Pine
Director
Turner Surety and Insurance Brokerage, Inc
CA License# 0G22600 CA

300 Tice Boulevard, | Woodcliff Lake, NJ 07677 | phone 201.644.2500 | www.tsibinc.com

tsib
BUILDING ASSURANCE

June 18, 2014

State of California Department of Transportation
District 11 Office
Division of Project/Program Management
4050 Taylor Street
San Diego, CA 92127

Subject: Flatiron West, Inc
Statement of Insurability
Request for Qualifications

Contractor: Flatiron West, Inc
Project: Interstate 5 North Coast Corridor
Project # ***RFQ 112T21CM***

As the insurance broker of record, duly licensed to do business in the State of California for Flatiron West, Inc please be advised that we have read the insurance requirements that have been set forth for the Interstate 5 North Coast Corridor Project, ***RFQ 112T21CM*** and the limits set forth in the Preconstruction Services Contract.

Please accept this letter as formal confirmation that for Flatiron West, Inc - or any Prime Professional Subcontractor working on their behalf has the capacity to meet or exceed all of the owner's insurance and indemnity requirements, including but not limited to Commercial General Liability, Railroad Protective Insurance, Errors and Omissions, Auto Liability, Workers' Compensation/Employers' Liability, Pollution Liability and Professional Liability as defined in the RFQ **Financial Capacity, Section 3.3B** and the draft **Preconstruction Services Contract** with major insurance markets rated by AM Best Rating Service as *A VIII* or better and limited only by commercial availability.

Sincerely,

Glenn L. Pine
Director
Turner Surety and Insurance Brokerage, Inc
CA License# 0G22600 CA

AON
Construction Services Group

June 9, 2014

State of California Department of Transportation
1727 30th Street
Sacramento CA 95816

RE: Skanska USA Civil West California District Inc.

Project: INTERSTATE 5 NORTH COAST CORRIDOR PHASE 1 CONSTRUCTION MANAGER/GENERAL CONTRACTOR SERVICES
CONTRACT NO. 112T21CM

To Whom It May Concern:

Aon Construction Services Group is proud to represent Skanska USA Civil West California District Inc., as their insurance and surety broker and is licensed to do business in the State of California.

We are pleased to confirm Skanska USA Civil West California District Inc., is capable of obtaining the required insurance including but not limited to Commercial General Liability, Auto Liability, Workers' Compensation/Employers Liability, Pollution Liability, and Railroad Protection Insurance as defined in RFQ Sections 3.3B and 3.3.1E per the limits specified in the *Draft* Preconstruction Services Contract provided by insurance carriers rated by an A.M. Best Company of at least A- and Class VIII or better.

Please let me know if you need any additional information.

Sincerely,

Sylvia Sams
Account Specialist II
Aon Construction Services Group

60 S Market St #1100, San Jose California 95113 • (916) 369-4822

Willis

Willis Insurance Services of California, Inc.
525 Market Street, Suite 3400
San Francisco, CA 94105
Direct Line: (415) 955-0200
Direct Fax: (415) 982-7978
E-mail: andy.daniels@willis.com
Website: www.willis.com
CA License #0371719

June 23, 2014

State of California
Department of Transportation – District 11 Office
Division of Project / Program Management
4050 Taylor Street
San Diego, CA 92127
Attn: Artura Jacobo, Project Manager

Reference: Interstate 5 North Coast Corridor Phase 1
Contract # 112T21CM

Dear Mr. Jacobo:

Please be advised that Willis Insurance Services of California, Inc. is the Insurance Broker for Stacy and Witbeck, Inc. Stacy and Witbeck, Inc. is a member partner in the joint venture Flatiron West, Inc. / Skanska USA Civil West California District / Stacy and Witbeck, Inc., managed by Flatiron West, Inc.

To the extent required by the Joint Venture, Stacy and Witbeck can provide the required insurance coverage for this project. as defined in RFQ Sections 3.3B and 3.3.1E. Coverage will include, but are not limited to, General Liability, Automobile Liability, Workers' Compensation / Employers Liability, Pollution Liability and Railroad Protective, per the limits specified in the RFQ Sections 3.3B and 3.3.1E., per the limits specified in the Draft Preconstruction Service contract.

All insurance coverages will be provided by an A.M. Best Company of at least A- VII or better and licensed to do business in the State of California.

Sincerely,

Linda Reynolds

Linda Reynolds
Account Executive – Construction

LR/bm

section 3

Safety Program

SECTION three

RFQ Section 3.4

safety program

Safety is FSSW's top priority, and we commit to accomplishing Caltrans' goal of maintaining a safe environment for the traveling public and employees during construction of the Project. We will implement Flatiron's proven Safety Program, which was recognized nationally by the AGC of America, as well as winning local awards for the last three consecutive years in San Diego. FSSW will also leverage the best safety practices from Skanska and Stacy and Witbeck.

Safety Record for the Most Recent Three-Year Period

Our team members' safety records have remained consistent in spite of industry rate hikes, company growth periods, and increasingly complex construction projects. The FSSW safety program is built on the shared values of its team members, and FSSW will stay on a progressive course of protecting lives by implementing best practices in safety. Safety records for the most recent three-year period for each joint venture member can be found in Figure 3.1.

The national Average for the Heavy Civil and Engineering Industry Safety statics show a Recordable Incident Rate of 13.5 and the average Lost time Incidents is 1.2. Compared to these national averages, our team is well below these numbers and we continue to consistently be leaders in the industry.

FFSW team Major Participants (Flatiron West, Inc. Skanska USA Civil West California District Inc., and Stacy and Witbeck, Inc.) are not party to Alternative Dispute Resolution, Labor Code §3201.5, as it is not part of our contract with the unions. However, each major participant seeks to resolve any dispute at the lowest level, using all informal and formal options available prior to pursuing legal recourse.

Figure 3.1 | FSSW safety record for most recent three years

		2011	2012	2013
FLATIRON	Manhours	2,492,495	1,967,333	2,204,812
	Experience Modification Rate (EMR)	.69	.61	0.56
	Total Recordable Injury/Illness Rate	1.44	1.42	2.00
	Lost Work Rate	0.08	0	0.54
SKANSKA	Manhours	978,705	905,530	1,402,166
	Experience Modification Rate (EMR)	0.76	0.78	0.76
	Total Recordable Injury/Illness Rate	1.43	0.88	0.71
	Lost Work Rate	0.41	0.44	0.14
SWI	Manhours	1,241,240	1,033,943	1,081,968
	Experience Modification Rate (EMR)	0.92	0.88	0.81
	Total Recordable Injury/Illness Rate	1.6	1.7	3.5
	Lost Work Rate	0.2	0.4	0.2

Cal-OSHA/FOSHA Citations and Assessed Penalties – Past Five Years

Flatiron Citations & Assessed Penalties

8/12/2010: Taxilane S at LAX, Los Angeles, CA

An operator on a backhoe was directed by a third party to dig over an electrical line that was identified. The line was struck with no injury. The citation was disputed and is currently open due to legal proceedings.

12/29/2010: Lincoln Bypass Project and Old Yankee Bridge, Lincoln, CA

Lincoln Bypass Bridge Project was performing demolition and vertical slab was pushed in one direction by a forklift. The tip of the slab landed on employee's toes which were partially amputated. Serious citation was paid for insufficient toe protection in the amount of $3,375.

4/23/2013: Route 60, City of Industry, CA

Employee received burns from hot water being used at a concrete batch plant. Serious citation. Inspection #316346758. Penalty of $18,000.

Skanska Citations & Assessed Penalties (Past 5 Years)

4/25/2012: San Diego Route 905, Otay, CA

On Monday, July 13 2009 at approximately at 11:00 am, a 42 year-old journeyman carpenter working for Skanska at an outdoor job site in San Ysidro, CA suffered a serious injury when the employee collapsed at the jobsite. The accident was reported to DOSH on July 13, 2009 at 4:30 pm. It was the employee's first day on the job for Skanska. The job assignment for the day was to strip wooden forms from the side of a freeway pass. The outdoor temperature at the time of the event was approximately 73 degrees Fahrenheit. After three hours of work, employees took their first 20 minute break to eat and drink water. The employee returned to work and approximately 1.5 hours later the supervisor noticed that employee did not look right and approached him. The employee collapsed and was carried up on the deck of the freeway overpass by employees and placed inside. He was treated for heat illness while 911 was called.

After the DOSH inspection, Skanska was cited under 8 CCR 3395(e)(1) for failing to provide heat illness training to the new employee. The citation was classified as serious and willful.

Skanska appealed the citation on the following grounds. First, the injury was never clearly diagnosed as a heat related illness due to some pre-existing medical conditions. Secondly, at the time of the incident, the Heat Illness standard did not specifically address when employees had to be trained. It should be noted that the standards review board later changed the standard to reflect when an employee must be trained. Skanska challenged DOSH on the fact that they identified a gap in the standard and that because they had changed the standard after Skanska was cited was an admission with a problem in the standard. Third, the ambient temperature at the time of the incident was 73 degrees Fahrenheit, which was not hot enough to trigger heat illness training. Skanska lost the appeal in February of 2012 and decided not to challenge any further. Since this citation, Skanska has been inspected by DOSH 9 times with a focus on Heat Illness. No further citations have been issued. Inspection #312678980, Penalty Paid: $19,000.

FSSW Safety Awards
2008 Colorado Contractors Association Traveling Safety Trophy, Best Overall Safety Performance
2009 AGCA Certificate of Commendation (for Excellent Safety Record)
2010 National Railroad Construction and Maintenance Association, Silver Award for Safe Contractor of the Year for the Sprinter Mainline Project
2010 AGC of America & Willis Insurance Company, Second Place for "Excellence in Heavy Highway Construction" for Flatiron's Safety Program
2010 Colorado Contractors Association Zero Incidents Rate Award
2011 AGC National, First Place for Highway Division over 1 Million Work Hours
2011 NRC Contractor Safety Award, Category III Gold Level
2012 NRC Contractor Safety Award, Category IV Gold Level
2013 National Railroad Construction and Maintenance Association (NRC) Contractor Safety Award, Category IV Gold Level
2013 AGC of California, First Place for Heavy/Civil/Highway Division over 1 Million Work Hours

Stacy & Witbeck's Citations & Assessed Penalties (Past 5 Years)

Stacy and Witbeck (SWI) has no citations. An EMR letter with an explanation is located at the end of this section.

Worker Safety Program

Our philosophy is that safety is managed most effectively when implementation is led by the Project Manager, in collaboration with an independent Safety Manager. FSSW's Project Manager, Dale Nelson, will lead the implementation of our site-specific safety program, establishing safety as a key responsibility of all staff. The safety program will be developed and communicated by our Safety Manager. The independent Safety Manager will report directly to the executive committee led by the Team Leader, Jeff Turner. The safety manager will maintain independence from operations, providing value as the developer of safety standards/processes and the final authority on safety compliance.

Our approach to safety begins during the pre-construction phase. FSSW will address a majority of the safety issues during the constructability reviews and will review the plans with respect to safety.

Training

In addition to training mandated by OSHA and the rail operators, leadership training, periodic safety meetings, and continued training will be mandatory and routine of every employee and subcontractor. Training requirements for Project personnel will be documented in a matrix. Caltrans will be informed of training scope, required attendees, and scheduling.

FSSW and subcontractor management personnel will be required to attain the Safety Trained Supervisor (STS) certification (accredited by the Council on Certification of Health Environmental and Safety Technologists [CCHEST]). Caltrans will benefit from the advanced safety knowledge gained during this certification process, as this program has historically improved our ability to manage safety.

All new employees will participate in a three-part orientation program beginning day one on the Project. Caltrans can be assured that each individual begins work with the basic knowledge required to work safely, with continuing training as needed to facilitate safe work practices and to develop and maintain a positive safety culture. Orientation of FSSW employees and subcontractors will be conducted by a team of safety and operations management as follows:

- Level 1 – Safety staff will conduct this orientation with each individual at the time of hire or jobsite transfer. This training will include basic safety instruction as well as Project-specific information about the site.
- Level 2 – Superintendents will work with the safety staff to conduct this training 30 to 60 days after the first orientation. Topics include job specific needs such as rigging qualification or competent person training.
- Level 3 – FSSW management will conduct this session 60 to 90 days after Level 2 training. This session includes an open dialogue regarding the current safety culture. It is designed to capture safety culture perception data and set the tone for honest safety communication and input. Information is reported to management and used to guide adjustments to the Safety Program.

Communications

Weekly Meetings. Mandatory weekly meetings will be conducted with all personnel to discuss the week ahead. All attendees will be encouraged to participate in meeting preparation. Each month will focus on a different toolbox topic, and subsequent weeks will provide more detail on that monthly topic. Example topics include railroad safety, crane and rigging, trench/excavations, ladder/working surface safety, personal protective equipment (PPE), heat stress, traffic safety, fall protection, material handling, and small tool and electrical safety.

Daily EIC Meetings. The Employee-in-Charge (EIC) at each segment will conduct a daily team meeting before each shift to discuss Project-specific safety requirements, within the railroad ROW including management, employees, subcontractors, and any other pertinent team members. Public safety, railroad issues/regulations, and other safety concerns will be discussed as a group before individual crews break to discuss detailed task-specific safety issues on each work site. Active input is encouraged from all levels of the field team at the daily meeting.

Daily Job Hazard Analysis (JHA). Superintendents and foremen will be responsible for creating JHA's specific to the various work disciplines. The JHA outlines common operations according to task, hazards, and mitigation strategies that will be implemented. For example, a JHA will be prepared for the installation of storm drain pipe, including the various risks and mitigation strategies for each operational step. Each foreman will review the JHA with their crew before performing the operation, with updates provided as conditions change.

Daily Risk Assessment (DRA). After reviewing the JHA, the foreman will discuss the DRA which identifies, communicates, and mitigates location operation specific hazards. For example, constructing a footing would require review of a "footing JHA," followed by reviewing a DRA to address site specific hazards such as nearby rail/vehicular traffic or adverse weather conditions. The superintendent will closely monitor the foreman's ability to communicate the hazards by attending the foreman's tailgate meetings and verifying DRA's are appropriate to each operation.

Coaching. Craft worker safety culture is developed most effectively by trained, experienced foremen who focus on hazard awareness and mitigation. With this in mind, FSSW will utilize Flatiron's safety coaching program, providing superintendents and senior managers as mentors to foremen. By fostering open communication between foremen and management, we will continuously improve our field-level expertise and safety culture.

Jobsite Safety Committee. Field safety committees provide another avenue for clear and effective safety communication between the craft and management personnel. Discussions often include issue resolution, best practices, and lessons learned. These monthly meetings include field management and representation of craft labor and subcontractors. Caltrans is invited to attend these meetings as well.

Reporting. All incidents, including near misses, will be reported immediately to Project Manager Dale Nelson and Caltrans, with detailed reporting provided no later than 24 hours after the incident. The timely reporting of all incidents is a key part of FSSW's safety program. FSSW will be proactive in conducting timely root cause analyses (RCA), and communicating lessons learned promptly in an effort to prevent similar or worse safety incidents from reoccurring.

Accountability

"Don't Walk By" Program

Employees are required to take responsibility for their own safety as well as safety of fellow workers, the public, and all worksite elements by not walking past any unsafe practices. Each individual is responsible to correct the issue or bring it to the attention of their supervisor. If any worker sees a corrective action needed at the jobsite, the mandate is: Don't Walk By! Take Action!

Unsafe acts will be addressed promptly, considering incident specific factors such as planning, supervision, and training. Corrective actions and lessons learned will be developed and communicated to the team immediately so that recurrences are avoided.

Compliance

Weekly and Monthly Safety Audits. Jeff Turner, Dale Nelson, the safety manager, and other safety representatives, superintendents, foremen, and engineers will each have periodic compliance audit requirements. Formal audit reports will be recorded and reviewed by Dale and the safety manager on a weekly basis, and by Jeff each month. FSSW has had success on past projects by coordinating these compliance efforts with the project Owner's representative. For example on the St. Anthony Falls I-35W Bridge Project in Minneapolis, Flatiron conducted weekly safety compliance audits in partnership with MnDOT. This process improved overall site safety by enhancing communication among the parties and by providing a direct Owner perspective on safety. FSSW envisions a similar program on this Project.

Subcontractor Management

Another critical element of FSSW's approach to construction safety is subcontractor management. In order to successfully manage safety on this Project, subcontractors will be required to participate in the orientation program and comply with FSS' safety plan in the same manner as our own employees. This is accomplished through disciplined coordination between our staff and each subcontractor, and verified by compliance verification.

Incentives

Safety incentives can be earned by anyone on the project for activities that go beyond the responsibilities outlined in the safety program. Safety performance will be tracked electronically on a monthly basis. FSSW's safety program incentivizes the following activities:

- Learning – Complete an online safety course or obtain the STS Certification
- Leading – Lead the weekly meeting, discussing job risks/ hazards
- Innovation – Develop a new safety idea or process, or participate in a safety committee meeting
- Reporting – Report a near-miss incident that can be shared as a lesson learned

Approach to Construction Zone Safety

FSSWunderstands that the Project will be constructed in close proximity to operating passenger and freight rail lines, Interstate 5 and city streets, major commercial centers, hospitals, waterways, and residential areas. Construction zone safety will be specifically tailored to address each of these challenging work environments.

An example of the FSSW commitment to safety and the effectiveness of our safety program is its Work Zone Safety Awareness Award from the American Road and Transportation Builders Association (ARTBA) in 2011. This award recognizes efforts to create public awareness and provide employee training to help reduce roadway work zone accidents, injuries, and fatalities.

Approach & Commitment to the Public's Safety

FSSW is committed to public safety for pedestrians, individuals with ADA requirements, bicyclists, motor vehicles, and trains. Our approach includes work zone construction safety planning

in areas where we will encroach on the traveling public. Work will be coordinated between our safety management and traffic control supervisors who have experience in planning and managing public travel through construction work zones. Features of our approach include the following:

- Preparing and implementing site-specific ADA compliant traffic controls plans
- Clearly and consistently communicating, including advance notice through public outreach
- Closely coordinating with affected entities, such as SANDAG and city agencies. We will incorporate safety requirements as required by each entity
- Traffic control crews trained/certified in the Manual on Uniform Traffic Control Devices (MUTCD)
- Restricting unauthorized personnel from entering into a construction area
- Using concrete barriers and fencing to separate the work zones from the public
- Maintaining clearly identified access ways through the work area
- Displaying signage and variable message signs to warn the public of the work zone hazards
- Controlling points of access to the jobsite through barricades, signs, and delineation
- Establishing designated vendor travel routes
- Maintaining site security and lighting
- Utilizing visitor check-in points and orientations

Rail (Freight and Public) Safety

Commitment to Worker Safety in Active Transit Operations Zones

Working in a construction zone adjacent to rail operations is a hazard FSSW is familiar with and takes very seriously. The FSSW team members have worked on numerous transit projects throughout the US, several within close proximity to live rail. Recent local projects with limited ROW access, such as the Sprinter Mainline and San Marcos Loop Rail Project, San Mateo Creek Trestle Bridge, Santa Fe Drive Pedestrian Underpass, and the Double Track Project in Carlsbad finished with excellent safety results due to the crews' training and diligence in maintaining railroad operations using established procedures during construction. Experience and plans developed on these and other relevant projects will help ease the following concerns:

- Working safely within limited ROW
- Communication/cooperation with the rail operator(s) and adherence to their work zone practices
- Protecting access with heavy pedestrian traffic
- Working safely around existing live rail
- Maintaining environmentally sensitive areas

All workers on the project site will be trained per the applicable Roadway Worker Protection Regulations and per FRA Title 49 CFR 214, Railroad Workplace Safety. Site specific orientation, formal testing, and an informal interview will precede access to the site. Our approach will require advance notice and concurrence from operating railroad entities. Actively participating in railroad briefings, accurately communicating each shift's operations to the EIC, installing temporary fence between the work zone and the active railroad, and understanding that a train may approach from any direction, at any speed, at any time will protect personnel and minimize impacts to railroad operations.

Rail Activation Safety Program

Understanding that transit projects require multiple construction phases with adaptive safety program implementation, FSSW is prepared to meet the changing needs during the Project's evolution. One such major event is the transition from major construction to the commissioning of the system. Our Rail Activation Safety program will be employed at this stage to put lockout/tag out controls in place for all electrified and mechanical (moving) systems. The rail activation team, including members of Caltrans, SANDAG and FSSW safety, will manage our "no exceptions" policy. The protection of the personnel completing the construction and the general public from hazards such as live traction power, ventilation, and conveyance equipment is of utmost importance.

Willis

Willis Insurance Services of California, Inc.
525 Market Street, Suite 3400
San Francisco, CA 94105
Direct Line: (415) 955-0200
Direct Fax: (415) 982-7978
E-mail: andy.daniels@willis.com
Website: www.willis.com
CA License #0371719

June 16, 2014

State of California
Department of Transportation – District 11 Office
Division of Project / Program Management
4050 Taylor Street
San Diego, CA 92127
Attn: Artura Jacobo, Project Manager

Reference: Interstate 5 North Coast Corridor Phase 1
Contract # 112T21CM

Dear Mr. Jacobo:

This is in regards to your request for Stacy and Witbeck, Inc.'s Experience Modification Rate (EMR) on the above reference job. As you may know, the EMR is an insurance underwriting tool described by the Workers' Compensation Insurance Rating Bureau (WCIRB) as follows:

- Experience rating is a state mandated (CA Insurance Code Section 11734) merit rating system that benchmarks the risk of an employer's operations against others in its industry.
- Provides a uniform mechanism to refine the pricing of workers' compensation insurance to acknowledge the unique characteristics of each employer's operation.
- Provides a direct financial incentive for employers to reduce accidents.

Good (safe) contractors can see their EMR increase for numerous reasons unrelated to safety. These include:

- Workers' compensation claims that are included in EMR that were unavoidable and may not reflect a lack of safety.
- Payrolls down due to economy and or work shifts out of state
- Joint Venture structure limits payroll in parent company EMR
- A new rate formula in California
- Fewer dollars in the workers' compensation system

The EMR is calculated by comparing claim results as a percentage of payrolls compared to all other contractors claim results. A contractor with average claim result will have an EMR of 1.00. A contractor with better than average claim results will have an EMR that is less than 1.00. A contractor with claim result worse than average contractor will have an EMR greater than 1.00. SWI has an EMR of 1.52 for the period from December 1, 2013 through November 30, 2014. SWI had payroll of $17,931,676 and paid reserves and losses of $408,184 for the three year period covered by the EMR. SWI had two incidents which accounted for 62 of the 152 points ($300,676 of the paid loss reserves). Without those two incidences SWI's EMR would have been 0.90.

- In the first incident, two employees were commuting to work together in a company pickup truck. They were involved in a no fault auto accident and suffered injuries determined to be covered by workers' compensation.
- In the second incident, as the construction project was coming to an end an employee attempted to pick up a piece of concrete, well over the allowable weight limit and in violation of his safety training and company policy. He injured his back/hip and shoulder.

Workers' Compensation is a no fault system and does not allocate responsibility to the employee and employer as to the culpability for the injury. Many claims filed by workers are due to soft tissue (back, arm, knee, shoulder, etc...) strains as construction projects are coming to an end and no further work is available. These claims are very difficult to prove or disprove and such a phenomenon may not accurately reflect the management of SWI's safety program.

Both bulleted situations above added 62 points to the EMR putting SWI over 1.00 and making the company subject to additional scrutiny during the pre-qualification process.

SWI performs the majority of its work under joint ventures in and out of California. The payroll related to works performed out of California or in joint ventures (which have their own EMR's) are not included in the California EMR. SWI is very selective in the work they bid and the payroll volume in California may fluctuate greatly. Because of the payroll fluctuations, one or two claims can have a very negative effect on the California EMR. If SWI combined the payrolls and paid loss reserves for the company for all states and include sponsored joint ventures which have calculated EMR's, SWI EMR would be 0.88.

Finally, it should be noted that relatively small/medium firms can see their EMR spike upward during the rating period as a result of one or two large claims (legitimate or not). There is no statistical power in the EMR measurement as applied to smaller/medium firms. For example, if a company had only two employees making $60,000 a year and commuted to work in the same company pickup, got in the auto accident described above, the companies EMR would be 10.21.

EMR was not created for nor intended to provide a correct indicator of safety performance. Perhaps a better way to measure a company's safety performance is to look at the Lost Time Accident (LTA), Recordable Injury Frequency (RIF), Incident Rate (IR), Days Away, Restricted and Transfer Case Rates (used to measure effectiveness of return to work programs) over the past three to five years. Other pre-qualifiers include safety program reviews and OSHA citation histories.

Sincerely,

Linda Reynolds

Linda Reynolds
Account Executive – Construction

LR/bm

section 4

Firm Experience and Past Performance

SECTION four

RFQ Section 3.5

firm experience and past performance

Flatiron-Skanska-Stacy and Witbeck (FSSW) is a fully-integrated joint venture comprised of three highly-qualified transportation and railroad construction firms: Flatiron West, Inc. (Flatiron), Skanska USA Civil West California District Inc. (Skanska), and Stacy and Witbeck, Inc. (SWI). Our team members bring complementary strengths and capabilities to the I-5 North Coast Corridor project (I-5 NCC), with excellent national and local experience relevant to this project, shown in Figure 4.1. We also incorporated a key subcontractor Marathon Construction Corporation (Marathon) to strengthen our team. We offer particular expertise in highway, rail, environmental restoration, and CMGC contracting, the essential elements required to deliver the I-5 NCC safely and effectively. FSSW has successfully completed more than $15 billion in Caltrans projects, including $1.3 billion for District 11, and $20 billion in alternative procurement method projects. We look forward to demonstrating experience and approach of this team and providing Caltrans District 11 the best partner to successfully deliver this project.

Our joint venture's lead firm, Flatiron, is one of the leading providers of transportation construction and civil engineering in North America. Flatiron has grown to one of the largest transportation and infrastructure contractors in the nation. Flatiron is currently ranked 51st in the list of the Top 400 Contractors in the nation, 6th in the list of Top Bridge Contractors, 11th in the list of Top Transportation Contractors, and 7th in the list of Top Highway Contractors by leading industry publication *Engineering News-Record (ENR)*.

With offices in Southern California since 1991, Flatiron delivers heavy civil infrastructure projects including bridges, highway widening and reconstruction, new highways and toll roads, rail, utilities, concrete paving, rapid-set concrete paving, and airport taxiways/runways. The firm has not only worked on every corridor within Caltrans' District 11, but is also SANDAG's largest heavy civil contractor having participated in over $400 million of construction projects during the last 10 years. Flatiron handles more than $1 billion in contracts annually, with more than half of that revenue from California projects. Many of these California projects used alternate delivery methods such as CMGC, design-sequencing, and design-build.

As a large local highway contractor in San Diego, Flatiron has the advantage of being familiar with both Caltrans and SANDAG staff and their performance expectations. Flatiron knows the area, the community, project stakeholders, local site conditions, environmental sensitivity, and construction logistics. Flatiron's core strength is the ability to price and self-perform a large portion of work, which provides optimal control of safety, cost, schedule, and quality. In-house engineers work closely with clients and field teams to create innovative, safe, cost effective solutions with minimal environmental impact.

Flatiron knows that project success depends on good relationships between the owner, the contractor, the designer, third-party agencies, the community, and other stakeholders. As a standard business practice, Flatiron uses partnering to achieve common goals. Flatiron has received over 40 awards for partnering, including over 20 Caltrans Partnering awards. Recent examples of relevant partnering awards include the Route 78

Flatiron's Recent Experience Working With Caltrans District 11 & LOSSAN

I-15 Managed Lanes

Route 905 New Freeway - Phase 1 & 2

Route 76 and 76/15 Separation

Route 5 Mission Bay Dr to Nobel Dr

Route 78 Nordahl Bridge

Santa Margarita Bridge - Oceanside

Sorrento to Miramar - Phase I

Sorrento Valley Double Track

Bridge 207.6 Replacement

Santa Fe Pedestrian Underpass

Bridge 243.0 Retrofit

Figure 4.1 | FSSW team members have extensive local experience working in San Diego County

Nordahl Road Bridge, the I-15 Managed Lanes, and the Sprinter projects. Many Flatiron personnel, including several proposed on the I-5 NCC, have either led or participated in Caltrans industry partnering workshops.

SKANSKA Skanska has provided high-quality heavy civil construction services in California since 1919. As a Fortune 500 company, Skanska is one of the world's 10 largest construction companies with more than 7,000 U.S. employees. Skanska's Southern California team offers over 90 years of local experience and boasts more than 160 salaried and 380 craft employees. In 2013, *ENR* ranked Skanska 6th in the list of Top 400 Contractors, 4th in the list of Top Bridge Contractors, 3rd in the list of Top 50 Domestic Heavy Contractors, 3rd in Mass Transit and Rail, and 6th in the list of Top 25 Transportation Contractors.

Committed to sustainable construction and an injury-free workplace, Skanska specializes in the traditional and alternative delivery of infrastructure projects such as highways, mass transit and railways, bridges, steel erection, tunnels, piers, environmental, and power generation. Skanska has worked corroboratively with owners and design teams on 40 design-build projects. Over the past six years, Skanska has received 12 partnering awards. All 12 of these parnerting awards were earned on projects in Southern California including eight for Caltrans District 11.

Skanska continues to be one of the largest, most capable highway construction providers in southern California, including San Diego. Skanska's in-house engineering staff has extensive Caltrans-related experience, including building over 400 bridges in Southern California in the last 50 years. Skanska has constructed over 30 lane miles of California HOV totaling over $450 million.

Additionally, Skanska has successfully worked with Caltrans on pilot alternative delivery programs including the 905 Reconstruction Design-Sequencing Project and the I-805 North HOV/BRT Design-Build Project. This, combined with Skanska's CMGC experience, will ensure a seamless preconstruction phase with all members of the team.

Skanska's Experience Working With Caltrans District 11

I-805/La Jolla Villa Drive Interchange

SR905 Design-Sequencing

Brawley Bypass SR78 SR111

SR 52/67 Interchange

I-805/SR54 Separation

I-5/I-805/SR56 Interchange

SR86 Expressway

I-805 North HOV/BRT Design-Build

Stacy and Witbeck SWI was founded in San Francisco in 1981 and is one of the country's largest urban heavy civil contractors and leading rail transit specialists. *ENR* ranks SWI 5th in the list of Top Mass Transit and Rail Contractors, 32nd in the list of Top 50 Domestic Contractors, and 139th overall in the list of Top 400 Contractors. SWI's corporate resume includes rail transit construction in San Diego, Los Angeles, San Francisco, Santa Rosa, San Jose, Sacramento, Portland, Seattle, Salt Lake City, Tempe, Mesa, Phoenix, Denver, Dallas, Houston, Detroit, and Kansas City.

SWI is an employee-owned company with approximately 225 full-time salaried employees and an average of 600 craft personnel assigned to projects. At the forefront of SWI is the highly trained, resourceful management team and skilled field staff continually demonstrate remarkable expertise while managing and constructing rail transit projects.

Bridge construction over a sensitive waterway directly adjacent to an operating rail line on SWI's Portland Milwaukie Light Rail East Segment Project CMGC project

The depth of SWI's experience is directly relevant to the I-5 NCC railroad construction, including:

- Building schedules around complex environmental constraints
- Performing railroad bridge construction and reconstruction over sensitive waterways
- Staging track construction to accommodate freight and passenger traffic operations in operating corridors including working under Form B protection and in Absolute Work Windows
- Performing Maintenance of Way and State of Good Repair functions on operating rail lines including grade crossing

replacement, track rehabilitation, bridge inspection and repair, and signal system modifications

- Designing, installing, testing, and commissioning railroad signaling systems

Experience Working on Operating Railroads

Union Pacific Railroad

Burlington Northern Santa Fe Railroad

Amtrak

Portland and Western Railroad

Willamette and Pacific Railroad

Central Oregon Pacific Railroad

North Coast Rail Authority

Tacoma Rail

Sound Transit

TriMet (Portland)

Port of Oakland

Bay Area Rapid Transit Authority

Peninsula Corridor Joint Powers Board

Utah Transit Authority

We expertly meet these challenges while balancing the concerns of stakeholders and the travelling public. SWI excels at collaborating with owner agencies and project stakeholders to develop innovative solutions to construction challenges. As a result, SWI is known for performing schedule-critical rail infrastructure work on active rail lines with no unplanned disruption to freight or passenger rail operations.

SWI is the industry leader in CMGC contracting, holding a CMGC role on over 25 heavy civil transportation projects valued at more than $3.4 billion. We pioneered CMGC project delivery for owners across the country. In fact, SWI was the CMGC for the first commuter rail, light rail, and streetcar projects ever built under this model. SWI has proven the value of CMGC contracting on by partnering with project owners and design teams to deliver projects on time, within budget, with exceptional community relations, and with no claims. The many awards and letters of recognition attest to our performance on every project, including seven partnering awards, all on alternative delivery projects.

FSSW has secured Marathon Construction Corporation (Marathon) as an exclusive subcontractor. Marathon offers particular benefit to Caltrans on this assignment with recent and relevant experience on environmental restoration projects – including lagoons – in the vicinity of the I-5 NCC corridor. By adding Marathon to our team, Caltrans has access to foremost specialists in each component of this multi-modal project.

MARATHON CONSTRUCTION CORPORATION

Marathon is a full-service contractor specializing in marine and heavy civil construction throughout the Western United States. The firm regularly delivers projects using design-bid-build or turnkey design-build methods. The firm's reputation is built on delivering client-focused, innovative, cost-effective solutions that result in a best-value, superior product. Marathon's civil engineers, project managers, and field engineers offer Caltrans unique benefit and extensive experience providing the innovative lagoon restoration solutions within the project's highway and rail components.

Of particular interest, Marathon's extensive lagoon restoration and dredging operations are centered in San Diego County. For the I-5 NCC, Marathon understands the environmentally sensitive aspects of each lagoon. Their knowledge is essential to the project's success as construction progresses in the San Elijo Lagoon and Batiquitos Lagoon. Their proprietary knowledge of these lagoons was earned as they completed the Batiquitos Lagoon Maintenance Dredging in 2012 and the recently completed San Dieguito Wetlands Restoration Project. Significant elements of these recent projects include:

San Dieguito Wetlands Restoration Project. Using mechanical and hydraulic dredges, Marathon excavated over 2 million cubic yards of material for onsite and beach disposal. This project created over 115 acres of saltwater marsh on the 440-acre site. On the project, Marathon did the following:

- Developed a hybrid design and construction of low, mid, and high marsh wetland modules, mudflats, transitional wetlands
- Constructed five nesting sites
- Created a 40-acre sub-tidal lagoon
- Performed hydraulic dredging of the San Dieguito River
- Cleared and grubbed wetland and upland modules
- Restored over 200 acres of upland habitat in the dredge disposal areas
- Constructed 8,000 lineal feet of training levees with rock revetment, a concrete overflow weir, and storm drainage systems
- Collected a seed bank for nursery purposes
- Cultivated and propagated over 300,000 containerized plants from the seed bank collection, installation of BMP's
- Hydroseeded 220 acres of native seed

- Salvaged and reused all wetland and upland topsoils
- Coordinated with multiple resource agencies
- Complied with multiple conditional resource agency permits
- Coordinated the project biologists, geologists, geotechnical engineers, archaeologists, paleontologists and scientists
- Constructed over 2.5 miles of decomposed granite surfaced trail systems
- Performed annual inlet maintenance dredging
- Managed community outreach and public interface

Bataquitos Lagoon Maintenance Dredging Project. For this lagoon, Marathon dredged 118,000 cubic yards of beach-quality sand from two shoals in the western and central basins. The team hydraulically dredged the majority of this volume of the beach-quality sand from the central basin and transported it via pipeline 6,000 lineal feet to the adjacent South Ponto State Beach for on-beach disposal. On the project, Marathon did the following:

- Employed chevrons and other beach BMP's for direct beach discharge and dewater back to the Pacific Ocean
- Completed west basin dredging by machine-excavating the shoaled material and re-depositing in scoured areas
- Performed revetment around a storm drain outfall
- Repaired drainage
- Restored the existing nesting site
- Groomed beach
- Constructed dunes
- Repaired existing and installed new dune fencing

Marathon increased the tidal prism with its dredging effort and beneficially used dredge sand to enhance the beach and shoreline habitat, similar to the San Elijo Enhancement Project requirements.

Working Together

The firms within our joint venture teamed together as FSSW to provide Caltrans with the right combination of technical expertise, client-focused support, local knowledge, and partnering. Our equity members offer years of successful collaboration, having partnered in other joint ventures on projects similar in size, scope, and complexity to the I-5 NCC. These efforts developed our strong working relationships, community culture, and familiarity among our management, engineering, and estimating staffs. In addition to the numerous projects listed in Figure 4.2, our FSSW team members are currently working together on two CMGC projects in Southern California. The established, successful relationships among our FSSW team members bring Caltrans the benefit of a seamless project organization from the start.

We also have a long history of working side-by-side in San Diego. Currently at the I-805 design-build project Skanska closely works with Flatiron as they complete the Sorrento Miramar project for LOSSAN. Coordination includes sharing a haul bridge through Flatiron's ESA to allow Skanska access for drilling, and shared windows of flagging to jointly accomplish work. Additional projects include:

- SR 52/67
- Route 905
- I-5/I-805

Each of these projects further detail our coordination with each other in the Form Bs.

Team Experience and Form B's

Figure 4.3 on the following page highlights our team's experience in the critical areas of the I-5 NCC project. These projects are detailed in the Form Bs that follow.

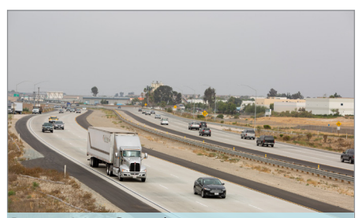
Figure 4.2 | FSSW member's Experience Working Together.

Project – Location	Owner	Value	Delivery Method	Flatiron	Skanska	SWI
Cooper River Bridge – Charleston, SC	South Carolina DOT	$541M	Design-Build	●	●	
Sixth Street Viaduct Replacement Project – Los Angeles, CA	City of Los Angeles	$190M	CMGC		●	●
CMGC 1 Projects (Mid-Coast Corridor)– San Diego, CA	SANDAG	$953M	CMGC		●	●
University/Medical Center LRT – Salt Lake City, UT	Utah Transit Authority	$125M	Design-Build	●		●
Carolina Bays Parkway – Myrtle Beach, CA	South Carolina DOT	$252M	Design-Build	●	●	
I-10 Bridges over Escambia Bay – Escambia County, FL	Florida DOT	$243M	Bid-Build	●	●	
SR60 Memorial Highway – Tampa, FL	Florida DOT	$219M	Bid-Build	●	●	

Figure 4.3 | FSSW's highlighted projects

Project – Location	Delivery Method	Value	A. Innovative Contracting Methods	B. Minimizing Delays, Claims & Disputes	C. Highway and Bridge Construction	D. Mitigation sites/Lagoon Restorations	E. Complicated staging and traffic handling	F. Environmental Compliance	G. Working around Active Rail Line	H. Controversial or highly sensitive public projects	I. Implementation of innovative ideas
I-15 Managed Lanes	Design Sequence	$435M	●	●	●		●	●		●	●
Route 76 Corridor	Design Sequence	$95.4M	●	●	●		●	●		●	●
Sorrento to Miramar – Phase I	Bid-Build	$26.7M	●	●	●		●	●	●	●	●
Route 905 Corridor	Design Sequence	$93.3M	●	●	●		●	●		●	●
Sprinter Mainline and San Marcos Loop Rail Projects	Bid-Build	$265.8M	●	●	●		●	●	●	●	●
I-5/I-805/SR 56 Interchange	Bid-Build	$142M	●	●	●	●	●	●	●	●	●
SR 52/SR 67 Interchange	Bid-Build	$72M	●	●	●		●	●		●	●
Route 905 Design Sequence Project	Design Sequence	$64M	●	●	●		●	●		●	●
SR 60 HOV Lanes From Route 605 to SR 57	Bid-Build	$118M	●	●	●		●	●		●	●
I-215 Segments 1 and 2	Bid-Build	$171M	●	●	●		●	●	●	●	●
Westside Express Services Commuter Rail	CMGC	$62M	●	●	●		●	●	●	●	●
I-205 LRT Extension	Design-Build	$181M	●	●	●		●	●	●	●	●
Interstate Max Line section 10A/10B LRT	CMGC	$104M	●	●	●		●	●	●	●	●
West Rail Line LRT	CMGC	$369M	●	●	●		●	●	●	●	●
FrontRunner South Commuter Rail	CMGC	$526M	●	●	●	●	●	●	●	●	●

I-15 Managed Lanes


Route 905 Corridor

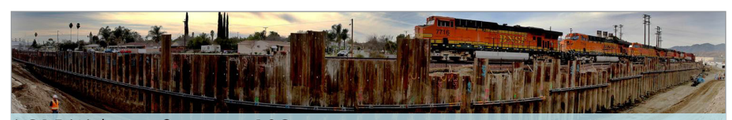
SR 52/67 Interchange

Route 905 Design Sequencing

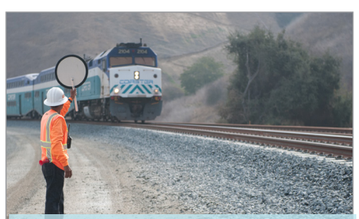
Interstate Max Line Section 10A/10B

I-205 LRT Extension

Sprinter Mainline and San Marcos Loop Rail Projects


I-215 Widening Segments 1&2

West Rail Line


Sorrento to Miramar – Phase I

Route 76 Corridor

SR 60 Widening from 605 to 57

I-5/I-805/SR56 Interchange

FrontRunner South Commuter Rail

Westside Express Services

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Flatiron West, Inc. ***Designer***: Caltrans ***Other***: NA	**Name of Firm** Flatiron **Years of Experience** ***Roads/Streets***: 8 ***Bridges/Structures***: 8 ***Utility Relocations***: 8

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
I-15 Managed Lanes Design Sequencing

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- Multi-phase bridge construction.
- Construction over environmentally-sensitive areas.
- Multiple stages of construction and complicated MOT.
- Coordination with multiple stakeholders, utilities, and adjacent residents/businesses..
- Reuse of existing materials through staging (earthwork balance) and recycle opportunities from existing AC, PCC, and structural concrete demolition.
- Alternative Delivery / Design Sequencing

Key Personnel Involved

- Proposed Team Leader, Jeff Turner, was the Area Team Leader for this project.
- Proposed Project Manager, Dale Nelson, was the Project Manager for this project.
- Proposed Estimating Manager, Jim Keep, was the Estimating Manager for this project.
- Proposed Scheduler, Tom Cameron, was the Scheduler for this project.
- Proposed Constructability Expert, Don Riese, was the General Superintendent for this project.

Project Description and Site Conditions

Flatiron was responsible for the construction of seven managed lanes contracts totaling approximately $420 million, which comprised a new 20-mile section of 4 new High Occupancy Toll (HOT) lanes stretching from SR 163 north to SR 78 along I-15 in San Diego. This project widened the interstate and added new express lanes down the middle.

According to Caltrans, the I-15 Express Lanes project is the first adaptable, high-tech transportation facility configured to meet the diverse needs of local travelers, commuters, and commerce in the San Diego region. The concept involves constructing managed lanes within the existing median and providing direct rapid access for buses by allowing buses to enter and exit the highway via dedicated Direct Access Ramps (DAR's). Additionally, highway authorities can manage lanes using a moveable median barrier to change the number of lanes in each direction, depending on the flow of traffic.

Construction along the I-15 corridor was divided into three segments, which were further divided into units, similar to the I-5 NCC project.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Caltrans accelerated the projects by using a contracting method called design-sequencing, under which parts of the design were released sequentially during construction, allowing construction to continue in different areas before the final design was complete. Phase packages were informally reviewed for constructability and recommendations were made to Caltrans prior to finalizing.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

Although most of the issues on the I-15 Managed Lanes were resolved at the project level, Unit 3 of the Middle Segment had one claim that required an extended duration to reach resolution. The issue was related to drilled shaft foundations and was advanced through the issue resolution process including project level discussion, escalation to senior management, and the Disputes Review Board. Because the issue remained unresolved, the parties filed for the issue to be resolved through binding arbitration. However, senior management at Flatiron, Caltrans, and associated subcontractors continued communicating in an effort to resolve the dispute. Ultimately, the parties agreed to mediation and the dispute was resolved in a single-day session.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

This project consisted of new bridge construction including access ramps, bridge renovations and widenings, retaining walls (Type 1, Type 5, Modified Type 5, proprietary design MSE, tieback, and soil nail), soundwalls, storm drain and water system improvements, earthwork, and approximately 150,000 cubic meters of concrete pavement. Flatiron recycled suitable on-site materials including existing decomposed granite found in portions of the roadway excavation for Class II base and structure backfill as needed on this project.

Flatiron coordinated successfully with Caltrans and many local residents/businesses to minimize the construction impact throughout the Managed Lanes. For example, prior to conducting a major freeway closure to demolish Highland Valley Bridge, Flatiron worked closely with Caltrans and the nearby residents of Casa de las Campanas, a local retirement community. Flatiron and Caltrans hosted a community outreach event to inform the residents and to receive feedback on upcoming construction plans. Through this process, Flatiron minimized traffic, noise, dust, and light impacts to local residents associated with the demolition of Highland Valley Bridge and the associated rerouting of traffic on I-15 and local streets.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon restoration elements.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

The work included widening of the existing freeway with new bridge and highway construction. The Managed Lanes involved working around an existing, functioning transit system. Maintaining service to the public and focusing on public safety around the active work zone was a challenge that will be repeated within the I-5 North Coast Corridor project (NCC). Segments were released in units and coordination was required between multiple projects.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

The Managed Lanes were constructed through several environmentally-sensitive areas such as Lake Hodges, Green Valley Creek, and Penasquitos Canyon. Flatiron's experience working over Lake Hodges included berm construction, cofferdams, dewatering, and lake diversion through pumping and channel construction. Although originally planned to be constructed in the dry with lowered lake levels, Flatiron rapidly responded with a revised construction plan when record rainfall filled the lake in 2005. Schedule and cost impacts were mitigated and the overall Managed Lanes program remained on track despite this significant challenge. Working conditions similar to this will be encountered on the NCC, particularly at the coastal lagoons.

☐ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

This project did not include any rail work elements.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Flatiron successfully coordinated with the many stakeholders on the Managed Lanes project, including:

- Local utilities such as SDG&E
- The Regional Water Quality Control Board
- The Army Corps of Engineers
- The San Dieguito River Park

- The City of San Diego
- Newland Communities (developer at 4S Ranch)
- MCAS Miramar

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

Flatiron successfully proposed and implemented a number of CRIP's on the Managed Lanes. An example is the Retaining Wall CRIP on the South Segment near Poway Road. The existing design required the construction of a Type 5 retaining wall that could not be built without complicated redesign of the traffic handling plans (including a temporary detour). Instead of engaging in a lengthy redesign of the project staging, Flatiron proposed to construct a soil nail wall comprised of shotcrete and cast-in-place facing, as well as both vertical and horizontal nails. This revised design reduced cost, eliminated the need to redesign the traffic handling, and kept the project on schedule. Flatiron's partnering relationship with Caltrans allowed this change to happen quickly and keep the project on track.

Awards, Citations, and/or Commendations Received for the Project

Awards

2013: Caltrans – Excellence in Partnering Award (Bronze)

2012: California Transportation Foundation – Project of the year

2012: Caltrans – Excellence in Partnering Award

2011: American Public Works Association – Transportation, Project of the Year

2009: California Transportation Foundation – Project of the year

2009: Roads and Bridges Magazine Award – Top 10 Roads, Rank #4

Client Information

Name of Client	Address	Telephone
Caltrans **Contact Name** Gustavo Dallarda	4050 Taylor Street San Diego, CA 92110	619-688-6738 **Fax** 858-688-2587
Owner's Project or Contract No. 11-080934, 11-080914, 11-080944, 11-080924, 11-2T0914, 11-2T0934, 11-2T0814		
Contract Value $384 Million	**Final Value** $435 Million. The difference in contract values is due to Caltrans initiated changes.	
Percent of Total Work Performed by Company 67%	**Commencement Date** September 2004	
Planned Completion Date March 2011	**Actual Completion Date** April 2012. The change in completion date was due to weather delays and change orders, which were all approved by Caltrans.	
Amount of Claims $8.2 Million	**Any Litigation?** No	

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Flatiron West, Inc. ***Designer***: Caltrans ***Other***: NA	**Name of Firm** Flatiron **Years of Experience** ***Roads/Streets***: 3 ***Bridges/Structures***: 3 ***Utility Relocations***: 3

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Route 76 Corridor

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- Widening of a major traffic corridor and surface streets.
- Addition of total number of lanes available for public use.
- Construction over environmentally-sensitive waterways.
- Significant consideration and mitigation for protection of sensitive species/habitats.
- Significant right of way take (over 1,600 acres) required to complete construction.
- Reuse of existing on-site materials (Class II base, earthwork, rip rap).
- Coordination with multiple stakeholders including utilities, residents, and local businesses.
- Alternative Delivery / Design Sequencing

Key Personnel Involved

- Proposed Team Leader, Jeff Turner, was the District Team Leader for this project.
- Proposed Project Manager, Dale Nelson, was the Project Manager for this project.
- Proposed Estimating Manager, Jim Keep, was the Estimating Manager for this project.
- Proposed Scheduler, Tom Cameron, was the Scheduler for this project.
- Proposed Constructability Expert, Don Riese, was the District Superintendent for this project.

Project Description and Site Conditions

Flatiron reconstructed 6.5 miles of SR 76. The team converted a winding, dangerous, undivided stretch of two-lane highway into a four-lane divided highway with additional signalized intersections and also widened the interchange at I-15. This project not only increased the safety of this busy corridor, but alleviated traffic congestion for the traveling public.

To accomplish this, approximately 1.5 million cubic yards of dirt was blasted, excavated, and moved into a new alignment with no export. Nearly 3.5 miles of new drainage pipe was installed. Power lines, gas lines, gravity and forced sewer mains, and water transmission lines needed to be relocated to allow the roadway to fit into its new, improved alignment. Several new bridges were constructed, including an 1,800 foot long, three-frame, post-tensioned box girder bridge built on six- and eight-foot diameter CIDH piling anchored deep into the bedrock under the river floodplain of the San Luis Rey River, as well as the widening/retrofit of the SR 76 overcrossing at I-15.

The project was constructed along the banks of the San Luis Rey River and required over 60,000 tons of rock slope protection, all manufactured on-site out of blasted material. The roadway base was also manufactured on-site, eliminating the need for select material import.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Design sequencing was utilized on part of this project (SR 76 Melrose to Mission Drive). The inherent complexity, staging, and sequenced access to right of way acquisition parcels presented challenges for both Caltrans and Flatiron, who contended with frequent design changes throughout this project. Flatiron mitigated cost and schedule impacts by working on a real-time basis with Caltrans' on-site designers to develop timely and efficient solutions to constructability/functionality conflicts as they arose. For example, staging plans at East Vista Way, North River Road, and the temporary paving tie in at the new San Luis Rey River Bridge were not feasible due to conflicting grades between previous, current, and future stages. These problem areas were identified early by the project team. Collaboration between Flatiron's engineers/superintendents and Caltrans' on-site design engineers provided closures, revised staging, profiles, and plans to allow work to continue without delays. Caltrans also identified environmentally-sensitive areas early in the contract that not been identified in the bid documents. Working as a team, Flatiron and Caltrans designed and implemented an additional earthwork haul crossing at minimal expense to avoid the environmentally-/archaeologically-sensitive area.

✓ B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration

These projects closed out claim and litigation free despite the volume of changes encountered. They maintained their aggressive schedules while preserving safety and quality. Through collaboration formal and informal partnering use of an escalation ladder and the disputes review board, flatiron was able to work with Caltrans to resolve issues in a timely manner avoiding claims and litigation.

✓ C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way

A major feature of this project was a second bridge structure over the San Luis Rey River. Construction required constant coordination with environmental and archaeological monitors. The San Luis Rey River floodplain is an Arroyo toad and Ambrosia habitat. Flatiron constructed a temporary haul/access bridge over the San Luis Rey River during construction to isolate sensitive areas from our operations. Due to the success of this method, Caltrans chose to include similar systems in future contracts along this corridor.

Despite a 20-year frequency storm event which flooded the river channel in the footprint of the new San Luis Rey River Bridge, Flatiron worked with the Caltrans to resolve this setback quickly and continued work with minimal impact on cost, schedule, and environmental mitigation efforts.

D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement

This project did not include any lagoon restoration elements.

✓ E. Experience in managing complicated staging and traffic handling on both rail lines and highways

Flatiron utilized a temporary bridge to facilitate earthwork operations and minimize traffic impacts across the existing roadway utilizing CAT 777 off-road mining trucks. This allowed traffic to flow through the work while delivering a cost efficient, off-road, haul method to Caltrans. Flatiron worked with Caltrans to:

- Tailor project staging to allow for early installation of permanent barriers.
- Engineer weekend closures in conjunction with Caltrans.
- Complete eastbound and westbound alignments to minimize and eliminate impacts to the traveling public.

These innovations saved Caltrans over $2 million by reducing temporary paving, barriers, striping, pavement removals, roadway base and SWPPP work.

✓ F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment

As a general practice and due to the environmental sensitivity of this project, Flatiron made every effort to revegetate the permanent slopes of the new alignment as early as possible. This project underwent a redesign of the irrigation and landscaping scope during ongoing construction. The early revegetation enhanced wildlife habitat around the site and bolstered our SWPPP program by establishing a root system to help reduce the overall potential for runoff pollution. Flatiron also utilized permanent bioswales to treat corridor runoff prior to discharge onto the floodplain.

Permanent project features included multiple wild animal crossings installed in conjunction with directional fencing. These crossings helped to eliminate occurrences of collisions and helped maintain habitat continuity between both sides of the corridor.

☐ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

This project did not include any rail work elements.

☑ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Extensive coordination was required between Flatiron, Caltrans, and various utility companies. Some of the key parties were SDG&E Gas, SDG&E Electric, Rainbow Municipal Water and Sewer, AT&T, Cox Communications, City of Oceanside, Caltrans, and Flatiron.

This project was highly sensitive in North County, San Diego. Extensive corridor-wide right of way take, some through eminent domain, coupled with the prospect of unknown future traffic impacts, initially created a negative public perception. Through Caltrans' and Flatiron's professional operations and public relations, public perception quickly turned and remained positive for the duration of the contract, as evidenced by the numerous accolades received by District 11 from local residents.

☑ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

Flatiron successfully proposed and implemented a number of CRIP's on the Managed Lanes. An example is the Retaining Wall CRIP on the South Segment near Poway Road. The existing design required the construction of a Type 5 retaining wall that could not be built without complicated redesign of the traffic handling plans (including a temporary detour). Instead of engaging in a lengthy redesign of the project staging, Flatiron proposed to construct a soil nail wall comprised of shotcrete and cast-in-place facing, as well as both vertical and horizontal nails. This revised design reduced cost, eliminated the need to redesign the traffic handling, and kept the project on schedule. Flatiron's partnering relationship with Caltrans allowed this change to happen quickly and keep the project on track.

Awards, Citations, and/or Commendations Received for the Project

Awards

2013: California Transportation Foundation – Conventional Highway Project of the Year

Client Information

Name of Client	Address	Telephone
Caltrans **Contact Name** Ed Fitzgibbon	4050 Taylor Street San Diego, CA 92110	619-995-7334 **Fax** 760-639-4446
Owner's Project or Contract No. 11-080104, 11-257144		
Contract Value $81.6 Million	**Final Value** $95.4 Million. The difference in contract values is due to Caltrans initiated changes.	
Percent of Total Work Performed by Company 36.5%	**Commencement Date** February 2010	
Planned Completion Date July 2013	**Actual Completion Date** September 2013. The difference in the planned/actual completion date is due to Caltrans initiated changes.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Flatiron West, Inc. ***Designer***: SANDAG ***Other***: NA	**Name of Firm** Flatiron **Years of Experience** ***Roads/Streets***: 2 ***Bridges/Structures***: 2 ***Utility Relocations***: 2

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Sorrento to Miramar - Phase 1

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- Constructed along an active rail line using utilizing flaggers for construction coordination (Form B) and AWW track shutdowns.
- Coordinated with multiple agencies and stakeholders including NCTD, MTS, City of San Diego, Verizon, SDG&E, Kinder Morgan, and Caltrans.
- Constructed retaining walls and bridges.
- Multi-phase trackwork expanded rail from single to double track.
- Worked in environmentally-sensitive areas such as Carroll Canyon Creek.

Key Personnel Involved

- Proposed Team Leader, Jeff Turner, was the District Manager for this project.
- Proposed Project Manager, Dale Nelson, was the Area Manager for this project.
- Proposed Scheduler, Tom Cameron, was the Scheduler for this project.
- Proposed Constructability Expert, Don, was the District Superintendent for this project.

Project Description and Site Conditions

The project is the first of two phases of construction that will help speed passenger and freight rail services by straightening the slowest, steepest, and highest curve territories of any segment on the LOSSAN corridor (the Los Angeles-San Diego-San Luis Obispo rail corridor). The stretch of single track between Sorrento Valley and Miramar Road caused a significant bottleneck in rail traffic. Due to the sharp curves and steep grade, train speed was restricted to 25 mph. The project improved schedule reliability by increasing train speeds and allowing passenger and freight trains traveling in opposite directions to pass each other.

One end of the project was adjacent to an ancient Native American village. Paleontological and archeological monitoring was conducted and nearby excavation was screened for artifacts.

The project is along San Diego County's 60-mile segment of the LOSSAN corridor. Flatiron was recently awarded Sorrento Valley Double Track and construction is currently ongoing.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Although this was a bid-build project, Flatiron worked with SANDAG to resolve various design issues on the project. For example, during construction it was determined that future Retaining Wall 3R, originally designed a Stackable Block CMU wall, would contain structural elements that would conflict with the track bed, causing permanent structural concerns and increasing construction costs.

Flatiron worked with SANDAG to develop a revised wall system that was constructed almost entirely out of materials reused from the project, i.e. salvaged sections of rail and timber ties, to decrease construction costs and mitigate impacts.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

These projects closed out claim and litigation free despite the volume of changes encountered. They maintained their aggressive schedules while preserving safety and quality. Through collaboration formal and informal partnering use of an escalation ladder and the disputes review board, Flatiron was able to work with SANDAG to resolve issues in a timely manner avoiding claims and litigation.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

The project included construction of a two-phase bridge at Carroll Canyon Creek.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon restoration elements.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

This project was originally allocated four total AWWs to perform critical staging changes and cutovers. Through implementation of the partnering process, Flatiron and SANDAG worked together to develop alternate sequencing and staging methods to complete the project with only two AWWs.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

The project included environmental considerations as well. The new double-track bridge crosses over Carroll Canyon Creek, home to an endangered species of shrimp. Crews conducted environmental compliance monitoring and a project biologist monitored construction over the creek.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad ✓	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

The Sorrento to Miramar Double Track Phase One Project included construction of 1.5 miles of new track including crossovers and turnouts parallel to the existing line from south of Sorrento Valley Boulevard to east of I-805. Crews demolished a 1940's era wooden trestle bridge and replaced it with a new double-track bridge. The 140-foot steel bridge was built on cast-in-place abutments and founded on driven steel H-pile. To straighten the curvature of the current track alignment, crews constructed nine retaining walls, five different types due to varying geologic conditions, and embankments along the project. Crews installed special track work and signaling along the route.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Flatiron coordinated with multiple different agencies including Caltrans on the I-805 North Design-Build Project. Skanska was the contractor on the I-805 North Design-Build Project, which geographically overlapped this project. Although Flatiron and Skanska were working on different projects for different agencies, we successfully coordinated to perform the required work with no delays to either project.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

Flatiron replaced Type 5 walls with permanent soldier pile walls that were per plan with rock sculpted shotcrete facing. This CRIP decreased construction costs while improving aesthetics.

Flatiron replaced precast lagging system at a soldier pile wall that was per plan with rock sculpted shotcrete facing. This CRIP decreased construction costs, improved aesthetics, and eliminated constructability concerns.

Awards, Citations, and/or Commendations Received for the Project

Commendations

"They're definitely a force in our region," "They do a really great job sharpening their pencils so they can be competitive on a lot of our projects." - Jim Linthicum, San Diego Association of Governments

Client Information

Name of Client	Address	Telephone
San Diego Association of Governments **Contact Name** Steve Hoyle	401 B Street, Suite 800 San Diego, CA 92101	760-518-8715 **Fax** 760-430-2023
Owner's Project or Contract No. 5001827		
Contract Value $24.7 Million	**Final Value** $26.7 Million. The difference in contract values is due to SANDAG initiated changes.	
Percent of Total Work Performed by Company 57.75%	**Commencement Date** June 2012	
Planned Completion Date July 2013	**Actual Completion Date** September 2013. The difference in the planned/actual completion date is due to SANDAG initiated changes.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Flatiron West, Inc. ***Designer***: Caltrans ***Other***: NA	**Name of Firm** Flatiron **Years of Experience** ***Roads/Streets***: 8 ***Bridges/Structures***: 8 ***Utility Relocations***: 8

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Route 905 Corridor

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- Construction of highway facilities in environmentally-sensitive areas such as Spring Canyon.
- Reuse of existing materials to minimize export (earthwork balance and on-site production of aggregate base).
- Coordination with multiple third party utility companies.
- Alternative Delivery / Design Sequencing

Key Personnel Involved

- Proposed Team Leader, Jeff Turner, was the District Manager for this project.
- Proposed Project Manager, Dale Nelson, was the Area Manager for this project.
- Proposed Estimating Manager, Jim Keep, was the Estimating Manager for this project.
- Proposed Scheduler, Tom Cameron, was Scheduler for this project.
- Proposed Constructability Expert, Don Riese, was the District Superintendent for this project.

Project Description and Site Conditions

Flatiron constructed three of four contracts for California's SR 905, a 6.4-mile, six-lane highway connecting the Otay Mesa Port of Entry to the California highway system at I-805. The new freeway alignment is a 12-mile route from the border crossing traveling northwest to I-5. Flatiron self-performed more than 50% of the work on the project including bridges, PCC paving, over 20 retaining walls, installing a deep sewer, and building a park-and-ride facility for motorists. All of this was done while coordinating with multiple utility companies and other local stakeholders.

Because of the high level of truck traffic, many of the off ramps were designated with PCC paving rather than asphalt, because PCC prevents buckling with the extra weight transfer of higher loads.

The Otay Mesa Port of Entry is a mostly rural area and SR 905 was rarely used for two decades until the U.S. and Mexican governments diverted all southbound commercial cargo traffic from San Ysidro to Otay Mesa. Otay Mesa is now the largest commercial crossing on the California/Mexico border, with SR 905 seeing nearly 1.4 million trucks per year, a growth of 45%, which merited the expanded highway. The new highway provides the only commercial crossing between San Diego and Tijuana.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Caltrans accelerated the projects by using a contracting method called design-sequencing, under which parts of the design were released sequentially during construction, allowing construction to continue in different areas before the final design was complete. The project team was able to minimize schedule delays due to significant scope changes and third party utility delays.

- ✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

  These projects closed out claim and litigation free despite the volume of changes encountered. They maintained their aggressive schedules while preserving safety and quality. Through collaboration formal and informal partnering use of an escalation ladder and the disputes review board, flatiron was able to work with Caltrans to resolve issues in a timely manner avoiding claims and litigation.

- ✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

  This project included CIP box girder bridges over environmentally-sensitive areas such as Spring Canyon. The team coordinated with adjacent property owners to construct highway facilities including grading, underground, and fencing.

- ☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

  This project did not include any lagoon restoration elements.

- ✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

  This project included MOT at multiple city streets (including bridge overcrossings) and on the State highway. Multi-phase traffic handling was necessary to construct the tie-in to the existing State highway.

- ✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

  Flatiron's SWPPP management approach is exemplified best at Spring Canyon. Storm flows were managed through this environmentally-sensitive area concurrent with bridge overcrossing construction. Falsework was designed with storm flow in mind. Planning of operations and ongoing maintenance ensured that SWPPP standards were met on a continuous basis.

- ☐ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

  This project did not include any rail work elements.

- ✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

  The project team coordinated with local utility owners (SDG&E, AT&T, and others) to complete this multi-phased project.

- ✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

  The Route 905 project required coordination with several major 3rd party utilities, including SDGE, AT&T, and City of San Diego Water. When it became known that many of the utilities would not be relocated on time, Flatiron worked with Caltrans corroboratively to re-sequence the construction of the new highway alignment, mitigating nearly one year of project delay on the Route 905 Caliente/Brittania project. This same utility issue created additional delay potential at the 905/805 interchange project. Collaboration between Flatiron and Caltans resulted in redesigned traffic staging, minimized cost impacts, and mitigation of nearly six months of delay.

Awards, Citations, and/or Commendations Received for the Project

Commendations

"This project is critical for not only motorists, but for goods movement between California and our largest trading partner – Mexico, Our goal is to develop and build vital transportation projects for the region that also help both nations prosper." - Caltrans Chief Deputy Director Richard Land

Client Information		
Name of Client Caltrans Contact Name Mike Moen	Address 4050 Taylor Street San Diego, CA 92110	Telephone 619-995-7335 Fax 760-639-4446
Owner's Project or Contract No. 11-091804, 11-288804, 11-091834		
Contract Value $82.6 Million	Final Value $93.3 Million. The difference in contract values is due to Caltrans initiated changes.	
Percent of Total Work Performed by Company 67%	Commencement Date November 2005	
Planned Completion Date July 2013	Actual Completion Date October 2013. The difference in the planned/actual completion date is due to Caltrans initiated changes.	
Amount of Claims $0	Any Litigation? No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Prime Contractor
Principal Participant: Flatiron West, Inc.
Designer: DMJM Harris
Other: NA

Name of Firm
Flatiron

Years of Experience
Roads/Streets: 3.5 ***Bridges/Structures***: 3.5
Utility Relocations: 3.5

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Sprinter Mainline and San Marcos Loop Rail Projects

Location
Oceanside to Escondido, CA

Nature of Work

Benefit to Caltrans

- Coordinated with multiple agencies - 27 key stakeholder agencies.
- Worked around live passenger/freight rail traffic.
- Performed civil, structural, and environmental mitigation including mitigation planting.
- Successfully accommodated significant MOT requirements. For example, the project required the construction of 45 at-grade crossings, 4 falsework openings over SR 78, and several falsework openings over local city streets.

Key Personnel Involved

- Proposed Estimating Manager, Jim Keep, was the Estimating Manager for this project.
- Proposed Scheduler, Tom Cameron, was the Project Manager and Scheduler for this project.
- Proposed Constructability Expert, Don Riese, was the Constructability Expert for this project.

Project Description and Site Conditions

Flatiron built the new 22-mile Sprinter Passenger Rail, the San Marcos Loop, and a new bike trail. The new rail line has 15 stations and runs east/west along the Highway 78 corridor between the communities of Oceanside, Vista, San Marcos, and Escondido. Flatiron converted the existing freight line to the new commuter line and constructed new passenger rail. Flatiron also installed new ties, adjusted the alignment for faster travel speeds, installed new at-grade crossings and warning system, installed double track, implemented new communications and wayside signaling, and completely modernized the 22-mile corridor.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Although this project was a bid-build project, Flatiron worked with the owner to resolve design issues such as the stations' structural, electrical and communications. At the time these issues were initially evaluated the project team projected a project delay of nearly a full year. Flatiron resequenced and accelerated station platform construction to meet schedule deadlines while maintaining high quality and safety standards, despite these extremely challenging obstacles. Through partnership between Flatiron and NCTD, the project team redefined key project milestones and opened the project to public use in March 2008, only three months after the original completion date, saving nine months from the initial delay projected.

✓ B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration

This projects closed out claim and litigation free despite the volume of changes encountered. They maintained their aggressive schedules while preserving safety and quality. Through collaboration, formal and informal partnering, use of an escalation ladder, and the disputes review board, flatiron was able to work with NCTD to resolve issues in a timely manner avoiding claims and litigation.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

Construction included five rail bridges over environmentally sensitive areas such as Loma Alta Creek in Oceanside and Buena Creek in San Diego County. At each location, Flatiron met the requirements of the various regulatory agencies without incident. The buena Creek Bridge owner redesign resulted in an example of Flatiron's ability to innovate in the area of project staging. The bridge foundations were redesigned by NCTD due to a differing site condition. Because of this change, the originally planned precast structure could not be built during specified weekly shut downs. Flatiron innovated and constructed a shoofly to allow train traffic to run while constructing the bridge through this environmentally-sensitive area. In addition, Flatiron resequenced and accelerated construction at Buena Creek to meet the aggressive project schedule. Flatiron's partnering relationship with NCTD allowed the project to proceed on schedule and with minimal cost impacts.

Much of the project right of way, especially through the Vista Area, was immediately adjacent to residential properties where TCEs were required to complete the work. In addition, TCEs for businesses located in the Escondido area were required to complete the work. Flatiron successfully coordinated with residential and business owners to complete the work in a timely manner and with minimal disruption to normal business and personal operations.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon restoration elements.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

During construction, freight traffic was only allowed during the weekend. Over the course of each week, the project team demolished and built 1,000 feet of rail and reopened every Friday by 11 p.m. for freight. The project was under Form B protection from Oceanside to Escondido during the testing phase and for work adjacent to the mainline in Oceanside. Through absolute work windows (AWWs), the project team worked with LOSSAN for coordination to extend the Sprinter rail to the LOSSAN track for freight use.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

The Sprinter Mainline ran through a highly urban area with sections also running through environmentally-sensitive areas. Our team was responsible removing, maintaining, and replanting exotic plants as well as mitigating other disturbances. The westerly four miles of the project ran immediately adjacent to the Loma Alta Creek in Oceanside. The majority of this stretch was lined with retaining walls of varying type. Flatiron strategically scheduled and executed the work during the dry season while complying with the various environmental constraints to the satisfaction of environmental compliance officers. During excavation for one of the last CIP walls located within Loma Alta Creek, a landslide occurred where the tracks and a mass of earth moved nearly three feet. In addition the land to the south, immediately adjacent to Evergreen Nursery, is an environmentally-sensitive area. Flatiron constructed a massive tieback and anchor block system to stabilize the landslide. Once complete, we successfully revegetated the area to the satisfaction of all parties involved. Flatiron rescheduled and accelerated this portion of the project without impacting the schedule.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

Construction included new ballasted track, signals, at-grade crossings, passenger station platforms including one aerial station at Cal State San Marcos, retaining walls, bridges, street construction, signaling for train control and 45 grade crossings, and communications. Construction was spread through multiple cities over the 22-mile rail corridor and converted a portion of existing freight track to a new multi-use commuter line for the new Sprinter Rail Line. Flatiron was required to maintain service for the existing freight line for weekend deliveries; 1,000 feet of line was taken out of service on Monday and replaced by Friday. Coordination with multiple agencies including the LOSSAN corridor, was crucial to ensure there were no schedule delays.

Flatiron was not responsible for project design but was responsible to build the retaining walls and bridge structures conforming to AREMA requirements. Flatiron also used in-house engineering to design shoring systems in accordance with AREMA standards. Flatiron managed new wayside and grade crossing signaling systems construction from start of construction through commissioning. This included completion of safety certification, implementation of the systems integration test plan, and support for Owner during pre-revenue operations. The team was also responsible for working around and relocating the positive train control along the LOSSAN corridor where the Sprinter Rail connected to the corridor.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Flatiron coordinated with city agencies, (San Marcos, Escondido, Vista, Oceanside, and county properties) and other stakeholders such as Caltrans and various public utilities. The project included significant impacts to public in residential and business areas, which the team resolved.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

By maintaining a strong partnership and promoting a team relationship, Flatiron resolved challenges to the mutual benefit of all involved while still providing the public with a high quality product at the best available price. Key value engineering/cost reduction (CRIP) proposals, which totaled approximately $1 million in savings, included:

- Modifying the tie spacing on the "Loop Project" (a spur connecting the college campus to the mainline) from 27 inches to 34 inches – totaling more than $100,000 in savings.
- Replacing custom-made ornamental rail with a sturdier and more cost effective prefabricated rail, saving more than $550,000.
- Implementing a solution proposed by electrical subcontractor Helix Electric to reroute the conduit along the project that saved conduit and electrical wiring costs, totaling $350,000.

Awards, Citations, and/or Commendations Received for the Project

Awards

2008: American Public Works Association – Transportation, Project of the Year
2009: AGC San Diego – Excellence in Partnering (Finalist)
2010: National Railroad Construction and Maintenance Association – Safety Silver Award for Safe Contractor of the Year

Client Information

Name of Client North County Transit District **Contact Name** Marc McIntyre	**Address** 810 Mission Avenue Oceanside, CA 92054	**Telephone** 858-566-3113 **Fax** 858-566-6844
Owner's Project or Contract No. 04032, 04046		
Contract Value $211.6 Million	**Final Value** $265.6 Million. The difference in contract values is due to NCTD initiated changes.	
Percent of Total Work Performed by Company 62.2%	**Commencement Date** September 2009	
Planned Completion Date December 2007	**Actual Completion Date** March 2008. Difference in the completion date due to to NCTD initiated changes.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Prime Contractor
Principal Participant: Skanska USA Civil West California District Inc.
Designer: Caltrans
Other: NA

Name of Firm
Skanska

Years of Experience
Roads/Streets: 5 ***Bridges/Structures***: 5
Utility Relocations: 5

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
I-5/I-805/SR 56 Interchange

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- One of the largest District 11 projects that required complex staging for the inside and outside widenings, truck bypass, and to place more than 40,000 cubic yards of structural concrete
- 12 bridges, with the largest being 3,428 feet long which required extensive coordination for construction staging plans
- Coordination of two major existing highways with the new SR 56, totaling 23 lanes
- Worked with a high-priority, environmentally-sensitive creek bed, and while maintaining the satisfaction of the urban community

Key Personnel Involved

- Proposed Construction Manager (Highway) Mike Spain was the Operations Construction Manager on this project.

Project Description and Site Conditions

This contract widened existing sections of I-5 and I-805 and constructed new freeway bypasses. The project limits were approximately one mile south on I-5 from the I-5/I-805 interchange, two miles north on I-5 from the I-5/I-805 interchange, and one mile south on I-805 from the I-5/I-805 interchange. The I-5 and I-805 were widened by two lanes both northbound (NB) and southbound (SB). This project alleviated traffic congestion in the area, especially in the morning and afternoon commuting periods. Skanska staged lane closures along I-5 SB and NB to minimize impact during high traffic volumes and maintain highway speeds during lane closures. The team widened and restriped lanes for maximum traffic flow and unrestricted movement, thus providing additional safety to the public and construction crews.

The scope of work also included the construction of a Plantable Geosynthetic Reinforced Wall (PGR Wall) which ran 12,790 feet long and 66 feet high in some areas. Soil improvements for the wall included 27,860 cubic yards of soil cement and 79,048 feet of stone columns. Another major project element was Skanska's work on 12 bridges, with the largest being 3,428 feet long and approximately 33 feet wide. While several of these bridges are completely new structures, some of the existing bridges were widened. This work included over 40,000 cubic yards of structural concrete for the bridges, 14,435 feet of CIDH pile (the largest being 13 feet in diameter), and more than 20 million lbs of reinforcing steel. The project included column casing retrofits at the I-5/805 separation and column retrofits at the Las Penosquitos Creek. Additional work included: ramp realignments, PCCP paving, more than 700 night lane and freeway closures, SWPPP, that included water quality sample and traffic control.

Project similarities include scope magnitude as well as extensive MOT staging. We in-house designed the falsework to accommodate the risk of water scour while crossing an environmentally sensitive area. The business community required regular coordination and communication regarding access and the staging of ramp realignments. We constructed more than 25 walls and over 15,000 linear feet of retaining walls to accommodate the widening. We hired Flatiron as a subcontractor to provide PCCP panel replacements with the use of rapid set concrete and volume metric trucks.

✓ A. Experience in successful delivery of projects using innovative contracting methods

There contract had partnering and an incentive to open the northbound I-5 early, which Skanska was awarded.

✓ B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration

The project had zero claims and no litigation. During the project, we had accumulated 21 notices of potential claims, many that had gone to the DRB. To keep moving forward, we worked together Caltrans to bring these issues to closure before contract completion. This allowed the project staff to concentrate on finishing the project, and not have to concern themselves with outstanding issues.

✓ C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way

Skanska encountered a 84-inch jack pipe under the freeway. Our construction method jacked the pipe and used spacers, which only required one pit for the drain line under the freeway. This allowed our crews to install the drainage without interrupting traffic flows with an open trench.

Skanska directly contacted property owners adjacent to the project to incorporate work elements. Each property owner was a stakeholder and maintained input on the reconstruction of any disrupted areas on their property. Skanska maintained constant communication with each affected property owner, who was fairly reimbursed for any damages. We also built a bird soundwall as a environmental noise buffer during the final stages of the project.

✓ D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement

The project required that Skanska mitigate four acres of Caltrans property and add bioswales just off SR 56. We had to first create a new habitat to mitigate the environmental impact of the project. This work was limited to certain seasonal time frames. Our team also maintained environmental commitments including dust control, SWPPP tracking / BMPs, and preventing construction access to environmentally-sensitive areas.

✓ E. Experience in managing complicated staging and traffic handling on both rail lines and highways

Skanska staged lane closures along I-5 and I-805 SB and NB to minimize impact during the high traffic volumes and maintain highway speeds during lane closures. We temporarily widened and restriped lanes allowing for maximum traffic flow and unrestricted movement, thus providing for additional safety to the public and construction crews.

This corridor had more than 450,000 vehicles passing through daily. Our most complicated closures required the falsework for the bridges over the I-5. These night closures had eight mile detours. We had 150 lane closure charts that had to accommodate the inside and outside widenings. We had a small team that managed this process to ensure all project requirements were met.

✓ F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment

Complex falsework was erected in and around the Los Penasquitos Creek (an environmentally sensitive area) with great success. We used innovative falsework pad designs to minimize our impact to the creek. Additional visual BMPs were implemented to maintain compliance when lanes were added adjacent to the San Elijo Lagoon. Our team also maintained an ESA fence to keep visual compliance as well.

We had to construct silting basins and bioswales to protect the San Dieguito Lagoon. We coordinated this work with Marathon who was doing restoration work at the San Dieguito Lagoon.

✓ G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:

a. Track, Ties, Ballast/Subballast & Special Trackwork	b. Class 4 or Class 5 Railroad	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines	f. Construction, Installation, & Testing of Signaling	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

We had to erect complex falsework in the Sorrento Valley over 500 feet of the MTS/NCTD tracks. We maintained constant communication with Caltrans, NCTD and their partners. We safety executed this work safely and reduced our disruptions to the public. We had to cross the tracks four times to place and take down the falsework. We filed 150 Form Bs and worked through 25 AWWs.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

This project encompassed one of the two only north / south bound corridors to the San Diego community and businesses. It was important to communicate daily with Caltrans Traffic Operations to assure smooth flowing traffic. Our team was able to manage provided project alternatives that not only benefited the environmentally-sensitive areas, but lessened the impact to the adjacent community and the traveling public. We also used alternative entrances and exits to reduce impact to affected neighborhoods.

One of the local business's operation was impacted by the vibrations. We shifted our heavy vibration work including demolition and stone column construction, eliminating our impact to the business.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

We in-house designed the falsework to accommodate the risk of water scour while crossing an environmentally sensitive area. We also used innovative falsework pad designs to minimize our impact to the creek.

Awards, Citations, and/or Commendations Received for the Project

Awards

2006: Biennial Awards Excellence in Highway Design Award of Merit for Major Highway Structures $15 Million

Client Information

Name of Client	Address	Telephone
California Department of Transportation (Caltrans) **Contact Name** Bob Dougherty	4050 Taylor Street San Diego CA, 92110	858-720-2125 **Fax** NA
Owner's Project or Contract No. 11-0301U4		
Contract Value $109 Million	**Final Value** $142 Million. The scope was increased by S30 million, with an additional $3 million to compensate for unforeseen conditions.	
Percent of Total Work Performed by Company 70%	**Commencement Date** March 2002	
Planned Completion Date August 2007	**Actual Completion Date** May 2008. The schedule was extended due to the additional scope and negotiated noncompensable days.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Skanska USA Civil West California District Inc. ***Designer***: Caltrans ***Other***: NA	**Name of Firm** Skanska **Years of Experience** ***Roads/Streets***: 3 ***Bridges/Structures***: 3 ***Utility Relocations***: 3

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
SR 52/SR 67, Construct Four-Lane Freeway

Location
Santee, CA

Nature of Work

Benefit to Caltrans

- Constructed at an accelerated schedule to accommodate SANDAG's corridor opening
- Coordinated two concurrent contracts by Flatiron and Skanska, that physically overlapped.
- Maintained traffic on the SR 67 through the project footprint
- In-house design of complicated falsework due to the skews and the height

Key Personnel Involved

- Proposed Construction Manager (Highway) Mike Spain was the Operations Construction Manager on this project.

Project Description and Site Conditions

For this project, Skanska constructed a four-lane freeway and interchange in San Diego within/near Santee on SR 52, from west of the Magnolia Avenue undercrossing to the SR 52/67 separation and on SR 67 from the Bradley Avenue overcrossing to Woodside Avenue undercrossing. The project constructed a major interchange at SR 52 and SR 67 that consisted of four bridges. Skanska also improved area roadways using retaining walls, soundwalls, MSE walls, a soil nail wall, and drainage improvements. This project required approximately 25,000 cubic yards of structural concrete, excavation of 75,000 cubic yards of roadway, 281,000 cubic yards of imported borrow, 37,640 cubic yards of aggregate base, and 26,200 tons of asphalt concrete paving. To construct the retaining walls, Skanska used approximately 4,700 cubic yards of concrete. Project drainage improvements included installation of 12,430 lineal feet of 18-inch diameter to 48-inch diameter pipe.

This project included highly-sensitive utilities including very high-risk 68-inch water line. Skanska considered many designs and factors to avoid impacting this utility. We kept the City informed and involved to expedite work required near the water line, which proved very successful.

Skanska's engineers and project staff participated in numerous meetings to understand the City's concerns, which included the facility's age. Our team engineered temporary construction facilities to address these concerns.

Project similarities include complicated falsework and bridge construction. Our in-house expertise for designing falsework incorporated difficult conditions including skews and heights and workarounds for major waterlines. We integrated this project and Flatiron's portion of work through coordination and regular schedule meetings. There were MSE walls on both projects that showed them joining, but the wall types were dissimilar. We worked with Caltrans and Flatiron, and together the team proposed that Flatiron construct the walls where they connected, with Skanska's material. Flatiron and Skanska provided open access for construction traffic through their respective projects which reduced impacts to the traveling public.

- ✓ **A. Experience in successful delivery of projects using innovative contracting methods**

  We had partnering and a global partnering program in District 11 for Brawley, SR 52/ SR 67 and the I-905 to standardize application of specifications and contract language.

- ✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

  The project had zero claims and no litigation. We had a standing DRB and no issue ever required presentation to the board.

- ✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

  To complete bridges at such great heights, skews, and angles, this project required very complex falsework designs. These designs required the soffits and decks of all connectors to be built with 2% to 10% cross falls spanning multiple surface streets, highways, and numerous utilities. Skanska scheduled these designs and construction stages to allow for completion of the bridges as they overlapped each other. With partnership and collaboration between Skanska's engineering team, the project team, and the owner's representatives, we met all safety requirements. Our team also accommodated vehicular and pedestrian traffic, as well as construction access for all team members.

  Skanska built a soundwall adjacent to the city street to minimize noise and neighborhood impact. We also redesigned a soudnwall footing, which reduced our schedule, eliminated the need for a TCE and minimized the demolition work. We worked with Caltrans to revise the staging plan, because the original plan did not allow for the construction of the drainage elements.

- ☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

  This project was a highway project and did not have lagoon restoration.

- ✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

  Skanska constructed a temporary off ramp to facilitate the demolition of the existing and construction of a newly-aligned off ramp. The team had concerns regarding the performance of the temporary ramp. To mitigate this, together, we decided to keep the existing ramp available as a backup for one week. The temporary ramp functioned as planned and the existing ramp was demolished a week later. This staging sequence was accomplished with regular meetings and constant communication with city officials and Caltrans staff.

  At award, plans were not complete for the last stage. Our team redesigned this final stage to minimize traffic impacts. The original plan also required multiple highway shutdowns for paving. Skanska consolidated the NB paving into one weekend day shift. This weekend shutdown opened on time and was successful due to our coordination with city officials, stakeholders, and Caltrans.

- ✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

  Skanska proactively and diligently demarcated all environmentally-sensitive areas throughout the project and maintained the boundary limits to prevent disturbances to environmentally-sensitive areas. When the project required removal or encroached upon environmentally-sensitive areas, Skanska notified Caltrans and provided a biologist to monitor the areas as needed. Skanska received no warnings or citations.

- ✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

  This was a highway project that did not have railroad work in the vicinity.

- ✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

  By preplanning with Caltrans, Skanska disseminated project information such as detours, schedules, and other information to the public. The team informed the public of lane closures using continuous signage and public broadcasts. We worked with Caltrans to address any public issues with surrounding businesses, land owners, and the traveling public.

  Many of the closures were on local streets that spanned multiple cities. Skanska coordinated city reviews, approvals, and communication. We also notified the neighboring airport of high cranes in the area.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

We worked overtime with our carpenters and increased the number of crews to accelerate the schedule to achieve the desired opening date. We also consolidated the NB paving into one weekend day shift. Benefits of this innovation included: enhanced the traveling public's and our crew's safety, minimized traffic disruption, increased quality of final product and reduced the schedule.

Due to the close coordination of the MSE walls between Flatiron and Skanska, we were able to delete the planned pillow wall providing a credit to Caltrans.

Awards, Citations, and/or Commendations Received for the Project

Awards

2012: Caltrans' Partnering in Motion, Excellence in Partnering Gold Award

Commendations

"Skanska exemplified professionalism from senior management down to the field foreman…Skanska has proven what can be accomplished when the owner and contractor partner and work as a team." - Mike Moen, Senior Construction Engineer, Caltrans District 11

Client Information

Name of Client	Address	Telephone
California Department of Transportation (Caltrans) **Contact Name** Mike Moen	4050 Taylor Street, San Diego, CA 92110	619-596-3226 **Fax** 619-688-6848
Owner's Project or Contract No. 11-ST0004		
Contract Value $66 Million	**Final Value** $72 Million. Caltrans requested an accelerated schedule and we had differing site conditions for the CIDH pile.	
Percent of Total Work Performed by Company 65%	**Commencement Date** April 2008	
Planned Completion Date December 2010	**Actual Completion Date** May 2008. The schedule was extended due to the additional scope and negotiated noncompensable days.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer FSSW	
Project Role ***Project Role***: Prime Contractor ***Principal Participant***: Skanska USA Civil West California District Inc. ***Designer***: Caltrans ***Other***: NA	**Name of Firm** Skanska **Years of Experience** ***Roads/Streets***: 3 ***Bridges/Structures***: 3 ***Utility Relocations***: 3

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Route 905 Design-Sequence Project

Location
San Diego, CA

Nature of Work

Benefit to Caltrans

- Successful alternative contracting method: design sequencing project
- Coordination between Flatiron and Skanska on adjacent contracts
- We successfully executed the work without impacting environmental areas that contained the burrowing owl, gnatcatcher and vernal pools.

Key Personnel Involved

- Proposed Construction Manager (Highway) Mike Spain was the Operations Construction Manager on this project.

Project Description and Site Conditions

This project constructed 2.5 miles of a new six-lane freeway in Phase I of a planned link between the greater San Diego area and the Mexican border. The new roadway connects with other interstate routes such as I-805, I-5, and the future South Bay Expressway to ease the increased truck traffic through the area and greatly improve the overall vehicular traffic flow through the border crossing. For grading purposes, Skanska imported approximately 1.2 million cubic yards of dirt from a Caltrans-designated source. The project also included construction of five bridges, four culverts, storm drains, landscaping, signal and safety systems, and water and sewer lines. Construction required major grading operations and placement of 365,000 tons of sub base and base, 103,000 tons of asphalt and asphalt concrete base, and 32,000 cubic yards of concrete pavement. The contract also required 1.7 million cubic yards of roadway excavation. Landscaping, irrigation, electrical, fiber optic, and striping completed the project.

Project similarities include CIP prestressed bridge construction and PCCP paving. When we were awarded the project, the plans were approximately 60% complete. We worked together with Caltrans to reconcile quantities and discussed change in character if necessary. One of the bridges was constructed in two phases.

✓ A. Experience in successful delivery of projects using innovative contracting methods

Skanska delivered this project under the design-sequencing method. As such, partnering was essential to this project's success for all involved parties. Caltrans and Skanska maintained open communication with all project team members to address and resolve issues ahead of time, avoiding critical impacts to the project schedule. For example, when the utilities relocation at Otay Mesa Road was delayed by outside utility agencies, we worked together to change the stage construction to open another area for work.

✓ B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration

The project had zero claims and no litigation. Our strong partnering was also evident during the redesign of the original sewer plans. Caltrans presented Skanska with different construction alternatives to determine the most cost-effective, constructible

option. Through partnering, Caltrans and Skanska avoided potential claims and project delays by cooperatively forecasting potential problems ahead of time and mutually resolving issues in a timely fashion.

- ✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

  The project required excavation of over 800,000 cubic meters from a privately-owned parcel over a mile away from the closest point on the project. Skanska proposed hauling the material at night to minimize the disruption on local streets. Caltrans approved this idea, which minimized disruptions to the traveling public. This prevented daily impacts to the thousands of commercial trucks coming in and out of Mexico.

- ☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

  This was a highway project and did not have lagoon restoration.

- ✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

  We had to maintain traffic during construction on two major city streets that provided access to the international border crossing and the large commercial storage facilities. We successfully maintained access to the border crossing at all times. This work was closely coordinated between our team and border patrol.

- ✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

  This project involved various environmentally-sensitive areas (Vernal Pools) both surrounding and within the project limits. In addition, Skanska took special care to preserve several protected species such as the burrowing owl. Skanska implemented special training for craft and salaried personnel regarding the burrowing owl. Skanska also worked diligently with an archaeo-paleontologist and a biologist to maintain permit compliance. During construction, Skanska uncovered a graveyard within the project limits. Our team worked with Caltrans and the archaeologist to protect and remove the artifacts. We also placed ESA fencing around all areas that required protection.

- ✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

  This was a highway project that did not have railroad work in the vicinity.

- ✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

  Caltrans invited Skanska to attend utilities progress meetings that coordinated utility relocations with outside agencies such as AT&T, SDG&E, and Cox Communications. As such, Skanska cultivated strong relationships with AT&T, Otay Water, and SDG&E. Dennis Gerschoffer, with SDG&E in particular, who will be involved on the I-5 NCC project. We also had regular coordination with Border Patrol to ensure access and truck routes were communicated.

- ✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

  This project had a number of CRIPs. For example, Skanska revised the staging design to reduce construction costs and schedule duration. Also, Skanska revised the structural section of La Media Road to include Tensar reinforcing fabrics, reducing the Class II base and lowering the construction cost.

  Skanska provided a CRIP to change the retaining wall type near private buildings. The contract plans used a standard Type 1 retaining wall, which providing minimal room for shoring due to the wall's footing. Skanska provided a specially-designed retaining wall that eliminated property impact and provided cost savings to Caltrans.

Awards, Citations, and/or Commendations Received for the Project

Commendations

"The completion of SR 905 has significance not just for the region, but also for Mexico, California, and the rest of the United States, SR 905 is part of a planned system along the international border that will safely and efficiently move people and commerce between the two nations, fueling our economies and improving our quality of life." - Jack Dale SANDAG First Vice Chair and Santee Councilmember

Client Information

Name of Client	Address	Telephone
California Department of Transportation (Caltrans) **Contact Name** Mike Moen	4050 Taylor St, San Diego CA, 92110	619-596-3226 **Fax** 619-688-6848
Owner's Project or Contract No. 11-ST0004		
Contract Value $66 Million	**Final Value** $72 Million. Caltrans requested an accelerated schedule and we had differing site conditions for the CIDH pile.	
Percent of Total Work Performed by Company 65%	**Commencement Date** April 2008	
Planned Completion Date February 2011	**Actual Completion Date** June 2011 We had delays with the SDG&E utility relocations and additional scope.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Prime Contractor
Principal Participant: Skanska USA Civil West California District Inc.
Designer: Caltrans
Other: NA

Name of Firm
Skanska

Years of Experience
Roads/Streets: 4 ***Bridges/Structures***: 4
Utility Relocations: 4

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
SR 60 HOV Lanes from Route 605 to SR 57

Location
City of Industry, CA

Nature of Work

Benefit to Caltrans

- Median concrete paved widening for 11.5 miles on 211,000 daily commuters
- 6 miles of soundwalls requiring coordination
- Limited ROW access throughout the alignment
- A major thoroughfare for goods being transported to the major ports of Long Beach and Los Angeles
- Extensive traffic management, planning, and maintenance to maintain the existing traffic volumes and level of service

Project Description and Site Conditions

This project provided inside and outside widening for 11.5 miles of the SR 60 mainline in each direction, as well as multiple ramp reconstructions at every major cross street intersection. For inside widening, Skanska removed the existing concrete barrier, replaced the existing asphalt concrete with concrete pavement, and installed a new concrete barrier railing. Outside widening and ramp reconstruction included both concrete and asphalt pavement. The project required over 10,000 lineal feet of new concrete retaining walls and over 380,000 square feet of soundwalls along the right of way, including areas of temporary construction easements. Construction also consisted of widening two conventional bridges and two seismic retrofit bridges, along with replacing multiple approach slabs for existing bridge structures. Skanska installed and maintained existing and new highway lighting, traffic monitoring, and ramp metering systems throughout the entire project. Traffic handling and management were key to our successful completion of this project.

Project similarities include coordination with more than 50 residents, business owners and schools. On non-schedule critical areas we staged strategic segmental closures and openings to reduce the impact to the traveling public. This project was also located in areas populated with residential and commercial businesses that rely heavily on safe travel, accessibility, noise reduction efforts, communication, and awareness of ongoing construction activities. Due to the nature of the widening construction, Skanska successfully planned work within the congested area, which required night work to access certain project areas. To construct the retaining walls and soundwalls along the right of way, Skanska maintained constant communication with commercial and private residences to coordinate activities that would be affected by noise levels, property encroachment, securing of property, property enhancements, and visual aesthetics. Skanska used multiple construction stages to sequence the inside and outside widening with the ramp reconstruction.

✓ **A. Experience in successful delivery of projects using innovative contracting methods**

The project was a bid-build traditional contract and we used partnering to successfully resolve conflicts and discrepancies.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

The project had zero claims and no litigation. We had a standing DRB and no issue ever required presentation to the board.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

Skanska coordinated with affected property owners to ensure soundwalls were in place to minimize disruption caused by construction noise. Our team also coordinated with other contractors performing projects adjacent to the SR 60 project boundaries. With projects under construction on both sides of the project, Skanska coordinated a smooth fusion of the three projects, as well as lane closures to optimize traffic flow throughout the project.

Our team successfully worked within the tight parameters of the freeway right of way, in addition to the two adjacent projects. One of the adjacent projects required panel replacement within the SR 60 HOV Lanes project limits. To accomplish this without incident or negative public impact, the team met weekly with the adjacent contractor to coordinate schedules, MOT, and detour routes.

Due to the heavy truck traffic on existing cross streets in the highly commercialized area, Skanska carefully considered the design to maintain adequate vertical height clearance during falsework erection for the bridge superstructures. We implemented advanced warning detection devices for heavy haul loads that might exceed the vertical height clearance, which provided an immediate response and avoided potential accidents or incidents.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This was a highway project and did not have lagoon restoration.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

Due to the proximity of two major freeway interchanges with multiple connector ramps, Skanska performed extensive pre-planning and coordination to ensure proper identification, notification, delineation, and execution to minimize public inconvenience and increase worker safety.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

The construction activities for project were governed by a number of environmental compliance regulations including:

- Streambed Alteration Agreement - California Department of Fish and Game
- Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 CFR Section 10.13)
- 404 Permit - US Army Corps of Engineers
- Clean Water Act Section 401 Water Quality Certification File No. 06-004 - Regional Water Quality Control Board, Los Angeles region
- South Coast Air Quality Management District for Large Operations Notification (Form 403N) for fugitive dust control actions and mitigation measures

One location within this project was considered an Environmentally Sensitive Area (ESA), which prohibited or limited access to preserve an archeological site or existing vegetation, or to protect a biological habitat. Skanska's team implemented site control and used ESA fencing to minimize contact with these areas.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

This was a highway project that did not have railroad work in the vicinity.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Because the project was located in a highly-commercialized, business-oriented community, Skanska provided constant updates to the Caltrans' Public Information Officer regarding upcoming closures, alignment changes, or conditions that would affect the traveling public or commercial businesses.

We communicated major closures through local newspapers, media, and changeable message signs that displayed critical closures in local shopping malls. Skanska informed homeowners of all night operations that might impact their neighboring homes using flyers detailing upcoming work.

Our team held meetings with local school boards, residential groups, church groups, businesses, and local government to communicate progress and potential impacts and to address their concerns.

Other stakeholders included the Cities of Hacienda Heights, Puente Hills, Rowland Heights; City of Diamond Bar; City of Industry; Ports of Long Beach and Los Angeles; City and County of Los Angeles; and cities within the Inland Empire with a vested interest in the project due to the economic and quality of life benefits offered by the project.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

The project underwent an extensive CRIP during redesign and staging to eliminate the placement of rapid set concrete pavement on five off-ramp locations. This allowed Skanska to use the approved PCP mix design in these areas and eliminated the extended weekend and ramp closures that would have created tremendous public inconvenience with high weekend traffic volumes. As a result, Skanska saved Caltrans of approximately $900,000. Through the CRIP, Skanska also proposed a plan to re-sequence and stage, resulting in over $1 million in cost savings and a shortened project schedule by one month.

Several miles of the project required widening of a portion of the shoulder. Rather than installing temporary K-rail and reducing the shoulder width, Skanska performed the shoulder widening at night while reconstructing the full roadway section to allow daytime use. This eliminated long stretches of temporary K-rail that eliminated pull off areas for the traveling public.

Once Skanska completed asphalt shoulder reconstruction and eliminated use of temporary K-rail, we placed the temporary striping in a permanent configuration, thus eliminating multiple lines of removal. This prevented potential confusion for the traveling public and eliminated costs associated with paint striping and removal for multiple lanes in each direction.

Awards, Citations, and/or Commendations Received for the Project

Awards

2012: Caltrans' Excellence in Partnering, Silver Award

2011: International Partnering Institute, John L. Martin – Partnered Project of the Year – Honorable Mention

2010: Caltrans' Partnering Success in Motion, Gold Award

2009: Caltrans' Partnering Success in Motion, Silver Award

Client Information

Name of Client California Department of Transportation (Caltrans) **Contact Name** Patricia Galven	**Address** 100 Main Street Los Angeles, California 90012	**Telephone** 909-594-4270 **Fax** 909-594-4131
Owner's Project or Contract No. 07-1294V4		
Contract Value $113 Million	**Final Value** $118 Million. The value increased due to change orders and quantity adjustments.	
Percent of Total Work Performed by Company 50%	**Commencement Date** April 2007	
Planned Completion Date August 2010	**Actual Completion Date** August 2010	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Prime Contractor
Principal Participant: Skanska USA Civil West California District Inc.
Designer: Caltrans
Other: NA

Name of Firm
Skanska

Years of Experience
Roads/Streets: 4 ***Bridges/Structures***: 4
Utility Relocations: 4

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
I-215 - Segments 1 and 2

Location
San Bernardino, CA

Nature of Work

Benefit to Caltrans

- Similar transportation elements included complex traffic staging, muti-phased bridge construction, retaining walls, concrete and HMA pavement sections, and 1.5 miles of soundwall construction along private property owners.
- Form B railroad coordination with active passenger and freight rail.
- SWPPP Classification Risk Level 2 project with extensive temporary drainage and flood control
- Complex MOT and construction staging
- Temporary soil stabilization on large exposed disturbed areas required continuous dust suppression due to high winds

Key Personnel Involved

- Environmental/Permit Manager Beth Famiglietti served as the Environmental/Permit Manager on this project.
- Construction Manager (Highway) Mike Spain served as the Operations Construction Manager

Project Description and Site Conditions

Skanska was awarded a 2.5 mile highway improvement and widening project on the I-215. The project's scope included:

- 18 new bridges, including one temporary bridge.
- 20,815 linear feet of cast-in-place concrete retaining walls with a combination of spread footings and footings on piles.
- 2,368 linear of mechanically-stabilized embankment (MSE) walls.
- 80,250 cubic yards of concrete pavement.
- 88,600 tons of AC pavement.
- Storm drain system with eight-inch diameter to 96-inch diameter pipes.
- Landscape and irrigation.
- Freeway and city street electrical systems.

Project similarities include contract size (>$172 million in freeway construction) as well as challenges associated with rebuilding a urban freeway corridor. Limited space along the BNSF railroad required extensive sheetpile shoring including tiebacks. This required daily coordination with the railroad and the continuous use of Form B's. Limited space along the ROW required TCEs on private property to construct numerous soundwalls and retaining walls. It also caused significant challenges in coordinating laydown space for construction materials and equipment, similar to what we will encounter on the NCC I-5 project.

The project required extensive resource coordination to construct multiple bridges concurrently. At peak construction, Skanska constructed nine bridges simultaneously. Most of the bridges were built in two to four phases.

✓ **A. Experience in successful delivery of projects using innovative contracting methods**

We had a DRB process and we had formal partnering on the project.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

The project had zero claims and no litigation.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

Our project had eight major MOT construction stages, with two sub phases in each stage. Skanska combined sub phases to reduce the overall MOT staging. These options were presented to SANBAG as a time and cost savings.

The project included 1.5 miles of soundwalls and required coordination with approximately 50 residents for temporary easements. Our team worked closely with residents to reschedule and accommodate pets, including building a temporary pen for a donkey to allow work to continue.

Our most challenging bridge was the Baseline Bridge, which included challenges such as a drop soffit design, varied existing roadbed elevations, and a complicated two-tiered falsework system. Our in-house construction engineering staff put multiple options together for review by the team in order to pick the one that was safest for the workers as well as the traveling public.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon mitigation or restoration.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

In MOT Stage 2, Skanska encountered a very tight curve that maintained six lanes of traffic. During our safety analysis of the MOT staging plan, we determined the area required additional signage and CMS boards to warn the traveling public.

Skanska implemented daily closures for a single lane, a ramp, a city street, or the entire freeway. Each closure was opened on-time or early. Approximately 20% of our work was performed at night and included approximately 20 complete freeway closures, all of which opened time. This corridor typically carries more than 90,000 vehicles per day and has heavy weekend traffic heading out on Friday and in on Sunday. Our team created hourly schedules for each full freeway closure and reviewed them with SANBAG prior to the closure.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

Our team reduced carbon emissions by over 16% by incorporating recycled aggregates rather than sourcing virgin materials off site. The project's carbon footprint was reduced from 79,807 tCO2e to 66,859 tCO2e by reusing waste concrete and asphalt materials on site.

Our team sent less than 5% of the project's waste to landfill. In total, approximately 150,000 tons of base and aggregate material was produced from recycled project materials, which accounts for around 30% of all project materials.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

a. Track, Ties, Ballast/Subballast & Special Trackwork ☐	b. Class 4 or Class 5 Railroad ✓	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ☐	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

Skanska's in-house construction design team designed temporary shoring, which allowed our team to excavate and backfill the wall which ultimately supported the weight of the railroad. We then placed survey points to monitor daily track movement. Our team stayed within the one-quarter-inch tolerance of movement. This was allowed for a 1,000 meter retaining wall near the existing BNSF railroad. The railroad was a joint-use corridor with approximately 70 trains daily, with one or two passenger trains a day.

- Our team submitted Form Bs for the following types of work:
- Erecting and removing falsework.
- Removing and installing right of way fence.
- Installing and removing temporary shoring.
- Excavating and backfilling wall and bridge structures adjacent to the tracks.
- Placing survey points on rail to monitor movement and monitoring the track movement with a two man survey crew walking the tracks.
- Preformed finish grading alongside the tracks.

Our Form Bs sometimes covered more than one mile of track, allowing our team to build multiple bridges at once. Throughout the four-year project, we coordinated with over 100 Form B's.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

Skanska provided management personnel and schedule information for SANBAG's public relations campaign. Our team focused on upcoming traffic and community impacts, including opening and closures of ramps.

This project was the gateway to downtown San Bernardino, where all of the District and County representatives work everyday. Keeping our jobsite in order and productive was paramount in the realm of public opinion. Skanska was sensitive to this and utilized extra resources in those areas to gain public support.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

Skanska, along with their team partner SANBAG, developed many alternative traffic staging designs to avoid design conflicts and expedite construction completion. In one instance, Skanska proposed and constructed an additional temporary off ramp that would require minimal expense but would save the traveling public inconvenience and expedite construction.

Awards, Citations, and/or Commendations Received for the Project

Awards

2014: Freeway/Expressway Project of the Year from California Transportation Foundation

Client Information

Name of Client	Address	Telephone
SANBAG **Contact Name** Doug Franco, Senior Resident Engineer	33257 E. Gausti Road, Ste 120 Ontario, CA 91761	310-334-9952 **Fax** NA
Owner's Project or Contract No. C09-196		
Contract Value $154 Million	**Final Value** $171 Million, still negotiating final payment. The increase was primarily due to complicated staging that had unforeseen conflicts. The NPDES permit requirements changed for SWPPP when California adopted the new permit causing overruns in SWPPP implementation.	
Percent of Total Work Performed by Company 60%	**Commencement Date** October 2009	
Planned Completion Date October 2013	**Actual Completion Date** January 2014, Our team had weather delays due to difficult winters throughout the four-year project.	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role
Project Role: Construction Manager/General Contractor
Principal Participant: Stacy and Witbeck, Inc.
Designer: URS Corporation
Other: Stacy and Witbeck, Inc. (SWI) was the CM/GC for the project. Pre-construction services included constructability reviews, coordination with utilities and freight railroads, community outreach to minimize construction impacts, and successful negotiation of a GMP within budget and schedule. SWI self-performed approximately 68% of the construction work, including all trackwork, bridges, railroad coordination, civil work, startup and testing support (including static and dynamic testing), and coordination with shared freight rail train control systems.

Name of Firm
Stacy and Witbeck

Years of Experience
Roads/Streets: 2.75 ***Bridges/Structures***: 2.75
Utility Relocations: 2.75

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Westside Express Services Commuter Rail

Location
Wilsonville to Beaverton, OR

Nature of Work
Benefit to Caltrans

- CM/GC efforts delivering the project within the agency's cost model/delivery method
- CM/GC project requiring close coordination with designers during the preconstruction phase
- Similar transportation elements included ballasted track construction, railroad bridges over sensitive waterways, grade crossings, signalization, communications, constrained access and work areas.
- Re-construction of a 15-mile freight rail system to upgrade to Class 4 passenger rail capacity.
- Close coordination with active freight rail operations.

Key Personnel Involved

- Proposed Project Construction Manager (Rail) Juston Poeling was the Construction Manager/Project Manager on this project.
- Construction Manager (Highway) Mike Spain served as the Operations Construction Manager

Project Description and Site Conditions

This was a $62 million CM/GC project for reconstruction of 14.7 miles of an active ballasted railway to provide a new passenger rail line for commuter service on a shared freight line. Scope elements included construction of one new bridge, rehabilitation of two timber ballasted deck bridges, and in-place reconstruction of four railroad timber trestle bridges. There were 18 at-grade road crossings on the project. Work also included 72,000 tf of track reconstruction, 15,000 tf of new sidings, 12,200 tf of new mainline, removal of 13 turnouts, and relocation of seven existing turnouts, four park-and-ride lots, five stations, and all railroad signal improvements. Utility work included relocation and new construction of water, sewer, drainage, fiber-optic facilities, and major duct banks.

Project similarities include contract size (>$60 million in railroad reconstruction) as well as the challenges associated with construction of a linear project spanning multiple miles. Limited access to the ROW required extensive pre-planning for staging materials and equipment, similar to the constraints on the NCC Project. Additional similarities include complex safety and operational

planning for work within an active freight corridor for the entire 15-mile project. PWRR trains operated multiple times every day. Grade crossing construction across active roadways, railroad signaling and communications, and work adjacent to and over sensitive waterways added to the complexity of the project.

- ✓ **A. Experience in successful delivery of projects using innovative contracting methods**

  The project was successfully delivered under the CMGC method of contracting.

- ✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

  There were no claims, litigation, arbitration, or dispute proceedings. SWI's CM/GC staff worked closely with TriMet's managers and design staff to resolve issues as they arose. We were involved in the process from the beginning when any scope change was proposed by third parties or by TriMet. We helped in assessing the need, working with the designers, pricing the change, and proceeding with the work while maintaining the project schedule. This early and open collaboration resulted in a mutual understanding of impacts and enabled the entire team to develop resolutions.

  For example, during the preconstruction phase of the project, the operating railroad requested changes that added additional work requiring TriMet to reconstruct the existing track structure instead of the planned rehabilitation. Not only did the railroad want the tracks completely reconstructed, they also wanted it done in the shortest windows possible. Using traditional methods, this would have had big impacts to the project schedule, freight operations, and the project budget. Working with the railroad and TriMet, SWI project staff devised a plane to use a Track Reconstruction Machine to reconstruct 15 miles of existing freight rail with new concrete ties and rail in a 30 day continuous window. This plan met the railroads needs, minimized disruption to their freight operations, and kept the project within budget.

- ✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

  We replaced four existing wood trestle railroad bridges with new precast concrete ballasted deck bridges. The substructure work was done with daily windows while returning the bridges to train traffic at the end of the shift. The substructure was H piling with CIP concrete caps and the bridge deck was a precast tub system to support ballasted track. A working bridge was constructed next to the existing bridge to accommodate the crane and support activities. Minor modifications were made to the existing wood structure such as moving timbers and other structure while using false work to maintain structural integrity during construction. This allowed the H piles to be driven through the existing structure while keeping the tracks in service at the end of the daily windows. Once the piles were in place the caps were cast in place below the existing structure. Once the piles and caps were completed a longer weekend window was utilized to remove the existing wood structure and tracks, the precast bridge deck sections installed and the new ballasted track was constructed and open for traffic for Monday morning service. All bridges were replaced with the substructure during the daily windows and the bridge deck complete during a weekend window.

- ☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

  This project did not include any lagoon mitigation or restoration.

- ✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

  Extensive traffic control was required for both railroad and grade crossing construction. Many of the grade crossings were constructed in off-peak traffic windows in order to minimize impacts to the travelling public. All railroad work was coordinated with the freight railroad and construction schedules were developed around PWRR schedules. All equipment was diverted onto sidings during freight operations.

  During a critical trestle replacement window, the City of Tualatin had scheduled a grand opening celebration for a new pedestrian/bicycle bridge over the Tualatin River. In order to provide safe access to the new bridge for the grand opening, SWI restored a temporary trestle undercrossing and pathway for pedestrians and bicyclists, provided advance signage and day-of flaggers, and then briefly ensured that there was not a sound conflict during the period of time when elected officials and a representative of the Grand Rhonde Tribal Council addressed the crowd.

✓ F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment

The project crossed over one river and was adjacent to wetlands for most of the alignment. Aggressive storm water pollution control policies and procedures were implemented without incident. One double track bridge crossed Fanno Creek and the other crossed a 700 ft. wetland approach to the Tualatin River.

✓ G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad ✓	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

The entire project alignment was within an active freight rail corridor and required strict adherence to FRA Track Safety Regulations. Extensive coordination was required to accommodate the six to eight trains that ran every day. All work was performed within agreed upon work windows and without disruption to the operating Portland and Western Railroad.

Track was 132RE CWR and 112RE WT. The majority of the track was on concrete ties. There were five locations with standard wood ties. All track was on ballast. Turnouts included #9, #11, #15, and #20s. Work was performed on an operating Class 3 freight track. The track was reconstructed to Class 4 for commuter rail service.

SWI managed the signal and communication subcontractor, and coordinated the communication and signal system integration. This work included cut over and startup of the Centralized Traffic Control (CTC), the Positive Train Control (PTC), and the Wayside and Crossing Communications Systems. Testing and implementation was performed in accordance with FRA mandated procedures and coordinated with the operating railroad while maintaining current freight traffic. The signal systems had to be integrated with the state highway signals, including installation of crossing gates.

✓ H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects

Since this was the first commuter rail line in the state, and one of the few suburb-to-suburb commuter rail projects in the country, we were required to conduct extensive community outreach. We contacted more than 50,000 residents and businesses during this project with an emphasis on crossing safety.

Coordination with multiple utility owners through several cities and counties was accomplished through early and frequent meetings to identify conflicts and develop solutions.

✓ I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.

During the pre-construction phase, SWI worked with the design team and TriMet to identify value engineering opportunities. The team met with various stakeholders to develop a mutually advantageous construction schedule. Our proposal to change the bridge pile caps to cast-in-place rather than precast saved one-and-a-half months on the project schedule. The project was completed two months early and within the owner's budget.

Awards, Citations, and/or Commendations Received for the Project

Commendations

"I just wanted to let you know how I enjoy the opportunity to work with the Stacy Witbeck personnel on this project. This project with the leadership and management support of Mark, Jackie, and Juston has been able to develop a safety culture that clearly has effected each construction worker on the project." Michelle Webb, Loss Control Consultant (OCIP)

"As I have said many times, the amazing work of this construction team is recognized and valued by so many of our partners. Your hard work, teamwork and willingness to be flexible is much appreciated." Chris Novotny, TriMet Community Relations Manager

Client Information

Name of Client Tri-County Metropolitan Transportation District of Oregon (TriMet) **Contact Name** Dave Tertadian	**Address** 1800 SW First Avenue, Suite 300 Portland, OR 79201	**Telephone** 503.962.8817 **Fax** NA
Owner's Project or Contract No. RH030241BW		
Contract Value $41 Million	**Final Value** $62 Million The cost increase was due to additional scope and project betterments requested by the owner	
Percent of Total Work Performed by Company 68%	**Commencement Date** June 2006	
Planned Completion Date April 2009	**Actual Completion Date** February 2009	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Design-Build Contractor
Principal Participant: Stacy and Witbeck, Inc.
Designer: David Evans and Associates, Inc.
Other: Stacy and Witbeck, Inc. (SWI) was the managing joint venture partner. The JV project team self-performed approximately 53 percent of the construction work, including all trackwork, bridges, civil work, civil work for systems, startup and testing support, and managing systems/signals integration.

Name of Firm
Stacy and Witbeck

Years of Experience
Roads/Streets: 3.5 ***Bridges/Structures***: 3.5
Utility Relocations: 3.5

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
I-205 LRT Extension

Location
Portland, OR

Nature of Work

Benefit to Caltrans

- Preconstruction efforts delivering the project within the agency's cost model/delivery method
- Close coordination with owner, contractor, and designers during the preconstruction phase
- Similar transportation elements included ballasted track construction, railroad bridges over sensitive waterways, grade crossings, signalization, communications, constrained access and work areas.
- Close coordination with active passenger rail operations.

Key Personnel Involved

- Proposed Project Construction Manager (Rail) Juston Poeling was the Construction Manager/Track Construction on this project.

Project Description and Site Conditions

This $181 million design-build project consisted of 6.5 miles of ballasted and direct fixation double track, 16 special trackwork elements, two at-grade crossings, one cut-and-cover box tunnel, nine bridges, 225,000 sf of retaining wall, 80,000 sf. of sound walls, four park-and-ride lots, multiple utility relocations, eight stations, an operators' break building, 300,000 cy of excavation, 175,000 cy embankment, OCS, signals and communications systems, public art, and lead responsibility for civil to systems integration and testing.

Project similarities include contract size (>$180 million in railroad construction) as well as the challenges associated with construction of a linear project spanning multiple miles. Limited access to the ROW required extensive pre-planning for staging materials and equipment, similar to the constraints on the NCC Project. Additional similarities include complex safety and operational planning for tie-ins to an operating LRT system. Grade crossing construction across active roadways, railroad signaling and communications, and work adjacent to and over sensitive waterways added to the complexity of the project.

✓ **A. Experience in successful delivery of projects using innovative contracting methods**

This project was successfully delivered under the design-build method of contracting.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

There were no claims, litigation, arbitration, or dispute proceedings. This was a design build project, however there were some scopes such as walls and fencing that had unit prices since there was not enough information to quantify and price when the original budget was submitted. The owner was invited to weekly design meetings to provide input into the design of these items.

The end result was a collaborative effort which significantly reduced the overall quantity of these scopes. An example of this is the wall scope, there were significantly more quantity than anticipated and we worked with the owner to reduce the quantity and provide less expensive walls which in the end significantly reduced the cost of the walls.

✓ C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way

Six varying length concrete bridges where constructed to carry the new LRT alignment over adjacent surface streets along the I-205 corridor. While the structures varied in length from 200 ft. to 2,500 ft. a common style was utilized to minimize the design and construction costs. Pile foundations and cast-in-place abutments framed the structures. Cast-in-place intermediate bents were constructed on top of the drilled shafts and connected with precast beams. The cast-in-place concrete bridge surface was topped with plinth track construction. A combination of grouted solider pile with metal sheets and driven sheet piles where utilized to support existing vehicle travel lanes and maintain pedestrian access for construction of the Stark and Washington Street cut and cover tunnels. Construction activities for these twin four-lane main arterials were complicated by soil conditions, limited construction easements, and high traffic and pedestrian flows. In this same area, staged construction of two bridges was required for the Stark/Washington couplet over the alignment.

There were 80,000 sf of new and relocated soundwalls on the project.

D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement

This project did not include any lagoon mitigation or restoration.

✓ E. Experience in managing complicated staging and traffic handling on both rail lines and highways

The entire project was located with an active six-lane interstate freeway on one side and, for most of its length, a multi-use (bike and pedestrian) path which could not be relocated, long term closure weren't allowed, and detours were not encouraged. Virtually the entire project was within the state highway department's (ODOT) right of way. In addition to the alignment horizontal constraints, there were significant vertical constraints. In one location a bridge over a stream with a 100 year floodplain constraint was adjacent to an at-grade roadway crossing followed by a station platform. Adjacent to the crossing, the road passes under the interstate freeway so there was little room to change the road elevation. This required a significant engineering effort to accommodate the vertical constraints imposed by all four features while maintaining light rail grade restrictions. Detailed traffic control planning was required for work while setting bridge girders on both day and night shifts across major ODOT highways, local thoroughfares, and for work along the I-205 freeway.

✓ F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment

Strict environmental and SWPPP measures were implemented to comply with permit conditions. Additionally, many sustainable measures were incorporated into design and construction including use of vegetated bio-swales, using recycled tires as sound wall fill, use of porous concrete paving, increasing the number of trees along the alignments, and more. We also worked with the Dept. of Fish and Game to repurpose trees and boulders that were removed for the project to establish fish habitats.

✓ G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad	c. Form "B" or AWW Work ✓	d. Joint Use Corridor
e. AREMA Design Guidelines	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

The project tied into the existing TriMet system and required several weekend-long shutdowns. Due to the complexity of ensuring compatibility with existing operations with both civil and systems while minimizing impacts to operations, the tie-in was broken into different phases, including civil, OCS, systems, and final tie-ins. Coordination with UPRR was required for installation of a TPSS immediately adjacent to the active freight track and installation of conduit under the active tracks.

Track was 115RE, primarily on concrete ties on ballast. Direct fixation track was used on bridges. There were 16 pieces of special trackwork including #6, #8, and #15 turnouts, crossovers, and a diamond crossing. The project team was responsible for ensuring that all systems and sub-systems were integrated not only within the project but also with TriMet's existing operating system. This

included electrification, signals, and communication systems. The installations required compatibility with existing hardware and software and compliance with local, state, and federal regulations while minimizing service disruptions to ongoing operations. Planning for installation and integration began early to ensure a smooth transition from design to construction to operations. The planning drove installation, testing, startup, and commissioning and ultimately led to safety certification, pre-revenue testing, and operations.

✓ H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects

All along the alignment, residences, apartment complexes and business, including six hotels and an MRI facility were our immediate neighbors. In effort to keep the public informed of upcoming work and impacts to the community we did extensive outreach including, events, emailing, posting and the media. In addition the construction team's leadership met personally with community leaders to assure all was done to minimize impact. In addition to developing work plans that minimized construction impacts to the MRI facility, a monitoring system was installed to alert the facility operator of vibrations over a set level occurred. The construction team also received the alerts via automated call and email so they could respond immediately.

✓ I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.

Innovative designs were developed on the project for protection of a large diameter waterline and for bridge plinths. The project team worked for several months with TriMet to reduce the original proposed budget to achieve TriMet's budget goal through constructability reviews, value engineering, and schedule analysis.

The project involved 300,000 cy of excavation. Due to the confined construction limits and the varying design elements, numerous support systems were utilized. At several locations along the south third of the project, extensive cuts were required in close proximity of existing structures. This restricted real estate limited the excavation and shoring methods available to the design and construction team. Soil nail walls with a reinforced shotcrete facing were utilized in some locations, allowing excavation to precede without operational impacts the adjoining structures.

Awards, Citations, and/or Commendations Received for the Project

Awards

2007: Daily Journal of Commerce Project of the Year Award
2010: DBIA National Design Build Award
2010: ARTBA PRIDE Award
2010: Construction Industry Crime Prevention Program of the Pacific Northwest, Partnership Award

Client Information

Name of Client TriMet **Contact Name** Dan Blocher	**Address** 1800 SW First Avenue, Suite 300 Portland, Oregon 79201	**Telephone** 503.962.2201 **Fax** 503.962.2288
Owner's Project or Contract No. RH040161LE		
Contract Value $165 Million	**Final Value** $181 Million. Due to an increase in retaining wall scope and encountering unanticipated rock in the alignment. The project was still completed on time.	
Percent of Total Work Performed by Company 53%	**Commencement Date** January 2007	
Planned Completion Date June 2010	**Actual Completion Date** June 2010	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Construction Manager/General Contractor
Principal Participant: Stacy and Witbeck, Inc.
Designer: URS Corporation
Other: SWI self-performed approximately 60 percent of the work including the rail work, earthwork, flatwork concrete, utility relocation/installation, structural concrete walls, and traffic pedestrian control including railroad flagger coordination.

Name of Firm
Stacy and Witbeck

Years of Experience
Roads/Streets: 3 ***Bridges/Structures***: 3
Utility Relocations: 3

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
Interstate Max Line Section 10A/10B LRT

Location
Portland, OR

Nature of Work

Benefit to Caltrans

- Partnering efforts with multiple agencies to deliver project ahead of schedule
- CMGC project with close coordination with design team during preconstruction and construction activities
- Similar rail and transportation elements including DOT bridges, UPRR Form B coordination, passenger rail tie-ins, grade crossings, ballasted track construction, work near sensitive rivers/waterways.

Key Personnel Involved

- Proposed Pre-Construction Manager Erik Yingling was the Superintendent during preconstruction and construction

Project Description and Site Conditions

The project included six months of preconstruction services to provide value engineering services, budget and schedule analysis, community outreach, and implementation of a successful DBE program. The work consisted of 4.5 miles of ballasted and paved track, relocation of existing utilities, erection of a bridge over active Union Pacific Railroad (UPRR) tracks, seven stations, associated civil for systems infrastructure work, and coordination and integration with the follow on systems contractor. There was complicated traffic control planning and staging. This project had extraordinary commitment to public relations, workforce diversity and training, and DBE involvement. The project was completed six month ahead of schedule.

Project similarities include contract size (>$100 million in railroad construction), complex safety and operational planning for tie-ins to an operating system without disruption to revenue service, grade crossing construction across active roadways, work adjacent to sensitive waterways, complex pedestrian and vehicular traffic control requirements, coordination with Union Pacific Railroad to construct the LRT over-crossing, coordination with Oregon Department of Transportation (ODOT) for proposed modifications made to the freeway structure, and coordination with another ODOT contractor on adjacent freeway project.

✓ **A. Experience in successful delivery of projects using innovative contracting methods**

The project was successfully delivered under the CM/GC method of contracting. This was TriMet's first alternative delivery contract.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

There were no claims, litigation, arbitration, or dispute proceedings. While formal partnering meetings were held to kick off the project, the day to day interaction of all team members in a collocated environment really helped foster collaboration. These

close relationships led to quick identification of issues, responsibility, and action at the lowest possible level. Issues were tracked at the Weekly Construction Meetings, and larger issues, if any, were brought up to the next level to be resolved. Continual partnering sessions were held in informal and formal settings throughout the project in order to foster and maintain good working relationships and camaraderie.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

A new ODOT bridge was constructed at the intersection of State highway 99 and Tillamook St. This new bridge crossed over an active UPRR track leading into the Portland's busiest UPRR switching yard. Roadway work included widening and reconstruction of four miles of Highway 99.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon mitigation or restoration.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

Interstate Avenue is a busy residential and commercial district with restaurants, hotels, shopping, entertainment venues, convention center, schools, and a major hospital. Complex traffic control plans were coordinated with the City of Portland, ODOT, and UPRR in order to maintain vehicle, pedestrian, and rail traffic at all times during construction. Additionally, the project reconstructed several intersections that were main arterials to the Port of Portland and the City of Portland's Steel bridge.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

The project paralleled the Willamette River, so extensive planning and implementation of sediment and erosion control devices were required to protect the river.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad ✓	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

The project tied into TriMet's active East\West mainline. In addition to installation of the half grand union, the project updated old switch machines and signaling systems in order to upgrade to the most modern equipment. This work was completed with close coordination with TriMet operations to minimize impacts to revenue service. The UPRR highway bridge was constructed over active mainline under Form B protection and with close coordination with UPRR operations.

Trackwork included ballasted track on concrete ties and embedded track. Special trackwork elements included #6 turnouts, #8 crossovers, and a 50 meter turnout. Civil infrastructure for signaling was installed under this contract. Coordination with follow-on systems contractor was required.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

The project was constructed through an area with a dense urban population, including housing, commercial, and entertainment zones. There were extensive requirements for local workforce hiring and DBE subcontracting goals. All the goals were met or exceeded.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

Change orders were slightly more than three percent and due to minor project betterments. SWI, in collaboration with TriMet, submitted and completed over $10 million in VE alternatives and constructability reviews. Structural pile, lightweight fill, micro

piles, recycled concrete for aggregate, and developing new grades and cross sections to eliminate walls, reducing cost and schedule impacts.

Awards, Citations, and/or Commendations Received for the Project

Awards

2005: ACEC Oregon Engineering Excellence Project of the Year

2003: AGC Oregon-Columbia Chapter SIR (Skill, Integrity, Responsibility)

2003: ARTBA Pride in Transportation Construction Award

2002: McGraw Hill NW Magazine Heavy Construction Project of the Year

2002: African American Contractors Federation Prime Contractor of the Year Award

2000: National AGC's "Best of the Best" Safety Award

Client Information

Name of Client	Address	Telephone
Tri-County Metropolitan Transportation District of Oregon (TriMet) **Contact Name** Dan Blocher	1800 SW First Avenue, Suite 300 Portland, Oregon 79201	503.962.2201 **Fax** 503.962.2288
Owner's Project or Contract No. 00-00622		
Contract Value $99 Million	**Final Value** $104 Million Change orders were slightly more than three percent and due to minor project betterments.	
Percent of Total Work Performed by Company 60%	**Commencement Date** November 2000	
Planned Completion Date November 2003	**Actual Completion Date** May 2003	
Amount of Claims $0	**Any Litigation?** No	

FORM B Project Description

Name of Proposer
FSSW

Project Role

Project Role: Construction Manager/General Contractor

Principal Participant: Stacy and Witbeck, Inc.

Designer: David Evans and Associates

Other: SWI was a 49 percent joint venture member on this project. The team worked closely with the project owner and designers during pre-construction to provide value engineering, constructability review, risk identification, cost estimating, and construction scheduling. The JV self-performed approximately 60 percent of the construction work, including all trackwork, some bridges, railroad coordination, civil work, startup and testing support (including static and dynamic testing), and coordination with shared freight rail train control systems.

Name of Firm
Stacy and Witbeck

Years of Experience

Roads/Streets: 4 ***Bridges/Structures***: 4

Utility Relocations: 4

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
West Rail Line LRT

Location
Denver, CO

Nature of Work

Benefit to Caltrans

- CMGC efforts delivering the project within the agency's cost model/delivery method
- CMGC project requiring close coordination with designers during the preconstruction phase
- Similar transportation elements included ballasted track construction, railroad bridges adjacent to sensitive waterways, grade crossings, constrained access and work areas, retaining and sound walls.
- New construction for a 12-mile extension of a light rail system
- Close coordination with active freight rail operations

Key Personnel Involved

- Proposed Soundwall/ROW Coordinator Chris Orueta was the Construction Coordinator/Superintendent on this project.

Project Description and Site Conditions

This $369 million CMGC project was an extension of the LRT system consisting of 12 miles of light rail from downtown Denver to Golden (Jefferson County Justice Center). Structural work included 13 LRT bridges, two light rail tunnels, four pedestrian structures, 115 retaining walls, and more than 10,000 ft. of sound walls. Trackwork included nine miles of ballasted double track, three miles of single track, and 21 at-grade crossings. The project required close coordination with BNSF, UPRR, and the Colorado Department of Transportation for construction of a bridge over active freight mainlines and construction of maintenance spur for UPRR and two tunnels constructed under highways. There was significant replacement, relocation, adjustments, and protection of existing and private utilities, and storm drainage and re-grading. There were 12 stations with varying amenities, including parking garage structures and surface parking lots.

Project similarities include contract size (>$350 million) as well as the challenges associated with construction of a linear project spanning multiple miles. Limited access to the ROW required extensive pre-planning for staging materials and equipment, similar to the constraints on the NCC Project. Additional similarities include complex safety and operational planning for work through multiple jurisdictions. Grade crossing construction across active roadways, and work adjacent to and over sensitive waterways added to the complexity of the project.

✓ **A. Experience in successful delivery of projects using innovative contracting methods**

The project was successfully delivered under the CMGC method of contracting.

✓ **B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration**

There were no claims, litigation, arbitration, or dispute proceedings. At one point on the project there was an impasse between RTD and Jefferson County that threatened execution of an Inter-Governmental Agreement (IGA), and would have ultimately delayed the Project schedule significantly. The issue centered on displacement of County parking spaces at their government center during construction of a new parking structure. SWI staff helped facilitate a number of meetings, and participated in the development of a collaborative solution that benefited all parties and led to execution of the IGA.

With county input, we came up with an idea to build a "temporary" parking lot on vacant county property, very close to site. We were able to reduce the cost of the temporary lot significantly by using dirt from the new structure site at the temporary site which required fill. We also provided a menu of options that allowed the county to choose upgrades (paving section, lighting, etc.) which would make it a permanent lot if desired. Benefits included:

- Reduced costs to RTD on new garage/station by eliminating haul off.
- Provided low cost alternative to RTD for displaced parking, and clear cost alternatives to county to chip in for permanent upgrades. County chose to contribute to permanent upgrade.
- RTD issued an early work package to build the temporary lot before full NTP
- RTD and County executed the IGA with no delays to the Project.

✓ **C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way**

The project team developed a creative approach to build tunnels under busy roadways, minimizing traffic disruption. Secant walls were constructed using 60 ft. deep cast in place CIDH piles. Nightly lane closures significantly reduced the need for full roadway closures. Construction of the 20 ft. high tunnel on I-70, the main route between Denver and the Rocky Mountains, was sequenced to limit full closure of the roadway to only two weekends. By utilizing this method of construction, it was possible to construct a wider tunnel for future expansion and realized over $6.5 million in project savings compared to the original spiling design.

☐ **D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement**

This project did not include any lagoon mitigation or restoration.

✓ **E. Experience in managing complicated staging and traffic handling on both rail lines and highways**

During the course of construction, SWI and its subcontractors continued to seek innovative construction methods to minimize impact to the travelling public. An example of this creativity was the steel erection of a 286 ft. tied-arch bridge, which was performed on the approach to the bridge site. This process limited the full roadway closure of US 6, a six-lane roadway, to one weekend, during which the bridge was successfully rolled into place.

✓ **F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment**

Portions of the project were directly adjacent to sensitive waterways. Some locations required construction of channel diversions to provide LRT ROW. Significant rain events necessitated the use of a robust SWPPP program. The project received multiple awards for efforts in that regard. The City of Denver and RTD used the project as an example of best practices when training their personnel.

✓ **G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:**

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad ☐	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ☐
e. AREMA Design Guidelines ☐	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

The project required close coordination with BNSF, UPRR, and the Colorado Department of Transportation for construction of a bridge over active freight mainlines and construction of maintenance spur for UPRR and two tunnels constructed under highways.

The running rail was 115RE, all crossties were concrete on ballast. There were 15 pieces of special trackwork including #6, #8, #10, and #20 turnouts and #6 and #8 crossovers. There were nine interlockings. We worked under Form B protection while constructing the grade for the new UPRR maintenance yard track which included constructing embankment for the new alignment of the switch and track into the maintenance yard. We also had a Form B in place while constructing the new light rail bridge over existing BNSF/UPRR mainline tracks. This Form B was effect only while constructing directly over the tracks. The mainline tracks ran multiple trains throughout the day.

SWI subsidiary Modern Railway Systems (MRS) had responsibility to design, furnish, install and place into service the train control system and highway crossing warning systems.

✓ **H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects**

One of the project's unique challenges included constructing a double track system in a narrow ROW that wound through an old rural neighborhood. The logistics of delivering equipment, maintaining vehicular and pedestrian access, and staying within jurisdictional requirements required considerable coordination with local community groups and subcontractors. Hundreds of parcel acquisitions were necessary to complete the project and access to work areas was contingent upon seasonal water flow in ditches, sports schedules, relocation of and access to existing utilities, and weather limitations. Sound wall construction required encroachment onto many private properties, and our Construction Coordinator met with homeowners on a daily basis to assess their individual needs and address any concerns they might have. He was empowered to make on-the-spot decisions to accommodate property owners.

Additionally, multiple municipalities across the 12-mile alignment required strict attention to coordinating specific permitting, design, and construction requirements. Coordination with multiple state and federal agencies was also required.

✓ **I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.**

The retaining walls were an important aspect of work on the project, so even after the contract was negotiated, a wall task force met regularly to evaluate the potential for further value engineering savings. This group achieved nearly $10 million in additional savings by converting cast-in-place retaining walls to MSE walls, using soil nail walls and other options, which also reduced the need for extensive wall foundations.

Awards, Citations, and/or Commendations Received for the Project

Awards

2012: International Erosion Control Assoc. Mountain States Chapter – Project Excellence Award

2012: Stormwater Solutions – Top Project Awards

2012: Colorado Contractors Association – Environmental Excellence Award

2011: Colorado Contractors Association – Environmental Excellence Award

2010: Hispanic Contractors of Colorado Excellence in Safety

2010: Colorado Contractors Association Best Overall Safety Performance

2010: Colorado Contractors Association Zero Incidence Rate

2010: Colorado Contractors Association Improved Safety Award

2009: Colorado Contractors Association Zero Incident Rate

Client Information		
Name of Client Regional Transportation District (RTD) Contact Name James Starling	Address 1600 Blake Street Denver, CO 80202	Telephone 303.299.2301 Fax NA
Owner's Project or Contract No. 16-FF-W01		
Contract Value $343 Million	Final Value $369 Million. The increase in contract value is due to betterments requested by stakeholders including additional bridge width to allow for bike paths, enhanced canopy and station features, and upgraded lighting fixtures, additional surface parking, an additional level for a parking garage, and rail spur construction. Allowances carried by RTD for contaminated soil disposal, geotechnical issues, noxious weed control, graffiti management, and wetland protection also increased the contract value.	
Percent of Total Work Performed by Company 60%	Commencement Date June 2009	
Planned Completion Date June 2013	Actual Completion Date June 2013	
Amount of Claims $0	Any Litigation? No	

FORM B Project Description

Name of Proposer
FSSW

Project Role
Project Role: Construction Manager/General Contractor
Principal Participant: Stacy and Witbeck, Inc.
Designer: David Evans and Associates
Other: Stacy and Witbeck, Inc. (SWI) was the managing JV partner on this project. The JV self-performed preconstruction services and 60 percent of construction work including all trackwork, some bridges, civil work, railroad coordination, startup and testing support, and coordination railroad operations.

Name of Firm
Stacy and Witbeck

Years of Experience
Roads/Streets: 5 ***Bridges/Structures***: 5
Utility Relocations: 5

Project Name, Location, and Nature of Work for Which Company Was Responsible

Project Name
FrontRunner South Commuter Rail

Location
Salt Lake City to Provo, UT

Nature of Work
Benefit to Caltrans

- CM/GC efforts delivering the project within the agency's cost model/delivery method
- CM/GC project requiring close coordination with designers during the preconstruction phase
- Similar transportation elements included ballasted track construction, railroad bridges over sensitive waterways, grade crossings, signalization, communications, positive train control, constrained access and work areas, walls.
- New construction for 45-mile extension of aommuter rail system
- Close coordination with active commuter and freight rail operations

Key Personnel Involved

- NA

Project Description and Site Conditions

This was a $526 million CM/GC project which included construction of 45 miles of new commuter rail immediately adjacent to an active UPRR freight rail corridor. The project spanned two counties and 12 different cities. The work included two million cy of earthwork, 30 bridges, 20 fill walls, seven significant precast box culverts, 50 miles of ballasted trackwork, 40 joint (UPRR and commuter rail) at-grade crossings, major utility relocations, and one pedestrian undercrossing. Bridge construction included steel and concrete girder flyover structures over the UPRR mainline, 19 multi-span bridges, and 10 single-span bridges. Five of the bridges were built for UPRR as an upgrade to their aging infrastructure.

Project similarities include contract size (>$500 million) as well as the challenges associated with construction of a linear project spanning multiple miles. Limited access to the ROW required extensive pre-planning for staging materials and equipment, similar to the constraints on the NCC Project. Additional similarities include complex safety and operational planning for work within an active freight corridor for the entire 45-mile project. UPRR trains operated at speeds up to 70 mph multiple times every day. Grade crossing construction across active roadways, railroad signaling and communications, and work adjacent to and over sensitive waterways added to the complexity of the project. Shooflies were used to facilitate construction of new UPRR bridges parallel to the new commuter rail bridges with no unplanned disruption to freight operations.

✓ A. Experience in successful delivery of projects using innovative contracting methods

The project was successfully delivered under the CM/GC method of contracting.

✓ B. A record of managing contracts to minimize delays, claims, dispute proceedings, litigation, and arbitration

There were no claims, litigation, arbitration, or dispute proceedings. A key partnering and issues mitigation tool was our quarterly incentive review sessions. In these sessions the CM/GC, owner, and stakeholders individually and jointly graded CM/GC performance in key areas such as cost control, safety, quality, etc. While the scores were important feedback, the real value was the open, frank discussion about any issues on the job, routinely leading to a joint resolution that facilitated job progress without cost or schedule impacts.

✓ C. A record of successfully managing highway and bridge construction projects, including staged bridge construction (highway and rail) over sensitive areas and coordination/construction of soundwalls both on residential property and within the Department's right of way

We built approximately 30 railroad bridges adjacent to a live UPRR operating mainline, over roadways and waterways. During the pre-construction phase we collaborated with the structural design team to optimize and standardize all bridge elements. As a result of this work, we developed a standardized precast box beam girder section on many of the bridges. These girders incorporated the deck and walkway into the components, simplifying erection and bringing efficiency and schedule benefit to these bridges.
The project required many retaining walls to construct the new commuter rail roadbed immediately adjacent to various existing infrastructure elements. The walls were in both cut and fill locations. During the pre-construction phase we studied each wall location and considered the most effective wall type for the particular application. We had success with soil nail/shotcrete walls in cut sections with limited overhead clearance. We used driven interlocking Z-pile sections to maximize the cantilevered height where available are for tie backs was limited. Fill walls utilized economical MSE designs, often including small modular precast components that are easily installed in tight working conditions and perform well in settlement conditions.

✓ D. Experience in implementation/construction of large mitigation/restoration sites similar to the lagoon restoration contemplated in this procurement

The Hobble Creek Project was a 21-acre wetland mitigation project that focused on transforming an existing agricultural pasture previously used for grazing into a new spawning ground for the endangered June Sucker fish. Before construction the configuration of Hobble Creek was in a man-made canal configuration, straight with steep sides, which did not allow adequate conditions for the fish to spawn in the lower portion of the creek. The Hobble Creek Project transformed the rigid creek alignment into a gentle meandering creek providing pools and gravel beds for the fish to spawn in. The 21 acre portion of property also provided habitat for other species of wildlife as well. The work required 125,000 CY of excavation and 6,000 CY of embankment. 31 acres of two different types of wetland and upland seed mixture and over 575 native species of trees planted. Prior to and during construction we were in continual communication between the DWR (Utah Division of Water Resources), DNR (Utah Division of Natural Resources), and City of Springville to ensure that we had the proper permits and were following city building requirements.

✓ E. Experience in managing complicated staging and traffic handling on both rail lines and highways

There was a narrow five-mile section of the alignment that paralleled the Jordan River and the UPRR mainline which could only be accessed at each end of the five-mile stretch. In addition to the multiple irrigation canal crossings, which could only be worked on during the winter so farmers were not affected during the summer season, the rail line needed to cross the Jordan River at two locations and a portion of the UPRR line needed to be relocated in order to make room for the FrontRunner project. Shooflies to facilitate construction of new UPRR bridges required temporary shooflies consisting of shifting freight traffic onto newly constructed commuter rail bridges, demolition and reconstruction of freight bridges, then re-shifting freight traffic was all accomplished with no unplanned disruption to freight operations.

The project included building several grade separations over UDOT roads. UDOT's accelerated bridge construction campaign severely limited roadway outages and required close to zero impact to the traveling public. An example was the bridge over 5300 South required an accelerated approach because of the high traffic volumes on the roadway. For this application we developed precast components that could be delivered and erected in short night time work windows, mitigating impacts to traffic. Columns, bent caps, and girders were all precast elements joined by grout filled, dowel connections.

The project alignment crossed local roadways at-grade in 40 locations. In each case, UPRR required improvements to their track in addition to the new infrastructure being installed under our commuter rail contract. We worked together to plan our work concurrently to minimalize road closures and traffic impacts.

✓ F. Successful environmental compliance and construction in and around environmentally sensitive areas similar to the coastal lagoon environment

Noise and vibration were environmental concerns due to the soil conditions and the proximity of the line to residential areas. The project team worked with UTA and their designers during preconstruction to develop a vibration mitigation plan. The plan included sections which would be paved with asphalt, then overlain with a two-inch thick "ballast mat" made from high density rubber that could withstand live railroad loading and absorb the vibrations. Installation of the standard ballasted section over the "ballast mat" followed. The counties and various municipalities had different permit requirements which required extensive research and coordination in order to maintain compliance.

✓ G. Experience working around an active rail line and constructing trackwork, structures, and railroad signalization including but not limited to:

a. Track, Ties, Ballast/Subballast & Special Trackwork ✓	b. Class 4 or Class 5 Railroad ✓	c. Form "B" or AWW Work ✓	d. Joint Use Corridor ✓
e. AREMA Design Guidelines ✓	f. Construction, Installation, & Testing of Signaling ✓	g. 49 CFR 234 & 49 CFR 236 Restrictions ✓	

UPRR and the Federal Railroad Administration (FRA) permit requirements mandate that all work within 25 ft. of the operating mainline to be monitored by their employees. Virtually all of the work fit this description, which had the potential of causing excessive strain on UPRR resources, or limiting our work zones to two miles at a time which would delay our work. Instead, we gained the trust of the authorities and provided our own trained employees to report to the UPRR representatives, widening their reach. As a result, we enjoyed large safe work zones up to 30 miles in length monitored by more than 15 UPRR employees and 30 contractor employees, which allowed work to be performed more efficiently. There was no unplanned disruption to UPRR operations on the project.

The project featured 275,000 tf of ballasted track. The running rail was 115RE, all crossties were concrete, and there were 27 pieces of special track including #9, #10, #11, #15, and #20 turnouts. The majority of the work was performed under Form B protection. UPPR originally limited the length of any construction work within 25 ft. of the alignment to the standard Form B requirement of just two miles. By working together and proving to UPRR that our team could provide excellent safety practices, we were able to increase the Form B limits to well over that distance. This allowed the project to utilize optimum production methods, which therefore expedited the overall completion schedule and resulted in associated cost savings. UPRR performed the tie-in work to their rail under AWWs in a shared work zone with our crews.

Work included signal and train control system design and construction, fiber-optic installation and relocation, duct bank installation, positive train control, and coordination efforts for UPRR safety certification and startup. There were 20 interlockings on the project. All 40 grade crossings and all signaling work were subject to 49 CFR 234 (crossings) and 49 CFR 236 (wayside signaling) regulations. This work included interconnection between UPRR and UTA systems, all of which was built with joint crew interaction.

✓ H. Experience constructing controversial or highly sensitive public projects including experience in coordination with local and regional agencies on similar sized projects

The project ran through two counties and 11 towns or cities which required extensive coordination to meet the different requirements of each entity. Additional coordination was required to meet multiple state and federal agency requirements (UDOT, FRA, FTA, AREMA, environmental, etc.). The working relationship with UTA and UPRR was orchestrated as a full partnership where collaboration and cohesion was a constant practice in every issue identified on the project. This helped facilitate the working through these very difficult pieces of construction, finishing the project ahead of schedule by allowing UTA to start testing 2 months early, and in the end having a very successful project.

✓ I. Construction/reconstruction using innovative designs, methods, and materials on similar project to accelerate construction, to reduce costs, and to minimize impacts to the traveling public and the environment. Successfully executing value engineering on prior projects of similar size, complexity, or type. Include experience with Cost Reduction Incentive Proposals (CRIPs) and innovative ideas implemented on projects even if not implemented as part of a CRIP.

Value engineering efforts during preconstruction included innovations for alternative bridge types, alternative retaining wall types, light weight fill, and grading efficiencies resulting in a savings of $15 million. In addition, the original design called for surcharging

several problem areas in order to achieve settlement prior to constructing bridge abutments and wall structures. Lightweight fills were proposed as an alternative, and the team installed nearly 150,000 tons of lightweight aggregate structural fill. This enabled the work to proceed without waiting for the surcharge, resulting in approximately six months of time savings in these areas.

Awards, Citations, and/or Commendations Received for the Project

Awards

2013: International Partnering Institute – Partnered Project of the Year, Ruby Level

2013: ACI Intermountain Chapter, Excellence in Concrete Award

2012: AGC of Utah Achievement of Safety Excellence

2012: NRC Railroad Construction Project of the Year

2011: NRC Rail Construction Project of the Year

2009: AGC of Utah Achievement of Safety Excellence

2011: AGC Utah Chapter Partnering Project of the Year

2011: AGC of Utah Achievement of Safety Excellence

2010: AGC of Utah Achievement of Safety Excellence

2010: NRC Contractor Safety Award

2010: NRC Contractor Safety Award

Client Information

Name of Client	Address	Telephone
Utah Transit Authority **Contact Name** Steve Meyer	669 West 200 South Salt Lake City, UT 84101	801.236.4700 **Fax** 801.741.8892
Owner's Project or Contract No. UT07-004GL		
Contract Value $343 Million	**Final Value** $369 Million. The increase in contract value is due to betterments requested by stakeholders including additional bridge width to allow for bike paths, enhanced canopy and station features, and upgraded lighting fixtures, additional surface parking, an additional level for a parking garage, and rail spur construction. Allowances carried by RTD for contaminated soil disposal, geotechnical issues, noxious weed control, graffiti management, and wetland protection also increased the contract value.	
Percent of Total Work Performed by Company 60%	**Commencement Date** June 2009	
Planned Completion Date June 2013	**Actual Completion Date** June 2013	
Amount of Claims $0	**Any Litigation?** No	

section 5

Project Organization and Key Personnel

SECTION five

RFQ Section 3.6

proposer organization and key personnel

FSSW is a fully-integrated joint venture comprised of three highly qualified transportation and rail construction firms: Flatiron West, Inc. (Flatiron), Skanska USA Civil West California District Inc. (Skanska), and Stacy and Witbeck, Inc. (SWI). Over the last nine months, our team worked diligently to fully understand the project and to develop the right organization with the right key people to best partner with Caltrans.

Flatiron leads our joint venture and holds 40% of the joint venture equity; Skanska holds 40%; and SWI holds 20%. All three firms will jointly manage and execute preconstruction and construction work. Our firms have successfully collaborated in the past and are culturally aligned in our work approach. On each project, we "leave our logos at the door" and focus solely on a "project first" approach to be the best partner for Caltrans.

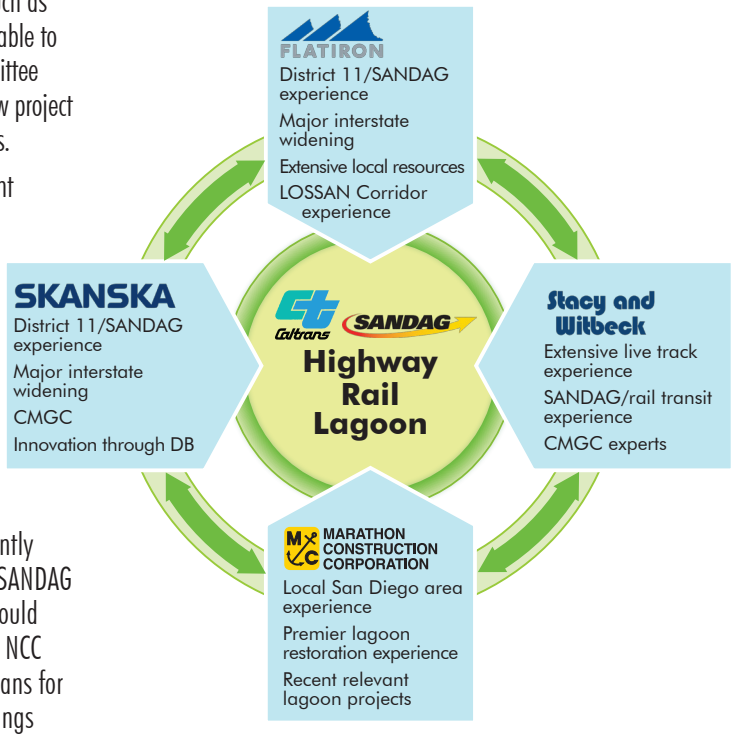
As a joint venture, we fully support our key project personnel and give them the authority to act on the behalf of the joint venture. Our executive committee helps the team develop and build our culture for success. This committee ensures that major resources such as personnel and equipment in advance of the need are available to the project team. Once in construction, the executive committee will meet at least quarterly to provide support and to review project status and actively participate in formal partnering sessions.

FSSW understands that the lagoons are both an important and sensitive matter for the community and other stakeholders. As such, we enlisted Marathon Construction Corporation (Marathon), a local lagoon restoration firm, as our exclusive subcontractor for preconstruction and construction work associated with the lagoon restoration scope. FSSW is committed to providing Caltrans a team that is custom fit to the unique needs during preconstruction and construction, as illustrated in figure 5.1.

Two of our team members, SWI and Skanska, have recently entered into a Preconstruction Services agreement with SANDAG for the CM/GC-1 Mid-Coast Corridor Transit Projects. Should FSSW be chosen as the preconstruction team for the I-5 NCC project and subsequently enter into a contract with Caltrans for construction, we expect there to be tremendous cost savings benefits to the projects due to resource sharing opportunities. The many common elements of construction between the projects would allow economies in utilization of equipment, specialized crews, form systems, falsework, and potentially earthwork balancing. Coordination between the projects would be optimal, and allow for the necessary planning that would deliver real efficiencies to both projects. Our firms have extensive local and national resources to staff both projects, so there would be no overlap of key personnel or ultimate salaried staff.

FSSW will approach CMGC delivery by aligning our management with Caltrans to provide optimal preconstruction and construction support. Our key and value-added personnel will meet with their Caltrans counterparts to establish lines of communication, further define our preconstruction support, and develop project partnering charters that will guide each step of our successful project delivery.

Figure 5.1 | A custom fit team for the successful delivery of I-5 NCC.



Additionally, FSSW's management approach provides Caltrans a consistent team in preconstruction and construction. Our Team Leader, Project Manager, Construction Managers, Scheduler, Environmental/Permit Manager, and other value-added personnel will bridge preconstruction and construction, providing exceptional continuity in all aspects of the work. Caltrans will benefit from FSSW's "one team" approach from project start to completion.

How the Organizational Structure will Result in an Integrated and Cohesive Team

The success of the I-5 NCC project is dependent on structuring an organization and supplying the right people who can work collaboratively with Caltrans, design consultants, and stakeholders to deliver a successful pre-construction phase and a productive, organized, and efficient construction phase. We have structured our organization to provide expert personnel who are qualified to tackle all of the challenges anticipated on this project.

As shown on the organization chart, at the end of this section, we have included the same key personnel and basic reporting structure during both preconstruction and construction phases of the project. FSSW Team Leader Jeff Turner will coordinate directly with Caltrans Corridor Directors. FSSW Project Manager Dale Nelson will interact directly with Caltrans and SANDAG Project Managers. FSSW Project Construction Managers will report directly to Dale, and interact with Caltrans and SANDAG designers, subconsultants, resident engineers, construction engineers, and construction managers, depending on the phase.

The interaction between our staff and their counterparts at Caltrans will occur at every level among all disciplines (highway, rail, and lagoon). The organization chart reflects our integrated approach to the projects where the Project Construction Managers for each discipline are depicted in a shadowed box to illustrate the interdependence of these scopes. This interdisciplinary interaction and continuity of personnel will ensure that all of the institutional knowledge and relationships with internal and external team members developed during preconstruction will carry on into construction.

FSSW will build on the preconstruction phase partnering workshops to ensure that team members joining during construction fully understand the path taken to arrive at a GMP. We recommend that both Caltrans' designers and design consultants participate in these partnering workshops. FSSW's partnering process is shown in Figure 5.2.

The responsibilities of our key personnel will transition from performing preconstruction tasks to executing the plans during construction. For example, Project Construction Manager (Highway) Mike Spain will work with Caltrans designers and

Figure 5.2 | FSSW's partnering process.

subconsultants during preconstruction to provide input for constructability, innovations, planning and scheduling, and value engineering ideas for the highway work. During construction, Mike will interact with his counterparts in Caltrans' construction management organization while managing construction operations. Similar transitions will occur in all disciplines.

Preconstruction Manager Erik Yingling will manage the preconstruction process including the estimating process, schedule development, stakeholder coordination, and the like. As we move into construction, his role will transition into more of advisory role where he will ensure that the institutional knowledge is carried forward into construction. His direct reports during preconstruction will transition into a more traditional reporting structure during construction, where they will report to the Project Manager.

This organizational structure is perfectly suited for the I-5 NCC Project because of the phased design of the Highway Units, so at certain times, our managers will fill dual roles – preconstruction and construction – depending on the status of the Unit designs. An example of this is where Unit 1 of the highway component will be under construction while preconstruction services for Unit 4 are still ongoing. Our organization provides the flexibility to successfully undertake this phased approach.

We have committed experienced managers in our FSSW organization who have successfully managed major highway, rail, and lagoon projects during preconstruction and construction. They are comfortable wearing both hats and are experience working collaboratively with design teams as well as managing major construction operations.

This approach is discussed further in Section 6, B. Approach to CMGC Contracting.

Organizational Charts

Our highly experienced team combines local District 11 experience, success working along active rail lines, and lagoon restoration specialists. FSSW focuses on delivering on-time, on-budget projects and brings extensive experience working in CMGC, design-build, and design-sequencing contracts. Our risk monitoring and management approach will minimize impacts and enhance the opportunities to improve the schedule and lower costs. We offer California-licensed professional engineers in both our preconstruction and construction key personnel, including Project Manager Dale Nelson.

During both preconstruction and construction, our team will work closely with our Caltrans counterparts in the three major work areas highway, rail and lagoon). We have provided our overall organization chart at the end of this section.

Key Personnel

FSSW is committed to providing Caltrans with the best team to deliver the I-5 NCC safely and successfully. We have also selected four key personnel to provide special expertise that is crtiical to the I-5 NCC project. We selected these roles for two reasons: to mitigate risks and to add overall value to Caltrans. The positions were created to focus on critical roles needed to successfully execute this project. Our key personnel and their commitment to this project are highlighted in Figure 5.3 and in Form D at the end of this section.

> "As you know, this project is a cornerstone to the rest of the I-15 Managed Lanes projects. As such, had it not been for the partnering spirit exemplified by Flatiron, obstacles would have risen that could have prevented a successful launching of those projects, in particular - Unit 1, the first Managed Lanes project and the one within the same project limits as ours."
>
> **– Dan M. Juarez, Resident Engineer, Caltrans**

Key Personnel Time Commitment

FSSW key personnel are committed to the success of the I-5 NCC. We have provided our key personnel's commitment in Figure 5.3.

Ensuring Key Personnel Remain Assigned to I-5 NCC

Our organizational structure is based on meeting all requirements daily. The personnel in our organization, including those employed by subcontractors or sub-consultants, will be made 100% available for the I-5 NCC . The project has the personal commitment of all FSSW team members, partners, and subcontractors. FSSW will draw from our local San Diego resources, as well as our nationwide resources to ensure the success of the I-5 NCC.

FSSW's executive management team includes a senior manager from each partner: Jeff Turner, Flatiron; Mark Leintz, Skanska; and Jim Abramson, Stacy and Witbeck. One of their major roles will be to provide corporate resources promptly when needed during each phase of the project, and to assess the performance of our team.

The key personnel from FSSW firms and our subcontractor, Marathon Construction will not be shared with or reassigned to other projects until their role on the I-5 NCC is complete.

Figure 5.3 | FSSW key personnel's roles, experience, and commitment to the project

Team Leader Jeff Turner

Jeff has more than 30 years of experience building transportation projects using alternative delivery methods. In San Diego, Jeff has managed rail, transit, and infrastructure projects up to $500 million. He, along with his executive committee members.

Jeff will work with the Corridor Director and the LOSSAN Director to ensure communication and collaboration occurs on the project.

Precon	Const	Commitment to Other Projects
50%	50%	Jeff will devote 50% of his time or as required to ensure full availability and resources of the project. He will continue his role as Vice President for Flatiron.

Project Manager Dale Nelson, PE

Dale has more than 20 years of experience managing Caltrans and LOSSAN infrastructure projects. He has a long history working with Caltrans District 11 as a project manager through alternative delivery methods including design sequencing.

Dale will integrate the three construction managers (Highway, Rail, and Lagoon) creating a "one project" approach. During preconstruction, Dale and his team will work closely with Caltrans to establish staging, sequencing, and construction method options for Caltrans to select.

Precon	Const	Commitment to Other Projects
100%	100%	Dale will be fully committed to the success of the I-5 NCC. He will only work on other projects if time allows.

Construction Manager (Highway), Mike Spain

Mike has more than 20 years working in Southern California. He has worked as a construction manager on every major highway in San Diego and with every utility along the alignment. Mike's experience in estimating, bidding, and managing large-scale infrastructure projects qualifies him as a constructability expert for NCC.

Using Mike's experience partnering with Caltrans District 11, he will work closely with Caltrans' Highway Project Manager to manage highway construction operations and generate value engineering and innovations for the highway work.

Precon	Const	Commitment to Other Projects
100%	100%	Mike will be fully committed to the success of the I-5 NCC. He will only work on other projects if time allows.

Construction Manager (Rail), Juston Poeling

Juston has over 27 years of rail related experience. Juston has managed large complex projects, including the $181 million I-205 LRT Extension and the $62 million Westside Express Services project. Juston is also experienced in alternative delivery of rail projects including CMGC and design-build.

Juston will coordinate all railroad operations and participate in constructability reviews for rail construction. Juston will also develop work plans for work within the active rail line.

Precon	Const	Commitment to Other Projects
100%	100%	Juston will be fully committed to the success of the I-5 NCC. He will only work on other projects if time allows.

Lead Estimator Jim Keep, PE

Jim has more than 36 years experience in construction with over 20 years estimating on infrastructure projects. Jim develops and manages estimates for highway, rail and other transportation projects.

Jim will use an open book approach with Caltrans to estimating. With Caltran's Independent Cost Estimator (ICE), Jim's team will generate estimating guidelines for the estimates and supports the negotiation for the GMP.

Precon	Const	Commitment to Other Projects
100%	50%	Jim will be fully committed to the success of the I-5 NCC during preconstruction. He will continue his role and support the construction team for 50% of his time.

Scheduler, Tom Cameron, PE

Tom has more than 30 years working on complex infrastructure projects including multiple freeways. He has extensive experience working with Caltrans throughout Southern California and worked as a Caltrans structures engineer earlier in his career.

Tom will work closely with our team and Caltrans to generate a comprehensive schedule encompassing all work elements, ensuring schedule certainty.

Precon	Const	Commitment to Other Projects
100%	100%	Tom will be fully committed to the success of the I-5 NCC. He will only work on other projects if time allows.

Environmental/Permit Manager, Beth Famiglietti

Beth has more than 18 years of experience managing environmental programs for heavy civil construction projects. This includes environmentally-sensitive areas such as Chula Vista. She has extensive experience in San Diego and has worked with the Regional Water Quality Control Boards, NCTD, National Park Services and other local agencies.

Beth will collaborate with Caltrans to comply with all environmental permits. She will work closely with Construction Manager (Lagoon) Mike Furby and his team on options that reduce environmental risks.

Precon	Const	Commitment to Other Projects
100%	50%	Beth will be fully committed to the success of the I-5 NCC during preconstruction. She will devote 50% of her time during construction or as required and support other projects during construction.

Construction Manager (Lagoon), Mike Furby

Mike has over 22 years of coastal salt water wetland and environmental mitigation experience. Mike most recently managed the construction of the San Dieguito Lagoon Restoration project in Del Mar, CA.

Mike will oversee all lagoon restoration construction with will provide innovative solutions for the San Elijo Lagoon restoration. Mike is very familiar with the resource agencies and project stakeholders in the area.

Precon	Const	Commitment to Other Projects
100%	100%	Mike will be fully committed to the success of the I-5 NCC. He will only work on other projects if time allows.

CMGC Preconstruction Manager, Erik Yingling

Erik has over 18 years of experience and brings extensive CMGC and project management experience. Erik has a history of successfully managing project schedules and budgets. Erik served is the preconstruction services manager on the $161 million Northwest Light Rail Extension and is familiar with the CMGC preconstruction process and he will bring that expertise to the FSSW team.

Erik will facilitate all value engineering efforts and constructability reviews. He will also manage the GMP efforts, including early work packages and communicate and coordinate with the highway, rail and lagoon teams.

Precon	Const	Commitment to Other Projects
100%	50%	Erik is fully committed to the success of the I-5 NCC during the preconstruction. He will devote 50% of his time during construction but will be fully available to transition to construction, as needed.

Constructability Expert, Don Riese

Don has more than 30 years working in Southern California as a rail and highway general superintendent. As such, he is uniquely qualified as our local constructability expert. His experience on projects adjacent to the corridor provides Don exceptional familiarity with the I-5 NCC site conditions.

Don will work closely with our team and Caltrans to provide constructability reviews for means and methods and will transition over to construction for oversight on construction activities.

Precon	Const	Commitment to Other Projects
50%	50%	Don will devote 50% of his time or as required. He will continue his role as a superintendent for Flatiron.

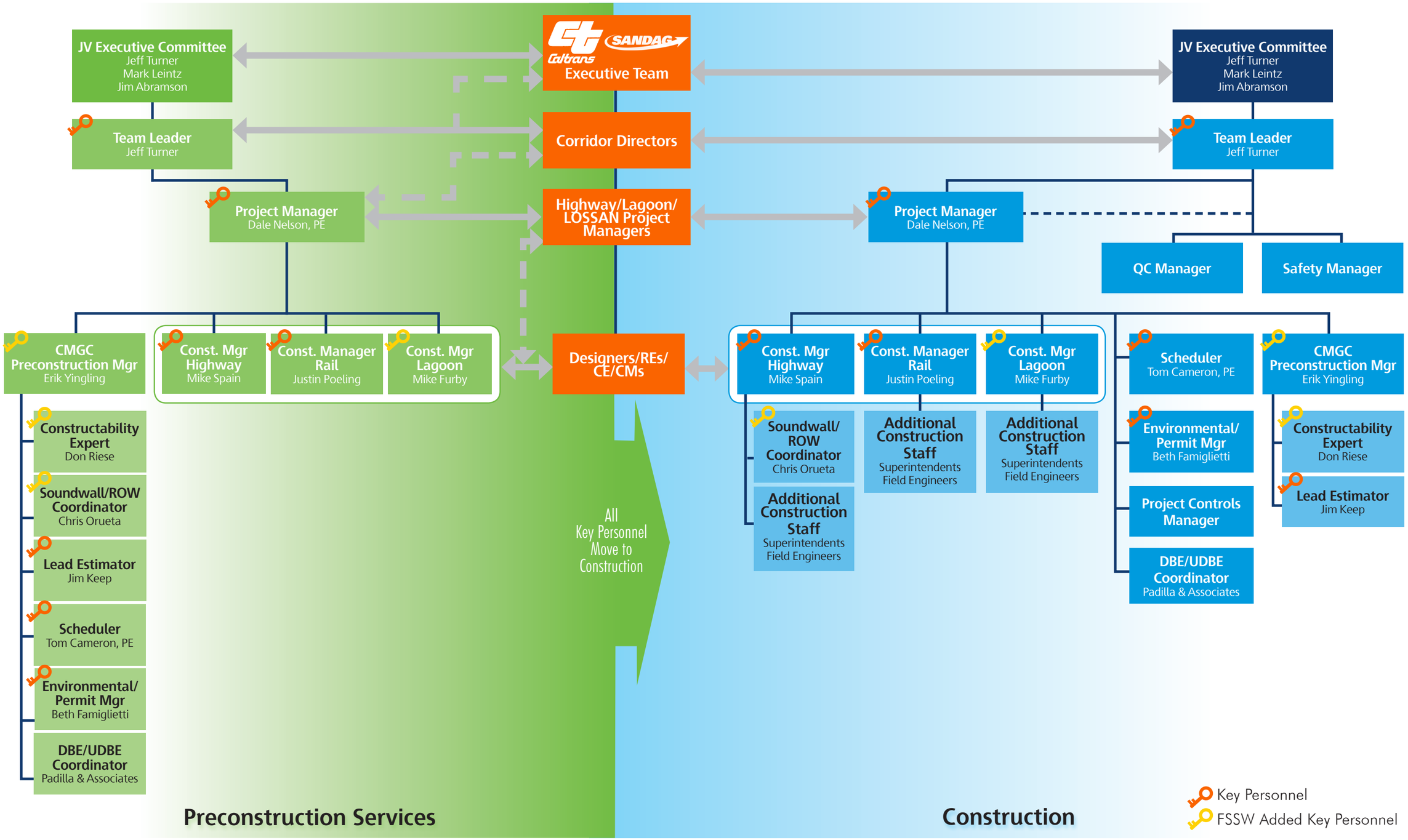
Soundwall/ROW Coordinator, Chris Orueta

Chris has over 15 years of experience and brings extensive experience coordinating construction activities with the goal of minimizing negative impacts to stakeholders affected by the work. Chris served in a similiar role on the $369 West Rail Line where he met with homeowners on a daily basis to assess their individual needs for soundwall construction on their property.

Chris will assist Caltrans with the ROW acquisition process and meet with affected property owners and stakeholders. Chris will also coordinate wall construction schedules to meet project and stakeholder goals.

Precon	Const	Commitment to Other Projects
100%	100%	Chris will be fully committed to the success of the I-5 NCC. He will support the ROW acquisition process during the design phase and transition to support the soundwall construction. He will only work on other projects if time allows.

FSSW Organization Chart



form D

Proposed Key Personnel Information

Form D
PROPOSED KEY PERSONNEL INFORMATION

Name of Proposer Flatiron-Skanska-Stacy and Witbeck a Joint Venture

Instructions for Form completion: Responses shall be addressed within the table below. Should additional space be needed to adequately respond, Proposer is advised to increase the number of lines within the table as appropriate. Form D has no SOQ page limitation. [Note to Drafter: Edit positions for Project, refer to Section 3.6.1.]

Position	Name	Years of Experience	Education and Registrations	Parent Firm Name
Team Leader	Jeff Turner	30	BS Business Management, San Diego State University, 1987	Flatiron
Project Manager	Dale Nelson, PE	20	BS Civil Engineering, Cal Poly Pomona, 1994 PE, California #C59133	Flatiron
Construction Manager (Highway)	Mike Spain	21	BS Construction Management, Cal State Chico, 1993	Skanska
Construction Manager (Rail)	Juston Poeling	27	AA Business Administration, Chaminade University	Stacy & Witbeck
Lead Estimator/Budget Manager	Jim Keep, PE	36	BS Civil Engineering, Univ. of California Davis PE, California #36688	Flatiron
Scheduler	Tom Cameron, PE	30	BS Civil Engineering, Cal State San Diego PE, California # 41862	Flatiron
Environmental/ Permit Manager	Beth Famiglietti, CPESC, CESSWI, QSP/QSD, ENV SP	17	BS Environmental Science, Lynchburg Colleg, 1996 CPESC, #7049; CESSWI, #625; QSP/QSD, #23372; ENV SP	Skanska
Construction Manager (Lagoon)	Mike Furby	31	BS Civil Engineering, UCLA, 1980	Marathon Construction
Preconstruction Manager	Erik Yingling	18	BS Civil Engineering, Portland State University	Stacy & Witbeck

Position	Name	Years of Experience	Education and Registrations	Parent Firm Name
Soundwall/ROW Coordinator	Christopher Orueta	15	High School Diploma	Stacy & Witbeck
Constructability Expert	Don Riese	30	High School Diploma	Flatiron

section 6

Project Understanding and Approach

SECTION SIX

RFQ Section 3.7

project understanding & approach

3.7A. Understanding of Project Scope

Identification of Project Elements

The I-5 North Coast Corridor (I-5 NCC) spans 27 coastal miles of San Diego County. The program includes four designated phases that improve I-5, coastal rail and transit, coastal access, and enhance the environment. The I-5 NCC improvements will be constructed in the next 40 years.

Phase 1 of the program was selected as part of the Caltrans CMGC Pilot Program due to its complexity. The combination of three distinct major work components (highway, rail, and lagoon) allows for a holistic view of the entire phase using an integrated approach. This approach leverages the work scopes to create synergies that best accomplish Caltrans' goal of delivering "the most aesthetically-pleasing, technologically-efficient, and cost-efficient travel corridor in the nation." In partnership with Caltrans, FSSW will provide industry-best input and expertise on this multi-modal project. Our team offers tremendous Caltrans experience including successful performance on District 11's largest design-sequencing project (the I-15 Corridor) and its first design-build project (the I-805 North Corridor). Our team will bring the same success-driven approach for this CMGC Pilot Program and work hand-in-hand with Caltrans.

The I-5 NCC is the result of more than 10 years of partnering and planning for the region's betterment by local, state, federal, and resource agencies, along with the public. The commitment is evident though the creation of the Public Works Plan (PWP) and Senate Bill 468, which is supported by all stakeholders.

The PWP and the Transportation and Resource Enhancement Plan (TREP) is a 40-year implementation blueprint for a package of rail, highway, environmental and coastal access improvements. The PWP/TREP delivers needed mobility solutions while protecting and enhancing coastal resources and access and also assures that a balanced range of rail, highway, environmental, and coastal access enhancements will be implemented consistent with the California Coastal Act and state and federal laws. Through the CMGC process, FSSW will support Caltrans' goal to synchronize highway and transit work with environmental enhancements so one improvement doesn't outpace another.

Highway/Soundwalls

The highway component spans 14 miles of I-5 and incorporates an additional northbound and southbound HOV lane from Manchester Ave. to SR78. This widening will require multiple ramp realignments throughout the corridor. FSSW realizes the importance of maintaining a holistic view of the final corridor configuration to minimize temporary work in follow-on phases. ***Our team member, Skanska, is currently working with Caltrans in a similar fashion on the I-805 North HOV/BRT Design-Build. Their work on this project involves great consideration of follow-on phases, which will widen the outside of I-805.***

The highway component will demolish and reconstruct the ultimate corridor width for highway bridges over the San Elijo and Batiquitos Lagoons, as well as replace the Mackinnon overcrossing. This will require complex staging to minimize impact to the traveling public, protect lagoons, and ensure public and project safety. ***FSSW is commited to completing all work on the I-5 NCC with no full freeway closures.*** FSSW designed an integrated approach for the bridge construction and San Elijo Lagoon restoration, detailed in Figure 6.2 on page 6-3.

FSSW recognizes that the construction of the Direct Access Ramps (DAR) and multi-use facility at Manchester Ave. add to project complexity just north of San Elijo Lagoon. We will coordinate this work with the San Elijo Lagoon staging to maintain the highest mobility level for the traveling public.

Another essential component is the construction of many soundwalls along the highway corridor, which must be complete before placing the HOV lane in service. This introduces complexity and risk in the numerous right of way negotiations required to obtain the property to build the soundwalls. Many, if not all, of these soundwalls will be constructed on private property through the use of Temporary Construction Easements (TCE). Approximately 17 walls will be constructed with an estimated length of over 19,000 feet, affecting hundreds of residents. FSSW will work with Caltrans for early soundwall construction in particularly high noise areas to reduce our impact during construction.

Concurrent with highway construction, FSSW will improve and extend the bike and pedestrian trail system between Lomas Santa

Fe and Birmingham as well as between La Costa Ave. and north of Batiquitos Lagoon. During preconstruction, we will specifically seek opportunities to advance the future scope.

Rail

In Phase I, the LOSSAN double track projects consist of 3.7 rail miles of ballasted track over the San Elijo and Batiquitos Lagoons and include associated signaling, communications, and coordination with NCTD for positive train control. Our team will carefully plan and coordinate the LOSSAN work to ensure safety, quality, environmental compliance, and uninterrupted commuter and freight services. FSSW offers Caltrans extensive experience in each of these skill sets and works safely on and around live track, as shown in Figure 6.1.

Figure 6.1 | Experience working around active rail lines

Project	Owner	Location
Sprinter	NCTD	San Diego, CA
I-5/I-805/SR56 Interchange	Caltrans	San Diego, CA
Bridge 230.6, 243.0 & 240.4	SANDAG	San Diego, CA
Santa Margarita Bridge	SANDAG	San Diego, CA
Sorrento to Miramar I and II	SANDAG	San Diego, CA
I-205 LRT Extension	TriMet	Portland, OR
I-215 Segments 1 & 2	SANBAG	San Bernardino, CA
West Rail Line	RTD	Denver, CO
FrontRunner South	UTA	Salt Lake City, UT
Westside Express Service	TriMet	Portland, OR

The portion at San Elijo Lagoon adds 1.5 miles of a second track from CP Cardiff to CP Craven and includes an at-grade crossing at Chesterfield Ave. This requires demolition of the existing rail bridge and two-stage construction of a new bridge over San Elijo Lagoon. To develop the required width for the second track and access road, FSSW will construct an additional elevated embankment within the lagoon footprint. We will mitigate environmental impacts by integrating lagoon restoration with bridge demolition and reconstruction. More detail on the phasing bridge construction in coordination with lagoon restoration is shown in Figure 6.2 on page 6-3.

The segment at Batiquitos Lagoon adds 2.2 miles of second main track from CP Ponto to CP Moonlight. FSSW will demolish the existing rail bridge and replace it with two new bridges over Batiquitos Lagoon. Other work in the lagoon includes embankment widening which will be built concurrently to provide space for the additional required track. Space for the second track requires modification or replacement of La Costa Ave. overcrossing.

Batiquitos Lagoon was recently restored by Marathon. As such, FSSW will use extreme care to protect the lagoon during highway and rail bridge demolition and construction. We will restore the footprint of disturbance. FSSW has already begun the preliminary planning for both bridges at the Batiquitos Lagoon, including several alternatives as shown in Figure 6.22 in Section G. Innovation and Value Engineering.

Lagoon

FSSW's approach to the 960-acre San Elijo Lagoon restoration integrates the work sequence with other project components including the I-5 widening and LOSSAN corridor double tracking. The work includes clearing and grubbing, dredging, replenishing beach sand, dredge material near and offshore, enhancing major and minor tidal channels, and constructing transitional wetland areas and a nesting site. FSSW will focus on minimizing environmental impacts while effectively integrating the lagoon, highway, and rail work. This approach will provide a better functioning lagoon, while minimizing impacts at a lower overall cost, rather than performing each scope item independently.

Our outline for the overall lagoon enhancement project's five phases closely follows the RFQ documents. Our modifications integrate the highway and rail work, as detailed in Figure 6.2.

Understanding of Local and Regional Significance

The North Coast Corridor is a vital transportation mode for residents, businesses, and visitors to San Diego County. Each phase, and ultimately the entire I-5 NCC program, will enhance area mobility and greatly increase the quality of life for all. As the sole access to and through the coastal zone, this corridor experiences continuous high traffic volumes. Managing these high volumes is critical to access such sites as:

- Del Mar Race Track and Fairgrounds
- Coastal cities and beaches
- Downtown/Old Town San Diego
- Access between Los Angeles and San Diego
- San Diego International Airport
- Local attractions such as Legoland, Mission Bay, and Sea World

The lagoons are an environmental treasure and a community asset. Many people use these areas for recreation and environmental education. Absolute compliance with all rules and regulations is critical. We will work with Caltrans to produce an environmentally-superior project garnering both support and appreciation from those who care for and recreate at the lagoons. FSSW understands that maintaining public trust is essential, based on our experience on numerous projects in the corridor. The addition of Marathon to our team will enhance trust,

Figure 6.2 | FSSW's integrated approach to constructing the lagoon restoration concurrently with the San Elijo rail and highway bridges

- 1500 KVA power source developed for dredge
- Water control dikes/structures built at I-5 and LOSSAN
- Begin demolition and reconstruction of highway and rail bridges in dewatered work area
- Two casings jacked under LOSSAN rail embankment and Coast Highway causeway
- Clear and grub/sedimentation/dewatering basin developed east of I-5 bridge and existing East Levee
  - Includes storage of dredge material and beneficial topsoil from Central (saltwater) and East (fresh/brackish) Basins
- After dewatering basins, Central Basin water raised to a +6 MLLW elevation using:
  - Water control structure at LOSSAN dike system with culverts and flood gates
  - Tide flood gates on return water line though existing highway and rail embankments
- Clearing and grubbing Central Basin using the dredge and pumping to the dewatering basins east of I-5
- Clear and grub of basin and initial grading that includes development of access off Coast Highway for LOSSAN work

- Overdredge sump dredged and pumped to allowable beach, near shore and offshore disposal sites per RFQ
  - First priority: Beach replenishment
  - Second: Salvage for future nesting site construction
  - Third: Capping material for overdredge sump and transitional areas
  - Fourth: Potential use for embankment material for I-5/LOSSAN expansion
  - Remaining material sent to near shore and off-shore disposal
- Salvaged sand dredged to strategic areas of Central and East Basins for beneficial reuse
- Clear and grub and channel excavation performed in East, Central and West Basins
- Demolition and construction of highway and rail bridges continuing in dewatered work area

Full size versions of these renderings are available in Appendix B

- Central and East Basin channels dredged and pumped to overdredge sump
- Completion of highway bridge construction
- Water control dikes at I-5 and existing levee in East Basin removed
- Salvaged wetland topsoil material from Central Basin pumped back to transitional areas in need of habitat/soil replenishment
- At completion of dredging, transitional areas graded and Central and East Basins opened to tidal exchange through water control structure at LOSSAN
  - Transitional areas machine graded during drained periods
  - Channel excavation graded via dredge during flooded periods unless machine excavation allowed during drained periods
  - Demolition and construction of railroad bridge continuing in dewatered work area

- Final grading of West Basin
- Completion of nesting site(s) and trail system
- Completion of rail bridge construction
- Water control and diversionary structures removed at LOSSAN site
- Removal of cased pipelines through rail and highway embankments
- Demobilization
- Restoration of staging area

- Final inlet excavation by machine excavation and trucking
- Material loaded and hauled to short haul beach disposal areas for beach replenishment and potential dune construction
- Final beach grading and dressing up
- De-energizing of hydraulic dredge power drop
- Final demobilization of lagoon enhancement project

experience and capability. By leveraging our experience in lagoon restoration, as well as highway and rail bridge construction over environmentally sensitive areas, we will partner with Caltrans to ensure a successful program.

We are citizens of the community and are happily obliged to be stewards of this region. Our families use these sites for recreation and the goal is that our children will continue to have the opportunity to use them throughout their lives.

Integrated Approach

FSSW placed great effort into developing several alternatives to integrate highway, soundwall, rail, bike and hiking trail, and environmental enhancements. We understand that the I-5 NCC is a "Regional Mobility Solution" and must be approached holistically. Our team's challenge is not only to coordinate the varied major Phase 1 components, but to also efficiently integrate future phases into the corridor.

As a joint venture, FSSW built its team to offer Caltrans excellent rail, highway, and lagoon restoration skill sets to develop holistic solutions that will enhance the program's environmental aspects, cost and schedule certainty, and mitigate risk. A key example of our integrated solution is our approach that leverages the San Elijo Lagoon restoration with the highway and rail components.

This strategy, the "Lagoon Solution," was developed by Project Manager Dale Nelson, Construction Manager (Highway) Mike Spain, Construction Manager (Rail) Juston Poeling, and Construction Manager (Lagoon) Mike Furby, along with other team members. These managers coordinated these separate major components into a single, cohesive plan. This level of coordination will continue through preconstruction and construction.

The Lagoon Solution builds upon the San Elijo Lagoon phasing plan provided in the RFQ. Our team correlated schedules and work area requirements, while seeking environmentally-superior strategies to modify the planned dike locations that FSSW use to construct the full scope of work for rail, highway, and bike path enhancements. This approach is detailed in Figure 6.2. Benefits of this approach includes bridge demolition and construction in the dry, reduced environmental impacts, reduced cost and schedule and coordinated staging.

How We Got Here

Nine months ago, our team began evaluating the I-5 NCC project. We developed a schedule, held weekly task group meetings, visited key stakeholders, and have already developed a ROM/green-sheet cost validation for each unit of the highway, rail and lagoon work. FSSW analyzed the San Elijo lagoon restoration project and determined that coordinating and integrating this work is critical and could become high risk. To mitigate this risk, we incorporated Marathon into our planning process and our team. Through our "project first" mantra, FSSW developed a thorough understanding of the scope of work:

- Our preliminary schedule incorporates constraints and demonstrates our ability to build the project on time
- Our green-sheet cost validation presents options for Caltrans to maximize scope within the budget

Understanding of Federal, State and Local Legal Requirements and Regulations

FSSW offers Caltrans 144 combined years of California-based project experience, with hundreds of successfully-completed San Diego area projects. We will use this familiarity to work closely with Caltrans to strictly adhere to state and federal laws, local laws, regulations, and project requirements.

FSSW thoroughly understands the project's the permitting requirements. The key permitting and inspecting entities applicable to this project and our experience working with the entities applicable to this project are detailed in Figure 6.3.

Understanding of Issues Related to Construction Activities

FSSW developed a comprehensive understanding of the I-5 NCC's issues and challenges. We performed extensive proposal phase due diligence and applied our team's collective experience with similar and local work. In addition to the construction issues relating to traffic control, erosion control, runoff treatment and control, noise and dust, and other environmental permit concerns, our team has identified other relevant issues such as staging and laydown yards, effective earthwork management, working within LOSSAN AWW constraints and access.

Figure 6.4 illustrates our understanding of these issues, presents potential solutions, and highlights our experience with similar issues on comparable projects. In addition to the overall solutions, we highlighted specific solutions to challenges along the corridor, including the soundwalls and the lagoon.

With the very large number of right of way acquisitions for soundwall construction, FSSW understands the potential for one property owner to pose a significant schedule risk. We will mitigate this with a detailed approach to right of way/temporary construction easements (TCE) acquisition. We designated the key role of ROW/Soundwall Coordinator, Chris Orueta on our team to be a resource for Caltrans to support this process.

FSSW commits to provide exact means and methods, duration, and disruption each property owner will experience as part of the soundwall construction process. This will aid the negotiation process and add certainty to the work execution. This will also allow a high level of flexibility and customization for each property owner. Our team has already commenced preliminary planning for soundwall right of way/TCE acquisitions. Our

Figure 6.3 | Understanding of permitting entities applicable to this project

Experience with Permitting Agencies on past projects along the I-5 NCC Alignment

Experience working with Local and Permitting Entities applicable to this project

	Permitting/Inspecting Entities	I-805 N HOV/BRT Design-Build	I-15 Managed Lanes	I-5/I-805/ SR56 Interchange	Sprinter	San Dieguito Wetland Restoration	Batiquitos Lagoon Maintenance Dredging	Route 76	Route 905
FEDERAL	United States Fish and Wildlife Service **(1)**	●	●			●	●	●	
	United States Army Corps of Engineers	●	●			●	●	●	
	NOAA (National Marine Fisheries)					●	●		
	Federal Transit Administration	●			●				
	Federal Highway Administration	●	●	●				●	●
	FRA	●		●	●				
STATE	California Public Utility Commission	●		●	●	●	●		
	State Water Resources Control Board	●		●		●	●		
	Regional Water Quality Control Board **(2)**	●	●	●	●	●	●	●	●
	California Department of Fish and Wildlife **(3)**	●	●	●	●	●	●	●	
	California Coastal Commission **(4)**	●		●	●	●	●		
	California Air Resource Board	●	●	●	●	●	●	●	●
	California Department of Transportation	●	●	●		●	●	●	●
	California Department of Industrial Relations/OSHA	●	●	●	●	●	●	●	●
LOCAL	North County Transit District/BNSF	●		●	●	●	●		
	County of San Diego and Departments	●				●	●		
	SANDAG	●			●	●	●		
	Local Municipalities	●	●	●	●	●	●	●	●
	Local Fire Departments	●	●	●	●			●	●
OTHER	SDG&E	●	●	●	●	●	●	●	●
	Private Utility Companies (Cox, Kinder Morgan)	●	●	●		●	●	●	●
	San Elijo Lagoon Conservancy					●	●		
	Batiquitos Lagoon Foundation					●	●		

Local Experience Examples

1 *United States Fish and Wildlife Service*

San Dieguito Wetland Restoration Project. On this project we had Anna's hummingbird nesting at the south abutment overpass at the I-5 freeway above an active haul route. The team monitored noise and reduced the trucks speed. After three days of monitoring, setbacks were established and work commenced with reduced speed and continuous monitoring until the eggs hatched.

San Dieguito Wetland Restoration and Chula Vista Wildlife Reserve Projects. Because of onsite dredging there was poor quality sands for nesting sites. We implemented a sorting process to separate nesting site quality sand in coordination with Jack Franchier of USFWS.

2 *Regional Water Quality Control Board*

Batiquitos Lagoon Project. We created long longitudinal chevrons along the beach to reduce the turbidity in the discharge. The longer distance allowed the fines to fall out of suspension discharging clear water into the ocean.

Batiquitos Lagoon and San Dieguiteo Wetland Restoration Projects. We used containment dikes and setback staging/fueling areas to keep fueling and equipment staging 500 feet away from the water. We also used drip pans and visquene under equipment.

3 *California Department of Fish & Wildlife*

San Dieguito Wetland Restoration Project. We had the Belding Savanah Sparrow in western wetland modules. We had our biological monitor observe any nesting that may occur. Construction was completed next to viable pickleweed habitat first. We modified work activities to solve many of these issues.

Batiquitos Lagoon, San Dieguiteo Wetland Restoration and Chula Vista Wildlife Reserve Project. We had to monitor noise for biologists during the bird nesting season. This monitoring was regularly done to determine if the noise was affecting the breeding.

4 *California Coastal Commission (CCC)*

San Dieguito Wetland Restoration. We worked closely with CCC to get a two week reprieve for the summer moratorium. Using the North Beach Access Walkway was vital to our staging and sequencing plan.

Figure 6.4 | FSSW's understanding of the issues and challenges associated with the I-5 NCC.

	Type	Issues/Challenges	Mitigation Approach	Example
Highway	Traffic Control	Complex multi-stage construction for demolition and construction of I-5 bridges over San Elijo & Batiquitos Lagoons as well as Manchester DAR	Modify traffic handling plans to improve constructablility and decrease traffic impacts; early traffic relief strategies such as segmental openings to produce benefits to traffic flows; customized working hours and shifts	On the La Jolla Village Drive / I-805 Project Skanska worked with Caltrans to revise the staging plans to allow for a single 56 hour ramp closure, per ramp, in lieu of multiple shift night closures to realign the on and off ramps. This allowed less disruption to traffic and enhanced safety for workers and the public through the use of positive barriers that would not otherwise been used due to short work windows.
		Public and Project Team Safety	Continuous inspection and maintenance of traffic control devices; night shifts to allow construction vehicle ingress & egress within a lane closure for median access; temporary posting of 55 MPH speed limit while work is in progress; 56-hour closures for ramp re-alignment (allows for installation of physical barriers)	
	Erosion Control	Potential for Risk Level 3 SWPPP	Eliminate and or minimize the regions being classified as risk level 3; Separate the project into sections to allow for both risk level 2 and 3 to be utilized; create temporary desilting basins at San Elijo lagoon within highway bridge location; early revegetation program	On the 905 Design Sequence project Skanska worked with Caltrans to perform early revegetation of the earthen channel on the project. This reduced the exposure to erosion, enhanced environmental quality, and reduced plant establishment periods post construction.
		Compliance with San Diego Regional Water Quality Control Board regulations	Develop and maintain SWPPP; Establish an Storm Water Management Team; Best Management Practices (BMP) - Installation, Inspection and Maintenance; Regular effective audits	
	Runoff	Water Quality Regulatory Compliance (Sediment, turbidity, and pH)	Filter or treat runoff before release into drainage systems; perform water quality testing to ensure compliance; Best Management Practices (BMP) - Installation, Inspection and Maintenance	Flatiron worked with Caltrans to develop and implement a runoff testing and management program to ensure runoff compliance along the environmentally sensitive San Luis Rey floodplain. This program focused on managing all storm water runoff during rain events.
		Discharge	Develop and maintain SWPPP; filter or treat runoff before release into drainage systems; perform water quality testing to ensure compliance; Best Management Practices (BMP) - Installation, Inspection and Maintenance	
	Noise & Dust	High sensitivity to construction noise to public and wildlife	Install planned sound walls early; use low noise equipment and strategies for night work; use sound attenuation around loud operations	On SR76, Flatiron minimized tracking onto roadway surfaces by constructing a temporary access bridge over the highway, allowing CAT 777 rock trucks to complete the earthwork without crossing the highway.
		High sensitivity to construction dust to public and wildlife	Dust suppression by water application; dust palative application; Haul road surfacing; minimize Tracking onto road surface; Regular street sweeping	
	Other	Geotechnical/Bridge Foundations	Identify potential foundation alternatives early for site investigation, sampling, and testing; design structures to avoid placing additional load on weak, poorly-consolidated foundation soil.	Over the course of 3 phases, Flatiron utilized earth dikes, sheet piles, and silt curtains to create access to the work site and protect the environment during the construction of the Lake Hodges overcrossing on the I-15 Managed Lanes.
		Working next to live train traffic	Develop plan / procedure to prevent track fouling; comprehensive safety training for all workers; Form B protection; coordination of operations with NCTD operations	
		Construction Activities in highly sensitive environmental habitats (Lagoons)	Create phased environmental restoration plan for San Elijo Lagoon to integrate bridge demolition and construction; use silt curtains, sheet pile walls, and / or dikes to protect lagoon environmental quality	
Rail	Traffic Control	Traffic handling for Chesterfield at grade crossing modifications	Accurate Scheduling; extensive Public Information Efforts; develop stage construction to maintain access for public (multiple options); extensively planned detour (when required)	On the FrontRunner South Commuter Rail CMGC project, the alignment crossed local roadways at-grade in 40 locations. In each case, UPRR required improvements to the track in addition to new infrastructure being installed under our commuter rail contract. We worked together to plan work concurrently to minimize road closures and traffic impacts.
		La Costa Ave overcrossing reconstruction	Strategic working shifts to minimize impacts (nights); Schedule work requiring Absolute Work Window a year in advance; planning for relocation of utilities incorporated within structure	
	Erosion Control	Potential for Risk Level 3 SWPPP	Eliminate and/or minimize the regions being classified as risk level 3. Separate the project into sections to allow for both risk level 2 and 3 to be utilized; Create temporary desilting basins at San Elijo lagoon within Rail bridge location; Early revegetation program	On the West Rail Line LRT CMGC project in Denver, portions of the project were directly adjacent to sensitive waterways. Some locations required construction of channel diversions to provide LRT ROW. Significant rain events necessitated the use of a robust SWPPP program. The project received multiple awards for erosion control efforts. The City of Denver and RTD have since used the project as an example of best practices when training their personnel.
		Compliance with San Diego Regional Water Quality Control Board regulations	Develop and maintain SWPPP; Establish an Storm Water Management Team; Best Management Practices (BMP) - Installation, Inspection and Maintenance; Regular effectiveness audits	
	Runoff	Water Quality Regulatory Compliance (Sediment, turbidity, and pH)	Filter or treat runoff before release into drainage systems; perform water quality testing to ensure compliance; Best Management Practices (BMP) - Installation, Inspection and Maintenance	Flatiron worked with SANDAG on the Sorrento/Miramar project to develop and implement a runoff testing and management program to ensure runoff compliance along the LOSSAN corridor. This program focused on managing all storm water runoff during rain events. Flatiron also designated a storm water compliance specialist to help manage our overall SWPPP program.
		Discharge	Develop and maintain SWPPP; Filter or treat runoff before release into drainage systems; perform water quality testing to ensure compliance; Best Management Practices (BMP) - Installation, Inspection and Maintenance	

	Type	Issues/Challenges	Mitigation Approach	Example
Rail	Noise & Dust	High sensitivity to construction noise to public and wildlife	Install planned sound walls early; use low noise equipment and strategies for night work; use sound attenuation around loud operations	On the Airport TRAX LRT CM/GC project in Salt Lake City, extensive planning over a two-year period was done to prepare for a round-the-clock work operation over a two-week period to connect the UTA Airport TRAX Project to the existing light rail system. This effort required more than 100 employees and 15 crews working simultaneously in one intersection, all while minimizing impacts to the area's adjacent businesses. SWI worked closely with the UTA operations department to mitigate impacts to transit system users and area businesses. To mitigate noise, crews placed large trucks stacked with hay bales between the active work and area hotels.
		High sensitivity to construction dust to public and wildlife	Dust suppression by water application; dust palative application; Haul road surfacing; minimize tracking onto road surface; regular street sweeping	
	Other	Geotechnical/Bridge Foundations	Identify potential foundation alternatives early for site investigation, sampling, and testing; design structures to avoid placing additional load on weak, poorly-consolidated foundation soil.	On the Sorrento/Miramar Double Track project and the adjacent Sorrento Valley Double Track, Flatiron was able to coordinate with NCTD Operations through SANDAG to Utilize the same Form B on both Projects. There were no impacts to either project as a result of this coordination. In addition, NCTD was able to preform PTC work in the workzone with minimal impacts to the project.
		Impact to Commuter & Freight Train Service	Schedule work requiring Absolute Work Window a year in advance; extensive coordination with operations of NCTD; provide constructability / staging to ensure no impacts occur	
		Working next to live train traffic	Develop plan / procedure to prevent track fouling; comprehensive safety training for all workers; Form B protection; coordination of operations with NCTD operations	
		Construction Activities in highly sensitive environmental habitats (Lagoons)	Create phased environmental restoration plan for San Elijo Lagoon to integrate bridge demolition and construction; use silt curtains, sheet pile walls, and / or dikes to protect lagoon environmental quality	
Lagoon	Traffic Control	Truck traffic on local roads will create added congestion	Develop alternate staging areas that minimize impact to local residences and shorten access to I-5; minimize off haul by re-using clear and grub materials on site as much as feasible; maximize on-site transport of materials for lagoon construction	At the San Dieguito wetlands project Marathon developed haul roads, including low flow crossings to avoid transporting on local streets.
		Suitable access for dredge mobilization needs to be developed and is not readily available	Access from coast highway across LOSSAN Rail line; Develop alternate access for central and west basin staging areas; develop access for east basin off of Manchester	
	Erosion Control	Significant rainfall and exposed soils and slopes	Develop flow bypass for water entering east basin area to central basin; SWPPP compliance, including temporary BMPs and soil stabilization efforts; scheduling of work activities to ensure optimum timing for hydroseeding after grading	Marathon employed containment berms, bypass channels, dissipater pads, turbidity curtain, in the execution of work during rainy season at San Dieguito wetlands project.
		Tracking on local roads	Minimize off haul by re-using clear and grub materials on site as much as feasible; street sweeping and maintained construction entrances; tire wash stations; maximize on-site transport of materials for lagoon construction	
	Runoff	Local area run-off to lagoon	Provide culvert bypasses with tide gates through dike system allowing for water level and water quality control within the lagoon; lagoon inflow bypass system using pumps and channels to control storm water run-off; In case of major storm event, contingency planning to mitigate local flood risks, including bypass structures and dike bypass culverts	Culvert and tide gate system were used to control water elevations in large wetland development in the Bay area of Hamilton wetland restoration.
	Noise & Dust	Noise restrictions on construction equipment (Dredges)	Electric dredge equipment; sound baffling materials for smaller dredge; noise walls for sensitive areas; noise monitoring and set-backs	At San Dieguito wetlands project Marathon Installed noise shrouds on dredge to mitigate noise levels at nesting habitat.
		High sensitivity to construction dust to public and wildlife	Water trucks for dust control; dust control agents for haul roads and exposed slopes; soil stabilization agents and hydroseeding for exposed slope stabilization	
	Other	Nesting bird species	Conduct clear and grub and lagoon flooding operations prior to nesting season remove or reclassify habitat as non-suitable; Use bird deterrents around equipment operations during nesting seasons; work with local resource agencies to demonstrate no impact to species from construction operations in case of nesting	At the San Dieguito inlet opening Marathon maintained earthen dikes during wetland excavation/dredging operations to control water elevation and maintain water quality during construction operations.
		Lagoon water quality	Install dike system containing bridge work at LOSSAN and I-5 to ensure no impacts to lagoon during construction; Provide culvert bypasses with tide gates through dike system allowing for water level and water quality control within the lagoon; during dredge fill operations in central basin, close off culvert system to prevent dredge based turbidity from migrating to ocean; for beach disposal, use chevron system to minimize near shore turbidity from beach disposal operations	
		Seasonal Beach disposal restrictions of operations during summer months may not be allowed, depending on permits.	Schedule beach disposal operations outside heavy use season; institute public safety controls to protect the public during beach disposal operation; monitor for grunion with biologists during breeding season	

process is specifically described for a parcel on the corridor, 2380 Jefferson Street, shown in Figure 6.5.

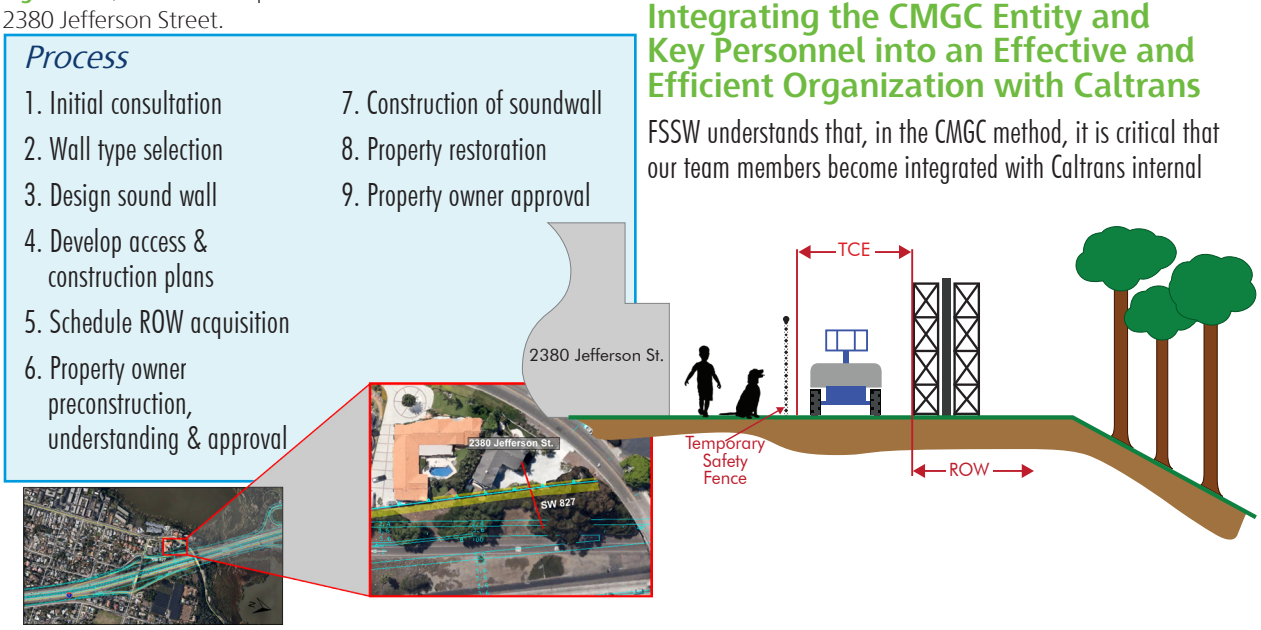
FSSW's San Elijo Lagoon restoration plan expands on the proposed dike system and sequencing detailed in the RFQ documents and is shown in Figure 6.2 on page 7-3. With slight modifications to the sequencing and location of the dikes, the overall enhancement and restoration plan can be used to isolate work zones necessary for the I-5 and LOSSAN widening work. This enhancement/restoration plan provides several benefits including:

- Integration of the highway, rail, and lagoon components
- Demolition/construction of highway and rail bridges in the dry
- Isolation and/or minimized wetland impacts attributed to I-5 and LOSSAN construction efforts
- Water control and diversionary structures to provide water elevation control for flooding, exchange, and diversion and improved water quality during lagoon restoration operations
- Provision of a containment/sedimentation/dewatering basin within the project footprint for the potential reuse of the salvage salt water/fresh water wetland topsoil and salt water seed bank
- Containment areas within project footprint containing quality sand for reuse in nesting sites and overdredge sump capping materials
- Accelerated re-vegetation timelines
- Reduced local impacts due to truck traffic

Project Schedule Constraints

Our preliminary schedule, located in Appendix B, includes project constraints for construction activities. A summary level table with major constraints is found in Figure 6.6. Other constraints include:

Figure 6.5 | FSSW's example for soundwall construction at 2380 Jefferson Street.



- Lane closure charts
- Resource agency permit conditions
- Tidal fluctuations, nuisance water impacts
- Weather SWPPP considerations
- Railroad operations
- Emergency operations/crisis management planning

FSSW will generate scheduling and construction planning one year in advance to coordinate for AWWs with other LOSSAN projects including Mid Coast and with Transit America. Our existing relationships with both entities will facilitate coordination.

3.7B. Approach to CMGC Contracting

Approach to CMGC Contracting and Developing an Integrated Team

For the I-5 NCC, FSSW will serve as an integral part of the Caltrans team. We will immediately partner with Caltrans management and engineering, outside design consultants, SANDAG, and all other stakeholders to ensure project success. We will do what we do best: understand the project, assist Caltrans with our local construction expertise and partnering.

FSSW will maintain the schedule and budget, while allowing Caltrans to maintain ultimate control for the design approach and the paramount importance of the project's aesthetic and environmental considerations through final design. ***Caltrans will retain control of the design and will benefit from our team's early input on many issues including constructability, phasing and staging, innovation alternatives, and maximizing the scope within the budget.*** We will make every effort to ensure that this integrated approach extends through all aspects of the project, regardless of contractual responsibilities.

Integrating the CMGC Entity and Key Personnel into an Effective and Efficient Organization with Caltrans

FSSW understands that, in the CMGC method, it is critical that our team members become integrated with Caltrans internal

Figure 6.6 | FSSW's understanding of project constraints on the I-5 NCC

Annual Regulatory Requirements												
Constraint	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Pre Curb and Gutter (C&G) survey								Aug 15th	Sep 15th			
Survey for maintenance of wetland restoration required			Mar 15th						Sep 15th			
Survey for maintenance of coastal sage restoration areas required		Feb 15th						Aug 31st				
Exclusion devices required for swallows/swifts in bridge planned demolished overhangs		Feb 15th							Sep 1st			

Annual Regulatory Work Prohibited Periods												
Constraint	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
C&G native wetland and Riparian habitats prohibited			Mar 14th						Sep 16th			
C&G native upland habitats prohibited		Feb 14th							Sep 1st			
Pile driving near lagoons and San Luis Rey River prohibited		Feb 14th							Sep 16th			
NCTD Board Policy 23 (absolute work windows) prohibited			Apr 1st						Sep 30th			
San Diego County Fairground work limitations						Jun 7th			Sep 3rd			

departments, consultants, and stakeholders involved on the project. The multi-level integration and constant coordination will drive results and help achieve project expectations.

In our CMGC experience, FSSW learned that a close-proximity relationship with all team members is critical during preconstruction and construction. This enhances FSSW's ability to assist in developing critical components such as environmental permits, third-party agreements, and in facilitating innovation workshops, design charrettes, and over-the-shoulder daily coordination. FSSW is committed to providing key personnel on the project during preconstruction. Due to the size and complexity of this project, co-location may be appropriate.

It is paramount that we maintain an open dialogue among all Caltrans representatives, FSSW employees, and internal and external project stakeholders to achieve the full benefits of the CMGC process. Our communication practices include daily, weekly, and monthly coordination meetings to address specific issues or requirements.

We have highlighted key personnel who will have regular and continuous interaction with the Caltrans team. They hold primary responsibility to integrate with the full project team. Figure 6.7 explains this interaction and how our team will benefit the overall project. FSSW commits all other key personnel to meet project deliverables. Additional information regarding key personnel's experience can be found in Section 3.6.

FSSW team members hold a partnered approach as a core value. We have proven track records of partnering success on CMGC, design-build, and traditionally-delivered projects. ***FSSW Team members have won over 60 prestigious partnering awards, with over 30 of those awards being Caltrans projects.*** Team Leader Jeff Turner and Highway Construction Manager Mike Spain are actively involved in the Caltrans Construction Partnering Steering Committee and are certified Caltrans Partnering Trainers in District 11, enhancing our team's local partnering knowledge.

Our partnering approach starts at the top and exists as a core value throughout our team. After award, both Caltrans and FSSW principals and executives will participate in an executive-level partnering session to set the stage for the project. The goals, commitments to partner, and collective communication plans will be developed and then presented to the project team in general partnering sessions. The key to partnering is to live the partnering principles daily, rather than simply participating in structured project partnering events.

Understanding of the use of CMGC Project Delivery Methodology for Transportation Projects

We will use CMGC practices that focus on producing the most cost-effective and efficient project while meeting all stakeholder expectations. Our experience on numerous CMGC transportation projects indicate that the most critical CMGC elements are:

- Cost certainty
- Schedule certainty
- Constructability reviews/value engineering/innovation
- CMGC in construction

Cost Certainty

The ultimate goal of our approach, starting in preconstruction and continuing through all phases of the project, is to maximize the program scope for the available budget. A major advantage of the CMCG process is that the construction manager identifies cost drivers, then provides early input to Caltrans and the outside design consultants for constructability solutions and innovations.

A disciplined estimating process is key to providing a project within the allotted budget and will eliminate surprises as the project further develops. FSSW already began our estimating process through a green-sheet cost validation based upon the preliminary drawings provided. We will facilitate an initial estimate review with Caltrans and their independent cost estimator. We will continue these efforts using production-based estimates through interim design milestones.

This initial estimate and interim preconstruction estimates will be the mechanism for Caltrans to determine the maximum scope of work for this contract. Our extensive experience performing highway construction in San Diego County for District 11 will allow us to accurately estimate alternatives on the project. Our relationships with subcontractors and our extensive local cost data will allow FSSW to quickly develop pricing for the different scopes of work and allow Caltrans to make timely decisions throughout the design phase. We have an extremely accurate cost history of the work required for this project and can easily provide alternative cost estimates to evaluate sequencing, staging, and alternate work. Due to our extensive design-build experience and our cost history, we can develop reliable estimates in the early stages of design.

As innovations and alternatives are incorporated into the scope, ***all related savings revert to the project's budget***. This

Figure 6.7 | FSSW key personnel's roles and responsibilities with Caltrans and project stakeholders

Dale
Nelson
Project Manager

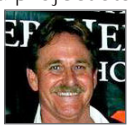
Role: Dale will coordinate daily with Caltrans Project Managers to assist with critical on-going issues on the project. He will focus on integrating the three components into a one project approach.
Benefit: Dale has extensive experience working with District 11 and will assist Caltrans to coordinate with the multiple entities on this project.

Mike
Spain
Construction Manager (Highway)

Role: Mike will coordinate a workshop after award to review our schedule. He will manage highway construction and focus on staging alternatives and schedule design packages.
Benefit: Mike has constructed several highway widening projects within District 11 and understands the critical staging and sequencing necessary.

Juston
Poeling
Construction Manager (Rail)

Role: Juston will work with SANDAG and NCTD to develop a sequencing plan that minimizes impacts. He will create a detailed hourly schedule for critical connections and tie-ins to the existing system.
Benefit: Juston has extensive experience phasing construction to mitigate impacts to ongoing rail operations, throughout the country.



Mike
Furby
Construction Manager (Lagoon)

Role: Mike will work collectively with SANDAG and Caltrans for the lagoon restoration to evaluate dike and channel work to coincide with the construction of highway and rail bridges.
Benefit: Mike's has experience from several of southern California's coastal lagoons will provide insight to developing integrated construction plans.

Erik
Yingling
Preconstruction Manager

Role: Erik will focus his efforts in preconstruction to integrate all different departments of Caltrans and SANDAG to assist the integration of the traditional processes into the new Caltrans CMGC format.
Benefit: Erik has extensive experience working with CMGC and plays a critical role in facilitating the interim estimates and the GMP.

Open dialogue between all stakeholders through daily, weekly & monthly coordination meetings

Integration of Construction Methods into Caltrans Design Process

provides Caltrans the ability to analyze multiple scenarios to optimize the project budget.

Our estimating approach begins with the estimating kickoff workshop to establish guidelines for subsequent estimates at the project interim design milestones. At each milestone, we will reconcile quantities, address design changes, and develop a new and independent estimate. This process occurs concurrently with Caltrans' independent cost estimator. We will communicate our pricing efforts through open-book negotiation to ensure that Caltrans receives the most competitive price for self-performed and subcontract work. Each FSSW partner will perform independent estimates to evaluate the best price from multiple sources. We will meet with Caltrans to review each cost item line-by-line to reach a consensus and ultimately a GMP.

During design, our customized cost control system includes management techniques refined throughout our many years providing preconstruction services. FSSW will develop a working cost model that reflects the project budget, accounts for all project elements, and includes a concise explanation for each item's basis. At design milestones, we provide budget reports that identify key project cost items adjusted from the previous budget. The budget report includes quantity takeoffs, variance and comparison estimates, contingency and allowance reconciliation, value engineering (VE) suggestions, and constructability reviews.

> "SWI established a partnership among UTA, the design team, and all stakeholders on the project, which truly fostered a team approach to every issue and innovation idea on the project. Their performance as a CMGC has set the new standard in the industry and I feel that they are a truly remarkable business partner."
>
> *- Michael Allegra, General Manager, Utah Transit Authority*

Our team will generate ideas to potentially to reduce costs and discuss these at each estimating benchmark. We will also focus on budget areas that appear to be rising above expected costs in the next design phase. These areas of concern will be addressed through workshops and peer reviews to assess mitigation measures such as design modifications, different material options, and different construction or sequencing options.

Each design milestone will contain some level of cost uncertainty related to the level of advancement. To accurately account for this, FSSW will establish contingencies and allowances to capture work elements that are not clearly identified. As the design and unknown elements are further defined, we will reduce or eliminate the appropriate contingencies. The recovered contingency can be put towards increased scope. An example of this can be found in Figure 6.11 on page 6-16.

Schedule Certainty

In the early stages of preconstruction, FSSW will advance our preliminary schedule to develop an integrated, resource-loaded baseline schedule that accounts for all preconstruction and construction project elements. FSSW will build the schedule using Primavera P6 software and include productions, crews, materials, equipment required to attain activity durations, and the estimated cash flow (billings) during the project. The schedule will address all project elements including design milestones, project administration, schedule constraints, railroad issues, public and private utilities, right of way procurement, third-party approvals and issues, permits, environmental restrictions, material procurement, long lead items, QA/QC, subcontractors, public involvement, and weather considerations.

The schedule will be refined during preconstruction as interim design packages are completed. We will closely monitor schedule progress via accurate trend reporting and quantities of work completed. Our considerable experience in schedule risk mitigation and contingency planning, combined with careful monitoring, will ensure the schedule is achieved. Our preliminary CPM schedule and associated sequence diagrams are provided in Appendix B.

Our schedule certainty is enhanced by our ability to self-perform work critical to the project success or is on the critical path. This approach allows FSSW to better control the overall project schedule and ensures that key project elements are constructed according the highest expectations and standards.

Constructability Reviews, Value Engineering & Innovations

As the design progresses, FSSW will continually provide constructability reviews. These reviews will analyze the feasibility of constructing each work element with the current available resources and most efficient practices. With our in-house expertise in highway widening, commuter rail construction, and lagoon restoration construction, we are well positioned to provide these reviews without relying on subcontractor input for these critical scopes. These constructability reviews also include inter-disciplinary reviews to identify and eliminate conflicts.

A detailed drawing review will identify construction conflicts and eliminate potential design-related claims that commonly occur in design-bid-build procurements. One of the primary benefits of the collaborative CMGC process is applying our similar experience from during preconstruction to eliminate the basis for claims.

Combined with our constructability reviews, our estimating process directs attention to the most critical cost drivers and results in value engineering and innovation opportunities.

Our approach to value engineering includes the following steps:

- Assemble small task groups of three to five individuals from construction, design, and owner teams with expertise in certain discipline areas such as structures, earthwork, rail, excavation support, environmental/permit issues, and maintenance of traffic.
- Tasks groups review work plans individually and as a group, discussing the design relative to cost, constructability, schedule, permitting, and overall compliance with project goals.
- Groups brainstorm potential design improvements and different approaches to accomplishing the work. Creative ideas will be encouraged with no idea rejected outright.
- Using information from the iterative cost estimates, schedule development, and other aspects such as aesthetics, clearly illustrate the pros/cons of each option.
- Evaluate and reach consensus, with Caltrans retaining the ultimate control. Incorporate revisions into next work plan iterations.

As industry leaders specializing in the self-performance of heavy civil lagoon restoration and railroad construction projects, our team has a unique ability to draw on construction experts within and outside of our organizations. FSSW will utilize talent from our project teams across our entire organizations to optimize every significant element of this project. Our team members have tremendous success realizing value engineering on previous alternative delivery projects as illustrated in Figure 6.8.

Constructability reviews encourage discussion of alternative construction methods for the current designed project elements, which are further developed in innovation workshops. The workshops utilize the "Design Alternative Analysis" process as explained in Figure 6.9.

Each of these steps needs to progress very quickly to avoid schedule impact. We understand this fast-paced process and regularly implement it with no negative schedule impacts.

CMGC in Construction

A primary benefit of the CMGC process is that during construction, our team can leverage the institutional knowledge gained during preconstruction to quickly resolve construction issues that arise. FSSW's key team members who worked with Caltrans designers and construction staff during preconstruction will continue that collaborative relationship into construction. Each team member will prioritize and maintain that same trust and collaboration developed in preconstruction.

Every project faces issues that develop throughout preconstruction and construction. The key to resolving issues is building consensus among team members. During construction, we will continue the use of our Risk Management Team (RMT) described in Section D. We use the RMT and the risk matrix to manage project issues and avoid schedule impact. The RMT includes one or two senior decision makers from the Caltrans construction management, engineering, and FSSW who meet weekly to identify and resolve the top project issues for that week. Limiting this to a small team encourages prompt, correct decisions that focus wholly on the project goals.

Figure 6.9 | Design review analysis process

1 Concept Identification — A team member identifies an alternative design concept during the design process that alters or changes the current methodology being considered in the current design model.

2 Cost/Schedule Analysis — A cost and schedule analysis is performed through a green-sheet cost validation to identify the potential cost savings and schedule impact of the design alternative.

3 Benefit Analysis — A pro/con matrix is developed by analyzing all the benefits and potential losses that would be encountered as part of implementing the design alternative.

4 Collaborative Decision — Caltrans makes a final determination on whether to proceed with the design alternative.

Collaborative involvement during the design phase allows FSSW to minimize errors and conflicts that typically lead to contractor-requested changes. During construction, should additional scope be requested or major unanticipated issues arise, FSSW will work with Caltrans to mitigate cost and schedule impacts. First, we will use the same collaborative group from preconstruction to determine optimum solutions. Second, our open book estimating process will ensure the lowest cost.

Managing Interrelated Project Components using CMGC Delivery Method

FSSW's approach to successfully manage the I-5 NCC project's interrelated components is to empower our optimum team of experienced rail, highway, and lagoon experts. A key element of our team includes three construction managers, one for each component of work: Mike Spain (highway), Juston Poeling (rail), and Mike Furby (lagoon). They, with our Project Manager Dale Nelson and Preconstruction Manager Erik Yingling, have worked together on this proposal and will continue into construction.

This key team will work together with Caltrans, SANDAG, NCTD, California Coastal Commission, multiple design consultants for each optional component, and the many participating cities to incorporate agency goals, stakeholder needs and interests, design requirements, and safety, budget, and quality considerations into the coordination, planning, and ultimate execution. Frequent meetings with this group facilitate the continuous communication

Figure 6.8 | FSSW's value engineering on recent past projects

Project Description	Savings	Description of Innovation
Sixth Street Viaduct Replacement CMGC Project – Los Angeles, CA	$43,000,000	Changed bridge bent foundations; modified seismic isolation method to pendulum bearing; reduced bridge width; modified pedestrian walkway to avoid relocating oil cooled power; developed CIP arch construction from precast
Airport TRAX LRT CMGC Project – Salt Lake City, UT	$11,700,000	Alliance concept for bridge construction
West Rail Line LRT CMGC Project – Denver, CO	$14,500,000	Reconfigure walls – type, location, number
Intermodal Hub Connection to TRAX Bid-build Project – Salt Lake City, UT	$4,000,000	Track modifications, reduction of turnouts, traffic signal modifications
FrontRunner North Commuter Rail CMGC Project – Salt Lake City, UT	$24,000,000	Alternative bridge, foundation, and retaining wall types
Interstate MAX LRT Line Sections 10A/10B CMGC Project – Portland, OR	$10,000,000	Structural pile, lightweight fill, micro piles, recycled concrete for aggregate
Portland Milwaukie LRT Extension CMGC Project – Portland, OR	$4,500,000	Modify two-stage wall system, modified pavement section
West Valley TRAX LRT CMGC Project – Salt Lake City, UT	$5,800,000	Alternative bridge design, geofoam for abutments, grading and drainage modifications, recycling concrete and asphalt
JFK Airtrain Light Rail System Design-Build Project – New York, NY	$10,000,000	Incorporated stray current isolation in TPSS, separation of the trackway and station infrastructure.
Central Artery Tunnel Bid-Build Project – Boston, MA	$7,000,000	Change horizontal jet grouting during tunnel jacking to ground freezing method
SR57/60 to I-605 Reconstruction Bid-Build Project – City of Industry, CA	$2,000,000	Realign ramp, eliminate ramp closures, minimizing public impact and improving safety
Total VE value:	**$136,500,000**	

and cooperation necessary to achieve project goals.

Our approach includes regular interface between the multiple parties, beginning with a formal partnering session. Building on this, we utilize "project first" meetings that combine the interrelated components to ensure that schedule, design and budget goals are met. Ideally, these "project first" meetings will include Caltrans, SANDAG, design consultants, FSSW, and other stakeholders to ensure the interests of all parties are represented.

3.7C. Ensuring a Successful Project

FSSW combines three individually strong companies successful in our own specialty work, with the addition of our exclusive lagoon restoration subcontractor Marathon Construction. Together, our customized team is exactly suited for the entire scope of work unique to this project. Using the CMGC process, we will provide Caltrans total support and unprecedented access to our construction management processes, cost estimating, risk management techniques, construction planning and scheduling models, our combined lessons learned, and overall best practices.

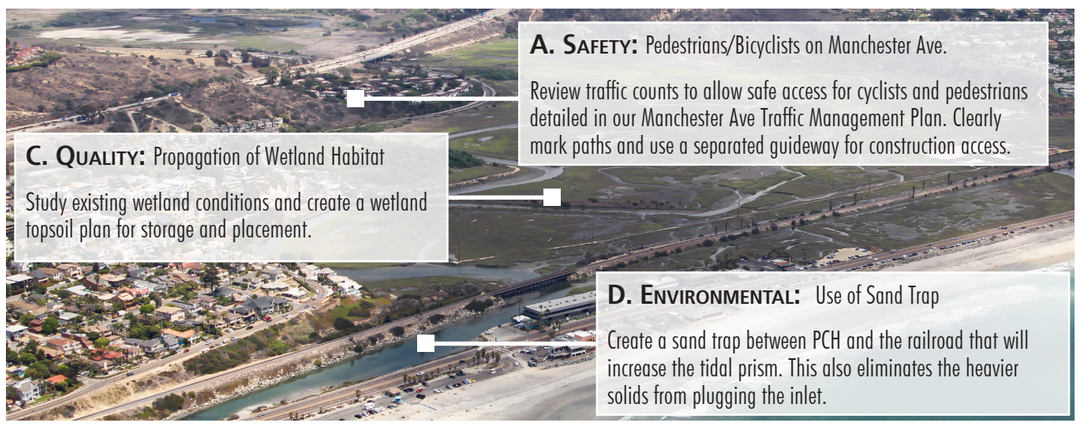
We are here to support Caltrans' project goals now, in preconstruction, and throughout construction. Our approach is highlighted in Figure 6.10.

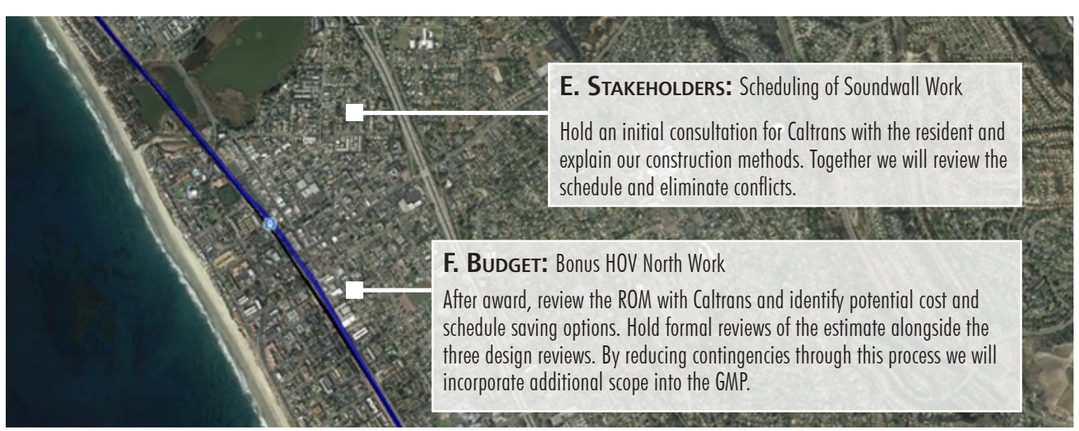
Monitoring and Maximizing Project Scope

Following the executive partnering session, we will review Caltrans' expectations, the green-sheet cost validation, and preliminary CPM schedule to define the I-5 NCC baseline scope and identify the major cost and schedule drivers. The green-sheet cost validation provides a cost basis for a "scope options menu" where major scopes of work are priced, allowing Caltrans to add items to the baseline scope, thereby maximizing scope. Our development process for cost certainty is shown in Figure 6.11, with the three preconstruction review phases.

FSSW will employ innovative solutions, VE, and integration of the three project components. This will benefit Caltrans by reducing risk and contingencies. FSSW will assure that the investment in the project takes advantage of the maximum project scope.

Figure 6.10 | FSSW's approach to achieving Caltrans' goals





FSSW's Organization Implementing the CMGC Process

A	*Safety*	• During constructability reviews with Construction Managers: Mike Spain, Juston Poeling and Mike Furby our team will evaluate construction means and methods to safely construct all aspects of the project and incorporate safety into the design • Our construction managers will perform safety reviews of the design with Caltrans during the 30, 60 and 90% design reviews • For each risk listed on the risk register (maintained by our Risk Management Team), evaluate safety of the public and our construction workers
B	*Mobility*	• Our construction managers will work with Caltrans to review traffic management plans to minimize impact to weekend traffic, commuters, coastal access, the Del Mar Fair, and horse racing seasons • Project Manager Dale Nelson and his management team will work closely with Caltrans and their public relations group to develop plans, staging sequences, and other information for closures and detours along the alignment • During our constructability reviews, Construction Manager (Rail) Juston Poeling will work closely with Caltrans, SANDAG and NCTD to develop railroad construction plans that include working within AWW closures and with no impact to the active line
C	*Quality*	• Our Quality Manager will partner with Caltrans creating a project-wide QA/QC plan • Project Manager Dale Nelson will work closely with Caltrans to create quality standards that create an aesthetically pleasing corridor with incorporation of future expansion materials • Create a quality plan jointly with Caltrans to accommodate Caltrans and independent third party inspections
D	*Environmental*	• Create a task group comprised of Environmental Compliance Manager Beth Famiglietti, Construction Manager (Lagoon) Mike Furby and Caltrans personnel dedicated to evaluating construction means and methods for the Lagoon restoration • FSSW has created a list of critical environmental permits addressed in Appendix B, which Beth will review with Caltrans to address actions necessary to receive the permits • Our RMT will work with Caltrans to review and analyze environmental risks and establish mitigations and personnel to monitor the risks
E	*Stakeholders*	• Our project manager and construction managers will use their experience working in San Diego to identify potential means and methods for Caltrans to select with consideration toward stakeholders and project goals • Our Soundwall/ROW Coordinator, Chris Orueta and Scheduler, Tom Cameron will work with Caltrans to identify critical right of way acquisitions necessary for an efficient schedule • FSSW will work closely with Caltrans regarding plans for staging and MOT to minimize the number of detours and closures
F	*Budget*	• Within the first month, Project Manager Dale Nelson will share and review our ROM with Caltrans to establish a budget baseline • Our management team will work to generate potential value engineering and construction method options to be addressed prior to design reviews, providing Caltrans a menu of options • We will constructability experts for all scopes of work to evaluate cost savings and schedule savings, reviewed regularly through informal over the shoulder reviews
G	*DBE/UDBE*	• Our team will break work into economically feasible portions to increase participation • We will hold quarterly outreaches during preconstruction and construction to facilitate opportunities for DBE/UDBEs • Our team members have extensive experience working with local San Diego DBE/UDBEs and will engage this community during the preconstruction phase • Team Leader, Jeff Turner is a member of the Caltrans statewide DBE participation committee

Communication, Coordination & QA Protocols

Internal Communication

Establishing the protocols for communication and coordination is key to aligning expectations among the organizations involved in the project. Through effective dialogue, we will leverage the strengths of the entire team to develop creative approaches, coordination between team members, and a clear definition of quality assurance expectations and project specifications appropriate to each project component.

FSSW's individual discipline members have primary responsibility for the timely dissemination of information among all levels of the FSSW organization. Team discipline leads will facilitate weekly meetings with project management staff to provide progress updates and escalate pertinent matters. We will post information on our web-based document control system to ensure all FSSW personnel have timely access to current information.

Communication with Other Team Members, Contractors, and Stakeholders

Upon award, we propose a meeting with Caltrans to establish our communication process and formulate a common approach to seamlessly execute all project aspects. Following an established protocol allows us to consistently manage and communicate all project aspects during preconstruction and construction. FSSW team members' local experience with Caltrans, SANDAG, NCTD, and other agencies and municipalities gives us a head start when establishing and executing these protocols. We have worked with many of the individuals within these agencies and are familiar with their expectations. The elements that comprise these protocols are:

- Project Coordination Meetings Cycle – During face-to-face communications between Caltrans, CMGC team members, other contractors working adjacent to the project, and project stakeholders, we will address schedule considerations, resource management, safety performance, quality hold points, public relations, and other critical project items. Figure 6.12 illustrates discussion topics in the weekly meeting cycle.

Figure 6.12 | FSSW Meetings

- Daily Game Plan – We will use daily "Game Plan" meetings at the start of each shift to communicate overall schedule and goals for the day.
- Schedules – FSSW will share our rolling three-week schedule with CMGC team members, other contractors, and stakeholders every week so that all parties understand the construction phasing and are properly prepared.
- Web-Based Communication System – We will coordinate with Caltrans and the designers to centrally locate all project documents.

In addition to this formal process, we use informal processes through daily interaction to promote communication and collaboration. Our team uses informal constructability reviews, over-the-shoulder reviews, and collaboration with Caltrans, SANDAG, project stakeholders, utility designers, design consultants, and adjacent contractors to ensure FSSW evaluates the project from all angles. As member of the I-5 NCC team, we will put project first and support Caltrans for successful completion.

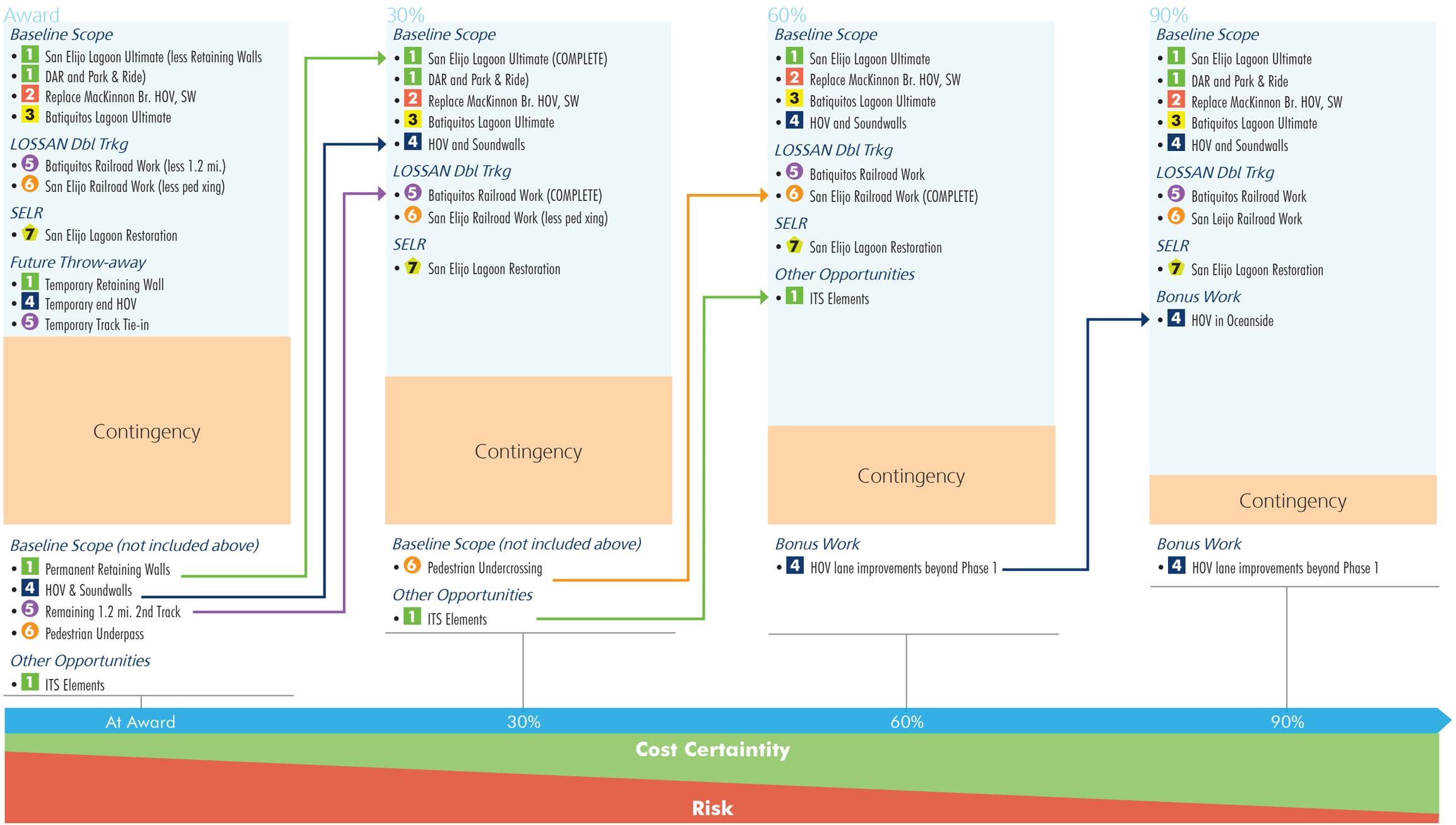
We will also contribute to Caltrans' community outreach events by sharing soundwall construction plans for private properties. This outreach will allow private property owners to envision exactly how the structure will affect their property - from accessibility to planting their flower beds as mentioned in Figure 6.5.

3.7D. Approach to Managing Risks

Plan and Approach

Success for a large, complex project such as the I-5 NCC always involves potential for risk. Our experience proves that success is achieved by applying the right team and the right approach to identify the risks, efficiently

Figure 6.11 | FSSW's development process for cost certainty



evaluating risks and their probability, putting project goals first, and effectively monitoring and mitigating the risks. FSSW has assembled the right team to compliment the Caltrans' skills to achieve the project goals.

Our approach is founded on two fundamental concepts. First, we must truly understand the project and the processes used to manage all project aspects. Our team of CMGC experts is ready to assist Caltrans to quickly identify risks, collaborate to understand the root cause, quantify the risk, assign mitigation, and evaluate and monitor risks. FSSW's collective CMGC project history has resulted in an average of less than 1% contractor initiated change orders after GMP's are reached. Risks were not eliminated, they were effectively managed to realize cost certainty and eliminate large contingencies. For the I-5 NCC, this means more scope can be added to Caltrans' baseline work.

Second, our team must fully understand the project's local and regional significance. FSSW has a strong history with Caltrans District 11 performing similar freeway work with successful performance in live rail line corridors and completion of complex lagoon restoration work in the San Diego area. This intimate knowledge of the project, local area, and affected stakeholders means that FSSW has experienced and successfully addressed almost all risks that may be encountered on this project. One example is our ongoing experience working on the LOSSAN corridor and issues coordinating the AWWs. By using our relationship with NCTD and knowledge from the LOSSAN corridor work, FSSW will plan our AWWs one year in advance to comply with NCTD Board Policy 23 restrictions. We will also develop multiple contingency plans to maintain those schedules.

Early in a design, both risks and contingencies are high. Uncertainty regarding the scope of work can cause both Caltrans and the Contractor to add contingency in early estimates. Through the design process and our CMGC estimating approach, FSSW will work side-by-side with Caltrans to determine the extent of the contingency required, design to a manageable level, and eliminate contingencies.

Plan for Cost Certainty

For the I-5 FCC, we will apply our five-step structure that has been instrumental in implementing cost certainty on past projects (shown on Figure 6.13). This process seamlessly aligns with Caltrans' risk approach as detailed in the "Project Risk Management Handbook: A Scalable Approach" (version 1 – June 2012). The basic process outlined in the graphic shown in Figure 6.14 from the Handbook directly reflects our approach. Further, FSSW adds value to Caltrans by supplementing the Project Risk Management team with our experts. We will provide varying levels of cost estimates and schedule analysis to match decision time requirements and suggest multiple solutions. Caltrans owns the ultimate decision on how to address risk; we will collaborate at every decision point to optimize these decisions.

Discussion on Risk Assignment

The basis for best assigning risks is simple: risk should be owned and managed by the party most qualified to manage the risk. As described above, one of the RMT's main roles is to assign not only the right party to manage a risk, but the right team within that party. Typically, the assignment of risk will result in clear assignment to the contractor, Caltrans, or other outside stakeholder groups. In cases where project goals support a combination, shared risk is considered and used.

Contractor-Owned Risks. As the design is advanced during the CMGC process, accurate and sufficient information is available for the contractor to manage schedule, quantities, crew productions, and many material escalations. The CMGC process reduces the plan variables to achieve a validated design which can be constructed within budget and schedule constraints. This allows more certainty in all aspects of planning and pricing the work.

Caltrans-Owned Risks. In general, many of the risks that Caltrans currently manages on conventional design-bid-build projects will remain the same. This includes right of way, dry third party utilities, hazardous materials, paleontological, and specific material escalations for major materials such as liquid asphalt. The CMGC process adds value as the contractor performs constructability evaluations, estimates, and scheduling as the specific risk unfolds, allowing Caltrans to achieve cost certainty.

Figure 6.14 | Risk mitigation integrated with Caltrans

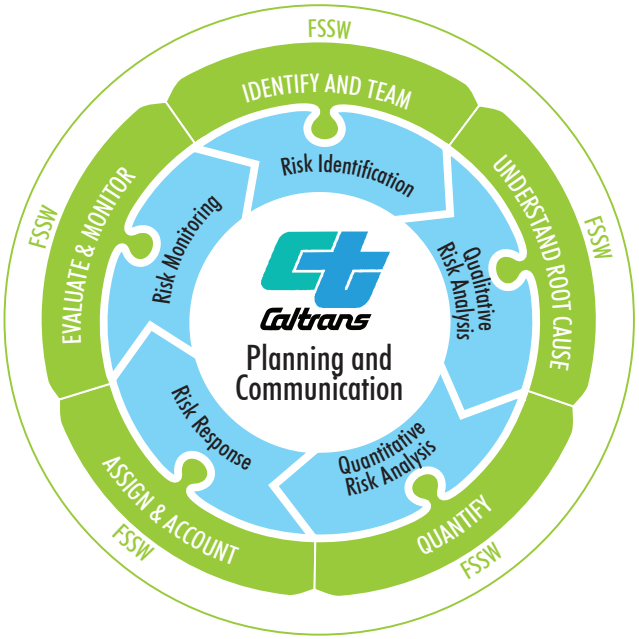


Figure 6.13 | Five-step risk mitigation process

1 Identify & Team

As risks are identified, it is essential to gather the right team to address the risk type and solution.

Caltrans executives and FSSW's joint venture committee will participate in the Risk Management Team (RMT) to build the initial risk matrix.

CMGC Skills & Partnering Workshop

Identify and Manage Risks • Define the Process • Define the Roles of Each Party

Risk Management Team

FSSW
Extensive CMGC & Local District 11 experience

Caltrans
Successful large projects in San Diego area

APPROACH

Provide CMGC history and examples to allow for collective custom preconstruction services

2 Understand Root Cause

By working backward, risks are often eliminated or mitigated by addressing smaller items early.

Our team will work hand in hand with Caltrans to fully understand the risks and generate mitigation strategies that accommodates everyone.

Preconstruction One-Day Risk Workshop

Identify major & early risks

Determine frequency of regular risk assessment meetings

Root Cause Analysis

1. Dissect the risk
2. Determine the root cause
3. Identify contributing factors
4. Identify outside influences

RESULT

Develop the best solution

3 Quantify

Determine potential impacts on cost, schedule, or the public and then assign probability of occurrence.

Once risks have been quantified, the RMT will continually evaluate the probability of the risk at the monthly RMT meeting.

Clearly Understood Mitigation Impacts

Major Risk Areas
Cost
Schedule
Public Impact

establish communication protocol
FSSW + Caltrans
for information delivery

Historical/local data Team experiences Local & expert preconstruction staff Engage stakeholders	=	Thorough assignment of probability Quantitative analysis of risk impacts Clear understanding of decision impacts

Maximum/Minimum Impact Risk Quantification

ADVISE

Quantitative analysis of risks and mitigation actions

4 Assign & Act

Transparency is the key to determining if the risk should belong with Caltrans, the contractor, or be shared.

One benefit of CMGC is evaluating and minimizing risks during preconstruction. This allows the team to greatly reduce contingencies that ultimately are incorporated into the GMP.

Risk Management Team

the Right Team members

- Make the right decision
- Assign those best qualified to address risk
- Move forward with a detailed plan

Establish RMT during preconstruction

Process

Evaluate design based on risk severity and probability → Implement design changes to mitigate risks → If mitigation is exhausted, give detailed estimate of remaining risk

CALTRANS DECISION

Accept risk, assign to CMGC/third party, or share risk between parties

5 Evaluate & Monitor

As risk mitigation unfolds it is imperative to track. This allows modifications to be made, if necessary, and also creates "lessons learned" that can be used for this project or others in the future.

We regularly review the risks and reevaluate the probability to verify conditions haven't changed or to incorporate additional mitigation methods.

Quickly Identify & Mitigate Risks

Key 1 Risk Management Team

Establish processes
Build a library of solution assessments

Address pending, managed and fully addressed risks at regular meetings

Key 2 Risk Matrix

Cost
Accurate assessment of impact

Schedule
Time impacts accurately assessed

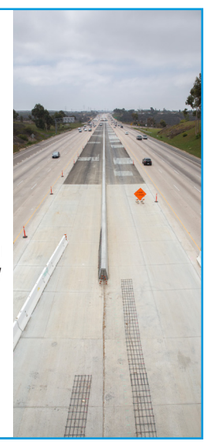
Public
Traffic, properties & stakeholders impacts

DURATION

Throughout the life of the entire project

EXAMPLE

I-805 DB North
Team developed made of senior staff from Caltrans and Skanska – referred to as the "Core Group" & meets weekly to identify two to three key issues. The main focus has been design issues. The team was created to get early resolution to potential risks/issues. The team resulted in significant cost and schedule savings for Skanska and Caltrans.



EXAMPLE

I-15 Managed Lanes
On the I-15 Managed Lanes project, near Miramar Road Overcrossing, Flatiron avoided a potential staging conflict by identifying that it's traffic handling sequence did not match that of an adjacent Caltrans contractor. Dale Nelson and his team then worked with Caltrans to mitigate the issue in a cost and time efficient manner.

EXAMPLE

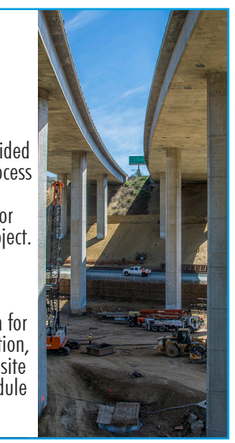
West Valley TRAX LRT
Less than 10% of the 250 right of way acquisitions were acquired when construction started and none of the third-party utility relocations were complete. SWI's solution was to hold weekly meetings to identify the issues impeding progress,and establish priorities to the relocations. SWI also resequenced work to accommodate the delays.

EXAMPLE

Northwest Extension LRT – Phoenix
The project required curb to curb removal and replacement of all utilities. SWI developed a risk matrix during preconstruction which became the basis for continued tracking of unknown items during construction. Erik Yingling managed weekly meetings to evaluate, monitor, and mitigate the impact of the risks.

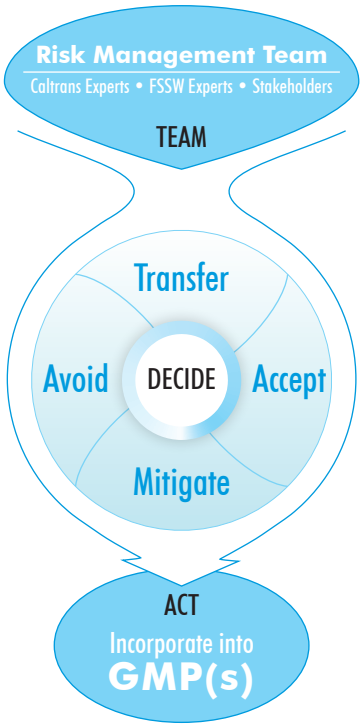
EXAMPLE

I-805 DB North
Skanska conducted geotechnical investigations supplemental to the original testing provided by Caltrans. The process was to have survey layout the location for every pile on the project. Our team performed test borings at exact locations ensuring accurate information for design and construction, preventing differing site conditions and schedule delays.



Shared Risks / Allowances. As the RMT meets, the open and transparent risk discussions will at times result in items where risk ownership is unclear. In these cases, it may make sense to share the risks by creating allowances in both cost and schedule. In an ongoing CMGC project in Los Angeles, team members Skanska and Stacy and Witbeck were required to remove and replace concrete sidewalk to install new traffic signals. The limits were very clear on the drawings, but a City of Los Angeles requirement stated that if adjacent sidewalk was found to be in need of repair, the remove and replace limits were to be extended. The work is in an urban area with significant cracked sidewalks. The contractor wanted a large contingency cost included in the estimate to accommodate what appeared to be a sure quantity overrun. The team agreed to estimate the work based on the neat line quantities shown on the plan and create an allowance account in case the City wanted additional sidewalk removed. If the allowance isn't used or is only partially used, the savings will all be retained by the owner.

Figure 6.15 | Monitoring risk process



Proposer's process to monitor risks during preconstruction and provide for them as part of the GMP

Our risk monitoring process is illustrated in Figure 6.15. FSSW will measure each risk mitigation and estimate it to become part of one or multiple GMPs. Once the risk is clearly assigned to a party, the GMP contract documentation contains clear definitions of responsibility and scope of work. Examples of how FSSW will mitigate and monitor risks on the I-5 NCC include:

- Permit Conditions. Certain environmental restrictions may impact the schedule if the contractor misses certain restriction windows. For example, grunions typically run between May and August, so on-shore disposal of lagoon material must be carefully planned and scheduled. Also, if eliminated, tidal exchange can damage the lagoon's biology. As part of the risk analysis process, FSSW will work with Caltrans and our experts to clearly define work around the sensitive area and align the project schedule. By doing this during preconstruction, FSSW will promote schedule certainty and eliminate need for cost and schedule contingencies.
- Utility Relocations. For third party relocations risks under Caltrans responsibility, the risk of delays or other impacts will be defined as early as possible during preconstruction. One example is the Verizon fiber optic line and the NCTD PTC fiber optic line that must be relocated along the LOSSAN corridor. At the rail bridges, the line must be relocated without splicing to facilitate demolition and new bridge construction. Our team members have successfully monitored and mitigated this risk on past projects such as the Miramar to Sorrento Double Track. As the RMT meets and monitors the utility relocation progress, FSSW will adjust the project schedule to include work-arounds prior to finalizing a GMP, if necessary. In doing so, FSSW will substantially reduce cost and schedule impact from utility delays to achieve cost certainty.

Identification of Top Risks

FSSW has identified top risks and potential solutions, shown in Figure 6.16. One example of a major risk is traffic impacts, especially for business, beach, and tourist commuters. It is essential that travelers have the best path through the project. FSSW will work with Caltrans to identify the I-5 work associated with widening and the full arterial system that supports I-5. Understanding how the entire system works in conjunction with our construction plan will allow us to maximize traffic flow. On previous projects, we performed traffic flow enhancements such as:

- Improve and add capacity to arterial roadways to provide alternate routes at minimal cost, resulting in major traffic impact reductions.
- Create interstate access points from cross roads rather than from the highway. The lower speed side roads provide better flow and reduce interaction between our vehicles and I-5 commuters.
- Establish a work schedule and communication system that complements the commuter needs. This includes arranging work hours and traffic signing with message boards to address events such as Del Mar Fairground events.

"Flatiron has been a true partner in the San Diego Region as a contractor who focuses on safety, quality, value and schedule."

-Jerome Stocks, Past SANDAG Board Chairman, Past Encinitas Mayor and City Councilman, and Past NCTD Board Chairman

Figure 6.16 | FSSW's top risks

	#	Risk/Constraint & Understanding	Potential Solutions/Approach	Risk Level
A. Right of Way	1	*ROW acquisition/Acquiring TCE for access to soundwalls on private property* Right of way acquisitions and delays could impact project cost and schedule.	Minimize takes construction methods to minimize required space. Utilize encroachments/easements as an alternative wherever possible; Develop property-specific work plans to educate residents of soundwall construction activity; Use detailed scheduling to prioritize the acquisitions to prevent schedule impacts; Initiate a working task group to support Caltrans' internal right of way group with schedule and constructability options.	
A. Right of Way	2	*Utility relocations, easements, and agreements* Utility relocations introduce risks that can impact the project schedule and costs: A) significant relocations can take years from identification through design and implementation; B) unidentified utilities can severely impact construction schedule when discovered late.	Work with utility companies to identify and relocate conflicting utilities to avoid delays; Implement an aggressive investigation and potholing program early; Use CMGC experience to develop workarounds to protect in-place utilities or use proven low-cost innovations; Self perform all or partial utility relocations when agencies have resource issues; Assign a Utility Coordinator (NAME) to pothole and map utilities during design, identify the utilities' owners and facilities impacted, participate in relocation constructability/feasibility reviews, organize agreements, and schedule relocations with owners.	
B. Environmental	3	*Permit delays/constraints* Permit conditions may include seasonal constraints related to impacted species and habitat. Delays could impact project schedule and cost efficiencies.	Rely on PWP/TREP framework for integrated approach to permitting challenges and identifying constraints; Continue collaborative multi-agency approach through monthly coordination meetings; Utilize integrated owner/CMGC schedule to optimize project phasing and prioritize permitting requirements and constraints; Utilize CMGC's experience to provide innovations and means and methods input to mitigate impacts and address resource agency concerns.	
B. Environmental	4	*Project phasing* PWP outlines a balanced approach to ensure that project transportation elements do not outpace community enhancements and natural resource restoration elements. Inadequate attention to timing of enhancements and restoration elements could upset the balance.	Establish schedule and pricing models early to provide options that achieve optimal balance; Clearly explain options using means and methods, durations, and associated costs; Support Caltrans/SANDAG outreach efforts at stakeholder meetings with timely information - avoid surprises.	
B. Environmental	5	*Environmental impact of working in lagoons* Managing bridge demolition and construction over lagoons and performing excavation/embankment restoration within lagoons requires compliance with all permits and regulations per the PWP/EIR, while maintaining the construction schedule.	Establish design and constructability reviews to ensure that proposed design, construction methods, and schedule do not conflict with environmental permits; Minimize acoustical impacts to aquatic species by using bubble curtains; Prevent bridge demolition debris from falling into lagoons by using trestle; Contain silt by using cofferdams and turbidity curtains when working in lagoons; Use desilting tanks to treat water in cofferdams prior to discharge; Track critical activities with an on-site biological monitor; Coincide bridge and embankment with lagoon restoration to build in the dry."	
B. Environmental	6	*SWPPP compliance* Work stoppages due to water quality concerns can cause schedule delays and severe cost impacts.	Develop a site-specific risk level 3 SWPPP plan and administer using FSSW's QSD/QSP; Design lagoon BMPs to meet risk level 3 requirements; Use cofferdams/turbidity curtains when working in lagoons; Schedule construction to limit exposure; Use Environmental/Permits Manager to oversee weekly SWPPP element inspections to ensure compliance.	
C. Design	7	*Limited project budget* Caltrans and SANDAG are on a fixed budget with a specific scope.	Apply expert CMGC pricing experience and keep Caltrans apprise of costs during design; Price various scenarios in real time and adjust design to provide maximum scope at minimum cost; Add scope while staying within the fixed budget.	

	#	Risk/Constraint & Understanding	Potential Solutions/Approach	Risk Level
C. Design	8	*Highway unit design phasing* Design packages for Highway Units 1-4 are projected to lag successively by six months, with as much as a 1.5 year gap between completion of Units 1 and 4. Depending upon optimal MOT considerations, resource allocation efficiencies, and ultimate budgetary constraints, the I-5 NCC may not fully benefit from the integrated 14-mile execution approach.	Develop a preliminary schedule using optimal access dates for the entire corridor to identify cost and impact benefits from MOT staging; labor, equipment, material, and subcontracting efficiencies; and earthwork balancing; Identify cost savings achieved by expediting design packages to add project scope.	
C. Design	9	*Design and geotechnical risks of working in lagoon sediments* Differing site conditions during earthwork and foundation construction present risk that may impact cost and schedule.	Identify potential foundation alternatives early for site investigation, sampling, and testing; Place embankment in stages to allow pore pressure to dissipate between stages; Use steeper reinforced soil slopes to decrease loads over soft foundation soils; Use wick drains to accelerate settlement; Consider liquefiable soil stabilization at structure foundation locations (stone columns, compaction grouting, soil mixing). Design structures to avoid placing additional load on weak, poorly-consolidated foundation soil.	
C. Design	10	*Earthwork balance* Phased design and construction may not optimize earthwork flow from cut to fills avilable along corridor. Timing could impact costs and schedule.	Perform earthwork takeoffs early based on reasonable assumptions and develop optimal phasing to limit double handling and trucking, and improve schedule. Develop costs associated with less than optimal phasing neccessitated by other factors so that informed decisions can be made. Account for environmental considerations and permit conditions in scheduling and decision making.	
D. Construction	11	*MOT* The I-5 corridor is already congested. Construction and traffic control measures may increase congestion and delay traffic passage.	Standardize longer stretches of I-5 traffic control configurations for construction efficiencies, cost savings, and to limit confusing traffic pattern changes that may impact travelling public; Examine benefits of completing/opening the most congested stretches of I-5 earlier; Design ample room for construction equipment, protective barriers, and shoulders during construction.	
D. Construction	12	*Private Property Owners - Soundwalls* Multiple property owners will have input and concerns about design, construction impacts, and property negotiations that could impact project costs and schedule.	Develop menu of design options with renderings in order to standardize construction to extent possible. Provide work plans specific to each site to accurately portray footprint of disturbance, installation methods, and construction durations. Support Caltrans outreach efforts by providing pertinent information on costs, methods, and schedule; participate in community and homeowner meetings.	
E. Stakeholder	13	*Cities of Solana Beach, Encinitas, and Carlsbad. Affects Access to beaches and dealing with increased traffic on weekends.* Design review and scope decisions may impact project schedule and costs.	Support Caltrans in facilitating meeting with the Cities to get early buy in on design and construction elements that will affect coastal access. Provide Caltrans with constructibility innovations for temporary beach access points for pedestrians to minimize any impacts to the public.	
E. Stakeholder	14	*Coastal Commission, CDFW and CWQCB* Acquiring environmental permits including ESA Section 7, 404, CDFG 1602 and 401 well in advance of construction.	Work with Caltrans in developing required information for permit application/approval. Integrate permitting application/review/approval into Project schedule.	

3.7E. DBE/UDBE Plan

The FSSW Disadvantaged Business Enterprise Performance Plan (DBE/UDBE Performance Plan) complies with all applicable laws and governmental approvals and is consistent with the contract documents. We will use proven strategic steps to support and encourage DBE/UDBE participation in all aspects of the project. Using targeted outreach efforts, providing assistance to subcontractors, encouraging DBE/UDBE growth, and using our established relationships with local DBE/UDBEs, our team will achieve participation throughout the project. Each member of the FSSW joint venture has an excellent track record of successfully meeting DBE/UDBE goals, as shown in Figure 6.17.

FSSW has provided Form F in Section 1 of this proposal.

Policy Statement

FSSW commits to exceeding the 5.1% goal (LOSSAN Rail UDBE Goal – 5.1%; I-5 Highway and Lagoon DBE Goal – 5.1%) established for preconstruction services. We are also committed to exceeding the goals that will be established for construction. We have actively pursued DBE/UDBE firm inclusion for preconstruction services through pre-proposal good faith efforts and commit to continue our good faith efforts upon contract award and through contract completion. We will continue our outreach efforts, which include Caltrans-sponsored event attendance, other industry event attendance, and a project-specific FSSW outreach event.

Levels of Responsibilities

Our entire team is fully committed to and responsible for exceeding the 5.1% project goal. The key groups within the project team that will work with FSSW's appointed DBE/UDBE Liaison Officer, Lauren Padilla from Padilla and Associates, to successfully meet the project goal includes in part:

- Executive management team
- Project management team
- Estimating team
- Subcontractors, service contractors, subconsultants, vendors, and material suppliers
- Caltrans' DBE/UDBE Liaison Officer

The participation of these groups will be integral to managing progress of the DBE/UDBE Performance Plan including monitoring effectiveness and providing suggested adjustments to the Performance Plan, if required, to exceed the 5.1% goal.

Objective of DBE/UDBE Performance Plan

FSSW will continue our good faith efforts to identify and create opportunities for DBE/UDBEs in both preconstruction and construction. It is our policy and commitment to ensure nondiscrimination in the award and administration of scopes of work, thus creating a level playing field on which DBE/UDBEs can fairly compete for subcontracts, service contracts, and material supply agreements. This will also remove barriers by providing assistance to DBE/UDBEs as requested, facilitating greater participation on the project.

Team Member Commitments

FSSW will obtain written confirmation of commitment to comply with FSSW's DBE/UDBE Performance Plan from subcontractors, service contractors, subconsultants, vendors, and material suppliers. In our professional service agreements, subcontracts, and purchase orders, our team will include a requirement to meet or exceed the DBE/UDBE goal and document good faith efforts. Team members will be required to provide monthly and quarterly reports to the DBE/UDBE Liaison Officer and Caltrans to ensure that requirements are being met.

DBE/UDBE Anticipated Preconstruction Commitment

FSSW will exceed the 5.1% DBE/UDBE goals for preconstruction by utilizing DBE/UDBE service contractors and subconsultants. FSSW anticipates that the following scopes will be utilized during preconstruction: Best Management Practices (SWPPP), Community Affairs , Construction Engineering, CPM Scheduling,

Figure 6.17 | FSSW's successful history of exceeding DBE goals.

Project	Owner	DBE/UDBE Goal	DBE/UDBE Goal Achieved
Sprinter Mainline Oceanside to Escondido	North County Transit District (NCTD)	11.0%	12.17%
I-15 Managed Lanes	Caltrans	13.0%	21.0%
Route 805/54 Separation	Caltrans	7.0%	7.11%
West Rail Line	Regional Transportation District (RTD)	18%	22%
I-205 LRT Extension	TriMet	16%	21.6%
SR60 Widening in Glen Avon	Caltrans	8%	13%

Document Control , Environmental Consulting, Estimating, Geotechnical/Soil Studies, Labor Compliance, Office Supplies, Partnering Facilitation, Permitting, Potholing, Preconstruction Survey , ROW Demolition, Quality Control, Reproduction Services, Survey, and Utility Coordination.

DBE/UDBE Liaison Officer

FSSW teamed with Padilla and Associates, a DBE/UDBE firm to provide our DBE Liaison Officer and supply the support staff to administer FSSW's DBE/UDBE Performance Plan. Lauren Padilla, our DBE/UDBE Liaison Officer, will oversee the DBE/UDBE Performance Plan with support from FSSW's project team. In coordination with the project team, Lauren will perform the following development, outreach, and reporting responsibilities to facilitate DBE/UDBE participation:

Development:

- Develop, manage, and implement the DBE/UDBE Performance Plan on a daily basis.
- Develop and maintain DBE/UDBE database.
- Develop and conduct information and communication programs/workshops

Outreach:

- Identify scopes of works to be made available to subcontractors, service contractors, subconsultants, and suppliers including scopes broken into economically feasible units to facilitate DBE/UDBE bids.
- Solicit proposals from qualified DBE/UDBE firms.
- Post advertisements to notify DBE/UDBEs of available project opportunities.
- Contact local/regional associations and agencies for assistance.
- Provide information on how to obtain plans, specifications, project requirement information, and offer technical assistance to DBE/UDBEs.
- Provide assistance with bonding, insurance, lines of credit, necessary equipment, supplies, and materials.
- Negotiate in good faith with DBE/UDBEs interested in bidding available scope packages.

Reporting:

- Perform DBE/UDBE tracking, reporting, and contract compliance.
- Provide "Monthly Subcontractors Paid Report" to Caltrans.
- Provide information regarding new subcontractors to Caltrans.
- Meet with the Caltrans DBE/UDBE Liaison Officer to develop a strategic plan for each work type and review goals, available firms, strategies, and means to overcome obstacles.

Support Staff

The DBE/UDBE Liaison Officer will be fully supported by FSSW's Management Team in the implementation of our DBE/UDBE Performance Plan. In addition, our Project Management Team will attend DBE/UDBE compliance training to ensure that our team is knowledgeable about the goals and objectives of the program.

Along with our DBE/UDBE Liaison Officer, the participation of these groups will be an integral part of managing DBE/UDBE Performance Plan progress including monitoring effectiveness and providing suggested Performance Plan adjustments to maximize participation, if needed.

Description of Actions to Facilitate DBE Engagement

Our team will exceed the 5.1% DBE/UDBE goal using a targeted approach that includes the following outreach efforts:

- Hold ongoing quarterly strategic planning sessions.
- Conduct scope-specific outreach meetings and provide scope packages.
- Solicit statements of qualification, proposals, and price quotations from qualified DBE/UDBE firms.
- In coordination with Caltrans, provide assistance to DBE/UDBEs.
- Offer DBE/UDBE supportive services and workshops.
- Encourage eligible DBE/UDBEs to apply for Caltrans certification.
- Contact and engage local/regional associations and agencies for assistance.
- Proactively provide tracking and reporting.

On-Going Quarterly Strategic Planning Sessions

FSSW will coordinate strategic planning sessions with Caltrans each quarter. At these meetings, we will review the quarterly report prepared by our DBE/UDBE Liaison Officer and discuss the effectiveness of our DBE/UDBE Performance Plan and good faith efforts in achieving the 5.1% goal. These sessions will also address future construction goals and discuss any necessary changes to the plan to exceed the goal.

FSSW will track and maintain reports of our good faith efforts and progress in exceeding the 5.1% DBE/UDBE goal. Our DBE/UDBE Liaison Officer will coordinate with our project management team, subcontract administrator, subcontractors, professional service firms, and vendors to ensure tracking and reporting complies with contract requirements. As part of those requirements, FSSW will provide this information to Caltrans in the "Monthly Subcontractors Paid Report" that details information regarding subcontractors performing work on the

project, changes to subcontractor commitments, and prompt payment information.

Additionally, our DBE/UDBE Liaison Officer will notify Caltrans of newly selected DBE/UDBEs. We will hold quarterly strategic planning sessions with Caltrans to discuss the target participation goal and current progress. In the unlikely event that there are issues meeting our participation goal, FSSW will notify Caltrans.

FSSW will also notify DBE/UDBEs of any potential problems with their scope of work/contract prior to placing a request for DBE/UDBE replacement with Caltrans. If a DBE/UDBE must be replaced, FSSW will seek permission from Caltrans and make a good faith effort to obtain a DBE/UDBE to perform that portion of the work. If a DBE/UDBE cannot be found to perform the work, our team will notify Caltrans immediately and our DBE/UDBE Liaison Officer will document this potential impact to our DBE/UDBE commitment goal.

Conduct Scope Specific Outreach Meetings And Provide Scope Packages

As described in the policy statement "DBE/UDBE Commitments" and "DBE/UDBE Anticipated Participation," FSSW will develop a list of construction scopes of work to be offered, which will be broken into economically-feasible units to facilitate DBE/UDBE participation. The scopes of work will include subcontractor, supplier, service contractor, and subconsultant opportunities. Additionally, FSSW will offer scopes of work that are typically self-performed to provide maximum opportunities to DBE/UDBEs. DBE/UDBEs will have the opportunity to work with our project team on specific types of work. We will continue to hold outreach meetings for upcoming work through construction and contract completion.

Solicit Statements Of Qualification, Proposals, And Price Quotations From Qualified DBE/UDBE Firms

As part of our outreach efforts, we will continue to solicit statements of qualifications, proposals, and price quotes from qualified DBE/UDBE firms. Each solicitation provides an offer to assist in obtaining bonding, insurance, financing, necessary equipment, supplies, materials and technical assistance.

Our project team will meet with DBE/UDBEs to discuss the qualifications, plans, specifications, quantities, and delivery schedules required for the I-5 NCC. We will also assist in developing scopes of work that facilitate DBE/UDBE capabilities.

With the approval of Caltrans, FSSW will create a DBE/UDBE-focused project website page to post upcoming subcontracting, service contracts, and material supply opportunities. The page will include the following information:

- Contact information for FSSW's DBE/UDBE Liaison Officer.
- Pre-qualification requirements and required commitments.
- Resources that offer assistance in bonding, insurance, and financing.

On June 24, 2014 FSSW held an outreach event for local DBE/UDBE firms

- Invitations to submit proposals on upcoming scopes of work.
- Links to Caltrans' Office of Business and Economic Opportunity website as a reference for DBE/UDBEs and eligible companies that are interested in applying for DBE/UDBE certification.

Interested subcontractors, service contractors, subconsultants, vendors, and material suppliers will have access our pre-qualification questionnaire on the website. Additionally, FSSW will add firms that register on the website to our subcontractor/supplier database to be notified for upcoming scopes. We will also send letters of notification regarding website updates to DBE/UDBEs. The website information will be included in all future advertisements, letters of solicitation, and requests for assistance from associations and agencies.

FSSW will maintain and regularly update our database of DBE/UDBE firms. The DBE/UDBE Liaison Officer will manage this list and routinely verify the DBE/UDBEs' certification on the California Unified Certification Program (CUCP) website. She will notify any DBE/UDBEs with certification issues immediately.

FSSW will update and maintain our bidders list to include any new companies that submit bids for the duration of the project.

Provide Assistance, In Coordination With Caltrans, To DBE/UDBEs

FSSW will work in coordination with Caltrans to provide assistance in bonding, insurance, financing, or technical assistance requested by DBE/UDBEs for the project duration. We will also include DBE/UDBEs on any notifications to subcontractors such as letters of solicitation, phone calls, advertisements, project website posts, and information given at outreach meetings.

DBE Supportive Services and Workshops

FSSW understands that many barriers can negatively influence DBE/UDBE participation including, but not limited to, bonding and insurance requirements, subcontract scope, the bidding process, communications, and financing. FSSW will take every step necessary to reduce or eliminate these barriers by performing regular workshops to instruct DBE/UDBEs how to prepare and submit proposals for the project. These workshops will also mentor DBE/UDBEs on important administrative tasks such as certified payroll, submittals, invoice process, and other related tasks. FSSW will host these workshops quarterly throughout the project.

As part of these workshops, FSSW will review project requirements for insurance and bonding. We will assist firms who need bonding and insurance by referring them to a bonding and insurance assistance program. Additionally, FSSW will refer DBE/UDBEs who need financing by referring them to financial institutions that work with small businesses.

Payments and Retainage

FSSW's DBE/UDBE Liaison Officer will coordinate with our subcontracts administrator and project management team to ensure that selected DBE/UDBE subcontractors, service contractors, subconsultants, vendors, and material suppliers have received and processed their contracts in a timely manner. As with all of FSSW's subcontractors, service contractors, subconsultants, vendors, and material suppliers, DBE/UDBEs will receive payment for their contracts on a timely basis and timely release of retainage per contract guidelines. Our DBE/UDBE Program Administrator will coordinate with the project management team to review DBE/UDBE progress and verify that payment and releases of retainage are received.

DBE/UDBE Certification

As new subcontractors, vendors, and service providers are discovered through our outreach, FSSW will assist unregistered DBE/UDBEs in applying for their certification. Our DBE/UDBE Liaison Officer will coordinate with Caltrans's DBE/UDBE Certification Unit to attend training on the certification process so she may relay accurate information to potential DBE/UDBEs. FSSW will coordinate with Caltrans to provide assistance in bonding, insurance, financing, or technical assistance.

Small Business Assistance Agencies

FSSW will regularly contact associations and agencies to request assistance in recruiting DBE/UDBEs and encouraging eligible DBE/UDBEs to apply for certification. We will continue expand the list of agencies to contact during the life of the project.

Description of Good Faith Efforts

In preparation for this proposal, FSSW started good faith efforts through advertisements, solicitations, communication with DBE/UDBEs, and requests for assistance from various associations and agencies. These good faith effort activities will continue through the project duration.

Solicitation And Follow-Up

FSSW will continue to utilize the CUCP database to locate DBE/UDBE companies as we solicit for available scopes of work. In addition to the CUCP database, FSSW will leverage our existing DBE/UDBE database and sign-in sheets from the pre-bid meeting to supplement the CUCP database. FSSW sent Invitations to Bid (IFB) via our electronic invitation system, GradeBeam and by fax and email. The IFB included the following information:

- Scopes of work available for preconstruction and potential future scopes for construction.
- Information on how to obtain electronic plans and specifications on GradeBeam and from the Caltrans website.

Additionally, FSSW made plans and specifications available for viewing at our office location.

- Offers of assistance in obtaining bonding, lines of credit, insurance, equipment, supplies, materials, and technical assistance.
- A statement regarding the acceptance of DBE/UDBE quotes, including those broken into economically feasible units to facilitate bidding.

FSSW sent several reminder notifications to DBE/UDBEs via GradeBeam, fax, and email. These reminders request that DBE/UDBEs indicate their intention to bid on the project. In addition, FSSW contacted DBE/UDBEs by phone to confirm their intention to bid on the project.

Scope Package Information

FSSW sent notifications to DBE/UDBEs via GradeBeam, fax, and email to provide information regarding the availability of scope package information, which included a description of work and estimated bid quantities. FSSW will make this information readily available and discuss construction methods and schedules to help DBE/UDBEs develop a competitive price and scope of work.

Advertisements

FSSW placed advertisements in an effort to promote DBE/UDBE community awareness of available I-5 NCC project opportunities. Each solicitation provides an offer to assist in obtaining bonding, insurance, financing, necessary equipment, supplies, materials, and technical assistance to DBE/UDBEs. Advertisements were placed in the following publications:

- Construction Bid Source (Trade and Focus)
- DBE Good Faith (Trade and Focus)
- SBE Weekly (General Circulation)
- AGC Good Faith Effort Report (Trade and Focus)

FSSW will continue to place advertisements that notify the DBE/UDBE community of available scopes of work for the project.

Small Business Assistance Agencies

In addition to our outreach and advertisements, FSSW contacted associations and agencies to request assistance in recruiting DBE/UDBEs. We contacted the following organizations and will continue to research and expand our list of associations and agencies during the life of the project:

- Small Business Administration (SBA)
- Minority Business Development Agency (MBDA)
- San Diego Contracting Opportunities Center (SDCOC)
- American Subcontractors Association
- Asian Business Association
- Black Contractors Association of San Diego
- National Association of Women in Construction
- San Diego Hispanic Chamber of Commerce

"As a local contractor, they (Flatiron) understand and have awareness about what is important to their clients and the neighborhoods surrounding their projects in the San Diego region."

Jerome Stocks, Past SANDAG Board Chairman, Past Encinitas Mayor and City Councilman, and Past NCTD Board Chairman

FSSW Team Leader, Jeff Turner informing local DBE/UDBE firms on the I-5 NCC on FSSW's outreach event on June 24

3.7F. Minimizing Disruptions and Impacts

The FSSW team recognizes that the I-5 NCC may impact the daily lives of the traveling public, businesses, residents, rail operations, and stakeholders. Figure 6.18 details examples of potential impacts and our mitigation strategies in the San Elijo Lagoon area. Similar strategies will be used throughout the corridor. Our approach combines our local experience with the expertise of the design team to identify and minimize these impacts early in the project. While we recognize that each stakeholder will experience different types of impacts, our approach to minimizing impacts is generally the same for each and summarized below.

Preconstruction Stategy

During preconstruction, FSSW's strategy consists of four key principles that offer global project impact, such as traffic staging throughout the corridor, or site specific impact such as soundwall impacts to a residential or business property. Additionally, these principles allow our team to flexibly analyze project aspects at various design levels and provide a solid foundation to continually review and refine our plans. This will optimize our cost benefit analysis for final construction. The key principles of our preconstruction strategy are shown in Figure 6.19.

Construction Strategy

Our construction phase strategy also consists of four key principles, but these are focused on implementation, monitoring, and correcting deficiencies in the previously developed mitigation strategies. Key principles of our construction strategy are shown in Figure 6.20.

The overall goal of implementing these strategies is to provide complete and early identification and to minimize the risks to the project. The CMGC process is a partnership in which the contractor must identify and minimize owner risks as early as possible and at the best value to establish schedule and cost certainty for the project corridor. FSSW is committed to this partnership and will apply our experience and knowledge to make this project a success by developing creative solutions.

3.7G. Innovation and Value Engineering for this Project

Our team closely evaluated the project for potential innovations and value engineering opportunities for Caltrans to consider incorporating into the project. We examined the project for staging and constructability options throughout the alignment and focused on accomplishing Caltrans' goals. Figure 6.21 highlights many of the potential innovations our team will present to Caltrans after award.

An example of FSSW's innovations at Batiquitos Lagoon is highlighted in Figure 6.22 and provides three alternatives which compare bridge construction means and methods with environmental protection features.

Figure 6.19 | FSSW preconstruction strategy to minimize disruptions to the community

preconstruction approach

1. Identify potential impacts through design plan evaluation, site specific investigations, stakeholder meetings, and joint task force meetings. In this phase, we will focus on applying contractor construction experience to current design plans to identify any additional impacts due to constructability issues, equipment usage, site access, or work schedules. Our primary goal is to develop a comprehensive assessment of potential impacts as early as possible, document them in a tracking matrix, and properly evaluate each impact for solutions in the remainder of the approach.

2. Evaluate alternatives to eliminate or minimize the identified impacts to the greatest extent possible. Our team will consider factors such as alternate construction methods, materials and equipment selection, work sequencing, staged construction, limited work windows, risk and cost profiles, and potential schedule conflicts, while developing the various strategies to eliminate or minimize known impacts. The primary purpose of this evaluation is to develop cost-effective solutions and opportunities based on our knowledge and experience from past projects. As such, FSSW will provide recommendations to the project team for further consideration.

3. Communicate the evaluation phase results to the project team. As needed or requested by Caltrans, our team will prepare and present all developed strategies and our recommendations to the project team. We will ensure all stakeholders understand the concerns and opportunities related to the specific issue and jointly determine the best-value course of action. This review process may result in additional ideas or design changes that require further evaluation from the project team before final solutions are incorporated in final design easements, pricing, and construction work plans.

4. Incorporate and track agreed-upon strategies into the construction phase. This is a key step in transitioning from preconstruction planning to construction. Our team will ensure all decisions are documented, final solutions are priced in the GMP, and that construction staff fully understands and executes the work in compliance with commitments made.

PLANS AND METHODOLOGIES

Developing Creative Solutions on I-15 Managed Lanes

The I-15 Managed Lanes project required replacement of the Pomerado Rd. Overcrossing located just south of Lake Hodges. The preliminary design detour concept was not viable due to existing structure demolition constraints. This raised Caltrans' concerns regarding the need for an extended full freeway closure on I-15 from SR78 to SR56, as no other detour options seemed viable. The team recognized that this also introduced significant concern for traffic impacts. Flatiron conducted an in-house constructability review and devised a basic plan for an 11-hour full freeway shutdown and a local detour between Pomerado Rd. and Rancho Bernardo Rd., consisting of an I-15 SB crossover detour, k-rail to allow bidirectional traffic on the NB lanes, and a temporary on/off ramp on the NB side. Flatiron's approach was then developed into a complete design by Caltrans engineering, resulting in a successful traffic handling solution that was cost effective and minimized impact to the traveling public. This circumstance became the foundation of innovative traffic management concepts when facing significant impacts on major corridors in San Diego. This partnership between contractor experience and Caltrans engineering exactly reflects our goals and the CMGC model benefits for the I-5 NCC. The FSSW team will apply similar planning for work at McKinnon Ave., which will result in no freeway closures at McKinnon demolition and reconstruction.

In addition to potential impacts to residents, the traveling public, and businesses, our team also evaluated several potential impacts to the public and environment associated with the enhancement program operations at San Elijo Lagoon. With the experience of our partner Marathon Construction, we are very knowledgeable of dredging operations and the potential impacts that offshore disposal can create for surfing and beach activities, yearly grunion runs, and to the to the lagoon environment itself. We will use this experience to collaborate with Caltrans and the governing agencies to provide innovative, cost effective solutions to mitigate these and other impacts.

Figure 6.20 | FSSW construction strategy to minimize disruptions to the community

construction strategy

1. Implement the strategies developed during preconstruction planning. After negotiating a full or partial GMP, our construction staff will ensure that all work is performed in accordance with the plans, specifications, and strategies that were reviewed and agreed upon by all parties during preconstruction services. FSSW recognizes that avoiding surprises and unplanned deviations is critical to supporting project goals and ensuring the project is a success.

2. Monitor the effectiveness of implemented strategies. Although best management practices will be used to minimize impacts in the preconstruction phase, FSSW recognizes that unexpected events or opportunities to improve strategies may occur and the project team must react quickly and efficiently to resolve issues or take advantage of opportunities. Our team will perform internal ongoing work audits; communicate with stakeholders, residents, and businesses; monitor phone "hot lines;" and evaluate feedback from outside sources to determine if the pre-planning mitigations are working effectively or require modifications. Where needed, we will develop additional strategies such as accelerated work windows, work re-sequencing, or supplemental control measures to correct any deficiencies in the implemented plans.

3. Communicate results of monitoring as well as potential improvements. As with preconstruction planning, it is essential that project stakeholders are fully informed and involved in the decision-making process regarding any potential modifications to prior strategies. FSSW will provide monitoring results and suggested potential improvements to the project team for consideration. This will allow a collaborative effort to determine if supplemental measures or other changes are required to further improve measures to reduce impacts.

4. Supplement current operations with new measures if needed. After the project team has evaluated and agreed to proceed with supplemental measures, FSSW will promptly implement the revised plan and continue to monitor and update the project team.

COMPLETE AND EARLY IDENTIFICATION

Figure 6.18 | Potential impacts and mitigation measures at the San Elijo Lagoon

1 *Rail (Passenger and Freight)*

Potential Impacts:

- Service disruptions / speed restrictions
- Crossover cut-ins
- Protection of existing facilities
- Coordination of flagmen

Potential Mitigations:

- Positive barrier separation
- Use Absolute Work Windows (AWW)
- Coordinate AWW with other LOSSAN work
- Temp protection measures for existing facilities
- Advance scheduling of flagmen

2 *Pedestrian/Bicycle*

Potential Impacts:

- Trails closures and interruptions
- Temp access through construction areas
- ADA accessibility
- Lighting and signage
- Bus stop and routes

Potential Mitigations:

- Provide alternate or protected temporary-paths
- Open new trails as soon as possible
- Detailed protection systems in high impact interface areas
- Quality maintenance program
- Coordinate relocated or protected bus facilities

3 *Vehicular*

Potential Impacts:

- Delays to commutes, sporting events, theme parks, shopping
- Emergency pullout and call box limitations
- Roadway lighting and signage
- Freeway and street closures and detours
- Coastal access

Potential Mitigations:

- Assist in TMP and MOT planning
- Coordinate with EMS, FTS, COZEEP services
- Explore future construction opportunities for use as emergency pullouts
- Evaluate alternative construction schedules/sequences
- Detailed plans for high impact areas such as DAR and highway work
- Monitored program for MOT during construction
- Public outreach

4 *Residential and Business*

Potential Impacts:

- Private property construction easements
- Safety and security
- Noise, dust, vibration
- Construction traffic and access
- Visual impacts
- EMS and utility disruptions

Potential Mitigations:

- Site specific investigations
- Participate in TCE / ROW coordination meetings
- Maintain fencing and lighting
- Noise and dust suppression measures
- Minimize construction equipment and worker parking
- Enforce housekeeping policies for trash and waste
- Public outreach
- Coordinate with EMS and utilities to prevent disruptions

5 *Lagoon Restoration*

Potential Impacts:

- Public and grunion at beach discharge
- Pedestrian and horse trails
- Nesting Birds
- Buoyant organics
- Water quality for aquatic species

Potential Mitigations:

- Schedule and sequence work to avoid summer months, alternate disposal sites
- Provide temporary or alternate access to trails
- Eliminate habitat, employ noise suppression, use temp fencing setbacks
- Deploy debris booms and periodic maintenance schedules
- Monitor oxygen levels, provide tidal exchange when needed

Figure 6.21 | Potential Innovations for North Coast

	Innovation Name	Desc/Summary	Benefit
1	Trestle	Temporary work platform to effectively protect the environment and provide a working platform for access, equipment, bridge falsework, bridge construction and existing bridge demolition at all bridge locations.	1. Cost Savings: Better access during construction (more efficient crews, increases productivity); 2. Schedule Savings: Better access during construction (more efficient crews, increases productivity)I 3. Risk Mitigation: Environmental: Eliminating disturbances during construction
2	Trestle/Sheeted Embankment Combinations	Three options for various trestle lengths: full, half, and with a sheet pile-protected embankment in Option 2 as referenced in (the three options rendering for Batiquitos Railroad)	1. Cost Savings: Better access (more efficient crews and increases productivity), decrease temporary working platforms; 2. Schedule Savings: Better access (more efficient crews, increased productivity), savings due to amount of temporary working platforms; 3. Risk Mitigation: Protects the lagoon by eliminating disturbances
3	Accelerated Bridge Construction (ABC)	Use ABC techniques including pre-installation of foundation elements and precast bridge components to accelerate La Costa Ave. overcrossing. Alternatively, FSSW could pre-construct the bridge entirely off to the side, then transport it in during an AWW.	1. Cost Savings: Long-term MOT elimination & time savings will save cost; 2. Schedule Savings: The ABC method introduces rapid construction nature which will limit construction to a single AWW rather than multiple AWWs; 3. Risk Mitigation: Maximizes public mobility and minimizes access impacts to beaches and local business by opening the road quickly
4	Containment Dike	Install a temporary containment dike to construct railroad and highway bridges at San Elijo Lagoon and permanent embankments at both lagoons in dry conditions, as referenced (in the Marathon 5 Phase renderings).	1. Cost Savings: Eliminate a trestle and providing better access during construction (more efficient crews, increases productivity); 2. Schedule Savings: Eliminate a trestle and providing better access (more efficient crews, increases productivity); 3. Risk Mitigation: Environmental: Protects the lagoon by containing all construction activities inside. Upon completion, the containment dike will be removed and lagoon fully restored.
5	Re-alignment of San Elijo Double Track	Realign the San Elijo Double Track to allow for the new one-mile embankment south of RR Bridge MP 240.2, to be installed west of the existing double track. (As referenced in Appendix.)	1. Cost Savings: Single-sided/better access (more efficient crews, increases productivity); 2. Risk Mitigation: Environmental: Contains construction to single side and increases ease of protecting the lagoon."
6	Retaining Wall Elimination	Eliminate retaining wall for railroad along San Elijo Ave. between Norfolk Dr. and south of Dublin Dr. by potentially realigning the trackway to the west.	1. Cost/Schedule Savings: Eliminate the need for 925 LF of the cut slope retaining wall; 2. Schedule Savings: Eliminates scope for giving float relief to near critical work; 3. Risk Mitigation: Environmental: C&G, exc, and restoration planting would no longer be required, eliminating SWPPP exposure
7	Re-alignment of Batiquitos Double Track	Realign the Batiquitos Double Track allowing the first Batiquitos Railroad bridge to be located west of the existing, placing embankment west of the existing double track to align with the La Costa Ave. OC expansion to the west.	1. Cost/Schedule Savings: Single-sided/better access during construction (more efficient crews, increases productivity); 2. Risk Mitigation: Environmental: Contains construction to single side and increases ease of protecting the lagoon.
8	Build DAR Box Structure	Build Direct Access Ramp (DAR) Box Structure under Highway and Ramp in lieu of Bridges at both I-5 NB Mainline and Manchester Ave I-5 NB On-ramp	1. Cost Savings: Structure type selection change would reduce overall structure cost.; 2. Schedule Savings: Structure type selection change would require less time for construction.; 3. Risk Mitigation: Reduce the working space needed between stages and are easier to tie together increasing flexibility. "
9	Soundwall Construction Plan	A soundwall construction plan on private property will aid Caltrans' ROW Acquisitions Department in obtaining solid commitment agreements from the CMGC as referenced (S827) to provide flexibility and customization with negotiations.	1. Cost Savings: Well-developed plans lead to greater efficiencies.; 2. Schedule Savings: Timely ROW and Temporary Construction Easement (TCE) negotiations are critical to maintaining project schedule.; 3. Risk Mitigations: Because of the many individual negotiations in this program, this approach increases the likelihood of timely acquisitions, reducing the probability of a single property owner's reluctance to grant access.
10	ROW and/or TCE Elimination	Eliminate right of way and/or TCE using careful, thorough review of both construction elements and means and methods.	1. Cost Savings: Eliminating ROW and/or TCE areas reduces property acquisitions; 2. Future Schedule Savings: Each property acquisition requires time and resources; 3. Risk Mitigation: By eliminating right of way and/or TCE acquisitions, Caltrans will reduce the risk of costly schedule impacts
11	Additional Bike Trail development	Construct temporary haul roads in the locations of future bike trails, then convert haul roads to bike trails at conclusion of construction.	1. Future Cost Savings: The trail would be graded with roadbed fully compacted; 2. Schedule Savings: The trail would already be aligned, graded and roadbed fully compacted; 3. Risk Mitigation: Mitigates unforeseen constructability or environmental issues
12	Existing K-rail Retrofit	Retrofit the existing median K-rail within the project limits to meet standard specifications.	1. Cost Savings: Reusing existing K-rail reduces the need to purchase new. May generate savings by using this rail in lieu of temporary throw away 60 rail; 2. Schedule Savings: Eliminates the CIP 60 rail construction; 3. Risk Mitigation: Reduces quantity of new K-rail needed for the project [Is this really a risk?]"
13	Early Opening of Roadway Sections	Target HOV and outside widening zones for early delivery. Implement staging innovation. Focus strategic early work packages to open the most congested areas early.	1. Cost Savings: Enhances production efficiencies by relieving existing congestion; 2. Schedule Savings: Reduces congestion increases mobility and speeds up construction; 3. Risk Mitigation: Reduces likelihood of schedule impacts due to traffic congestion. Enhances public perception.
16	Reuse Wetland Topsoil and Potential Seed Banks	Salvage and reuse wetland topsoil and potential seed banks from Central and West Basins to transitional areas in Central and West Basins.	1. Cost savings: Reduces offsite disposal and follow-on maintenance by helping the re-propagation of wetland plants.; 2. Schedule Savings: Reduces project maintenance time by accelerating plant re-propagation
18	Use Lagoon EXC for Staging and Access	Generate suitable material from wetland basins for staging area construction and Hwy 101 access in Staging Area #5.	1. Cost Savings: Reduces material import and purchase; 2. Schedule Savings: Reduces haul and import results in faster construction times; 3. Risk Mitigation: Reduces risk in finding suitable import for material for finding suitable disposal for excavated materials
19	Lagoon Sediment Disposal	Eliminate any offshore and near shore disposal and modify permits with the help of the City of Solana Beach and City of Encinitas to on-beach disposal in Solana Beach and Cardiff.	1. Cost Savings: Increases cost efficiency by using beach disposal rather than offshore disposal, requiring less dredge equipment.; 2. Schedule Savings: n/a; 3. Risk Mitigation: Eliminates equipment risks associated with offshore and nearshore disposal, especially during the winter due to heavy seas"
20	Onsite Disposal of Organics & Unsuitable Soils	Dispose of any organics and unsuitable soils onsite do not go into overdredge sump to eliminate the high costs of offsite disposal.	1. Cost Savings: Eliminates offsite hauling for disposal; 2. Schedule Savings: More efficiently moves materials by remaining on-site; 3. Risk Mitigation: Eliminates need to find suitable offsite disposal areas"
21	Create a Sand Trap	Create a sand trap as used on the San Dieguito Wetland Project between Coast Highway and the railroad trestle. This protects the inlet from sand migration into the lagoon or from sources upstream coming into the lagoon.	1. Cost Savings: Potentially saves on long-term inlet maintenance by limiting sand infill to a single location, facilitating future removal; 2. Schedule Savings: Creates future lagoon maintenance schedule savings; 3. Risk Mitigation: Mitigates infill risk of lagoon after initial construction"
22	Desilting Basins at Highway and Rail Bridges	Create a desilting basin by the temporary dike system as outlined in our five-phase SELR plan to create large temporary desilting basins that contain stormwater runoff.	1. Cost Savings: Reduces potential for risk level classification and reduces the cost of extensive BMPs; 2. Schedule Savings: Significantly reduces working constraints produced by risk level 3 compliance; 3. Risk Mitigation: Potentially eliminates risk level 3

Figure 6.22 | Potential options for the bridges at the Bataquitos Lagoon

highway

OPTION 1 Full Trestle

Cost	Schedule	Risk
• Most Costly option. • Labor and material is the big cost factor.	**Pros** • Single stage installation, complete access established with one mobilization. **Cons** • Time for installation prior to bridge demolition and construction.	**Pros** • Least restrictive to tidal flows during demo and construction. • Eliminates potential for material contamination of Lagoon due to full decking of work area. • Minimal impact to existing lagoon conditions. **Cons** • Demo of existing columns in open waters and must be protected separately. • Limitations on type of equipment due to height and weight limitations.

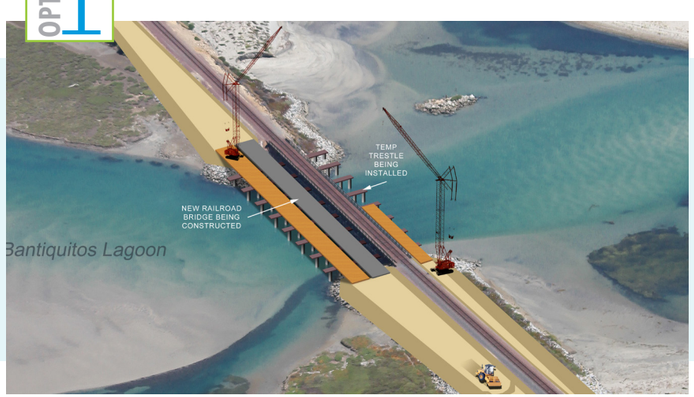
OPTION 2 Partial Trestle Northerly + Embankment fills over main channel Southerly

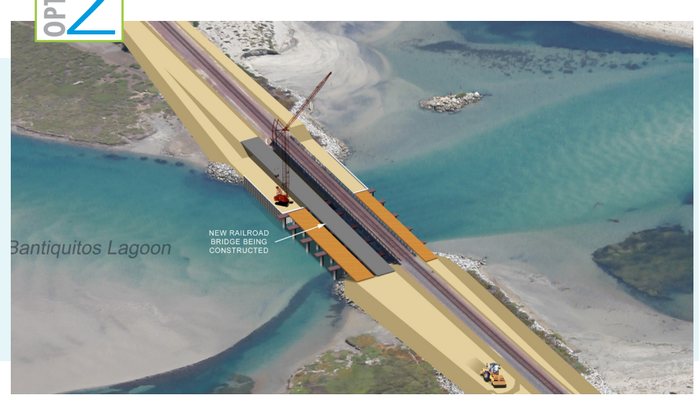
Cost	Schedule	Risk
• Medium priced option. • Material is less than the trestle, with labor being the same.	**Pros** • Installation time is less than full trestle option. **Cons** • Time for installation prior to bridge demolition and construction. • Longer to remove than trestle.	**Pros** • Provides good protection of lagoon for both demo and construction • Temporary embankment is easy to remove during lagoon mitigation operations. • Embankment provides larger lay down area. • Stable platform for construction operations (can take heavier loads for bigger equipment) movement in the area isn't as restricted. **Cons** • Demo of existing columns in open waters and must be protected separately. • Restriction of tidal flows.

OPTION 3 Partial Trestle Northerly with no embankment to the South

Cost	Schedule	Risk
• Cheapest. • Lowest material and labor cost. • Requires very large equipment for reach.	**Pros** • Shortest installation duration. • Shortest removal time. **Cons** • Time for installation prior to bridge demolition and construction.	**Pros** • Tidal flows maintained during demo and construction. • Minimizes potential material contamination of lagoon. • Minimal impact to existing lagoon conditions. **Cons** • Provides lowest level of assurance for protection of lagoon. • Demo of existing columns in open waters must be protected separately.

rail





Full size versions of these renderings are available in Appendix B

3.7H. Approach for the First Three to Six Months after NTP

The I-5 NCC project has one year is provided for preconstruction services for planning, evaluating, and preparing for an effective construction phase. It is vital to carefully identify the project drivers so that the team can prioritize our efforts during the first three to six months.

FSSW will assist District 11 to develop a plan to maximize scope. Initially, we establish the operating ground rules, lines of communication, and roles and responsibilities. By viewing the highway, rail, and environmental projects as a package, FSSW will optimize opportunities and flexibility to share resources and minimize conflicts. Figure 6.23 identifies our plan for the first six months.

FSSW will assist Caltrans to maximize effectiveness of existing funding by using several key elements. We will also use our extensive District 11 cost history to establish a database of appropriate work element costs for use in GMP pricing. Within the first month, we will analyze the green-sheet cost validation with Caltrans to identify the value of work components. At the 30% design, our team will perform a comprehensive estimate to identify work items that could be adjusted to fit funding. Lastly, we will analyze the project life cycle cost to determine what should be built in Phase 1 and additional phases to balance short-term need and long-term cost effectiveness.

Also in the first month, FSSW Scheduler Tom Cameron will continue to develop the project schedule. He will update the ROW acquisition progress, permit issuance activities, any required third party utility relocations, and the anticipated design schedule for each project option. This will allow us to monitor and track the progress through the remaining phases, specifically areas of work that are further advanced such as Unit 1 Highway and those less developed such as Unit 5 Batiquitos Rail Segment.

Our recommended first step for managing risk is to compare and combine risk registers developed by Caltrans and FSSW, forming a comprehensive register. We will prioritize risks in parallel with our project schedule and direct our resources to solve higher-priority risks. Some mitigation actions in the team's direct control include design, project planning, early procurement, and resource allocation. Other actions require close coordination with third-parties.

We know that the lagoons within the projects include critical habitat that is home to several sensitive and endangered species and other environmental concerns. We will work with Caltrans to assist with the permit process. We understand that the following are some of the key permits required:

- Endangered Species Act, Section 7 – consolation for impacts to threatened and endangered species (404 Permit)
- Rivers and Harbors Act, Section 10 – standard individual permit for discharging dredged or fill material in water of the US
- Marine Protection Research and Sanctuaries Act of 1972, Section 103 Permit – for depositing sediment into the ocean
- California Fish and Game Code, Section 1602 - agreement for streambed alteration
- CWA Section 401 Certification
- CZMA Federal Consistency Certification
- Coastal Approval/Public Works Plan (PWP)

Additionally, we will coordinate with the ongoing San Elijo Lagoon Restoration Project, resource agencies, local cities, and other key stakeholders within the first three to six months to determine risks, resolve impacts, and to capture the benefits of having multiple, concurrent projects in the same lagoon.

Figure 6.23 | FSSW's plan for the first 3-6 months

1st Month	• Team Kick-off Workshop • Develop Roles and Responsibilities • Establish Project Team Meetings • Documentation and Communication Protocol Establishment • Approach to Cost Meeting • Initial Partnering Workshop • Risk Identification and Resolution Meetings • Develop Project Risk Register • Develop Baseline Schedule • Permits Review and Application • Budget Alternative Workshops • Public Outreach • Right of Way Review • Third Party Utility Coordination
Within 3 Months	• Description and Assumptions for Open Book Cost Estimating • Partnering Process Participation • Design Milestone Meeting 30% • Risk Identification and Resolution Meetings • Opinion of Probable Construction Cost Meeting • Resolution of Probable Construction Cost Meeting • Risk Register Maintenance • Update Baseline Schedule • Subcontracting Plan • Permits and Review Application • Budget Alternative Workshops • Public Outreach • Right of Way Review • Third Party Utility Coordination • Key Stakeholder Meetings
Within 6 Months	• Permitting Process Participation • Design Milestone Meeting 60% • Risk Identification and Resolution Meetings • Specifications Development Workshop • Risk Register Maintenance • Develop Innovation Register • Update Baseline Schedule • Design Milestone 60% Construction Cost Estimate • DBE/UDBE Outreach • Permits Review and Application • Budget Alternative Workshops • Public Outreach • MOT Development • Third Party Utility Coordination • Key Stakeholder Meetings

appendix A

Resumes

Jeff **Turner** | Team Leader

Jeff, Vice President and District Manager for Flatiron West, Inc. has over 30 years of experience with building transportation projects using CMGC, design-build, design sequencing as well as bid-build. Jeff has managed over $2 billion worth of transportation projects.

Jeff is responsible for project safety and policy enforcement, supervising project management teams, ensuring quality and environmental compliance, owner coordination and issue resolution, monitoring and coordinating project schedules, overseeing and reporting project and business unit budgets, training and mentoring employees. Under Jeff's leadership, Flatiron has become a best value, schedule and quality contractor for infrastructure in San Diego.

Jeff also has excelled in project management for multiple rail, transit and infrastructure projects, ranging in value up to $500M, for Caltrans, SANDAG, local cities, counties, airport authorities and other DOT's. His responsibilities included owner, meetings coordinating crews and materials, managing subcontractors, and scheduling. He has significant experience managing major Caltrans highway corridor and LOSSAN projects. He understands the regulatory environment (environmental and permitting), is familiar with the subcontracting community, and has worked with many of the stakeholders and third parties that are impacted by the Project.

As Team Leader, Jeff will assure adequate personnel and resources are dedicated to the project, handle contractual matters and be ultimately responsible for the quality and timeliness of FSSW's performance. Jeff will facilitate partnering on the project and be accountable for project safety. Jeff is a Vice President of Flatiron, the managing JV partner, and will lead the JV executive committee. He has full authority to act on behalf of FSSW.

QUALIFICATIONS	
Years of Similar Experience 30 **Relevant Education** BS – Business Management, San Diego State University, San Diego, CA, 1987	**Relevant Licensing/Registration/Training** Safety Trained Supervisor (STS) OSHA 30 Hour Caltrans District 11 Partnering Trainer AGC Board Member and President (2013)

Related Experience

District Team Leader | Flatiron West, Inc. | San Diego, CA | Over $1.5 Billion | 50% on Job | 2008 - Present

REFERENCE: Laurie Berman | (619) 688-6668 | laurie.berman@dot.ca.gov
Jim Linthicum | (619) 699-1970 | jlin@sandag.org

Jeff is responsible for the oversight of multiple transportation construction projects in San Diego County including the LOSSAN corridor double track program and the San Diego trolley expansion. He has developed strong working relationships and overseen infrastructure projects with many public agencies in San Diego including Caltrans, SANDAG, NCTD, the City of San Diego, the County of San Diego, San Diego Regional Airport Authority, UCSD, and numerous other local cities. He provides support as needed to all active projects, up to 20 at a time. He supports the project by supervising project management teams, managing subcontractor and supplier relationships

and performance, owner and stakeholder coordination and issue resolution, reviewing and enforcing safety and quality best practices, monitoring and coordinating project schedules, overseeing and reporting project budgets, and training/mentoring employees. Many of these activities are similar to those required as team leader for the I-5 NCC project.

He has recently been responsible for the following projects:

- Caltrans, SR-76 Reconstruction – Route 76 and Route 76/15 Separation Design Sequencing Project ($95 million)
- Caltrans, SR-905 Extension – Route 905 New Freeway Phase I and Route 905/805 ($93 million)
- SANDAG, Sorrento to Mirmar-Phase I ($26 million)
- SANDAG, Sorrento Valley Double Track-Phase II ($18 million)

District Team Leader | I-405 Design Build Project – Bellevue to Lynnwood (Washington Department of Transportation) | Bellevue to Lynnwood, WA | $430 Million | 25% on Job | 2012 - Present

REFERENCE: Phil Fordyce | 425-456-8590 | Fordyce@wsdot.wa.gov

Flatiron is widening and installing express toll lanes from Bellevue to Lynnwood, on Interstate 405, a major artery running along the east side of Lake Washington near Seattle for Washington Department of Transportation (WSDOT). The design-build project will create 68 lane miles of new HOV toll lanes and integrate a new Intelligent Transportation System network. Work also includes new bridges, adding soundwalls, upgrading barriers and resurfacing much of the existing freeway.

Along the entire corridor, the team is retrofitting the roadway with advanced storm water treatment systems – essentially new ditches that include filtration media to capture pollution in runoff. Crews will install 15,000 linear feet of new media filter drains, and, for the first time on a WSDOT project, 10,000 linear feet of a more advanced version called a compost-amended biofiltration swale. Flatiron is also performing extensive wetland and stream mitigation work. Flatiron also restored a portion of Yarrow Creek adjacent to the project.

Specific Responsibilities

Jeff and his team focused on value engineering. One critical innovation revised the geometry and alignment and to avoid impacting a landslide area, which significantly reduced the project's risk. Jeff's role includes executive level coordination with the owner and key stakeholders and WSDOT's toll division.

JV Executive Committee/Team Leader | San Diego Airport – Green Build Contract 1 DB-CMGC Project (San Diego Regional Airport Authority) | San Diego, CA | $477 Million | 20% on Job | 2009 - 2014

REFERENCE: Iraj Ghaemi | (619) 400-2597 | ighaemi@san.org

The Green Build project included 10 new jet gates at Terminal 2 West, expanded dining and shopping options, as well as terminal, roadway, parking and airfield improvements. The scope of work included construction of a three-story, 10-gate expansion of Terminal 2 containing a ticket lobby, airline check-in, security screening, baggage handling, seating areas, concessions and support space. Also included was approximately 1.5 million square feet of new taxiway and jet parking. The project completed on time and underbudget, and in 2014 was recognized by the Design-Build Institute of America with the Project of the Year, Regional Excellence, Distinction of Merit award.

Specific Responsibilities

Jeff was involved in oversight of initial budgets, design development, constructability, value engineering and schedule development with the team. His oversight contributed to a successful completion of the largest program in the San Diego Regional Airport Authority's history.

Area Team Leader | I-15 Managed Lanes Design Sequencing Project (Caltrans) | San Diego, CA | $435 Million | 100% on Job | 2004 - 2008

REFERENCE: Gustavo Dallarda | (619) 688-6738 | gustavo.dallarda@dot.ca.gov

Flatiron constructed seven of the ten managed lane projects along I-15. These projects widened the interstate and added new express lanes down the middle. The project was accelerated utilizing the design sequencing method, under which parts of the design were released sequentially during construction. This allowed construction to continue in different areas before the final design was complete. This project consisted of 20-miles of 8 new high occupancy toll (HOT) lanes, new bridge construction, access ramps, bridge renovations and widenings, retaining walls (Type 1, Type 5, Modified Type 5, MSE (proprietary design), tieback, and soil nail), soundwalls, storm drain and water system improvements, 110,000 cubic meters of exported material, and 22,600 cubic meters of concrete pavement.

The project involved working around an existing, functioning transportation system. Our approach to maintaining service to the public and focusing on public safety around the active work zone is a challenge similar to I-5 NCC. Segments were released in Units, and coordination was required between multiple projects, similar to the segments for this project.

Specific Responsibilities

Jeff served in direct oversight with the project teams, Caltrans management and other stakeholders to insure success with safety, quality, budget, schedule and compliance with regulatory requirements.

Team Leader | WR Connelly, Inc. | San Diego, CA | $40 Million | 100% on Job | 1998 - 2004

REFERENCE: no longer available

Jeff served as a team leader for WR Connelly, Inc, a local general engineering contractor that focused on mass grading, highway and local infrastructure work. Jeff's role as team leader included project development, procurement and construction. Working in many instances as a local subcontractor, this experience provided the ability to incorporate best practices from various general contractors, as well manage projects as a prime. Projects he was responsible for include:

- Bonita Road Bridge over the Sweetwater River- County of San Diego
- Pala Casino & Hotel Project
- Caltrans Route 78 at Haverford Realignment
- City of San Marcos- Creekside Marketplace Development

Project Manager | Daley Corporation | San Diego, CA | $435 Million | 100% on Job | 1987 - 1998

REFERENCE: no longer available

Jeff served as a project manager for Daley Corporation. Daley was a local general engineering contractor that focused on grading, PCC paving, retaining walls, a cut/cover tunnels, and multiple bridge replacements.

Specific Responsibilities

Responsibilities included critical path method (CPM) scheduling, cost accounting, subcontractor pay estimates, owner correspondence, subcontractors, and suppliers, field layout, estimating changes, engineering design, schedule coordination with field crews and subcontractors, and the supervision of office and field engineers.

Dale **Nelson**, PE | Project Manager

Dale has over 20 years of experience overseeing construction on several rail, bridge, and roadway project, ranging in value up to $350M, for DOT's, cities, counties, airport authorities and local transportation agencies. His responsibilities included interaction with the owner, coordinating crews and materials, managing subcontractors, and scheduling. He has significant experience managing LOSSAN and San Diego Trolley projects, thus he understands the regulatory environment (environmental and permitting), is familiar with the subcontracting community, and has worked with many of the stakeholders and third parties that may be impacted by the Project.

He has managed numerous bridge/roadway projects on heavily traveled freeways in Southern California, including several recent contracts for Caltrans on I-15 in San Diego. He was mainly responsible for the middle segment which was the largest and most complex segment and assisted the rest of the segment teams with miscellaneous project management duties. By participating with Caltrans in the design sequencing process, the project was delivered significantly earlier then traditional design-bid-build delivery methods. Design sequencing is similar to CMGC in that Caltrans,the designer, has full design control, with the contractor providing constructability and cost details.

As Project Manager, Dale will be the main point of contact to the project team and ensure a seamless continuity betweenpreconstruction and construction services. He will also ensure the project's success by using his project management skills.

QUALIFICATIONS	
Years of Similar Experience 20 **Relevant Education** BS – Civil Engineering, California Polytechnic University, Pomona, CA, 1994	**Relevant Licensing/Registration/Training** Professional Civil Engineer, CA, C59133 Safety Trained Supervisor (STS) OSHA 10-Hour OSHA 30-Hour Trenching/Excavation - Competent Person

Related Experience

Area/Project Manager | Flatiron West, Inc. | San Diego, CA | Over $1.5 Billion | 100% on Job | 2008 - Present

REFERENCE: Cory Binns | (858) 688-1460 | cory_binns@dot.ca.gov

Dale is responsible to ensure that each project is adequately staffed and getting adequate resources necessary to be successful. Dale has complete authority to handle and resolve all contractual matters on behalf of Flatiron. Dale is responsible for ensuring each Flatiron project is constructed to the safety and quality standards required. Dale also attends each project's executive partnering meetings and workshops. Through this involvement, Dale makes sure each project team is fully integrated and operating with full collaboration with the owner.

Caltrans, SR-76 Reconstruction – Route 76 and Route 76/15 Separation Design Sequencing Project ($95 million)

The scope of work included constructing the bridge over the San Luis Rey River, earthwork, paving, and constructed the barrier needed to shift traffic into its final alignment. The crews expanded a winding, undivided stretch of the two-lane highway into a four-lane, divided highway with additional signal intersections. This design sequencing project presented challenges for both Caltrans and Flatiron, who contended with "nearly constant design changes" throughout the project. Through partnering, the team overcome these challenges to remain on time and on budget.

Caltrans, SR-905 Extension – Route 905 New Freeway Phase I and Route 905/805 ($93 million)

Flatiron constructed the final segment of California's state Route 905, a 6.4-mile new alignment, six-lane highway connecting the Otay Mesa Port of Entry to the California highway system at Interstate 805. The completed freeway is a 12-mile route between California and Mexico, from the border crossing northwest to I- 5. Flatiron self-performed 67 percent of the work, building five bridges, placing 30,000 cubic meters of PCC paving, constructing 20 retaining walls, installing a deep sewer and building a park-and-ride facility for motorists.

SANDAG, Sorrento to Miramar-Phase I ($26 million)

The Sorrento to Miramar Double Track Phase I Project includes construction of 1.5 miles of new track, including crossovers and turnouts, parallel to the existing line from south of Sorrento Valley Boulevard to east of I-805. Crews demolished a 1940s era wooden trestle bridge and replaced it with a new double-track bridge. The 140-foot long steel bridge is built on cast-in-place abutments and founded on driven steel pipe. To straighten the curvature of the track alignment, crews constructed ten retaining walls—five different types due to varying geologic conditions— and embankments along the project. Crews installed special trackwork and signaling along the route. Crews faced challenges of working adjacent to and within the active railroad corridor. Crews scheduled work around the train schedule for increased efficiency. The team also put special safety procedures in place to protect the workers and the public.

The project included environmental considerations as well. The new double-track bridge crosses over Carroll Canyon Creek, home to an endangered species of shrimp. Crews conducted environmental compliance monitoring and a project biologist monitored construction over the creek.

SANDAG, Sorrento Valley Double Track ($18 million)

This project consists of construction of a second main track and associated bridge, retaining wall, culvert, embankment protection and drainage work.

SANDAG, NCTD Bridge 230.6 Replacement ($5.5 million)

Flatiron replaced a structurally deficient railroad bridge across the Agua Hedionda Lagoon in south Carlsbad, California. Flatiron's project included three main work items — constructing a new railroad bridge next to the existing bridge, realigning approximately one-half mile of main track, and removing the existing timber bridge. The new bridge is a three-span 214-foot-long structure with precast concrete bulb-T girders. The foundations are four-foot-diameter CIDH piles at the abutments and nine-foot-diameter piles at the piers.

SANDAG, NCTD Bridge 243.0 Retrofit ($2.7 million)

Flatiron retrofitted Railroad Bridge 243.0. The project included bracing and pile wrapping to protect the bridge from exposure to salt water tidal flow in the San Dieguito Lagoon.

Other notable projects include:

- Caltrans, SR-52 Extension ($28 million)
- Caltrans, San Mateo Creek Bridge Repair ($8 million)
- SANDAG, I-15 Bus Rapid Transit Stations ($5 million)
- SANDAG, Santa Onofre to Pulgas Double Track-Stage 1 ($24 million)
- SANDAG, Santa Margarita Bridge and Second Main Track ($26 million)

Deputy Project Manager/Construction Manager | I-35W (St. Anthony Falls) Bridge Design-Build Project (Minnesota Department of Transportation) | Minneapolis, MN | $263 Million | 100% on Job | 2007 - 2008

REFERENCE: Jon Chiglo | (651) 234-7880 | jon.chiglo@dot.state.mn.us

The new bridge is a 1,216-foot-long, 10-lane concrete bridge with a 504-foot-long precast segmental main span. The bridge is supported by three land-based piers (four columns at each pier) standing 70 feet tall. Segments were cast on the south bank of the river on an existing closed section of I-35. Two 450-ton capacity derricks lifted the segments into place. There were 120 precast segments ranging in weight from 170 to 210 tons each. The project was completed three months ahead of schedule and has received over 30 of the industry's top awards. Work included pier work, abutments, a major overcrossing, approach structures, cast-in-place box girder spans over land, pre-cast segmental work over water, and roadway construction.

Specific Responsibilities

Dale oversaw the project's preconstruction and construction services which included safety, quality, schedule and production. In addition, he was also heavily involved with design and constructability reviews with the designers, and coordinated extensively with QA/QC personnel and MnDOT officials.

Project Manager | I-15 Managed Lanes Design Sequencing Project (Caltrans) | San Diego, CA | $435 Million | 100% on Job | 2004 - 2007

REFERENCE: Cory Binns | (858) 688-1460 | cory_binns@dot.ca.gov

These projects widened the interstate and added new express lanes down the middle. This project consisted of 20-miles of 8 new high occupancy toll (HOT) lanes, new bridge construction, including access ramps, bridge renovations and widenings, retaining walls (Type 1, Type 5, Modified Type 5, MSE (proprietary design), Tieback, and Soil Nail), soundwalls, storm drain and water system improvements, 110,000 cubic meters of exported material, and 22,600 cubic meters of concrete pavement.

The Middle Segment includes four of Flatiron's seven I-15 Managed Lanes contracts, totaling approximately $260 million and comprising a new section of HOT lanes along I-15 in San Diego, California. The Middle Segment consists of eight miles of highway reconstruction and appurtenant construction of numerous bridges and retaining walls, direct access ramps, extensive portland cement concrete (PCC) paving, as well as complex traffic staging and coordination with Caltrans' public relations staff. The work occurred adjacent to many residential communities and required coordiation with Caltran's public relations staff. Work included complex highway reconstruction, multiple bridge structures, numerous retaining and soundwalls, as well as complex traffic staging.

Specific Responsibilities

Dale had regular meetings with Caltrans' senior staff to stay on top of the project challenges. These issues included RFIs, submittals, and design changes. By participating with Caltrans in the design sequencing process, the project was delivered significantly earlier then if it used traditional design-bid-build delivery methods.

On this project, Dale was promoted from project manager to area manager where he supervised Flatiron's operations along the corridor, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Project Manager | SR-56 Carmel Mtn. Road to Carmel Country Road Overcrossing (Caltrans) | San Diego, CA | $44 Million | 100% on Job | 2002 - 2004

REFERENCE: Ed Fitzgibbon | (619) 995-7334 | ed.fitzgibbon@dot.ca.gov

The roadway is the final portion of a new east-west highway connecting coastal I-5 to the inland I-15 between Del Mar and Rancho Bernardo, California. This link is a 4.5-mile roadway, comprised of four lanes (two in each direction), including 14 new cast-in-place post-tensioned box girder bridges. Two of the bridges utilize steel pipe falsework ranging from 50 to 70 feet tall. Flatiron excavated over two million cubic yards of roadway, installed 15,000 linear feet of reinforced concrete pipe storm drains, and paved 30,000 cubic yards of concrete and over 70,000 tons of asphalt. The project, located in the environmentally sensitive Carmel Valley, was successful in meeting stringent California erosion and pollution control requirements. The project finished 3 months ahead of schedule.

Specific Responsibilities

Dale was responsible for the successful completion of this new four-lane freeway alignment in central San Diego County. Dale also supervised Flatiron's operations along the corridor, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Project Manager | Route 30 Indian Hill Blvd. Project (Caltrans) | Pomona, CA | $44 Million | 100% on Job | 2000 - 2002

REFERENCE: Ali El-Zaynab | (951) 232-3732 | ali_el-zaynab@dot.ca.gov

This project built a new eight-lane freeway in eastern Los Angeles County. The project included grading, PCC paving, retaining walls, and multiple new cast-in-place concrete bridges.

Specific Responsibilities

Dale supervised Flatiron's operations, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Project Engineer | Route 5 Widen Freeway at Anaheim Blvd. Project (Caltrans) | Anaheim, CA | $54 Million | 100% on Job | 1998 - 2000

REFERENCE: Chris Mockus (formerly with Caltrans) | (310) 431-8070 | cmockus@caltrop.com

This project reconstructed the existing six-lane highway by widening the freeway and adding high occupancy vehicle (HOV) lanes. The project included grading, PCC paving, retaining walls, a cut/cover tunnel, and multiple bridge replacements.

Specific Responsibilities

Responsibilities included critical path method (CPM) scheduling, cost accounting, subcontractor pay estimates, owner correspondence, subcontractors, and suppliers, field layout, estimating changes, engineering design, schedule coordination with field crews and subcontractors, and the supervision of office and field engineers.

Mike **Spain** | Construction Manager (Highway)

Mike is a constructability expert with vast experience in estimating, bidding and managing large scale infrastructure projects. Mike has spent his entire career in Southern California including many key projects in District 11. Key projects include Brawley Bypass, 905 Design Sequence, 52 / 67 Interchange, 805 bridge widening and ramp realignment at Bonita, La Jolla Village Drive / 805 bridge widening and ramp realignment, and the I-805 North Design-Build project. Mike's experience managing these projects uniquely positions him to be the Construction Manager (Highway) on the I-5 NCC project.

Due to the size of I-5 NCC project, Mike in his previous roles, is well suited to be the Construction Manager (Highway).

He currently oversees a large number of construction projects while being responsible for all of Skanska's projects within Imperial and San Diego Counties as well as South Riverside County. The total value of contracts under his management is approximately $240 million, which is similar in magnitude to the single $380 million highway portion of the I-5 NCC project. Throughout his career he has worked on many of the major highways in San Diego County including the 5, 52, 56, 67, 805 and 905 and with most of the utility companies along the alignment. His projects mainly consist of heavy highway construction that were largely self-perform. These projects include alternative delivery methods such as design sequence and design-build. The project elements included structures, earthwork, drainage, roadway structural sections, PCC and AC paving, and utilities. His has been responsible for providing constructability and staging details during the estimate and execution phase. Mike works with the field operations to effectively implement safety, reduce cost, increase production, enhance schedule, and providing necessary resources. He will bring his experience building San Diego's infrastructure along with his understanding of Caltrans District 11 design process to our team.

As **Construction Manager (Highway),** Mike will work with Caltrans to create innovative MOT for the heavy weekend and commuter traffic on the I-5 NCC project. He will provide constructability reviews for all highway work focusing on value engineering and cost certainty, and incorporate the standard Caltrans District 11 design practices into our CMGC process.

QUALIFICATIONS	
Years of Similar Experience 23 **Relevant Education** BS – Construction Management, California State University, Chico, CA, 1993	**Relevant Licensing/Registration/Training** OSHA 30 Hour

Related Experience

Operations Construction Manager | I-805 North HOV/BRT Design-Build (Caltrans) | San Diego, CA | $83 Million | 50% on Job | 2011 - Present

REFERENCE: Gustavo Dallarda | (619) 688-6738 | gustavo.dallarda@dot.ca.gov

This project is part of the Caltrans design build pilot program. The project consists of approximately 3.5 miles of construction adding one high occupancy vehicles (HOV)/Bus Rapid Transit (BRT) lane in each direction from north of SR-52 to the north of Mira Mesa Boulevard and the south facing Direct Access Ramps (DAR) at Carroll Canyon Road. The project includes design, construction of five bridges, median improvements, QC/QA, environmental management, public relations, and railroad and utility coordination. This project requires coordination with two adjacent contractors Flatiron and Diablo. These adjacent contractors are working on the railroad improvements in Carroll Canyon and the north facing DAR at Carroll Canyon respectively.

Specific Responsibilities

Mike's responsibilities are to supervise the entire Skanska team. This includes design subcontractors, contract administration, and construction groups. The QC/QA and safety departments report directly to Mike. He attends all project executive partnering sessions and actively participates project quality and safety review meetings.

Operations Construction Manager | I-215 Widening Project Segments 1 & 2 (SANBAG) | San Bernardino, CA | $171 Million | 25% on Job | 2011 - 2012

REFERENCE: Doug Franco | (310) 334-9952 | doug@valicooper.com

The reconstruction project is located on I-215 and extends from south of Rialto Avenue to north of SR 259 in the City of San Bernardino. The scope includes 17 new bridges plus one temporary bridge, 20,815 lf of cast-in-place concrete retaining walls with a combination of spread footings and footings on piles, 2,368 lf of mechanically stabilized embankment walls, 3,208 lf of sheetpile shoring to support an existing railroad, 80,250 cy of concrete pavement, 88,600 tons of AC pavement, a storm drain system with pipe sizes ranging from 8 in diameter to 96 in diameter, landscape and irrigation, and freeway and city street electrical systems.

Specific Responsibilities

Mike's responsibilities on this project included the supervision of all Skanska's supervisory and craft personnel in addition to subcontractors. Mike supervised Skanska's operations, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Construction Manager | I-5/I-805/SR 56 Interchange (Caltrans) | San Diego, CA | $142 Million | 20% on Job | 2008 - 2010

REFERENCE: Mike McManus | (619) 688-6980 | mike_mcmanus@dot.ca.gov

The scope of work included 12 bridges with the largest being 3,428 feet long and approximately 33 feet wide. While several of these bridges were completely new structures, some of the existing bridges had to be widened as part of the contract. This work included over 40,000 cubic yards of structural concrete for the bridges, 14,435 feet of CIDH Piles (the largest being nearly 13 feet in diameter), and 20,000,000 Pounds of reinforcing steel. Another major element of the project was the construction of a Plantable Geosynthetic Reinforced Wall.

Specific Responsibilities

Mike's primary responsibility was for the supervision of the construction team during contract close out and the negotiation for the final estimate. The project was ultimately closed out without any claims, to the satisfaction of both Caltrans and Skanska.

Construction Manager / Project Manager | Design Sequencing Route 905 (Caltrans) | San Diego, CA | $64 Million | 75% on Job | 2009 - 2012

REFERENCE: Mike Moen | (619) 995-7335 | mike_moen@dot.ca.gov

This project called for new construction of 2.5 miles of six lane freeway. A highly successful design sequencing project, the construction team constructed the project concurrently with the release of design packages from Caltrans District 11. The project included five bridges, four box culverts, storm drains, landscaping and irrigation, electrical, fiber optic, signal / safety systems, water and sewer lines. The magnitude of the contract quantities included 1.2 million cubic yards of import material, 1.7 million cubic yards of roadway excavation, 365,000 tons of sub base and base, 103,000 tons of asphalt and asphalt concrete base, and 32,000 cubic yards of concrete pavement.

Specific Responsibilities

Mike's responsibilities included the supervision of all Skanska's supervisory and craft personnel in addition to subcontractors. He managed the day to day operations of the project. Mike was responsible for both contract administration as well as production related components. Later in the project, Mike was promoted to project manager. He negotiated the project close out to the satisfaction of both Caltrans and Skanska with no claims.

Construction Manager | SR 52/67 Interchange (Caltrans) | Santee, CA | $72 Million | 25% on Job | 2009 - 2012

REFERENCE: Mike Moen | (619) 995-7335 | mike_moen@dot.ca.gov

The fast-track project consisted of four large cast-in-place pre-stressed connectors and associated retaining walls, MSE walls, soundwalls, drainage improvements and a soil nail tie-back wall at the terminus of SR-52. Mike worked with project personnel, Caltrans District 11, the City of Santee and facilitators for the partnering program which received a Gold Partnering Award from Caltrans. This project also required close coordination with Flatiron, working on an adjacent project on 52, due to the fact that the two separate projects overlapped geographically and were constructed simultaneously. The contract required use of 25,000 cy of structural concrete and excavation of 75,000 cy of roadway excavation, 281,000 cy of imported borrow and 26,200 tons of asphalt concrete paving. The retaining and soundwall barriers had to blend into the surround communities which were aesthetically pleasing to residents and businesses.

Specific Responsibilities

Mike's responsibilities on this project included the supervision of all Skanska's supervisory and craft personnel in addition to subcontractors. Mike supervised Skanska's operations, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Project Executive | Brawley Bypass Project (Caltrans) | Brawley, CA | $71 Million | 25% on Job | 2009 - 2013

REFERENCE: Shawn Rizzutto | (760) 594-2032 | shawn.j.rizzutto@dot.ca.gov

The scope of work consisted of the construction of 3.1 miles of four-lane divided expressway containing seven multi-span cast-in-place box girder bridges including one interchange, one undercrossing, and a railroad overhead, as well as two multi-span precast I-girder bridges crossing the New River. Additional work included sewer and water relocation, earthwork, storm water drainage, grading, portland concrete cement and asphalt concrete pavement, steel pile foundations, wick drains and bridge structure.

Specific Responsibilities

Mike's responsibilities on this project included the supervision of all Skanska's supervisory and craft personnel in addition to subcontractors. Mike supervised Skanska's operations, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results.

Project Manager/Construction Manager | San Elijo Hills Project (San Elijo Hills Inc./Homefed Corporation) | San Marcos, CA | $110 Million | 60% on Job | 1998 - 2006

REFERENCE: Jeff O'Connor | (760) 918-8200 ext. 220 | JOConnor@hfc-ca.com

Mike was responsible for the San Elijo Hills Project, master planned community. Work included 15 million cy of drill and blast, 23.7 million cy excavation, 3.3 million tons of rock crushing. The project had a heavy emphasis on Blasting Safety and Selective Grading. Selective grading was driven by the fact that the permits did not allow for any import or export for excavation materials. The goal was to use all materials onsite and selectively grade to ensure we meet the material size specifications. This required managing the placement of various materials at various locations. For example, placing the largest rock in the bottom of fills and crushing and placing processed materials in locations known to be used for future utilities. In addition all cut areas where over excavated in accordance with the utility plans to ensure productive installation with more moderately sized equipment by future contractors. The goal was to leave a site that could be constructed in much the same way as any other development after we completed our activities.

Specific Responsibilities

Mike was responsible for estimating, negotiating contract with owner, quantity and cost control, subcontractor and material scheduling, subcontractor payments, accounts receivable and accounts payable. Area of emphasis is on off-site improvements, and completing work on schedule to allow land sales by owner.

Project Manager/Construction Manager | Twin Oaks Valley Road Project (City of San Marcos) | San Marcos, CA | $8 Million | 30% on Job | 2005 - 2006

REFERENCE: Jeff O'Connor | (760) 918-8200 ext. 220 | JOConnor@hfc-ca.com

This project was the vital link between the City of San Marcos and the community of San Elijo Hills. The primary work scopes included clear and grub, drill and blast and mass excavation. There was in excess of 1 million cy of both drill and blast and excavation required to complete the road section. With cuts in excess of 250 ft in vertical height. The project had significant environmental constraints and was completed without any harm to adjacent wilderness areas.

Specific Responsibilities

Mike's responsibilities on this project included the supervision of all Skanska's supervisory and craft personnel in addition to subcontractors. Mike supervised Skanska's operations, including safety, quality, schedule, and production. Specific responsibilities included coordinating labor, equipment and material resources across the region; supervising and developing project staff; setting and monitoring quality standards; and maintaining and reporting financial results. Mike was responsible for estimating, quantity and cost control, subcontractor and material scheduling, subcontract payments, accounts receivable, and accounts payable.

Juston **Poeling** | Construction Manager (Rail)

Juston has over 27 years of track-related experience in light rail and mainline railroads, progressively assuming increasing responsibilities from an entry-level engineer to project manager. Juston has 19 years of experience as a project manager and construction manager of major civil construction projects that required the coordination of complex components, where the schedule is short and the budget constrained, including on projects under active rail traffic. He is experienced in alternative delivery of rail transit projects including CMGC and design-build.

Juston has a solid track record of ensuring that projects meet the client's goals and objectives for safety, schedule, budget, and stakeholder satisfaction. He has proven skills in coordinating multidisciplinary crews from the planning stages to construction to final project turnover.

Juston is qualified to perform training for General Code of Operating Rules (GCOR), Roadway Worker Protection (RWP), Track Safety Standards, and Maintenance of Way Operating Rules (MWOR).

As Construction Manager (Rail), Juston will oversee extensive planning efforts for the San Elijo and Batiquitos Double Track Projects; coordinate daily operations with NCTD to ensure strict compliance with operating rules; support NCTD in coordination of signaling work with rail construction; and plan track outages for new double track cutovers well in advance of AWWs.

QUALIFICATIONS	
Years of Similar Experience 27 **Relevant Education** AA – Business Administration, Chaminade University, Honolulu, HI	**Relevant Licensing/Registration/Training** AGC Advanced Managers Course AGC Project Managers Course AGC Leadership in Construction Maintenance of Way Operating Rules (MWOR)(BNSF) General Code of Operating Rules (GCOR) Roadway Worker Protection (RWP) Trained (BNSF, Amtrak, SWI) Track Safety Standards Training Qualified, 49 CFR 213.7 FRA Accident/Incident Reporting FRA Adjustment, Maintenance, and Inspection of CWR FRA Track Authority, Track Bulletins, Track and Time United States Marine Reserves, Billings, Montana United States Marine Corps, Kaneohe, Hawaii

Related Experience

Project Manager | Sounder Maintenance of Way (Sound Transit) | Seattle, WA | $9 Million | 100% on Job | 2012 - Present

REFERENCE: Brian Freerks | (206) 689-4987 | brian.freerks@soundtransit.org

This is a five-year service contract to provide maintenance and inspection services of track, signals, and bridges for a 10-mile section of Sound Transit commuter rail tracks. SWI manages the scheduling of all inspections and work for structures, track, road crossings, and civil elements of the rail line. SWI controls track and time for freight operations running under our protection. Close coordination is required with BNSF Operations (commuter rail and freight operations), Tacoma Rail, the cities of Tacoma and Lakewood, Joint Base

Lewis-McChord, FRA, and Washington State UTC to schedule access, obtain permits, and facilitate inspections. All work is performed on an active rail line shared by commuter rail and freight rail companies.

Specific Responsibilities

Juston manages all operations including planning, scheduling, and subcontractor management. He coordinates with Sound Transit, BNSF railroad operations, and all project stakeholders. He schedules designers to perform bridge inspections.

Construction Manager/Project Manager | Westside Express Services (Tri-County Metropolitan Transportation District of Oregon (TriMet)) | Portland, OR | $62 Million | 100% on Job | 2006 - 2009

REFERENCE: Dave Tertadian | (503) 962-8817 | tertadid@trimet.org

This was a CMGC project for reconstruction of 14.7 miles of ballasted railway to provide a new passenger rail line on a shared freight line. The entire project alignment was within an active freight rail corridor and required strict adherence to FRA Track Safety Regulations. Extensive coordination was required to accommodate the six to eight trains that ran every day. All work was performed within agreed upon work windows and without disruption to the operating Portland and Western Railroad. The scope included construction of one new bridge, rehabilitation of two timber ballasted deck bridges, and in-place reconstruction of four railroad timber trestle bridges. The project crossed over one river and was adjacent to wetlands for most of the alignment. Aggressive storm water pollution control policies and procedures were implemented without any incidents. One double track bridge crossed Fanno Creek and the other crossed a 700 ft. wetland approach to the Tualatin River. There were 18 at-grade road crossings on the project. Work also included 72,000 track feet of track reconstruction, 15,000 track feet of new sidings, 12,200 track feet of new mainline, removal of 13 turnouts, and relocation of seven existing turnouts. Additionally, there were four park-and-ride lots, five stations, and all railroad signal improvements.

Specific Responsibilities

To achieve budget success for TriMet, Juston was involved in numerous value engineering and cost cutting discussions. From day one, he was instrumental in value engineering efforts and negotiating subcontractor bids, all the while recognizing schedule issues related to railroad work windows and signal systems procurement.

Track Construction Manager | I-205 LRT Extension (TriMet) | Portland, OR | $181 Million | 50% on Job | 2007 - 2010

REFERENCE: Dan Blocher | (503) 962-2201 | BlocherD@trimet.org

This design-build project consisted of 6.5 miles of ballasted and direct fixation double track, two at-grade crossings, one cut and cover box tunnel, multiple utility relocations, eight stations, nine bridges, 300,000 sf of retaining walls, soundwalls, four park-and-rides, OCS, signals and communications systems, public art, and lead responsibility for civil to systems integration and testing. One of the bridges was constructed over Johnson Creek, an environmentally sensitive waterway. The project tied into the existing TriMet system and required several weekend-long shutdowns. Due to the complexity of ensuring compatibility with existing operations with both civil and systems while minimizing impacts to operations, the tie-in was broken into different phases, including civil, OCS, systems, and final tie-ins. Coordination with UPRR was required for installation of a TPSS immediately adjacent to the active freight track and installation of conduit under the active tracks. Innovative designs were developed on the project for protection of a large diameter waterline and for bridge plinths. The project team worked for several months with TriMet to reduce the original proposed budget to achieve TriMet's budget goal through constructability reviews, value engineering, and schedule analysis. Detailed traffic control planning was required for work while setting bridge girders on both day and night shifts across major ODOT highways, local thoroughfares, and for work along the I-205 freeway.

Specific Responsibilities

Juston's involvement on the project started during the design phase assisting in the planning and estimating of civil and track items, including plans for tie-ins to the operating light rail system.

Construction Manager / Project Manager | North and South CTX Projects (Caltrain Joint Powers Board Authority) | San Francisco to San Jose, CA | $123 Million | 100% on Job | 2002 - 2004

REFERENCE: Harry Steelman | (714) 559-0968 | hsteelman@jlpatterson.com

Juston worked on both segments of this commuter rail project with responsibilities ranging from construction manager to project manager. This was a challenging 40-mile urban alignment along the Peninsula in the San Francisco Bay Area in a shared use corridor with freight and passenger service. The project prepared the existing railroad for the "Baby Bullet" commuter rail service while maintaining main line rail service for Cal Train commuter service, Amtrak, and UPRR freight service. The scope of work included preparation of new roadbed and reconstruction of existing roadbed under traffic and mainline track rehabilitation with tie and rail replacement, bridges, stations, pedestrian over and underpasses, and over 100 new turnouts. The scope also included upgrading the entire signal system to centralized traffic control.

Specific Responsibilities

Juston was responsible for all field construction operations and oversight of work including trackwork construction and structures. Due to permitting and federal funding delays, this project got off to a late start and, as a result, was five months behind schedule when construction finally started. For two years, the crews on this project worked, on average, six days a week, 12 hours a day, completing the project on time and within budget in spite of the late start.

Construction Manager / Project Manager | Airport MAX Light Rail Project (TriMet) | Portland, OR | $123 Million | 100% on Job | 1998 - 2000

REFERENCE: Rick Kindig | (503) 962-8150 | kindigr@trimet.org

Juston worked on this design-build project to construct light rail track work including 48,000 lf of ballasted track, 3,400 lf of direct fixation track, 1,250 lf of concrete crossing panels, and eight pieces of special track, ductbanks for all communication, signals, electrification, platforms, and stations.

Specific Responsibilities

Juston was responsible for overall project management.

Jim **Keep**, PE | Lead Estimator/ Budget Manager

Jim has more than 36 years of experience and has been assigned to roles such as estimating manager and engineer on several infrastructure projects as well as serving as chief estimator and chief engineer for the Southern California division. Notable projects within his area of responsibility include the Sprinter Mainline Project (an FTA-funded rail transit project) and the Big Bear Bridge Project, which was the #10 project on California Construction's Top 25 Highway Projects. Jim is currently assisting the estimating and engineering departments in northern and southern California offices. For estimating, he provides construction cost estimates for highway and transportation projects bids. Upon project award, he manages the development of the project budget, subcontracts, and purchase orders. For engineering, he designs and certifies bridge falsework, concrete formwork, earthwork shoring, and temporary support structures for transportation construction projects.

As Lead Estimator/Budget Manager, Jim will estimate each Opinion of Probable Construction Cost (OPCC) milestone and ensure an accurate cost model. He will also generate estimating reports as required by Caltrans.

QUALIFICATIONS	
Years of Similar Experience 36 **Relevant Education** BS – Civil Engineering, University of California, Davis, CA	**Relevant Licensing/Registration/Training** Professional Civil Engineer, CA, C36688

Related Experience

Estimating Manager | Flatiron West, Inc. | San Diego, CA | Over $1 Billion | 50% on Job | 2010 - Present

REFERENCE: Dennis Wilder | (619) 688-6981 | Dennis.Widler@dot.ca.gov

Jim estimates all the concrete structures on estimates for Flatrion. This work includes bridges, stations, retaining walls, and drainage structures.

He has recently been responsible for the following projects:

- Caltrans, SR-76 Reconstruction – Route 76 and Route 76/15 Separation Design Sequencing Project ($82 million)
- Caltrans, SR-905 Extension – Route 905 New Freeway Phase I and Route 905/805 ($73 million)
- SANDAG, Santa Fe Pedestrian Underpass ($3.4 million)

Estimating Manager and Falsework Design Engineer | Presidio Parkway Design-Build Project (Caltrans) | San Francisco, CA | $400 Million | 50% on Job | 2011 - Present

REFERENCE: Bob Kuo | (925) 899-6421 | bob.kuo@glc-presidioparkway.com

Jim is currently the falsework design engineer and estimator for the Presidio Parkway Project. Presidio Parkway will replace Doyle Drive, the aging approach from San Francisco to the Golden Gate Bridge used by more than 120,000 vehicles each day. The Presidio Parkway

project will improve seismic, structural and traffic safety, as well as integrate the roadway into the national park setting and create additional recreation space. Construction includes the northbound Presidio Viaduct and Battery Tunnel, the Main Post Tunnels and the new Girard Road Interchange with a direct connection to the Presidio.

Specific Responsibilities

Jim was responsible for estimating and designing the falsework. He has recently provided falsework check calculations and certified the falsework drawings for the Presidio High Viaduct, the largest bridge structure on this project.

Estimating Manager | Silicon Valley Berryessa Extension Procurement (Santa Clara Valley Transportation Authority) | Berryessa to San Jose, CA | $785 Million | 100% on Job | 2010 - 2011

REFERENCE: not available

This $785 million procurement was a BART extension of the existing system from the end of the Warm Springs project in Fremont into Santa Clara County and the San Jose area. The first 10-mile segment (the Warm Springs to Berryessa Segment) will primarily run along existing railroad right-of-way. The project was mostly elevated with bridges or MSE walls and included two new stations (one elevated and one depressed) at Milpitas and Berryessa. The project was funded thru local sales taxes in Santa Clara County as well as state and federal funding.

Specific Responsibilities

Jim estimated the bridges and cut and cover structures on this challenging project.

Estimating Manager | I-15 Managed Lanes Design Sequencing Project (Caltrans) |San Diego, CA | $435 Million | 50% on Job | 2004 - 2007

REFERENCE: Cory Binns | (858) 688-1460 | cory_binns@dot.ca.gov

These projects widened the interstate and added new express lanes down the middle. This project consisted of 20-miles of 8 new high occupancy toll (HOT) lanes, new bridge construction, including access ramps, bridge renovations and widenings, retaining walls (Type 1, Type 5, Modified Type 5, MSE (proprietary design), tieback, and soil nail), soundwalls, storm drain and water system improvements, 110,000 cubic meters of exported material, and 22,600 cubic meters of concrete pavement.

The Middle Segment includes four of Flatiron's seven I-15 Managed Lanes contracts, totaling approximately $260 million and comprising a new section of HOT lanes along I-15 in San Diego, California. The Middle Segment consists of eight miles of highway reconstruction and appurtenant construction of numerous bridges and retaining walls, direct access ramps, extensive portland cement concrete (PCC) paving, as well as complex traffic staging and coordination with Caltrans' public relations staff. The work occurred adjacent to many residential communities and included complex highway reconstruction, multiple bridge structures, numerous retaining and soundwalls, as well as complex traffic staging and coordinating with Caltrans' public relations staff.

Specific Responsibilities

Jim was responsible for estimating all the structures on the project during the project pursuit and designing the falsework during the construction of the project.

Estimating Manager | Sprinter Mainline Project (North County Transit District) | Oceanside to Escondido, CA | $265 Million | 50% on Job | 2004 - 2007

REFERENCE: Marc McIntyre | (858) 566-3113 | MMcintyre@kleinfelder.com

The project reconstructed 22 miles of railroad in an active corridor funded by the FTA. The scope of work involves the removal and replacement of track, ties, ballast, bridge and culvert structures, 35 grade crossings, 14 stations, and utility relocations. The project's

communications, control, and signal systems were completed through a contractor-led design-build program. The project required acquisition of permits and the coordination of all work with NCTD, a construction management team, Metrolink, BNSF, five cities, one county, and Caltrans.

Specific Responsibilities

Jim was instrumental in preparing the successful bid package for the Sprinter project. He managed the estimating team that was responsible for the development of all aspects of the construction direct and indirect cost and construction schedule. Estimating conformed with FTA regulations.

Estimating Manager | Mission Valley West Light Rail Transit Project (SANDAG) | San Diego, CA | $63 Million | 100% on Job | 1995 - 1998

REFERENCE: Bill Prey | (619) 699-1941 | bpr@sandag.org

This 3-mile segment of the Metropolitan Transit District Board's light rail line included the construction of new main tracks, including 1.5 miles of elevated track, two at-grade stations, one elevated station, four cast-in-place concrete bridges, a 1,200-foot tunnel, 78-inch sewer line, traction power, overhead catenary, signal systems, retaining walls, utility facilities, pumping stations, earthwork, and wildlife and wetland mitigation. The 30-month project schedule was critical as all work had to be completed so the transit line could open for the 1998 Super Bowl held at Qualcom Stadium. The project was completed on time and within budget, with no claims. Furthermore, the construction activities were completed in a very narrow corridor due to surrounding environmentally sensitive areas and archeological sensitive areas that held Native American artifacts.

Specific Responsibilities

Jim estimated all the concrete structures on the project (bridges, stations, retaining walls, and drainage structures).

Tom **Cameron**, PE | Scheduler

Tom has 30 years of experience on complex infrastructure projects, including multiple major urban freeways. Tom also has an excellent track record of managing projects completed on-time and within budget. His was recently assigned to Flatiron's approximately $670 million Exposition LRT Design-Build Project through the heart of downtown Los Angeles. He first worked as a segment manager for the Flower Street/Adams Boulevard overcrossing of I-110, then transitioned into the role of managing the project's schedule and controls. The project includes bridge structures over highways and other work that requires complex maintenance of traffic (MOT), coordination with Caltrans and other agencies, utility owners, and the community. Tom's other experience includes serving as project manager on Flatiron's $70 million SR-125/SR-94 interchange project and engineering manager on multiple Caltrans projects totaling over $100 million, including Flatiron's projects along I-5 near Disneyland in Anaheim. Tom also worked for Caltrans as a structures engineer for seven years earlier in his career, giving him a thorough understanding of Caltrans' design standards.

As Scheduler, Tom will develop and maintain pre-construction and construction schedules. He will also ensure accuracy of project schedules.

QUALIFICATIONS	
Years of Similar Experience 30 **Relevant Education** BS – Civil Engineering, California State University, San Diego, CA	**Relevant Licensing/Registration/Training** Professional Civil Engineer, CA, C41862 Safety Trained Supervisor (STS) Caltrans 24-hour Storm Water Pollution Control OSHA 10-Hour OSHA 30-Hour

Related Experience

Project Scheduler| Flatiron West, Inc. | San Diego, CA | Over $1.5 Billion | 50% on Job | 2008 - Present

REFERENCE: Dennis Wilder | (619) 688-6981 | Dennis.Widler@dot.ca.gov

Tom is responsible for the scheduling of multiple transportation construction projects in San Diego County including the LOSSAN Corridor double track program and the San Diego Trolley expansion. He provides support as needed to all active projects, up to 20 at a time, such as developing cost loaded schedules for large projects and providing project reporting for schedules. These scheduling activities are similar to those required as a scheduler for the I-5 NCC project.

He has recently been responsible for the following projects:

Caltrans, SR-76 Reconstruction – Route 76 and Route 76/15 Separation Design Sequencing Project ($95 million)

Caltrans, SR-905 Extension – Route 905 New Freeway Phase I and Route 905/805 ($93 million)

SANDAG, Sorrento to Mirmar-Phase I ($26 million)

SANDAG, Sorrento Valley Double Track ($18 million)

Project Scheduler | Exposition LRT Design-Build Project (Exposition Metro Line Construction Authority) | Los Angeles, CA | $670 Million | 100% on Job | 2009 - 2012

REFERENCE: Bud Gandy | (213) 243-5571 | bgandy@exporail.net

This high-profile, $670 million design-build project runs 9.6 miles from downtown Los Angeles to Culver City, California. The project included cast-in-place bridges and large cut and cover tunnel sections, as well as precast concrete girder bridges, extensive utility relocation, and coordination with Caltrans. This design-build project reached over 3.6 million work hours without a lost-time injury.

Specific Responsibilities

Tom oversaw the project schedule and controls for the project. He was also responsible for the Flower Street/Adams Boulevard overcrossing of I-110, which is over Caltrans right-of-way and required extensive coordination with Caltrans' engineers.

Project Manager/Scheduler | Sprinter Cal State San Marcos Loop Project (North County Transit District) | San Marcos, CA | $26 Million | 100% on Job | 2012

REFERENCE: Marc McIntyre | (858) 566-3113 | MMcintyre@kleinfelder.com

This $26 million joint venture project for the North County Transit Department was subsequently awarded to the same Flatiron-led joint venture building the $239 million Sprinter Mainline in San Diego County. The communication and control systems on the project were performed through a design-build approach.

Specific Responsibilities

Tom was responsible for the overall schedule and project controls on this project, which included new railroad alignment, retaining walls, and five cast-in-place concrete bridges, several of which were over live traffic.

Project Scheduler/Controls Manager | I-5 Reconstruction (Caltrans) | Anaheim, CA | $100 Million | 100% on Job | 2004 - 2007

REFERENCE: Chris Mockus (formerly with Caltrans) | (310) 431-8070 | cmockus@caltrop.com

Tom led Flatiron's Southern California Division engineering department for three years. During this time, Tom's group of employees supported multiple projects (up to 20 at a time), totaling over $100 million. Tom put together bid schedules for these projects during the estimating phase, and then expanded them into the baseline schedule when Flatiron's team was awarded the contract. Tom's other support activities included falsework and shoring design engineering, contract negotiations, among other field support functions. Two notable projects include the following:

I-5 Widening at Anaheim Boulevard – This $40 million project included construction of three cast-in-place prestressed box girder bridges (the longest at 2,200 linear feet) and a reinforced concrete cut and cover tunnel. Work also included construction of reinforced concrete retaining walls, architectural finishes and box culverts.

I-5 Widening at Harbor Boulevard – Flatiron built the $65 million I-5 reconstruction project near Disneyland. Coordination with the local residential/business owners to minimize traffic impacts was significant on this project, as construction was ongoing through a popular tourist area. Structure work on the project included removing and replacing four existing freeway overcrossing bridge structures and building two new bridges, as well as retaining walls, MSE walls, box culverts, and architectural features.

Project Scheduler | I-15 Managed Lanes Design Sequencing Project (Caltrans) |San Diego, CA | $435 Million | 100% on Job | 2004 - 2007

REFERENCE: Cory Binns | (858) 688-1460 | cory_binns@dot.ca.gov

These projects widened the interstate and added new express lanes down the middle. This project consisted of 20-miles of 8 new high occupancy toll (HOT) lanes, new bridge construction, including access ramps, bridge renovations and widenings, retaining walls (Type 1, Type 5, Modified Type 5, MSE (proprietary design), tieback, and soil nail), soundwalls, storm drain and water system improvements, 110,000 cubic meters of exported material, and 22,600 cubic meters of concrete pavement.

The Middle Segment includes four of Flatiron's seven I-15 Managed Lanes contracts, totaling approximately $260 million and comprising a new section of HOT lanes along I-15 in San Diego, California. The Middle Segment consists of eight miles of highway reconstruction and appurtenant construction of numerous bridges and retaining walls, direct access ramps, extensive portland cement concrete (PCC) paving, as well as complex traffic staging and coordination with Caltrans' public relations staff. The work occurred adjacent to many residential communities and included complex highway reconstruction, multiple bridge structures, numerous retaining and soundwalls, as well as complex traffic staging and coordinating with Caltrans' public relations staff.

Specific Responsibilities

Tom was responsible for scheduling all segments of the projects during the project preconstruction and construction stages.

Project Manager/Structures Engineer | Mission Valley West Light Rail Transit Project (SANDAG) | San Diego, CA | $63 Million | 100% on Job | 1995 - 1997

REFERENCE: Bill Prey | (619) 699-1941 | bpr@sandag.org

This 3-mile segment of the Metropolitan Transit District Board's light rail line included the construction of new main tracks, including 1.5 miles of elevated track, two at-grade stations, one elevated station, four cast-in-place concrete bridges, a 1,200-foot tunnel, 78-inch sewer line, traction power, overhead catenary, signal systems, retaining walls, utility facilities, pumping stations, earthwork, and wildlife and wetland mitigation. The 30-month project schedule was critical as all work had to be completed so the transit line could open for the 1998 Super Bowl held at Qualcom Stadium. The project was completed on time and within budget, with no claims. Furthermore, the construction activities were completed in a very narrow corridor due to surrounding environmentally sensitive areas and archeological sensitive areas that held Native American artifacts.

Specific Responsibilities

Tom began as the structures engineer, overseeing the construction of five bridges, including work over live traffic, and seven walls, including both MSE and cast-in-place. He was then promoted to project manager, responsible for project controls, scheduling, planning, directing, and coordinating activities of employees and equipment required for the construction of three miles of new light rail track, including 1.5 miles of elevated track.

Beth **Famiglietti** | Environmental/ Permit Manager

CPESC, CESSWI, QSP/QSD, ENVSP

Beth specializes in environmental and storm water-related coordination, compliance management, engineering, assessment, and inspection. Beth is also proficient with environmental scope review and coordination; environmental constraints analysis; technical environmental discipline report review; National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) documentation preparation and review. She also has experience with storm water pollution prevention plan (SWPPP) compliance activities; environmental permit preparation, implementation, and compliance management, including wetland permitting and regulatory interface; and Phase I Site Assessment (hazardous waste) investigation and reporting, as well as implementation of associated QA/QC procedures.

Beth also specializes in environmental permitting and storm water compliance issues before, during, and after development and construction. She has worked with various regulatory agencies, including the South Coast Air Quality Management District (SCAQMD) and the Department of Toxic Substances Control (DTSC). She has also worked with regional water quality control boards in San Diego and San Bernardino, CA.

As Environmental Permit Manager, Beth will work closely with Caltrans counterparts to comply with all environmental permits and review/evaluate options with construction managers to reduce environmental risks. She will also oversee all environmental mitigation procedures and implement BMPs.

QUALIFICATIONS	
Years of Similar Experience 17 **Relevant Education** BS – Environmental Science, Lynchburg College	**Relevant Licensing/Registration/Training** Certified Professional in Erosion and Sediment Control (CPESC), #7049 Certified Erosion, Sediment and Stormwater Inspector (CESSWI), #625 Qualified SWPPP Practitioner / Qualified SWPPP Developer (QSP/QSD), #23372 Envision™ Sustainability Professional (ENV SP)

Related Experience

SWPPP/Environmental Manager | SR125 South / South Bay Expressway (Caltrans) | San Diego, CA | $635 Million | 100% on Job | 2004 - 2007 (5% on Job in 2007 - 2008)

REFERENCE: Ron Caraet | (619) 220-7377 | Ron.Caraet@dot.ca.gov

The SR-125 South Project (now called the South Bay Expressway) included a gap/connector portion and a toll road portion, consisting of approximately 12 total miles of new highway. The project extends from SR-54 in Spring Valley to Otay Mesa Road/SR-905 near the international border crossing. This project included miles of steep slopes, bridges over rivers and creeks, drainage systems,

utilities, walking/equestrian trails, and retaining walls/soundwalls. The project crossed numerous jurisdictional wetlands or waters of the US. Other environmental issues included hazardous materials and wastes (including soil contamination), endangered or threatened species and their habitats, cultural and paleontological resource sites, 4(f) issues, landscaping, restoration, and noise impacts.

Specific Responsibilities

On this project, Beth complied comprehensive project environmental commitments and permit conditions in sensitive areas, including sensitive habitats for threatened and endangered species (for both upland and riparian habitats/species). Beth also was responsible for the assessment of environmental impacts during design process and preparation of supporting documentation for CEQA/NEPA and coordination of riparian revegetation and restoration adjacent to multiple rivers and within floodplains. Vegetation restoration was required and included upland areas.

Beth provided information to support permit amendments and updates for the 401, 404, and 1601. She also managed a 14 person SWPPP crew, who maintained Best Management Practices (BMPs), and other treatment measures, which controlled erosion and runoff. The team performed inspections per the Construction General Permit and managed stormwater sampling per relevant permits. Beth was also responsible for the coordination with the owner regarding dust control and construction noise issues, including the installation and maintenance of temporary noise control panels (approximately a mile or more in length).

Environmental Mitigation Lead | Sixth Street Viaduct Replacement Project (City of Los Angeles) | Los Angeles, CA | $220 Million | 25% on Job | 2013 - Present

REFERENCE: Joel Adams | (916) 200-8599 | joeladams@up.com

This CMGC project requires close coordination with the City of Los Angeles Bureau of Engineering and HNTB as the designer. The Sixth Street Viaduct has an overall length of 3,500 ft., and extends east-west across the Los Angeles River, multiple railroad tracks, US 101, and several local streets. It has a 46 foot wide, four-lane roadway with 11-foot eastbound and westbound inside traffic lanes and 12-foot outside lanes with no shoulders. The new bridge will incorporate roadway shoulders, wider sidewalks, a safety median buffer, and river access and enhancements. The project will also integrate bicycle and pedestrian access, open space and offer direct connections to the Los Angeles River.

Specific Responsibilities

On this CMGC project, Beth supports the Institute for Sustainable Infrastructure's (ISI) Envision effort to pursue a Gold Envision rating. Beth reviewed asbestos, lead, and other hazardous waste related plans necessary for property acquisition and demolition. Beth is responsible for the oversight of required environmental mitigation during construction, including, but not limited to, stormwater, hazardous materials, and associated permits.

Environmental/Permit Manager | I-215 Widening Project Segments 1 & 2 (SANBAG) | San Bernardino, CA | $171 Million | 5% on Job | 2012 - 2013

REFERENCE: Doug Franco | (310) 334-9952 | doug@valicooper.com

The reconstruction project is located on I-215 and extends from south of Rialto Avenue to north of SR 259 in the City of San Bernardino. Items of work include 17 new bridges plus one temporary bridge, 20,815 lf of cast-in-place concrete retaining walls with a combination of spread footings and footings on piles, 2,368 lf of mechanically stabilized embankment walls, 3,208 lf of sheetpile shoring to support an existing railroad, 80,250 cy of concrete pavement, 88,600 tons of AC pavement, a storm drain system with pipe sizes ranging from 8 in diameter to 96 in diameter, landscape and irrigation, and freeway and city street electrical systems.

Specific Responsibilities

On this project, Beth managed the project environmental coordinator/stormwater specialist and prepared/maintained the Hazardous Materials Business Emergency Plan for the project, including working and meeting with the associated regulatory inspector.

Environmental/SWPPP Manager | Colton Crossing Rail to Rail Grade Separation (UPRR) | Colton, CA | $43 Million | 10% on Job | 2010 - 2012

REFERENCE: Joel Adams | (916) 200-8599 | joeladams@up.com

This rail-to-rail track separation project located south of IH 10 and west of IH 215. The project consists of grading, drainage, bridge, and retaining wall construction necessary to complete the UPRR flyover structure over the existing BNSF rail line and eliminates at-grade crossing of two major railroad lines. The project uses cellular concrete retaining structures consisting of cellular concrete backfill, concrete that is combined with a foaming agent that produces a high-strength lightweight concrete fill material, faced precast wall panels. The crossing of the tracks creates a crossing diamond, which makes a loud impact sound for every wheel set of the train. The separation of the tracks will significantly reduce noise levels from moving trains, as well as from idling trains.

Specific Responsibilities

Serving as Environmental/SWPPP Manager and QSP/QSD, Beth is responsible for all environmental permitting, inspections, reporting, and compliance. She is also responsible for preparation of stormwater management plans on this project.

Primary Regulatory Inspection POC and Assessment Coordinator | Hanford Tank Farms (US Department of Energy) | Richland, WA | $1.7 Billion | 90% on Job | 2010 - 2012

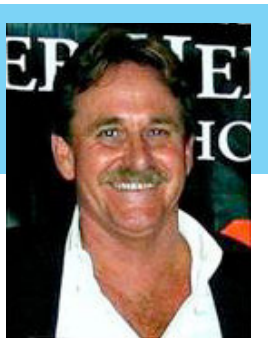
REFERENCE: Tony McKarns | (509) 376-8981 | Anthony_C_Tony_McKarns@rl.gov

This is a $1.7 billion project for managing and transferring 56 million gallons of highly radioactive and hazardous chemical waste stored in 177 underground tanks. This project site is one of the most regulated hazardous waste sites in the US.

Specific Responsibilities

Beth served as the assessment coordinator and primary regulatory inspection point of contact (POC). She was responsible for scheduling, tracking, analyzing, and performing environmental assessments for the environmental division. She was also the primary POC for all environmental regulatory inspections, including, but not limited to, RCRA and air inspections.

Mike **Furby** | Construction Manager (Lagoon)



Mike has over 22 years of coastal salt water wetland experience and environmental mitigation experience in coastal salt marsh, fresh water wetlands, riparian, upland, shallow salt-water habitat, coastal scrub, and vernal pool and mima mounds. Additionally, Mike has over 41 years of construction experience in heavy civil construction and marine construction. Mike is the owner of Marathon Construction which specializes in the construction of waterfront structures, dredging, and wetland restoration projects, most of them in San Diego County. He has served as Project Manager of almost every wetland restoration project that Marathon has performed.

Mike most recently managed and completed the San Dieguito Wetland Restoration Project for Southern California Edison in the San Dieguito Lagoon in Del Mar, CA., a project that is similar in complexity and scope of the San Elijo Wetland Enhancement Project. Mike's ability to offer innovative solutions for wetland enhancement and restoration projects and to corroboratively work with the owner, resource agencies and project stakeholders, make him a good partner for the North Coast Corridor CMGC team.

As Construction Manager (Lagoon), Mike will provide guidance and advice through the preconstruction and construction phase on all lagoon related issues including costs, estimating, scheduling and attend meetings as needed. He will be responsible for securing and coordinating an experienced dredgerman capable of providing portable dredge equipment to support shallow water dredging with onshore and offshore pumping capabilities and experience.

QUALIFICATIONS	
Years of Similar Experience 41 **Relevant Education** BS – Civil Engineering, UCLA	**Relevant Licensing/Registration/Training** A, B, HAZ, C10 CA State Contractors Licenses

Related Experience

Project Construction Manager | Hamilton Wetlands Restoration (US Army Corps of Engineers) | Novato, CA | $7.7 Million | 100% on Job | 2013 - 2014

REFERENCE: Jere Harper | (415) 289-3310 | Jere.B.Harper@usace.army.mil

The Hamilton Wetlands Restoration Project involved the coastal saltwater marsh restoration of the Hamilton Air Force Base in the northern San Francisco harbor. Similar features of work included clear and grubbing, channel excavation, modification to existing berms and levees, excavation of breaches and gaps, demolition of existing structures, existing marsh environmental protection of the salt water marsh mouse, grading of transitional areas, and manual marsh clearing. Work also included constructional of a seasonal wetland and ponds, construction of a tidal panne with six ponds, installation of onsite low permeability soils

in the ponds, aerial topographic mapping and imagery, reconstruction of an existing bridge, hydroseeding, 2.75 miles of Bay Trail with stabilized DG surfacing, installation of over 1.5 miles of lodge pole fencing, and 23,000 cubic yards of hydraulic dredging in pilot and inlet channels.

Specific Responsibilities

Oversight of jobsite superintendent, assembled and coordinated project subcontractors, attended month coordination meetings, coordinated site safety officer with Army Corps of Engineers safety officer, billings, purchase orders, interfaced with regulatory agencies, and assembled contract modifications. Mike also executed a community outreach program to keep general public and stakeholders advised of construction status, oversaw final asbuilt and aerial mapping and imaging to verify compliance to design.

Project Construction Manager | San Dieguito Wetland Restoration Project (Southern California Edison) | Del Mar, CA | $31 Million | 100% on Job | 2006 - 2014

REFERENCE: David Kay | (818) 219-1118 | david.kay@sce.com

The project involved the mechanical and hydraulic dredge excavation of over 2 million cubic yards of material for onsite and beach disposal. Over 115 acres of salt water marsh were created on the 440 acre site. The project involved a hybrid design and construction of low, mid and high marsh wetland modules, mudflats, transitional wetlands, construction of five nesting sites, creation of a 40 acre sub-tidal lagoon, hydraulic dredging of the San Dieguito River and clear and grubbing of wetland and upland modules. Work also included restoration of over 200 acres of upland habitat in the dredge disposal areas, the construction of 8,000 lineal feet of training levees with rock revetment, a concrete overflow weir, storm drainage systems, and collection of seed bank for nursery purposes.

Additionally the project required, the cultivation and propagation of over 300,000 containerized plants from the seed bank collection, installation of BMP's, 220 acres of native seed hydroseeding, salvage and reuse of all wetland and upland topsoil's, coordination with multiple resource agencies, construction of over 2.5 miles of DG surfaced trail systems, annual inlet maintenance dredging, and compliance with multiple conditional resource agency permits. The team coordinated the project biologists, geologists, geotechnical engineers, archaeologists, paleontologists and scientists as well as community outreach and public interface.

Specific Responsibilities

Mike coordinated subcontractors, project scheduling, oversight of project superintendent, interfaced with resource agencies, subcontracts, purchase orders, and equipment coordination. His responsibilities also included public outreach, coordination of project consultants and scientists, field change order negotiations, and coordination with all project stakeholders including JPA, Edison, and the 22nd Ag District.

Project Construction Manager | Batiquitos Lagoon Maintenance Dredging Project (California State Lands Commission) | Carlsbad, CA | $1.9 Million | 100% on Job | 2012 - 2012

REFERENCE: Annabell Abeleda | (916) 574-1871 | Annabell.Abeleda@slc.ca.gov

This project involved the dredging of 118,000 cubic yards of beach quality sand from two shoals that developed in the western and central basins. A majority of the volume of dredge sand developed was from the central basin where beach quality sand was hydraulic dredged and transported via pipeline 6,000 lineal feet to the adjacent state beach (South Ponto State Beach) for on beach disposal. Chevrons and other beach BMP's were employed to allow for direct beach discharge and dewater back to the Pacific Ocean. West basin dredging was completed by machine excavating the shoaled material and re-depositing in scoured areas within the west basin. Miscellaneous work included revetment work around a storm drain outfall, drainage repairs, restoration of the existing nesting site, dune fencing, beach grooming/dune construction, fencing repairs and new fence installation. Increased tidal prism due to dredging

effort and beneficial use of dredge sand for beach enhancement and shoreline habitat are similar aspect of work to the San Elijo Enhancement Project.

Specific Responsibilities

Mike managed subcontractors, DVBE subcontractor participation, coordination meetings with the owner and consultants, interface with resource agencies particularly the California State DFW, project scheduling, assessment of environmental impacts to access work, oversight of restoration of nesting site, billings, close work with dredging subcontractor to define staging of dredging in central basin and field measured quantities, and management of staging area and launch pad in east basin nesting site for dredge.

Project Construction Manager | Chula Vista Wildlife Reserve (San Diego Unified Port District) | Chula Vista, CA | $1.3 Million | 100% on Job | 2010 - 2011

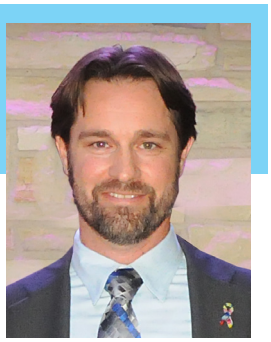
REFERENCE: William Melton | (619) 686-6233 | wmelton@portofsandiego.com

The purpose of the Chula Vista Wildlife Preserve Project was to restore and enhance the existing saltwater marsh by excavating the reserve footprint to a +4.5 MLLW to achieve a typical marsh plain elevation, expand the existing tidal channels, add additional tidal channels to create wider and deeper more well defined tidal creeks, and hydraulically dredge and transport all excavated materials within the marsh to a disposal site 1.5 miles from the dredge sump, remove debris and invasive species, plant marsh vegetation salvaged on site, coordinate all work with the US Fish and Wildlife Service and existing Port tenant.

Specific Responsibilities

Mike coordinated subcontractors, purchase orders, managed construction schedule, attended weekly coordination meetings, worked with USFWS to coordinate dredge disposal site, worked with Dynergy Power Plant personnel on project site, and worked with Port of San Diego environmental staff. He also oversaw the project superintendent, managed dredgerman, oversaw SWPPP and water quality issues, and monitored and compliance with conditional regulatory agency permits.

Erik **Yingling** | CMGC Preconstruction Manager



Erik is an 18 year veteran with Stacy and Witbeck, Inc. (SWI), and he has consistently performed with increasing levels of responsibility. He has a history of managing rail transit projects to completion within budget and ahead of schedule while maintaining safety and quality. He excels in subcontractor and supplier negotiations, is proficient in project management scheduling, and has a proven track record in motivating the construction team. He specializes in coordinating safe construction in close proximity of heavy vehicular, pedestrian, and mass transit traffic. Erik is also adept at analyzing projects for potential value engineering through construction and design innovation.

As CMGC Preconstruction Manager, Erik will coordinate FFSW development of multiple GMP packages and maximizing DBE/UDBE participation; facilitate value engineering efforts, constructability reviews, and design charettes during preconstruction; manage the communication and coordination protocols between Highway, Rail and Lagoon teams; and assist in ROW acquisition, public meetings, and sustainability certifications.

QUALIFICATIONS	
Years of Similar Experience 18 **Relevant Education** BS – Civil Engineering, Portland State University, Portland, Oregon	**Relevant Licensing/Registration/Training** Associated General Contractors (AGC) Project Management Course AGC Advanced Project Management Course American Road and Transportation Builders Association, Young Executive Program

Related Experience

Project Manager | Northwest Light Rail Extension (Valley Metro Rail) | Phoenix, AZ | $161 Million | 100% on Job | 2012 - Present

REFERENCE: Brian Mason | (480) 510-7525 | bmason@valleymetro.org

The Northwest Light Rail Transit Extension project is a 3.2 mile extension of Valley Metro Rail's light rail system along 19th Avenue from the current end-of-line at Montebello Avenue to Dunlap Avenue. This project adds three new stations and a park-and-ride at Dunlap. The project also includes extensive underground utility relocation, roadway widening, new traffic signals, street lighting, and landscaping.

Specific Responsibilities

Erik is responsible for all aspects of the project. He manages a staff of 30 to implement the construction phase of this major project. With three years of work to completely remove and replace all utilities from curb to curb along the 3.2-mile alignment, stakeholder relations, risk management, and schedule coordination required strict attention. The project also impacted 180 stakeholders including residents, businesses, schools, assisted living facilities, and more. Erik empowered project staff to become actively involved in community relations during construction, a strategy that has resulted in exceptional community acceptance of the project.

Preconstruction Services Manager/Project Manager | Pre-Construction Services Northwest Light Rail Extension (Valley Metro Rail) | Phoenix, AZ | $3.4 Million | 100% on Job | 2007 - 2009

REFERENCE: Brian Mason | (480) 510-7525 | bmason@valleymetro.org

This is a CM-at-Risk contract for a 3.2 mile extension to the existing light rail system. This project adds three new stations and a park-and-ride at Dunlap. The project also includes extensive underground utility relocation, roadway widening, new traffic signals, street lighting, and landscaping.

Specific Responsibilities

During the preconstruction phase, Erik was responsible for managing the preconstruction staff including integrating the construction and design teams, performing constructability reviews for all phases of design from conceptual to 100%, developing value engineering ideas, working with designers to incorporate ideas into plans, working with the city engineers and designers to develop specifications, developing cost models and, budgets for 35%, 65%, 95%, and 100% drawings. His team also developed construction phasing and scheduling plan to minimize disruptions to residents/businesses, and made presentations to community groups, schools, government agencies. He worked closely with governmental agencies and third party utility owners to develop acceptable contract language, and managed a building information modeling (BIM) program to minimize future impacts with the state of the art technology. Erik also worked closely with the small businesses, women owned, and disadvantaged business communities to develop opportunities and provide mentorship. After the preconstruction services ended, and a GMP was negotiated, the construction project was suspended due to lack of funding in June of 2009. In July of 2012, the Agency was able to re-establish funding and another shortened preconstruction contract was awarded to review revised drawings and specifications, help the agency with community outreach and ROW/TCE acquisition. The team worked quickly to advertise, estimate, evaluate and successfully negotiate a GMP by the fall of 2012. After Board approval and startup activities, construction started in January of 2013.

Project Manager | Line Section 4 (Valley Metro Rail) | Phoenix, AZ | $63 Million | 100% on Job | 2005 - 2007

REFERENCE: Marty Spong | (602) 744-5562 | mspong@metrolightrail.org

This project consisted of five miles of center-running paved double track in Phoenix and Tempe, Arizona. The project was constructed over eight miles of utility relocation, including four miles of new water main and three miles of new sewer and storm lines. The project also reconstructed over two miles of roadway including 200,000 sf. of sidewalk and driveways, as well as the reconstruction of an existing storm runoff channel bridge structure. Also part of this project was installation of the direct fixation track work for the newly constructed Tempe Town Lake Bridge.

Specific Responsibilities

Erik's responsibilities included managing the means and methods for successful execution of the work, maintaining day to day relationships with the resident engineer, designers, and architects, and managing project staff with ultimate responsibility for estimating, negotiating, scheduling, and project cost accounting. Much of the success of the project was the community's acceptance of the project. Erik was instrumental in the community outreach by his attendance at weekly and monthly community and business meetings. He also managed a very successful DBE subcontractor program.

Project Manager | Intermodal Transportation Center Phase 2 (SANDAG) | San Ysidro, CA | $12.5 Million | 100% on Job | 2002 - 2004

REFERENCE: Bill Prey | (619) 699-1941 | bpr@sandag.org

This was a project for an expansion and upgrade of the MTDB trolley system at the San Ysidro border crossing to Mexico. The work included paved trackwork, a new station, bus facilities, retaining walls, utility reconstruction, and systems-related improvements. The project was particularly challenged by the heavy vehicular and pedestrian traffic in the vicinity.

Specific Responsibilities

Erik was responsible for the overall management of the project including management of field and office staff, estimating, scheduling, safety, working with the project owners, and conducting community outreach. He served as a member of the AGC Safety Committee during the project.

General Superintendent | Interstate Max Line Section 10A/10B (Tri-County Metropolitan Transportation District of Oregon (TriMet)) | Portland, OR | $104 Million | 100% on Job | 2001 - 2003

REFERENCE: Dan Blocher | (503) 962-2201 | BlocherD@trimet.org

This was a CMGC light rail extension project through urban, industrial, and residential revitalization areas. The project consisted of 4.5 miles of ballasted and paved track, construction of an LRT bridge over UPRR tracks, modifications to an ODOT freeway structure, seven stations, roadway widening, and extensive relocation of underground utilities. Complicated vehicular and pedestrian traffic control measures were implemented. There was an extraordinary commitment to community relations, workforce training, and DBE involvement.

Specific Responsibilities

Erik's responsibilities included supervision of all field staff, assistance in creating the baseline CPM schedule, establishment and coordination of weekly construction schedules, coordination of means and methods for successful execution of the work, development of schedule and methods for successful startup and turnover of all systems. He also assisted in the review of subcontractor pay requests, purchase orders, and cost control budget adjustments; coordinated documentation of design conflicts and clarifications; and coordinated the DBE subcontractor program. He managed the employee apprenticeship program and was a member of the Local 701 Equipment Operators Apprenticeship Committee as well as a member of the AGC Collective Bargaining Committee. Erik directly contributed to the project's successful completion, a full six months early. This was a signature project for TriMet for the successful development of the DBE program, making it a national model for rail transit programs.

Don **Riese** | Constructability Expert

Don brings vast experience through a variety of projects. Don has spent most of his career as a general superintendent. He has been responsible for earthwork, underground utility installations, MSE walls, shoring, traffic control, and material acquisition. Don worked on the Rail Bridge (230.6) Replacement Project, which is directly adjacent to this Project, so he understands the unique elements of construction and the local site conditions that will be encountered. His other notable experience includes the Mission Valley West Light Rail Transit (LRT) Project in San Diego and the Sprinter Mainline Project in Oceanside.

As Constructability Expert, Don will regularly collaborate with Caltrans and SANDAG to resolve complex design and constructability issues. His extensive experience in preconstruction services and constructability will contribute substantially to the ultimate success of the I-5 NCC.

QUALIFICATIONS	
Years of Similar Experience 30	**Relevant Licensing/Registration/Training** Safety Trained Supervisor (STS) OSHA 10-Hour OSHA 30-Hour Rail Road Safety Training Traffic Control Training Fall Protection Training Confined Space Training

Related Experience

District Superintendent | Flatiron West, Inc. | San Diego, CA | Over $700 Million | 100% on Job | 2012 - Present

REFERENCE: Ed Fitzgibbon | (619) 995-7334 | ed.fitzgibbon@dot.ca.gov

Don is responsible for earthwork underground utility installations, MSE walls, shoring, traffic control and material acquisition. Don provides input on best practices during his weekly progress site visits. He reviews progress, checks on earthwork, crew productions, safety reviews and schedule progress. All of the project managers, superintendents and foremen report to Don.

He has been responsible for most Flatiron projects within the San Diego area.

Caltrans, SR-76 Reconstruction – Route 76 and Route 76/15 Separation Design Sequencing Project ($82 million)

The scope of work included constructing the bridge over the San Luis Rey River, earthwork, paving, and constructed the barrier needed to shift traffic into its final alignment. The crews expanded a winding, undivided stretch of the two-lane highway into a four-lane, divided highway with additional signal intersections. This design sequencing project presented challenges for both Caltrans and Flatiron, who contended with "nearly constant design changes" throughout the project. Through partnering, the team overcome these challenges to remain on time and on budget.

Caltrans, SR-905 Extension – Route 905 New Freeway Phase I and Route 905/805 ($73 million)

Flatiron constructed the final segment of California's state Route 905, a 6.4-mile new alignment, six-lane highway connecting the Otay Mesa Port of Entry to the California highway system at I-805. The completed freeway is a 12-mile route between California and

Mexico, from the border crossing northwest to I-5. Flatiron self-performed 67 percent of the work on the project, building five bridges, placing 30,000 cubic meters of PCC paving, constructing 20 retaining walls, installing a deep sewer and building a park-and-ride facility for motorists. Because of the increased traffic, some of the off ramps were designed with cement concrete rather than asphalt, because PCC prevents buckling with the extra weight transfer of higher loads.

Some of his other notable projects include:

Rail (LOSSAN Corridor)

- Santa Margarita Bridge Replacement ($26 Million)
- Sorrento to Miramar-Phase I ($26 Million)
- Sorrento Valley Double Track ($18 Million)

Highway (Caltrans District 11)

- Route 78 Nordahl Bridge ($9.2 Million)

General Superintendent | Flatiron West, Inc. | San Diego, CA | Over $1 Billion | 100% on Job | 1994 - 2012

REFERENCE: Ed Fitzgibbon | (619) 995-7334 | ed.fitzgibbon@dot.ca.gov

Don is responsible for earthwork underground utility installations, MSE walls, shoring, traffic control and material acquisition. Don provides input on best practices during his weekly progress site visits. He reviews progress, checks earthwork, crew productions, safety reviews and schedule progress. All of the superintendents and foremen report to Don. Key projects include:

Caltrans, I-15 Managed Lanes ($435 million)

Flatiron is responsible for the construction of seven managed lanes contracts, which comprised a new 20-mile section of 8 new high occupancy toll (HOT) lanes stretching from State Route 163 north to State Route 78 along I-15 in San Diego, California. These projects widened the interstate and added new express lanes down the middle.

SANDAG, Mission Valley West Light Rail Transit Project ($62.3 million)

This project encompassed over three miles of tracks, including 1.5 miles of elevated track. Significant features include new main light rail tracks with traction power and catenary systems, two at-grade stations, one elevated station, and a bus transfer facility. The elevated station includes an elevator and two pedestrian bridges which allow access to the upper station.

Some of his other notable projects include:

Rail (LOSSAN Corridor)

- Bridge 207.6 Replacement ($4.8 Million)
- Bridge 230.6 Replacement ($5.5 Million)

Highway (Caltrans District 11)

- Route 56 Carmel Mountain ($44 Million)
- Route 15/56 ($17.5 Million)
- Route 15 Mercy Road ($15.4 Million)
- Route 5 Leucadia Boulevard ($9.4 Million)
- Route 52 Santee ($28.4 Million)
- Route 5 Mission Bay Drive to Nobel Dirve ($6.3 Million)

Constructability Expert | Sprinter Mainline and Cal State San Marcos Loop (North County Transit District) | Oceanside to Escondido, CA | $265 Million | 100% on Job | 2004 - 2007

REFERENCE: Marc McIntyre | (858) 566-3113 | MMcintyre@kleinfelder.com

Flatiron converted existing freight line to new commuter line as well as constructed a completely new passenger rail. The project included more than 40 grade crossings, five rail bridges, 15 new station platforms, and numerous retaining walls along the entire 22-mile alignment. Flatiron installed new ties, adjusted the alignment for faster travel speeds, installed new at grade crossings, installed double track where there was once only single track for passing commuter trains, and otherwise completely modernized the 22-mile stretch of track. Construction also included new ballasted track, signals, passenger station platforms, communication and control systems, retaining walls, and bridges. Flatiron obtained specialized equipment for the project, added a rail car mover, rail clipping machines, a rail saw, a track panel lifter, speed swings, rail dollies, and a special Hi rail equipped truck to the equipment fleet.

Specific Responsibilities

Don regularly collaborated with NCTD to resolve complex design and constructability issues.

Christopher **Orueta** | Soundwall/ ROW Coordinator

Chris has been with SWI for over seven years, during which time he has become a real asset on projects that require complex coordination with project owners, adjacent businesses and residents, and other project stakeholders. He has extensive experience coordinating construction activities with the goal of minimizing negative impacts to stakeholders affected by the work. Whether it is attending community meetings, or going door-to-door to speak to business owners and residents, Chris has a reputation for working closely with stakeholders to balance their needs with those of the project. His broad base of field experience includes managing crews for underground utilities and ductbank work (sewer, water, storm, communications, signals, and power lines), soundwall construction, building and transit shelter construction, roadway and track installation, restoration and repair of brick, sidewalk, and other finish work.

In addition to his field experience, Chris is at the forefront of bringing technology to construction operations. On his current project, Chris spearheaded a cloud-based document management system to ensure that the most current version of every file and document is available to all office and field staff, as well as subcontractors. This "single source of truth" concept is directly relevant to the I-5 NCC project where it can be used to create a stakeholder database of all properties affected by the project so that all requirements and sensitive issues are available to every construction crew.

As Soundwall/ROW Coordinator, Chris will meet with affected property owners and stakeholders and compile a database to catalogue concerns/requirements for work at their properties. He will also participate in community outreach programs and coordinate wall construction schedules to meet mutual project and stakeholder goals.

QUALIFICATIONS	
Years of Similar Experience 15	**Relevant Licensing/Registration/Training** Fall Protection Trench Safety Crisis Management QA/QC Best Practices BNSF Safety Union Pacific Railroad Safety Colorado Erosion Control Supervisor OSHA 10-Hour First Aid/CPR Colorado Board Certified Traffic Control Supervisor

Related Experience

Construction Coordinator/Traffic Control Manager | First Hill Streetcar (City of Seattle) | Seattle, WA | $68 Million | 100% on Job | 2012 - Present

REFERENCE: Ethan Melone | (206) 684-8066 | ethan.melone@seatle.gov

This is a CMGC project to construct a 2.5-mile double track streetcar system, including utility work, street improvements, overhead electrification system, and a new maintenance facility and yard. The alignment is within city streets in a dense urban environment requiring complex traffic control measures and strict attention to good housekeeping, clear signage, and public outreach and awareness. Extensive coordination with area businesses, residents, and stakeholders, is critical to project success. Traffic control considerations include coordinating construction operations with an intermodal transit hub which supports Amtrak, commuter rail, and bus traffic.

Specific Responsibilities

Chris is responsible for coordinating all construction operations to minimize impacts to vehicular and pedestrian traffic. An example of an innovative idea Chris developed to accommodate the public was to install a "free earplug" station in front of an office building where crews were to perform extensive sawcutting of the roadway. The concept was so welcome that a local news station featured it on their social media feeds. As roadway construction wraps up, Chris is responsible for coordinating installation of all streetcar platform finishes.

Construction Coordinator/Superintendent | West Rail Line (Regional Transportation District (RTD)) | Denver, CO | $369 Million | 95% on Job | 2009 - 2012

REFERENCE: Jim Starling | (303) 819-4281 | Jim.Starling@Jacobs.com

This was a CMGC project for construction of a 12-mile light rail system from downtown Denver to Golden (Jefferson County Justice Center). The work consisted of 13 LRT bridge structures, two light rail tunnels, four pedestrian structures, 12 stations with varying amenities including parking structures, surface parking lots, 115 retaining walls, and more than 10,000 ft. of soundwalls which include CIP, MSE, soil nail, and caisson walls. The work also included rebuilding local streets and roadways adjacent to the trackway and completing 21 at-grade crossings. There are nine miles of double track, three miles of single track rail, a significant replacement, relocation, adjustments and protection of existing and private utilities, and underground storm drainage re-grading.

Specific Responsibilities

Chris was responsible for supporting the owner's public relations consultant to coordinate construction schedules and activities with affected stakeholders including the City of Lakewood and all property owners. Soundwall construction required encroachment onto many private properties, and Chris met with homeowners on a daily basis to assess their individual needs and address any concerns they might have. He was empowered to make on-the-spot decisions to accommodate property owners. Chris also organized work activities around delivery schedules for local businesses. He developed successful relationships which resulted in successful performance of the work.

Superintendent | Portland Transit Mall (Tri-County Metropolitan Transportation District of Oregon (TriMet)) | Portland, OR | $158 Million | 85% on Job | 2008 - 2009

REFERENCE: Dan Blocher | (503) 962-2201 | BlocherD@trimet.org

This was a CMGC project which included utility relocations, street reconstruction, track construction, modifications to existing UPRR bridge structures, systems OCS and signaling work, ductbanks, and station platforms on this 3.5 mile single track light rail loop through the main part of downtown Portland. The project involved extremely complicated traffic control planning and implementation required for all vehicles and pedestrians seeking access to local streets and businesses adjacent to the project. Shutdowns were required for all connections to the existing TriMet light rail system at the Steel Bridge and eight light rail or streetcar track crossings, all of which were completed on-time and without incident. The project was completed two months ahead of schedule.

Specific Responsibilities

Chris supervised subcontract crews for extensive brick pavement and sidewalks, installation of artwork components, installation of transit signs, and construction of transit shelters (glass shelters, handrails, leaning rails, etc.). Since the work was in close proximity to multiple stores, hotels, restaurants, historic sites, and public gathering places, Chris worked with TriMet's community outreach staff to coordinate construction activities to accommodate the needs of the public.

Superintendent | Line Section 5 (Valley Metro Rail) | Phoenix, AZ | $84 Million | 80% on Job | 2007 - 2008

REFERENCE: Marty Spong | (602) 744-5562 | mspong@metrolightrail.org

This was an LRT project in Phoenix, Tempe, and Mesa, Arizona. The project included six miles of new LRT construction centered on local streets through a number of municipalities. The project included the relocation of existing utilities, street widening and reconstruction, two bridges, paved track-work, duct bank, new street lighting and signals, paving, and landscaping. Integral to the success of the project was the construction through the Arizona State University campus. The project received numerous awards and commendations for mitigating construction impacts in the local neighborhoods and within the campus.

Specific Responsibilities

Chris supervised the crews for excavation and installation of five miles of ductbank, worked with four to 20 conduits of varying sizes for track electrification and communication systems including all related manholes and tie-ins.

appendix B

Legal Documents

Power of Attorney

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

That, the undersigned represents and warrants that he is authorized to execute this Power of Attorney on behalf of the entity described; and

That, Flatiron West, Inc. (the "Corporation"), Skanska USA Civil West California District Inc., and Stacy and Witbeck, Inc. are members of a Joint Venture known as Flatiron-Skanska-Stacy and Witbeck, a Joint Venture (the "Joint Venture"), and desire to submit a Bid Proposal and associated documents and, if selected by the client, enter into a contract with the State of California Department of Transportation for the Interstate 5 North Coast Corridor Phase I Project as described in the Request for Proposal dated May 30, 2014. (the "Project").

The Joint Venture, does hereby designate, constitute, and appoint Jeffrey A. Turner as its true and lawful Attorney-in-Fact for the Joint Venture. The Corporation hereby ratifies and confirms such appointment. The Attorney-in-Fact shall have the power to do and perform all acts on behalf of the Joint Venture necessary in connection with the preparation and submittal of the Bid for the above described Project, to wit; to execute the Bid and Proposal documents, and all required documentation to be submitted with the Bid and, if selected to enter into a contract (the "Contract") for the Project, the Joint Venture further authorizes Jeffrey A. Turner as its true and lawful Attorney-in-Fact, in the Joint Venture's place and stead, to sign, initial, execute, and deliver on behalf of the Joint Venture all agreements and documents and perform any and all acts necessary or desirable in the submission of Proposal for said Contract; ratifying and confirming all that Jeffrey A. Turner as said attorney, shall lawfully do or cause to be done by virtue hereof.

The foregoing appointment of Jeffrey A. Turner as above specified, is hereby specifically made subject to revocation or amendment thereof as may hereafter be made by the Joint Venture; further, this Power of Attorney shall remain in effect for a period of three years from its effective date, unless earlier revoked in writing.

[Signature pages follow]

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed on behalf of the Joint Venture by its duly authorized partners this 5th day of June, 2014.

ATTEST:

Flatiron West, Inc.

By: _____
James McMaster

By: _____
G. Melody Pickett
Secretary

STATE OF COLORADO
COUNTY OF WELD

Subscribed and sworn to before me this 5th day of June 2014.

KIMBERLY C. JARVIS
NOTARY PUBLIC
STATE OF COLORADO
MY COMMISSION EXPIRES 4/2/2015

_____
Notary Public in and for
Said County and State

My commission expires: 4/2/2015

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed on behalf of the Joint Venture by its duly authorized partners this 5th day of June 2014.

ATTEST:

Skanska USA Civil West California District Inc.

By: _____

By: _____
Jeff Langevin
Vice President

STATE OF CALIFORNIA
COUNTY OF RIVERSIDE

Subscribed and sworn to before me this 5th day of June 2014.

_____
Notary Public in and for
Said County and State

My commission expires: 8/21/15

IRENE C. RUMBAUGH
Commission # 1949009
Notary Public - California
Riverside County
My Comm. Expires Aug 21, 2015

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed on behalf of the Joint Venture by its duly authorized partners this 5th day of June 2014.

ATTEST:

Stacy and Witbeck, Inc.

By: _____

By: _____
George Furnanz, President

STATE OF California
COUNTY OF Alameda

Subscribed and sworn to before me this 5th day of June 2014.

SYLVIA NGUYEN
Commission # 2028416
Notary Public - California
Alameda County
My Comm. Expires Jun 10, 2017

_____
Notary Public in and for
Said County and State

My commission expires: June 10, 2017

Organization Documents

DEPARTMENT OF CONSUMER AFFAIRS

Contractors State License Board

Contractor's License Detail - License # 990887

DISCLAIMER: A license status check provides information taken from the CSLB license database. Before relying on this information, you should be aware of the following limitations.

- CSLB complaint disclosure is restricted by law (B&P 7124.6) If this entity is subject to public complaint disclosure, a link for complaint disclosure will appear below. Click on the link or button to obtain complaint and/or legal action information.
- Per B&P 7071.17 , only construction related civil judgments reported to the CSLB are disclosed.
- Arbitrations are not listed unless the contractor fails to comply with the terms of the arbitration.
- Due to workload, there may be relevant information that has not yet been entered onto the Board's license database.

License Number	**990887**	**Extract Date** 6/16/2014
Business Information	FLATIRON-SKANSKA-STACY AND WITBECK A JOINT VENTURE Business Phone Number: (951) 684-5360 1995 AGUA MANSA ROAD RIVERSIDE, CA 92509	
Entity	Joint Venture	
Issue Date	02/26/2014	
Expire Date	02/29/2016	
License Status	**ACTIVE** This license is current and active. **All information below should be reviewed.**	
Classifications	**CLASS** **DESCRIPTION** A GENERAL ENGINEERING CONTRACTOR	
Bonding	**CONTRACTOR'S BOND** This license filed a Contractor's Bond with FIDELITY AND DEPOSIT COMPANY OF MARYLAND. **Bond Number:** 09148563 **Bond Amount:** $12,500 **Effective Date:** 02/17/2014	
Workers' Compensation	**WORKERS' COMPENSATION** This license has workers compensation insurance with ZURICH AMERICAN INSURANCE COMPANY **Policy Number:** WC489600709 **Effective Date:** 08/31/2013 **Expire Date:** 08/31/2014	

Personnel listed on this license (current or disassociated) are listed on other licenses.

ACTION BY UNANIMOUS WRITTEN CONSENT
OF THE BOARD OF DIRECTORS OF
FLATIRON WEST, INC.

The undersigned, being all of the members of the board of directors (the "Board") of Flatiron West, Inc., a Delaware corporation (the "Corporation"), pursuant to Section 141(f) of the General Corporation Law of the State of Delaware, do hereby waive all notice of the time, place and purposes of a meeting and do hereby consent to and adopt the resolutions set forth below to have the same force and effect as a unanimous vote of all of the directors of the Corporation at a duly-convened meeting of the Board called and held for the purpose of acting upon proposals to adopt such resolutions.

RESOLVED, that the Board hereby appoints Dale A. Swanberg as Vice President and Chief Operating Officer of the Corporation, effective immediately, to hold office until his successor shall have been duly elected and qualified.

RESOLVED, that the following persons are confirmed as being all the officers of the Corporation as of the date of this resolution and holding the Offices of the Corporation set forth opposite their respective names to serve and hold office until the meeting of the Board following the next annual meeting of stockholders and until their successors are duly chosen and qualified or until their earlier resignation or removal:

John A. DiCiurcio	President and Chief Executive Officer
Dale A. Swanberg	Vice President and Chief Operating Officer
William E. Jensen	Vice President
Frank Daams	Vice President
Richard Grabinski	Vice President
Jeff Turner	Vice President
Henry P. Tolp	Vice President
Raymond P. Hughes	Vice President
Christian M. Peich	Vice President
Troy J. Neuenswander	Vice President
Paul C. Roberts	Vice President and Assistant Secretary
W. Todd Bennett	Vice President and Assistant Secretary
Paul R. Driscoll	Vice President, Secretary, Treasurer, and Chief Financial Officer
G. Melody Pickett	Assistant Secretary

RESOLVED, that each and every action previously taken and performed by any officer of the Corporation in connection with the actions contemplated by the foregoing resolutions be, and hereby is, adopted, ratified, confirmed and approved in all respects as the acts and deeds of the Corporation.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, each of the undersigned has executed this Written Consent as of the 11th day of March 2013.

DIRECTORS:

John A. DiCiurcio

William E. Jensen

Paul R. Driscoll

IN WITNESS WHEREOF, each of the undersigned has executed this Written Consent as of the 11th day of March 2013.

DIRECTORS:

_____
John A. DiCiurcio

_____
William E. Jensen

_____
Paul R. Driscoll

ACTION BY UNANIMOUS WRITTEN CONSENT
OF THE BOARD OF DIRECTORS OF
FLATIRON CONSTRUCTION CORP.

Effective January 25, 2013

The undersigned, being all of the members of the Board of Directors (the "Board") of Flatiron Construction Corp., a Delaware corporation (the "Corporation"), pursuant to Section 141(f) of the General Corporation Law of the State of Delaware, do hereby waive all notice of the time, place and purposes of a meeting of the Board and do hereby consent to and adopt the resolutions set forth below to have the same force and effect as a unanimous vote of all of the directors of the Corporation at a duly-convened meeting of the Board called and held for the purpose of acting upon proposals to adopt such resolutions.

RESOLVED, that **John A. DiCiurcio** and **G. Melody Pickett** are each hereby appointed as General Power of Attorney for the Corporation with independent power and authority to delegate in writing and grant Power of Attorney to other employees or agents of the Corporation or its subsidiary companies as authority to represent and bind the Corporation in all matters including authority to sign, initial, execute, and deliver on behalf of the Corporation all proposals and related documents and contracts related to projects authorized by the Corporation and perform any and all acts necessary or desirable on behalf of the Corporation; ratifying and confirming all that **John A. DiCiurcio** or **G. Melody Pickett**, as said attorney, shall lawfully do or cause to be done by virtue hereof.

PROVIDED, HOWEVER, that the foregoing appointments of **John A. DiCiurcio** and **G. Melody Pickett**, as above specified, are hereby specifically made subject to revocation or amendment thereof as may hereafter be made by the Corporation, which revocation or amendment shall not be effective until notice hereof has been delivered by the Corporation to **John A. DiCiurcio** and **G. Melody Pickett**.

IN WITNESS WHEREOF, each of the undersigned has executed this Written Consent effective as of the date set forth above.

DIRECTORS:

Blair A. Brandon

Paul R. Driscoll

SKANSKA

CERTIFIED COPY OF CORPORATE RESOLUTION

I, Joseph M. Nogues, Secretary of Skanska USA Civil West California District Inc., a California Corporation, do hereby certify that the following is a true and correct copy of a resolution that was adopted through action by unanimous written consent of the Board of Directors of Skanska USA Civil West California District Inc., and further certify that said resolution has not been repealed or amended and is still in full force and effect.

"RESOLVED, that Richard Cavallaro, Chairman, President & Chief Executive Officer; Tony Taddeo, Senior Vice President & General Manager; Thomas Sutton, Senior Vice President; Michael Aparicio, Executive Vice President; Tim Wilson, Vice President; Jeff Langevin, Vice President; Mark Leintz, Vice President and Joseph M. Nogues, Senior Vice President, Chief Financial Officer & Secretary/Treasurer, be and is hereby authorized on behalf of Skanska USA Civil West California District Inc. to execute bids, bid bonds, contracts, performance and payment bonds, and all other documents necessary for the execution and progress of contracts."

IN WITNESS WHEREOF, I have signed this instrument and caused the corporate seal of said corporation to be affixed this 14th day of April, 2014.

Joseph M. Nogues
Senior VP, Chief Financial Officer
SKANSKA USA CIVIL WEST CALIFORNIA DISTRICT INC.

(SEAL)

STATE OF CALIFORNIA)

COUNTY OF RIVERSIDE)

Subscribed and sworn to before me this 14th day of April 2014.

Notary Public in and for the State of California

IRENE C. RUMBAUGH
Commission # 1949009
Notary Public - California
Riverside County
My Comm. Expires Aug 21, 2015

CORPORATE RESOLUTION

I, Janet S. Rogers, do hereby certify that I am the duly elected, qualified and acting Secretary of Stacy and Witbeck, Inc., a corporation duly organized and existing under the laws of the State of California that I am a custodian of the corporate records and the corporate seal of the said Corporation; and that at a meeting of the Board of Directors of said Corporation duly called and held in accordance with law and By-laws of said Corporation on the 27th day of February, 2014, at which said meeting a quorum of the Board of Directors of said Corporation was present and acting throughout the following resolution was duly adopted by said Board of Directors, to-wit:

RESOLVED:

That any one of the following officers using the title **Assistant Secretary, Secretary, Chief Executive Officer, President, Senior Vice President, Vice President, Treasurer or Chief Financial Officer** are hereby authorized to sign bid documents, contracts and all other documents on behalf of the corporation.

And I do further certify that the above resolution has not been in wise altered, amended or rescinded and is now in full force and effect.

I do hereby certify that the names of the present officers of said Corporation are as follow:

John Bollier – Chief Executive Officer
George Furnanz – President
John Zehner – Senior Vice President
Jim Abramson – Senior Vice President
Clayton Gilliland – Vice President
Terry Martin – Vice President
Armando Tiscareno – Vice President
Janet Rogers – Vice President and Secretary
Steve Benninga – Assistant Secretary
Rick Tortorello – Assistant Secretary
Mark Schoendienst – Chief Financial Officer
Rick Wunderlich – Treasurer

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the said Corporation this 24th day of June, 2014.

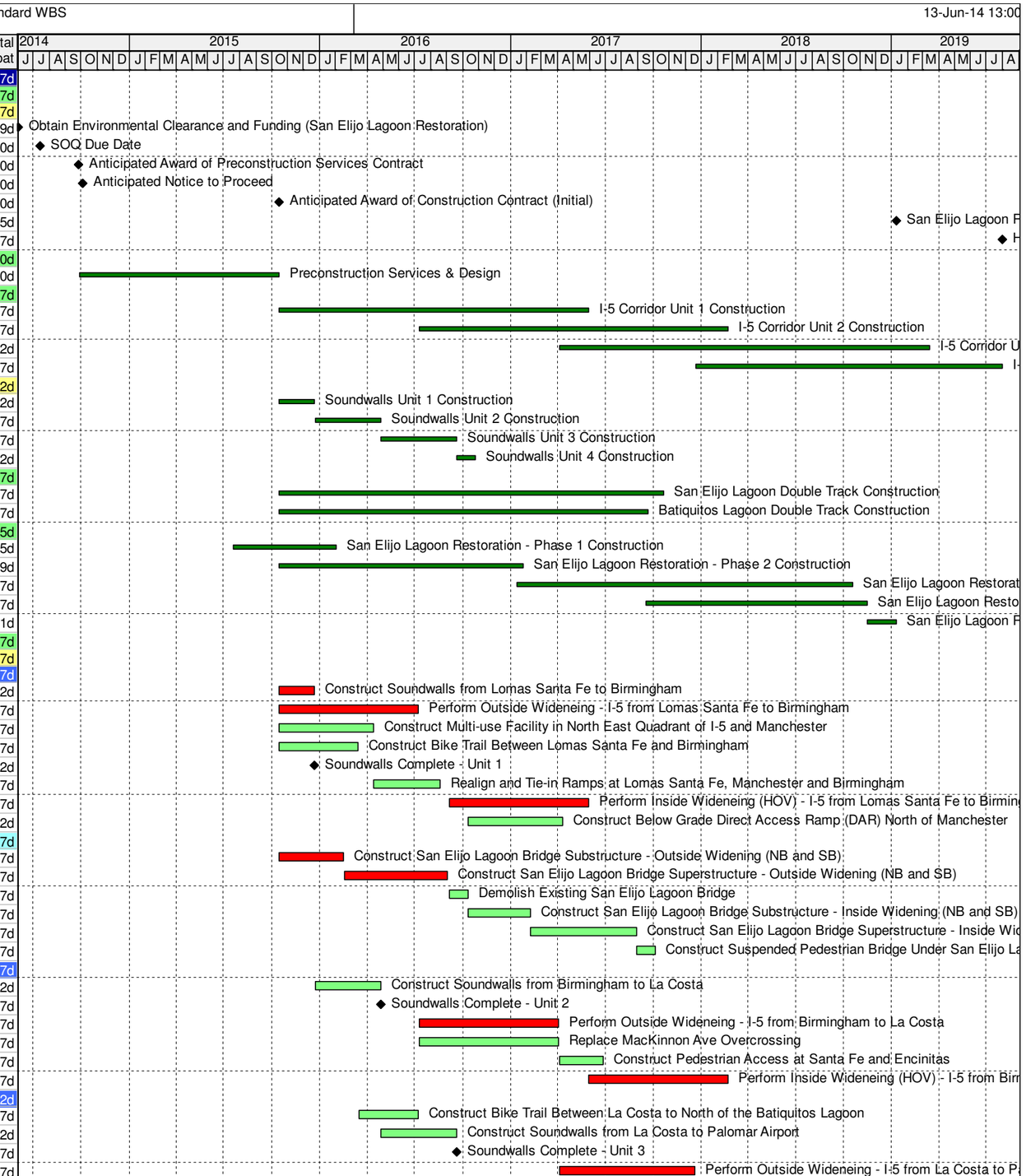
Affix Corporate Seal Here

Janet Rogers

Secretary

Additional Information

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
I-5 Northcoast Corridor - Phase 1 Improvements - Summary		1282d	03-Jun-14	31-Jul-19	237d
Overview		1282d	03-Jun-14	31-Jul-19	237d
Major Milestones		1282d	03-Jun-14	31-Jul-19	237d
MILE1090	Obtain Environmental Clearance and Funding (San Elijo Lagoon Restoration)	0d		03-Jun-14	1519d
MILE1020	SOQ Due Date	0d		15-Jul-14*	0d
MILE1030	Anticipated Award of Preconstruction Services Contract	0d		26-Sep-14*	0d
MILE1040	Anticipated Notice to Proceed	0d		03-Oct-14*	0d
MILE1050	Anticipated Award of Construction Contract (Initial)	0d		15-Oct-15*	0d
MILE1070	San Elijo Lagoon Restoration Complete	0d		10-Jan-19	375d
MILE1080	Highway Corridor Construction Complete	0d		31-Jul-19	237d
Preconstruction		261d	29-Sep-14	15-Oct-15	0d
SUMM1000	Preconstruction Services & Design	261d	29-Sep-14	15-Oct-15	0d
Highway Corridor		940d	16-Oct-15	31-Jul-19	237d
SUMM1070	I-5 Corridor Unit 1 Construction	400d	16-Oct-15	30-May-17	237d
SUMM1010	I-5 Corridor Unit 2 Construction	400d	11-Jul-16	21-Feb-18	237d
SUMM1080	I-5 Corridor Unit 3 Construction	485d	04-Apr-17	15-Mar-19	332d
SUMM1090	I-5 Corridor Unit 4 Construction	400d	21-Dec-17	31-Jul-19	237d
Soundwalls		255d	16-Oct-15	25-Oct-16	922d
SUMM1100	Soundwalls Unit 1 Construction	45d	16-Oct-15	22-Dec-15	1132d
SUMM1110	Soundwalls Unit 2 Construction	85d	23-Dec-15	27-Apr-16	1047d
SUMM1120	Soundwalls Unit 3 Construction	100d	28-Apr-16	19-Sep-16	947d
SUMM1130	Soundwalls Unit 4 Construction	25d	20-Sep-16	25-Oct-16	922d
LOSSAN Rail Corridor		500d	16-Oct-15	20-Oct-17	677d
SUMM1140	San Elijo Lagoon Double Track Construction	500d	16-Oct-15	20-Oct-17	677d
SUMM1150	Batiquitos Lagoon Double Track Construction	480d	16-Oct-15	21-Sep-17	697d
San Elijo Lagoon Restoration		864d	20-Jul-15	10-Jan-19	375d
SUMM1020	San Elijo Lagoon Restoration - Phase 1 Construction	134d	20-Jul-15	02-Feb-16	1105d
SUMM1030	San Elijo Lagoon Restoration - Phase 2 Construction	314d	16-Oct-15	24-Jan-17	739d
SUMM1040	San Elijo Lagoon Restoration - Phase 3 Construction	439d	13-Jan-17	17-Oct-18	327d
SUMM1050	San Elijo Lagoon Restoration - Phase 4 Construction	290d	18-Sep-17	15-Nov-18	307d
SUMM1060	San Elijo Lagoon Restoration - Phase 5 Construction	36d	16-Nov-18	10-Jan-19	271d
Phase 1 Construction		1282d	03-Jun-14	31-Jul-19	237d
Highway Corridor		940d	16-Oct-15	31-Jul-19	237d
Unit 1 - Lomas to Birmingham		490d	16-Oct-15	05-Oct-17	687d
HGWY1020	Construct Soundwalls from Lomas Santa Fe to Birmingham	45d	16-Oct-15	22-Dec-15	922d
HGWY1000	Perform Outside Wideneing - I-5 from Lomas Santa Fe to Birmingham	180d	16-Oct-15	08-Jul-16	247d
HGWY1040	Construct Multi-use Facility in North East Quadrant of I-5 and Manchester	120d	16-Oct-15	13-Apr-16	1057d
HGWY1050	Construct Bike Trail Between Lomas Santa Fe and Birmingham	100d	16-Oct-15	15-Mar-16	997d
HGWY1240	Soundwalls Complete - Unit 1	0d		22-Dec-15	1132d
HGWY1060	Realign and Tie-in Ramps at Lomas Santa Fe, Manchester and Birmingham	90d	14-Apr-16	19-Aug-16	247d
HGWY1010	Perform Inside Wideneing (HOV) - I-5 from Lomas Santa Fe to Birmingham	180d	06-Sep-16	30-May-17	237d
HGWY1030	Construct Below Grade Direct Access Ramp (DAR) North of Manchester	120d	12-Oct-16	10-Apr-17	812d
San Elijo Lagoon Bridge (Br No. 57-0458L/R)		490d	16-Oct-15	05-Oct-17	687d
BRDG1000	Construct San Elijo Lagoon Bridge Substructure - Outside Widening (NB and SB)	80d	16-Oct-15	16-Feb-16	237d
BRDG1010	Construct San Elijo Lagoon Bridge Superstructure - Outside Widening (NB and SB)	140d	17-Feb-16	02-Sep-16	237d
BRDG1020	Demolish Existing San Elijo Lagoon Bridge	25d	06-Sep-16	11-Oct-16	687d
BRDG1030	Construct San Elijo Lagoon Bridge Substructure - Inside Widening (NB and SB)	80d	12-Oct-16	08-Feb-17	687d
BRDG1040	Construct San Elijo Lagoon Bridge Superstructure - Inside Widening (NB and SB)	140d	09-Feb-17	30-Aug-17	687d
BRDG1050	Construct Suspended Pedestrian Bridge Under San Elijo Lagoon Bridge	25d	31-Aug-17	05-Oct-17	687d
Unit 2 - Birmingham to La Costa		535d	23-Dec-15	21-Feb-18	597d
HGWY1090	Construct Soundwalls from Birmingham to La Costa	85d	23-Dec-15	27-Apr-16	922d
HGWY1230	Soundwalls Complete - Unit 2	0d		27-Apr-16	1047d
HGWY1070	Perform Outside Wideneing - I-5 from Birmingham to La Costa	180d	11-Jul-16	03-Apr-17	247d
HGWY1100	Replace MacKinnon Ave Overcrossing	180d	11-Jul-16	03-Apr-17	817d
HGWY1110	Construct Pedestrian Access at Santa Fe and Encinitas	60d	04-Apr-17	27-Jun-17	757d
HGWY1080	Perform Inside Wideneing (HOV) - I-5 from Birmingham to La Costa	180d	31-May-17	21-Feb-18	237d
Unit 3 - La Costa to Palomar		845d	16-Oct-15	15-Mar-19	332d
HGWY1160	Construct Bike Trail Between La Costa to North of the Batiquitos Lagoon	80d	16-Mar-16	08-Jul-16	997d
HGWY1140	Construct Soundwalls from La Costa to Palomar Airport	100d	28-Apr-16	19-Sep-16	922d
HGWY1220	Soundwalls Complete - Unit 3	0d		19-Sep-16	947d
HGWY1120	Perform Outside Wideneing - I-5 from La Costa to Palomar Airport	180d	04-Apr-17	20-Dec-17	247d



Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | Milestone

TASK filter: All Activities

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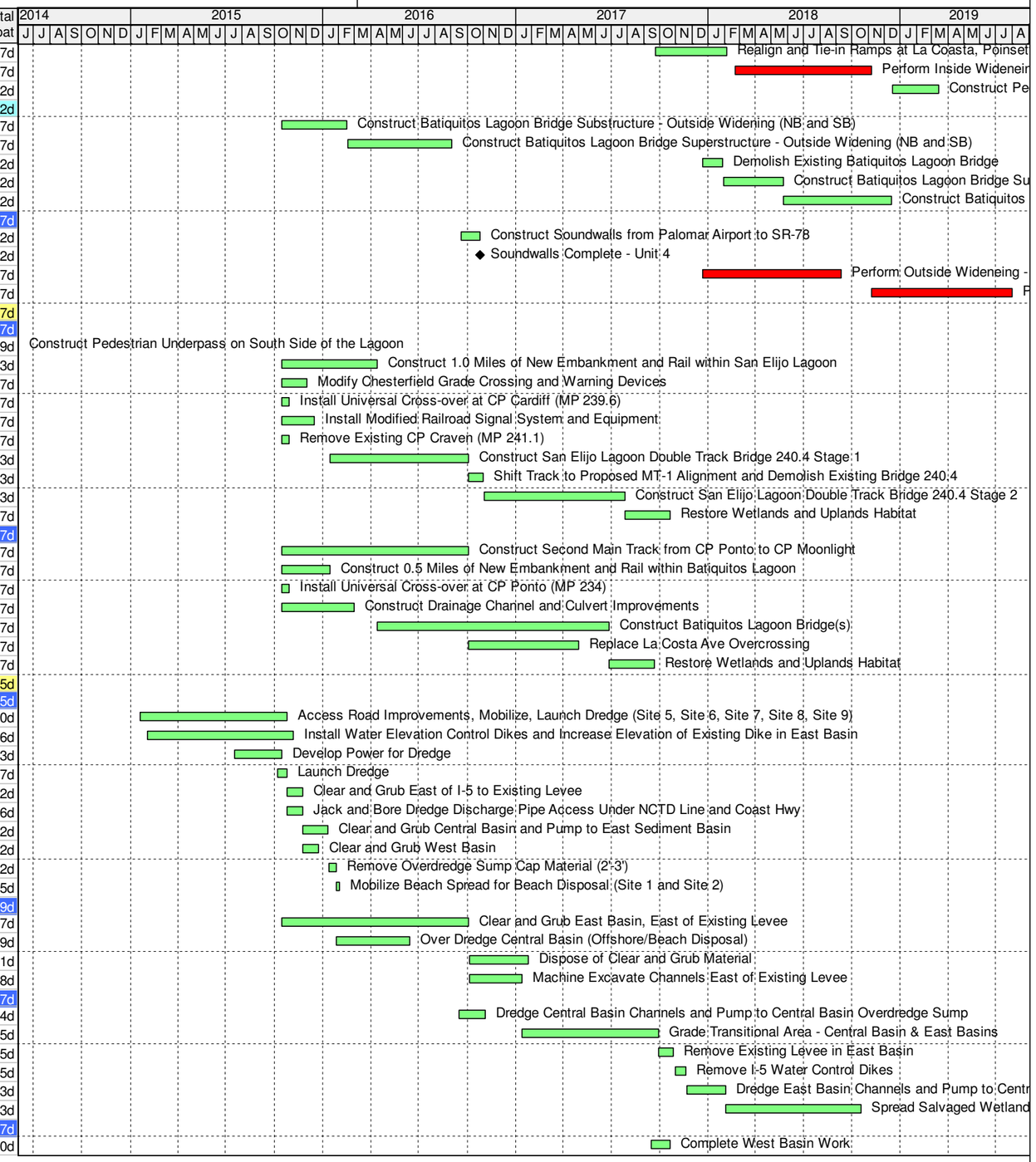
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
HGWY1150	Realign and Tie-in Ramps at La Coasta, Poinsettia and Palomar Airport	90d	22-Sep-17	05-Feb-18	247d
HGWY1130	Perform Inside Wideneing (HOV) - I-5 from La Costa to Palomar Airport	180d	22-Feb-18	06-Nov-18	237d
HGWY1170	Construct Pedestrian Trail Connection Under the Batiquitos Lagoon Bridge	60d	17-Dec-18	15-Mar-19	332d
Batiquitos Lagoon Bridge (Br No. 57-0459L/R)		785d	16-Oct-15	14-Dec-18	332d
BRDG1060	Construct Batiquitos Lagoon Bridge Substructure - Outside Widening (NB and SB)	80d	16-Oct-15	16-Feb-16	597d
BRDG1070	Construct Batiquitos Lagoon Bridge Superstructure - Outside Widening (NB and SB)	140d	17-Feb-16	02-Sep-16	597d
BRDG1080	Demolish Existing Batiquitos Lagoon Bridge	25d	21-Dec-17	29-Jan-18	332d
BRDG1090	Construct Batiquitos Lagoon Bridge Substructure - Inside Widening (NB and SB)	80d	30-Jan-18	23-May-18	332d
BRDG1100	Construct Batiquitos Lagoon Bridge Superstructure - Inside Widening (NB and SB)	140d	24-May-18	14-Dec-18	332d
Unit 4 - Palomar to Rte 78		710d	20-Sep-16	31-Jul-19	237d
HGWY1200	Construct Soundwalls from Palomar Airport to SR-78	25d	20-Sep-16	25-Oct-16	922d
HGWY1210	Soundwalls Complete - Unit 4	0d		25-Oct-16	922d
HGWY1180	Perform Outside Wideneing - I-5 from Palomar Airport to SR-78	180d	21-Dec-17	10-Sep-18	457d
HGWY1190	Perform Inside Wideneing (HOV) - I-5 from Palomar Airport to SR-78	180d	07-Nov-18	31-Jul-19	237d
LOSSAN Rail Corridor		842d	03-Jun-14	20-Oct-17	677d
San Elijo Lagoon Double Track		842d	03-Jun-14	20-Oct-17	677d
RAIL1160	Construct Pedestrian Underpass on South Side of the Lagoon	0d	03-Jun-14	03-Jun-14	1519d
RAIL1000	Construct 1.0 Miles of New Embankment and Rail within San Elijo Lagoon	120d	16-Oct-15	13-Apr-16	553d
RAIL1040	Modify Chesterfield Grade Crossing and Warning Devices	30d	16-Oct-15	01-Dec-15	1147d
RAIL1050	Install Universal Cross-over at CP Cardiff (MP 239.6)	10d	16-Oct-15	29-Oct-15	1167d
RAIL1070	Install Modified Railroad Signal System and Equipment	40d	16-Oct-15	15-Dec-15	1137d
RAIL1060	Remove Existing CP Craven (MP 241.1)	10d	16-Oct-15	29-Oct-15	1167d
RAIL1010	Construct San Elijo Lagoon Double Track Bridge 240.4 Stage 1	180d	15-Jan-16	03-Oct-16	553d
RAIL1020	Shift Track to Proposed MT-1 Alignment and Demolish Existing Bridge 240.4	20d	04-Oct-16	01-Nov-16	553d
RAIL1030	Construct San Elijo Lagoon Double Track Bridge 240.4 Stage 2	180d	02-Nov-16	26-Jul-17	553d
RAIL1080	Restore Wetlands and Uplands Habitat	60d	27-Jul-17	20-Oct-17	677d
Batiquitos Lagoon Double Track		480d	16-Oct-15	21-Sep-17	697d
RAIL1090	Construct Second Main Track from CP Ponto to CP Moonlight	240d	16-Oct-15	03-Oct-16	697d
RAIL1110	Construct 0.5 Miles of New Embankment and Rail within Batiquitos Lagoon	60d	16-Oct-15	14-Jan-16	1117d
RAIL1120	Install Universal Cross-over at CP Ponto (MP 234)	10d	16-Oct-15	29-Oct-15	1167d
RAIL1130	Construct Drainage Channel and Culvert Improvements	90d	16-Oct-15	01-Mar-16	1087d
RAIL1100	Construct Batiquitos Lagoon Bridge(s)	300d	14-Apr-16	27-Jun-17	697d
RAIL1150	Replace La Costa Ave Overcrossing	140d	04-Oct-16	01-May-17	797d
RAIL1140	Restore Wetlands and Uplands Habitat	60d	28-Jun-17	21-Sep-17	697d
San Elijo Lagoon Restoration		989d	20-Jan-15	10-Jan-19	375d
Phase 1		259d	20-Jan-15	02-Feb-16	1105d
SELR1000	Access Road Improvements, Mobilize, Launch Dredge (Site 5, Site 6, Site 7, Site 8, S	45d	20-Jan-15	26-Oct-15	150d
SELR1010	Install Water Elevation Control Dikes and Increase Elevation of Existing Dike in East	45d	03-Feb-15	06-Nov-15	466d
SELR0990	Develop Power for Dredge	90d	18-Jul-15	16-Oct-15	443d
SELR1020	Launch Dredge	15d	08-Oct-15	26-Oct-15	417d
SELR1025	Clear and Grub East of I-5 to Existing Levee	25d	26-Oct-15	23-Nov-15	392d
SELR1050	Jack and Bore Dredge Discharge Pipe Access Under NCTD Line and Coast Hwy	20d	26-Oct-15	23-Nov-15	436d
SELR1030	Clear and Grub Central Basin and Pump to East Sediment Basin	45d	24-Nov-15	11-Jan-16	462d
SELR1040	Clear and Grub West Basin	20d	24-Nov-15	23-Dec-15	342d
SELR1045	Remove Overdredge Sump Cap Material (2'-3')	15d	12-Jan-16	26-Jan-16	462d
SELR1060	Mobilize Beach Spread for Beach Disposal (Site 1 and Site 2)	5d	27-Jan-16	02-Feb-16	1105d
Phase 2		314d	16-Oct-15	24-Jan-17	739d
SELR1090	Clear and Grub East Basin, East of Existing Levee	135d	16-Oct-15	04-Oct-16	187d
SELR1070	Over Dredge Central Basin (Offshore/Beach Disposal)	140d	27-Jan-16	14-Jun-16	1289d
SELR1080	Dispose of Clear and Grub Material	92d	05-Oct-16	24-Jan-17	371d
SELR1100	Machine Excavate Channels East of Existing Levee	82d	05-Oct-16	12-Jan-17	158d
Phase 3		518d	16-Sep-16	17-Oct-18	327d
SELR1110	Dredge Central Basin Channels and Pump to Central Basin Overdredge Sump	50d	16-Sep-16	04-Nov-16	544d
SELR1115	Grade Transitional Area - Central Basin & East Basins	30d	13-Jan-17	28-Sep-17	125d
SELR1160	Remove Existing Levee in East Basin	20d	29-Sep-17	27-Oct-17	125d
SELR1140	Remove I-5 Water Control Dikes	15d	30-Oct-17	20-Nov-17	125d
SELR1130	Dredge East Basin Channels and Pump to Central Basin Overdredge Sump	70d	21-Nov-17	02-Feb-18	183d
SELR1120	Spread Salvaged Wetland Vegetation Materials to Central Basin and East Basin	45d	03-Feb-18	17-Oct-18	183d
Phase 4		290d	16-Sep-17	15-Nov-18	307d
SELR1170	Complete West Basin Work	30d	16-Sep-17	20-Oct-17	280d



Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | ◆ Milestone

TASK filter: All Activities

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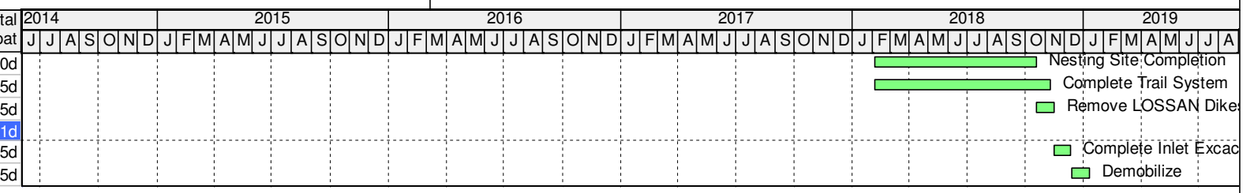
Activity ID	Activity Name	Original Duration	Start	Finish	Total Float
SELR1190	Nesting Site Completion	30d	05-Feb-18	18-Oct-18	160d
SELR1200	Complete Trail System	45d	05-Feb-18	08-Nov-18	165d
SELR1210	Remove LOSSAN Dikes	20d	18-Oct-18	15-Nov-18	125d
Phase 5		36d	16-Nov-18	10-Jan-19	271d
SELR1240	Complete Inlet Excacation (Mechanical and Beach Disposal) and Grading	20d	16-Nov-18	11-Dec-18	155d
SELR1260	Demobilize	20d	12-Dec-18	10-Jan-19	125d



Remaining Level of Effort | Actual Work | Critical Remaining Work
Actual Level of Effort | Remaining Work | ◆ Milestone

TASK filter: All Activities

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Access
Clear and Grubb
Processing Area
Dike with
Water Control
San Elijo Lagoon
Possible
Access Road
Across Losann
STAGING
AREA
Dike with
Water Control
Dike with
Water Control
Pipeline
Enter
Dredge Discharge along Beach
Pipeline
Exit

CLEAR AND GRUB
Access
SEDIMENT DEWATERING AREA
Sump Exc w/ 16" Electric Hydraulic Dredge
STAGING AREA
New Track Embankment
Temp Crossing
New Track Embankment
Temp Access Road to Hwy 101
POSSIBLE RETURN LINE
Beach
NEAR OFF SHORE DISPOSAL

10" Hydraulic Dredge
New Bridge and Widened Highway
16" Hydraulic Dredge
SEDIMENT DEWATERING AREA
STAGING AREA
New Track Embankment
Temp Crossing
Temp Access Road to Hwy 101
New Track Embankment

New Bridge
and Widened
Highway
TRANSITION
AREA
NESTING
SITE/STAGING
AREA
Temp
Crossing
Temp
Access Road
to Hwy 101
New Bridge

TRANSITION AREA
NESTING SITE
New Bridge

Option 1 Highway | Full Trestle

Option 2 Highway | Partial Trestle Northerly + Embankment fills over main channel Southerly

Option 3 Highway | Partial Trestle Northerly with no Embankment to the South

Option 1 Rail | Full Trestle

Option 2 Rail | Partial Trestle Northerly + Embankment fills over main channel Southerly

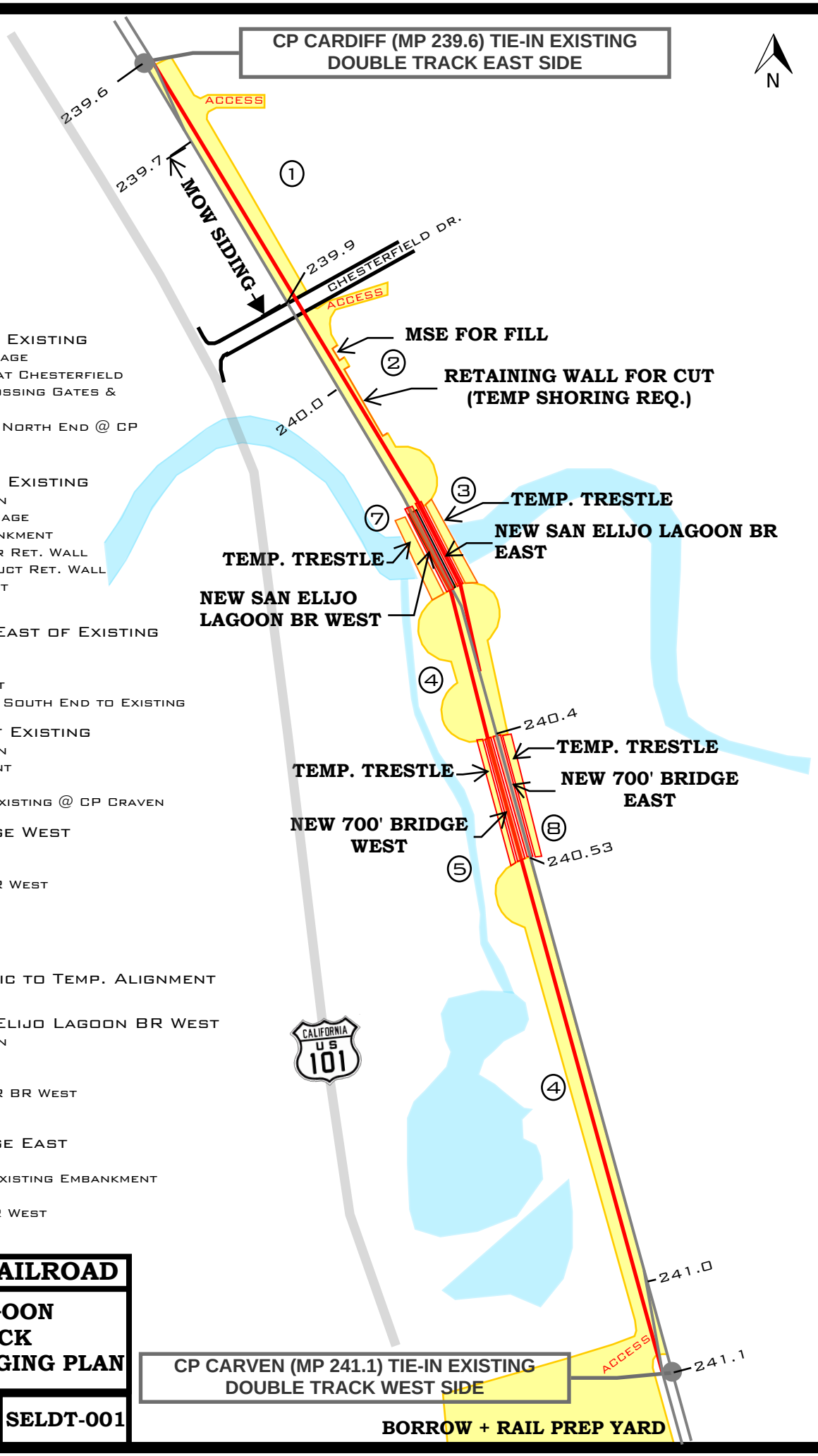
Option 3 Rail | Partial Trestle Northerly with no Embankment to the South

Phase 1

1. New Track East of Existing
   - Extend Existing Drainage
   - New Grade Crossing at Chesterfield
   - Relocate Existing Crossing Gates & Signals
   - Install Track & Tie-In North End @ CP Cardiff
2. New Track East of Existing
   - Install Debris Curtain
   - Extend Existing Drainage
   - Construct MSE Embankment
   - Install temp. SOE For Ret. Wall
   - Excavate and Construct Ret. Wall
   - Build New Embankment
   - Install Track
3. Build New RR BR East of Existing
   - Temp. Debris Curtain
   - Install temp. Trestle
   - Build New RR BR East
   - Install Track & Tie-In South End to Existing
4. New Track West of Existing
   - Install Debris Curtain
   - Construct Embankment
   - Install Track
   - Tie-In South End to Existing @ CP Craven
5. New 700' RR Bridge West
   - Temp Debris Curtain
   - Install Temp Trestle
   - Build New 700' RR BR West
   - Install Track & Tie-In

Phase 2

6. Switch Train Traffic to Temp. Alignment
7. Replacement San Elijo Lagoon BR West
   - Install Debris Curtain
   - Install Temp Trestle
   - Demo Existing RR BR
   - Build Replacement RR BR West
   - Install Truck & Tie-IN
8. New 700' RR Bridge East
   - Temp Debris Curtain
   - Excavate to Remove Existing Embankment
   - Install Temp Trestle
   - Build New 700' RR BR West
   - Install Track & Tie-In



I5 NCC- LOSSAN RAILROAD		
SAN ELIJO LAGOON DOUBLE TRACK CONSTRUCTION STAGING PLAN		
4-13-14	JS	SELDT-001

Phase 1

1. New Track West of Existing
   - Install Temp Debris Curtain
   - Build Embankment
   - Install Track & Tie-In North End to Existing
2. New Batiquitos Lagoon RR BR West
   - Install Debris Curtain
   - Install Temp Trestle
   - Build New RR BR West
   - Install Track and Tie-In
3. Lengthen La Costa Bridge
   - Temp Support Existing Sewer Lines (3)
   - Demo Existing Bridge
   - Excavate West Embankment
   - Install New La Costa BR by Means of ABC (Accelerated Bridge Construction)
4. New Track West of Existing
   - Excavate West Embankment
   - Make Track Bed
   - Build Track & Tie-In South End to Existing
5. New Track East of Existing
   - Extend Drainage
   - Build Embankment
   - Install Track & Tie-In North End to Existing & South End to Existing @ CP Moonlight
6. New Grade Crossing
   - Relocate Existing Crossing gates & Signals
   - Install New Grade Crossing

Phase 2

7. Switch Train Traffic to Temp. Alignment
8. Replace Batiquitos RR Bridge East
   - Install Debris Curtain
   - Install Temp. Trestle
   - Demo Existing RR BR
   - Construct Batiquitos RR BR East
   - Install Track & Tie-In
9. New Track East of Existing
   - Remove Existing Track
   - Remove Switch & Signal Hut
   - Make Track Bed
   - Install Track & Tie-In North end to CP Ponto

I5 NCC- LOSSAN RAILROAD

BATIQUITOS LAGOON DOUBLE TRACK CONSTRUCTION STAGING PLAN

4-13-14	JS	BLDT-001