PROJECT MANUAL

December 15, 2021

PARKING GARAGE MEMBRANE REPLACEMENT AND MAINTENANCE PROJECT

BIDS DUE: JANUARY 20, 2022 3:00 P.M. local time

bids@ccdcboise.com

OWNER'S REPRESENTATIVES / PROJECT CONSULTANTS

OWNER'S REPRESENTATIVE
AARON NELSON, PARKING & FACILITIES MGR
CAPITAL CITY DEVELOPMENT CORP.
121 N. 9TH STREET, SUITE 501
BOISE, IDAHO 83702
208-384-4264

PROJECT ARCHITECT
SCOTT STRAUBHAR, PE
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205 NORTH 10TH STREET, SUITE 300
BOISE, IDAHO 83702
208-343-7523

OWNER'S CONTRACTS MANAGER
KATHY WANNER, CPPB
CAPITAL CITY DEVELOPMENT CORP.
121 N. 9TH STREET, SUITE 501
BOISE, IDAHO 83702
208-384-4264

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ARCHITECTS PROJECT NO. HA #21028

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SECTION 00 11 16 INVITATION TO BID

DECEMBER 15, 2021

Capital City Development Corporation (CCDC) invites submission of sealed bids for the **PARKING GARAGE MEMBRANE REPLACEMENT AND MAINTENANCE PROJECT,** in accordance with the formal bid procedures for procurement of public works construction set forth in Idaho Code § 67-2805(2). A Public Works Contractors License issued by the State of Idaho is required to bid on this work.

In accordance with the plans and specifications, the work shall consist of membrane replacement and maintenance in two public parking garages; the 9th & Main Garage and Capitol and Main Garage.

Bids will be prepared per the specifications detailed within the Project Manual. The Project Manual and the Drawings are being made available electronically at the following locations:

- Capital City Development Corp., www.ccdcboise.com
- Idaho AGC, www.idahoagc.org/plan-room
- Idaho Blueprint & Supply Co., 619 W. Main Street, Boise, Idaho 83702

Bids must be delivered **electronically** prior to 3:00 pm local time, **JANUARY 20, 2022** at this email address: bids@ccdcboise.com. A public bid opening will be held live via ZOOM. Following the Bid Opening, the bid results will be posted on the CCDC website.

CCDC reserves the right to reject any and all proposals, to waive any irregularities in the proposals received, and to accept the proposal that is in the best interest of CCDC. The issuance of the Invitation to Bid and the receipt and evaluation of sealed bids does not obligate CCDC to award a contract. CCDC will pay no costs incurred by Bidders in responding to this Invitation to Bid. CCDC may in its discretion cancel this process at any time prior to execution of a contract without liability.

CCDC appreciates your interest in meeting the needs of the agency and the citizens of Boise.

Kathy Wanner

Kathy Wanner | CPPB, Contracts Manager

CAPITAL CITY DEVELOPMENT CORP

END OF SECTION 00 11 16

SECTION 00 21 13 INSTRUCTIONS TO BIDDERS

1. BID SUBMISSION

The CCDC offices are closed as we do our part to help slow the spread of the COVID-19 virus. Please follow these instructions for submitting a sealed bid.

DUE DATE: JANUARY 20, 2022 no later than 3:00 p.m. local time

a. Submit Bid by Email
The bid must be submitted electronically by email to: bids@ccdcboise.com
Please include this subject line on the email:

> **"BID SUBMITTAL: Parking Garage Membrane Replacement and Maintenance Project**

All required bid submittal documents must be ***signed and dated*** and must be submitted via email either in one PDF or a separate PDF of each required document. Late or incomplete submittals will not be accepted; CCDC takes no responsibility for bids received late or incomplete in any way. Bidder assumes full responsibility for the timely submittal of all bid documents via the email process.

Bidder assumes full responsibility for the timely delivery of its bid to CCDC.

The Bidder will be responsible for all costs (including site visits where needed) incurred in preparing or responding to this bid invitation. All materials and documents submitted in response to this bid invitation become the property of CCDC and will not be returned.

b. Attend the Live Bid Opening
The Public Bid Opening will be held live via **ZOOM** on **JANUARY 20, 2022 at 3:00 p.m.** local time. Attendance is encouraged but not mandatory. Please log on to Zoom and join the meeting by entering the Meeting ID shown below.

Join Zoom Meeting
https://us06web.zoom.us/j/82410175238?pwd=T1dsb3lJN0V2VXJNYk54OWEwUjBJZz09

Meeting ID: 824 1017 5238
Passcode: 229490
One tap mobile
+13462487799,,82410175238#,,,,*229490# US (Houston)
+16699006833,,82410175238#,,,,*229490# US (San Jose)

2. GENERAL CONDITIONS

2.1 Intent of Bid/Proposal
It is the intent of this Invitation to Bid to define requirements in sufficient detail to secure comparable Bids. Bids shall be in accordance with Bid document requirements. Bids not

conforming to the requested format or not in compliance with the specifications will be considered non-responsive.

CCDC reserves the right to act in the public best interest and in furtherance of the purposes of the Idaho Code Title 50, Chapter 20 (Idaho Urban Renewal Law) and Idaho Code Title 67, Chapter 28 (Purchasing by Political Subdivisions). CCDC reserves the right to waive any formalities or defects as to form, procedure, or content with respect to its Bid Invitation and any irregularities in the Bids received, to request additional data and information from any and all Bidders, to reject any submissions based on real or apparent conflict of interest, to reject any submissions containing inaccurate or misleading information, and to accept the proposal that is in the best interest of CCDC. The issuance of this Bid Invitation and the receipt and evaluation of electronic bids does not obligate CCDC to award a contract. CCDC may in its discretion cancel this process at any time prior to execution of a contract without liability.

2.2 Public Records

CCDC is a public agency. All documents in its possession are public records subject to disclosure under the Idaho Public Records Act, Title 74, Chapter 1, Idaho Code, and will be available for inspection and copying by any person.

If any Respondent claims any part of its submission is exempt from disclosure under the Idaho Public Records Act, Respondent must: A.) Indicate by marking the pertinent document "CONFIDENTIAL"; and B.) Include the specific basis for the position that it be treated as exempt from disclosure. Marking the entire submission as "Confidential" is not in accordance with the Idaho Public Records Act and will not be honored. CCDC, to the extent allowed by law and in accordance with these Instructions, will honor a designation of nondisclosure. By claiming material to be exempt from disclosure under the Idaho Public Records Act, Respondent expressly agrees to defend, indemnify, and hold CCDC harmless from any claim or suit arising from CCDC's refusal to disclose such materials. Any questions regarding the applicability of the Public Records Act should be addressed to your own legal counsel prior to submission.

2.3 Form of Agreement

Unless otherwise specified in the bid documents, the form of the Contract will be a Standard Agreement and General Conditions Between Owner and Constructor, as modified by CCDC.

2.4 Performance and Payment Bond

A performance bond and payment bond are required for this Project, each in an amount of not less than one hundred percent (100%) of the Contract Price. The performance and payment bonds shall be AIA Document A312, 1984 or the most recent Edition, or a standard surety form certified approved to be the same as the AIA A312 form and shall be executed by a surety or sureties reasonably acceptable to CCDC and authorized to do business in the State of Idaho. Bonds must be provided within ten (10) calendar days following receipt of a Notice of Intent to Award.

2.5 Taxes

CCDC is exempt from Federal and State taxes and will execute the required exemption certificates for items purchased and used by CCDC. Items purchased by CCDC and used by a contractor are subject to Use Tax. All other taxes are the responsibility of the Contractor and are to be included in the Contractor's Bid pricing.

3. SUBMISSION PROCESS

3.1 All Forms to be Submitted

Bidders must submit the following completed forms via email to bids@ccdcboise.com by the Bid Due Date and Time. Failure to submit all forms will render any Bid unresponsive and void.

00 41 13 Bid Form
00 45 46 Contractor's Affidavit Concerning Taxes

3.2 Preparation of Bids

Fill in all blanks. All blank spaces on the Bid Form must be filled in by the Bidder. Bidder must submit a bid amount for all alternates, additives, deductives, unit prices, and other prices indicated on the Bid Form. When bidding on items for which there is no charge, Bidder shall write the words, "no charge," "zero," or "0.00" in the space provided on the Bid Form. If a Bidder fails to submit a bid price for any item, or does not fill in all blank spaces on the Bid Form, the bid may be rejected as non-responsive.

3.3 Request for Clarification; Objections to Specifications or Process;

Any Bidder who wishes to request clarifications or object to specifications or bidding procedures outlined in this Invitation to Bid may submit a written notification to Kathy Wanner, CCDC Contracts Manager: kwanner@ccdcboise.com. The notification will state the exact nature of the clarification or protest, describing the location of the protested portion or clause in the Bid/Proposal documents, and explaining why the provision should be struck, added, or altered, and contain suggested corrections. CCDC may deny the objection, modify the Project Manual, and/or reject all or part of the objection. Changes to these specifications will be made by written addendum. Verbal responses will not be binding on CCDC or the Bidder.

Deadline for Questions and Clarifications:	5:00 p.m. January 6, 2021
Deadline for Objections to Specs / Bidding:	5:00 p.m. January 14, 2021

3.4 Addenda

In the event it becomes necessary to revise any part of the bid documents, written addenda will be issued. Information given to one bidder will be available to all other bidders if such information is necessary for purposes of submitting a bid or if failure to give such information would be prejudicial to uninformed bidders. Addenda will be made via email to the company contract listed in the Request for Qualifications, unless otherwise advised. It is the bidder's responsibility to check for addenda prior to submitting a bid. Bidders are required to acknowledge receipt of all addenda in the space provided on the bid proposal form. Failure to do so may result in the bid being declared non-responsive. No addenda will be issued fewer than four (4) business days before the submission deadline unless the deadline is extended.

3.5 Time for Submission

Bids must be submitted by the time specified in the Invitation to Bid. Late bids will be rejected.

3.6 Bid and Price Guarantee

A submitted Bid must remain open for sixty (60) days.

3.7 Bid Modification; Bid Withdrawal
A Bid may be modified or withdrawn by the Bidder prior to the set date and time for the opening of Bids. Bids may not be modified or withdrawn after the bid opening.

3.8 Legal Residency Requirement
By submitting a bid, the bidder attests, under penalty of perjury, that he (the bidder) is a United States citizen or legal permanent resident or that it is otherwise lawfully present in the United States pursuant to federal law. Prior to being issued a contract, the bidder will be required to submit proof of lawful presence in the United States in accordance with Idaho Code § 67-7903.

3.9 Public Works Contractor's License Requirements
This Project is not financed in whole or in part by federal funds. Bids will be accepted from those Contractors only (prime contractors, subcontractors and/or specialty contractors) who, prior to the bid opening, hold current valid licenses as public works contractors in the State of Idaho. Idaho Code § 54-1902 requires that public works contractors and subcontractors have the appropriate Public Works License for the particular type of construction work involved, and the prime contractor must perform at least 20% of the work under contract. CCDC uses the Idaho Division of Building Safety's (DBS) online license database to verify that Bidders meet all PWC License requirements.

The Contractor will, in the space provided in the Bid Form, provide the names and addresses and Idaho Public Works Contractor's license number of each subcontractor that the Contractor will utilize for the construction, alteration or repair of the public works here involved, as required by Idaho Code § 67-2310. Failure to name subcontractors for plumbing, heating, air-conditioning, and electrical as required will render any Bid submitted by a general Contractor unresponsive and void.

4. BID SECURITY
A bid bond is not required.

CCDC reserves the right, on the refusal or failure of the Successful Bidder to execute the CCDC contract or furnish the required proof of insurance and bonds, to award the contract for the Project to the next lowest qualified Bidder.

5. SELECTION CRITERIA
Selection will be based on the procurement rules set forth in Idaho Code § 67-2805(2). CCDC has the right to waive or alter submission requirements or to reject any or all submissions, including without limitation, nonconforming, nonresponsive, unbalanced or conditional bids consistent with Idaho law. It is the bidder's responsibility to conform to all applicable federal, state and local statutes or other applicable legal requirements. The information provided herein is intended to assist bidders in meeting applicable requirements but is not exhaustive, and CCDC will not be responsible for any failure by any bidder to meet applicable requirements.

END OF SECTION 00 21 13

SECTION 00 41 13 BID FORM

BID FORM

PROJECT: **PARKING GARAGE MEMBRANE AND MAINTENANCE PROJECT**

THIS BID IS SUBMITTED TO:

Capital City Development Corporation
Attn: **PARKING GARAGE MEMBRANE AND MAINTENANCE PROJECT**
Via email: bids@ccdcboise.com

1.01 The undersigned Bidder proposes and agrees to enter into a Contract with CCDC in the form included in the Project Manual to perform all the Work as specified or indicated in the Project Manual for the prices indicated in this Bid and in accordance with the other terms and conditions of the Project Manual.

1.02 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders. The Bid will remain subject to acceptance for sixty (60) days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of CCDC.

1.03 Within thirty (30) days from receiving a written notice of acceptance of this Bid, Bidder shall execute the Contract and shall deliver evidence of required insurance coverages and bonds in the amounts required by the Contract.

1.04 In submitting this Bid, Bidder represents, as set forth in the Contract and Project Manual, that:

a. Bidder has examined and understands the Project Manual and the following Addenda:

Addendum No.	Addendum Date
_____	_____
_____	_____

b. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

c. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.

d. Bidder has carefully studied: 1.) all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site which have been identified in the Project Manual; and 2.) all reports and drawings of a Hazardous Environmental Condition, if any, which has been identified in the Project Manual.

e. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Project Manual to be employed by Bidder, and safety precautions and programs incident thereto.

f. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Project Manual.

g. Bidder is aware of the general nature of work to be performed by CCDC and others at the Site that relates to the Work as indicated in the Project Manual.

h. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Project Manual, and all additional examinations, investigations, explorations, tests, studies, and data with the Project Manual.

i. Bidder has given CCDC written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovered in the Project Manual, and the written resolution thereof by CCDC is acceptable to Bidder.

j. The Project Manual is generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

k. Bidder is responsible for ascertaining the existence of any addenda and the contents thereto.

1.5 Bidder represents that this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over CCDC.

1.6 Bidder agrees that the Work will be substantially completed and fully completed ready for final payment in accordance with General Conditions on or before the dates or within the number of calendar days indicated in the Contract Documents. Bidder accepts the provisions of the Contract as to liquidated damages in the event of failure to complete the Work within the times specified.

1.7 Bidder agrees to comply with Idaho Code § 44-1001 through 44-1006 regarding employment of Idaho residents.

1.8 The following documents are attached to and made a condition of this Bid: 1.) Contractor's Affidavit Concerning Taxes.

Bidder agrees to include with the Bid the names and addresses and Idaho Public Works Contractor License numbers of the Subcontractors who shall, in the event the Bidder secures the Contract, subcontract the plumbing, heating and air-conditioning work, and electrical work under the general Contract.

1.9 WAIVER & RELEASE: Bidder has read and fully accepts CCDC's discretion and non-liability as stipulated herein, expressly for, but not limited to, CCDC's decision to proceed with a selection process in response to the Invitation to Bid, including the right in its sole discretion and judgment for whatever reason it deems appropriate, at any time unless contrary to applicable state law, to:

a. Modify or suspend any and all aspects of the process seeking a contractor to construct Project.

b. Obtain further information from any person, entity, or group, including, but not limited to, any person, entity, or group responding to CCDC's Bid Invitation (any such person, entity, or group responding is, for convenience, hereinafter referred to as "Bidder"), and to ascertain the depth of Bidder's capability and experience for construction of Project and in any and all other respects to meet with and consult with any Bidder or any other person, entity, or group.

c. Waive any formalities or defects as to form, procedure, or content with respect to its Bid Invitation and any responses by any Bidder thereto.

d. Accept or reject any sealed Bid received in response to the Bid Invitation, including any sealed Bid submitted by the undersigned; or select any one submission over another.

e. Accept or reject all or any part of any materials, plans, drawings, implementation programs, schedules, phrasings and proposals or statements, including, but not limited to, the nature and type of Bid.

Bidder agrees that CCDC shall have no liability whatsoever, of any kind or character, directly or indirectly, by reason of all or any decision made at the discretion of CCDC as identified above.

SUBCONTRACTORS

CCDC requires the names and addresses of subcontractors to whom work will be awarded, subject to approval of CCDC and Architect, and pursuant to Idaho Code § 67-2310. If such work is not required, Bidder will indicate "Not Applicable" in the list below. In the event that the general (Trade) contractor intends to self-perform the plumbing, HVAC, or electrical work, the general contractor must be properly licensed by the state of Idaho to perform such work. The general (Trade) contractor shall demonstrate compliance with this requirement by listing the valid contractor's license number for the plumbing, HVAC, or electrical work to be self-performed by the general contractor on the bid form.

Failure to name subcontractors as required by Idaho Code shall render any bid submitted unresponsive and void.

Plumbing _____

Address: _____

_____

Public Works License No. _____

Idaho Plumbing Contractors License No. _____

Heating & Air Conditioning _____

Address: _____

_____

Public Works License No. _____

Idaho HVAC Contractors License No. _____

Electrical _____

Address: _____

_____

Public Works License No. _____

Idaho Electrical Contractors License No. _____

BASE BID - OFFER

Bidder agrees to perform all the work described in the Contract Documents, Drawings and Specifications for the total lump sum bid of:

_____

($_____) Dollars, lawful money of the United States.
[Show amount in both words and figures; in event of discrepancy, the amount in words shall govern.]

BID FORM SIGNATURE

SUBMITTED on _____, 2022.

X_____ _____
SIGNATURE | Idaho Public Works Contractor License No.

_____ _____
Print Name and Title | License Expiration Date

_____ _____
Contractor / Company | Federal Tax ID #

_____ _____
Address | E-mail Address

_____ _____
City, State, Zip | Phone No.

_____ _____
Fax No.

ATTENTION: Did you remember the Contractor's Affidavit Concerning Taxes Form? Contractor's Affidavit Concerning Taxes is **REQUIRED**.

IF CONTRACTOR'S AFFIDAVIT IS NOT INCLUDED, YOUR BID WILL BE CONSIDERED NON-RESPONSIVE.

END OF SECTION 00 41 13

SECTION 00 45 46 CONTRACTOR'S AFFIDAVIT CONCERNING TAXES
MUST EXECUTE AND SUBMIT WITH BID

CONTRACTOR'S AFFIDAVIT CONCERNING TAXES

STATE OF _____

COUNTY OF _____

Pursuant to Chapter 15, Title 63, Idaho Code, I the undersigned, being duly sworn, depose and certify that all taxes, excises and license fees due to the State of Idaho and its taxing units, for which I or my property is liable, then due or delinquent, have been paid, or arrangements have been made, before entering into a contract for construction of any public works in the State of Idaho.

_____	X_____
Contractor / Company	Authorized Representative Signature
_____	_____
Address	Print Name and Title
_____	_____
City, State, Zip	

Subscribed and sworn to before me this _____ day of _____, 20____.

_____
Notary Public
Residing at: _____

Commission Expires: _____

END OF SECTION 00 45 46

STANDARD AGREEMENT AND GENERAL CONDITIONS BETWEEN OWNER AND CONSTRUCTOR

<<NAME OF PROJECT>>

($000,000)

TABLE OF ARTICLES

ARTICLE 1 AGREEMENT

This Agreement is made this ____ day of _____ in the year 2022, by and between the

OWNER: Capital City Development Corporation (CCDC)
121 N. 9th Street, Suite 501
Boise, Idaho 83702

and the

CONSTRUCTOR: _____
_____
_____

Tax identification number (TIN): _____

Idaho Public Works Contractor License No.: _____

for construction services in connection with the following PROJECT:

Project Identification: _____

Work Area: Enter description. Boise, Idaho

Notice to the Parties shall be given at the above addresses.

The Owner's Project Architect is _____

The Owner's Representative is _____

The Parties agree as set forth herein:

ARTICLE 2 GENERAL PROVISIONS

2.1 RELATIONSHIP OF PARTIES The Parties each agree to proceed with the Project on the basis of mutual trust, good faith, and fair dealing.

2.1.1 The Constructor shall furnish construction administration and management services and use the Constructor's diligent efforts to perform the Work in an expeditious manner consistent with the Contract Documents. The Parties shall each endeavor to promote harmony and cooperation among all Project participants.

2.1.2 The Constructor represents that it is an independent contractor and that in its performance of the Work it shall act as an independent contractor. Owner will have no right to control or direct the details, manner, or means by which Constructor accomplishes the results of the services performed hereunder.

2.1.3 The Constructor has no obligation to work any particular hours or days or any particular number of hours or days. Constructor agrees, however, that its other contracts and services shall not interfere with the performance of its services under this Agreement.

2.1.4 Neither the Constructor nor any of its agents or employees shall act on behalf of or in the name of the Owner except as provided in this Agreement or unless authorized in writing by the Owner's Representative.

2.1.5 The Parties shall perform their obligations with integrity, ensuring at a minimum that each: (a) avoids conflicts of interest and promptly discloses any to the other Party; and (b) warrants that it has not and shall not pay or receive any contingent fees or gratuities to or from the other Party, including its agents, officers, and employees, subcontractors, or others for whom they may be liable, to secure preferential treatment.

2.2 DESIGN PROFESSIONAL Owner's Design Professional is _____. The Owner, through its Design Professional, shall provide all design services necessary for the completion of the Work. The Constructor shall not be required to provide professional services which constitute the practice of architecture, landscape architecture, or engineering.

2.2.1 The Owner shall obtain from the Design Professional either a license for Constructor and Subcontractors to use the design documents prepared by the Design Professionals or ownership of the copyrights for such design documents, and shall indemnify and hold harmless the Constructor against any suits or claims of infringement of any copyrights or licenses arising out of the use of the design documents for the Project.

2.3 DEFINITIONS

2.3.1 "Agreement" means this Standard Agreement and General Conditions Between Owner and Constructor, as modified, and exhibits and attachments made part of this agreement upon its execution. For purposes of this Agreement, the terms "Agreement" and "Contract" are equivalent.

2.3.2 "Business Day" means all Days, except weekends and official federal or state holidays where the Project is located.

2.3.3 "Change Order" is a written order signed by the Owner and the Constructor after execution of this Agreement, indicating changes in the scope of the Work, the Contract Price, or Contract Time, including substitutions proposed by the Constructor and accepted by the Owner.

2.3.4 "Contract Documents" consist of this Agreement, the existing Contract Documents listed in Section 14.1, drawings, specifications, addenda issued and acknowledged prior to execution of this Agreement, information furnished by the Owner pursuant to subsection 3.13.4, and modifications issued in accordance with this Agreement.

2.3.5 "Contract Price" is the amount indicated in section 7.1 of this Agreement.

2.3.6 "Contract Time" is the period between the Date of Commencement and Final Completion.

2.3.7 "Constructor" is the person or entity identified in ARTICLE 1 and includes the Constructor's Project Manager, designated by Constructor as having authority to represent, make decisions, and act on behalf of Constructor. For purposes of this Agreement, the terms Constructor and Contractor with the capitalized "C" are equivalent.

2.3.8 "Construction Period" is the period of time between the Date of Commencement stated in the Notice to Proceed and the date of Final Completion stated in the Certificate of Final Completion.

2.3.9 "Cost of the Work" means the costs and discounts specified in section 8.3.2.

2.3.10 "Date of Commencement" is as set forth in section 6.1.

2.3.11 “Day” means a calendar day.

2.3.12 “Defective Work” is any portion of the Work that does not conform with the Contract Documents.

2.3.13 “Design Professional” means the licensed architect or engineer, and its consultants, retained by the Owner to perform design services for the Project.

2.3.14 “Final Completion” occurs on the date when the Constructor’s obligations under this Agreement are complete and accepted by the Owner and final payment becomes due and payable. This date shall be confirmed by a Certificate of Final Completion signed by the Owner and the Constructor.

2.3.15 “Interim Directed Change” is a change to the Work directed by the Owner pursuant to section 8.2.

2.3.16 “Laws” mean federal, state, and local laws, ordinances, codes, rules, and regulations applicable to the Work with which the Constructor must comply that are enacted as of the Agreement date.

2.3.17 “Material Supplier” is a person or entity retained by the Constructor to provide material and equipment for the Work.

2.3.18 “Others” means other contractors/constructors, material suppliers, and persons at the Worksite who are not employed by the Constructor or Subcontractors.

2.3.19 “Overhead” means (a) payroll costs and other compensation of Constructor employees in the Constructor's principal and branch offices; (b) general and administrative expenses of the Constructor's principal and branch offices including charges against the Constructor for delinquent payments; and (c) the Constructor's capital expenses, including interest on capital used for the Work.

2.3.20 “Owner” is the person or entity identified in ARTICLE 1 and includes the Owner's Representative.

2.3.21 “Owner’s Representative” is the individual employed by the Owner who shall be fully acquainted with the Project, shall act as the prime point of contact between Owner and Owner’s Project Architect, shall provide the Owner’s instructions to Owner’s Project Architect, and shall have authority to bind the Owner in all matters requiring the Owner's approval, authorization, or written notice.

2.3.22 “Parties” are collectively the Owner and the Constructor.

2.3.23 “Project,” as identified in ARTICLE 1, is the construction, installation, repair or other improvements for which the Constructor is to perform Work under this Agreement. It may also include construction by the Owner or Others.

2.3.24 “Project Architect” is the individual retained by the Owner to perform day-to-day field observations of the Project on Owner’s behalf and shall be the prime point of contact for Constructor. The Project Architect shall possess full authority to receive instructions from Owner and to act on those instructions.

2.3.25 “Schedule of the Work” is the document prepared by the Constructor that specifies the dates on which the Constructor plans to begin and complete various parts of the Work, including dates on which information and approvals are required from the Owner.

2.3.26 “Subcontractor” is a person or entity retained by the Constructor as an independent contractor to provide the labor, materials, equipment, or services necessary to complete a specific portion of the Work. The term Subcontractor does not include the Design Professional or Others. All subcontractors shall hold valid Public Works Contractor licenses pursuant to Idaho Code § 54-1902.

2.3.27 “Substantial Completion” of the Work occurs on the date when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner may occupy or utilize the Project, or a designated portion, for the use for which it is intended, without unscheduled disruption. This date shall be confirmed by a Certificate of Substantial Completion signed by the Owner and Constructor.

2.3.28 “Subsubcontractor” is a person or entity who has an agreement with a Subcontractor or another Subsubcontractor to perform a portion of the Subcontractor's Work.

2.3.29 “Terrorism” means a violent act, or an act that is dangerous to human life, property, or infrastructure, that is committed by an individual or individuals and that appears to be part of an effort to coerce a civilian population or to influence the policy or affect the conduct of any government by coercion. Terrorism includes, but is not limited to, any act certified by the United States government as an act of terrorism pursuant to the Terrorism Risk Insurance Act, as amended.

2.3.30 “Work” means the construction and services necessary or incidental to fulfill the Constructor's obligations for the Project in conformance with this Agreement and the other Contract Documents. The Work may refer to the whole Project or only a part of the Project if work is also being performed by the Owner or Others.

2.3.30.1 “Changed Work” means work that is different from the original scope of Work; or work that changes the Contract Price or Contract Time.

2.3.31 “Worksite” means the geographical area of the Project Location as identified in ARTICLE 1 where the Work is to be performed.

ARTICLE 3 CONSTRUCTOR'S RESPONSIBILITIES

3.1 GENERAL RESPONSIBILITIES

3.1.1 The Constructor shall provide all labor, materials, equipment, and services (except those items specifically identified in the Contract Documents as products, equipment, systems or materials that Owner shall provide) necessary to complete the Work, all of which shall be provided in full accord with and reasonably inferable from the Contract Documents.

3.1.2 The Constructor shall be responsible for the supervision and coordination of the Work, including the construction means, methods, techniques, sequences, and procedures utilized, unless the Contract Documents give other specific instructions. In such case, the Constructor shall not be liable to the Owner for damages resulting from compliance with such instructions unless the Constructor recognized and failed to timely report to the Project Architect any error, inconsistency, omission, or unsafe practice that it discovered in the specified construction means, methods, techniques, sequences, or procedures.

3.1.3 The Constructor shall perform Work only within locations allowed by the Contract Documents, Laws, and applicable permits.

3.2 COOPERATION WITH WORK OF OWNER AND OTHERS

3.2.1 The Owner may perform work at the Worksite directly or by Others. Any agreements with Others to perform construction or operations related to the Project shall include provisions pertaining to insurance, indemnification, waiver of subrogation, consequential damages, coordination, interference, cleanup, and safety that are substantively the same as the corresponding provisions of this Agreement.

3.2.2 If the Owner elects to perform work at the Worksite directly or by Others, the Constructor and the Owner shall coordinate the activities of all forces at the Worksite and agree upon fair and reasonable schedules and operational procedures for Worksite activities. The Owner shall require each separate contractor to cooperate with the Constructor and assist with the coordination of activities and the review of construction schedules and operations. The Contract Price and Contract Time shall be equitably adjusted, as mutually agreed by the Parties, for changes made necessary by the coordination of construction activities, and the Schedule of the Work shall be revised accordingly. The Constructor, the Owner, and Others shall adhere to the revised construction schedule.

3.2.3 With regard to the work of the Owner and Others, the Constructor shall: (a) proceed with the Work in a manner that does not hinder, delay, or interfere with the work of the Owner or Others or cause the work of the Owner or Others to become defective; (b) afford the Owner or Others reasonable access for introduction and storage of their materials and equipment and performance of their activities; and (c) coordinate the Constructor's Work with theirs.

3.2.4 Before proceeding with any portion of the Work affected by the construction or operations of the Owner or Others, the Constructor shall give the Owner prompt written notification of any defects the Constructor discovers in their work which will prevent the proper execution of the Work. The Constructor's obligations in this subsection do not create a responsibility for the work of the Owner or Others, but are for the purpose of facilitating the Work. If the Constructor does not notify the Owner of defects interfering with the performance of the Work, the Constructor acknowledges that the work of the Owner or Others is not defective and is acceptable for the proper execution of the Work. Following receipt of written notice from the Constructor of defects, the Owner shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.3 RESPONSIBILITY FOR PERFORMANCE

3.3.1 Prior to commencing the Work, the Constructor shall examine and compare the drawings and specifications with information furnished by the Owner that are Contract Documents, relevant field measurements made by the Constructor, and any visible conditions at the Worksite affecting the Work.

3.3.2 Should the Constructor discover any errors, omissions, or inconsistencies in the Contract Documents, the Constructor shall promptly report them to Owner’s Project Architect and Owner’s Representative. It is recognized, however, that the Constructor is not acting in the capacity of a licensed design professional, and that the Constructor's examination is to facilitate construction and does not create an affirmative responsibility to detect errors, omissions, or inconsistencies or to ascertain compliance with applicable laws, building codes, or regulations. Following receipt of written notice from the Constructor of defects, the Owner shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.3.3 The Constructor shall have no liability for errors, omissions, or inconsistencies discovered under this section 3.3 unless the Constructor knowingly fails to report a recognized problem to the Owner’s Project Architect and Owner’s Representative.

3.3.4 The Constructor may be entitled to additional costs or time because of clarifications or instructions arising out of the Constructor's reports described in this section 3.3.

3.3.5 Nothing in this section 3.3 shall relieve the Constructor of responsibility for its own errors, inconsistencies, and omissions.

3.4 CONSTRUCTION PERSONNEL AND SUPERVISION

3.4.1 The Constructor shall provide competent supervision for the performance of the Work. Before commencing the Work, the Constructor shall notify the Project Architect and Owner's Representative in writing of the name and qualifications of its proposed Constructor's Project Manager so the Project Architect and Owner's Representative may review the individual's qualifications. If, for reasonable cause, the Project Architect and/or Owner's Representative refuses to approve the individual or withdraws its approval after once giving it, the Constructor shall name a different Constructor's Project Manager for the Owner's review. Any disapproved Project Manager shall not perform in that capacity thereafter at the Worksite.

3.4.2 The Constructor shall be responsible to the Owner for acts or omissions of parties or entities performing portions of the Work for or on behalf of the Constructor or any of its Subcontractors.

3.4.3 The Constructor shall permit only qualified persons to perform the Work. The Constructor shall enforce safety procedures, strict discipline, and good order among persons performing the Work. If the Owner determines that a particular person does not follow safety procedures, or is unfit or unskilled for the assigned Work, the Constructor shall immediately reassign the person upon receipt of the Owner's written notice to do so.

3.4.4 CONSTRUCTOR'S PROJECT MANAGER The Constructor's authorized Project Manager is _____. The Constructor's Project Manager shall possess full authority to receive instructions from the Owner directly or through Owner's Project Architect and to act on those instructions. If the Constructor changes the Constructor's Project Manager or his/her authority, the Constructor shall immediately notify the Project Architect in writing.

3.5 WORKMANSHIP The Work shall be executed in accordance with the Contract Documents in a workmanlike manner. All materials used in the Work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Work and shall be new except such materials as may be expressly provided in the Contract Documents to be otherwise.

3.6 MATERIALS FURNISHED BY THE OWNER OR OTHERS If the Work includes installation of materials or equipment furnished by the Owner or Others, it shall be the responsibility of the Constructor to examine the items so provided and thereupon handle, store, and install the items, unless otherwise provided in the Contract Documents, with such skill and care as to provide a satisfactory and proper installation. Loss or damage due to acts or omissions of the Constructor shall be the responsibility of the Constructor and may be deducted from any amounts due or to become due the Constructor. Any defects discovered in such materials or equipment shall be reported at once to the Project Architect. Following receipt of written notice from the Constructor of defects, the Project Architect shall promptly inform the Constructor what action, if any, the Constructor shall take with regard to the defects.

3.7 TESTS AND INSPECTIONS

3.7.1 The Constructor shall schedule all required tests, approvals, and inspections of the Work or portions thereof at appropriate times so as not to delay the progress of the Work or other work related to the Project. The Constructor shall give proper notice to all required parties of such tests, approvals, and inspections. If feasible, the Project Architect, Owner's Representative and Others may timely observe the tests at the normal place of testing. Except as provided in subsection 3.7.3 and the Drawings and Specifications, the Contractor shall bear all expenses associated with tests,

inspections, and approvals required by the Contract Documents, which, unless otherwise agreed to, shall be conducted by an independent testing laboratory or entity retained by the Contractor. Unless otherwise required by the Contract Documents, required certificates of testing, approval, or inspection shall be secured by the Constructor and promptly delivered to the Project Architect, with copies to the Owner's Representative.

3.7.2 If the Owner or appropriate authorities determine that tests, inspections, or approvals in addition to those required by the Contract Documents will be necessary, the Constructor shall arrange for the procedures and give timely notice to the Owner and Others who may observe the procedures. Costs of the additional tests, inspections, or approvals are at the Owner's expense except as provided in subsection 3.7.3.

3.7.3 If the procedures described in the two subsections above indicate that portions of the Work fail to comply with the Contract Documents due to negligence of the Constructor, the Constructor shall be responsible for costs of correction and retesting.

3.8 WARRANTY

3.8.1 The Constructor warrants that all materials and equipment shall be new unless otherwise specified, of good quality, in conformance with the Contract Documents, and free from defective workmanship and materials. At the Owner's request, the Constructor shall furnish satisfactory evidence of the quality and type of materials and equipment furnished. The Constructor further warrants that the Work shall be free from material defects not intrinsic in the design or materials required in the Contract Documents. The Constructor's warranty does not include remedies for defects or damages caused by normal wear and tear during normal usage, use for a purpose for which the Project was not intended, improper or insufficient maintenance, modifications performed by the Owner or Others, or abuse. The Constructor's warranty shall commence on the Date of Substantial Completion of the Work, or of a designated portion.

3.8.2 To the extent products, equipment, systems or materials incorporated in the Work are specified and purchased by the Owner, they shall be covered exclusively by the warranty of the manufacturer. There are no warranties which extend beyond the description on the face of any such warranty.

3.8.3 The Constructor shall obtain from its Subcontractors and Material Suppliers any special or extended warranties required by the Contract Documents. All such warranties shall be listed in an attached exhibit to this Agreement. After that period, the Constructor shall provide reasonable assistance to the Owner in enforcing the obligations of Subcontractors or Material Suppliers for such extended warranties.

3.9 CORRECTION OF WORK WITHIN TWO YEARS

3.9.1 If, prior to Substantial Completion and within two years after the date of Substantial Completion of the Work, any Defective Work is found, the Owner shall promptly notify the Constructor in writing. Unless the Owner provides written acceptance of the condition, the Constructor shall promptly correct the Defective Work at its own cost and time and bear the expense of additional services required for correction of any Defective Work for which it is responsible. If within the two-year correction period the Owner discovers and does not promptly notify the Constructor or give the Constructor an opportunity to test or correct Defective Work as reasonably requested by the Constructor, the Owner waives the Constructor's obligation to correct that Defective Work as well as the Owner's right to claim a breach of the warranty with respect to that Defective Work.

3.9.2 With respect to any portion of Work first performed after Substantial Completion, the two-year correction period shall be extended by the period of time between Substantial Completion and the

actual performance of the later Work. Correction periods shall not be extended by corrective work performed by the Constructor.

3.9.3 If the Constructor fails to correct Defective Work within a reasonable time after receipt of written notice from the Owner prior to final payment, the Owner may correct it in accordance with the Owner's right to carry out the Work. In such case, an appropriate Change Order shall be issued deducting the cost of correcting the Defective Work from payments then or thereafter due the Constructor. If payments then or thereafter due the Constructor are not sufficient to cover such amounts, the Constructor shall pay the difference to the Owner within forty-five (45) days.

3.9.4 The Constructor’s obligations and liability, if any, with respect to any Defective Work discovered after the two-year correction period shall be determined by the Law. If, after the two-year correction period but before the applicable limitation period has expired, the Owner discovers any Work which the Owner considers Defective Work, the Owner shall, unless the Defective Work requires emergency correction, promptly notify the Constructor and allow the Constructor an opportunity to correct the Work if the Constructor elects to do so. If the Constructor elects to correct the Work, it shall provide written notice of such intent within fourteen (14) Days of its receipt of notice from the Owner and shall complete the correction of Work within a mutually agreed timeframe. If the Constructor does not elect to correct the Work, the Owner may have the Work corrected by itself or Others, and, if the Owner intends to seek recovery of those costs from the Constructor, the Owner shall promptly provide the Constructor with an accounting of the correction costs it incurs.

3.9.5 If the Constructor's correction or removal of Defective Work causes damage to or destroys other completed or partially completed Work or existing buildings, the Constructor shall be responsible for the cost of correcting the destroyed or damaged property.

3.9.6 The two-year period for correction of Defective Work does not constitute a limitation period with respect to the enforcement of the Constructor's other obligations under the Contract Documents.

3.9.7 Prior to final payment, at the Owner's option and with the Constructor's agreement, the Owner may elect to accept Defective Work rather than require its removal and correction. In such case, the Contract Price shall be equitably adjusted for any diminution in the value of the Project caused by such Defective Work.

3.10 CORRECTION OF COVERED WORK

3.10.1 On request of the Project Architect, Work that has been covered without a requirement that it be inspected prior to being covered may be uncovered for the Project Architect’s and, if desired the Owner's inspection. The Owner shall pay for the costs of uncovering and replacement if the Work proves to be in conformance with the Contract Documents, or if the defective condition was caused by the Owner or Others. If the uncovered Work proves to be defective, the Constructor shall pay the costs of uncovering and replacement.

3.10.2 If, contrary to specific requirements in the Contract Documents or contrary to a specific request from the Project Architect or Owner, a portion of the Work is covered, the Project Architect or Owner, by written request, may require the Constructor to uncover the Work for the Project Architect’s and, if desired the Owner's observation. In this circumstance, the Work shall be replaced at the Constructor's expense and with no adjustment to the Contract Time.

3.11 SAFETY OF PERSONS AND PROPERTY

3.11.1 SAFETY PRECAUTIONS AND PROGRAMS The Constructor shall have overall responsibility for safety precautions and programs in the performance of the Work. However, such

obligation does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work or for compliance with Laws.

3.11.2 The Constructor shall seek to avoid injury, loss, or damage to persons or property by taking reasonable steps to protect: (a) its employees and other persons at the Worksite; (b) materials and equipment stored at onsite or offsite locations for use in the Work; and (c) property located at the Worksite and adjacent to Work areas, whether or not the property is part of the Worksite.

3.11.3 CONSTRUCTOR'S SAFETY REPRESENTATIVE The Constructor's Worksite safety representative is _____, who shall act as the Constructor's Worksite safety representative with a duty to prevent accidents. If no individual is identified in this subsection, the Constructor's safety representative shall be the Constructor's Project Manager. The Constructor shall report promptly in writing to the Project Architect, with a copy to the Owner's Representative, all recordable accidents and injuries occurring at the Worksite. When the Constructor is required to file an accident report with a public authority, the Constructor shall furnish a copy of the report to the Project Architect and Owner's Representative.

3.11.4 The Constructor shall provide the Project Architect and Owner's Representative with copies of all notices required of the Constructor by law or regulation. The Constructor's safety program shall comply with the requirements of governmental and quasi-governmental authorities having jurisdiction.

3.11.5 Damage or loss not insured under property insurance which may arise from the Work, to the extent caused by the negligent acts or omissions of the Constructor, or anyone for whose acts the Constructor may be liable, shall be promptly remedied by the Constructor.

3.11.6 If the Project Architect deems any part of the Work or Worksite unsafe, the Project Architect, without assuming responsibility for the Constructor's safety program, may require the Constructor to stop performance of the Work or take corrective measures satisfactory to the Project Architect, or both. If the Constructor does not adopt corrective measures, the Owner may perform them and deduct their cost from the Contract Price. The Constructor agrees to make no claim for damages, for an increase in the Contract Price or for a change in the Contract Time based on the Constructor's compliance with the Project Architect's or Owner's reasonable request.

3.12 EMERGENCIES In an emergency affecting the safety of persons or property, the Constructor shall act in a reasonable manner to prevent threatened damage, injury, or loss. If appropriate, an equitable adjustment in the Contract Price or Contract Time resulting from the actions of the Constructor in an emergency situation shall be determined as provided for in ARTICLE 8.

3.13 HAZARDOUS MATERIALS

3.13.1 A Hazardous Material is any substance or material identified now or in the future as hazardous under Laws, or any other substance or material that may be considered hazardous or otherwise subject to statutory or regulatory requirement governing handling, disposal, or cleanup. The Constructor shall not be obligated to commence or continue work until any Hazardous Material discovered at the Worksite has been removed, rendered, or determined to be harmless by the Owner as certified by an independent testing laboratory and approved by the appropriate governmental agency.

3.13.2 If after commencing the Work, Hazardous Material is discovered at the Worksite, the Constructor shall be entitled to immediately stop Work in the affected area. The Constructor shall promptly report the condition to the Project Architect and Owner's Representative and, if required, the governmental agency with jurisdiction.

3.13.3 The Constructor shall not be required to perform any Work relating to or in the area of Hazardous Material without written mutual agreement.

3.13.4 The Owner shall be responsible for retaining an independent testing laboratory to determine the nature of the material encountered and whether the material requires corrective measures or remedial action. Such measures shall be the sole responsibility of the Owner, and shall be performed in a manner minimizing any adverse effect upon the Work. The Constructor shall resume Work in the area affected by any Hazardous Material only upon written agreement between the Parties after the Hazardous Material has been removed or rendered harmless and only after approval, if necessary, of the governmental agency with jurisdiction.

3.13.5 If the Constructor incurs additional costs or is delayed due to the presence or remediation of Hazardous Material, the Constructor shall be entitled to an equitable adjustment in the Contract Price or the Contract Time.

3.13.6 To the extent permitted by section 6.9 and to the extent not caused by the negligent acts or omissions of the Constructor, its Subcontractors and Subsubcontractors, and the agents, officers, directors, and employees of each of them, the Owner shall defend, indemnify, and hold harmless the Constructor, its Subcontractors and Subsubcontractors, and the agents, officers, directors, and employees of each of them, from and against all claims, damages, losses, costs, and expenses, including but not limited to reasonable attorneys' fees, costs, and expenses incurred in connection with any dispute resolution process, arising out of or relating to the performance of the Work in any area affected by Hazardous Material.

3.13.7 MATERIALS BROUGHT TO THE WORKSITE

3.13.7.1 Material Safety Data (MSD) sheets as required by law and pertaining to materials or substances used or consumed in the performance of the Work, whether obtained by the Constructor, Subcontractors, the Owner, or Others, shall be maintained at the Worksite by the Constructor and made available to the Project Architect, Subcontractors, and Others.

3.13.7.2 The Constructor shall be responsible for the proper delivery, handling, application, storage, removal, and disposal of all materials and substances brought to the Worksite by the Constructor, its Subcontractors, or both, in accordance with the Contract Documents and used or consumed in the performance of the Work.

3.13.7.3 To the extent caused by the negligent acts or omissions of the Constructor, its agents, officers, directors, and employees, the Constructor shall indemnify and hold harmless the Owner, its agents, officers, directors, and employees, from and against any and all claims, damages, losses, costs, and expenses, including but not limited to attorneys' fees, costs, and expenses incurred in connection with any dispute resolution procedure, arising out of or relating to the delivery, handling, application, storage, removal, and disposal of all materials and substances brought to the Worksite by the Constructor, its Subcontractors, or both, in accordance with the Contract Documents.

3.13.7.4 This section 3.13.7 shall survive the completion of the Work or any termination of this Agreement.

3.14 SUBMITTALS

3.14.1 The Constructor shall submit to the Project Architect all shop drawings, samples, product data, and similar submittals required by the Contract Documents for review and approval. The Constructor shall be responsible for the accuracy and conformity of its submittals to the Contract Documents. At no additional cost, the Constructor shall prepare and deliver its submittals in a manner consistent with the Schedule of the Work and in such time and sequence so as not to delay

the performance of the Work or the work of the Owner and Others. Constructor submittals shall identify in writing for each submittal all changes, deviations, or substitutions from the requirements of the Contract Documents. The approval of any Constructor submittal shall not be deemed to authorize changes, deviations or substitutions from the requirements of the Contract Documents unless express written approval is obtained from the Project Architect specifically authorizing such deviation, substitution or change. To the extent a change, deviation or substitution causes an impact to the Contract Price or Contract Time, such approval shall be promptly memorialized in a Change Order. Neither the Project Architect nor Owner shall make any change, deviation or substitution through the submittal process without specifically identifying and authorizing such deviation to the Constructor.

3.14.2 The Constructor agrees upon request to submit in a timely fashion to the Project Architect, with copies to the Owner's Representative, for review any shop drawings, samples, product data, manufacturers' literature or similar submittals as may reasonably be required by the Project Architect.

3.14.3 The Constructor shall perform all Work strictly in accordance with approved submittals. Approval of shop drawings is not an authorization to perform changed work, unless the procedures of ARTICLE 8 are followed. Approval does not relieve the Constructor from responsibility for Defective Work resulting from errors or omissions on the approved shop drawings.

3.14.4 No substitutions shall be made in the Work unless permitted in the Contract Documents and then only after the Constructor obtains approvals required under the Contract Documents for substitutions. All such substitutions shall be promptly memorialized in a Change Order no later than seven (7) Days following approval by the Project Manager and the Owner and, if applicable, Design Professional provide for an adjustment in the Contract Price or Contract Time.

3.14.5 As-Built Documents: The Constructor shall maintain at the Worksite for the Owner one (1) copy of each of the Drawings and Specifications, Addenda, Change Orders, and other modifications, in good order and marked to indicate field changes and selections made during construction; and one (1) copy or sample of approved shop Drawings, Product Data, Samples, and similar required submittals.

3.15.5.1 General: Retain copy of each submittal made and each Addenda, Change Order, and Contract amendment issued affecting Contract Documents during the Construction Period for Project As-Built Document purposes. Post changes and modifications to Project As-Built Documents as they occur; do not wait until the end of the Project.

3.15.5.2 Maintenance of As-Built Documents: Store Project As-Built Documents in the field apart from the Contract Documents used for construction. Do not use Project As-Built Documents for construction purposes. Maintain Project As-Built Documents in good order and in clean, dry, legible condition, protected from deterioration and loss. Provide access to Project As-Built Documents for Project Architect's reference during normal working hours.

(a) Project Architect shall evaluate As-Built Drawings for document condition, order, legibility, accuracy and completeness. Project Architect shall notify Constructor of acceptance or request revisions or replacements and resubmittal. Constructor shall supply acceptable As-Built Drawings within seven (7) Days and prior to Final Payment for the Project.

(b) Project Architect shall be responsible for creating digital Record Drawings incorporating the mark-ups on the As-Built Drawings submitted by the

Constructor. Project Architect will issue digital Record Drawings to the Constructor and Owner within fourteen (14) Days following Final Payment and distribute a minimum of one (1) copy each of Record Drawings to Owner, Project Architect and Constructor.

3.15.8.4 As Built Specifications and Record Specifications: Maintain at the Worksite for the Owner a copy of Contract Documents for purposes of annotating where the actual product installation varies from that indicated. Submit the annotated portions of the Contract Documents to Project Architect prior to requesting a Substantial Completion Inspection. Project Architect may request corrections from the Constructor to make the submittal more legible and complete. Project Architect shall be responsible for maintaining its own records on variations in product installations, assembling Record Specifications for the Project in a digital format and for distributing them to the Owner and Constructor at the conclusion of the Project. In preparing the Record Specifications, Project Architect shall:

(a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

(b) Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

(c) Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

(d) Note related Change Orders and Record Drawings where applicable.

3.15 WORKSITE CONDITIONS

3.15.1 WORKSITE VISIT The Constructor acknowledges that it has visited, or has had the opportunity to visit, the Worksite to visually inspect the general and local conditions which could affect the Work.

3.15.2 CONCEALED OR UNKNOWN SITE CONDITIONS If the conditions encountered at the Worksite are (a) subsurface or other physical conditions materially different from those indicated in the Contract Documents, or (b) unusual and unknown physical conditions materially different from conditions ordinarily encountered and generally recognized as inherent in Work provided for in the Contract Documents, the Constructor shall stop affected Work after the condition is first observed and give prompt written notice of the condition to the Project Architect. The Constructor shall not be required to perform any Work relating to the unknown condition without the written mutual agreement of the Parties. Any change in the Contract Price or the Contract Time as a result of the unknown condition shall be determined as provided in ARTICLE 8.

3.16 PERMITS AND TAXES

3.16.1 The Constructor shall give public authorities all notices required by law and shall obtain and pay for all necessary permits, licenses, and renewals pertaining to the Work. The Constructor shall provide to the Project Architect and the Owner's Representative copies of all notices, permits, licenses, and renewals required under this Agreement.

3.16.2 The Constructor shall pay all applicable taxes enacted when bids are received or negotiations concluded for the Work provided by the Constructor.

3.16.3 If, in accordance with the Owner's direction, the Constructor claims an exemption for taxes, the Owner shall indemnify and hold the Constructor harmless from any liability, penalty, interest, fine, tax assessment, attorneys' fees, or other expense or cost incurred by the Constructor as a result of any such action.

3.17 CUTTING, FITTING, AND PATCHING

3.17.1 The Constructor shall perform cutting, fitting and patching necessary to coordinate the various parts of the Work and to prepare its Work for the work of the Owner or Others.

3.17.2 Cutting, patching or altering the work of the Owner or Others shall be done with the prior written approval of the Owner. Such approval shall not be unreasonably withheld.

3.18 CLEANING UP

3.18.1 The Constructor shall regularly remove debris and waste materials at the Worksite resulting from the Work. Prior to discontinuing Work in an area, the Constructor shall clean the area and remove all rubbish and its construction equipment, tools, machinery, waste, and surplus materials. The Constructor shall minimize and confine dust and debris resulting from construction activities. At the completion of the Work, the Constructor shall remove from the Worksite all construction equipment, tools, surplus materials, waste materials, and debris.

3.18.2 If the Constructor fails to commence compliance with cleanup duties within two (2) Business Days after written notification from the Project Architect of non-compliance, the Project Architect may implement appropriate cleanup measures without further notice and shall deduct the reasonable costs from any amounts due or to become due the Constructor in the next payment period.

3.19 ACCESS TO WORK The Constructor shall facilitate the access of the Project Architect, Owner, and Others to Work in progress.

3.20 COMPLIANCE WITH LAWS The Constructor shall comply with all Laws at its own costs. The Constructor shall be liable to the Owner for all loss, cost, or expense attributable to any acts or omissions by the Constructor, its employees, subcontractors, and agents for failure to comply with Laws, including fines, penalties, or corrective measures. However, liability under this section shall not apply if notice to the Project Architect was given, and advance approval by appropriate authorities, including the Owner, is received.

3.20.1 The Contract Price or Contract Time shall be equitably adjusted by Change Order for additional costs resulting from any changes in Laws, including increased taxes, which were not reasonably anticipated and then enacted after the date of this Agreement.

3.21 CONFIDENTIALITY Unless compelled by law, a governmental agency or authority, an order of a court of competent jurisdiction, or a validly issued subpoena, the Constructor shall treat as confidential and not disclose to third-persons, except Subcontractors, Subsubcontractors, and Material Suppliers as is necessary for the performance of the Work, or use for its own benefit, any of the Owner's confidential information, know-how, discoveries, production methods, and the like that may be disclosed to the Constructor or which the Constructor may acquire in connection with the Work. The Owner shall treat as confidential information, all of the Constructor's estimating systems and historical and parameter cost data that may be disclosed to the Owner in connection with the performance of this Agreement. The Owner and the Constructor shall each specify those items to be treated as confidential and shall mark them as "Confidential." In the event of a legal compulsion or other order seeking disclosure of any Confidential Information, the Constructor or Owner, as the case may be, shall promptly notify the other Party to permit that Party's legal objection, if necessary.

ARTICLE 4 OWNER'S RESPONSIBILITIES

4.1 INFORMATION AND SERVICES Any information or services to be provided by Owner shall be fulfilled with reasonable detail and in a timely manner.

4.2 WORKSITE INFORMATION To the extent the Owner has obtained, or is required elsewhere in the Contract Documents to obtain, the following Worksite information, the Owner shall provide at the Owner's expense and with reasonable promptness:

4.2.1 Information describing the physical characteristics of the Worksite, including surveys, Worksite evaluations, legal descriptions, data or drawings depicting existing conditions, subsurface conditions, and environmental studies, reports, and investigations. Legal descriptions shall include easements, title restrictions, boundaries, and zoning restrictions. Worksite descriptions shall include existing buildings and other construction and all other pertinent Worksite conditions. Adjacent property descriptions shall include structures, streets, sidewalks, alleys, and other features relevant to the Work. Utility details shall include available services, lines at the Worksite and adjacent thereto, and connection points. The information shall include public and private information, subsurface information, grades, contours, and elevations, drainage data, exact locations and dimensions, and benchmarks that can be used by the Constructor in laying out the Work;

4.2.2 Tests, inspections, and other reports dealing with environmental matters, Hazardous Material and other existing conditions, including structural, mechanical, and chemical tests, required by the Contract Documents or by Law; and

4.2.3 Any other information or services requested in writing by the Constructor which are required for the Constructor's performance of the Work and under the Owner's control.

4.3 OWNER'S CUTTING AND PATCHING Cutting, patching, or altering the Work by the Owner or Others shall be done with the prior written approval of the Constructor, which approval shall not be unreasonably withheld.

4.4 OWNER'S RIGHT TO CLEAN UP In case of a dispute between the Constructor and Others with regard to respective responsibilities for cleaning up at the Worksite, the Owner may implement appropriate cleanup measures after two (2) Business Days' notice and allocate the cost among those responsible during the following pay period.

4.5 COST OF CORRECTING DAMAGED OR DESTROYED WORK With regard to damage or loss attributable to the acts or omissions of the Owner or Others and not to the Constructor, the Owner may either (1) promptly remedy the damage or loss or (2) accept the damage or loss. If the Constructor incurs additional costs or is delayed due to such loss or damage, the Constructor shall be entitled to an equitable adjustment in the Contract Price or Contract Time.

ARTICLE 5 SUBCONTRACTS

5.1 SUBCONTRACTORS The Work not performed by the Constructor with its own forces shall be performed by Subcontractors holding valid Public Works Contractor licenses pursuant to Idaho Code § 54-1902. All subcontracts shall be issued on a lump sum basis unless the Owner has given prior written approval of a different method of payment to the Subcontractor.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK Promptly after the award of this Agreement, the Constructor shall provide the Project Architect and Owner’s Representative with a written list of the proposed Subcontractors and significant Material suppliers.

5.3 BINDING OF SUBCONTRACTORS AND MATERIAL SUPPLIERS The Constructor agrees to bind every Subcontractor and Material Supplier (and require every Subcontractor to so bind its subcontractors and material suppliers) to all the provisions of this Agreement and the Contract Documents as they apply to the Subcontractor's or Material Supplier's portions of the Work.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

5.4.1 If this Agreement is terminated, each subcontract and supply agreement shall be assigned by the Constructor to the Owner, subject to the prior rights of any surety, provided that:

5.4.1.1 this Agreement is terminated by the Owner pursuant to sections 11.3 or 11.4; and

5.4.1.2 the Owner accepts such assignment after termination by notifying the Subcontractor and Constructor in writing, and assumes all rights and obligations of the Constructor pursuant to each subcontract agreement.

5.4.2 If the Owner accepts such an assignment, and the Work has been suspended for more than thirty (30) consecutive Days, following termination, if appropriate, the Subcontractor's compensation shall be equitably adjusted as a result of the suspension.

ARTICLE 6 TIME

6.1 DATE OF COMMENCEMENT The Constructor shall not commence the Work until it receives a written notice to proceed from the Owner. The notice to proceed shall identify the Date of Commencement.

6.2 SUBSTANTIAL/FINAL COMPLETION Substantial Completion of the Work shall be achieved in **NUMBER OF DAYS SPELLED OUT (XX) DAYS** from the Date of Commencement. Unless otherwise specified in the Certificate of Substantial Completion, the Constructor shall achieve Final Completion within TWENTY-ONE (21) Days after the date of Substantial Completion. The deadlines for Substantial and Final Completion are subject to adjustments as provided for in the Contract Documents.

6.3 Time is of the essence for this Agreement and the Contract Documents.

6.4 Unless instructed by the Owner in writing, the Constructor shall not knowingly commence the Work before the effective date of insurance and bonds to be provided by the Constructor or the Owner as required by the Contract Documents.

6.5 SCHEDULE OF THE WORK

6.5.1 Before submitting the first application for payment, the Constructor shall submit to the Project Architect and Owner’s Representative for approval a Schedule of the Work showing the dates on which the Constructor plans to commence and complete various parts of the Work, including dates on which information and approvals are required from the Project Architect. The Constructor shall comply with the approved Schedule of the Work, unless directed by the Project Architect to do otherwise or the Constructor is otherwise entitled to an adjustment in the Contract Time. The Constructor shall update the Schedule of the Work on a monthly basis or at appropriate intervals as required by the conditions of the Work and the Project.

6.5.2 The Project Architect may determine the sequence in which the Work shall be performed, provided it does not unreasonably interfere with the Schedule of the Work. The Owner may require the Constructor to make reasonable changes in the sequence at any time during the performance of the Work in order to facilitate the performance of work by the Owner or Others. To the extent such

changes increase the Constructor's costs or time, the Contract Price and Contract Time shall be equitably adjusted.

6.6 DELAYS AND EXTENSIONS OF TIME

6.6.1 If the Constructor is delayed at any time in the commencement or progress of the Work by any cause beyond the control of the Constructor, the Constructor shall be entitled to an equitable extension of the Contract Time. Examples of causes beyond the control of the Constructor include, but are not limited to, the following: (a) acts or omissions of the Project Architect, Owner, or Others; (b) changes in the Work or the sequencing of the Work ordered by the Project Architect or Owner, or arising from decisions of the Project Architect or Owner that impact the time of performance of the Work; (c) encountering Hazardous Materials, or concealed or unknown conditions; (d) delay authorized by the Project Architect or Owner pending dispute resolution or suspension by the Owner under section 11.1; (e) transportation delays not reasonably foreseeable; (f) labor disputes not involving the Constructor; (g) general labor disputes impacting the Project but not specifically related to the Worksite; (h) fire; (i) Terrorism; (j) epidemics; (k) adverse governmental actions; (l) unavoidable accidents or circumstances; (m) adverse weather conditions not reasonably anticipated. The Constructor shall submit any requests for equitable extensions of Contract Time in accordance with the provisions of ARTICLE 8.

6.6.2 In addition, if the Constructor incurs additional costs as a result of a delay that is caused by items (a) through (m) immediately above, the Constructor shall be entitled to an equitable adjustment in the Contract Price subject to section 6.9.

6.6.3 NOTICE OF DELAYS If delays to the Work are encountered for any reason, the Constructor shall provide prompt written notice to the Project Architect with a copy to the Owner's Representative of the cause of such delays after the Constructor first recognizes the delay. The Owner and the Constructor agree to take reasonable steps to mitigate the effect of such delays.

6.7 NOTICE OF DELAY CLAIMS If the Constructor requests an equitable extension of the Contract Time or an equitable adjustment in the Contract Price as a result of a delay described in the section above, the Constructor shall give the Owner written notice of the claim in accordance with section 8.4. If the Constructor causes delay in the completion of the Work, the Owner shall be entitled to recover its additional costs subject to section 6.9. The Owner shall process any such claim against the Constructor in accordance with ARTICLE 8.

6.8 LIQUIDATED DAMAGES

6.8.1 SUBSTANTIAL COMPLETION The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Substantial Completion.

6.8.1.1 The Constructor understands that if the Date of Substantial Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Substantial Completion is not attained, the Constructor shall pay the Owner THREE HUNDRED DOLLARS ($300.00) as liquidated damages and not as a penalty for each Day that Substantial Completion extends beyond the Date of Substantial Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Substantial Completion.

6.8.2 FINAL COMPLETION The Owner and the Constructor agree that this Agreement shall provide for the imposition of liquidated damages based on the Date of Final Completion.

6.8.2.1 The Constructor understands that if the Date of Final Completion established by this Agreement, as may be amended by subsequent Change Order, is not attained, the Owner will suffer damages which are difficult to determine and accurately specify. The Constructor agrees that if the Date of Final Completion is not attained, the Constructor shall pay the Owner THREE HUNDRED DOLLARS ($300.00) as liquidated damages and not as a penalty for each Day that Final Completion extends beyond the Date of Final Completion. The liquidated damages provided herein shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties, and any other damages of whatsoever nature incurred by the Owner which are occasioned by any delay in achieving the Date of Final Completion.

6.8.3 OTHER LIQUIDATED DAMAGES The Owner and the Constructor may agree upon the imposition of liquidated damages based on other project milestones or performance requirements. Such agreement shall be included as an exhibit to this Agreement.

6.9 LIMITED MUTUAL WAIVER OF CONSEQUENTIAL DAMAGES Except for damages mutually agreed upon by the Parties as liquidated damages in subsections 6.8 and excluding losses covered by insurance required by the Contract Documents, the Owner and the Constructor agree to waive all claims against each other for any consequential damages that may arise out of or relate to this Agreement, except for those specific items of damages excluded from this waiver as mutually agreed upon by the Parties and identified below. The Owner agrees to waive damages, including but not limited to the Owner's rental expenses incurred, loss of financing related to the Project, as well as the loss of financing not related to this Project, loss of reputation, or insolvency. The Constructor agrees to waive damages, including but not limited to loss of business, loss of financing, loss of profits not related to this Project, loss of bonding capacity, loss of reputation, or insolvency. The provisions of this section shall also apply to the termination of this Agreement and shall survive such termination.

6.9.1 The Owner and the Constructor shall require similar waivers in contracts with Subcontractors and Others retained for the Project.

ARTICLE 7 PRICE

7.1 LUMP SUM As full compensation for performance by the Constructor of the Work in conformance with the Contract Documents, the Owner shall pay the Constructor the lump sum price of **DOLLAR AMOUNT IN WORDS** (**$000,000**). The lump sum price is hereinafter referred to as the Contract Price, which shall be subject to increase or decrease as provided in ARTICLE 8.

ARTICLE 8 CHANGES

Changes in the Work that are within the general scope of this Agreement shall be accomplished, without invalidating this Agreement, by Change Order and Interim Directed Change.

8.1 CHANGE ORDER

8.1.1 The Constructor may request or the Owner may order, at any time before completion of the Project, changes in the Work or the timing or sequencing of the Work that impacts the Contract Price or the Contract Time. All such changes in the Work that affect Contract Time or Contract Price shall be formalized in a Change Order. All terms and conditions of the original contract shall become a part of each Change Order.

8.1.1.1 Owner-Initiated Proposal Requests: Before any change is made or work done, the Owner will issue a detailed written description of proposed changes in the Work. Proposal

requests issued by the Owner are for information only. The Constructor shall not consider them instructions either to stop Work in progress or to execute the proposed change. Promptly after receipt of such instructions, the Constructor shall submit to the Owner within ten (10) days a proposal with a detailed estimate showing the cost of the proposed change in the Work, including a detailed breakdown of costs for the additional work as well as the credit for the original Work, and a revised schedule showing the extension of time, if any. The revised schedule showing any time extension shall be submitted in writing under separate cover and approved by Owner. The Owner shall promptly notify the Constructor in writing whether the estimate is acceptable and, if it is, in writing authorize the change to be made or Work to be done. The Owner reserves the right to reject any such proposal and to have the work done by others.

8.1.1.2 Constructor-Initiated Proposals: If the Constructor contends that it has encountered conditions, changes, or occurrences entitling it to a change in the Contract or an adjustment in the contract schedule or price, the Constructor shall propose changes by submitting a written request for a change to the Owner. The proposal shall include a statement outlining reasons for the change and the effect of the change on the Work, the effect of the proposed change on the Contract Sum including a detailed breakdown of costs for the additional work as well as the credit for the original Work, list of quantities of products required or eliminated, applicable taxes, delivery charges, equipment rental, and amounts of trade discounts and a revised schedule showing any time extension. The proposal shall be submitted to the Owner within ten (10) days of the discovery of the condition, changes, or occurrences for review and approval. Except in an emergency, the proposal shall be given before proceeding with the Work. The failure of the Constructor to provide the written proposal as provided herein within such time period shall constitute a waiver by the Constructor of any claim for compensation or time extension, notwithstanding any purposed knowledge or lack of prejudice of the Owner. This written proposal requirement may not be waived, except explicitly and in writing by the Owner.

8.1.2 NO OBLIGATION TO PERFORM The Constructor shall not be obligated to perform changes in the Work that impact Contract Price or Contract Time until a Change Order has been executed or a written Interim Directed Change has been issued.

8.2 INTERIM DIRECTED CHANGE

8.2.1 The Owner may issue a written Interim Directed Change directing a change in the Work prior to reaching agreement with the Constructor on the adjustment, if any, in the Contract Price or the Contract Time. The Constructor shall proceed with the change in the Work when indicated in writing by Owner, for subsequent inclusion in a Change Order.

8.2.2 The Owner and the Constructor shall negotiate expeditiously and in good faith for appropriate adjustments, as applicable, to the Contract Price or the Contract Time arising out of an Interim Directed Change. As the changed Work is performed, the Constructor shall submit its costs for such Work with its application for payment beginning with the next application for payment within thirty (30) Days of the issuance of the Interim Directed Change. If there is a dispute as to the cost to the Owner, the Owner shall pay the Constructor fifty percent (50%) of its estimated cost to perform such Work. In such event, the Parties reserve their rights as to the disputed amount, subject to the requirements of ARTICLE 12.

8.2.3 When the Owner and the Constructor agree upon the adjustment in the Contract Price or the Contract Time, for a change in the Work directed by an Interim Directed Change, such agreement shall be the subject of a Change Order. The Change Order shall include all outstanding Interim Directed Changes on which the Owner and Constructor have reached agreement on Contract Price or Contract Time issued since the last Change Order.

8.3 DETERMINATION OF COST OR CREDIT

8.3.1 An increase or decrease in the Contract Price or the Contract Time resulting from a change in the Work shall be determined by one or more of the following methods:

8.3.1.1 Unit prices set forth in this Agreement or as subsequently agreed;

8.3.1.2 A mutually accepted, itemized lump sum;

8.3.2 “Cost of the Work” shall include the following costs necessary and reasonably incurred by Constructor to perform a change in the Work. For Constructor self-performed Changes in the Work, Change Order markup costs for Constructor are limited to 10% for Overhead and profit on direct costs of the Constructor. For Subcontractor performed Work, any Change Order markup costs for Constructor are limited to 5% for Overhead and profit on direct costs of the Constructor and any markup costs for Subcontractors are limited to 10% for Overhead and profit on direct costs of labor, materials, and equipment for the first $10,000 of a complete change order issue, with 5% applied to amounts over $10,000. Sub-Subcontractors are limited to 5% for overhead and profit.

8.3.2.1 Wages paid for labor in the direct employ of the Constructor in the performance of the Work.

8.3.2.2 Salaries of the Constructor's employees when stationed at the field office or branch office to the extent necessary to complete the applicable Work and employees engaged on the road expediting the production or transportation of material and equipment;

8.3.2.3 Cost of applicable employee benefits and taxes, including but not limited to, workers' compensation, unemployment compensation, social security, health, welfare, retirement and other fringe benefits as required by law, labor agreements, or paid under the Constructor's standard personnel policy, insofar as such costs are paid to employees of the Constructor who are included in the Cost of the Work in subsections .1 and .2 immediately above;

8.3.2.4 Reasonable transportation, travel, and hotel expenses of the Constructor's personnel incurred in connection with the Work;

8.3.2.5 Cost of all materials, supplies, and equipment incorporated in the Work, including costs of inspection and testing if not provided by the Owner, transportation, storage, and handling.

8.3.2.6 Payments made by the Constructor to Subcontractors for Work performed under this Agreement;

8.3.2.7 Cost, including transportation and maintenance of all materials, supplies, equipment, temporary facilities, and hand tools not owned by the workers that are used or consumed in the performance of the Work, less salvage value or residual value; and cost less salvage value of such items used, but not consumed that remain the property of the Constructor;

8.3.2.8 Rental charges of all necessary machinery and equipment, exclusive of hand tools owned by workers, used at the Worksite, whether rented from the Constructor or Others, including installation, repair and replacement, dismantling, removal, maintenance, transportation, and delivery costs. Rental from unrelated third parties shall be reimbursed at actual cost. Rentals from the Constructor or its affiliates, subsidiaries, or related parties shall be reimbursed at the prevailing rates in the locality of the Worksite up to eighty-five percent (85%) of the value of the piece of equipment;

8.3.2.9 Cost of the premiums for all insurance and surety bonds which the Constructor is required to procure or deems necessary, and approved by the Owner including any additional premium incurred as a result of any increase in the cost of the Work;

8.3.2.10 Sales, use, gross receipts or other taxes, tariffs, or duties related to the Work for which the Constructor is liable;

8.3.2.11 Permits, fees, licenses, tests, and royalties;

8.3.2.12 Reproduction costs, photographs, facsimile transmissions, long-distance telephone calls, data processing costs and services, postage, express delivery charges, data transmission, telephone service, and computer-related costs at the Worksite to the extent such items are used and consumed in the performance of the Work or are not capable of use after completion of the Work;

8.3.2.13 All water, power, and fuel costs necessary for the Work;

8.3.2.14 Cost of removal of all nonhazardous substances, debris, and waste materials;

8.3.2.15 All costs directly incurred to perform a change in the Work which are reasonably inferable from the Contract Documents for the Changed Work.

8.3.3 DISCOUNTS All discounts for prompt payment shall accrue to the Owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment, shall be credited to the Cost of the Work.

8.3.4 COST REPORTING The Constructor shall maintain in conformance with generally accepted accounting principles a complete and current set of records that are prepared or used by the Constructor to calculate the Cost of Work. The Owner shall be afforded access to the Constructor's records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda and similar data relating to requested payment for Cost of the Work. The Constructor shall preserve all such records for a period of three (3) years after the final payment or longer where required by law.

8.3.5 COST AND SCHEDULE ESTIMATES The Constructor shall use reasonable skill and judgment in the preparation of a cost estimate or schedule for a change to the Work, but does not warrant or guarantee their accuracy.

8.3.6 If an increase or decrease in the Contract Price or Contract Time cannot be agreed to as set forth in subsection 8.3.1, and the Owner issues an Interim Directed Change, the cost of the change in the Work shall be determined by the reasonable actual expense incurred and savings realized in the performance of the Work resulting from the change. If there is a net increase in the Contract Price, the Constructor's Overhead and profit shall be adjusted accordingly. In case of a net decrease in the Contract Price, the Constructor's Overhead and profit shall not be adjusted unless ten percent (10%) or more of the Project is deleted. The Constructor shall maintain a documented, itemized accounting evidencing the expenses and savings.

8.3.7 UNIT PRICES If unit prices are set forth in the Contract Documents or are subsequently agreed to by the Parties, but the character or quantity of such unit items as originally contemplated is so different in a proposed Change Order that the original unit prices will cause substantial inequity to the Owner or the Constructor, such unit prices shall be equitably adjusted.

8.3.8 If the Owner and the Constructor disagree as to whether work required by the Owner is within the scope of the Work, the Constructor shall furnish the Owner with an estimate of the costs to perform the disputed work in accordance with the Owner's interpretations. If the Owner issues a

written order for the Constructor to proceed, the Constructor shall perform the disputed work and the Owner shall pay the Constructor fifty percent (50%) of its estimated cost to perform the work. In such event, both Parties reserve their rights as to whether the work was within the scope of the Work, subject to the requirements of ARTICLE 12. The Owner's payment does not prejudice its right to be reimbursed should it be determined that the disputed work was within the scope of the Work. The Constructor's receipt of payment for the disputed work does not prejudice its right to receive full payment for the disputed work should it be determined that the disputed work is not within the scope of the Work.

8.4 CLAIMS FOR ADDITIONAL COST OR TIME

8.4.1 Suspension of Work: Constructor shall not proceed with work which would alter, cover, damage or destroy evidence in support of Constructor's Claim. If Constructor proceeds to perform Work, with or without notice to Project Architect, that alters, covers, damages or destroys evidence in support of Constructor's Claim, Constructor is indicating by proceeding its acceptance and agreement that the work performed does not add to the Contract Sum or Contract Time.

8.4.2 Action on Change Order: Project Architect shall review the Claim and shall forward recommendations to Owner regarding the Claim within five (5) business days. Negotiation of changes to the Contract Sum and/or Contract Time between the Owner and Contractor shall follow the procedures set forth in the Contract Documents.

8.4.3 Owner and Project Architect shall respond in writing approving or denying the Constructor's claim no later than fourteen (14) Days after receipt of the Constructor's claim. Owner's failure to so respond shall be deemed a denial of the claim. Any change in the Contract Price or the Contract Time resulting from such claim shall be authorized by Change Order.

8.5 INCIDENTAL CHANGES The Project Architect may direct the Constructor to perform incidental changes in the Work, upon concurrence with the Constructor that such changes do not involve adjustments in the Contract Price or Contract Time. Incidental changes shall be consistent with the scope and intent of the Contract Documents. The Project Architect shall initiate an incidental change in the Work by issuing a written order to the Constructor. Such written notice shall be carried out promptly and is binding on the Parties.

ARTICLE 9 PAYMENT

9.1 SCHEDULE OF VALUES In accordance with requirements in Division 01 Section 01 29 00 for "Schedule of Values," the Constructor shall prepare and submit to the Project Architect a Schedule of Values apportioned to the various divisions or phases of the Work. Each line item contained in the Schedule of Values shall be assigned a value such that the total of all items shall equal the Contract Price. Maintain the Schedule of Values during the construction period. If the Schedule of Values is revised, submit the updated Schedule of Values for Project Architect's review and approval after each meeting or other activity where revisions have been recognized or made.

9.2 APPLICATIONS FOR PAYMENT

9.2.1 PROGRESS PAYMENTS In accordance with requirements in Division 01 Section 01 29 00 for "Applications for Payment", the Constructor shall submit to the Project Architect a monthly application for payment no later than the 5th Business Day of the calendar month for the preceding thirty (30) Days. Constructor's applications for payment shall be itemized and supported by the Constructor's Schedule of Values and any other substantiating data as required by this Agreement. Applications for payment shall include payment requests on account of properly authorized Change Orders or Interim Directed Changes. The Owner shall pay the amount otherwise due on any

payment application, as certified by the Project Architect, no later than thirty (30) Days after the Constructor has submitted a complete and accurate payment application and the Owner has approved the Constructor's payment application, or such shorter time period as required by applicable state statute. The Owner may deduct from any progress payment amounts that may be retained pursuant to subsection 9.2.4. The initial Application for Payment and the Applications for Payment at Substantial Completion and Final Completion have additional requirements as stated in Division 01 Section 01 29 00 "Applications for Payment".

9.2.2 STORED MATERIALS AND EQUIPMENT Unless otherwise provided in the Contract Documents, applications for payment may include materials and equipment not yet incorporated into the Work but delivered to and suitably stored onsite or offsite including applicable insurance, storage, and costs incurred in transporting the materials to an offsite storage facility. Approval of payment applications for stored materials and equipment stored offsite shall be conditioned on a submission by the Constructor of bills of sale and proof of required insurance, or such other documentation satisfactory to the Owner to establish the proper valuation of the stored materials and equipment, the Owner's title to such materials and equipment, and to otherwise protect the Owner's interests therein, including transportation to the Worksite.

9.2.3 LIEN WAIVERS AND LIENS Constructor acknowledges Owner is a public entity, that any property owned by Owner is considered public property, and that liens on public property are not enforceable. Constructor agrees that it shall not file any liens against property owned or controlled by Owner or by Ada County Highway District ("ACHD") which is a part of the Worksite (the "Property"). Constructor agrees that no lien will be at any time be filed against the Property, or any part thereof, by any of Constructor's subcontractors or other person employed by or furnishing labor, services, equipment, or materials to Constructor or any of its subcontractors for, in, or about the performance of the Work. The preceding clause will be inserted in all of the Constructor's or any of its subcontractor's purchase orders and material agreements. Subject to Owner's payment of the compensation in accordance with the terms of this Agreement, Constructor will promptly discharge all liens, if any, filed against the Property by Constructor's subcontractors, suppliers and materialmen, and agents and persons employed by any of such persons.

9.2.4 RETAINAGE From each progress payment made prior to Substantial Completion, the Owner may retain FIVE percent (5%) of the amount otherwise due after deduction of any amounts as provided in section 9.3, and in no event shall such percentage exceed any applicable statutory requirements. If the Owner chooses to use this retainage provision:

9.2.4.1 the Owner may, in its sole discretion, reduce the amount to be retained at any time;

9.2.4.2 the Owner may release retainage on that portion of the Work a Subcontractor has completed in whole or in part, and which the Owner has accepted. In lieu of retainage, the Constructor may furnish a retention bond or other security interest acceptable to the Owner, to be held by the Owner.

9.3 ADJUSTMENT OF CONSTRUCTOR'S PAYMENT APPLICATION The Owner may adjust or reject a payment application or nullify a previously approved payment application, in whole or in part, as may reasonably be necessary to protect the Owner from loss or damage based upon the following, to the extent that the Constructor is responsible under this Agreement:

9.3.1 the Constructor's repeated failure to perform the Work as required by the Contract Documents;

9.3.2 Except as accepted by the insurer providing builders risk or other property insurance covering the project, loss or damage arising out of or relating to this Agreement and caused by the Constructor to the Owner or to Others to whom the Owner may be liable;

9.3.3 the Constructor's failure to properly pay Subcontractors and Material Suppliers following receipt of such payment from the Owner;

9.3.4 rejected, nonconforming or Defective Work not corrected in a timely fashion;

9.3.5 reasonable evidence of delay in performance of the Work such that the Work will not be completed within the Contract Time;

9.3.6 reasonable evidence demonstrating that the unpaid balance of the Contract Price is insufficient to fund the cost to complete the Work; and

9.3.7 uninsured third-party claims involving the Constructor, or reasonable evidence demonstrating that third-party claims are likely to be filed unless and until the Constructor furnishes the Owner with adequate security in the form of a surety bond, letter of credit, or other collateral or commitment sufficient to discharge such claims if established.

No later than seven (7) Days after receipt of an application for payment, the Project Architect shall give written notice to the Constructor, at the time of disapproving or nullifying all or part of an application for payment, stating its specific reasons for such disapproval or nullification, and the remedial actions to be taken by the Constructor in order to receive payment. When the above reasons for disapproving or nullifying an application for payment are removed, payment will be promptly made for the amount previously withheld.

9.4 ACCEPTANCE OF WORK Neither the Owner's payment of progress payments nor its partial or full use or occupancy of the Project constitutes acceptance of Work not complying with the Contract Documents.

9.5 PAYMENT DELAY If for any reason not the fault of the Constructor, the Constructor does not receive a progress payment from the Owner within seven (7) Days after the time such payment is due, then the Constructor, upon giving seven (7) Days' written notice to the Owner, and without prejudice to and in addition to any other legal remedies, may stop Work until payment of the full amount owing to the Constructor has been received. Interest shall not accrue on any unpaid amounts. The Contract Price and Contract Time shall be equitably adjusted by a Change Order for reasonable cost and delay resulting from shutdown, delay and start-up.

9.6 SUBSTANTIAL COMPLETION

9.6.1 CLOSEOUT PROCEDURES The Constructor shall comply with the requirements stated in Division 01 Section 01 77 00 CLOSEOUT PROCEDURES, in conjunction with Constructor’s compliance with the requirements in sections 9.6 and 9.7.

9.6.2 The Constructor shall notify the Project Architect and, if directed, the Owner, when it considers Substantial Completion of the Work or a designated portion to have been achieved. The Project Architect and Owner’s Representative shall promptly conduct an inspection to determine whether the Work or designated portion can be occupied or used for its intended use by the Owner without excessive interference in completing any remaining unfinished Work. If the Project Architect determines that the Work or designated portion has not reached Substantial Completion, the Project Architect shall promptly compile a list of items (“Punch List”) to be completed or corrected so the Owner may occupy or use the Work or designated portion for its intended use. The Constructor shall promptly complete all items on the Punch List and the list compiled by the Project Architect.

9.6.3 When Substantial Completion of the Work or a designated portion is achieved, the Owner shall prepare a Certificate of Substantial Completion establishing the date of Substantial Completion and the respective responsibilities of the Owner and Constructor for interim items such as security, maintenance, utilities, insurance, and damage to the Work. In the absence of a clear delineation of

responsibilities, the Owner shall assume all responsibilities for items such as security, maintenance, utilities, insurance, and damage to the Work. The Certificate of Substantial Completion shall also list any items to be completed or corrected, and establish the time for their completion or correction. The Certificate of Substantial Completion shall be submitted first to the Project Architect for written concurrence that Substantial Completion has been achieved and then to the Constructor for written acceptance of responsibilities assigned in the Certificate of Substantial Completion. The Certificate of Substantial Completion with signatures from the Project Architect and the Constructor shall be submitted to the Owner for Owner's signature indicating Owner's acceptance of responsibilities assigned to the Owner in the Certificate of Substantial Completion and approval of the Certificate. A copy of the signed Certificate of Substantial Completion shall be provided to the Constructor.

9.6.4 Unless otherwise provided in the Certificate of Substantial Completion, warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or a designated portion.

9.6.5 Upon the Owner's written acceptance and issuance of the Certificate of Substantial Completion, the Owner shall pay to the Constructor the remaining retainage held by the Owner for the Work described in the Certificate of Substantial Completion, less a sum equal to two hundred percent (200%) of the estimated cost of completing or correcting remaining items on that part of the Work, as agreed to by the Owner and Constructor as necessary to achieve Final Completion. Uncompleted items shall be completed by the Constructor in a mutually agreed upon timeframe. The Owner shall pay the Constructor monthly the amount retained for unfinished items as each item is completed.

9.7 PARTIAL OCCUPANCY OR USE

9.7.1 The Owner may occupy or use completed or partially completed portions of the Work when: (a) the portion of the Work is designated in a Certificate of Substantial Completion; (b) appropriate insurer(s) consent to the occupancy or use; and (c) appropriate public authorities authorize the occupancy or use. Such partial occupancy or use shall constitute Substantial Completion of that portion of the Work.

9.8 FINAL COMPLETION AND FINAL PAYMENT

9.8.1 CLOSEOUT PROCEDURES The Constructor shall comply with the requirements in Division 01 Section 01 77 00 CLOSEOUT PROCEDURES, in conjunction with Constructor's compliance with the requirements in this section.

9.8.2 INSPECTION Upon notification from the Constructor that the Work is complete and ready for final inspection and acceptance, the Project Architect and Owner's Representative shall promptly conduct an inspection to determine if the Work has been completed and is acceptable under the Contract Documents.

9.8.3 If the Project Architect and Owner's Representative determine that the Project has attained Final Completion, the Project Architect shall request the following submissions from the Constructor:

(a) an affidavit declaring any indebtedness connected with the Work, *e.g.* payrolls or invoices for materials or equipment, to have been paid, satisfied, or to be paid with the proceeds of final payment, so as not to encumber the Owner's property;

(b) as-built drawings and specifications, manuals, copies of warranties, and all other close-out documents required by the Contract Documents;

(c) release of any liens, conditioned on final payment being received;

(d) consent of any surety;

(e) any outstanding known and unreported accidents or injuries experienced by the Constructor or its Subcontractors at the Worksite; and

(f) any other submissions required by Section 01 77 00 CLOSEOUT PROCEDURES.

9.8.4 When Final Completion has been achieved, the Constructor shall prepare for the Owner's written acceptance a final application for payment stating that to the best of the Constructor's knowledge, and based on the Owner's inspections, the Work has reached Final Completion in accordance with the Contract Documents.

9.8.5 Upon receipt of a final application for payment and Constructor's satisfactory completion of closeout procedures stated in sections 9.6 and 9.8, the Project Architect shall prepare a Certificate of Final Completion establishing the date of Final Completion. Upon signature by the Project Architect, the Certificate of Final Completion shall be submitted to the Constructor for signature. The Certificate of Final Completion with signatures from the Project Architect and the Constructor shall be returned to the Owner for Owner's signature indicating Owner's approval of the Certificate of Final Completion. A copy of the signed Certification of Final Completion shall be provided to the Constructor. The Project Architect's signature on the Final Completion Certificate shall signify the following: (a) Final Completion has been achieved; (b) Project has been inspected and complies with the requirements of the Contract Documents; and (c) Constructor has submitted all required closeout submittals and completed all required closeout procedures.

9.8.6 Final payment of the balance of the Contract Price shall be made to the Constructor within thirty (30) Days after the Constructor has submitted a complete and accurate application for final payment, has satisfactorily completed the requirements as set forth in sections 9.6 and 9.8 above, and a Certificate of Final Completion has been executed by the Owner and the Constructor.

9.8.7 If, after Substantial Completion of the Work, the Final Completion of a portion of the Work is materially delayed through no fault of the Constructor, the Owner shall pay the balance due for portion(s) of the Work fully completed and accepted. If the remaining contract balance for Work not fully completed and accepted is less than the retained amount prior to payment, the Constructor shall submit to the Project Architect the written consent of any surety to payment of the balance due for portions of the Work that are fully completed and accepted. Such payment shall not constitute a waiver of claims, but otherwise shall be governed by these final payment provisions.

9.8.8 OWNER RESERVATION OF CLAIMS Claims not reserved in writing by the Owner with the making of final payment shall be waived except for claims relating to liens or similar encumbrances, warranties, Defective Work, and latent defects.

9.8.9 ACCEPTANCE OF FINAL PAYMENT Unless the Constructor provides written identification of unsettled claims with an application for final payment, its acceptance of final payment constitutes a waiver of such claims.

9.9 LATE PAYMENT Payments due but unpaid shall bear interest from the date payment is due at the rate allowed by the State of Idaho.

ARTICLE 10 INDEMNITY, INSURANCE, AND BONDS

10.1 INDEMNITY

10.1.1 To the fullest extent permitted by law, the Constructor shall indemnify and hold harmless the Owner, the Owner's officers, directors, members, consultants, agents, and employees, the Design Professionals and the Design Professionals' officers, directors, members, consultants, agents, and employees and Others (the Indemnitees) from all claims for bodily injury and property damage, other than to the Work itself and other property insured, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of the Work, but only to the extent caused by the negligent or intentional acts or omissions of the Constructor, Subcontractors, or anyone employed directly or indirectly by any of them or by anyone for whose acts any of them may be liable. The Constructor shall be entitled to reimbursement of any defense costs paid above the Constructor's percentage of liability for the underlying claim to the extent provided for by the subsection 10.1.2 below.

10.1.2 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Constructor, its officers, directors, members, consultants, agents, and employees, Subcontractors, or anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable from all claims for bodily injury and property damage, other than property insured, including reasonable attorneys' fees, costs and expenses, that may arise from the performance of work by the Owner, Owner's Representative, the Project Architect, and Others, but only to the extent caused by the negligent acts or omissions of the Owner, Owner's Representative, the Project Architect, or Others. The Owner shall be entitled to reimbursement of any defense costs paid above the Owner's percentage of liability for the underlying claim to the extent provided for by the subsection 10.1.1 above.

10.1.3 NO LIMITATION ON LIABILITY In any and all claims against the Indemnitees by any employee of the Constructor, anyone directly or indirectly employed by the Constructor or anyone for whose acts the Constructor may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Constructor under workers' compensation acts, disability benefit acts, or other employment benefit acts.

10.2 INSURANCE

Constructor's insurance obligations are set forth in Division 00 Section 00 73 16 INSURANCE AND BONDING REQUIREMENTS.

10.3 BONDS

Constructor's bond obligations are set forth Division 00 Section 00 73 16 INSURANCE AND BONDING REQUIREMENTS.

ARTICLE 11 SUSPENSION, NOTICE TO CURE, AND TERMINATION

11.1 SUSPENSION BY OWNER FOR CONVENIENCE

11.1.1 OWNER SUSPENSION Should the Project Architect and/or Owner order the Constructor in writing to suspend, delay, or interrupt the performance of the Work for the convenience of the Owner and not due to any act or omission of the Constructor or any person or entity for whose acts or omissions the Constructor may be liable, then the Constructor shall immediately suspend, delay or interrupt that portion of the Work for the time period ordered by the Project Architect and/or Owner. Constructor shall take the actions necessary (or that the Owner may direct) for the protection and preservation of the Work and strive to minimize any further costs. Any suspension will be for such period of time as the Owner may determine, but in no event more than 14 consecutive days or 30 cumulative days, without the written agreement of the Constructor. The

Contract Price and the Contract Time shall be equitably adjusted by Change Order for the cost and delay resulting from any such suspension.

11.1.2 Any action taken by the Project Architect and/or Owner that is permitted by any other provision of the Contract Documents and that result in a suspension of part or all of the Work does not constitute a suspension of Work under this section 11.1.

11.2 NOTICE TO CURE A DEFAULT If the Constructor persistently fails to supply enough qualified workers, proper materials, or equipment to maintain the approved Schedule of the Work, or fails to make prompt payment to its workers, Subcontractors, or Material Suppliers, disregards Laws or orders of any public authority having jurisdiction, or is otherwise guilty of a material breach of a provision of this Agreement, the Constructor may be deemed in default by Owner.

11.2.1 In the event of an emergency affecting the safety of persons or property, the Owner may immediately commence and continue satisfactory correction of such default without first giving written notice to the Constructor, but shall give prompt written notice of such action to the Constructor following commencement of the action.

11.3 OWNER'S RIGHT TO TERMINATE FOR DEFAULT

11.3.1 TERMINATION BY OWNER FOR DEFAULT If, within seven (7) Days of receipt of a notice to cure pursuant to section 11.2, the Constructor fails to commence and satisfactorily continue correction of the default set forth in the notice to cure, the Owner may notify the Constructor and, if applicable, the surety, that it intends to terminate this Agreement for default absent appropriate corrective action within seven (7) additional Days. After the expiration of the additional seven (7) Day period, the Owner may, subject to any prior rights of the surety: (a) terminate this Agreement by written notice; b.) exclude the Constructor from the site and take possession of the site and of all materials previously paid for by Owner; c.) accept assignment of subcontracts; and d.) finish the Work by a reasonable method the Owner may deem expedient. Upon written request of the Constructor, the Owner shall furnish to the Constructor an accounting of the costs incurred by the OWNER in finishing the Work. If the Owner terminates the Agreement for one of the reasons stated above, the Constructor shall not be entitled to receive further payment until the Work is finished. If the unpaid balance of the contract price exceeds costs of finishing the Work, including compensation for consultant services and expenses made necessary thereby, and other damages incurred by the Owner, such excess shall be paid to the Constructor. If such costs and damages exceed the unpaid balance, the constructor shall pay the difference to the Owner. The remedies in this Section are in addition to any other remedies at law or in equity available to Owner.

11.3.2 USE OF CONSTRUCTOR'S MATERIALS, SUPPLIES, AND EQUIPMENT If the Owner or Others perform work under this section 11.3, the Owner shall have the right to take and use any materials, supplies, and equipment belonging to the Constructor and located at the Worksite for the purpose of completing any remaining Work. Immediately upon completion of the Work, any remaining materials, supplies, or equipment not consumed or incorporated in the Work shall be returned to the Constructor in substantially the same condition as when they were taken, reasonable wear and tear excepted.

11.3.3 If the Constructor files a petition under the Bankruptcy Code, this Agreement shall terminate if the Constructor or the Constructor's trustee rejects the Agreement, or if there has been a default and the Constructor is unable to give adequate assurance that the Constructor will perform as required by this Agreement or otherwise is unable to comply with the requirements for assuming this Agreement under the applicable provisions of the Bankruptcy Code.

11.3.4 The Owner shall make reasonable efforts to mitigate damages arising from Constructor default, and shall promptly invoice the Constructor for all amounts due pursuant to sections 11.2 and 11.3.

11.3.5 If the Owner terminates this Agreement for default, and it is later determined that the Constructor was not in default, or that the default was excusable under the terms of the Contract Documents, then, in such event, the termination shall be deemed a termination for convenience, and the rights of the Parties shall be as set forth in section 11.4.

11.4 TERMINATION BY OWNER FOR CONVENIENCE

11.4.1 Upon written notice to the Constructor, the Owner may, without cause, terminate this Agreement. The Constructor shall immediately stop the Work, follow the Owner's instructions regarding shutdown and termination procedures, and strive to minimize any further costs.

11.4.2 If the Owner terminates this Agreement for Convenience, the Constructor shall be paid: (a) for the Work performed to date including Overhead and profit; and (b) for all demobilization costs and costs incurred as a result of the termination but not including Overhead or profit on Work not performed.

11.4.3 If the Owner terminates this Agreement, the Constructor shall:

11.4.3.1 Execute and deliver to the Owner all papers and take all action required to assign, transfer, and vest in the Owner the rights of the Constructor to all materials, supplies and equipment for which payment has been or will be made in accordance with the Contract Documents and all subcontracts, orders and commitments which have been made in accordance with the Contract Documents;

11.4.3.2 Exert reasonable effort to reduce to a minimum the Owner's liability for subcontracts, orders, and commitments that have not been fulfilled at the time of the termination;

11.4.3.3 Cancel any subcontracts, orders, and commitments as the Owner directs; and

11.4.3.4 Sell at prices approved by the Owner any materials, supplies, and equipment as the Owner directs, with all proceeds paid or credited to the Owner.

11.5 CONSTRUCTOR'S RIGHT TO TERMINATE

11.5.1 Upon seven (7) Days' written notice to the Owner, the Constructor may terminate this Agreement if the Work has been stopped for a thirty (30) Day period through no fault of the Constructor for any of the following reasons:

11.5.1.1 under court order or order of other governmental authorities having jurisdiction;

11.5.1.2 as a result of the declaration of a national emergency or other governmental act during which, through no act or fault of the Constructor, materials are not available; or

11.5.1.3 suspension by the Owner for convenience pursuant to section 11.1

11.5.2 In addition, upon seven (7) Days' written notice to the Owner, the Constructor may terminate this Agreement if the Owner:

11.5.2.1 assigns this Agreement over the Constructor's reasonable objection; or

11.5.2.2 fails to pay the Constructor in accordance with this Agreement and the Constructor has complied with section 9.5; or

11.5.2.3 otherwise materially breaches this Agreement.

11.5.3 Upon termination by the Constructor in accordance with section 11.5, the Constructor shall be entitled to recover from the Owner payment for all Work executed and for any proven loss, cost, or expense in connection with the Work, including all demobilization costs plus reasonable Overhead and profit on Work not performed.

11.6 OBLIGATIONS ARISING BEFORE TERMINATION Even after termination, the provisions of this Agreement still apply to any Work performed, payments made, events occurring, costs charged or incurred or obligations arising before the termination date.

ARTICLE 12 DISPUTE MITIGATION AND RESOLUTION

12.1 WORK CONTINUANCE AND PAYMENT Unless otherwise agreed in writing, the Constructor shall continue the Work and maintain the Schedule of the Work during any dispute mitigation or resolution proceedings. If the Constructor continues to perform, the Owner shall continue to make payments in accordance with this Agreement.

12.2 DIRECT DISCUSSIONS In the event that a dispute arises between Owner and Constructor regarding application or interpretation of any provision of this Agreement, the aggrieved Party shall promptly notify the other Party to this Agreement of the dispute within ten (10) days after such dispute arises. If the Parties shall have failed to resolve the dispute within thirty (30) days after delivery of such notice, the Parties may first endeavor to settle the dispute in an amicable manner by mediation. If the Parties elect to mediate their dispute, the Parties will select a mediator by mutual agreement and agree to each pay half of the mediator's costs and fees. The mediation will take place in Boise, Idaho, unless otherwise agreed by the Parties in writing. Should the Parties be unable to resolve the dispute to their mutual satisfaction within thirty (30) days after such completion of mediation, each Party shall have the right to pursue any rights or remedies it may have at law or in equity. If the Parties do not mutually agree to mediate the dispute, either Party may pursue any rights or remedies it may have at law.

ARTICLE 13 MISCELLANEOUS

13.1 EXTENT OF AGREEMENT Except as expressly provided, this Agreement is for the exclusive benefit of the Parties, and not for the benefit of any third party. This Agreement represents the entire and integrated agreement between the Parties, and supersedes all prior negotiations, representations, or agreements, either written or oral.

13.2 ASSIGNMENT Except as to the assignment of proceeds, the Parties shall not assign their interest in this Agreement without the written consent of the other. The terms and conditions of this Agreement shall be binding upon both Parties, their partners, successors, assigns, and legal representatives. Neither Party shall assign the Agreement as a whole without written consent of the other except that the Owner may assign the Agreement to a wholly owned subsidiary of the Owner when the Owner has fully indemnified the Constructor or to an institutional lender providing construction financing for the Project as long as the assignment is no less favorable to the Constructor than this Agreement. If such assignment occurs, the Constructor shall execute any consent reasonably required. In such event, the wholly owned subsidiary or lender shall assume the Owner's rights and obligations under the Contract Documents. If either Party attempts to make such an assignment, that Party shall nevertheless remain legally responsible for all obligations under this Agreement, unless otherwise agreed in writing by the other Party.

13.3 GOVERNING LAW This Agreement shall be governed by the laws of the State of Idaho.

13.4 SEVERABILITY The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.

13.5 NO WAIVER OF PERFORMANCE The failure of either Party to insist, in any one or more instances, on the performance of any of the terms, covenants, or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of such term, covenant, condition, or right with respect to further performance or any other term, covenant, condition, or right.

13.6 TITLES The titles given to the articles are for ease of reference only and shall not be relied upon or cited for any other purpose.

13.7 JOINT DRAFTING The Parties expressly agree that this Agreement was jointly drafted, and that both had opportunity to negotiate its terms and to obtain the assistance of counsel in reviewing its terms prior to execution. Therefore, this Agreement shall be construed neither against nor in favor of either Party, but shall be construed in a neutral manner.

13.8 RIGHTS AND REMEDIES The Parties' rights, liabilities, responsibilities and remedies with respect to this Agreement, whether in contract, tort, negligence or otherwise, shall be exclusively those expressly set forth in this Agreement.

13.9 ANTI-BOYCOTT AGAINST ISRAEL CERTIFICATION Constructor, by entering into this Agreement, hereby certifies that it is not currently engaged in, or for the duration of this Agreement will not engage in, a boycott of goods or services from the State of Israel or territories under its control.

ARTICLE 14 CONTRACT DOCUMENTS

14.1 EXISTING CONTRACT DOCUMENTS This Contract expressly incorporates the following documents, together with any amendments that may be agreed to in writing by both parties:

Project Manual dated _____, including:

PROJECT MANUAL COVER PAGE
00 01 10 TABLE OF CONTENTS
00 11 16 INVITATION TO BID
00 21 13 INSTRUCTIONS TO BIDDERS
00 41 13 BID FORM
00 45 46 CONTRACTOR'S AFFIDAVIT CONCERNING TAXES
00 52 13 AGREEMENT BETWEEN OWNER AND CONTRACTOR
00 62 76 APPLICATION FOR PAYMENT FORM
00 63 13 REQUEST FOR INFORMATION FORM
00 73 00 SUPPLEMENTARY CONDITIONS
00 73 16 INSURANCE AND BONDING REQUIREMENTS
00 73 73 STATUTORY REQUIREMENTS – TAX COMMISSION

01 10 00 SUMMARY OF WORK
01 25 00 PRODUCT SUBSTITUTION PROCEDURES
01 26 00 CONTRACT MODIFICATION PROCEDURES
01 29 00 PAYMENT PROCEDURES
01 31 00 PROJECT MANAGEMENT AND COORDINATION
01 33 00 SUBMITTAL PROCEDURES
01 40 00 QUALITY REQUIREMENTS
01 50 00 TEMPORARY FACILITIES AND CONTROLS
01 73 00 EXECUTION
01 77 00 CLOSEOUT PROCEDURES

SPECIAL PROVISIONS

TECHNICAL SPECIFICATION

CIVIL | ARCHITECTURAL DRAWINGS

Constructor's Bid Proposal dated *xxxxxxxx*
Payment and Performance Bonds dated *xxxxxxxxxx*
Insurance Certificates dated *xxxxxxxxxxxxx*

14.2 INTERPRETATION OF CONTRACT DOCUMENTS

14.2.1 The drawings and specifications are complementary. If Work is shown only on one but not on the other, the Constructor shall perform the Work as though fully described on both, consistent with the Contract Documents and reasonably inferable from them.

14.2.2 In case of conflicts between the drawings and specifications, the specifications shall govern. In any case of omissions or errors in figures, drawings, or specifications, the Constructor shall immediately submit the matter to the Project Architect for clarification. The Project Architect shall confer with the Owner's Representative, and shall issue a clarification to the Constructor. Owner's clarifications are final and binding on all Parties, subject to an equitable adjustment in Contract Time or Contract Price or dispute mitigation and resolution.

14.2.3 Where figures are given, they shall be preferred to scaled dimensions.

14.2.4 Unless otherwise specifically defined in this Agreement, any terms that have well-known technical or trade meanings shall be interpreted in accordance with their well-known meanings.

14.2.5 ORDER OF PRECEDENCE In case of any inconsistency, conflict, or ambiguity among the Contract Documents, the documents shall govern in the following order: (a) Change Orders and written amendments to this Agreement; (b) this Agreement; (c) subject to subsection 14.2.2, the drawings (large scale governing over small scale), specifications, and addenda issued prior to the execution of this Agreement or signed by both Parties; (d) information furnished by the Owner pursuant to subsection 3.13.4 or designated as a Contract Document in section 14.1; (e) other documents listed in this Agreement. Among categories of documents having the same order of precedence, the term or provision that includes the latest date shall control. Information identified in one Contract Document and not identified in another shall not be considered a conflict or inconsistency.

End of Agreement | *Signatures appear on the following page.*

IN WITNESS WHEREOF, OWNER AND CONSTRUCTOR have executed this Agreement with an effective date as first written above.

OWNER: Capital City Development Corporation

BY: _____
John Brunelle, Executive Director

Date: _____

Approved as to Form

_____
Mary Watson, General Counsel

CONSTRUCTOR: [insert company name]

BY: _____
[Insert name of person who can sign contract and Title]

Date: _____

END OF DOCUMENT

Budget Info / For Office Use	
Fund / District	
Account	
Activity Code	
PO #	
Project Completion	
Contract Term	

SECTION 00 62 76 APPLICATION FOR PAYMENT FORM

APPLICATION FOR PAYMENT NO. _____

To: Capital City Development Corporation (OWNER)
From: _____
Contract: _____
Project: _____
OWNER's Contract No. _____
PROJECT ARCHITECT's Project No._____

For Work accomplished through the date of:

1.	Original Contract Price:	$ _____
2.	Net change by Change Orders and Written Amendments (+/-):	$ _____
3.	Current Contract Price (1 plus 2):	$ _____
4.	Total completed and stored to date:	$ _____
5.	Retainage (per Agreement): _____% of completed Work:	$_____
	_____% of stored material:	$_____
	Total Retainage:	$_____
6.	Total completed and stored to date less retainage (4 minus 5):	$_____
7.	Less previous Application for Payments:	$_____
8.	**DUE THIS APPLICATION (6 MINUS 7):**	**$_____**

Accompanying Documentation:

CONTRACTOR'S Certification: The undersigned CONTRACTOR certifies that: 1.) all previous progress payments received from OWNER on account of Work done under the Contract referred to above have been applied on account to discharge CONTRACTOR's legitimate obligations incurred in connection with Work covered by prior Applications for Payment numbered 1 through _____ inclusive; 2.) title of all Work, materials, and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all Liens, security interests and encumbrances (except such as are covered by a Bond acceptable to OWNER indemnifying OWNER against any such Lien, security interest or encumbrance); and 3.) all Work covered by this Application for Payment is in accordance with the Contract Documents and not defective.

Dated: _____ _____
CONTRACTOR

Notarized By:
State of _____
County of _____
Subscribed and sworn to before me this _____ day of _____, _____.

_____
Notary Public
My Commission expires: _____

Payment of the above AMOUNT DUE THIS APPLICATION is recommended.

Dated: _____ _____
PROJECT ARCHITECT / OWNER'S PROJECT MANAGER

APPLICATION FOR PAYMENT – INSTRUCTIONS

A. GENERAL INFORMATION

The sample Schedule of Values (next page) is intended as a guide only. Many projects require a more extensive form with space for numerous items, descriptions of Change Orders, identification of variable quantity adjustments, summary of materials and equipment stored at the site and other information. It is expected that a separate form will be developed by Project Engineer and Contractor at the time Contractor's Schedule of Values is finalized. Note also that the format for retainage must be changed if the Contract permits (or the law provides), and Contractor elects to deposit securities in lieu of retainage. *See* Division 01 Section 01 29 00 “Payment Procedures” for provisions concerning payments to Contractor.

B. COMPLETING THE FORM

The Schedule of Values, submitted and approved as provided in the General Conditions, should be reproduced as appropriate in the space indicated on the Application for Payment form. Note that the cost of materials and equipment is often listed separately from the cost of installation. Also, note that each Unit Price is deemed to include Contractor's overhead and profit.

All Change Orders affecting the Contract Price should be identified and included in the Schedule of Values as required for progress payments.

The form is suitable for use in the Final Application for Payment as well as for Progress Payments; however, the required accompanying documentation is usually more extensive for final payment. All accompanying documentation should be identified in the space provided on the form.

C. LEGAL REVIEW

All accompanying documentation of a legal nature, such as Lien waivers, should be reviewed by an attorney, and Project Engineer should so advise Owner.

END OF SECTION 00 62 76

Project:	**NAME OF PROJECT**						Application No.		1
Contractor:							Application Date		XX/XX/XX
Application for Payment								From	To
Continuation Sheet							Period	XX/XX/XX	XX/XX/XX
A	B	C	D	E	F	G	H	I	J
			Work Completed						
Item No.	Description of Work	Scheduled Value	Previous Application	This Pe…	Materials Presently Stored	Total Completed & Stored	%	Balance to Finish	Retainage to Date
	EXAMPLE ONLY *Contractor to List Based on Scope of Work*								
1	Mobilization, Bond					$0.00	#DIV/0!	$0.00	$0.00
2	Site Work					$0.00	#DIV/0!	$0.00	$0.00
3	Demolition					$0.00	#DIV/0!	$0.00	$0.00
4	Joint Sealants					$0.00	#DIV/0!	$0.00	$0.00
5	Other					$0.00	#DIV/0!	$0.00	$0.00
6	Other					$0.00	#DIV/0!	$0.00	$0.00
7	Other					$0.00	#DIV/0!	$0.00	$0.00
		$0.00	$0.00	$0.00	$0.00	$0.00			$0.00
	Retainage for This Period			$0.00	$0.00				
	Application No.								
	Total Completed & Stored	$0.00							
	Less Retainage for this Period - Work Completed	$0.00							
	Less Retainage for this Period - Materials Presently Stored	$0.00							
	Total Requested for Payment	**$0.00**							

SECTION 00 63 13 REQUEST FOR INFORMATION FORM

REQUEST FOR INFORMATION

PROJECT: _____ RFI#: _____

ITEM: _____

REF. DWG. OR SPEC.: _____

SCHEDULE IMPACT? YES ☐ NO ☐ COST IMPACT? YES ☐ NO ☐

REQUEST RETURN BY: _____

DESCRIPTION/REQUEST: _____

_____

_____

_____

_____

ORIGINATOR: _____ FIRM: _____ DATE: _____

RESPONSE

_____

_____

_____

_____

BY: _____ FIRM: _____ DATE: _____

This is not an authorization to proceed with work involving additional costs and/or time. Notification must be given in accordance with the Contract Documents if any response causes any changes to the Contract Documents.

END OF SECTION 00 63 13

SECTION 00 73 00 SUPPLEMENTARY CONDITIONS

1. FEDERAL, STATE, AND LOCAL PAYROLL TAXES: Neither federal, state or local income taxes, nor payroll taxes of any kind shall be withheld and paid by Owner on behalf of Contractor or the employees of Contractor. Contractor shall not be treated as an employee with respect to the services performed hereunder for federal or state tax purposes. Contractor understands that Contractor is responsible to pay, according to law, Contractor's income tax. Contractor further understands that Contractor may be liable for self-employment (Social Security) tax to be paid by Contractor according to law.

2. LICENSES AND LAW: Contractor represents that it possesses the requisite skill, knowledge, and experience necessary, as well as all licenses required to perform the services under this Agreement. Contractor further agrees to comply with all applicable laws, ordinances, and codes of Federal, State and local governments in the performance of the services hereunder.

3. FRINGE BENEFITS: Because Contractor is engaged in its own independently established business, Contractor is not eligible for, and shall not participate in, any employee pension, health, or other fringe benefit plans of Owner.

4. AMENDMENTS: This Agreement, including the amount of compensation and the Scope of Work, may be amended only in writing, upon mutual agreement of both Owner and Contractor.

5. DISCRIMINATION PROHIBITED: In performing the services required herein, Contractor shall not discriminate against any person on the basis of race, color, religion, sex, sexual orientation, gender identity, national origin or ancestry, age or handicap. Violation of this section shall constitute a material breach of this Agreement and be deemed grounds for cancellation, termination or suspension of the Agreement by Owner, in whole or in part, and may result in ineligibility for further work for Owner.

6. NUMERATION: Owner and Contractor acknowledge the Agreement may contain gaps in the numbering of the provisions. Despite the gaps in the numbering, Owner and Contractor acknowledge the Agreement is the complete Agreement between them.

7. SILENCE OF SPECIFICATION: The apparent silence of this specification and supplemental specifications as to any detail, or the apparent omission from it of a detailed description concerning any point shall be regarded as meaning that only best commercial practice is to be used. Any exception to this specification shall be cause for rejection. Owner reserves the right to verify specification compliance and other information with published sources as deemed necessary.

8. ACCIDENT PREVENTION: The Contractor shall provide and maintain work environments and procedures which will:

A. Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities.

B. Comply with all local, County, State, or other applicable legal requirements and will exercise all legally required safety precautions at all times.

C. Ensure that all Contractor employees who are performing work in the streets wear an appropriate safety vest.

D. Avoid interruptions of Government operations and delays in Project completion dates; and will exercise due care during the performance of work to protect from damage all existing facilities, structures, landscaping and utilities on local jurisdiction and private property.

E. For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall:
   i) Provide appropriate safety barricades, signs, and signal lights;
   ii) Ensure that any additional measures the Owner determines to be reasonably necessary for the purposes are taken.
   iii) Take every reasonable effort to keep sidewalks, vehicle travel lanes, driveways and crosswalks open at all times.
   v) Report to Owner immediately any Contractor caused damages.
   vi) Effect the prompt repair any damage to any public property incurred while installing the required items. Repairs to be completed as quickly as is reasonably possible and as required by local ordinance.

9. EMPLOYMENT OF IDAHO RESIDENTS IN PUBLIC WORKS CONSTRUCTION. Contractor shall comply with Idaho Code § 44-1001 in performing the Work on the Project. **This Code provision is reproduced below for convenience from the State of Idaho website and shall be verified by Contractor.**

> 44-1001. EMPLOYMENT OF RESIDENTS OF IDAHO -- WAGE SCALE -- FEDERAL FUNDS. In all state, county, municipal, and school construction, repair, and maintenance work under any of the laws of this state the contractor, or person in charge thereof must employ ninety-five percent (95%) bona fide Idaho residents as employees on any such contracts except for procurement authorized in section 67-2808(2), Idaho Code, or where under such contracts fifty (50) or less persons are employed the contractor may employ ten percent (10%) nonresidents, provided however, in such a case employers must give preference to the employment of bona fide Idaho residents in the performance of such work; provided, that in work involving the expenditure of federal aid funds this act shall not be enforced in such a manner as to conflict with or be contrary to the federal statutes prescribing a labor preference to honorably discharged members of the United States armed forces, including airmen, soldiers, sailors, and marines, prohibiting as unlawful any other preference or discrimination among the citizens of the United States.

END OF SECTION 00 73 00

SECTION 00 73 16 INSURANCE AND BONDING REQUIREMENTS

Insurance

Upon execution of the Contract and prior to commencing any Work under the Contract, Contractor shall obtain at its sole cost and expense and thereafter maintain, for the duration of the Contract, at least the minimum insurance coverages set forth below:

(a) Worker's compensation insurance as required by applicable law or regulation;

(b) Employer's liability insurance in the minimum amount of $500,000 each accident for bodily injury, $500,000 each employee for bodily injury by disease and $500,000 policy limit for bodily injury by disease;

(c) Commercial General Liability ("CGL") insurance covering all operations by or on behalf of Contractor with minimum limits of liability of $1,000,000 for each occurrence and $2,000,000 aggregate for both bodily injury and property damage. Contractor may provide insurance up to the required limits through a CGL policy or through a CGL policy and an umbrella policy.

The aggregate limits shall apply separately to the Project, or the Contractor shall obtain separate insurance to provide the required limit which shall not be subject to depletion because of claims arising out of any other project or activity of the Contractor.

The CGL insurance policy shall name Owner as Additional Insured and shall protect its officers, agents and employees from and against claims for bodily injury, property damage, personal injury and advertising injury that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (ISO) form for Commercial General (CG 00 01 04 13).

By its terms or appropriate endorsements such insurance shall include the following coverage, to wit: Bodily Injury, Property Damage, Fire Legal Liability (not less than the replacement value of the portion of the premises occupied), Personal Injury, Blanket Contractual, Independent Contractors, Premises Operations, Products and Completed Operations for a minimum of two (2) years following Final Completion of the Project. The policy cannot be endorsed to exclude the perils of explosion (x), collapse (c) and underground (u) exposures without the specific written approval of the Owner. Owner shall be named as an Additional Insured by the terms of the policy or by an endorsement issued by the insurer; and

(d) Automobile liability insurance including coverage for owned, hired, and non-owned automobiles. The limits of liability shall not be less than $1,000,000 combined single limit each accident for bodily injury and property damage combined. Contractor shall require each of its subcontractors to include in their liability insurance policies coverage for automobile contractual liability. The automobile liability insurance policy shall name Owner as Additional Insured and shall protect its officers, agents and employees from and against claims.

All insurance required in the Contract shall be occurrence based coverage as opposed to claims based coverage and shall be procured from companies which are authorized to do business in Idaho.

To the extent commercially available to the Contractor from its current insurance company, insurance policies required under the Contract shall contain a provision that the insurance company or its designee must give the Owner written notice transmitted in paper or electronic format: (a) 30 Days before coverage is non-renewed by the insurance company and (b) within 10 Business Days after cancelation of coverage by the insurance company. Prior to commencing the Work and upon renewal or replacement of the insurance policies, the Contractor shall furnish the Owner with certificates of insurance until two years after Substantial Completion or longer if required by the Contract. In addition, if any insurance policy required under the Contract is not to be immediately replaced without lapse in coverage when it expires, exhausts its limits, or is to be cancelled, the Contractor shall give Owner prompt written notice upon actual or constructive knowledge of such condition.

Contractor may include all subcontractors as insureds under the Contractor's policies in lieu of separate policies by each subcontractor.

Contractor shall furnish Owner with a copies of the CGL policies or endorsement naming Owner as an Additional Insured and certificates of insurance including the required endorsements for Contractor and all subcontractors not included under Contractor's policy prior to execution of the contract by Owner and prior to any work being performed.

All insurance provided by Contractor under the Contract shall include a waiver of subrogation by the insurers in favor of Owner. Contractor hereby releases CCDC, including its respective affiliates, directors, and employees, for losses or claims for bodily injury, property damage covered by Contractor's insurance or other insured claims arising out of Contractor's performance under the Contract.

The foregoing insurance coverage shall be primary and noncontributing with respect to any other insurance or self-insurance that may be maintained by Owner. The fact that the Contractor has obtained the insurance required shall in no manner lessen or affect the Contractor's other obligations or liabilities set forth in the Contract.

Payment and Performance Bonds

Payment and Performance Bonds are required of the Contractor. Such bonds shall be issued by a surety admitted in the state of Idaho, payable to Owner, and must be acceptable to the Owner to be valid. The Owner's acceptance shall not be withheld without a reasonable cause. The penal sum of the bonds shall each be one hundred percent (100%) of the original Contract Price. Any increase in the Contract Price that exceeds ten percent (10%) in the aggregate shall require a rider to the Bonds increasing penal sums accordingly. Up to such ten percent (10%) amount, the penal sum of the bond shall remain equal to one hundred percent (100%) of the Contract Price. The Contractor shall endeavor to keep its surety advised of changes potentially impacting the Contract Price and Contract Time, though the Contractor shall require that its surety waives any requirement to be notified of any alteration or extension of time within the scope of the initial Agreement. The performance bond shall include coverage in favor of Owner for correction of Defective Work by the Contractor for two years following Substantial Completion of the Work.

END OF SECTION 00 73 16

SECTION 00 73 73 STATUTORY REQUIREMENTS – TAX COMMISSION

Contractor shall complete the WH-5 PUBLIC WORKS CONTRACT REPORT and provide to Owner at the time of execution of the Contract. See WH-5 report on next page.

Do not file with the State Tax Commission; Owner will file the Report.

Idaho Code § 54-1904A and § 63-3624(g) require all public works contracts to be reported to the Tax Commission within thirty (30) days after a contract is awarded.

END OF SECTION 00 73 73

IDAHO State Tax Commission

Form WH-5
Public Works Contract Report

Contractors awarded Idaho public works contracts must submit this form to the Tax Commission within 30 days of receiving the award. (Idaho Code sections 54-1904A and 63-3624(g)).

Contract awarded by (public body and address)

Contract awarded to (contractor's name and address)

State of incorporation	Federal Employer Identification Number (EIN)	Date qualified to do business in Idaho
Business operates as ☐ Sole Proprietorship ☐ Partnership ☐ Corporation ☐ LLC		Public works contractor license number
Sole proprietor's Social Security number	Idaho sellers permit number	Idaho withholding tax permit number
Awarding agency project number		Amount of contract $

Description and location of work to be performed

Project Dates

Scheduled project start date: _____ Completion date: _____

If the following information isn't available at this time, please enter date it will be: _____

All Subcontractors

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Name			Federal EIN
Address			Public works contractor number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

All Subcontractors (*continued*)

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Name			Federal EIN
Address			Public works contractor license number
City	State	ZIP Code	Amount of subcontract $
Description of work			

Suppliers

List your major suppliers of materials, equipment, and supplies. Include items removed from inventory and items provided to you by the government agency for use in this project.

Name		Federal EIN	Total value $
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

Name		Federal EIN	Total value $
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

Name		Federal EIN	Total value $
Address		Materials and equipment purchased and used	
City, State, ZIP Code	Phone number	Please select how sales or use tax was paid. ☐ Tax paid to supplier ☐ Tax paid to state* ☐ No tax was paid	

*If you're reporting any untaxed materials, equipment, or supplies as "items subject to use tax" on your Idaho return, provide the period when you did or will report it: ______________________________

If you paid tax to a state other than Idaho, write the name state next to "total value" boxes, above. For any tax due that you haven't reported yet, include payment with this form. You can make copies of this form is you need more room.

Sign Here	Authorized signature	Print name	Phone number	Date

File with the Idaho State Tax Commission, PO Box 36, Boise ID 83722-0410

For more information, call (208) 334-7618 | Fax: (208) 332-6619 | Email: **contractdesk@tax.idaho.gov**

SECTION 01 10 00 – SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Definitions.
4. Access to site.
5. Coordination with occupants & other parties affected by construction.
6. Work restrictions.
7. Construction Schedule.

C. Related Requirements: See Section 01 50 00 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's and adjacent public and/or private facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Parking Garage Membrane Replacement/Maintenance

1. Project Location:

a. 9th & Main Parking Garage, 848 West Main Street, Boise, Idaho.

b. Capitol & Main Parking Garage, 770 West Main Street, Boise, Idaho.

B. Owner: Capital City Development Corporation (CCDC).

1. Owner's Representative: Aaron Nelson, Parking & Facilities Manager
Telephone: 208-319-1208
anelson@ccdcboise.com

C. Project Architect: Hummel Architects, 205 North 10th Street, Suite 300, Boise, Idaho.

D. Parking Operator: The Car Park, Inc.

1. Contact: David Deignan, General Manager;
Telephone: 208-368-7944, Ext. 419

1.3 WORK COVERED BY CONTRACT DOCUMENTS (PROJECT SCOPE OR WORK)

A. The Project Scope or Work is defined by the Contract Documents and is summarized below:

1. Replacement and maintenance of waterproofing deck membrane in the 9th & Main and Capitol & Main Parking Garages. The extent of the Work is shown in the Drawings and specified in the Project Manual.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 DEFINITIONS

A. Substantial Completion: Point in execution of Contract in which the Contractor believes scope of work is complete and Project Architect has reviewed the Work and provided written approval to the Contractor. Refer to Division 01 Section 017700 “Closeout Procedures” for Substantial Completion procedures.

1. The Contractor shall substantially complete the Work within one hundred (100) days from the Date of Commencement.

1.5 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated by the following requirements.

B. Use of Site: Limit use of Project site to work in areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to Work Areas as shown on Drawings.

2. Driveways, Entrances and Adjacent Sidewalks: Keep Garage driveways, entrances and adjacent sidewalks serving premises clear and available to access at all times. Do not use these areas for parking or storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

3. Storage outside Work Area: May be permitted on roof levels of the garage by cordoning off 1 – 2 parking stalls or other available floor area in coordination with and approval by the Parking Operator. Storage area shall not interfere with Owner’s operations. Limits of storage area shall be marked by fencing, barricades or similar method. Contractor accepts responsibility for the security of any materials or equipment kept in Contractor’s storage areas as part of Contract.

1.6 COORDINATION WITH OCCUPANTS & OTHER PARTIES AFFECTED BY CONSTRUCTION

A. Partial Owner Occupancy: Owner will occupy the premises during the entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

1. ParkBOI Garage Operations

a. Garages are open 24 hours per day, 7 days per week.
b. ParkBOI is Boise's public parking garage system catering to monthly-parking employees of nearby buildings as well as transient hourly parkers. Peak use across the system is on week days from 11:00 a.m. to 2:00 p.m.. Lowest occupancy levels are generally on weekdays from 11:00 p.m. to 5:00 a.m.

2. Temporary Closures:

a. At all times, the Garage shall be open to vehicular and pedestrian traffic, parking customers, and the general public on all levels of the Garage, except as otherwise provided in this Section.
b. Establish temporary closures to protect safety of parking customers, motorists, pedestrians and the general public from construction activity and to protect the Work from damage in coordination with the Parking Operator approval.
c. Notice of Closures: Submit list of proposed closures and method of implementing closures to Parking Operator, Project Architect and Owner's Representative one week prior to Contractor's need for closures. Parking Operator shall indicate its approval or request revisions within two (2) business days of receipt of list.
d. Partial Closures: Maintain one-way traffic route through all levels at all times so vehicular traffic can travel from street level entrances/exits to the Garage to all garage levels and vice versa.

1) The existing drive aisle may be relocated, and parking stalls may be cordoned off and/or used as a temporary drive aisle to facilitate and protect the Work, as long as the vehicular route through the Garage from Ground Level to roof top is maintained.
2) The Owner and Parking Operator may allow up to one hundred (100) parking stalls to be closed off or impacted at any given time. Contractor to coordinate with Owner prior to any closures.

3. Traffic Management Plan:

a. Initial Plan: Submit a plan to Owner and Parking Operator for how traffic will be managed during construction operations prior to or at the preconstruction meeting. Obtain approval from Owner and Parking Operator for the traffic management plan prior to commencement of the Work.
Weekly Updates: Provide Parking Operator with a schedule of work to be performed in each upcoming week no later than Wednesday of the preceding

week. Include in the schedule any requests for the following items in the upcoming week.
1) Temporary closures of parking stalls.
2) Temporary closure of pedestrian entrances/exits to parking levels.
3) Rerouting of drive aisles and/or reduction of drive aisles to one lane with flagger operation.

b. Coordinate with and obtain approval from Parking Operator prior to implementing any temporary closures and/or re-routing of drive aisles.

4. Traffic Safety: Provide directional and warning signage, cones or other markers delineating drive aisle locations and widths, and/or flaggers as needed to assure safe movement of vehicles through the Work Areas. Contractor shall assume responsibility for traffic safety of motorists and pedestrians within Work Areas and in any location where the Contractor implements changes to the normal vehicular flow in the Garage. Owner and Parking Operator reserve the right to evaluate if Contractor's traffic control measures are adequate once these measures are in operation and to request additional or alternative traffic controls to maintain public safety in the Garage.
5. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
6. Provide no fewer than three (3) business days' notice to Owner of activities that will affect Owner's operations.

B. Contractor Responsibilities for Community Relations:

1. Prior to commencement of construction, participate with Owner in development of a communication and community relations plan and problem-solving approach for resolving day-to-day issues, concerns and complaints raised by parking customers, nearby businesses and their customers, condominium residents, and the general public who may be affected by construction activities during the construction period ("Other Parties Affected by Construction"). Contractor shall:
   a. Assume responsibility for communicating the importance of maintaining good community relations during the Project to employees, subcontractors, and other construction personnel.
   b. Enlist employees, subcontractors and other construction personnel in implementing the community relations plan.
   c. Identify a point person employed by the Contractor who will represent the Contractor in taking calls from and meeting with Other Parties Affected by Construction.
   d. Provide contact information for the point person which can be given to the general public.
   e. Attend meetings with the Owner, Project Architect, Parking Operator and Other Parties Affected by Construction to address community relations issues as needed.

C. Owner and Parking Operator as Liaison: Owner and Parking Operator will act as liaison between Contractor, monthly parkers, and others regarding temporary closures.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and sidewalks and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours:

1. Work such as chipping and grinding which creates noticeable noise levels for Other Parties Affected by Construction shall be limited to 8:00 a.m. to 4:00 p.m. Monday through Friday and 10:00 a.m. to 6:00 p.m. Saturday and Sunday.
2. All other work on unrestricted days shall have unrestricted hours.

C. Restricted Days: As of the date of these Specifications, there are no known events in downtown Boise that will create work restrictions during the construction period. Special events may arise during the construction period that will create work restrictions. Owner and Contractor will coordinate any work restrictions at that time.

D. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others.

E. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner's operations. Notify Project Architect and the appropriate parties not fewer than two (2) business days in advance of proposed disruptive operations.

F. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

G. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.8 CONSTRUCTION SCHEDULE

A. Contractor shall submit a tentative Construction Schedule including all activities, locations, and dates to Project Architect at or before the Preconstruction Meeting. Submit a detailed Construction Schedule for Project Architect's review and approval prior to commencement of Work.

B. Contractor shall not begin any work until receipt of a written Notice to Proceed. Contractor shall diligently maintain progress and complete the work by the required Substantial and Final Completion dates.

C. Construction Schedule shall provide for a minimum of disruption to adjacent residents and businesses.

D. Contractor shall update the Construction Schedule as the Work progresses and provide a copy of schedule revisions to the Project Architect as they occur. At a minimum, Contractor shall provide an updated schedule no later than the first business day of each month. Schedule revisions which would affect Contractor's

ability to complete the Work by the established Substantial Completion or Final Completion date require Project Architect and Owner approval through issuance of an approved Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the Contractor after award of the Contract are considered to be requests for substitutions. The following are not considered to be requests for substitutions:

1. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
2. Revisions to the Contract Documents requested by the Owner or Project Architect.
3. Specified options of products and construction methods included in the Contract Documents.
4. The Contractor’s determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

A. Substitution Requests: The Owner and/or the Project Architect will consider requests for substitution if received within 15 days after commencement of the Work. Requests received more than 15 days after commencement of the Work may be considered or rejected at the discretion of the Owner and/or Project Architect.

1. Submit 3 copies of each request for substitution for consideration. Submit requests according to procedures required for change-order proposals.
2. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers.
3. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:

a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate contractors, that will be necessary to accommodate the proposed substitution.
b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements, such as performance, weight, size, durability, visual effect, and LEED material requirements.
c. Product Data, including Drawings and descriptions of products and fabrication and installation procedures.
d. Samples, where applicable or requested.
e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
f. Cost information, including a proposal of the net change, if any in the Contract Sum.
g. The Contractor's certification that the proposed substitution conforms to requirements in the Contract Documents in every respect and is appropriate for the applications indicated.
h. The Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.

4. The Owner and/or Project Architect’s Action: If necessary, the Owner and/or Project Architect will request additional information or documentation for evaluation within one week of receipt of a request for substitution. The Owner and/or Project Architect will notify the Contractor of acceptance or rejection of the substitution within 2 weeks of receipt of the request, or within one week of receipt of additional information or documentation, whichever is later. Acceptance will be in the form of a Change Order.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

A. Conditions: The Owner and/or Project Architect will receive and consider the Contractor's request for substitution when one or more of the following conditions are satisfied, as determined by the Owner and/or Project Architect. If the following conditions are not satisfied, the Owner and/or Project Architect will return the requests without action except to record noncompliance with these requirements.

1. Extensive revisions to the Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of the Contract Documents.
3. The request is timely, fully documented, and properly submitted.
4. The request is directly related to an "or-equal" clause or similar language in the Contract Documents.

5. The requested substitution offers the Owner a substantial advantage, in cost, time, energy conservation, or other considerations, after deducting additional responsibilities the Owner must assume. The Owner's additional responsibilities may include compensation to the Project Architect for redesign and evaluation services, increased cost of other construction by the Owner, and similar considerations.
6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.
8. The specified product or method of construction cannot be coordinated with other materials and where the Contractor certifies that the proposed substitution can be coordinated.
9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provides the required warranty.

B. The Contractor's submittal and the Owner and/or Project Architect’s acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval.

PART 3 - EXECUTION (NOT USED)

END OF SECTION 01 25 00

SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1. Division 01 Section 01 25 00 “Substitution Procedures” for administrative procedures for handling requests for substitutions made after award of the contract.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

A. Owner or Project Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1.4 REQUESTS FOR INFORMATION (RFIs).

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI to the Project Architect, with a copy to Owner. All RFIs shall be submitted by Contractor.

1. RFI Form: Use the RFI Form provided in the Project Manual or an alternative form acceptable to the Project Architect; follow the format and submit complete information as indicated on the provided form.
2. Project Architect will return without review any RFIs submitted to Project Architect by any other entity, whether controlled by Contractor or not.
3. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Project Architect’s Action: Project Architect will review each RFI, determine action required, and respond within 48 hours, not including weekends.

1. Project Architect’s response may include a request for additional information, in which case Project Architect's time for response will date from time of receipt of additional information.

2. Project Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit a Change Order Proposal according to the procedures set forth herein.
3. If Contractor believes the Project Architect's RFI response warrants a change in the Contract Time or the Contract Sum, Contractor must notify Project Architect in writing within 48 hours (weekends omitted) of receipt of the RFI response.

1.5 CHANGE ORDER PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Owner or Project Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Proposal requests issued by Owner or Project Architect are for information only. Do not consider them as an instruction either to stop work in progress or to execute the proposed change.
2. Within five (5) days of receipt of a proposal request, submit an estimate of cost necessary to execute the change to the Owner or Project Architect for the Owner's review.

    a. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include an updated Contractor's construction schedule that indicates the effect of the change on the Contract Time, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: When latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Owner.

1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
2. Include a list of quantities of products required and unit costs, with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change on the Contract Time, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

6. Comply with requirements in Division 01 Section “Substitution Procedures” if the proposed change requires substitution of one product or system for product or system specified.

1.6 CONSTRUCTION CHANGE DIRECTIVE

A. Work Change Directive: When the Owner and the Contractor disagree on the terms of a Proposal Request, the Owner and Project Architect may issue a Work Change Directive. A Work Change Directive instructs the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Work Change Directive contains a complete description of change in the Work. It also designates the method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Work Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.7 CHANGE ORDER PROCEDURES

A. Upon the Owner’s approval of a Proposal Request, the Owner or Project Architect will issue a Change Order for signatures.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1. Coordinate the Schedule of Values and Applications for Payment with Contractor's Construction Schedule, Submittal Schedule, and List of Subcontracts.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules.
2. Submit the Schedules of Values for Project Architect's review and approval no later than the date for the Preconstruction Meeting.

B. Format and Content: Use a Schedule of Values similar to the sample (associated with Section 00 62 76 Application for Payment Form) provided in the Project Manual, or use an alternate form acceptable to the Project Architect; follow the format and submit complete information as indicated in the sample.

1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

3. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
4. Each item in the Schedules of Values and Payment Applications shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

    a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

5. Schedule Updating: Update and resubmit the Schedule of Values before the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: The period covered by each Application for Payment is one month, ending on the last day of the month. Contractor shall submit the Application for Payment by the fifth business day following the last day of the month. Applications received after the fifth business day following the last day of the month shall be reviewed the following month, without exception.

C. Application for Payment Forms: Use Application for Payment form provided or an equivalent form acceptable to the Project Architect.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Project Architect will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Information on Mechanic's Liens: Contractor acknowledges that Owner is a public entity and that any property owned by Owner is considered public property, and that liens on public property are not enforceable. Contractor agrees that it shall not file any liens against property owned or controlled by Owner which is a part of the Worksite (the "Property"). Subject to Owner's payment of the compensation in accordance with the terms of this Agreement, Contractor will promptly discharge all liens, if any, filed

against the Property by Contractor's subcontractors, suppliers and materialmen, and agents and persons employed by any of such persons.

F. Initial Application for Payment: Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. List of principal suppliers and fabricators.
3. Schedule of Values.
4. Contractor's Construction Schedule.
5. Copies of building permits.
6. Copies of authorizations and licenses from governing authorities for performance of the Work.
7. Certificates of insurance and insurance policies.
8. Performance and payment bonds.
9. Data needed to acquire the Owner's insurance.
10. Report of preconstruction.

G. Application for Payment at Substantial Completion: After the Project Architect issues the Certificate of Substantial Completion, submit an Application for Payment.

1. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
2. Administrative actions and submittals that shall precede or coincide with this application include:

    a. Occupancy permits and similar approvals.
    b. Warranties (guarantees) and maintenance agreements.
    c. Test/adjust/balance records.
    d. Maintenance instructions.
    e. Changeover information related to Owner's occupancy, use, operation, and maintenance.
    f. Final cleaning.
    g. Application for reduction of retainage and consent of surety.
    h. List of incomplete Work, recognized as exceptions to Project Architect's Certificate of Substantial Completion.

H. Final Payment Application: Administrative actions and submissions that must precede or coincide with submittal of the final Application for Payment include the following:

1. Completion of Project closeout requirements.
2. Completion of items specified for completion after Substantial Completion.
3. Transmittal of required Project construction records to the Owner.
4. Insurance certificates for products and completed operations where required.
5. Proof that taxes, fees, and similar obligations were paid.
6. Removal of temporary facilities and services.
7. Removal of surplus materials, rubbish, and similar elements.
8. Updated final statement, accounting for final changes to the Contract Sum.
9. Tax Release from the Idaho State Tax Commission.

10. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
11. Evidence that claims have been settled, if applicable.
12. Final liquidated damages settlement statement, if applicable.

I. Contractor shall execute an Acknowledgment of Final Payment Form provided to Contractor by Owner in exchange for the Final Payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 – PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. General Coordination Procedures
2. Requests for Information (RFI's)
3. Project Meetings
4. Submittals
5. General Installation Provisions
6. Cleaning and protection

1.3 DEFINITIONS

A. RFI: Request from Owner, Project Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 GENERAL COORDINATION PROCEDURES.

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation, connection and operation of each part of the Work.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress Meetings
6. Project closeout activities.

1.5 REQUESTS FOR INFORMATION (RFIs).

A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI to the Project Architect in the format specified.

1. Use the RFI Form provided in the Project Manual or an alternative form acceptable to the Project Architect; follow the format and submit complete information as indicated on the provided form.
2. Project Architect will return RFIs submitted to Project Architect by other entities controlled by Contractor with no response.
3. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Project Architect’s Action: Project Architect will review each RFI, determine action required, and respond. Allow seven working days for Project Architect’s response for each RFI.

1. Project Architect’s action may include a request for additional information, in which case Project Architect's time for response will date from time of receipt of additional information.
2. Project Architect’s action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Contract Modification Procedures.

a. If Contractor believes the Project Architect’s RFI response warrants a change in the Contract Time or the Contract Sum, notify Project Architect in writing within 48 hours (weekends omitted) of receipt of the RFI response.

1.6 PROJECT MEETINGS

A. General: Conduct progress meetings at regular intervals.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Project Architect of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda; distribute to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Project Architect, within three (3) business days of the meeting.

B. Preconstruction Meeting: Owner shall schedule and conduct a Preconstruction Meeting to review responsibilities and personnel assignments at a time convenient to Contractor and Project Architect, but no later than seven (7) Days after execution of the Agreement and prior to start of construction.

1. Attendees: Authorized representatives of Owner, Project Architect, Parking Operator, Contractor, and Contractor's Project Manager; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to make decisions related to the Work.
2. Agenda: Discuss items of significance that could affect progress, including:

    a. Designation of key personnel and their duties.
    b. Lines of communications.
    c. Distribution of the Contract Documents.
    d. Tentative Construction Schedule.
    e. Construction phasing.
    f. Access & Security Plan.
    g. Communication and community relations strategy.
    h. Procedures for RFIs.
    i. Submittal procedures.
    j. Procedures for processing field decisions and Change Orders.
    k. Procedures for testing and inspecting.
    l. Procedures for processing Applications for Payment.
    m. Use of premises and existing building.
    n. Owner's occupancy requirements.
    o. Work restrictions (days and hours); events that may create restrictions.
    p. Limits on use of elevators and stairwells.
    q. Traffic controls and temporary closures (includes Procedures).
    r. Parking availability.
    s. Work and storage areas.
    t. Equipment deliveries and priorities.
    u. First aid.
    v. Progress cleaning.

3. Minutes: Owner or designee will record and distribute meeting minutes.

C. Progress Meetings: Contractor shall conduct a weekly Progress Meeting with Project Architect and Owner's Representative each week during the construction period in order to coordinate construction activities and to identify and resolve issues arising during construction.

4. Location: Progress Meetings are typically held in the field but may be held at Owner's offices if an office location is needed.
5. Attendees: Contractor, Project Architect, Owner's Representative and any subcontractors or subconsultants needed in attendance to better coordinate the work. Contractor shall be responsible for notifying subcontractors, and Project Architect shall be responsible for notifying subconsultants needed in attendance.
6. Agenda: Items to be discussed not limited to the following:

a. Project Schedule.
b. Status of Work, including any specific field issues or questions.
c. Review present and future needs of Attendees, including:

1) Interface requirements.
2) Status of submittals.
3) Deliveries.
4) Site utilization and access.
5) Quality and work standards.
6) Status of correction of deficient items.
7) Field observations.
8) Testing results.
9) Status of RFIs.
10) Pending changes.

7. Minutes: Project Architect shall be responsible for preparing and distributing meeting minutes to Owner, Contractor, and any subcontractors or subconsultants that have work assignments resulting from the meeting.

1.7 SUBMITTALS

A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off site by separate entities, and where limited space availability necessitates maximum utilization of space for efficient installation of different components.
8. Show the interrelationship of components shown on separate Shop Drawings.
9. Indicate required installation sequences.
10. Comply with requirements contained in Section "Submittals."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.

C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.

E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.

F. Recheck measurements and dimensions, before starting each installation.

G. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.

3.02 CLEANING AND PROTECTION

A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:

1. Excessive static or dynamic loading.
2. Excessively high or low temperatures.
3. Air contamination or pollution.
4. Water or ice.
5. Solvents.
6. Chemicals.
7. Puncture.
8. Abrasion.
9. Heavy traffic.

10. Soiling, staining and corrosion.
11. Bacteria.
12. Combustion.
13. Electrical current.
14. Unusual wear or other misuse.
15. Contact between incompatible materials.
16. Destructive testing.
17. Misalignment.
18. Excessive weathering.
19. Unprotected storage.
20. Improper shipping or handling.
21. Theft.
22. Vandalism.

END OF SECTION 01 31 00

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including: Shop Drawings, Product Data, Samples, and other submittals.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Project Architect’s responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals." Submittals may be rejected for not complying with requirements.

B. Informational Submittals: Written and graphic information and physical samples that do not require Project Architect’s responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. Project Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Project Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow five (5) business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
2. Resubmittal Review: Allow five (5) business days for review of each resubmittal.
3. No extension of Contract Time will be authorized because of failure to transmit submittals to the Project Architect sufficiently in advance of the Work to permit processing.

D. Electronic Submittals: Owner and Project Architect require electronic submittals. Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.

a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01).
b. Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Project Architect.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner**,** containing the following information:

a. Project name.
b. Date.
c. Name and address of Contractor's Project Manager.
d. Name of firm or entity that prepared submittal.
e. Names of subcontractor, manufacturer, and supplier.
f. Category and type of submittal.
g. Submittal purpose and description.
h. Transmittal number.
i. Transmittal index and navigation links to each specification section or drawing number for which a submittal is being made.
j. Location(s) where product is to be installed, as appropriate.
k. Related physical samples submitted directly.
l. Indication of full or partial submittal.
m. Other necessary identification.
n. Remarks.

E. Options: Identify options requiring selection by Project Architect.

F. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Project Architect's action stamp.

G. Distribution: Furnish copies of final submittals to manufacturers' representatives, subcontractors, suppliers, fabricators, Installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

H. Use for Construction: Use only final action submittals that are marked with approval notation from Project Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.

a. Each submittal shall have a shop drawing or Contractor's document stamp on the submittal prior to submittal to Project Architect. Contractor's document stamp shall indicate that Contractor reviewed the submittal and determined, to the best of Contractor's ability, the submittal is in general conformance with the Drawings and Specifications. Contractor's document stamp shall be signed and dated.
b. Project Architect will return annotated electronic file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit via email as PDF electronic files. Project Architect will return annotated electronic file.
3. Informational Submittals: Submit via email as PDF electronic files. Project Architect will not respond to informational submittals.
4. Certificates and Certifications Submittals: Provide a digital signature on electronically submitted certificates and certifications where allowed. Provide a notarized statement on original paper copy certificates and certifications where indicated or where required by Project Architect or Owner.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Each submittal and/or product data shall have a shop drawing or Contractor's document stamp on the submittal prior to submittal to Project Architect. Contractor's document stamp shall indicate that Contractor reviewed the submittal and determined, to the best of Contractor's ability, the submittal is in general conformance with the Drawings and Specifications. Contractor's document stamp shall be signed and dated.
4. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

5. Submit Product Data before or concurrent with Samples.

C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

    a. Specification Section number and reference.
    b. Generic description of Sample.
    c. Sample source.
    d. Product name or name of manufacturer.
    e. Compliance with recognized standards.
    f. Availability and delivery time.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Project Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit one set of Samples. Project Architect will retain Sample set.

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three (3) sets of paired units that show approximate limits of variations.

D. Application for Payment and Schedule of Values: Comply with requirements specified in Section 01 29 00 "Payment Procedures."

E. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 01 77 00 "Closeout Procedures."

F. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

G. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

H. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

I. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

J. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check for coordination with other Work under the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Project Architect.

B. Project Closeout and Maintenance Material Submittals: Follow the requirements in Section 01 77 00 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 PROJECT ARCHITECT’S ACTION

A. General: Project Architect will not review submittals that do not bear Contractor’s approval stamp and will return them without action. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from the Project Architect.

B. Action Submittals: Project Architect will review each submittal, make marks to indicate corrections or revisions required, and return promptly. Project Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate the action taken.

C. Informational Submittals: Project Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Project Architect will forward each submittal which complies with requirements to appropriate party.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Project Architect without action.

END OF SECTION 01 33 00

SECTION 01 40 00 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in these Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Project Architect, Owner, or authorities having jurisdiction are not limited by provisions of this section.

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated in the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Project Architect.

C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Project Architect for a decision before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Project Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.

1. Indicate manufacturer and model number of individual components.

2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan prior to or on the date established for the Preconstruction Conference. Submit in format acceptable to Project Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.

B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.
2. Project quality-control manager shall be on site full time during surface preparation and installation of traffic coating system.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

E. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work the Project Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 REPORTS AND DOCUMENTS

A. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

B. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Specification Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

C. Permits, Licenses, and Certificates: For Owner’s records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.9 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

D. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

E. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.10 QUALITY CONTROL

A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
   1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
   2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

      a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

   3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
   4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
   5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
   6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
   7. Provide Backflow Prevention Assembly Test Report to local authorities having jurisdiction and provides a copy Architect. Form attached to this section for reference.

B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.

C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspection: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as

requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and –control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor’s responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

1. Temporary utilities may include but are not limited to:

   a. Water service and distribution subject to the scope of work.
   b. Temporary electric power and light subject to the scope of work.
   c. Telephone service if full-time project representation is required.

2. Temporary construction and support facilities may include but are not limited to:

   a. Temporary heat.
   b. Field offices and storage sheds.
   c. Sanitary facilities, including drinking water.
   d. Temporary enclosures, including noise abatement to meet local ordinances, and authorities having jurisdiction.
   e. Temporary Project identification signs and bulletin boards.
   f. Waste disposal services.
   g. Rodent and pest control
   h. Construction aids and miscellaneous services and facilities.

3. Security and protection facilities may include but are not limited to:

   a. Temporary fire protection.
   b. Barricades, warning signs, lights.
   c. Sidewalk bridge or enclosure fence for the site.
   d. Environmental protection.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated in this Section.

1.4 QUALITY ASSURANCE

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction.

B. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use, if applicable. Obtain required certifications and permits.

1.5 PROJECT CONDITIONS

A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Contractor shall be responsible to select appropriate materials and methods for the following temporary installations and for advising the Parking Operator of the materials and methods to be used prior to installation:

1. Securing each Work Area such that the general public does not enter a Work Area during the duration of construction in that Work Area. Contractor is responsible for the safety of each Work Area and protection of the Work from damage.
2. Delineating and securing temporary storage areas.
3. Delineating drive aisles that have been relocated through Work Areas or otherwise in the Garage in a manner that assures safe movement of vehicles.
4. Establishing temporary closures.

2.2 EQUIPMENT

A. General: Provide equipment suitable for use intended.

B. Water Hoses: Provide 3/4" heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.

C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.

D. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.

E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.

F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.

G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air- conditioned units on foundations adequate for normal loading.

H. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.

I. First Aid Supplies: Comply with governing regulations.

J. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures.

1. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.

2. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

3. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.

4. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.

B. Water Service: Water supply is available for Contractor’s use. Contractor is responsible for verifying capacity needs prior to bidding. If the existing capacity is insufficient for the contractor's use, the contractor is responsible for supplementing existing capacity as needed.

C. Wastewater: Dispose of any wastewater from construction operations at an approved off-site location. Do not dispose of wastewater into Owner’s sanitary sewer system, public storm drains, or tree wells. Disposal of wastewater into any storm sewer is strictly prohibited under Title 8, Chapter 15 of the Boise City Code. Contractor is responsible for proper off-site disposal in a legal manner of all wastewater generated by the Work and for any associated disposal fees.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Temporary toilets shall be secured when construction personnel are not present in the adjacent Work Area. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

E. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.

F. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.

2. Provide ventilation of elevator vestibule and stairwells as required for installation of coating systems. Ventilation shall be adequate to confine vapors resulting from coating system application to Work Areas and prevent intrusion into occupied spaces and adjacent properties.
3. Use dust partitions as necessary to prevent windblown debris from entering workspace and noxious fumes from entering public areas or occupied areas.

G. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low or high temperatures. Select equipment that will not have a harmful effect on completed installations or elements being installed.

H. Electric Power Service: Electric power from Owner's existing system may be used if outlets are readily available to Work Area without payment of use charges. Provide connections and extensions of services as required for construction operations. Maintain equipment in a condition acceptable to Owner. Electric extensions crossing pedestrian and vehicular traffic areas shall be protected and taped securely to avoid creating hazards. Parking Operator reserves the right to disallow the use of electrical extensions if deemed a safety hazard.

I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.3 SUPPORT FACILITIES INSTALLATION

A. Parking: Owner will provide parking spaces for a limited number of construction personnel at no charge on garage Level 5 when work is being performed. Contractor shall submit list of personnel working on the Project that will be authorized to use designated parking areas. Authorized construction personnel will be issued parking passes. Contractor shall coordinate with the Parking Operator on parking logistics.

B. Traffic Control: See Section 01 10 00 for requirements related to traffic control in the Garage when Work is being performed.

C. Waste Disposal Facilities:

1. Provide waste collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress and final cleaning requirements in Section 01 73 00.
2. Care shall be taken not to overload the existing slab structure during waste removal operations.
3. Remove trash, waste and construction debris from Project site and legally dispose of them in a legal and lawful manner. Comply with the requirements of authorities having jurisdiction. Owner advises that Owner does not own any trash or recycling dumpsters in the Garage, and dumpsters are not available for Contractor's use.

D. Existing Elevator Use: Use of elevators by construction personnel will be permitted, provided elevators are cleaned and maintained in a condition acceptable to Owner. If floors or walls become dirty, clean them at least weekly. Use of Owner's existing elevators shall not be used to move equipment, construction materials, or supplies. Carrying tool belts and light hand tools by construction personnel when using elevators is acceptable. At Substantial Completion, restore elevators to condition existing before initial use, including replacing worn cables, guide shoes, and similar items of limited life.

1. Do not load elevators beyond their rated weight capacity.
2. Provide protective coverings, barriers, devices, signs, or other procedures to protect elevator car and entrance doors and frame. If, despite such protection, elevators become damaged, engage authorized elevator technician to restore damaged work so no evidence remains of correction work. Return items that cannot be refinished in field to the shop, make required repairs and refinish entire unit, or provide new units as required.
3. Maintain normal elevator operation and public access to elevators and elevator landings in the Garage at all times.

E. Existing Stair Usage: Use of Owner's existing stairs will be permitted, provided stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore stairs to condition existing before initial use. If stairs become damaged from use by construction personnel, restore damaged areas so no evidence remains of correction work.

1. Do not damage handrails guardrails walls, ceiling, stair tread, landing surfaces, or other fixtures and surfaces in the stairwells.
2. Maintain normal stairwell operation and public access to stairs and stair landings in the Garage at all times.

F. Existing Smoke Alarms: Protect existing smoke alarms from damage. A smoke alarm in an elevator lobby or on an elevator landing shall remain in operation when the elevator lobby is open for public use. A smoke alarm in an elevator lobby may be disabled when work is being performed in the lobby and/or the lobby is closed to public use. Coordinate disabling of smoke alarms with the Parking Operator.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Secure Work Areas to protect public safety and to

prevent unauthorized entrance, vandalism, theft, and damage to the Work whenever construction personnel are absent from the Work Area.

D. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

F. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Maintenance: Maintain facilities in good operating condition until removal.

B. Termination and Removal: Remove each temporary facility when needed for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor.
2. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

END OF SECTION 01 50 00

SECTION 01 73 00 - EXECUTION

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction Layout
2. Installation of the Work
3. Progress cleaning
4. Protection of installed construction

B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.03 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work

1.04 SUBMITTALS

A. Cutting and Patching Proposal: Where approval of procedures for cutting and patching is required before proceeding, submit a proposal describing procedures well in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:

1. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.

2. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.

3. List products to be used and firms or entities that will perform Work.

4. Indicate dates when cutting and patching is to be performed.

5. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.

6. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

7. Approval by the Engineer to proceed with cutting and patching does not waive the Engineer's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

1.05 QUALITY ASSURANCE

A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.

1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:

a. Foundation construction.
b. Bearing and retaining walls.
c. Structural concrete.
d. Structural steel.
e. Lintels.
f. Timber and primary wood framing
g. Structural decking.
h. Stair systems.
i. Miscellaneous structural metals.
j. Exterior curtain wall construction.
k. Equipment supports.
l. Piping, ductwork, vessels and equipment.

B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

1. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:

a. Shoring, bracing, and sheeting.
b. Primary operational systems and equipment.
c. Air or smoke barriers.
d. Water, moisture, or vapor barriers.

e. Membranes and flashings.
f. Fire protection systems.
g. Noise and vibration control elements and systems.
h. Control systems.
i. Communication systems.
j. Conveying systems.
k. Electrical wiring systems.

C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Engineer's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.

1. If possible retain the original installer or fabricator to cut and patch the following categories of exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm:

a. Processed concrete finishes.
b. Stonework and stone masonry.
c. Ornamental metal.
d. Matched veneer woodwork.
e. Preformed metal panels.
f. Window wall system.
g. Stucco and ornamental plaster
h. Acoustical ceilings.
i. Terrazzo.
j. Finished wood flooring.
k. Fluid-applied flooring.
l. Carpeting.
m. Aggregate wall coating.
n. Wall covering.
o. Swimming pool finishes.
p. HVAC enclosures, cabinets, or covers.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Comply with requirement specified in other Sections.

B. In-Place Materials: Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

1. Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine floors for suitable conditions where products and systems are to be installed.
2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information (RFI)

to Project Engineer. Temporary Support: Provide temporary support of Work to be cut.

D. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.

E. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

F. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.03 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Project Engineer promptly.

3.04 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produces harmful noise levels.

G. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

3.05 CUTTING AND PATCHING

A. Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations.

1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.

3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.

4. Comply with requirements of applicable Sections of Division-2 where cutting and patching requires excavating and backfilling.

5. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.

C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

1. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.

2. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

3. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall

coverings and replace with new materials, if necessary to achieve uniform color and appearance.

a. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat.

4. Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

3.06 PROGRESS CLEANING

A. General: Clean Project site and Work Areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.

2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.

3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire Work Area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sanitary or storm sewers, tree wells, or into waterways.

G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

H. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.07 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.08 CORRECTION OF THE WORK

A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

B. Restore permanent facilities used during construction to their specified condition.

C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

END OF SECTION 01 73 00

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Related Sections include the following:
   1. Divisions 03 through 40 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 SUBMITTALS

A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:

   1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
   2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
   3. Products: List products to be used and firms or entities that will perform the Work.
   4. Dates: Indicate when cutting and patching will be performed.
   5. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
   6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
   7. Architect's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

1.4 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a

manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operating elements include, but are not limited to, the following:

1. Primary operational systems and equipment.
2. Air or smoke barriers.
3. Fire-suppression systems.
4. Mechanical systems piping and ducts.
5. Control systems.
6. Communication systems.
7. Conveying systems.
8. Electrical wiring systems.
9. Operating systems of special construction in Division 13 Sections.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Miscellaneous elements include, but are not limited to, the following:

1. Water, moisture, or vapor barriers.
2. Membranes and flashings.
3. Exterior curtain-wall construction.
4. Equipment supports.
5. Piping, ductwork, vessels, and equipment.
6. Noise- and vibration-control elements and systems.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

E. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not

hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond- core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Division 31 Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 01 73 29

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. List of incomplete items (Punch List).
3. Final Completion procedures.
4. Warranties
5. Maintenance manuals.
6. Project Record Documents.
7. Materials.
8. Final cleaning.
9. Repair of the Work.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion Inspection: Deliver the following submittals to the Project Architect a minimum of five (5) business days prior to requesting Substantial Completion Inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, and similar final record information.
3. Submit closeout submittals specified in individual Specification Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit test/adjust/balance records.

5. Submit changeover information related to Owner's use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of five (5) business days prior to requesting inspection for determining date of the Substantial Completion. List items below that are incomplete at time of request.

1. Terminate and remove temporary facilities from Project Site, along with mockups, construction tools, and similar elements.
2. Complete final cleaning requirements.
3. Repair and restore existing buildings and improvements if damaged and/or defaced by construction activity whether inside or outside Project Site to match existing condition prior to commencement of construction.
4. Touch up and otherwise repair and restore marred exposed finished to eliminate visual defects including touchup painting.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of three (3) business days prior to date the Work will be completed and ready for inspection. On receipt of request, Project Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Project Architect, that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections is completed or corrected.
2. Results of completed inspection will form the basis for requirements for Final Completion.

1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project Name
    b. Date
    c. Name of Project Architect
    d. Name of Contractor
    e. Page number

1.5 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Contract requirements.
2. Certified List of Incomplete Items: submit certified copy of Project Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by the Project Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of two (2) business days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Project Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Project Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete or defective is completed or corrected.

C. Acknowledgement of Final Payment: Contractor shall execute an Acknowledgment of Final Payment Form provided by Owner in exchange for Final Payment.

1.6 WARRANTIES

A. Time of Submittal: Submit written warranties on request of Project Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within fifteen (15) Days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

1. Bind warranties and bonds in heavy-duty, three-ring, loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-by-11-inch paper.
2. Provide heavy paper dividers with tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

PART 2 - PRODUCTS

2.1 MAINTENANCE MANUALS

A. Submit maintenance manuals available from manufacturers and suppliers for concrete, traffic coatings, water repellant and joint sealants to Project Architect in PDF format and paper copies at the time the Substantial Completion Inspection is requested.

1. PDF documents shall be submitted as a digital folder by flash drive or disk and shall include the Project name in the folder name. Each manufacturer's or supplier's maintenance documentation shall be in a separate digital file within the digital folder. The digital folder shall also include a PDF document with the following information:

    a. Name of Project
    b. Project Location
    c. Name and contact information for Contractor
    d. Contact information for each manufacturer and supplier providing maintenance information.

2. Bind paper copies in heavy-duty, three-ring, loose-leaf binders, thickness as necessary to accommodate contents and sized to receive 8-1/2-by-11-inch paper. Identify the binder on the front and spine with the typed or printed title "MAINTENANCE MANUALS," Project name, and name of Contractor

2.2 PROJECT RECORD DOCUMENTS

A. As-Built Drawings and Record Drawings:

1. As Built Drawings: Submit one set of original, clean Drawings issued by Owner as part of the Contract Documents ("Contract Drawings") marked-up to show any changes made in the field during the course of construction such as design changes approved by Owner, actual installations, component relocations required for coordination, rerouting of distribution system, etc. which differ from the original Drawings ("As-Built Drawings"). Deliver As-Built Drawings to the Project Architect at the time the Substantial Completion Inspection is requested. Project Architect will indicate whether general scope of changes, additional information recorded and quality of drafting are acceptable. If the submittal is not acceptable to Project Architect, it will be returned to Contractor for corrections.

2. Record Drawings: Project Architect shall be responsible for creating digital Record Drawings incorporating the mark-ups on the As-Built Drawings submitted

by the Contractor. Project Architect will issue digital Record Drawings to the Contractor and Owner with upon Final Completion of the Project.

B. Record Specifications:

1. Maintain copy of the Contract Documents for purposes of annotating where the actual product installation varies from that indicated in the Contract Documents. Submit annotated portions of the Contract Documents to the Project Architect prior to requesting a Substantial Completion Inspection. The Project Architect may request corrections in the Contractor's submittal to make the submittal more legible and complete.

2. Project Architect shall be responsible for maintaining its own records on variations in product installations, for assembling Record Specifications for the Project in a digital format and for distributing them to the Owner and Contractor at the conclusion of the Project.

2.3 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site in areas disturbed by construction activities of rubbish, waste material, litter, and other foreign substances.
b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

c. Remove tools, construction equipment, machinery, and surplus material from Project site.
d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
e. Clean elevators and stair treads, and elevator vestibule and stair towers to remove construction residue and debris, and foreign substances.
f. Remove debris and surface dust from limited access spaces affected by construction.
g. Sweep concrete floors broom clean in unoccupied spaces.
h. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
i. Remove labels that are not permanent.
j. Wipe surfaces of mechanical and electrical equipment**,** elevator equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
l. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
m. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.

B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces and touching up with matching materials. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that that already show evidence of repair or restoration.
3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Repair and restore existing building surfaces if damaged and/or defaced by construction activity whether inside or outside Project Site to match existing condition prior to commencement of construction.

END OF SECTION 01 77 00

SECTION 07 18 00 - TRAFFIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes traffic coatings and pavement markings for the following applications:
   1. Vehicular traffic.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

   1. Include installation instructions and details, material descriptions, dry or wet film thickness requirements, and finish.

B. Shop Drawings: For traffic coatings.

   1. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions that are not included in manufacturer's product data.
   2. Include plans showing layout of pavement markings, lane separations, and defined parking spaces. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each type of traffic coating.

C. Field quality-control reports.

D. Sample Warranty: For manufacturer's warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For traffic coatings to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Mockups: Build mockups to set quality standards for materials and execution.

1. Build mockup for each traffic coating and substrate to receive traffic coatings.
2. Size: 200 sq. ft. of each substrate to demonstrate surface preparation, joint and crack treatment, thickness, texture, color, and standard of workmanship.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Apply traffic coatings within the range of ambient and substrate temperatures recommended in writing by manufacturer. Do not apply traffic coatings to damp or wet substrates, when temperatures are below 40 deg F, when relative humidity exceeds 85 percent, or when temperatures are less than 5 deg F above dew point.

1. Do not apply traffic coatings in snow, rain, fog, or mist, or when such weather conditions are imminent during the application and curing period. Apply only when frost-free conditions occur throughout the depth of substrate.

B. Do not install traffic coating until items that penetrate membrane have been installed.

C. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, and not exceeding 95 deg F.

1.9 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace traffic coating that fails in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Adhesive or cohesive failures.
b. Abrasion or tearing failures.
c. Surface crazing or spalling.
d. Intrusion of water, oils, gasoline, grease, salt, deicer chemicals, or acids into deck substrate.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: Subject to compliance with requirements, provide products of 1 or following, only where specifically named in product category:

1. Advanced Polymer Technology (APT), Harmony, PA
2. BASF Building Systems (BASF), Shakopee, MN
3. Lymtal International Inc. (Lymtal), Lake Orion, MI
4. Sika Corporation (Sika), Lyndhurst, NJ.
5. Tremco (Tremco), Cleveland, OH.

B. Source Limitations:

1. Obtain traffic coatings from single source from single manufacturer.
2. Obtain primary traffic-coating materials, including primers, from traffic-coating manufacturer. Obtain accessory materials including aggregates, sheet flashings, joint sealants, and substrate repair materials of types and from sources recommended in writing by primary material manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Material Compatibility: Provide primers; base coat, intermediate coat, and topcoat; and accessory materials that are compatible with one another and with substrate under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. General: Traffic coating system shall be capable of performing as a continuous watertight installation and as a moisture drainage plane transitioned to adjacent flashings and discharging water to the structure exterior. Traffic coating shall accommodate normal substrate movement and seal expansion and control joints, construction material transitions, opening transitions, penetrations, and perimeter conditions with out resultant moisture deterioration.

2.3 TRAFFIC COATING

A. Traffic Coating: Manufacturer's standard, traffic-bearing, seamless, high-solids-content, cold liquid-applied, elastomeric, water-resistant membrane system with integral wearing surface for vehicular traffic service condition; according to ASTM C957/C957M.

1. Heavy Duty:
   a. Iso-Flex 750U-HL HVT/760U-HL HVT Deck Coating System, LymTal.
   b. MasterSeal Traffic 1500, BASF
   c. Qualideck Heavy Vehicular (152/252/372/512), APT
   d. Sikalastic 710/715, Sika.
   e. Vulkem 350/345/346/346 Deck Coating System, Temoco.

B. Primer: Liquid primer as recommended in writing for substrate and conditions by traffic-coating manufacturer.

1. Material: Polyurethane.

C. Preparatory and Base Coats: Aromatic urethane.

1. Thicknesses: Minimum dry- or wet- film thickness as recommended in writing by manufacturer for substrate and service conditions indicated.

D. Topcoat: Aliphatic urethane with UV inhibitors.

1. Thicknesses: Minimum dry- or wet- film thickness as recommended in writing by manufacturer for substrate and service conditions indicated, measured excluding aggregate.
2. Aggregate Content: As recommended in writing by traffic-coating manufacturer for substrate and service conditions indicated.
3. Color: As selected by Architect from manufacturer's full range.

E. Aggregate: Manufacturer's standard aggregate for each use indicated of particle sizes, shape, and minimum hardness recommended in writing by traffic-coating manufacturer.

2.4 ACCESSORY MATERIALS

A. Joint Sealants: Single-Component, Non-Sagging Urethane Joint Sealant: ASTM C920, Type NS, Class 50.

B. Adhesive: Contact adhesive recommended in writing by traffic-coating manufacturer.

C. Reinforcing Strip: Fiberglass mesh recommended in writing by traffic-coating manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, surface smoothness, and other conditions affecting performance of traffic-coating work.

B. Verify that substrates are visibly dry and free of moisture.

1. Test for moisture according to ASTM D4263.
2. Test for moisture content by method recommended in writing by traffic-coating manufacturer.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of traffic-coating work.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Begin coating application only after substrate construction and penetrating work have been completed.
2. Begin coating application only after minimum concrete-curing and -drying period recommended in writing by traffic-coating manufacturer has passed and after substrates are dry.
3. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Clean and prepare substrates according to ASTM C1127 and manufacturer's written instructions to produce clean, dust-free, dry substrate for traffic-coating application. Remove projections, fill voids, and seal joints if any, as recommended in writing by traffic-coating manufacturer.

B. Priming: Unless manufacturer recommends in writing against priming, prime substrates according to manufacturer's written instructions.

1. Limit priming to areas that will be covered by traffic-coating material on same day. Reprime areas exposed for more time than recommended by manufacturer.

C. Schedule preparation work so dust and other contaminants from process do not fall on wet, newly coated surfaces.

D. Mask adjoining surfaces not receiving traffic coatings to prevent overspray, spillage, leaking, and migration of coatings. Prevent traffic-coating materials from entering deck substrate penetrations and clogging weep holes and drains.

E. Concrete Substrates: Mechanically abrade surface to a uniform profile acceptable to manufacturer, according to ASTM D4259. Do not acid etch.

1. Remove grease, oil, paints, and other penetrating contaminants from concrete.
2. Remove concrete fins, ridges, and other projections.
3. Remove laitance, glaze, efflorescence, curing compounds, concrete hardeners, form-release agents, and other incompatible materials that might affect coating adhesion.
4. Remove remaining loose material to provide a sound surface, and clean surfaces according to ASTM D4258.

3.3 TERMINATIONS AND PENETRATIONS

A. Prepare vertical and horizontal surfaces at terminations and penetrations through traffic coatings and at expansion joints, drains, and sleeves according to ASTM C1127 and manufacturer's written instructions.

B. Provide sealant cants at penetrations and at reinforced and nonreinforced, deck-to-wall butt joints.

C. Terminate edges of deck-to-deck expansion joints with preparatory base-coat strip.

D. Install sheet flashings at deck-to-wall expansion and dynamic joints, and bond to deck and wall substrates according to manufacturer's written recommendations.

3.4 JOINT AND CRACK TREATMENT

A. Prepare, treat, rout, and fill joints and cracks in substrates according to ASTM C1127 and manufacturer's written recommendations. Before coating surfaces, remove dust and dirt from joints and cracks according to ASTM D4258.

1. Comply with recommendations in ASTM C1193 for joint-sealant installation.

B. Apply reinforcing strip in traffic-coating system where recommended in writing by traffic-coating manufacturer.

3.5 TRAFFIC-COATING APPLICATION

A. Apply traffic coating according to ASTM C1127 and manufacturer's written instructions.

B. Apply coats of specified compositions for each type of traffic coating at locations as indicated on Drawings.

C. Start traffic-coating application in presence of manufacturer's technical representative.

D. Verify that wet-film thickness of each coat complies with requirements every 100 sq. ft..

E. Uniformly broadcast and embed aggregate in each coat indicated to receive aggregate according to manufacturer's written instructions. After coat dries, sweep away excess aggregate.

F. Apply traffic coatings to prepared wall terminations and vertical surfaces to height indicated; omit aggregate on vertical surfaces.

G. Cure traffic coatings. Prevent contamination and damage during coating application and curing.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform the following field tests and inspections:

1. Materials Testing:

a. Samples of material delivered to Project site shall be taken, identified, sealed, and certified in presence of Contractor.
b. Testing agency shall perform tests for characteristics specified, using applicable referenced testing procedures.
c. Testing agency shall verify thickness of coatings during traffic-coating application for each 600 sq. ft. of installed traffic coating or part thereof.

B. Final Traffic-Coating Inspection: Arrange for traffic-coating manufacturer's technical personnel to inspect membrane installation on completion.

1. Notify Architect or Owner 48 hours in advance of date and time of inspection.

C. Waterproofing will be considered defective if it does not pass tests and inspections.

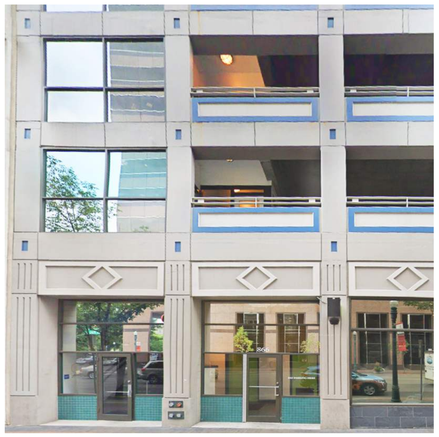
D. Prepare test and inspection reports.

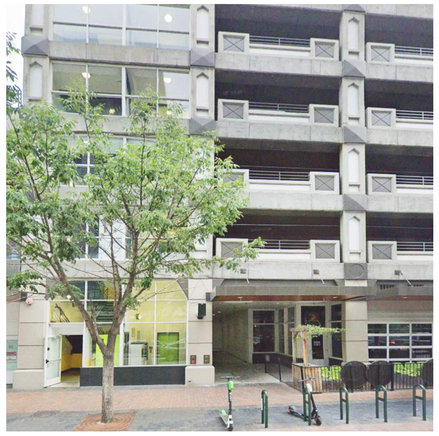
3.7 PROTECTING AND CLEANING

A. Protect traffic coatings from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 18 00





PROJECT:

PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

9TH & MAIN PARKING GARAGE

848 W Main St
Boise, ID 83702

CAPITOL & MAIN PARKING GARAGE

770 W Main St
Boise, ID 83702

CLIENT:

Capital City Development Corporation

121 N 9th St, Suite 501
Boise, Idaho 83702

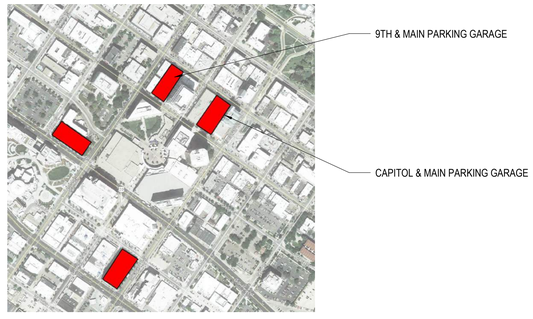
HUMMEL ARCHITECTS

2785 N. Bogus Basin Road.
Boise, ID 83702
208.343.7523

482 Cpnstitution Way. Suite 111.
Idaho. Falls, ID 8340
986.200.6281

hummelarch.com

VICINITY MAP :



H.A.-JOB # 21028

CONSULTANTS:

DRAWING SET:

ARCHITECTURAL

DRAWING INDEX:

AGENCY REVIEW SET 9/30/2021

DRAWING SET NO.

LICENSED PROFESSIONAL ARCHITECT
AR-1635
2021.09.30
STATE OF IDAHO
SCOTT J. STRASHEIM

C:\Users\vlas\Documents\21028 CCDC Parking Garage Waterproofing - 21_yl4w2B5T5.rvt
9/29/2021 10:09:51 AM

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SYMBOLS:

Symbol text	Label
A3 / A2 / A401 / A1	INTERIOR ELEVATIONS
	SHEET NUMBER
	DETAIL NUMBER
1 / A101	DETAIL REFERENCE
	DETAIL NUMBER
	SHEET NUMBER
	EXTERIOR ELEVATION REFERENCE
	DETAIL NUMBER
	SHEET NUMBER
1 / A101a	WALL SECTION REFERENCE
	DETAIL NUMBER
	SHEET NUMBER
	BUILDING SECTION REFERENCE
	DETAIL NUMBER
	SHEET NUMBER
1 / A101	DETAIL REFERENCE
	DETAIL NUMBER
	SHEET NUMBER
ROOM NAME / ###	ROOM DESIGNATION (FLOOR PLAN)
	ROOM NAME
	ROOM NUMBER
ROOM NAME / ### / XX'-XX" A.F.F.	ROOM DESIGNATION (REFLECTED CEILING PLAN)
	ROOM NUMBER
	CEILING HEIGHT ABOVE FINISH FLOOR
T.O. WALL / 100'-0"	ELEVATION SYMBOL
	ELEVATION DESCRIPTION
	ELEVATION ABOVE DATUM
XXXXXXX	WALL TYPE DESIGNATION
	WALL TYPE
XXXx / Delete the one not used in your project	DOOR DESIGNATION
	DOOR NUMBER
XXX / Delete the one not used in your project	WINDOW DESIGNATION
	WINDOW TYPE
?	KEYED NOTE DESIGNATION
	KEY NOTE NUMBER
XX	REFERENCE NOTE DESIGNATION
	REFERENCE NOTE NUMBER
DESCRIPTION / Q000	EQUIPMENT DESIGNATION
	EQUIPMENT DESCRIPTION
	EQUIPMENT NUMBER
00001	MATERIAL TYPE DESIGNATION
	SEE AI601 FINISH LEGEND
	FINISH NUMBER
CL	CENTER LINE SYMBOL
	BREAK LINE
	ROUND BREAK LINE
N / NORTH	NORTH ARROW
	PLAN NORTH
	TRUE NORTH
MATCH LINE / SEE AX.XX	MATCH LINE TAG
	EXISTING WALL TO REMAIN
	WALL TO BE DEMOLISHED
	NEW WALL
0' 4' 8' 16'	GRAPHIC SCALES
	CASEWORK TYPE DESIGNATION
	AWS STANDARD CDS NUMBERING SYSTEM
WIDTH / 000M / 00" 00" 00" / MODIFICATION DESCRIPTION / TYP (#)	CDS NUMBER (M DENOTES MODIFICATION - SEE SHEET A551 FOR MODIFIED MILLWORK ELEVATIONS AND DETAILS)
	DEPTH
	HEIGHT
	INDICATES NUMBER OF SIM, ADJACENT MILLWORK
1/2" / 12" / 1/2" / 12"	SLOPE INDICATION
	RISE
	RUN
1	REVISION DESIGNATION
	REVISION NUMBER
	REVISION CLOUD

ABBREVIATIONS:

Abbreviation	Meaning
#	NUMBER OR POUND
ø	DIAMETER
	ANGLE
@	AT
&	AND
CL	CENTERLINE
AB	ANCHOR BOLT
ACP	ACOUSTICAL CEILING PANEL
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUSTABLE
AFF	ABOVE FINISH FLOOR
ALUM	ALUMINUM
ANOD	ANODIZED
APPROX	APPROXIMATE
ASFP	ABRASIVE SURFACE FLOOR PLATE
ASSOC	ASSOCIATED
AWP	ACOUSTICAL WALL PANEL
AWS	ACOUSTICAL WALL SYSTEM
BD	BOARD
BFC	BROOM FINISH CONCRETE
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BTWN	BETWEEN
CAB	CABINET
C.I.P.	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONRY UNITS
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCT
CONT	CONTINUOUS
CPT	CARPET
CSK	COUNTERSINK
CMT	CERAMIC MOSAIC TILE
CQT	CERAMIC QUARRY TILE
CWB	CERAMIC WALL BASE
DBL	DOUBLE
DEPT	DEPARTMENT
DT	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DS	DOWNSPOUT
EA	EACH
EBT	EXPANSION BASE TRIM
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION
EP	EPOXY PAINT
EQ	EQUAL
EQUIP	EQUIPMENT
ESTR	EXPOSED STRUCTURE (NEW OR EXISTING)
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EPOXY	EPOXY FLOOR SYSTEM
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FD	FLOOR DRAIN
F.D.C.	FIRE DEPARTMENT CONNECTION
FB	FIRE BLANKET
FE	FIRE EXTINGUISHER
FF	FACTORY FINISH
F.H.	FIRE HYDRANT
FIN	FINISH
FL	FLOOR LINE
FLR	FLOOR
FND	FOUNDATION
FOC	FACE OF CHANNEL
FOF	FACE OF FINISH
FOS	FACE OF STUDS
FRP	FIBER REINF. PANEL
FT	FEET
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
GYP.BD.	GYPSUM BOARD
HAS	HEAD ANCHOR STUD
HCW	HOLLOW CORE WOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HT	HEIGHT
HW	HARDWOOD
ICB	INTEGRAL COVE BASE
ICMU	INTEGRAL COLORED CONCRETE MASONRY UNITS
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
JAN	JANITOR
JST	JOIST
JT	JOINT
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LVT	LUXURY VINYL TILE
LWT	LOWER WALL GUARD
MAT	MATERIAL
MAX	MAXIMUM
MCB	METAL COVE BASE
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	MEASURING LINE
MO	MASONRY OPENING
MTD	MOUNTED
MTG	MOUNTING
NA	NOT APPLICABLE
NB	NO BASE (EXPOSED WALL OR FOUNDATION)
NC	NEW CONCRETE
NIC	NOT IN CONTRACT
NM	NEW MASONRY
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/ OWNER INSTALLED
OPNG	OPENING
OTA	OPEN TO ABOVE
OTS	OPEN TO STRUCTURE
OVF	OVERFLOW
P	PAINT
PC	PAINT COLOR
PFT	PORCELAIN FLOOR TILE
P.I.V.	POST INDICATOR VALVE
PL	PLASTIC LAMINATE
PLAST	PLASTIC
PLYWD	PLYWOOD
POLY	POLY-RESINOUS FLOORING
PR	PAIR
PWT	PORCELAIN WALL TILE
R	THERMAL RESISTANCE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDL	RAIN DRAIN LEADER
RE:	REFERENCE
REFRIG	REFRIGERATOR
REINF	REINFORCING
REQ	REQUIRED
RFT	RUBBER FLOOR TILE
RM	ROOM
RMA	RESILIENT MOLDING ACC
RO	ROUGH OPENING
RST	RUBBER STAIR TREADS
RSV	RIGID SHEET VINYL
RUB	RUBBER SHEET FLOORING
RW	REDWOOD
RWB	RUBBER WALL BASE
RWC	RAIN WATER CONDUCTOR
SC	SEALED CONCRETE
SCHED	SCHEDULE
SCW	SOLID CORE WOOD
SGWB	SUSPENDED GYPSUM WALL BOARD
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
SSC	STAINLESS STEEL COUNTERTOP
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
T&G	TONGUE AND GROOVE
TEMP	TEMPORARY
TO	TOP OF
TOM	TOP OF MASONRY
TS	TUBE STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UWG	UPPER WALL GUARD
VAR	VARIES
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
W/	WITH
WC	WATER CLOSET
WD	WOOD
WDP	WOOD PLANKS
WF	WALL FABRIC
WH	WATER HEATER
WM	WALK-OFF MAT
W/O	WITH OUT
WP	WATERPROOF
WRGB	WATER RESISTANT GYPSUM BOARD
WS	WINDOW SHADE
WT	WEIGHT
WWF	WELDED WIRE FABRIC

E | D | C | B | A

AGENCY REVIEW SET 9/30/2021

HUMMEL ARCHITECTS

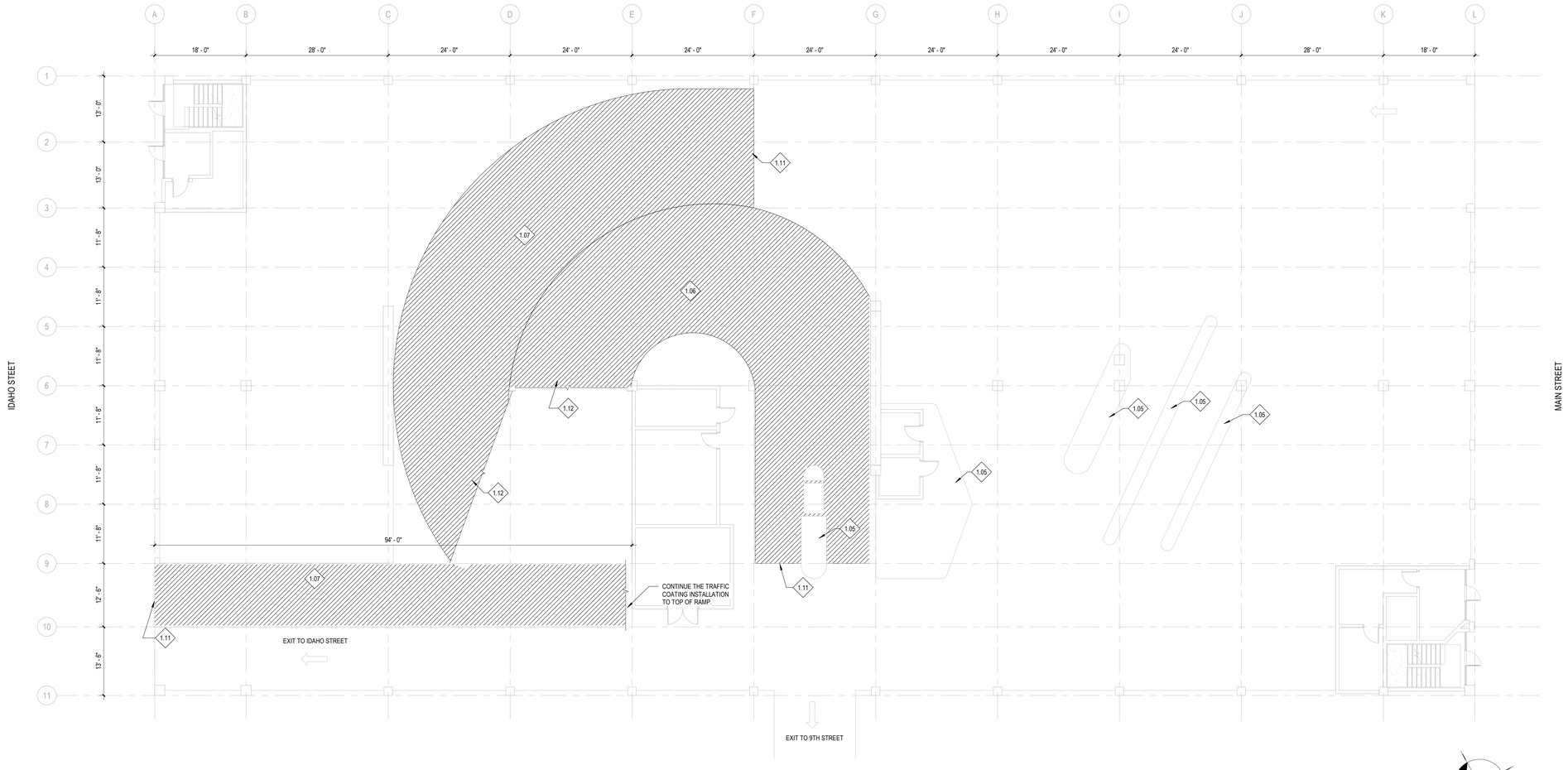
Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
DRAWING INFORMATION

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO SCOTT J. STRAUBHAR

Project No:	21028
Drawn By:	YL
Checked By:	BC
Date:	09 / 30 / 2021

Sheet No:
G0.01



A1 / A2.01 **9TH AND MAIN LEVEL 1**
1" = 10'-0"

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.05 EXISTING CONCRETE ISLAND.
1.06 SLOPE DOWN.
1.07 SLOPE UP.
1.11 EDGE OF CONCRETE RAMP.
1.12 CONTINUE THE TRAFFIC COATING INSTALLATION TO TOP OF RAMP.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
9TH AND MAIN - LEVEL 1

AGENCY REVIEW SET 9/30/2021

LICENSED PROFESSIONAL ENGINEER AR-1635 2021.09.30 STATE OF IDAHO BRENT C. STREUBER

Project No:	21028
Drawn By:	LE
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Date:	09 / 30 / 2021

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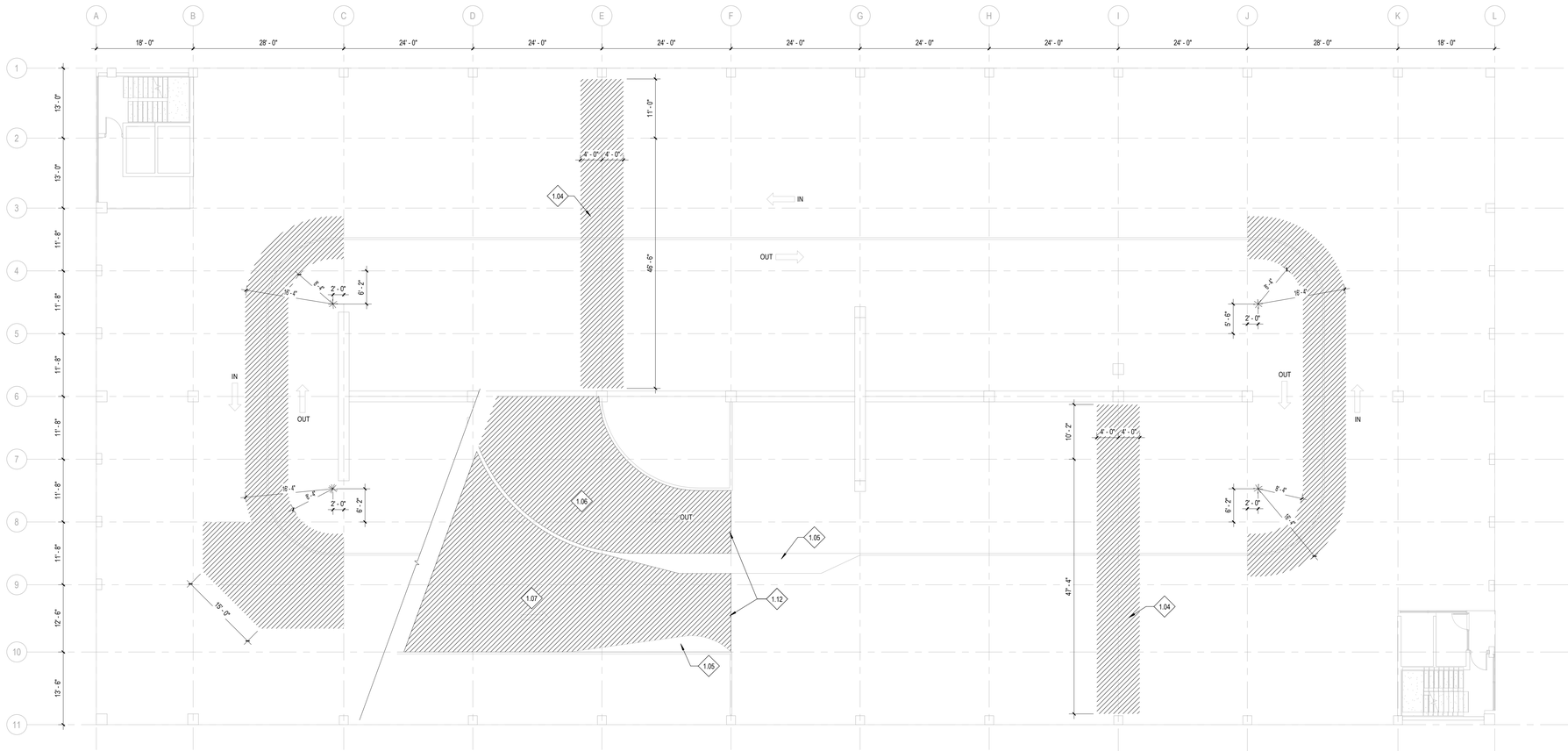

A1 / A2.02 **9TH AND MAIN LEVEL 2**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.
1.05 EXISTING CONCRETE ISLAND.
1.06 SLOPE DOWN.
1.07 SLOPE UP.
1.12 CONTINUE THE TRAFFIC COATING INSTALLATION TO TOP OF RAMP.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
9TH AND MAIN - LEVEL 2

AGENCY REVIEW SET 9/30/2021

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO SCOTT C. SYLVESTER

Project No:	21028
Drawn By:	LE
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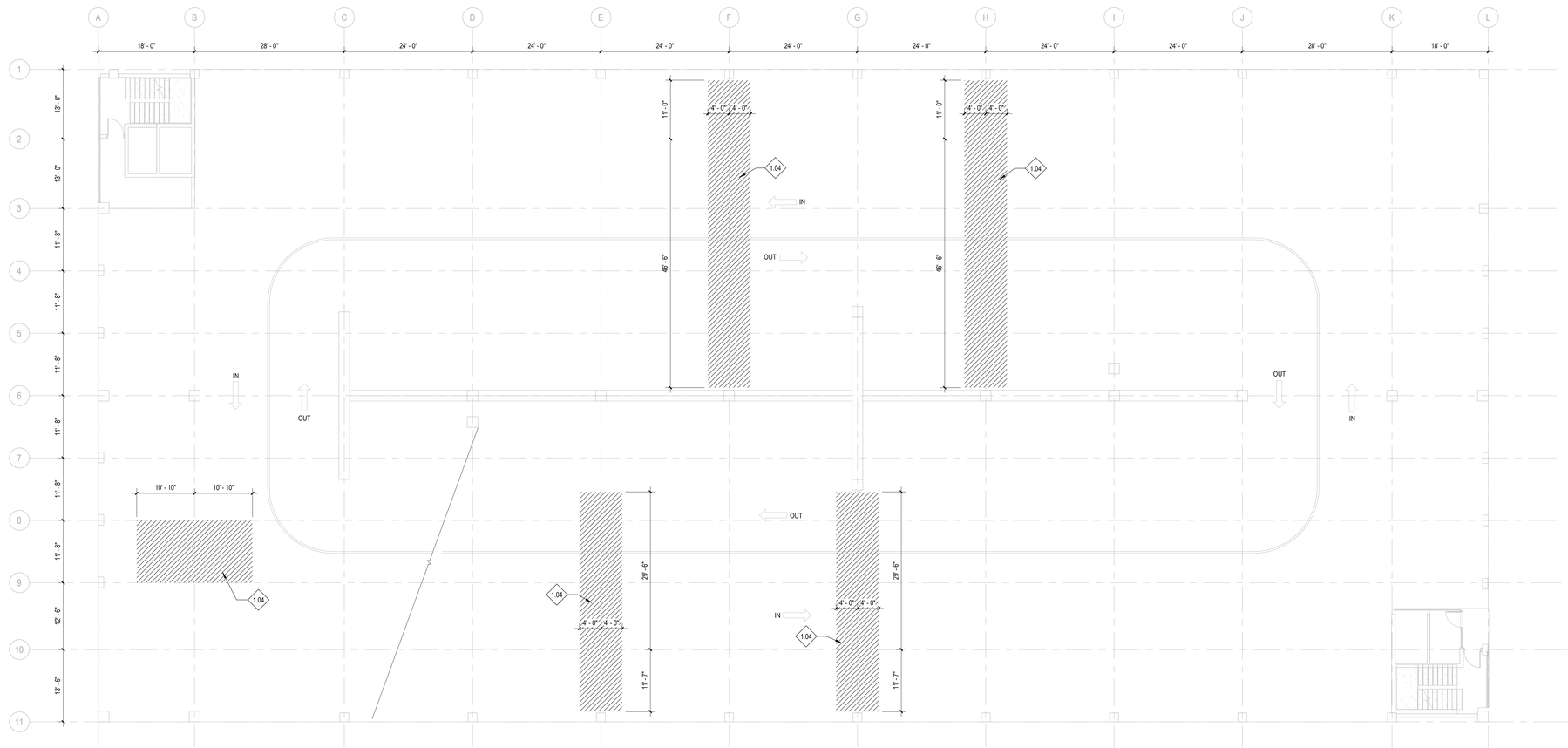

A1 / A2.03 **9TH AND MAIN LEVEL 3**
1" = 10'-0"

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
9TH AND MAIN - LEVEL 3

AGENCY REVIEW SET 9/30/2021

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO

Project No:	21026
Drawn By:	LE
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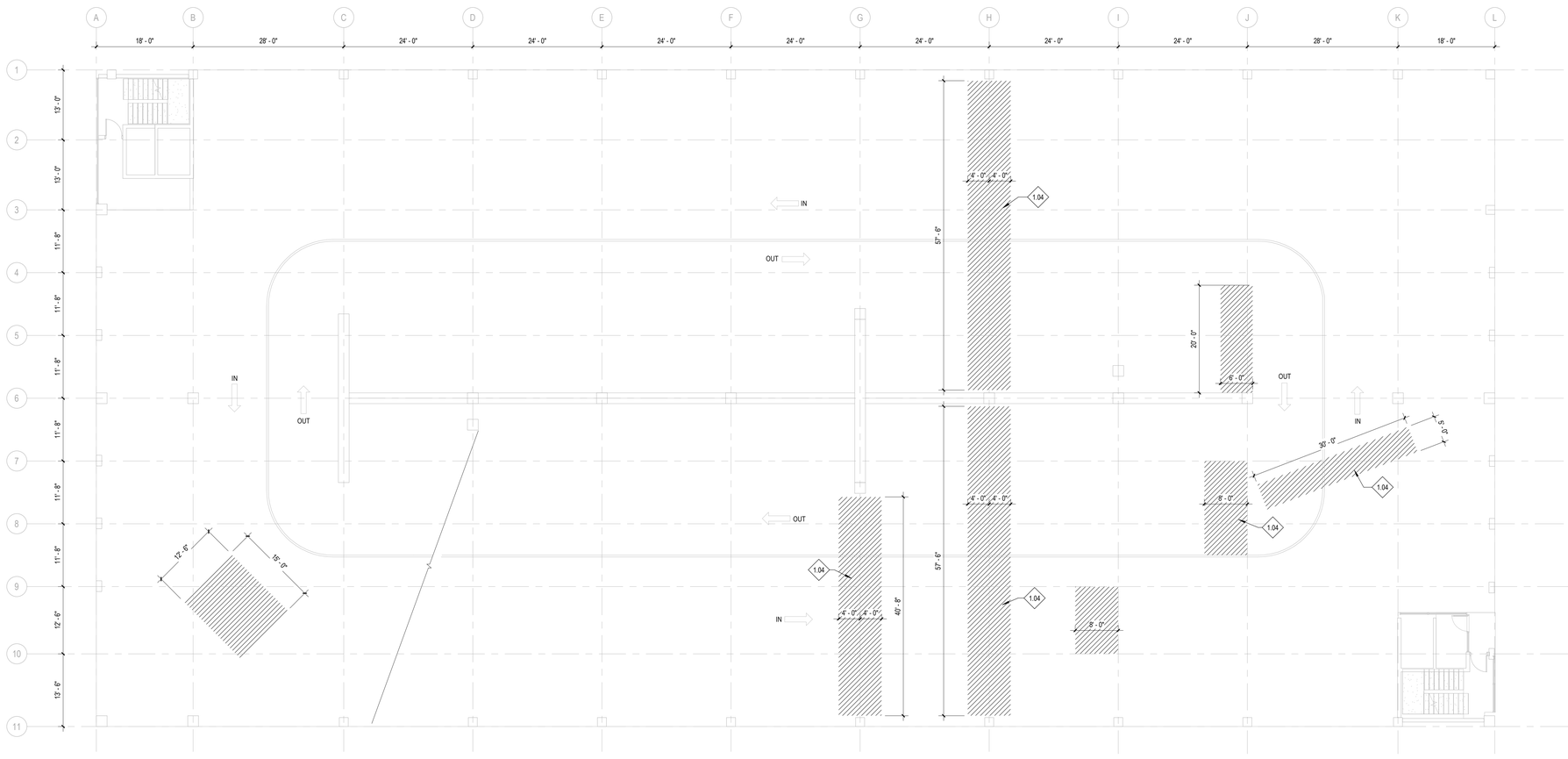

A1 / A2.04 **9TH AND MAIN LEVEL 4**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

AGENCY REVIEW SET 9/30/2021

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
9TH AND MAIN - LEVEL 4

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF ILLINOIS

Project No:	21028
Drawn By:	LE
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Date:	09 / 30 / 2021

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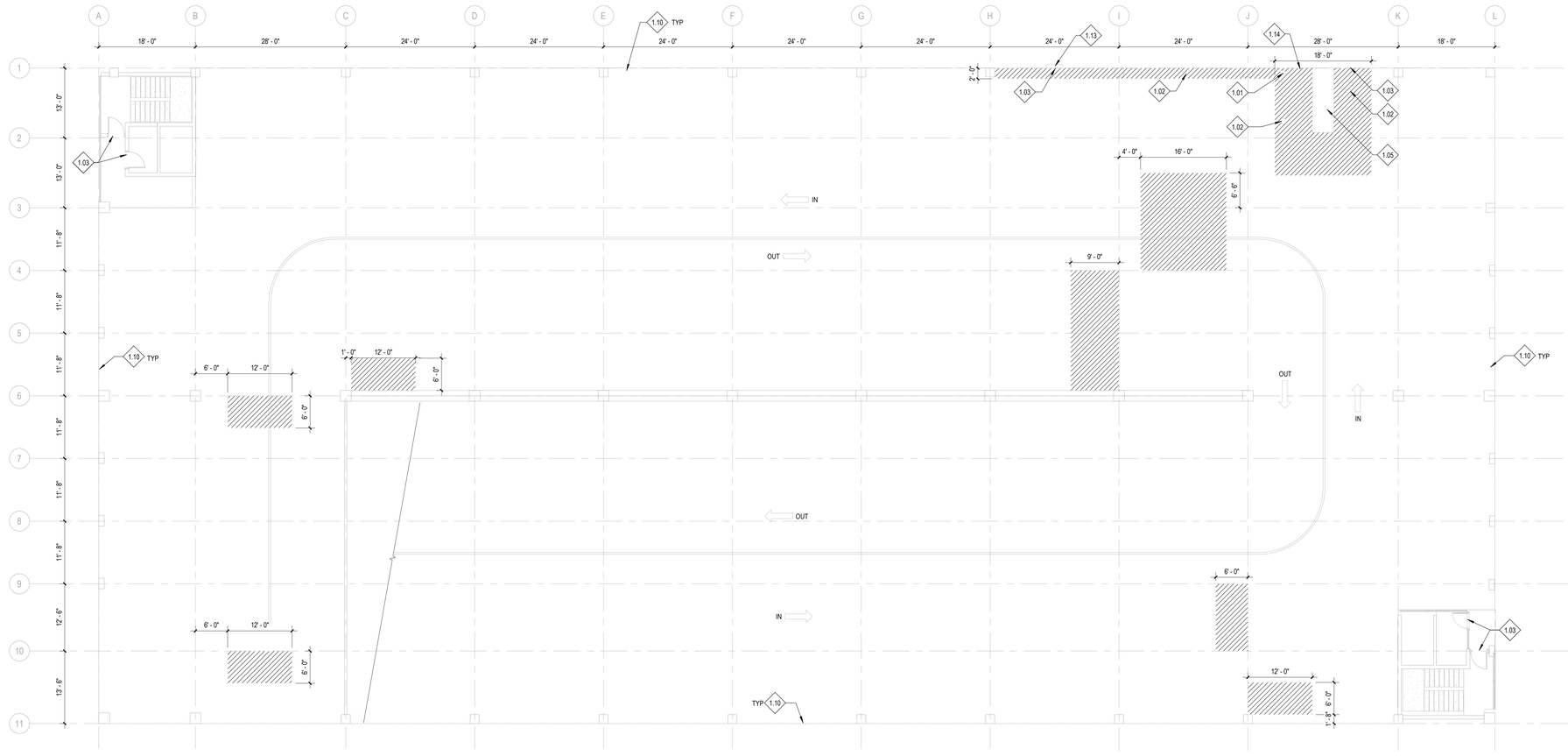

A1 / A2.05 **9TH AND MAIN LEVEL 5**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.01 REMOVE BOLLARDS. INSTALL TRAFFIC COATING UNDER BOLLARD. REINSTALL BOLLARDS IN SAME LOCATION.
1.02 SEAL/FILL CONCRETE SAW CUTS WITH MEMBRANE COMPATIBLE CAULKING.
1.03 MEMBRANE TO EXTEND BENEATH PLATE THRESHOLD.
1.05 EXISTING CONCRETE ISLAND.
1.10 CONTRACTOR TO REVIEW AND VERIFY ENTIRE PERIMETER OF TOP LEVEL FOR ANY COMPROMISED MEMBRANE AND COVE AREAS. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR NEW/REPAIR COATING.
1.13 MAN DOOR INTO ADJACENT BUILDING.
1.14 ENTRY INTO ZION BANK PARKING.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
9TH AND MAIN - LEVEL 5

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF ILLINOIS

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Project No:	21028
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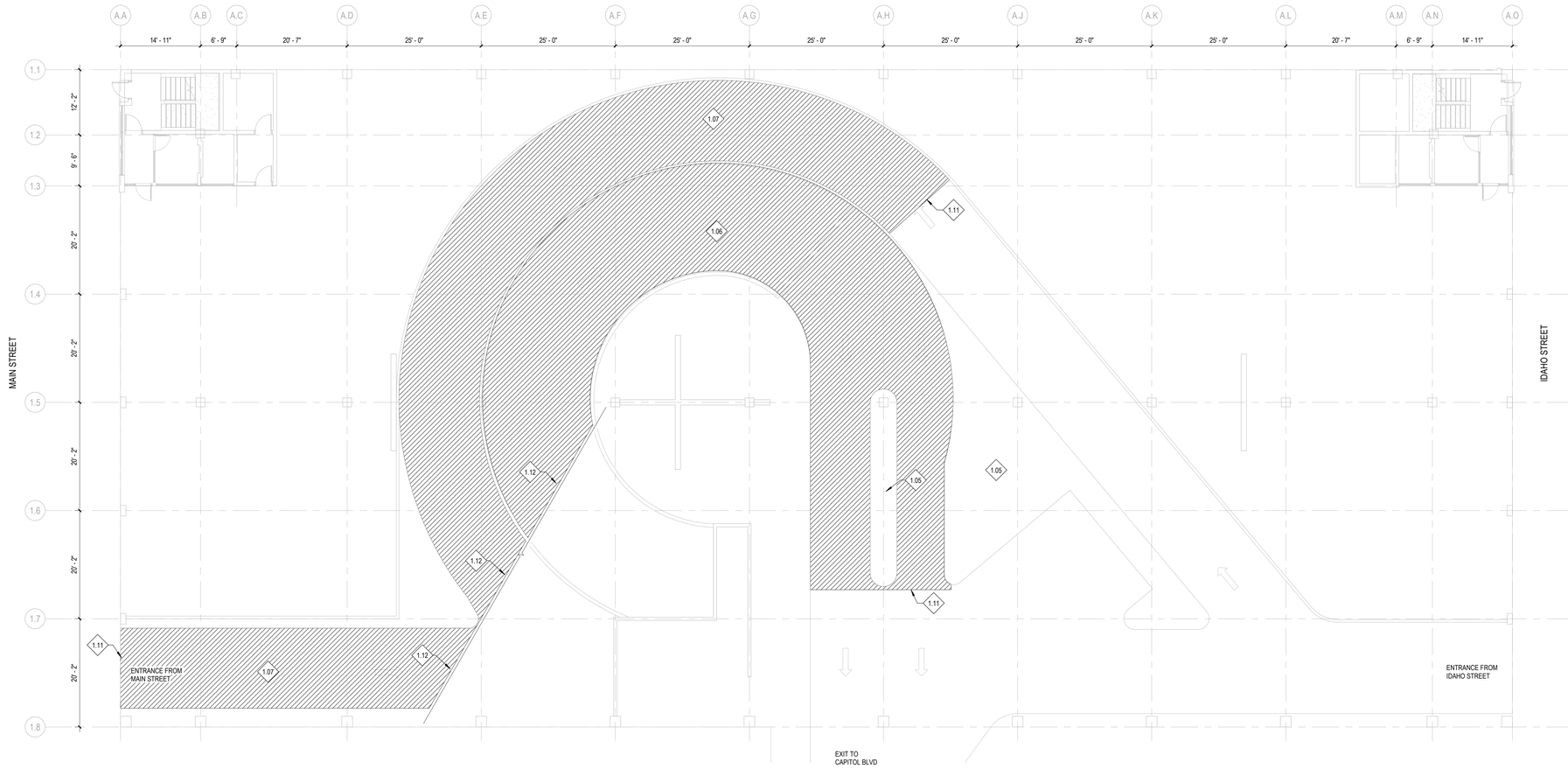

A1 / A2.11 **CAPITOL AND MAIN LEVEL 1**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.05	EXISTING CONCRETE ISLAND.
1.06	SLOPE DOWN.
1.07	SLOPE UP.
1.11	EDGE OF CONCRETE RAMP.
1.12	CONTINUE THE TRAFFIC COATING INSTALLATION TO TOP OF RAMP.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 1

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO

AGENCY REVIEW SET 9/30/2021

Project No:	21028
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Sheet No: A2.11

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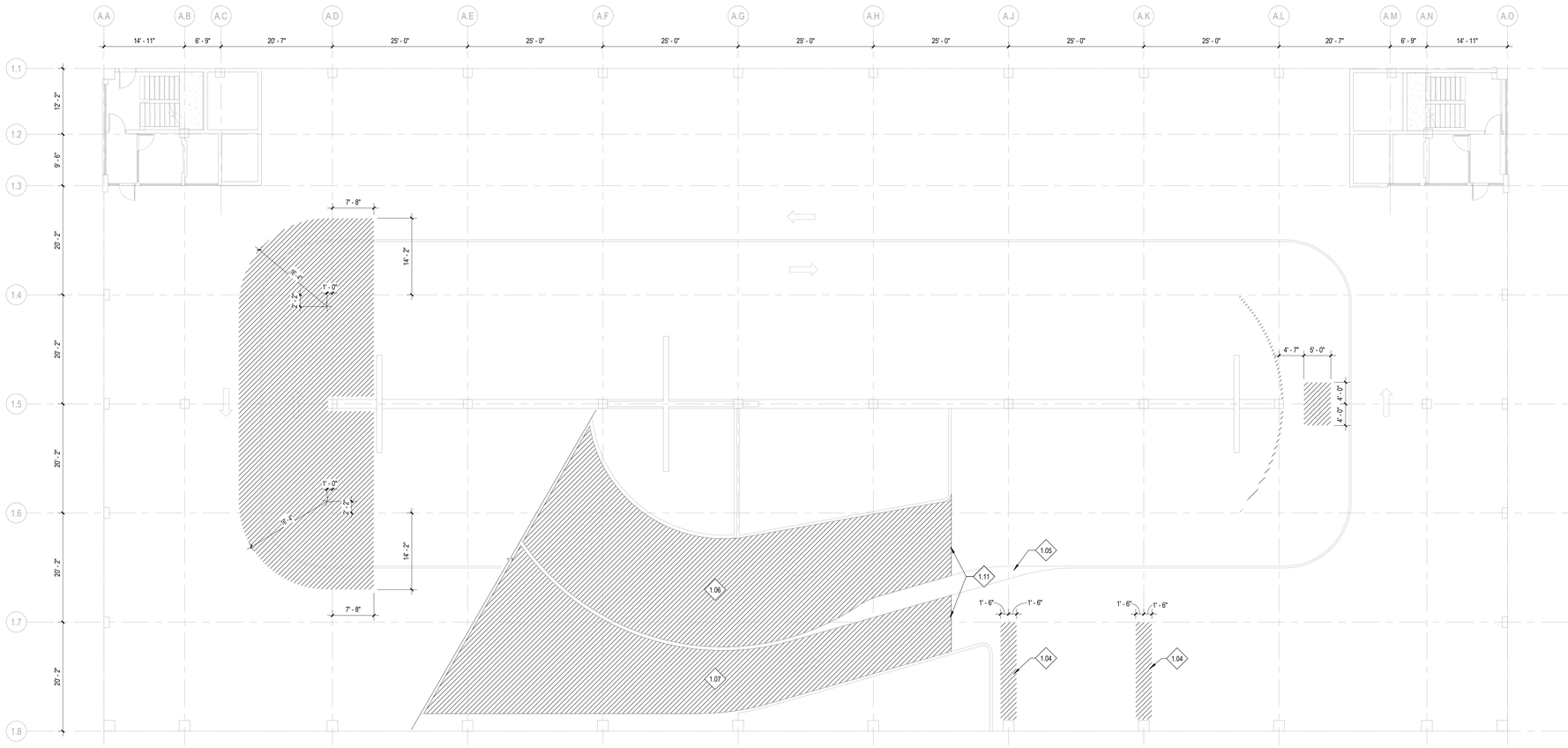

A1 / A2.12 **CAPITOL AND MAIN LEVEL 2**
1" = 10'-0"

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.
1.05 EXISTING CONCRETE ISLAND.
1.06 SLOPE DOWN.
1.07 SLOPE UP.
1.11 EDGE OF CONCRETE RAMP.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

NORTH

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 2

LICENSED PROFESSIONAL ENGINEER — AR-1635 — 2021.09.30 — STATE OF IDAHO — BOISE, STRUCTURAL

AGENCY REVIEW SET 9/30/2021

Project No:	21028
Drawn By:	YL
Checked By:	BC
Date:	09 / 30 / 2021

Sheet No: A2.12

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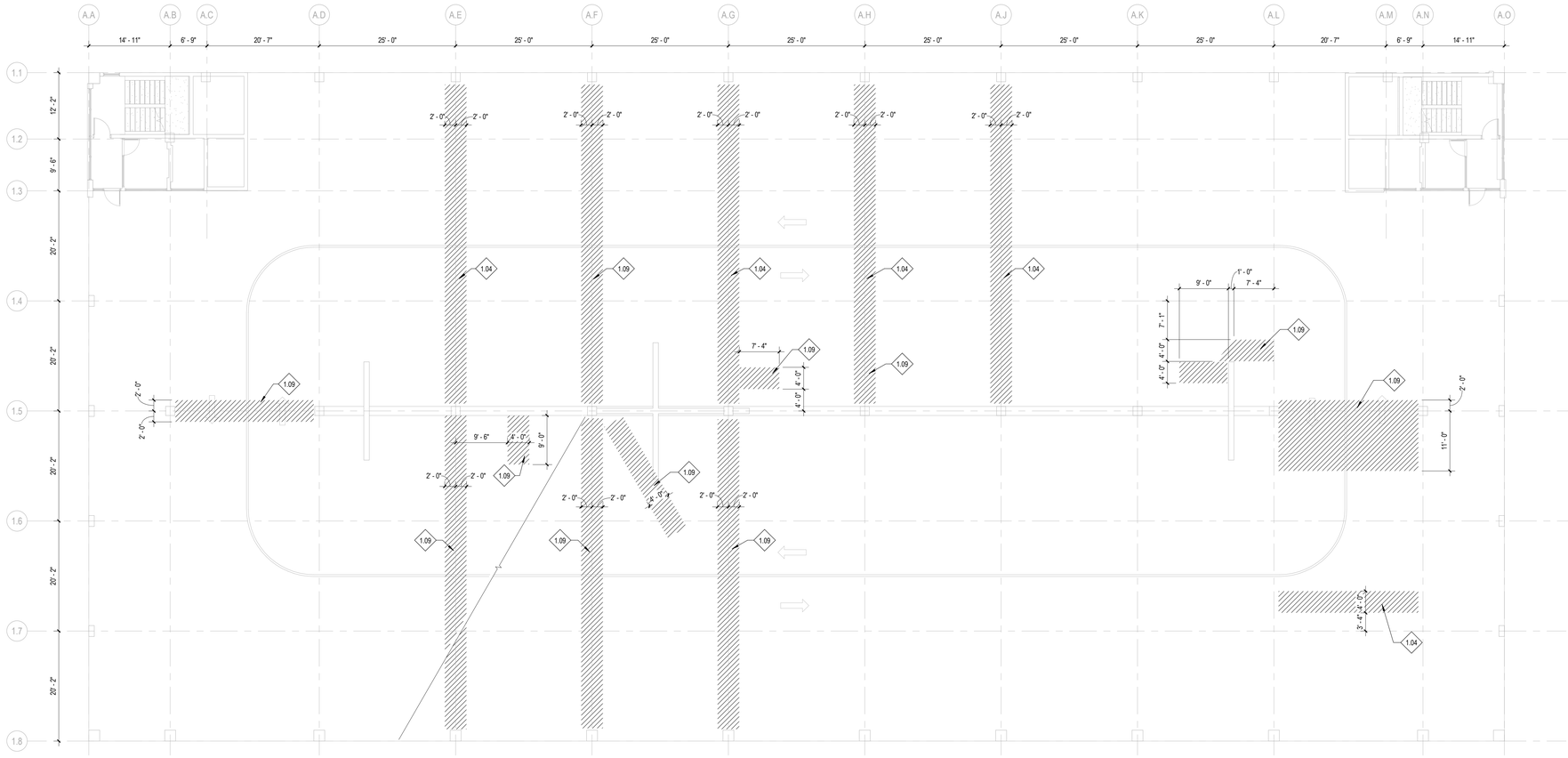

A1 / A2.13 **CAPITOL AND MAIN LEVEL 3**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.
1.09 EXISTING FLEXURAL CRACKS. CONTRACTOR TO VERIFY CONDITION OF FILLER. IF FILLER IS COMPROMISED, REMOVE AND REPLACE.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 3

AGENCY REVIEW SET 9/30/2021

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO SCOTT STRICKLAND

Project No:	21028
Drawn By:	LE
Checked By:	BC
Date:	09 / 30 / 2021

Sheet No: A2.13

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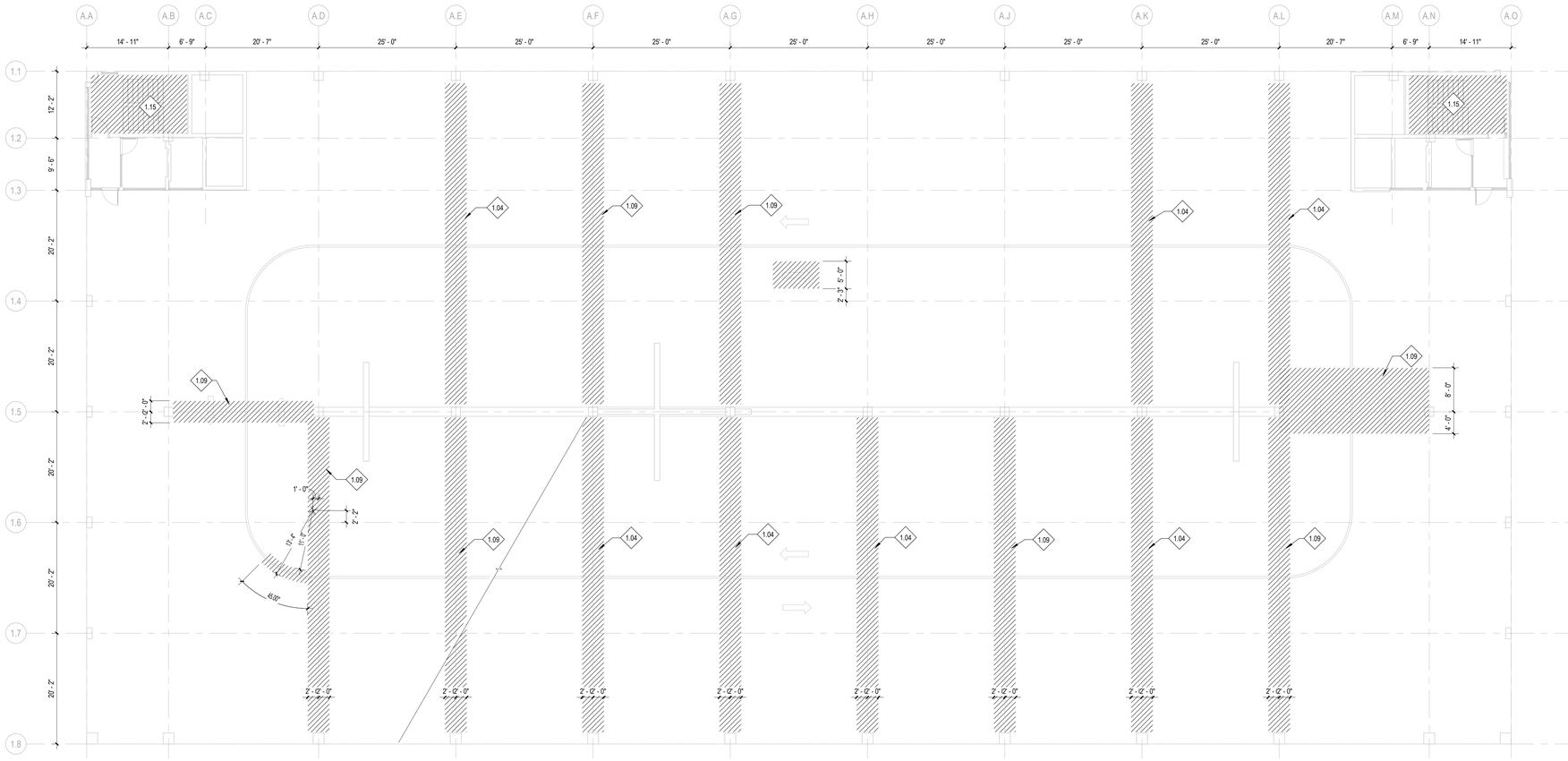

A1 / A2.14 **CAPITOL AND MAIN LEVEL 4**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.04 MISC. FLEXURAL CRACKS. ROUTE AND FILL WITH MEMBRANE COMPATIBLE CAULKING.
1.09 EXISTING FLEXURAL CRACKS. CONTRACTOR TO VERIFY CONDITION OF FILLER. IF FILLER IS COMPROMISED, REMOVE AND REPLACE.
1.15 PROVIDE TRAFFIC COATING ON STAIR AND LANDINGS.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 4

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO SCOTT STRICKLAND

AGENCY REVIEW SET 9/30/2021

Project No:	21028
Drawn By:	LE
Checked By:	BC
Date:	09 / 30 / 2021

Sheet No: A2.14

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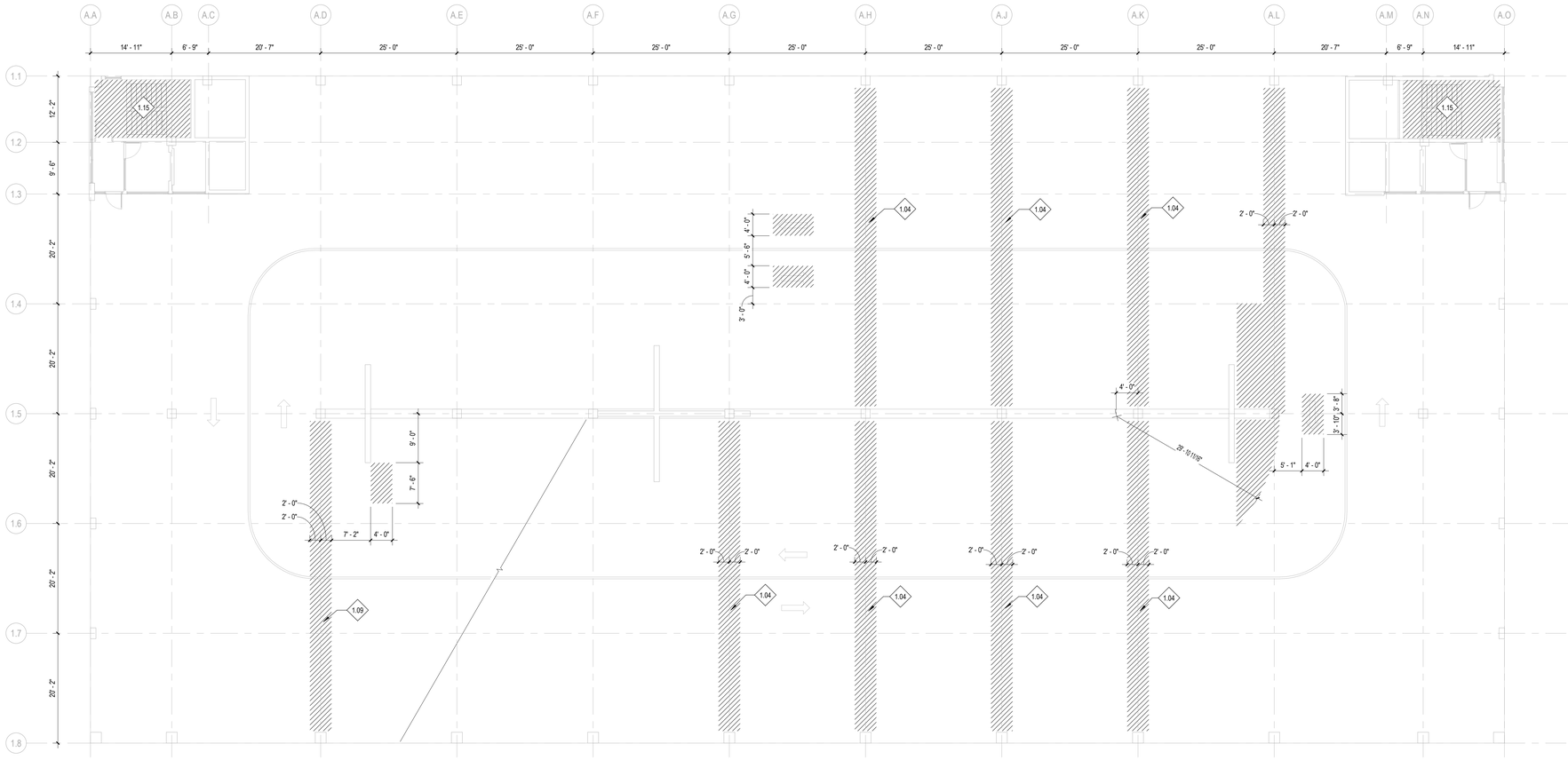

A1 / A2.15 **CAPITOL AND MAIN LEVEL 5**
1" = 10'-0"

NORTH

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
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F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

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LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 5

LICENSED PROFESSIONAL ARCHITECT AR-1635 2021.09.30 STATE OF IDAHO SCOTT STRICKLAND

AGENCY REVIEW SET 9/30/2021

Project No:	21028
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Date:	09 / 30 / 2021

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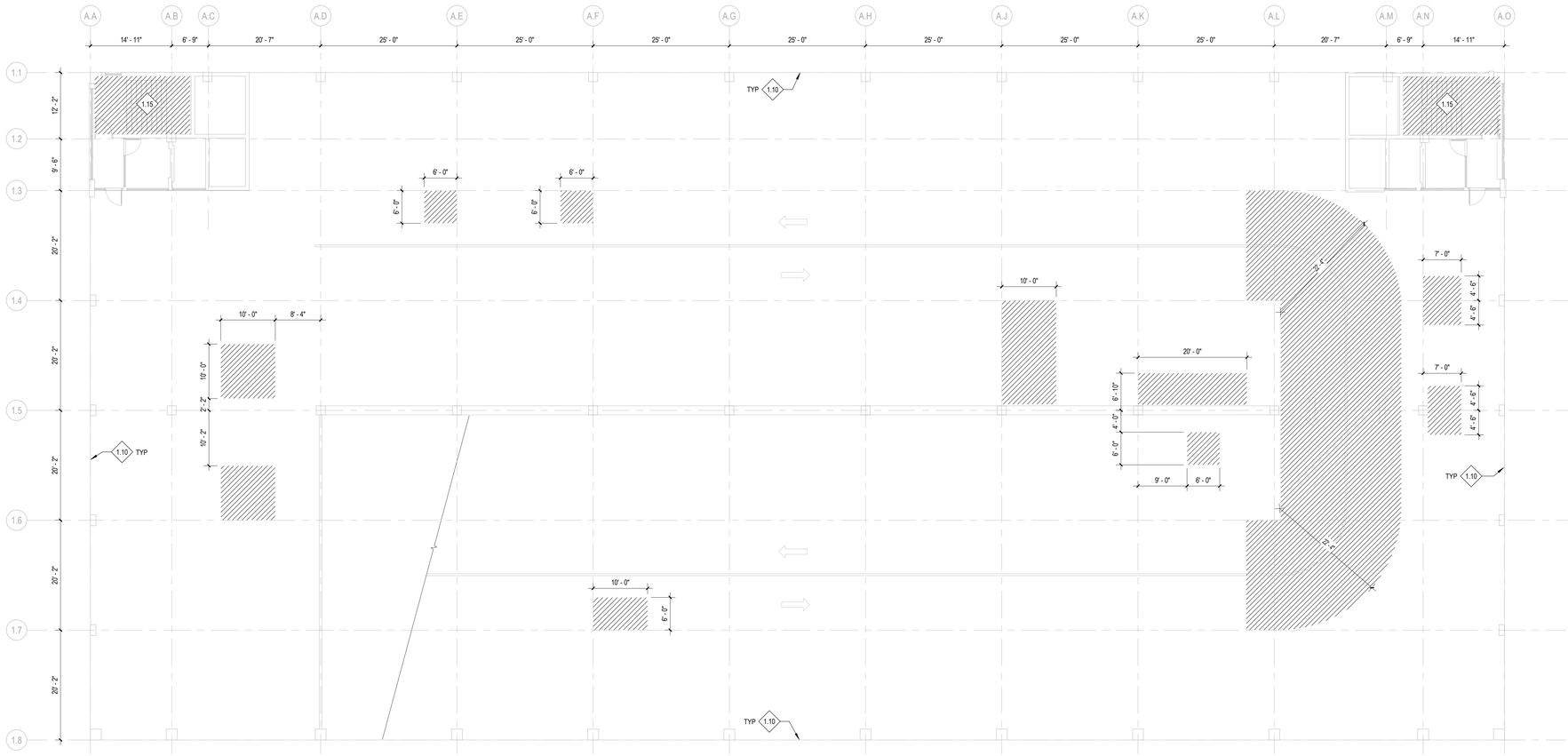

GENERAL NOTES

A. FIELD VERIFY ALL EXISTING CONDITIONS AND THEIR COMPATIBILITY WITH NEW CONSTRUCTION PRIOR TO THE COMMENCEMENT OF WORK. COORDINATE DISCREPANCIES WITH ARCHITECT.
B. DO NOT SCALE DRAWINGS.
C. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
D. REPAIR / MAINTAIN FILLER IN OLD FLEXURAL CRACKS.
E. REPAIR "COMPACT" TRAFFIC COATINGS.
F. REPAINT ANY TRAFFIC MARKINGS AFFECTED BY THIS SCOPE OF WORK. RE: 071800.

KEYNOTES

REFERENCE NOTES

1.10 CONTRACTOR TO REVIEW AND VERIFY ENTIRE PERIMETER OF TOP LEVEL FOR ANY COMPROMISED MEMBRANE AND COVE AREAS. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR NEW/REPAIR COATING.
1.15 PROVIDE TRAFFIC COATING ON STAIR AND LANDINGS.

LEGEND

AREA FOR NEW / REPAIR OF TRAFFIC COATING. CUT OUT ANY LOOSE, FLAKING OR FAILED MEMBRANE. PREP SUBSTRATE FOR MEMBRANE APPLICATION PER MANUFACTURER REQUIRTEMENTS. RE: SPECIFICATION 071800.

HUMMEL ARCHITECTS

Project:
PARKING GARAGE MEMBRANE REPLACEMENT/ MAINTENANCE

Sheet:
CAPITOL AND MAIN - LEVEL 6

AGENCY REVIEW SET 9/30/2021

LICENSED PROFESSIONAL ENGINEER AR-1635 2021.09.30 STATE OF IDAHO BRADLEY STRICKLAND

Project No:	21028
Drawn By:	LE
Checked By:	BC
Date:	09 / 30 / 2021

Sheet No:
A2.16

A1 / A2.16 CAPITOL AND MAIN LEVEL 6
1" = 10'-0"

NORTH

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EXHIBIT ‘A’

EXHIBIT A

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March 21, 2020

MATT EDMOND
CAPITAL CITY DEVELOPMENT CORP
121 N. 9TH STREET, STE. 501
BOISE, IDAHO 83702

Subject: **Non-Destructive Evaluation And Condition Assessment of Concrete Materials**
Project: **9th & Main Parking Garage 848 W. Main Street, Boise, ID**

Dear Mr. Edmond:

Veritas Material Consulting has completed our evaluation of the parking structure according to the agreed scope-of-work. All observations and field-testing data, laboratory analysis, findings, and recommendations are contained herein.

Background

The five-story parking garage was built in 1990 and includes 386 parking stalls. It was comprised of a gravity-frame column and post-tensioned (PT) beam construction with two-way PT decks. The level 5 ramp/deck down to the top of level 4 was coated with a traffic-rated waterproof membrane as was most of level 2. No membrane was present on levels 4, 3 and 1. The structure appeared to be in very good condition and exhibited only moderate visible damage is discreet locations.

Introduction and Purpose

Veritas Material Consulting was directed to evaluate the present condition of the concrete elements comprising the parking structure from a materials perspective. That is, this evaluation focused on degradation of the concrete elements from physical and chemical erosion, age-related deterioration, and similar damage. Minimally destructive and non-destructive techniques, including chemical and laboratory analysis, and field testing were used to evaluate the concrete elements. A structural analysis of the building was beyond the scope of our evaluation. The purpose of our work was to locate and rank damaged areas and assess the overall health of the concrete elements. Our activities included the following:

- Visual inspection of concrete in accordance with ACI 201.1R[1] and acoustic sounding using ASTM D4580.[2]
- Cover thickness analysis using Ground Penetrating Radar (GPR) in accordance with CSDA BP-007.[3]
- Core sampling and chloride profile analysis in accordance with ASTM C1152.[4]
- Core sampling and Petrographic Analysis in accordance with ASTM C856.[5]
- Condition assessment of the waterproof membrane using visual and field methods.

[1] ACI 201.1R, Guide for Conducting a Visual inspection of Concrete in Service, American Concrete Institute, Farmington Hills, MI 48331, 2008.
[2] ASTM D4580-12(2018), Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding, ASTM International, West Conshohocken, PA, 19428, 2018.
[3] CSDA-BP-007, Best Practice: Ground Penetrating Radar for Concrete Scanning, Concrete Sawing & Drilling Association, St. Petersburg, FL 33701, 2014.
[4] ASTM C1152-04(2012)e1, Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete, 2009.
[5] ASTM C856-18a, Standard Practice for Petrographic Examination of Hardened Concrete, 2018.

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- Membrane adhesion testing by the Pull-Off method in accordance with ASTM CD4541.[6]
- In-situ relative strength testing using the Rebound Hammer method in accordance with ASTM C805.[7]

Methodology

There were very few examples of visible damage to the concrete. In order to evaluate the presence of incipient surface damage, acoustic sounding was performed. Acoustic sounding by chain drag and other methods is a commonly used technique to detect delaminations in the concrete that are shallow to moderately deep. Sounding was performed primarily on surfaces exposed to weather and aggressive chemicals, such as deicing compounds. The tops of the accessible columns on level 5 were sounded using a geologist's pick. The entire membrane coated level 5 ramp and deck as well as the drive lanes of decks 1 through 4 and the level 1 ramps were sounded using chain drag. The undersides of the beams supporting level 5 were sounded using a sprocket sounder.

Ground Penetrating Radar (GPR) was used to survey a variety of structural elements throughout the garage to determine the thickness of concrete cover protecting the steel reinforcing. Roughly 80 locations were surveyed to represent concrete cover. The locations included decks, shear walls, and columns. These data were used in combination with chloride contamination data derived from concrete core samples to predict corrosion

The GPR equipment consisted of a GSSI Mini XT GPR system equipped with a 2.7 GHz antenna, which can locate and image rebar and other targets in concrete. GPR data is accurate to within roughly ¼-inch for a 2.7 GHz system. Default system parameters for data acquisition were as follows: 250 scans/sec., 10 scans/inch, 512 samples/scan, 32 bits/sample, the dielectric value was measured using the migration method and found to vary slightly throughout the structure. The GPR data was processed using RADAN 7 to remove signal noise and determine the dielectric value of the concrete. Examples of images are provided in the GPR Appendix.

Field work included core sampling to determine the extent of chloride contamination in the concrete. 2-inch diameter core samples roughly 3-inches in length were collected from six locations. Sampling was limited to the portions of the decks that receive severe exposure to chloride-rich deicing solutions including the coated portion of the level 4 deck. The cores were sliced into 1-inch intervals. The samples were submitted to A&S Laboratories of Odessa, Florida for acid-soluble chloride analysis. This process is known as chloride profiling and was used to predict the potential for rebar corrosion and provides a method to estimate chloride content at any depth.

One 3-inch diameter core was collected from an uncoated, severe weather exposure location for petrographic analysis. This method looks at the microscopic properties of the concrete to detect reactive aggregates, chemical attack and incipient physical failure mechanisms. The sample was submitted to Mineralogy of Tulsa, Oklahoma a qualified petrographic laboratory.

The condition of the traffic membrane coating the ramps and the level 5 deck were evaluated by performing a visual inspection for defects and deterioration. The adhesion of the level 5 membrane was also evaluated by performing pull-off adhesion tests using an Elcometer 506 Adhesion Tester. All core and pull-off bond tests

[6] ASTM D4541-17, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers, ASTM International, 2017.

[7] ASTM C805 / C805M-18, Standard Test Method for Rebound Number of Hardened Concrete, ASTM International, 2018.

were repaired by patching with rapid-set, high-strength concrete.

Overall relative strength of concrete was evaluated using a Schmidt Type N Rebound Hammer. This method is semi-quantitative and non-destructive and does not determine compressive strength, rather it is used to efficiently identify areas having weak concrete when compared to the mean of the test population. A total of 50 areas were tested using this method. Prior to testing, each area was surveyed with GPR to identify the location of embedded rebar or other objects that might influence the test results. Strength testing was performed on the midline shear walls and the columns exposed to weather on level 5 and various other columns throughout the structure. The shear walls were considered the baseline for evaluation of the overall condition of the exposed columns.

Findings

The damage condition criteria used is described below. The Damage Condition Inventory was conducted to create a baseline for monitoring and to prioritize repairs.

Table 1. Tiered repair prioritization based on Condition Asssessment.

RATING	PRIORITIZATION
Tier 1	Repair within the next 2 years
Tier 2	Repair within 3-5 years
Tier 3	Continue to monitor. Repair when the condition becomes Tier 2.

Acoustic sounding identified two very small delaminations on the level 2 through level 4 decks. The level 1 ramp from Idaho Street exhibited multiple areas of light surface scaling.

Results of the GPR survey showed areas of cover thickness as little as 2.2-inches on the uncoated L1 Ramps. In the rest of the garage the rebar in the decks was shallowest over the beams. The rebar stirrups had roughly 1.4-inches of cover. Throughout the rest of the deck the cover thickness over the shallowest rebar was typically 1.5 to 3.8-inches. For the most part, this appears to be sufficient cover to protect the majority of the rebar. However, flexural cracks adjacent to the beams provide direct pathways for chloride to reach the rebar in greater concentrations. Where these cracks intersect the shallow stirrups, corrosion initiation can occur. Details are included in the GPR appendix.

When dissolved chlorides contact unprotected steel reinforcement embedded in the concrete, corrosion of the steel can occur. At present, there is no clear consensus on the Corrosion Threshold Value (CTV) of chloride concentration needed to initiate corrosion. Experiments produce a variety of CTV depending on the porosity of the cement, humidity, temperature, and chemistry of the chloride solutions, among other factors. Code-related documents such as ACI 318 and ACI 222.R-01 only address the allowable chloride content in fresh concrete, which is not relevant. For the purposes of this study, the CTV published in the industry's most relevant repair document was used. This value is 0.035 percent acid-soluble chloride by weight of concrete.[8]

The chloride were was used to create chloride penetration profiles for each location sampled, which are presented in Table 2 below. Depth of chloride contamination is necessary to estimate the health of the overall structure and the effectiveness of the traffic coating. The ingress of chloride is assumed to decrease exponentially in accordance with Fick's laws of diffusion. The profiles should be considered approximations of

[8] PTI DC80.3-12/ICRI 320.6, Guide for Evaluation and Repair of Unbonded Post-Tensioned Concrete Structures, Post-Tensioning Institute, Farmington Hills, MI 48331, International Concrete Repair Institute, St. Paul, MN 55114, p. 23, 2012.

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chloride diffusion behavior. There are many factors contributing to diffusion including chloride concentration at the surface, chloride chemistry, concrete surface condition, concrete porosity and chemistry, admixtures, moisture and oxygen content in pore solutions, electrical potential of the rebar, and others.

Table 2. Acid-Soluble Chloride analysis results reported in percent mass of concrete.

ID	LOCATION	INTERVAL	% CHLORIDE CONTENT (mass concrete)
C1-a	L4 Deck	0-1 inch	0.0700
C1-b		1-2 inch	0.0100
C1-c		2-3 inch	0.0050
C2-a	L4 Top Deck Bare	0-1 inch	0.0150
C2-b		1-2 inch	0.0020
C2-c		2-3 inch	0.0030
C3-a	L4 Top Deck Coated	0-1 inch	0.0050
C3-b		1-2 inch	0.0120
C3-c		2-3 inch	0.0040
C4-a	L4 Deck 1st Crack	0-1 inch	0.0450
C4-b		1-2 inch	0.0030
C4-c		2-3 inch	0.0005
C5-a	L4 Ramp Flex Crack	0-1 inch	0.0800
C5-b		1-2 inch	0.0500
C5-c		2-3 inch	0.0370
C6-a	L1 Ramp Crack at Bottom	0-1 inch	0.1200
C6-b		2-3 inch	0.0800
C6-c		0-1 inch	0.1000

Figure 1. Chloride profile of the uncoated level 4 deck in the southeast corner. This sample represents pedestrian areas that receive broadcast deicers. The data show a diffusion curve typical of mass intrusion of chlorides into the concrete porosity. The shallow reinforcing was roughly 1.6 to 2.9-inches deep at this location. No evidence of corrosion-related cracking of the deck was observed at this location. Based on chloride intrusion, there is a moderate potential for corrosion to begin in the short term.

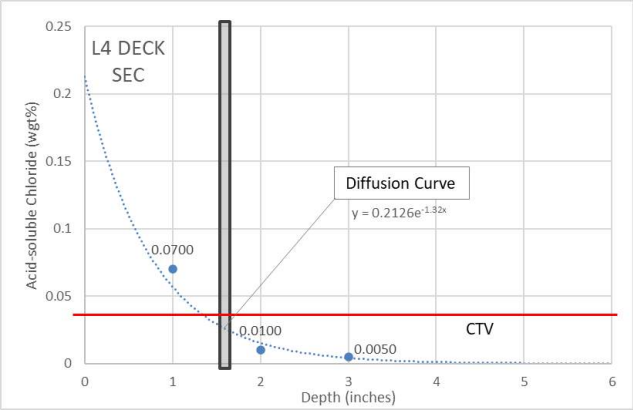

Figure 2. Chloride profile of the level 4 deck just past the traffic coating. The uncoated concrete had no evidence of cracking or spalling. The shallow reinforcing was about 2.1-inches deep at this location. Based on chloride intrusion; the potential for corrosion of the reinforcing is low.

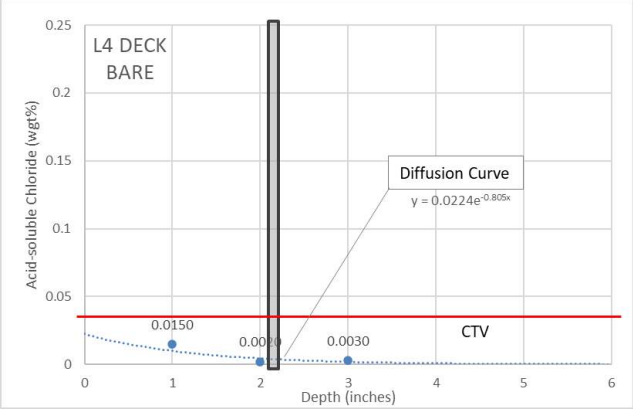

Figure 3. Chloride profile of the coated level 4 deck adjacent to the sample above. The results show essentially no chloride intrusion.

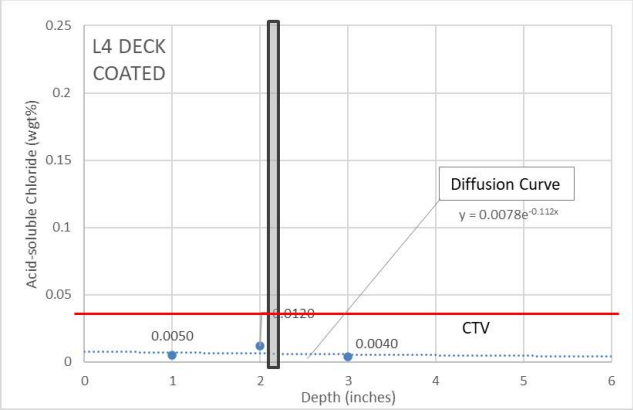

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Figure 4. Chloride profile at the first crack past the traffic coating on Level 4. The shallow reinforcing directly over the beam is only 0.6-inches deep at this location; deeper rebar is at about 4-inches. The crack provides a pathway for chlorides to the shallow rebar. Based on the chloride data, the potential for corrosion is high.

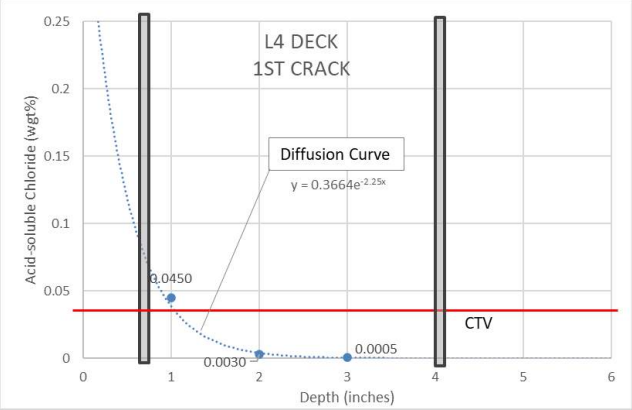


Figure 5. Chloride profile at the first flexural crack over a beam on level 4. The shallow reinforcing directly over the beam is 1.8-inches deep at this location. The crack provides a pathway for chlorides to the shallow rebar. Based on the chloride data, the potential for corrosion is high.

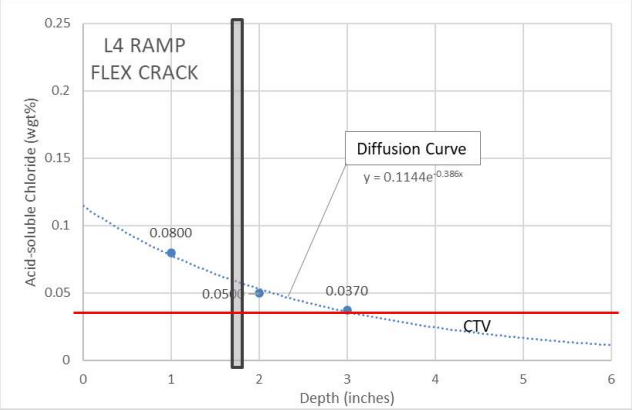
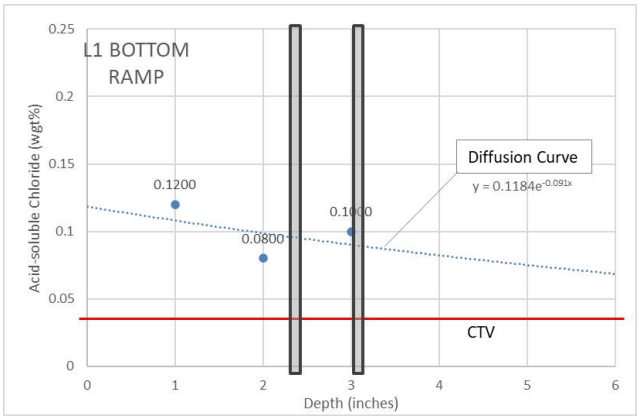


Figure 6. Chloride profile of the bottom of the level 1 ramp from Main Street. The shallowest rebar is at about 2.2-inches deep while the majority of the rebar is below 3-inches. The ramp receives a high exposure to chlorides, which have diffused deeply into the concrete. Based on the chloride data, the potential for corrosion is high.



Deicer solutions penetrate the concrete through diffusion. The results show that chloride penetration by diffusion is generally low throughout the structure, except at the ramps. Where cracks are present, the chloride intrusion is much more rapid. Cracks provide a direct pathway for chloride solutions to reach shallow reinforcing. This is documented in two instances at flexural cracks over beams. These cracks should be repaired by rout-and-fill at the earliest opportunity. The traffic coating is observed to be effective at preventing chloride penetration into the concrete. The ramps leading into the structure are not coated and receive high concentrations of chlorides. Analysis shows that the rebar in these ramps is highly susceptible to corrosion at present. The ramps should be coated with traffic membranes at the earliest opportunity.

The other common cause of rebar corrosion in concrete is carbonation. Carbonation is the natural alteration of calcium-silica-hydrate (CSH) cement to calcium carbonate ($CaCO_3$) by exposure to atmospheric carbon dioxide. All concretes carbonate upon exposure to the air. Corrosion of steel can occur when carbonation reaches the level of the rebar. Phenolphthalein staining of one core found carbonation to 2.5 mm deep. This level of carbonation is not deep enough to compromise the rebar.

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Petrographic analysis of one core sample was completed to determine the overall concrete health. The sample was collected from a parking stall along the south edge of the L4 deck, which represented a fairly severe weather exposure for this building. This exposure receives snow and rain and freezing temperatures in winter. It also receives moderate amounts of deicers transported by vehicles from the lower portions of the building. The concrete was found to be generally healthy with a 0.55 water/cement ratio, entrained air system, well-hydrated cement, and light carbonation (2.5 mm). The concrete exhibited evidence of trace ASR corrosion related to reactive aggregate particles. At present, no ASR related failure is apparent in the structure. Maintaining the waterproof coatings will continue to prevent ASR related weathering.

The adhesion of the traffic coating membrane to the level 5 deck was evaluated by the pull-off adhesion test method at seven locations. Testing consisted of cleaning the membrane with solvent and adhering an aluminum test dolly using a high-strength epoxy. The membrane around the test dolly was cut so that only bond strength and not shear strength of the membrane was being tested. The test results are summarized below.

Table 3. Results of ASTM D4541 Pull-Off Bond (Adhesion) testing.

ID	SIZE	PRESSURE	BOND FAILURE
B1	20 mm	24 psi	Dolly
B2	20 mm	268 psi	Dolly
B3	20 mm	Damaged	
B4	20 mm	277 psi	Dolly
B5	20 mm	320 psi	Dolly
B6	20 mm	Damaged	
B7	20 mm	171 psi	Dolly

After 24 hours at less than 45° F the epoxy adhesive was found to have not cured properly. All of the bond tests were re-set during a time of better weather conditions. Two of the tests were disturbed by vehicle traffic, in spite of having been marked by orange cones. The test results indicate that the level 5 membrane is strongly bonded to the substrate throughout the deck, except at the delaminations noted in Table 4.

A condition assessment of the waterproof traffic coatings throughout the garage was performed using visual inspection and mechanical probing by a qualified waterproofing professional. Deterioration and defects of the membrane were classified by type. Any defect or damage to the coating that exposes the concrete deck to chloride solutions should be repaired to continue to adequately protect the reinforced concrete decks. The photo appendix provides additional details.

Table 4. Observed membrane deterioration conditions.

TYPE	DESCRIPTION	QUANTITY
1	Normal traffic wear in turn lanes	10
2	Mechanical tears and impact abrasions	9
3	Full-thickness burnouts	9
4	Partial thickness burnouts	24
5	Mechanical damage at high spots and ridges	5
6	Improper termination of coating	3
7	Saw-cuts in level 5 traffic coating	many
8	Minor deterioration of coating on stair tread	1

The columns exposed to weather on level 5 exhibited minor cracking and staining but were otherwise in good condition. Cracking appears related to carbonation and drying shrinkage. No evidence of corrosion cracking or spalls was observed. In-situ strength was measured as part of the condition assessment.

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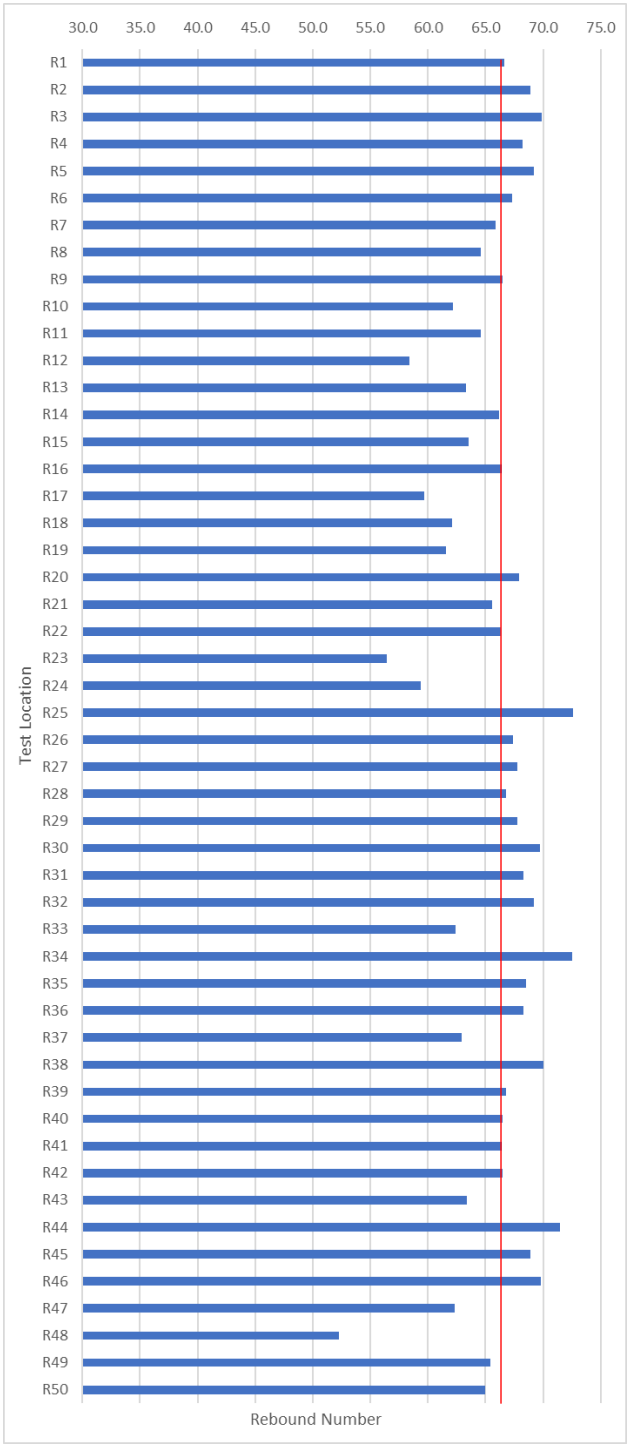
Table 6. Results of ASTM C805 testing.

ID	REBOUND NUMBER	ID	REBOUND NUMBER
R1	66.6	R27	67.8
R2	68.9	R28	66.8
R3	69.9	R29	67.8
R4	68.2	R30	69.7
R5	69.2	R31	68.3
R6	67.3	R32	69.2
R7	65.9	R33	62.4
R8	64.6	R34	72.5
R9	66.5	R35	68.5
R10	62.2	R36	68.3
R11	64.6	R37	62.9
R12	58.4	R38	70.0
R13	63.3	R39	66.8
R14	66.2	R40	66.5
R15	63.5	R41	66.4
R16	66.4	R42	66.5
R18	59.7	R43	63.4
R19	62.1	R44	71.5
R20	61.6	R45	68.9
R21	67.9	R46	69.8
R22	65.6	R47	62.3
R23	56.4	R48	52.3
R24	59.4	R49	65.4
R25	72.6	R50	65.0
R26	67.4		

The average (arithmetic mean) rebound number value was 65.8. Variance from the mean of the overall test population was less than 15 percent (minimum = 14.3%; maximum = 10.3%). Test location R48 was a painted column. The thick paint was significantly softer than the underlying concrete, which effected the rebound value. This test did not represent the hardness of the concrete in the structure.

Figure 7. Bar chart showing the ASTM C805 In-situ Relative Strength test results. The red line is the mean strength value.



A number of elements, particularly columns and beams, exhibited minor cracking. Much of this is the result of drying shrinkage, surface crazing and other minor defects that do not indicate structural damage or weathering. These included cracks in the deck underside that exude efflorescence that, at this time, do not indicate significant damage. Also included are cracks from physical impacts, which have not resulted in spalling or other failure of the concrete.

Also present were several areas of column-to-beam connections that exhibit cracking consistent with *Restrained Volume Change*.[9] This occurs in post-tensioned structures where the supporting elements are unable to deflect or creep in response to length changes of the tensioned members. It is most common in short columns or columns with connecting members tensioned in opposite directions. The cracks were superficial (<0.035-inch) and no other damage was observed. Numerous examples are shown in the Photo Appendix.

Discussion of Findings

- ***Chloride Contamination of Decks***: Chloride solutions appear to be effectively prevented from penetrating the membrane coated decks. The Level 1 ramps are not coated and are susceptible to corrosion from the elevated chloride concentrations. The shallow rebar at these locations is currently exposed to chlorides in excess of the CTV.

- ***Delamination of Traffic Coating***: 15 locations totaling less than 20 ft^2 of the level 5 deck traffic coating were worn, torn, or disbonded. These should be repaired by removing the damaged section and re-coating with a compatible coating product. Though unlikely, a few delaminations may include spalls of the underlying concrete deck. The membrane must be inspected when the membrane is cut away for repair.

- ***Coating Deterioration***: In general, the traffic coatings were exhibiting evidence of normal wear-and-tear. Roughly 12 locations at the hairpin turns were showing significant wear on level 2 and level 4.

- ***New Flexural Cracks***: Recent cracks have developed in the deck over the beams. These appear as individual cracks or swarms at roughly 20 locations as shown on the plans. Cracks that are 1.0 mm or wider should be filled using a rout-and-fill method with a flexible product having a moderate elastic modulus such as polyurea.

- ***Damaged Level 5 bollards****:* Two of the bollards at the level 5 gates have been damaged by impacts. The bolts securing the bollards appear to be of insufficient length to transfer impact stresses into the concrete. The concrete has spalled around the base and compromised the traffic coating.

- ***PT Anchorage Zones***: The stressing (live) ends of the PT tendons were visible as circular mortar plugs in the edges of the concrete decks. None of these mortar plugs were observed to be loose or otherwise damaged. The stressing ends for the beams were on the building exterior and were not visible for inspection**.**

- ***CMU Wall Caps***: Several of the masonry caps covering the top of the block wall at level 5 have become loose. Loose caps can be removed, cleaned, and re-attached using an appropriate Type N mortar mix.

[9] Emmons, Peter H., Emmons Concrete Repair and Maintenance Illustrated, R.S. Means Company, December 1992, 314 pps.

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Recommendations for Repair

Areas with Tier 1 Damage should be repaired within the next 2 years to avoid significant additional damage, such as corrosion of rebar, to occur.

TIER 1 DAMAGE
Damage to traffic coatings on level 5. Cut out failed membrane, re-surface concrete substrate, re-apply compatible coating product.

TIER 1 DAMAGE
New flexural cracks in deck over beams. Repair using a Rout-and-Fill method.

TIER 1 DAMAGE
Damaged bollards. The bollards should be removed and the deck repaired and re-coated. Corrosion-resistant, full depth (through-bolt) anchors should be used to re-attach the bollards.

Areas with Tier 2 Damage should be monitored and re-assessed at least every 2 years. Once the damage reaches Tier 1 status it should be repaired.

TIER 2 DAMAGE
Apply waterproof traffic membrane to ramps from Main and Idaho Streets. Scaled mortar on Idaho Street ramp must be removed prior to coating application.

TIER 2 DAMAGE
Worn traffic coating on hairpin turns at levels 2 and 4. Remove loose and flaking coating. Clean and prepare area; apply compatible coating material.

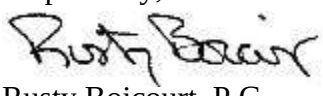
The following technical guidance documents are recommended for the design of any repair procedures and specifications.

ACI RAP Bulletin 7, Field Guide to Concrete Repair Application Procedures, Spall Repair of Horizontal Concrete Surfaces, American Concrete Institute.

ICRI No. 320.1R-1996 Guide for Selecting Application Methods for the Repair of Concrete Surfaces, International Concrete Repair Institute.

No material samples were retained during this evaluation. Photographs as well as NDT data are retained electronically on Veritas Material's server for ten years. Veritas Material Consulting appreciates this opportunity to be of service and looks forward to a continuing relationship as your forensic materials expert. If you have any questions concerning this report, please contact us at (208) 870-9728.

Prepared by,



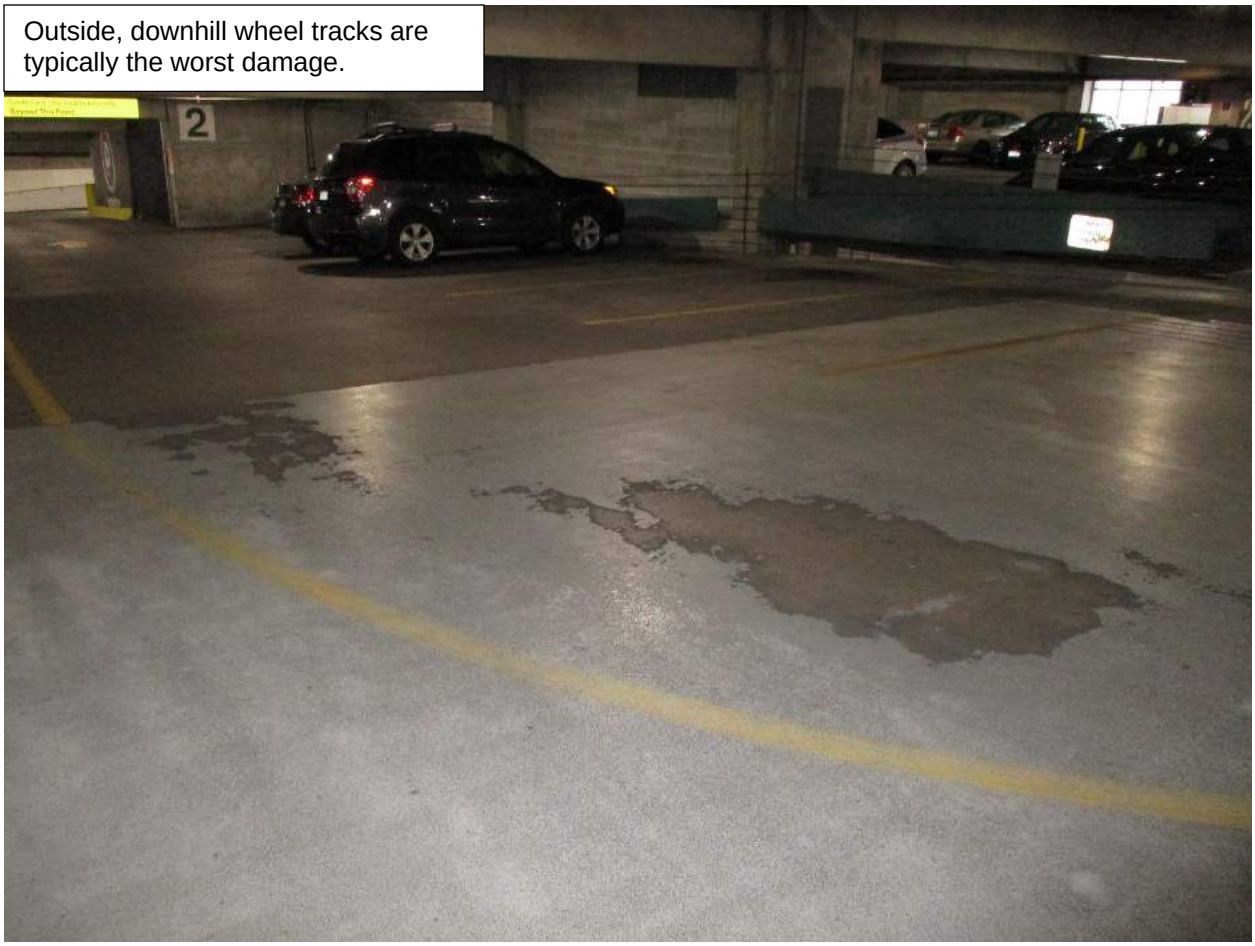
Rusty Boicourt, P.G.
Senior Scientist
Veritas Material Consulting

Attachments: *Condition Summary*
Parking Deck Floor Plans
Photo Appendix
GPR Appendix
Petrography Report
ASC Analysis Results

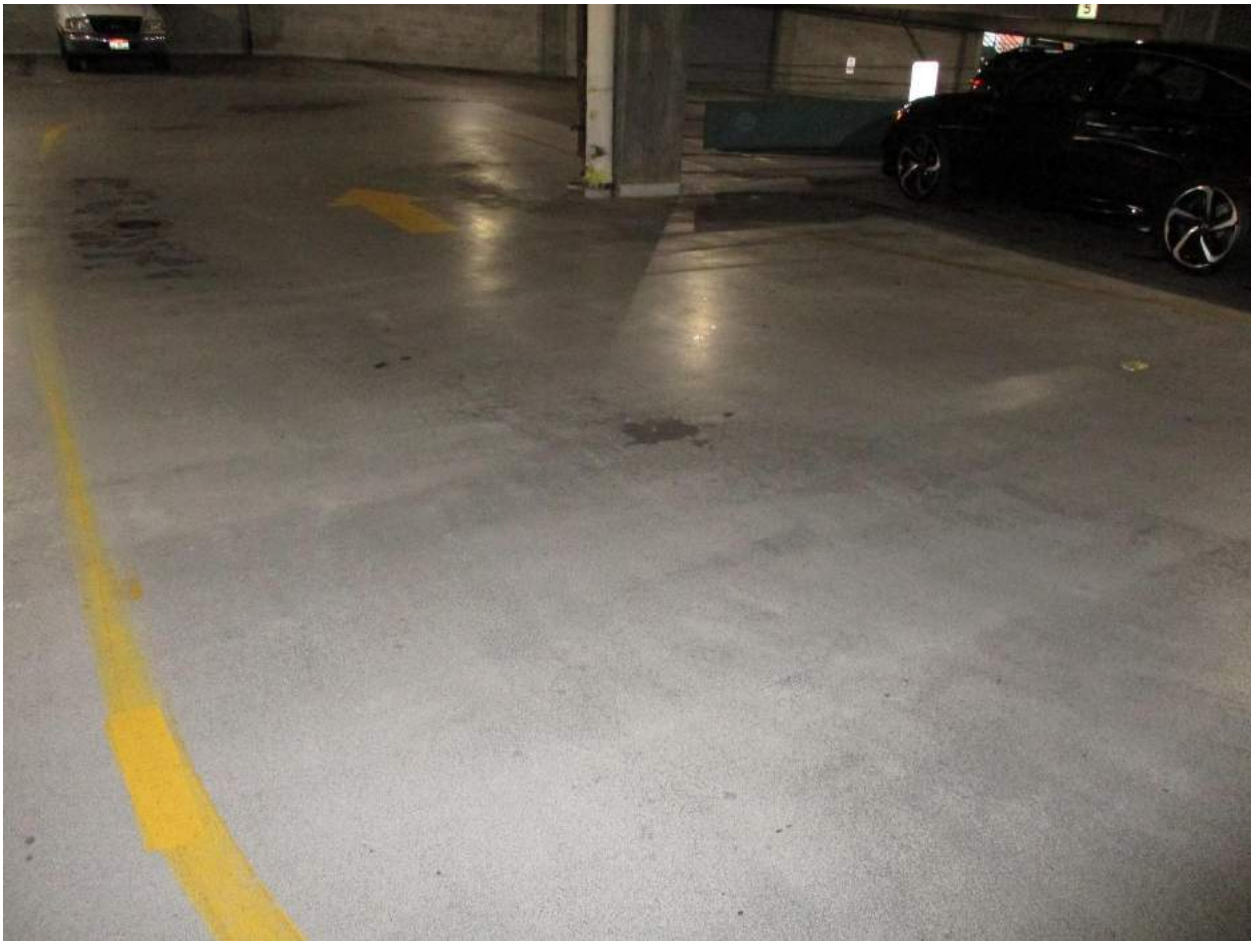
PRIORITY	DESCRIPTION	LOCATION	RECOMMENDATION
Tier 1	Repair delaminations in traffic membrane	Approximately 15 locations throughout level 5.	Cut out failed membrane, repair any damage to concrete substrate, re-surface concrete substrate, re-apply compatible coating product.
Tier 1	Fill new flexural cracks in deck	Approximately 20 locations on levels 2 through 4.	Typical rout-and-fill with an appropriate polyurea.
Tier 1	Repair damaged bollards	Level 5 near entrance to Zions Bank.	Remove bollards and patch damaged concrete in accordance with ACI RAP Bulletin 7. Re-attach bollards with through-bolts.
Tier 2	Install traffic coating on ramps	Level 1 entrance from Idaho Street. Level 1 entrance from Main Street. Level 2 exit to 9th and Idaho Streets.	Obtain bid from qualified waterproofing contractor to repair damage as indicated in report.
Tier 2	Repair worn traffic membrane at hairpin turns	Approximately 12 locations on level 2 and level 4.	Cut out loose and flaking membrane, re-surface concrete substrate, re-apply compatible coating product.

Image showing typical turn-lane wear of the traffic coating on level 2.

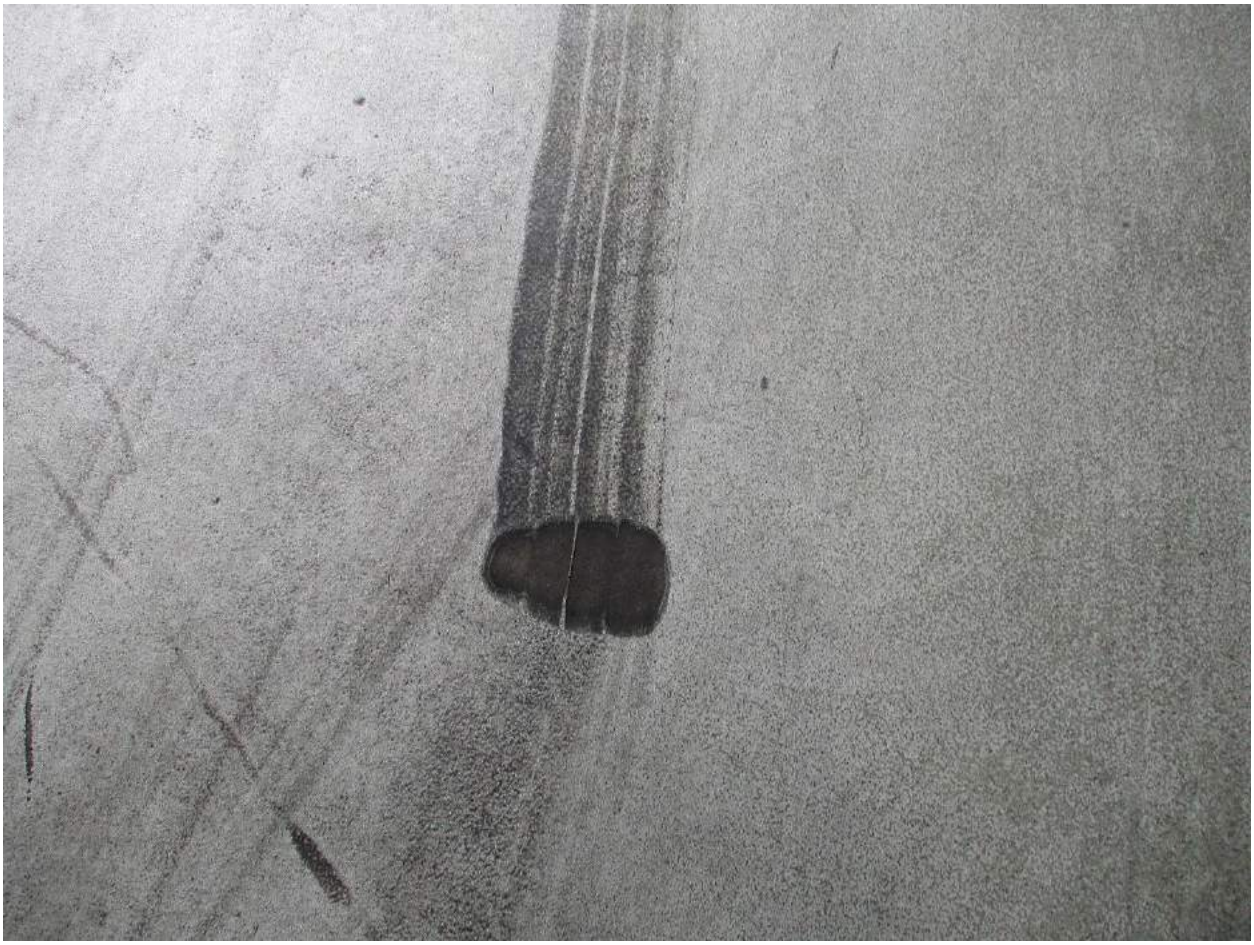
Outside, downhill wheel tracks are typically the worst damage.



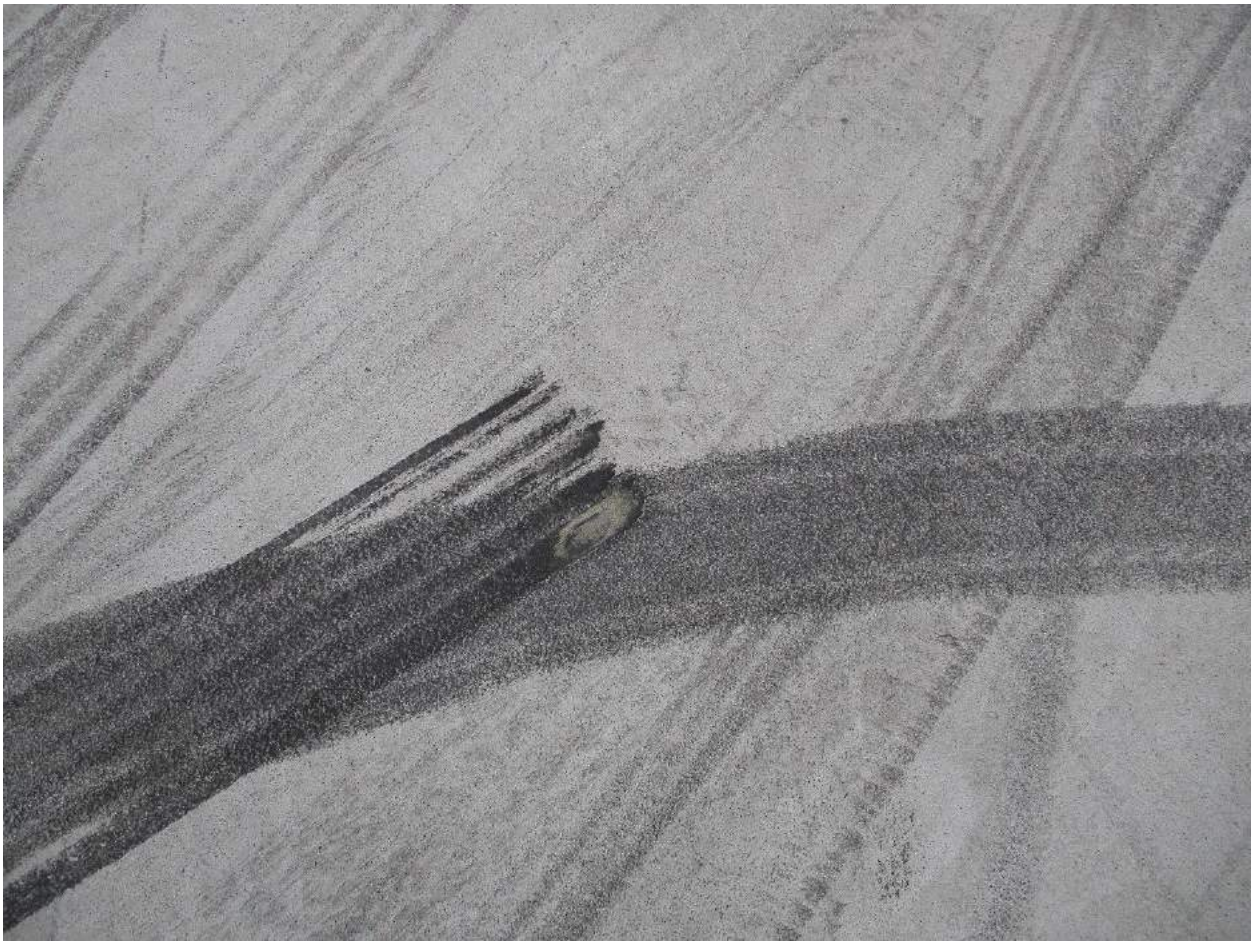

5
2



Full-thickness burnouts on the traffic coating.



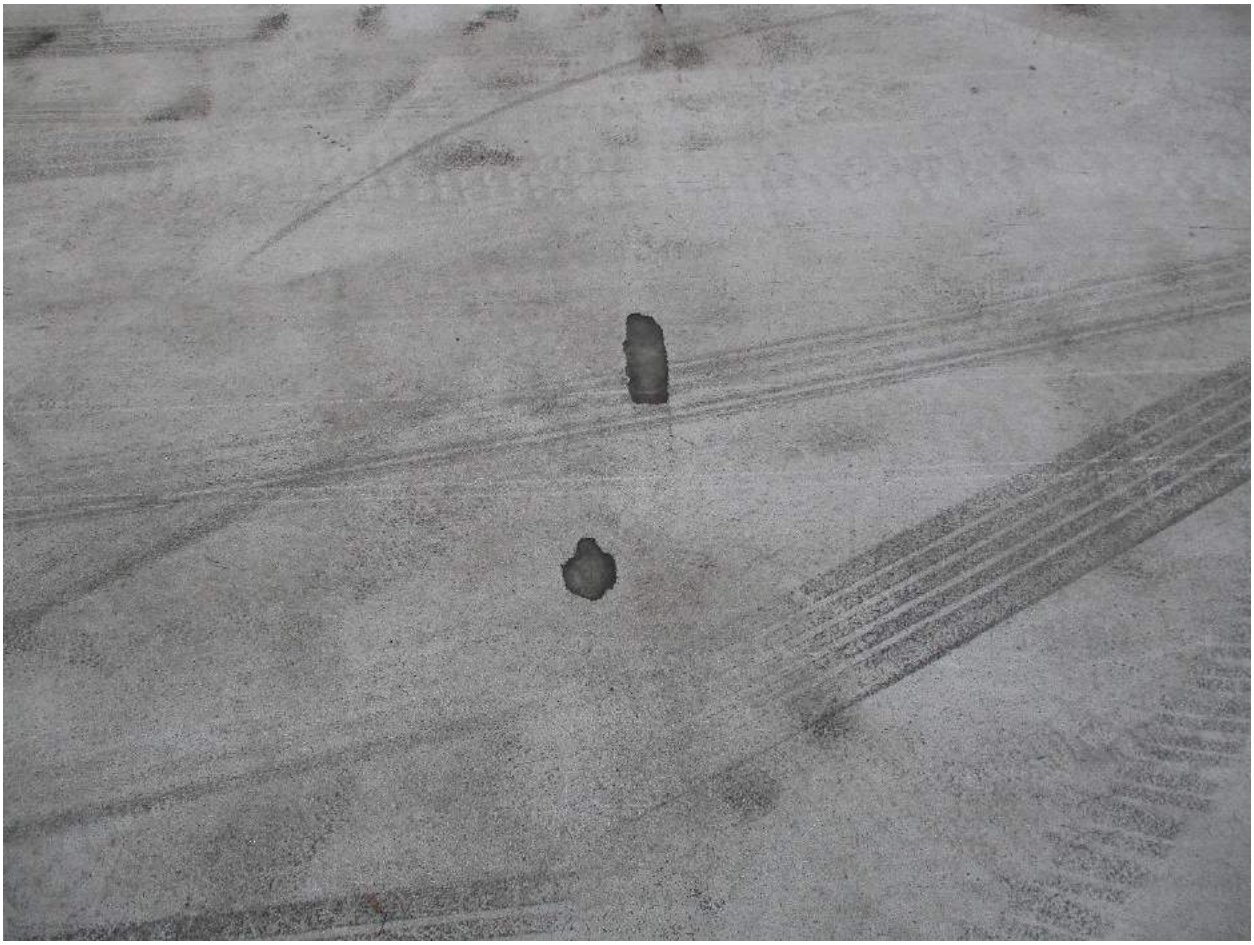
Partial thickness burnouts on the traffic coating.



Mechanical tear in the traffic coating on level 5.

Traffic wear on the level 5 traffic coating.

Wear and mechanical tears in the level 5 traffic coating.



Mechanical wear on high spots and ridges on level 5.

Peculiar full-thickness wear at SW elevator lobby.

Threshold plate removed at L5 elevator lobby.

Level 5 traffic coating should extend beneath the joint plate.

Saw-cuts were observed in level 5 traffic coating on east side.

Additional saw-cuts in level 5 traffic coating on east side.

Traffic coating should extend beneath threshold plate.

EXHIBIT ‘B’

EXHIBIT B

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January 21, 2020

MATT EDMOND
CAPITAL CITY DEVELOPMENT CORP
121 N. 9TH STREET, STE. 501
BOISE, IDAHO 83702

Subject: **Non-Destructive Evaluation And Condition Assessment of Concrete Materials**
Project: **Capitol & Main Parking Garage 770 W. Main Street, Boise, ID**

Dear Mr. Edmond:

Veritas Material Consulting has concluded our evaluation of the parking structure according to the agreed scope-of-work. All observations and field-testing data, laboratory analysis, findings, and recommendations are contained herein.

Background

The six-story parking garage was built in 1989 and includes 495 parking stalls. It is comprised of a gravity-frame column and post-tension (PT) beam construction with one-way PT decks. The level 3 ramp/deck and level 6 ramp/deck were coated with a traffic-rated waterproof membrane. The rest of the decks are bare concrete, including the level 1 entry ramps from Main and Idaho Streets. The structure appears to be in very good condition and exhibits only minor visibly apparent damage.

Introduction and Purpose

Veritas Material Consulting was directed to evaluate the present condition of the concrete elements comprising the parking structure from a materials perspective. That is, this evaluation focusses on degradation of concrete from physical and chemical erosion, age-related deterioration and similar damage. Non-destructive and minimally destructive evaluation techniques, including chemical and laboratory analysis was used to evaluate the concrete elements. A comprehensive structural analysis of the building was beyond the scope of our evaluation. The purpose of our work was to locate and rank damaged areas and assess the overall health of the concrete elements. Our activities included the following:

- Visual inspection of concrete in accordance with ACI 201.1R[1] and acoustic sounding using ASTM D4580.[2]
- Cover thickness analysis using Ground Penetrating Radar (GPR) in accordance with CSDA BP-007.[3]
- Core sampling and chloride profile analysis in accordance with ASTM C1152.[4]
- Core sampling and Petrographic Analysis in accordance with ASTM C856.[5]
- Condition assessment of the waterproof membrane using visual and field methods.

[1] ACI 201.1R, Guide for Conducting a Visual inspection of Concrete in Service, American Concrete Institute, Farmington Hills, MI 48331, 2008.
[2] ASTM D4580-12(2018), Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding, ASTM International, West Conshohocken, PA, 19428, 2018.
[3] CSDA-BP-007, Best Practice: Ground Penetrating Radar for Concrete Scanning, Concrete Sawing & Drilling Association, St. Petersburg, FL 33701, 2014.
[4] ASTM C1152-04(2012)e1, Standard Test Method for Acid-Soluble Chloride in Mortar and Concrete, 2009.
[5] ASTM C856-18a, Standard Practice for Petrographic Examination of Hardened Concrete, 2018.

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- Membrane adhesion testing by the Pull-Off method in accordance with ASTM CD4541.[6]
- In-situ relative strength testing using the Rebound Hammer method in accordance with ASTM C805.[7]

Methodology

There were very few examples of visible damage to the concrete. In order to evaluate the presence of incipient surface damage, acoustic sounding was performed. Acoustic sounding by chain drag and other methods is a commonly-used technique to detect delaminations in the concrete that are shallow to moderately deep. Sounding was performed primarily on surfaces exposed to weather and aggressive chemicals, such as deicing compounds. The tops of the accessible columns on level 6 were sounded using a geologist's pick. The entire membrane coated level 6 ramp and deck as well as the drive lanes of decks 2 through 5 were sounded using chain drag. The undersides of the beams supporting level 6 were sounded using a sprocket sounder.

Ground Penetrating Radar (GPR) was used to survey a variety of structural elements throughout the garage to determine the thickness of concrete cover protecting the steel reinforcing. Roughly 45 locations were surveyed to represent concrete cover. The locations included decks, shear walls, and columns. This data becomes important when combined with chloride contamination present in much of the concrete.

The GPR equipment consisted of a GSSI Mini XT GPR system equipped with a 2.7 GHz antenna, which can locate and image rebar and other targets in concrete. GPR data is accurate to within roughly ¼-inch for a 2.7 GHz system. Default system parameters for data acquisition were as follows: 250 scans/sec., 10 scans/inch, 512 samples/scan, 32 bits/sample, the dielectric value was measured as 8.0 using the migration method. The GPR data was processed using RADAN 7 to remove signal noise and determine the dielectric value of the concrete. The processed images are provided in the appendix.

Field work included core sampling to determine the extent of chloride contamination in the concrete. 2-inch diameter core samples roughly 3-inches in length were collected from seven locations. Sampling was limited to the portions of the decks that receive severe exposure to chloride-rich deicing solutions including the coated level 6 deck. The cores were sliced into 1-inch intervals. The samples were submitted to A&S Laboratories of Odessa, Florida for acid-soluble chloride analysis. This process is known as chloride profiling and is used to predict the potential for rebar corrosion and provides a method to estimate chloride content at any depth.

One 3-inch diameter core was collected from an uncoated, severe weather exposure location for petrographic analysis. This method looks at the microscopic properties of the concrete to detect reactive aggregates, chemical attack and incipient physical failure mechanisms. The sample was submitted to Mineralogy of Tulsa, Oklahoma a qualified petrographic laboratory.

The condition of the traffic membranes coating the level 3 and 6 ramps and decks were evaluated by performing a visual inspection for defects and deterioration. The adhesion of the level 6 membrane was also evaluated by performing pull tests using an Elcometer 106 Adhesion Tester.

Overall relative strength of concrete was evaluated using the Rebound Hammer method. This method is semi-quantitative and non-destructive and does not determine compressive

[6] ASTM D4541-17, Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers, ASTM International, West Conshohocken, PA, 2017.

[7] ASTM C805 / C805M-18, Standard Test Method for Rebound Number of Hardened Concrete, ASTM International, West Conshohocken, PA, 2018.

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strength, rather it is used to efficiently identify areas having weak concrete when compared to the mean of the test population. A total of 41 areas were tested using this method. Prior to testing each area was surveyed with GPR to identify the location of embedded rebar or other objects that might influence the test results. Strength testing was performed on the midline shear walls and the columns exposed to weather on level 6. The shear walls were considered the baseline for evaluation of the overall condition of the exposed columns.

Findings

The damage condition criteria used is described below. The Damage Condition Inventory was conducted to create a baseline for monitoring and to prioritize repairs.

Table 1. Damage Condition (DC) definition.

RATING	PRIORITIZATION
Tier 1	Repair within the next 2 years
Tier 2	Consider repairing in 3-5 years
Tier 3	Continue to monitor. Repair when the condition becomes Tier 2.

Acoustic sounding identified no delamination of the level 2 through level 5 decks. Likewise, no delaminations in the level 6 deck were identified except for possibly beneath the disbonded membrane areas listed in Table 4.

Results of the GPR survey showed areas of cover thickness as little as 1.2-inches on the uncoated L1 Ramps. In the rest of the garage the rebar in the decks was shallowest over the beams. These rebar stirrups had roughly 1.4-inches of cover. Throughout the rest of the deck the cover thickness over the shallowest rebar was typically 2.0 to 2.4-inches. For the most part, this appears to be sufficient cover to protect the majority of the rebar. However, flexural cracks adjacent to the beams provide direct pathways for chloride solutions to reach the rebar in greater concentrations. Where these cracks intersect the shallow stirrups, corrosion initiation can occur. Details are included in the GPR appendix.

When dissolved chlorides contact unprotected steel reinforcement embedded in the concrete, corrosion of the steel can occur. At present, there is no clear consensus on the Corrosion Threshold Value (CTV) of chloride concentration needed to initiate corrosion. Experiments produce a variety of CTV depending on the porosity of the cement, humidity, temperature, and chemistry of the chloride solutions, among other factors. Code-related documents such as ACI 318 and ACI 222R-01 only address the allowable chloride content in fresh concrete, which is not relevant. For the purposes of this study, the CTV published in the industry's most relevant repair document was used. This value is 0.035 percent acid-soluble chloride by weight of concrete.[8]

The chloride data was used to create chloride penetration profiles for each location sampled, which are presented in Table 2 below. Depth of chloride contamination is necessary to estimate the health of the overall structure and the effectiveness of the traffic coating. The ingress of chloride is assumed to decrease exponentially in accordance with Fick's laws of diffusion. The profiles should be considered approximations of chloride diffusion behavior. There are many factors contributing to diffusion including chloride concentration at the surface, chloride chemistry, concrete surface condition, concrete porosity and chemistry, admixtures, moisture and oxygen content in pore solutions, electrical potential of the rebar, and others.

[8] PTI DC80.3-12/ICRI 320.6, Guide for Evaluation and Repair of Unbonded Post-Tensioned Concrete Structures, Post-Tensioning Institute, Farmington Hills, MI 48331, International Concrete Repair Institute, St. Paul, MN 55114, p. 23, 2012.

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Table 2. Acid-Soluble Chloride analysis results reported in percent mass of concrete.

ID	LOCATION	INTERVAL	% CHLORIDE CONTENT (mass concrete)
L1-Ra	L1 Ramp	0-1 inch	0.1425
L1-Rb		1-2 inch	0.0570
L1-Rc		2-3 inch	0.0135
L2-Ra	L3 Ramp at Joint	0-1 inch	0.1570
L2-Rb		1-2 inch	0.0270
L2-Rc		2-3 inch	0.0045
L5-Ra	L6 Ramp	0-1 inch	0.0790
L5-Rb		1-2 inch	0.0700
L5-Rc		2-3 inch	0.0390
L5-Da	L5 Deck at Crack	0-1 inch	0.3100
L5-Db		1-2 inch	0.2310
L5-Dc		2-3 inch	0.2385
L-Da	L6 Deck	0-1 inch	0.1015
L6-Db		1-2 inch	0.0100
L6-Dc		2-3 inch	0.0050
L6-N	L6 J-5 Col	0-1 inch	0.0040
L6-S	L6 F-5 Col	0-1 inch	0.0025

Figure 1. Chloride profile of the uncoated level 1 entrance ramp from Main Street. The data show a diffusion curve typical of mass intrusion of chlorides into the concrete porosity. The reinforcing was roughly 1.2-inches deep at this location and is therefore, susceptible to corrosion initiation. No evidence of cracking or spalling of the deck was observed.

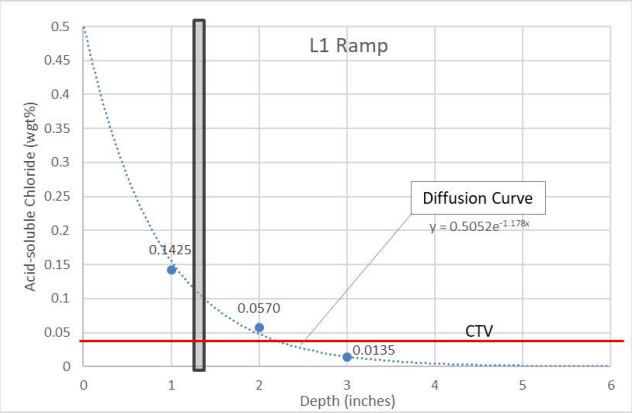

Figure 2. Chloride profile of the bottom of the uncoated Level 3 Ramp. The sample was taken at the first crack above the Level 2 coating. The data show a steeper curve and a chloride content below the CTV at the depth of the shallowest rebar. The filled crack does not appear to be providing a pathway for chloride solutions.

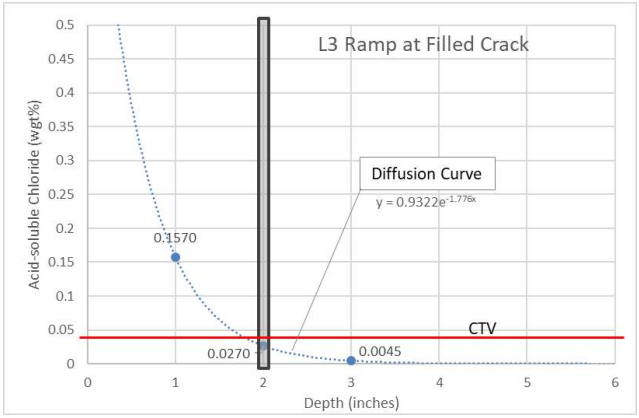

Figure 3. Chloride profile of the uncoated Level 5 Ramp. The sample was taken from the first crack below the Level 6 coating. The flexural crack runs across the deck parallel and adjacent to a beam. The data show that the un-filled crack is clearly providing a pathway for chloride solutions to reach the rebar. The cover thickness over rebar is roughly 2-inches at the beam and typically 4-inches or deeper along the margin of the beam (see GPR Appendix). Regardless of depth, the rebar is susceptible to corrosion initiation. No evidence of cracking or spalling of the deck was observed.

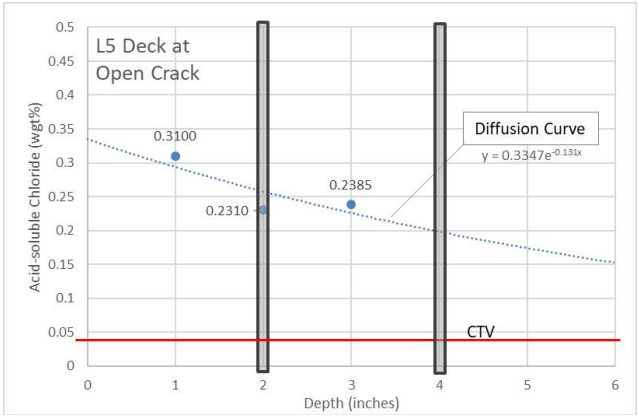

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Figure 4. Chloride profile of the Level 6 Ramp at the bottom of the drainage berm. The ramp is coated with a traffic membrane. The data clearly show the membrane is providing protection; however, the ponding of deicing solutions and leakage through the membrane has allowed chloride solutions to reach the shallow rebar. At this time the deeper rebar has not been exposed to chlorides in excess of the CTV. No evidence of cracking or spalling of the deck was observed.

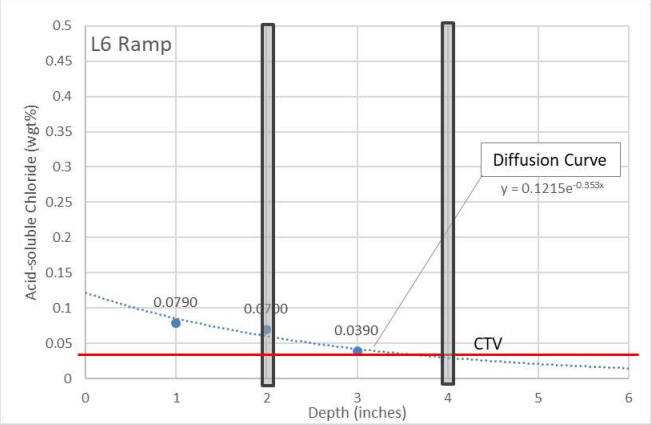
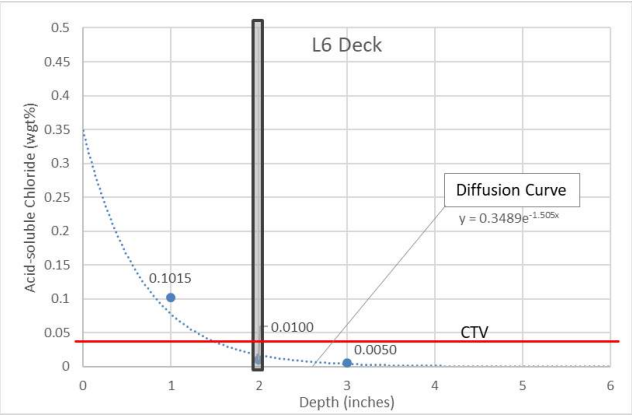


Figure 5. Chloride profile of the Level 6 Deck at a depression that allows water to pond on the deck (see Photo Appendix). The data clearly show the membrane is providing protection; At this time the shallow rebar has not been exposed to chlorides in excess of the CTV.



The results show a strong correlation to membrane protection and chloride ion intrusion into the concrete. Areas of bare concrete are receiving deicing solutions. These solutions penetrate into the concrete through diffusion. Where cracks are present, the chloride intrusion is much more rapid. By contrast, the membrane coated portions of the deck have lower chloride concentration. In addition, the concrete cover over most rebar is at least 2-inches and up to 4-inches. At present the decks show no evidence of corrosion damage such as cracking and spalls caused by expansion along rebar. The effects of cracks in the concrete deck is discussed in detail later in the report.

The other common cause of rebar corrosion in concrete is carbonation. Carbonation is the natural alteration of calcium-silica-hydrate (CSH) cement to calcium carbonate ($CaCO_3$) by exposure to atmospheric carbon dioxide. All concretes carbonate upon exposure to the air. Corrosion of steel can occur when carbonation reaches the level of the rebar. Phenolphthalein staining of one core found carbonation to be as deep as 4 mm. This level of carbonation is not deep enough to compromise rebar.

Petrographic analysis of one core sample was completed to determine the overall concrete health. The sample was collected from a parking stall along the south edge of the L4 deck, which represented a fairly severe weather exposure for this building. This exposure receives snow and rain and freezing temperatures in winter. It also receives moderate amounts of deicers transported by vehicles from the lower portions of the building. The concrete was found to be generally healthy with a 0.55 water/cement ratio, roughly 7 percent entrained air system, well-hydrated cement, and light carbonation (4 mm). Evidence of early-stage freeze/thaw strain and chloride-based secondary mineralization was observed. No evidence of chemical attack, reactive aggregates, or significant defects in the cement matrix were observed.

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A condition assessment of the waterproof traffic membrane on the level 2 ramp/deck and the level 6 ramp/deck was performed using visual inspection and mechanical probing by a qualified waterproofing professional. Deterioration and defects of the membrane were classified into condition types. All damage is on level 6 unless otherwise noted. The photo appendix provides additional details.

Table 2. Observed membrane deterioration conditions.

TYPE	DESCRIPTION	QUANTITY
1	Wear in coating at high ridges at const. joints.	4
2	Deck depressions (birdbaths).	8
3	Sediment buildup in areas of accum. water	7
4	Coating edge failure at aluminum storefront, no cove sealant transition.	3
5	Snowplow damage at drain berm.	2
6	Termination of coating, taped instead of keyed, edge is lifting (level 2).	1
7	Tire burns in coating	24
8	Coating wear at trowel ridges.	1
9	Bear spot in coating.	1
10	Gaps in coating at base of precast to deck transition at scuppers.	2
11	Vertical coating termination failure.	2
12	Failed sealant at bottom of door frame (south elevator lobby).	1
13	Tape termination (level 2 lobby).	1
14	Missing cove sealant at deck-to-wall transition.	2

Most of the membrane conditions listed represent typical wear-and-tear deterioration. Six of the conditions represent an application defect. Any defect or damage to the coating that exposes the concrete deck to chloride solutions should be repaired to continue to adequately protect the reinforced concrete deck.

In addition to the condition of the membrane, the adhesion of the membrane to the deck was also evaluated by testing seven locations using the pull-off adhesion test method. Testing consisted of cleaning the membrane with solvent and adhering an aluminum test dolly using a high-strength epoxy. The membrane around the test dolly was cut so that only bond strength and not shear strength of the membrane was being tested. After 24 hours of cure at 50° to 60° F the dolly was pulled to failure and the force recorded. The test results are summarized below and indicate that the level 6 membrane is strongly bonded to the substrate throughout the deck, except where 8 small to moderate sized delaminations were observed as noted in Table 4.

Table 3. Results of ASTM D4541 Pull-Off Adhesion testing.

ID	SIZE	PRESSURE	BOND FAILURE
P1	25 mm	200 psi	Dolly
P2	50 mm	300 psi	Dolly
P3	50 mm	500 psi	Dolly
P4	25 mm	300 psi	Dolly
P5	25 mm	150 psi*	Dolly
P6	25 mm	420 psi	Dolly
P7	25 mm	390 psi	Dolly

*Adhesion of dolly to sample was disturbed.

All core and pull-off bond tests were repaired by patching with concrete and sealing with an appropriate polyurea coating. Concrete patching was performed by Veritas Material Consulting; polyurea re-coating was performed by Consurco.

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Table 4. Summary of Membrane Condition.

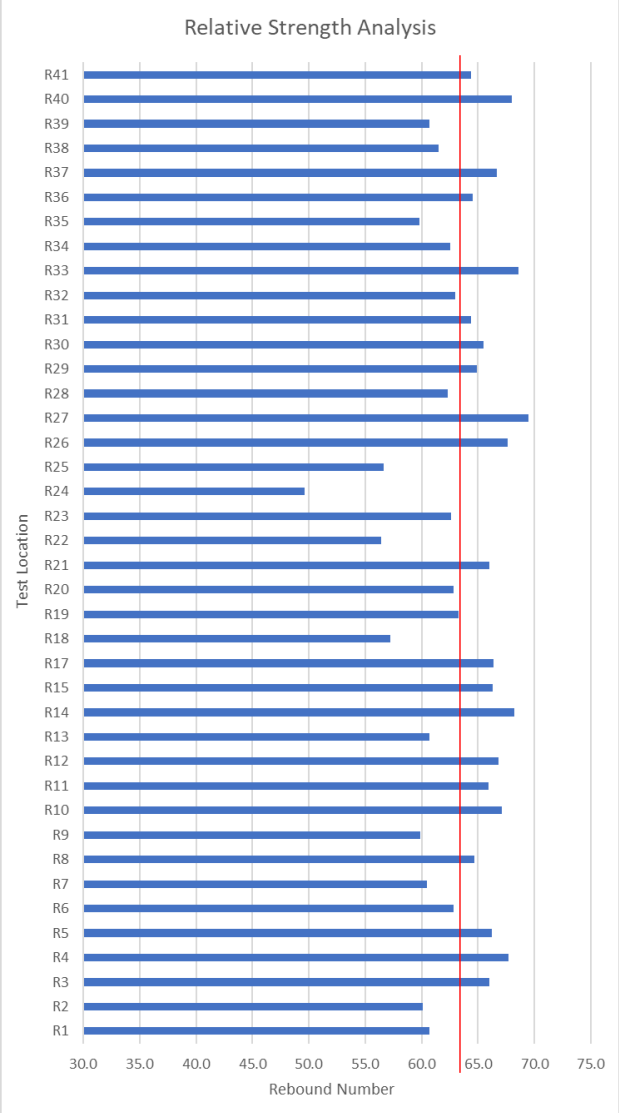
LEVEL	LOCATION	SIZE
5	D.5-5.5 at base of L6 ramp	10 ft²
6	D.9-3.1 in drive lane	4 ft²
6	E.9-3.1 in drive lane	2 ft²
6	N-3.8 in stall	2 ft²
6	N.1-3.9 in stall	1 ft²
6	N.5-5 in stall	4 ft²
6	K.5-5.5 in drive lane	1 ft²
6	F.2-6.9 in stall	10 ft²

The columns exposed to weather on level 6 exhibited cracking and staining. Chemical testing did not find evidence of ASR or chlorides. The cracking appears related to carbonation and drying shrinkage. In-situ strength was measured as part of the condition assessment.

Table 5. Results of ASTM C805 testing.

ID	REBOUND NUMBER	ID	REBOUND NUMBER
R1	60.7	R22	56.4
R2	60.1	R23	62.6
R3	66.0	R24	49.6
R4	67.7	R25	56.6
R5	66.2	R26	67.6
R6	62.8	R27	69.5
R7	60.5	R28	62.3
R8	64.7	R29	64.9
R9	59.9	R30	65.5
R10	67.1	R31	64.4
R11	65.9	R32	63.0
R12	66.8	R33	68.6
R13	60.7	R34	62.5
R14	68.2	R35	59.8
R15	66.3	R36	64.5
R16	66.4	R37	66.7
R18	57.2	R38	61.5
R19	63.3	R39	60.7
R20	62.8	R40	68.0
R21	66.0	R41	64.4

Table 6. Bar chart showing the ASTM C805 In-situ Relative Strength test results. The red line is the mean strength value. Test location R24 was observed to have apparent reduced strength and this column was further evaluated.



Based on the in-situ relative strength testing only one column appears to have reduced strength. That column at level 6 L-1 was further inspected by sounding and visual inspection. No damage or defects were observed.

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Discussion of Findings

- ***Chloride contamination of decks***: Chloride solutions appear to be effectively prevented from penetrating the membrane coated Level 2 and Level 6 decks. The Level 1 ramps are not coated and are susceptible to corrosion from the elevated chloride concentrations. The shallow rebar at these locations is currently exposed to chlorides in excess of the CTV.

- ***Chloride contamination of columns***: No evidence of chloride contamination was observed in the columns sampled. The columns exhibited typical drying shrinkage and carbonation-related cracking.

- ***Delamination of Traffic Coating***: Eight locations totaling roughly 34 ft^2 of the level 6 deck and level 6/5 ramp traffic membrane were disbonded. These should be repaired by removing the delaminated section and re-coating with a compatible coating product. Though not likely, the delaminations may be underlain by shallow spalls of the underlying concrete deck. Because of the detached membrane, the deck itself cannot be effectively sounded. The membrane must be cut open and the deck inspected.

- ***Membrane Deterioration***: In general, the traffic membrane coatings on levels 2 and 6 were performing well and primarily exhibited typical wear-and-tear. Several defects in the application were also noted. Roughly 59 examples of defects or deterioration were identified. These are summarized in Table 2.

- ***Repaired Flexural Cracks***: Flexural cracks in the deck adjacent to the beams was typical. A rout-and-seal repair has been performed on many flexural cracks. Approximately 10 percent of these fillers have begun to fail by separating from the crack edges or receding into the crack. These should be maintained.

- ***New Flexural Cracks***: Recent cracks have also developed and now require a similar repair. These cracks appear as individual cracks or swarms at roughly 21 locations as shown on the plans. Cracks that are 1.5 mm or wider and deep enough to accept repair material should be filled using a rout-and-seal technique. Each are of new cracks includes approximately 20 linear feet of crack. Because the decks experience continued flexural stress as well as thermal contraction/expansion stresses, the sealers should be a flexible product with a high elastic modulus.

- ***Damaged PT Anchor Ends***: Evidence of minor damage to the mortar caps protecting the live-end PT anchors was observed. Any loose mortar caps should be removed, new grease applied to the anchor head and tendon tail, the plastic cap replaced, and new mortar installed into the hole.

Recommendations for Repair

TIER 1 DAMAGE
New flexural cracks in decks over beams.
Roughly 21 locations on levels 2, 3, 4, and 5. Approximately 21 feet of cracking per locations.
Repair using a Rout-and-Seal technique.

TIER 1 DAMAGE
Delaminations in level 6 membrane
7 locations on level 6 and 1 location on level 5/6 ramp.
Cut out failed membrane, repair any damage to concrete substrate, re-surface concrete substrate, re-apply compatible coating product.

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Areas with Tier 1 Damage should be repaired within the next 2 years to avoid significant additional damage, such as corrosion of rebar, to occur.

TIER 2 DAMAGE
Repair/maintain filler in old flexural cracks
Roughly 10 percent of previously repaired flexural cracks on levels 3, 4, and 5.
Remove any failed crack filler, clean and install new elastomeric filler.

TIER 2 DAMAGE
Repair mortar caps in PT anchor zones
Level 6 F-5, G-5, H-5, J-5.
Chip out loose mortar caps, clean debris from wedge pocket, re-apply grease, re-apply plastic cap, install new grout into pocket.

Areas with Tier 2 Damage should be monitored and re-assessed at least every 2 years. Once the damage reaches Tier 1 status it should be repaired.

TIER 3 DAMAGE
Repair identified defects in level 2 and level 6 membranes.
Throughout levels 2 and 6, refer to photographs.
Obtain bid from qualified waterproofing contractor to repair damage as indicated in report.

Areas with Tier 3 Damage should be monitored and re-assessed after 5 years.

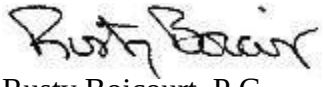
The following technical guidance documents are recommended for the design of any repair procedures and specifications.

International Concrete Repair Institute (ICRI) No. 320.1R-1996 Guide for Selecting Application Methods for the Repair of Concrete Surfaces

PTI DC80.3-12/ICRI 320.6, Guide for Evaluation and Repair of Unbonded Post-Tensioned Concrete Structures, Farmington Hills, MI 48331, 2012.

No material samples were retained during this evaluation. Photographs as well as NDT data are retained electronically on Veritas Material's server for ten years. Veritas Material Consulting appreciates this opportunity to be of service and looks forward to a continuing relationship as your forensic materials expert. If you have any questions concerning this report, please contact us at (208) 870-9728.

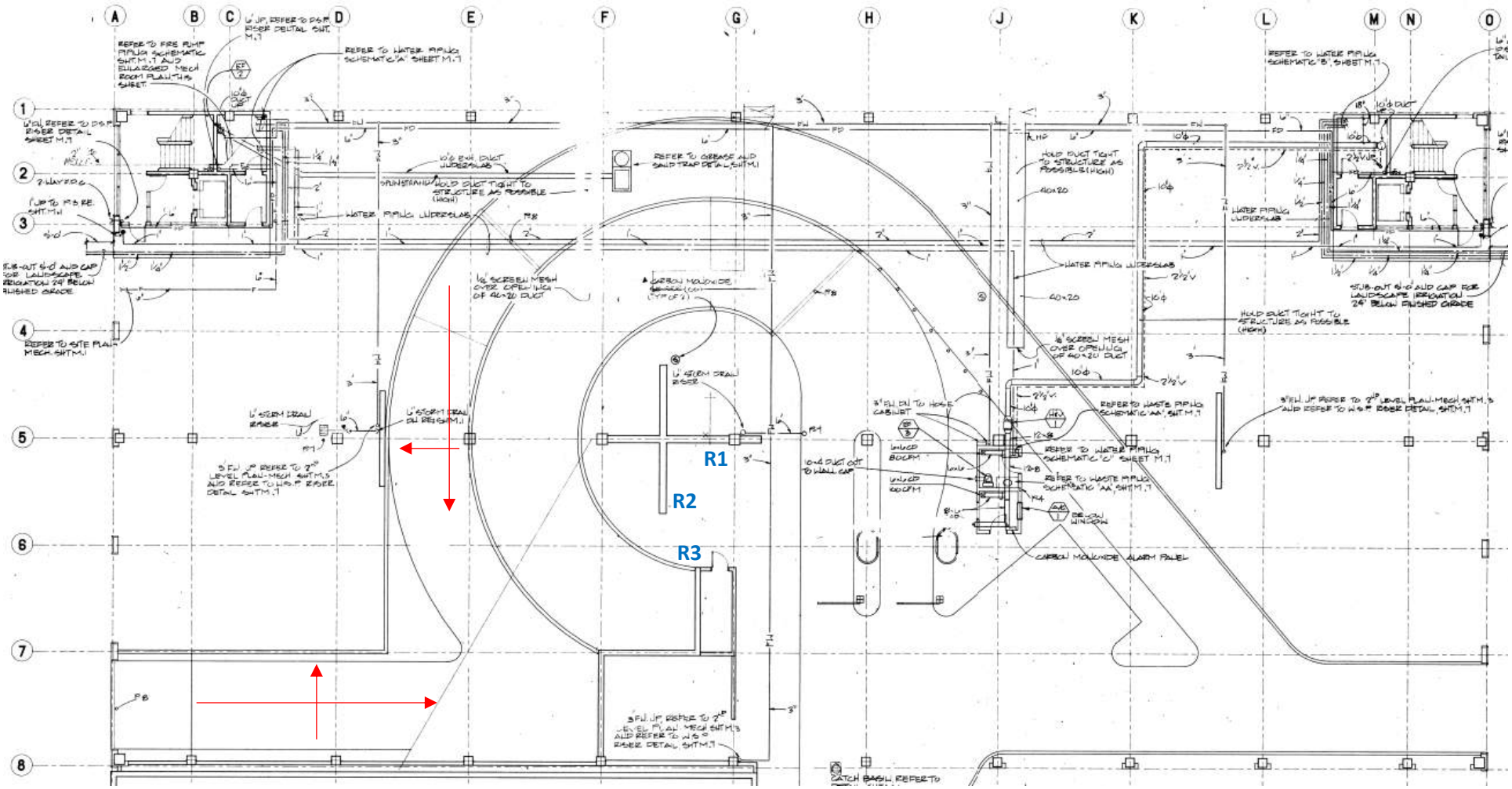
Prepared by,



Rusty Boicourt, P.G.
Senior Scientist
Veritas Material Consulting

Attachments: *Condition Summary*
Parking Deck Floor Plans
Photo Appendix
GPR Appendix
Petrography Report
ASC Analysis Results

PRIORITY	DESCRIPTION	LOCATION	RECOMMENDATION
Tier 1	New flexural cracks in deck over beams	Roughly 21 locations on levels 2, 3, 4, and 5. Approximately 21 feet of cracking per locations.	Typical rout-and-seal.
Tier 1	Repair delaminations in level 6 membrane	7 locations on level 6 and 1 location on level 5/6 ramp.	Cut out failed membrane, repair any damage to concrete substrate, re-surface concrete substrate, re-apply compatible coating product.
Tier 2	Repair/maintain filler in old flexural cracks	Roughly 10 percent of previously repaired flexural cracks on levels 3, 4, and 5.	Remove any failed crack filler, clean and install new elastomeric filler.
Tier 2	Repair mortar caps in PT anchor zones	Level 6 F-5, G-5, H-5, J-5.	Chip out loose mortar caps, clean debris from wedge pocket, re-apply grease, re-apply plastic cap, install new grout into pocket.
Tier 3	Repair defects in level 2 and level 6 membranes	Throughout levels 2 and 6, refer to photographs.	Obtain bid from qualified waterproofing contractor to repair damage as indicated in report.



Rebound Hammer Test Locations R37

GPR Profile

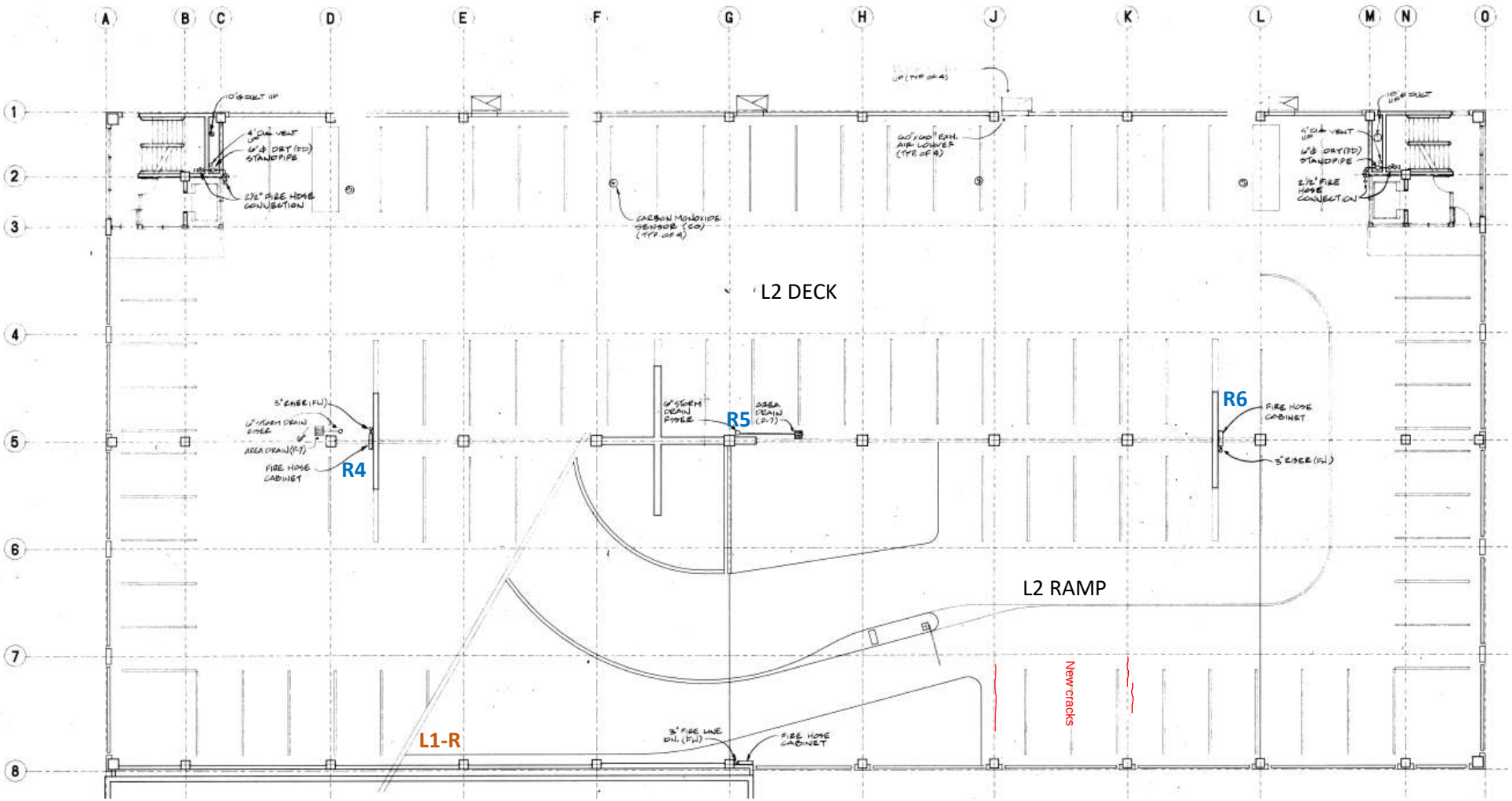
LEVEL 1

NOT TO SCALE

CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH DAMAGE LOCATIONS

CONSULTING



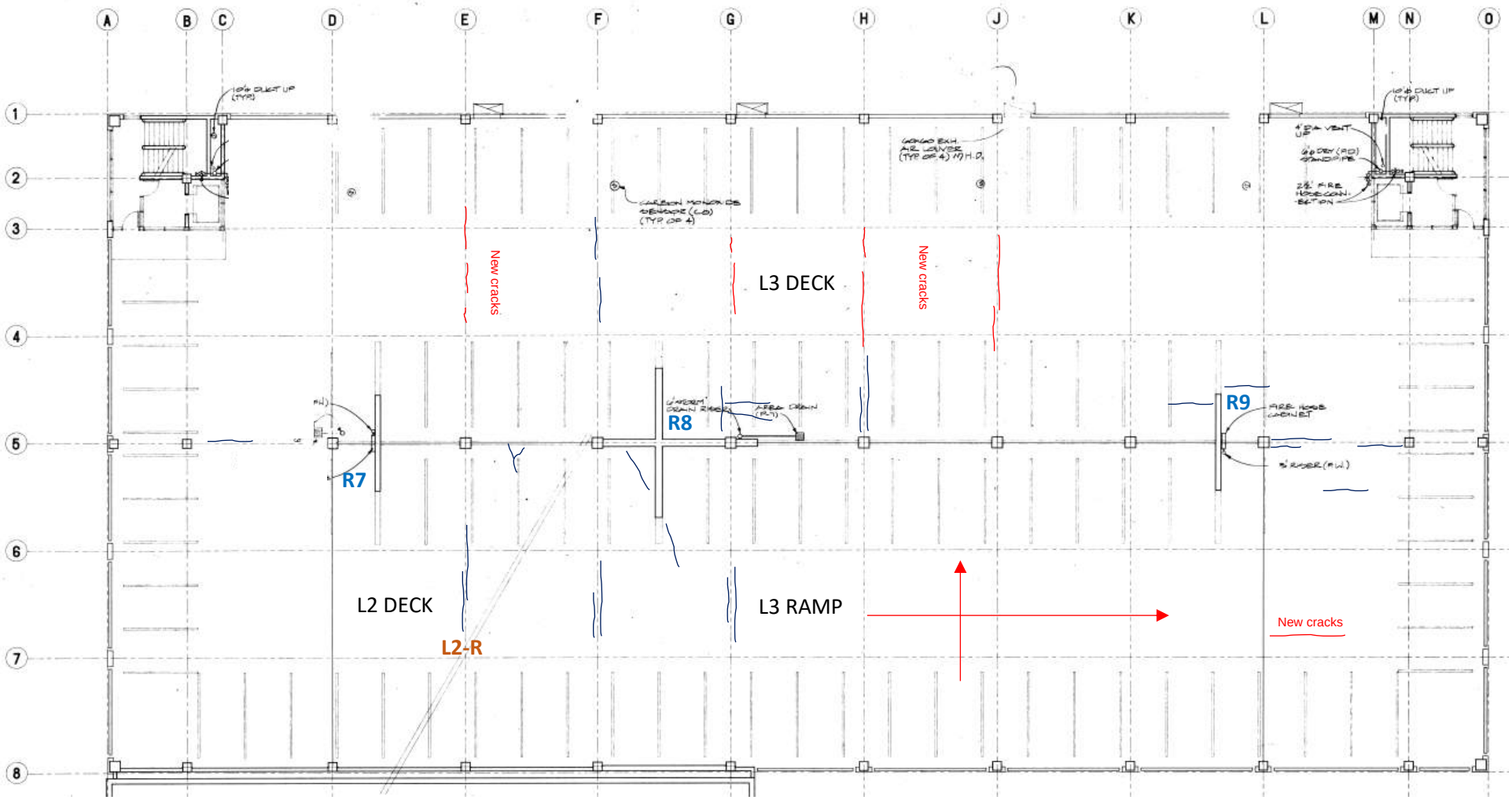
Rebound Hammer Test Locations	R37
Core Sample Locations	L6-S
New Cracks	

LEVEL 2
NOT TO SCALE

CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH DAMAGE LOCATIONS

CONSULTING



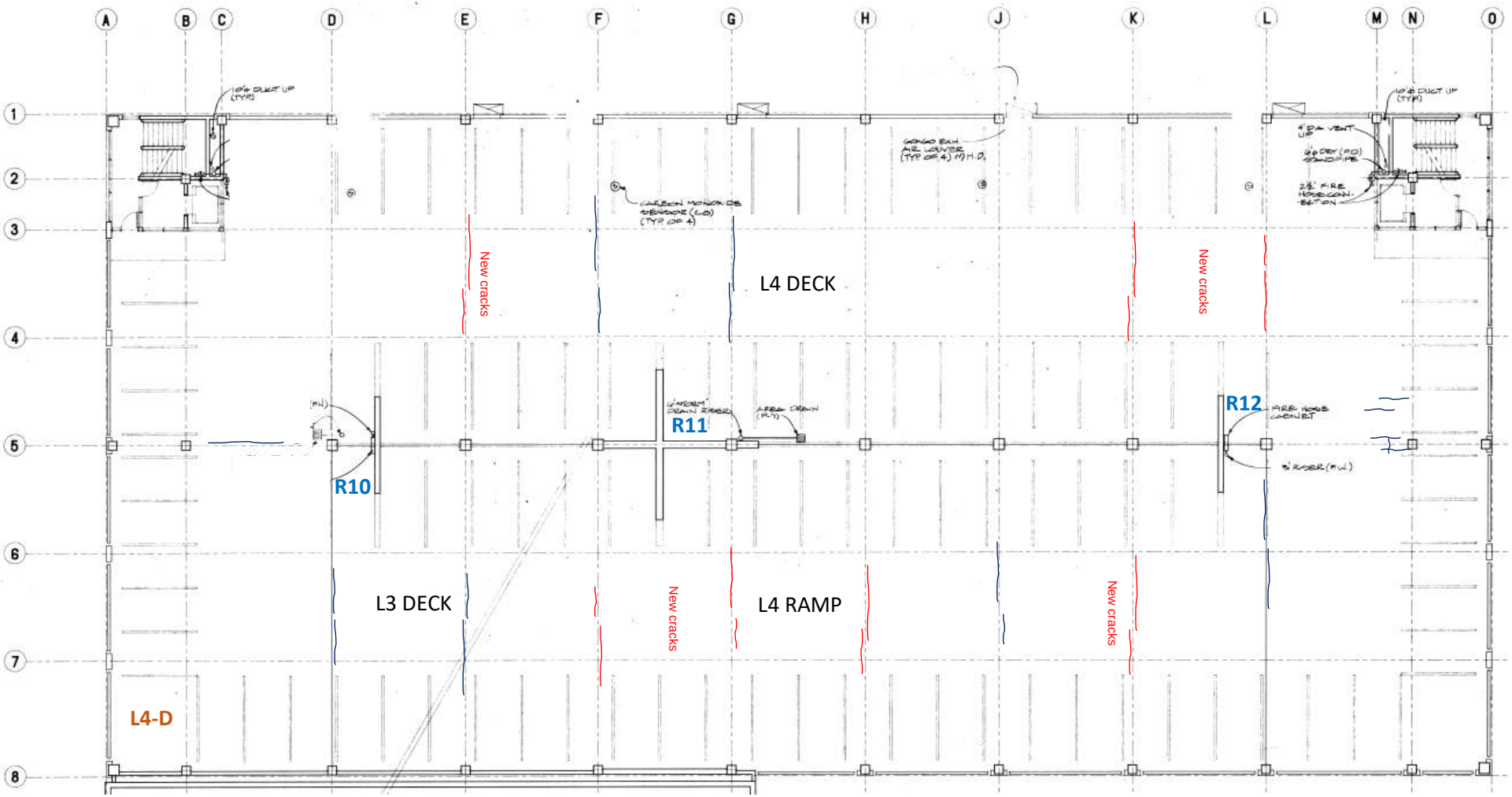
Rebound Hammer Test Locations	R37
Core Sample Locations	L6-S
New Cracks	
Old Cracks	
GPR Profile	

LEVEL 3
NOT TO SCALE

CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH SAMPLE and DAMAGE LOCATIONS

CONSULTING



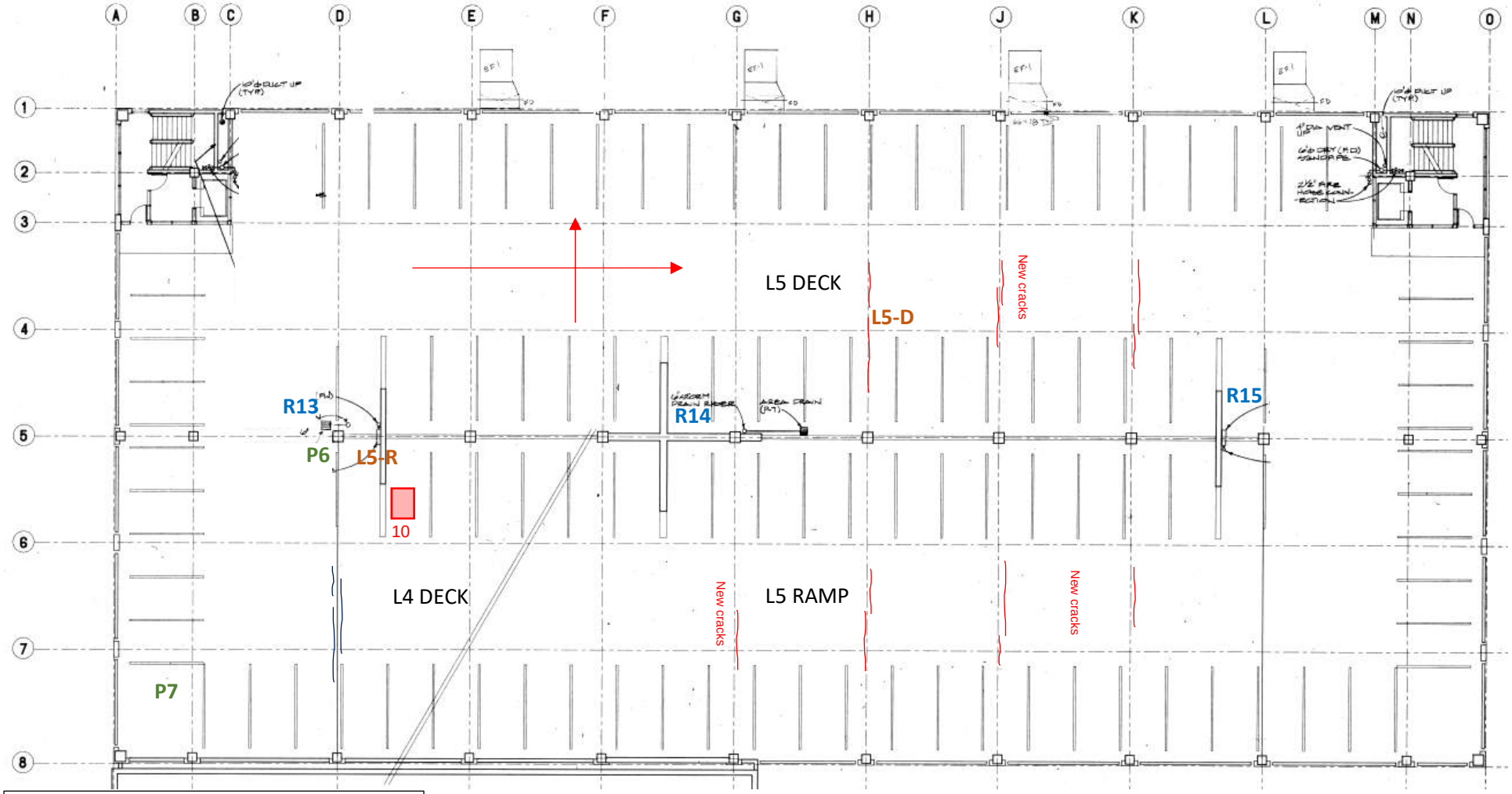
Rebound Hammer Test Locations	R37
Core Sample Locations	L6-S
New Cracks	
Old Cracks	

LEVEL 4
NOT TO SCALE

CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH SAMPLE and DAMAGE LOCATIONS

CONSULTING



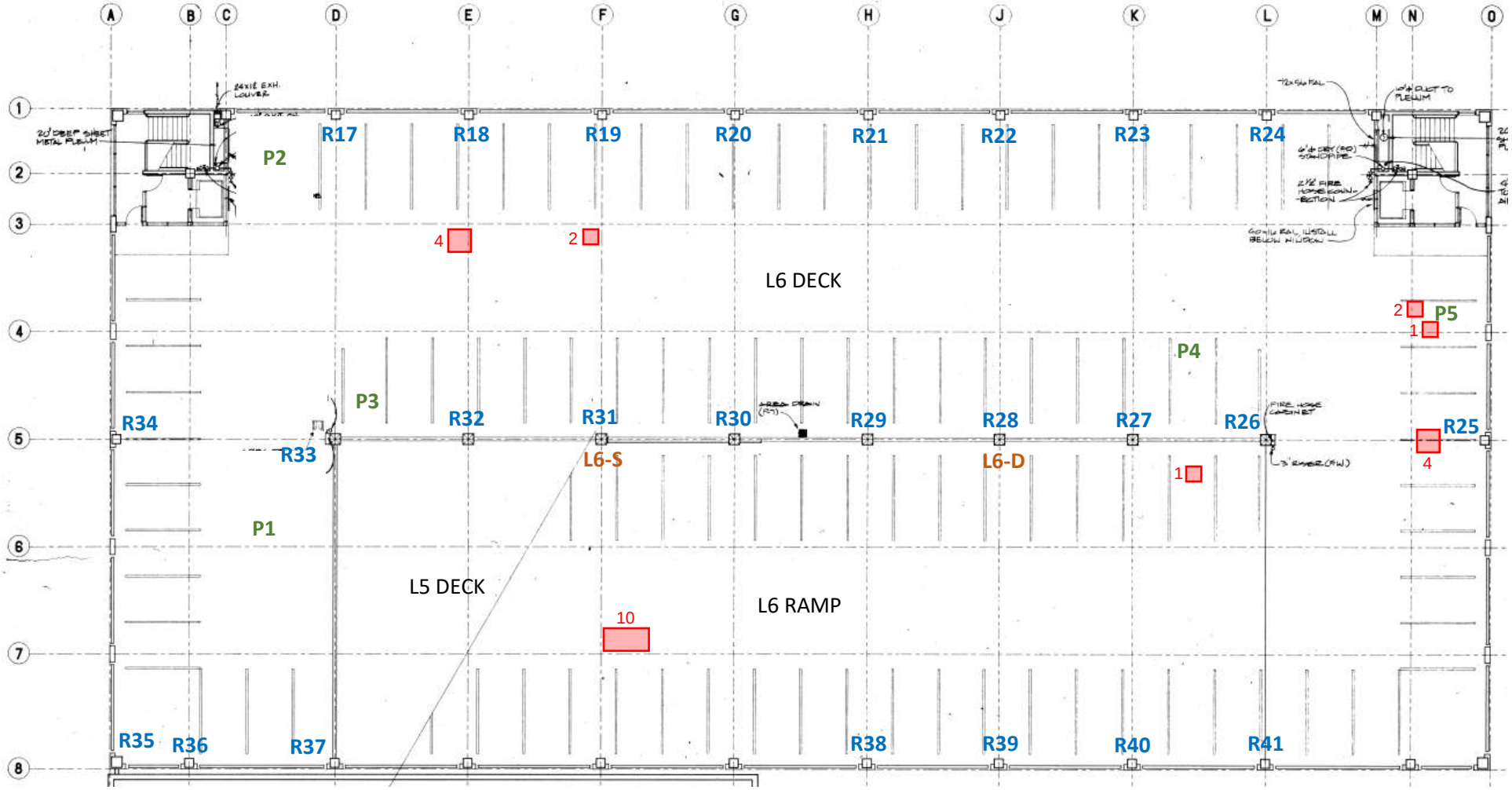
Rebound Hammer Test Locations	R37
Core Sample Locations	L6-S
Pull-Off Test Locations	P6
New Cracks	
Old Cracks	
GPR Profile	

LEVEL 5
NOT TO SCALE

CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH SAMPLE and DAMAGE LOCATIONS

CONSULTING



Rebound Hammer Test Locations	R37
Core Sample Locations	L6-S
Pull-Off Adhesion Test Locations	P2
Disbonded Membrane	

LEVEL 6
NOT TO SCALE

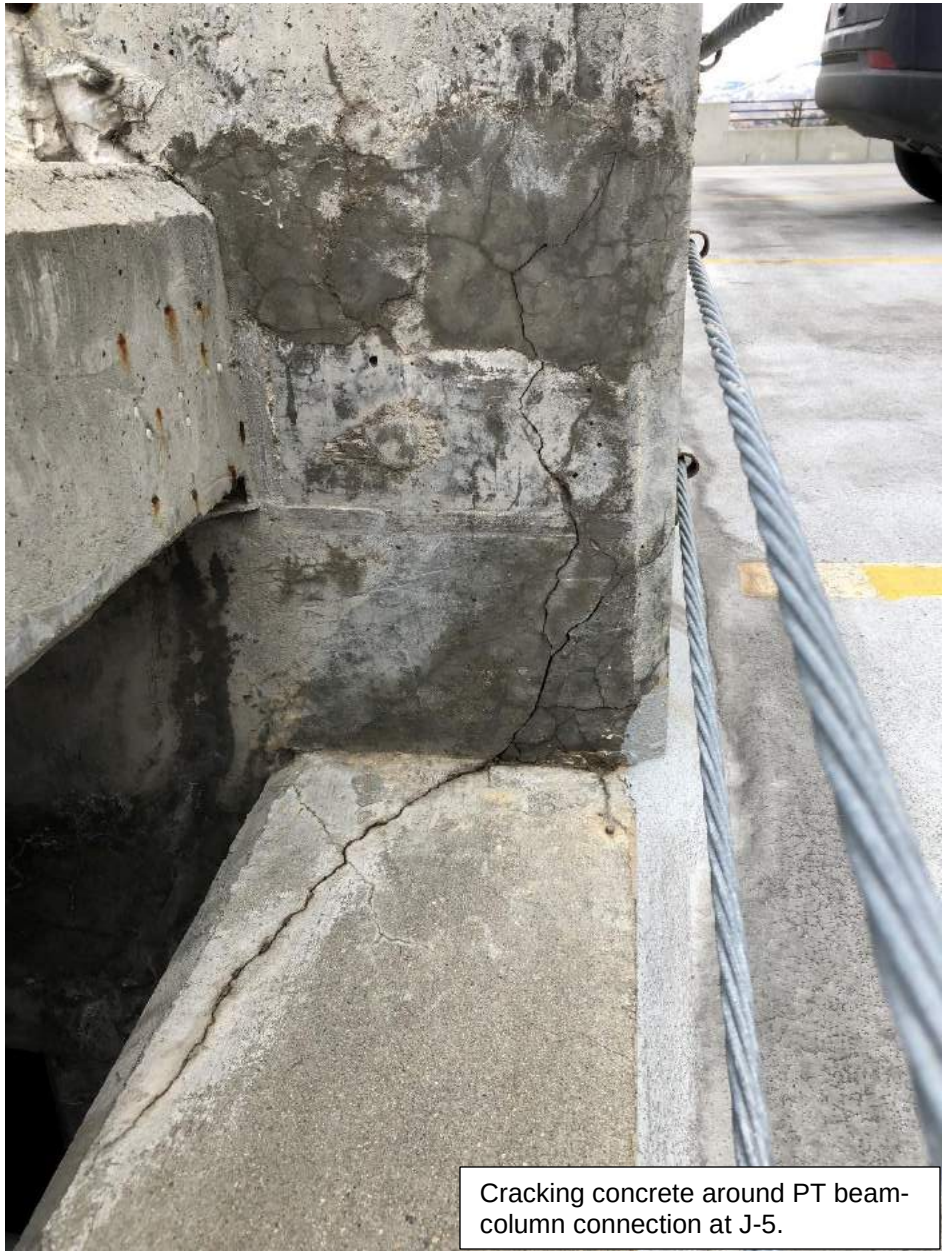
CAPITOL & MAIN PARKING GARAGE

FLOOR PLAN WITH SAMPLE and DAMAGE LOCATIONS

CONSULTING

Cracking and carbonated concrete at the tops of the exposed columns.

Cracking concrete around the PT beam live-end anchor zone.



Cracking concrete around PT beam-column connection at J-5.

Cracking concrete at PT beam-column connection at J-5.

Cracking concrete at PT beam-column connection at H-5.

Cracking concrete at PT beam-column connection at G-5.

Photo of filled old crack at L3 ramp. Filler material is performing well.

Healthy filled joint at top of L3 ramp.

Filler material showing evidence of incipient failure in old crack.

Example of new crack in L3 deck.

Example of new cracks in L3 deck.

New crack occurring adjacent to an old, filled crack.

Example of new cracks occurring in L4 deck.

Old crack in L4 deck exhibiting early failure of filler pulling from edges.

Filled old crack showing filler recession and debris accumulation.

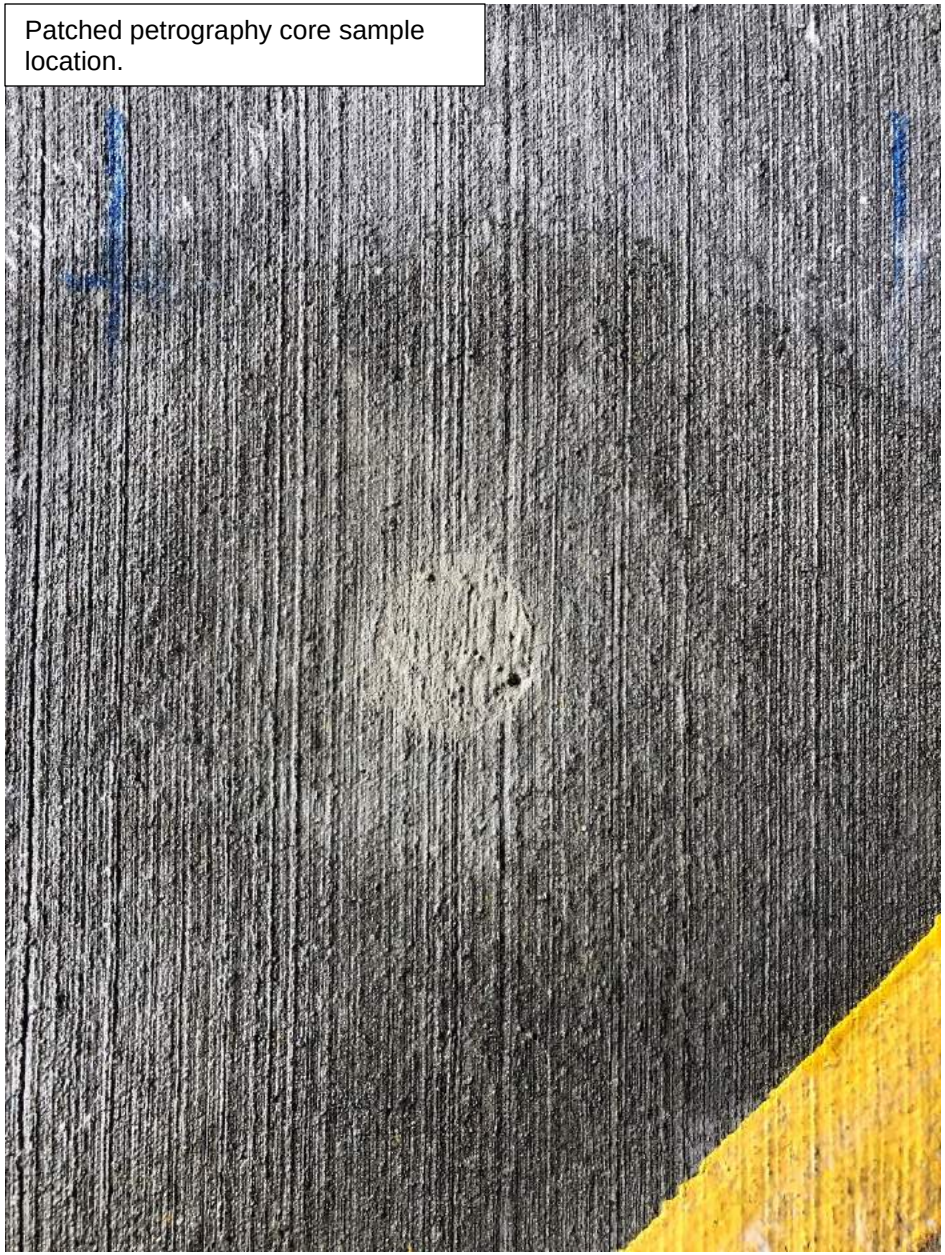
Well-performing filler in old crack at top of L4 ramp.

Example of new cracks occurring in L5 deck.

Example of new cracks occurring in L5 deck.

Petrography core sample collected from the L4 deck at A.5-7.5.

Patched petrography core sample location.



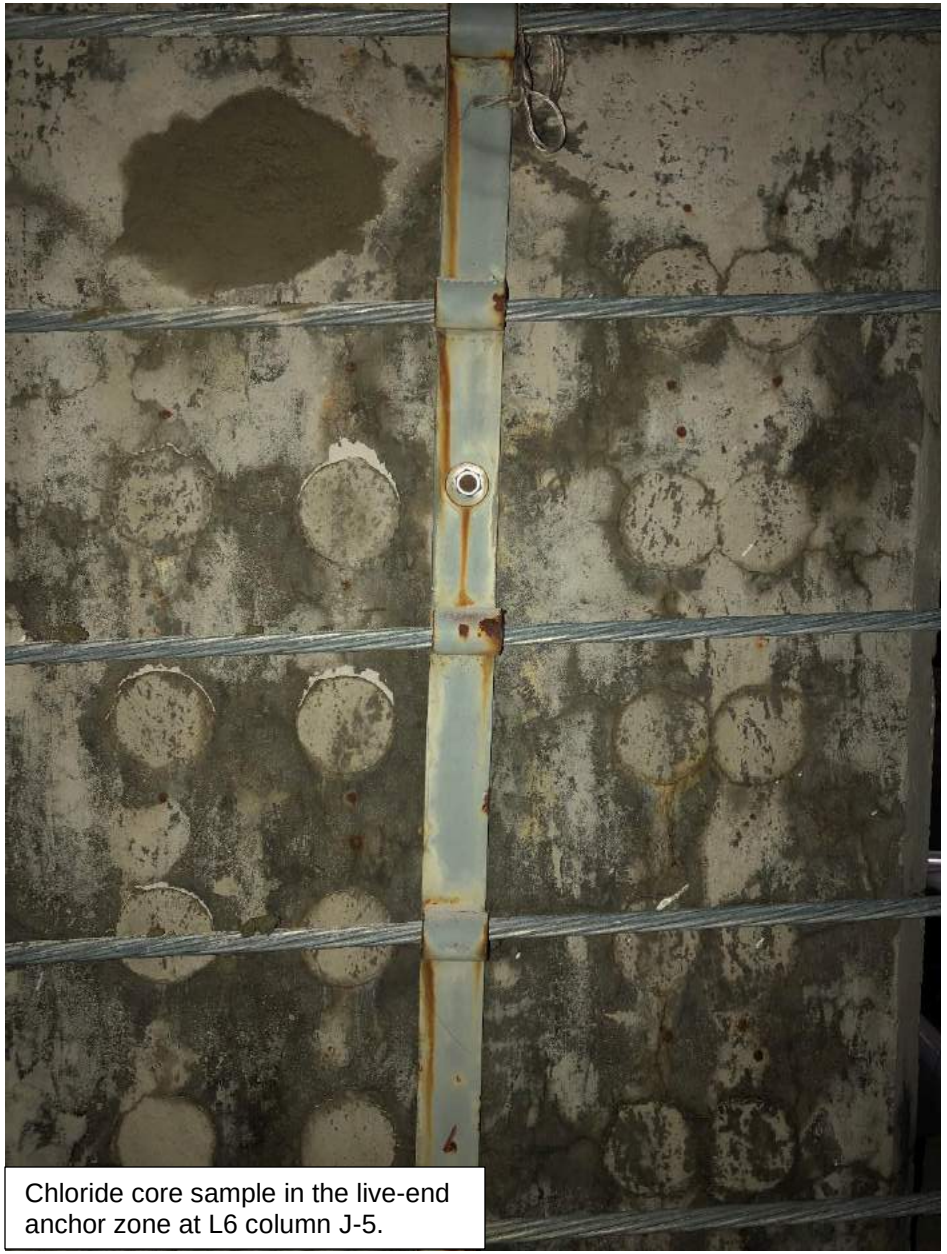
Chloride core sample location at the bottom of the L6 ramp.

Chloride core sample location on the L6 deck.

Chloride core sample location at the top of the L1 ramp.

Chloride core sample location at a filled crack on the L2 ramp.

Chloride core sample location at a crack on the L5 deck.



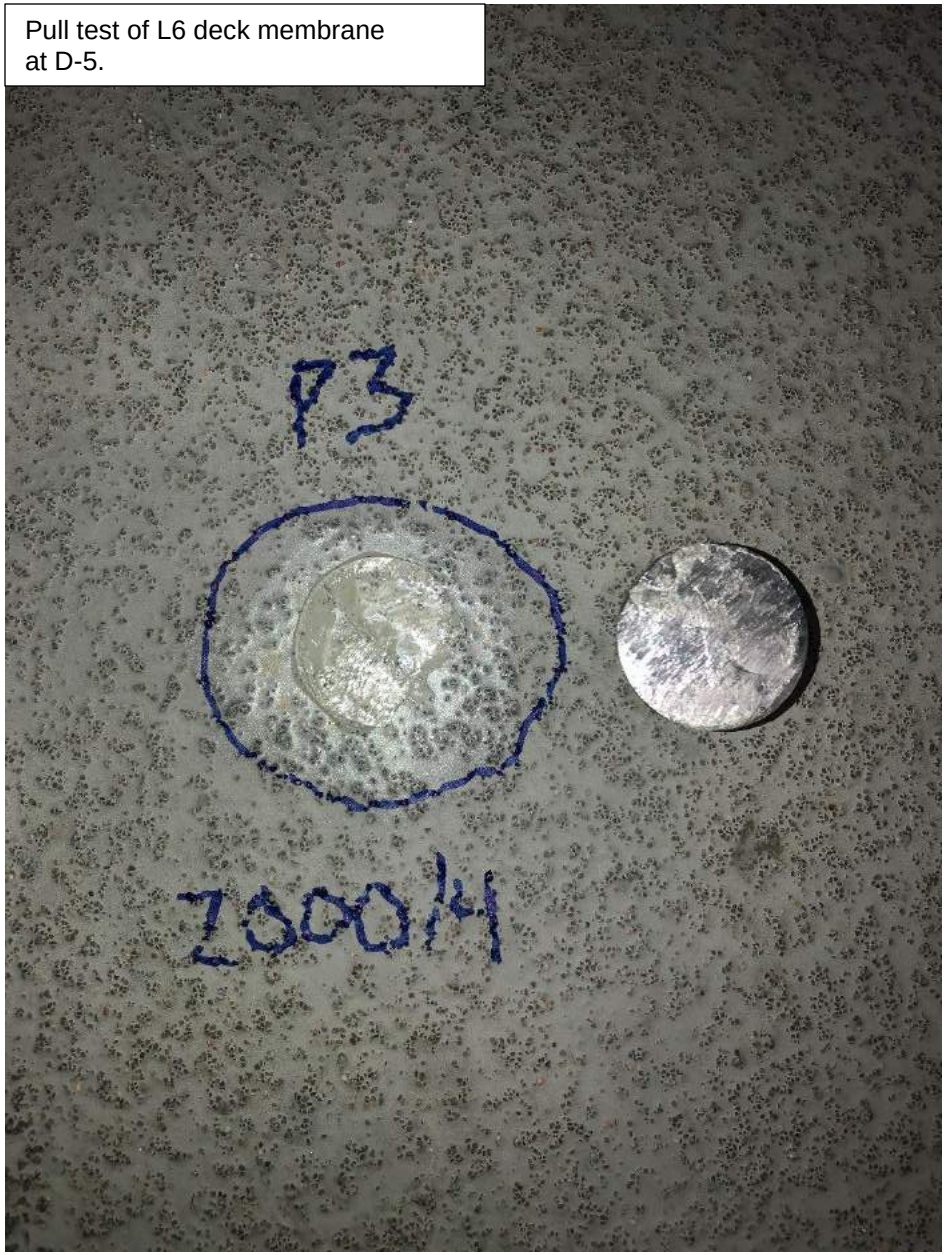
Chloride core sample in the live-end anchor zone at L6 column J-5.

Chloride core sample in the live-end anchor zone at L6 column F-5.

Pull test of L6 deck membrane at C.5-6.

Pull test of L6 deck membrane at C-2.

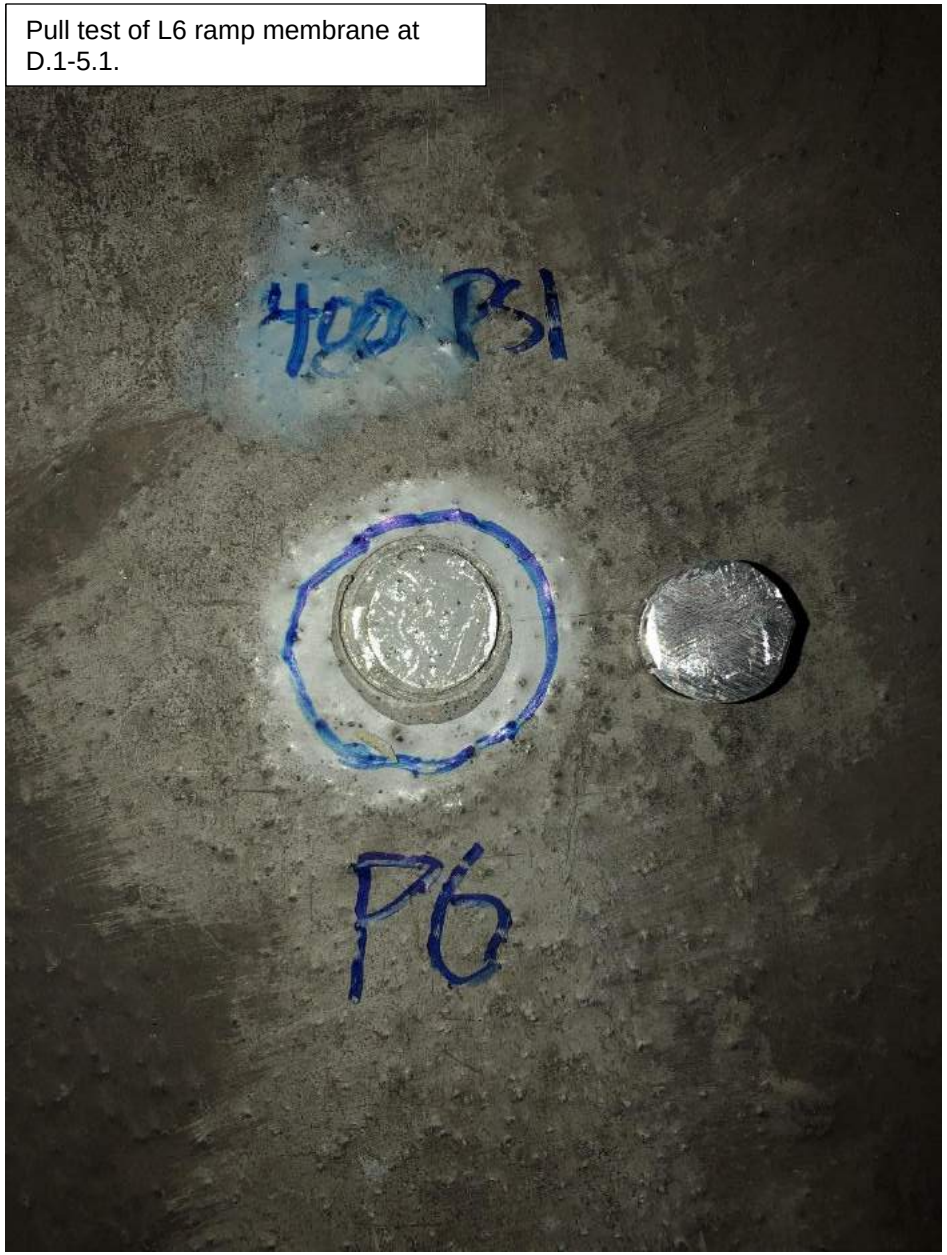
Pull test of L6 deck membrane at D-5.



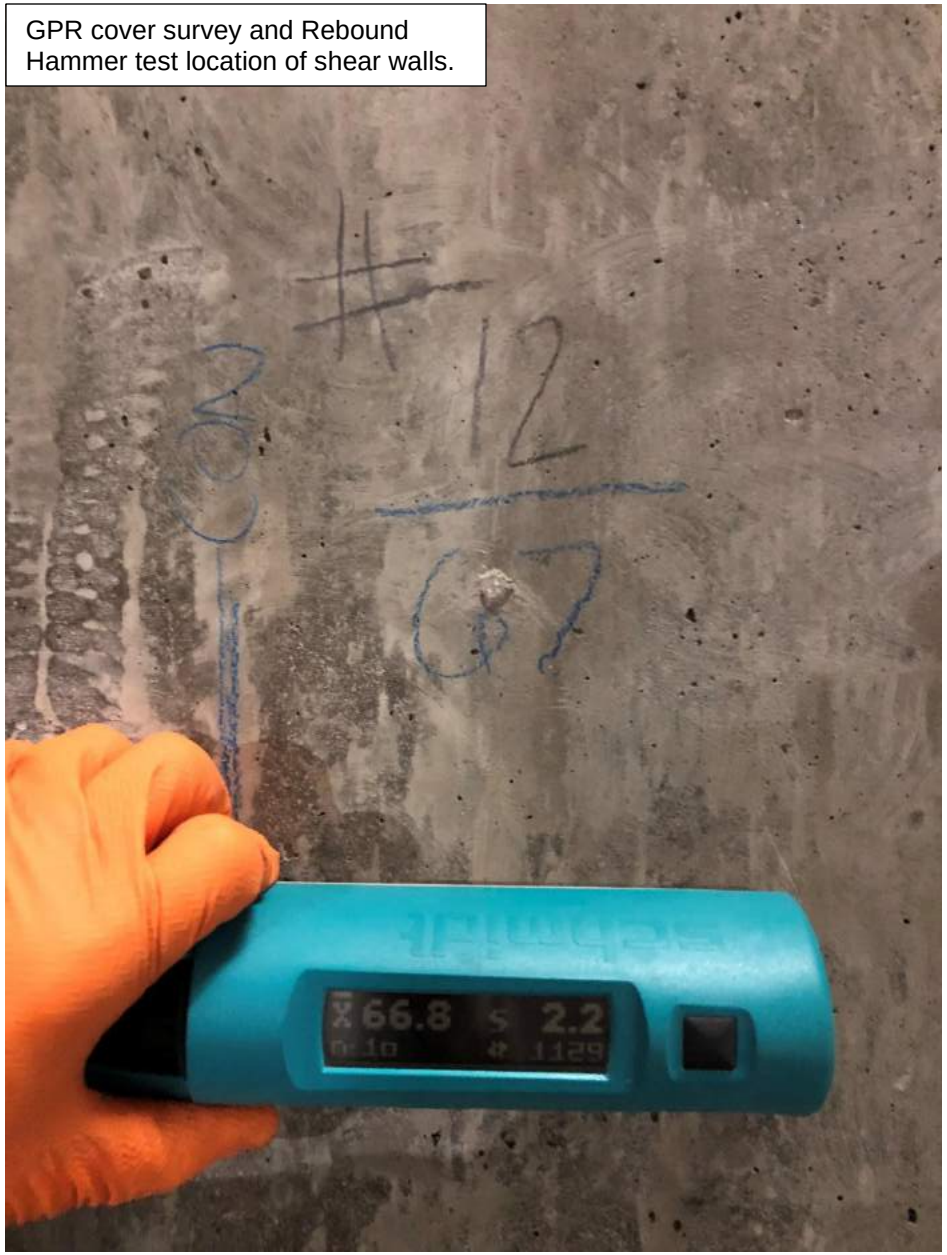
Pull test of L6 deck membrane at K.5-4.5.

Pull test of L6 deck membrane at N-4.

Pull test of L6 ramp membrane at D.1-5.1.



Pull test of L5 deck membrane at A.1-7.5.



GPR cover survey and Rebound Hammer test location of shear walls.

GPR cover survey and Rebound Hammer test location of L6 columns.

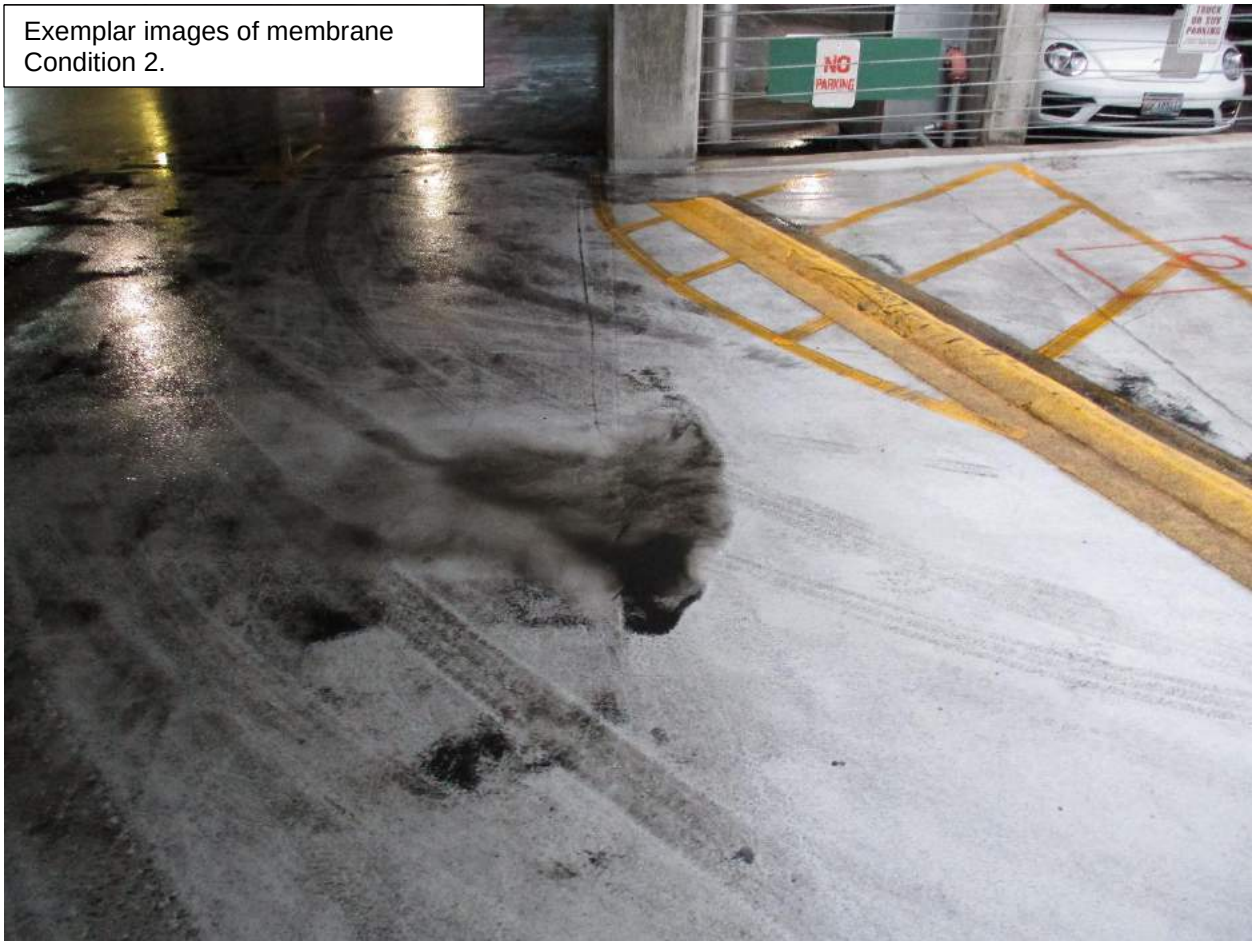
Exemplar images of membrane Condition 1.

Exemplar images of membrane Condition 1.

Exemplar images of membrane Condition 2.

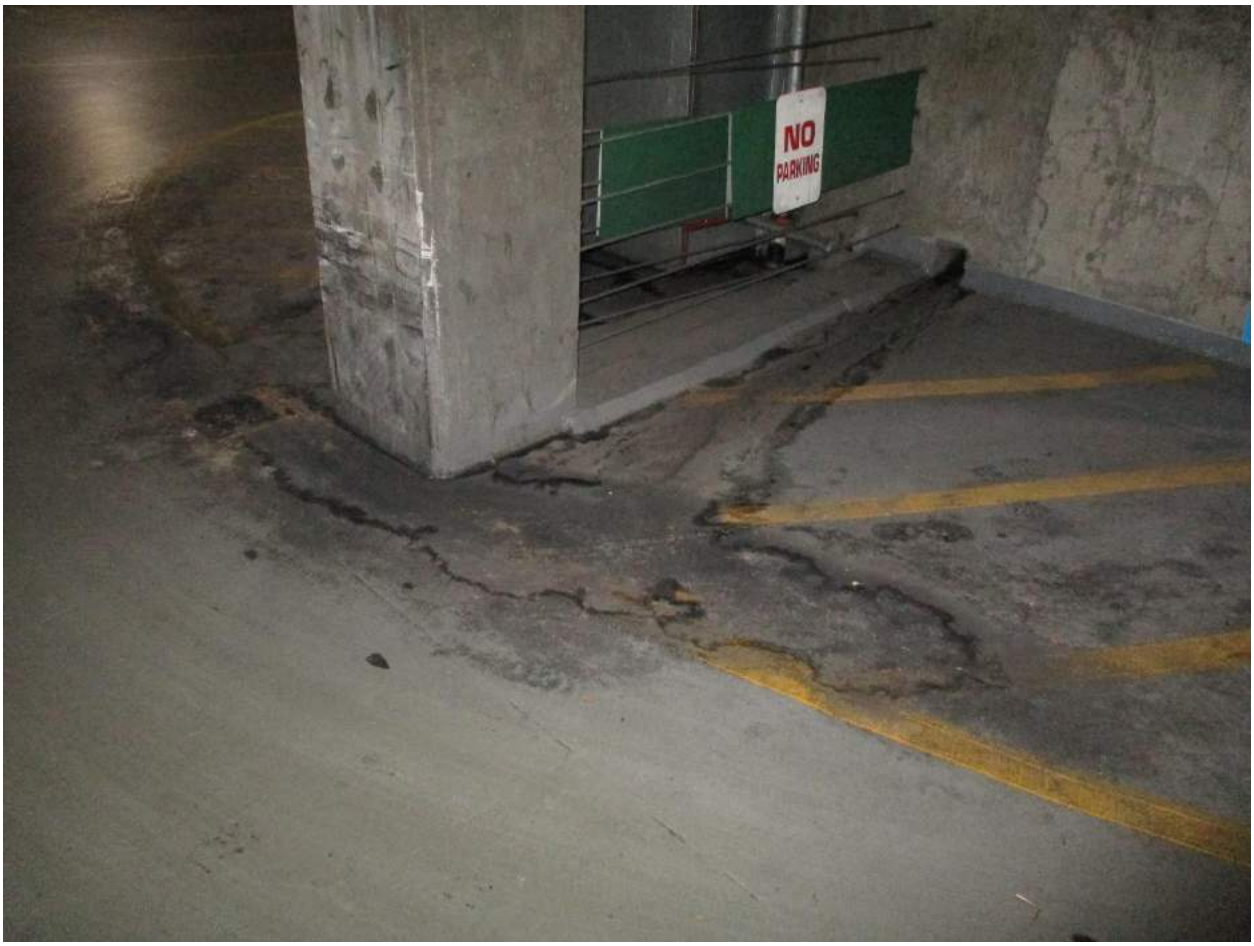
Exemplar images of membrane Condition 2.

Exemplar images of membrane Condition 2.



Exemplar image of membrane Condition 2.

Exemplar image of membrane Condition 3 on level 2.



Exemplar images of membrane Condition 3 on level 2.

Exemplar images of membrane Condition 3 on level 2.

Exemplar image of membrane Condition 3 on level 2.

Exemplar images of membrane Condition 4.

Exemplar image of membrane Condition 4.

Exemplar image of membrane Condition 5.

Exemplar image of membrane Condition 6 on level 2.

Exemplar image of membrane Condition 7.

Exemplar images of membrane Condition 7.

Exemplar images of membrane
Condition 7 on level 2.

Exemplar images of membrane Condition 8.

Exemplar images of membrane Condition 9.

Exemplar images of membrane Condition 10.

Exemplar images of membrane Condition 11.

Exemplar image of membrane Condition 12.

Exemplar image of membrane Condition 13.

Exemplar images of membrane Condition 14.

Failure of mortar over embedment plate of precast panel at A-3.

Failure of mortar over embedment plate of precast panel at B-8.

Failure of mortar over embedment plate of precast panel at D-2.

Failure of mortar over embedment plate of precast panel at H.2-1.

Failure of mortar over embedment plate of precast panel at O-7.

Evidence of slight surface corrosion at dead-end anchor zone at L6 F-5.

Live-end anchor zone in beam and deck at L6 F-5.

Close-up of the anchor zone of the deck showing a loose mortar cap.

Live-end anchor zone in beam and deck at L6 G-5.

Live-end anchor zone in beam and deck at L6 H-5.

Live-end anchor zone in beam and deck at L6 J-5.

Figure 1. Image of GPR profile of a 30-foot section along the length of the Level 1 Ramp from Main Street. The rebar are shown as the white arches. The depth of the rebar (cover thickness) ranges from roughly 1.2 inches (red dot) to 4.6 inches (red dot).

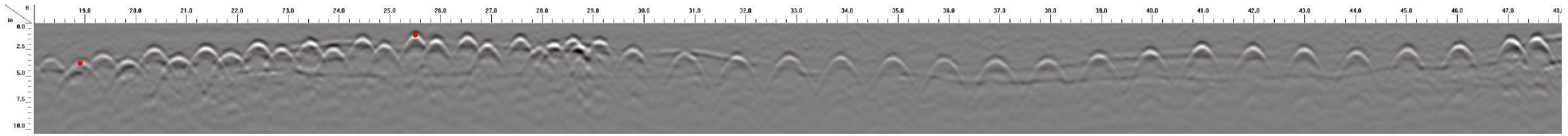


Figure 2. Image of GPR profile of the same ramp in the lateral direction. The cover thickness ranges from about 1.3-inches to 4.1-inches (red dots).

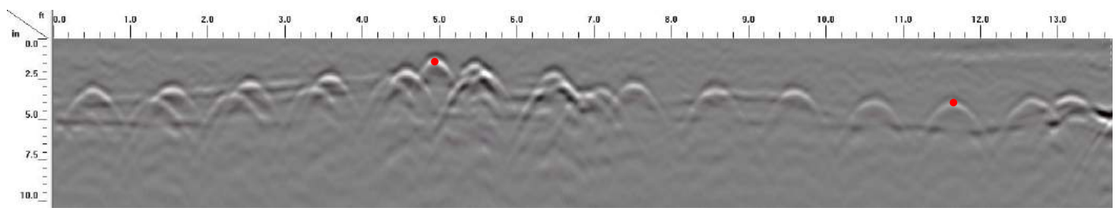


Figure 3. Image of GPR profile of a 29-foot section along the length of the Level 1 Spiral Ramp from the lower level. The cover thickness ranges from 1.5-icnhes to 3.6-inches (red dots).

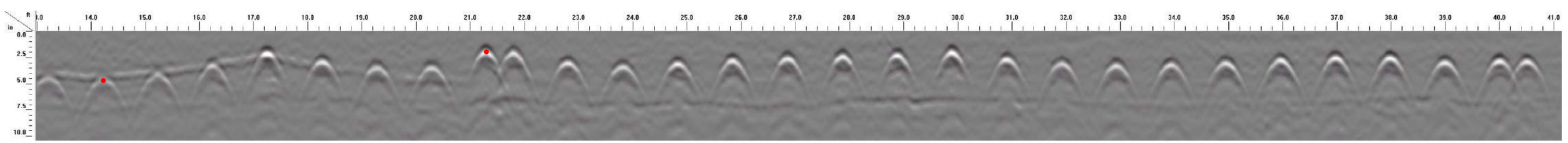


Figure 4. Image of GPR profile of the same ramp in the lateral direction. The cover thickness ranges from about 2.5-inches to 3.4-inches (red dots).

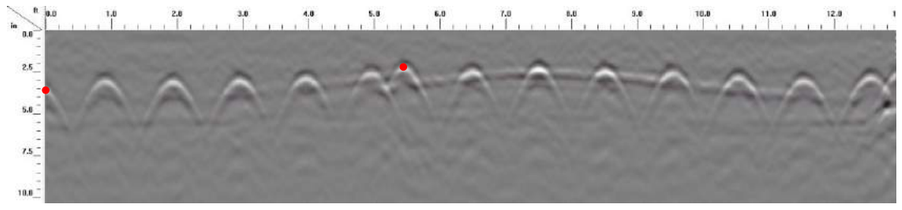


Figure 5. Image of GPR profile of a 27-foot long section of the level 3 ramp in the long direction. The bottom of the roughly 6.5-inch thick deck is indicated by the red dashed line. Each white arch is a rebar segment. The shallowest rebar is roughly 2.4-inches deep (red dot). A beam is shown (red box). Note the post-tension (PT) strand spanning over the beam (red arrows). The rebar nearest the beam are most likely to corrode first because cracks adjacent to the beams provide direct pathways for chloride solutions. Cover over these rebar was roughly 2.5-inches.

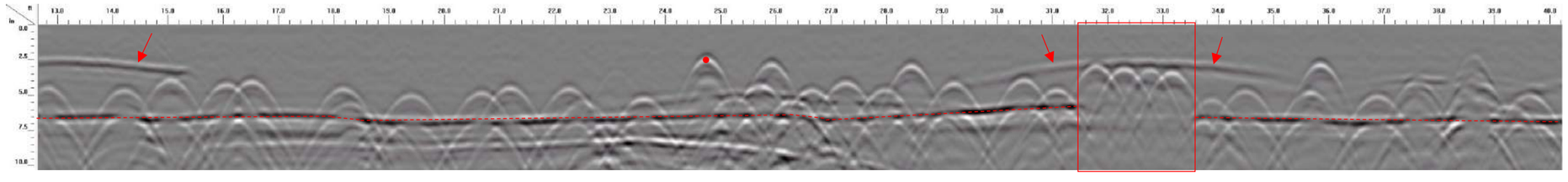


Figure 6. Image of GPR profile of a roughly 12-foot long section of the same deck in the lateral direction. The white arches represent both rebar and post-tension (red circles). This reinforcing is fairly deep near the deck at the midspan. The shallowest rebar is the short segment of rebar (red arrow), which has roughly 2.2-inches of cover.

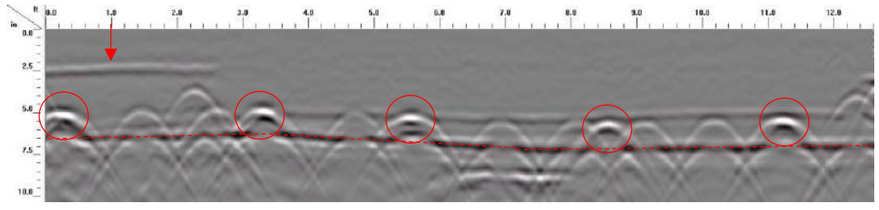


Figure 7. Image of GPR profile of a roughly 21-foot long section the level 5 deck in the lateral direction at the top of the ramp, over a beam. Both rebar (red dots) and post-tension (red circles) are shown. This reinforcing is quite shallow in the deck over the beam. The shallowest rebar, probably a stirrup (red dot), has roughly 1.4-inches of cover.

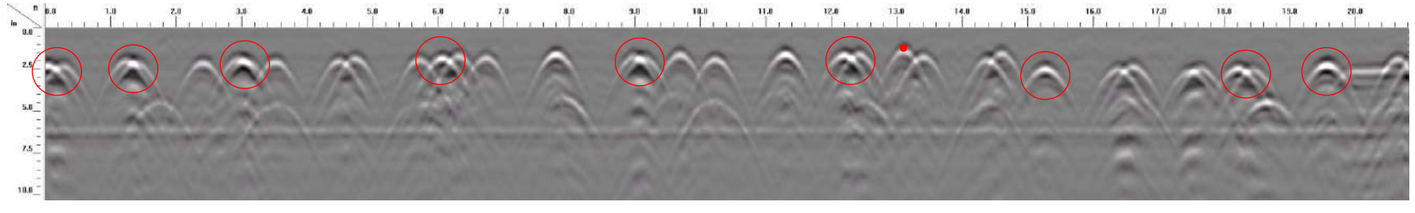
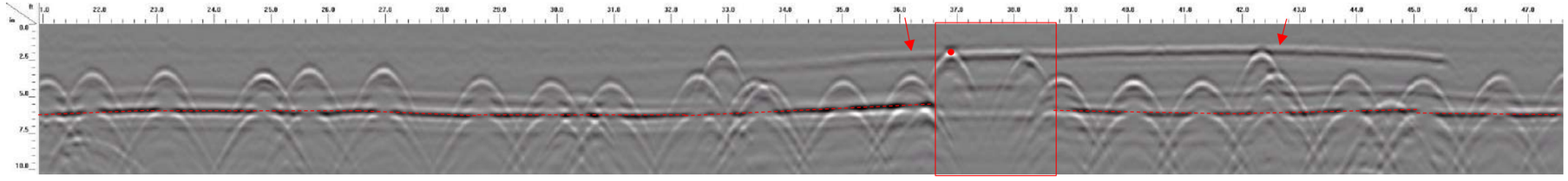


Figure 8. Image of GPR profile of a roughly 26-foot long section of the level 5 deck in the long direction. The bottom of the roughly 6.5-inch thick deck is indicated by the red dashed line. Each white arch is a rebar segment. The shallowest rebar is roughly 2.1-inches deep (red dot). A beam is shown (red box). Note the post-tension (PT) strand spanning over the beam (red arrows).



MINERALOGY-INC
WHERE SCIENCE GETS DOWN TO EARTH

Cap & Main Parking Garage
19-051N

Concrete Core Evaluation

Requested by:
Rusy Boicourt
Veritas Material Consulting

Mineralogy, Inc. Number 19235

Date:
November 6, 2019

Submitted by:

Timothy B. Murphy

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Tulsa, Oklahoma 74114
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+1 (918) 744.8284

www.mineralogy-inc.com

Table of Contents

CONDITIONS AND QUALIFICATIONS

Mineralogy, Inc. will endeavor to provide accurate and reliable laboratory measurements of the samples provided by the client. The results of any x-ray diffraction, petrographic or core analysis test are necessarily influenced by the condition and selection of the samples to be analyzed. It should be recognized that geological samples are commonly heterogeneous and lack uniform properties. Mineralogical, geochemical and/or petrographic data obtained for a specific sample provides compositional data pertinent to that specific sampling location. Such "site-specific data" may fail to provide adequate characterization of the range of compositional variability possible within a given project area, thus the "projection" of these laboratory findings and values to adjoining, "untested" areas of the formation or project area is inherently risky, and exceeds the scope of the laboratory work request. Hence, Mineralogy, Inc. shall not assume any liability risk or responsibility for any loss or potential failure associated with the application of "site or sample-specific laboratory data" to "untested" areas of the formation or project area. Unless otherwise directed, the samples selected for analysis will be chosen to reflect a visually representative portion of the bulk sample submitted for analysis. Where provided, the interpretation of x-ray diffraction, petrographic or core analysis results constitutes the best geological judgment of Mineralogy, Inc., and is subject to the sampling limitations described above, and the detection limits inherent to semi-quantitative and/or qualitative mineralogical and microscopic analysis. Mineralogy, Inc. assumes no responsibility nor offers any guarantee of the productivity, suitability or performance of any oil or gas well, hydrocarbon recovery process, dimension stone, and/or ore material based upon the data or conclusions presented in this report.

This report is to only be replicated in its entirety.

Sample Retention: Samples will be stored for a period of 30 days and thereafter discarded. If additional sample storage time and/or return shipping is required, appropriate charges will be billed to the client.

Introduction

A single concrete core sample from the Level 4 Deck location of the Cap & Main Parking Garage facility has been submitted for concrete petrographic analysis utilizing test methods adapted from ASTM C856 (Standard Practice for the Petrographic Examination of Hardened Concrete). Descriptive data and supporting images for the polished slab and thin section sample prepared for this core sample are provided in Appendix I.

Sample ID	Mineralogy, Inc. ID	Testing Protocol
CMP1	19235-01	TSP

TSP = Thin Section Petrography

Summary

The principle findings of the petrographic evaluation for sample CNP 1 are summarized as follows:

- Core CNP 1 is a partial penetration cylinder with an outside diameter of ~ 2.70 inches (6.9 cm), and a core length of 3.25 inches (~ 8.4 cm). The core is a partial penetration cylinder with a fractured base contact surface. No indications of embedded steel or fibers are indicated. The exposure surface exhibits an ICRI CSP 6 (broom) finish with indications of a medium gray (N5) surface patina attributed to traffic wear and oxidization. The concrete framework is porous and exhibits near-surface carbonation of the paste that penetrates to a depth of ~ 4 mm BTC (below top of the core). The concrete is air-entrained and exhibits significant amounts of macro porosity distributed throughout the framework.

- Aggregate materials comprise ~ 55 - 59% of the bulk composition within this mix design. The aggregate composition is dominated by granule to pebble-sized igneous rock fragments (RFs) that include basalt, granite, and dacite RFs. The sand aggregate fraction is dominated by igneous RFs, monocrystalline quartz, feldspar (including plagioclase & K-feldspar varieties), mica, augite, and magnetite. No indications of alkali aggregate corrosion or expansivity are indicated in thin section sample. Selected granitic RFs exhibit indications of intra-granular dissolution and grain replacement with authigenic clay matrix minerals +/- iron oxide cement. The clay replacement and weathering of these grains is likely indicative of corrosion that occurred prior to placement of the concrete.

- Cement constituents comprise ~ 22 - 24% of the concrete bulk volume. The paste components include amorphous calcium silicate hydrate, microcrystalline calcite, partially hydrated alite, portlandite, and belite crystals, calcium aluminum and calcium iron oxide, and trace amounts of ettringite. The paste materials are microporous, densely interlocked, and typically well-adhered to the aggregate grain surfaces within the near-surface concrete framework. The water / cement ratio for this mix design is ~ 0.55.

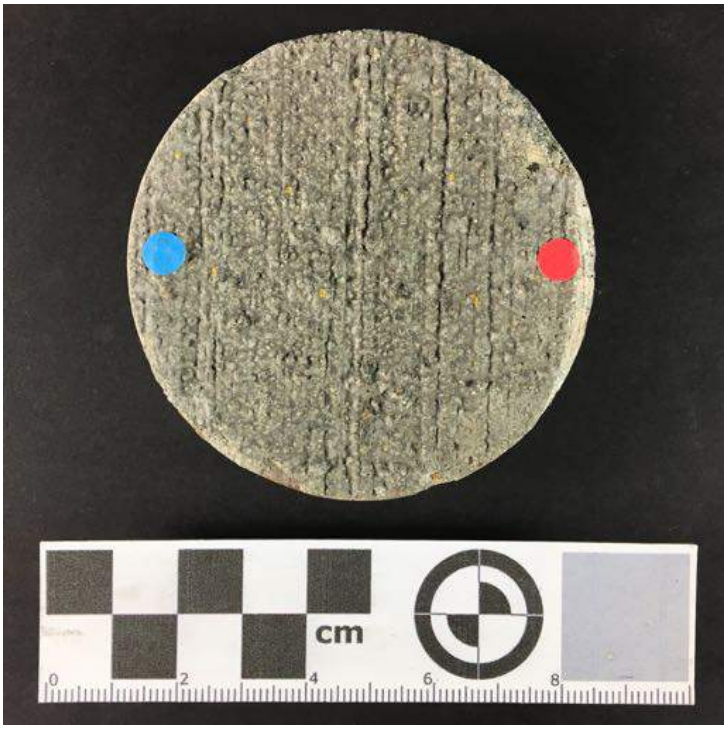
- Localized indications of water escape artifacts are preserved in the near-surface concrete framework within the uppermost 1 - 2 mm of the slab cross section. Water escape artifacts include oversized, elongated micropores that locally intersect the exposure surface of the slab. A few of the oversized pores are flanked by networks of near-surface micro-cracks which could reflect artifacts of expansive strain attributed to expansion +/- the penetration of de-icing salt residues. Inorganic surface chemistry analysis has not been obtained for this core sample, however, traces of chloride salt contamination are locally suggested along selected aggregate / cement contact surfaces. Assessment of the near-surface distribution of water-soluble chloride ions will likely be helpful information if the installation of a low permeance coating system is required for this slab.

Conclusions

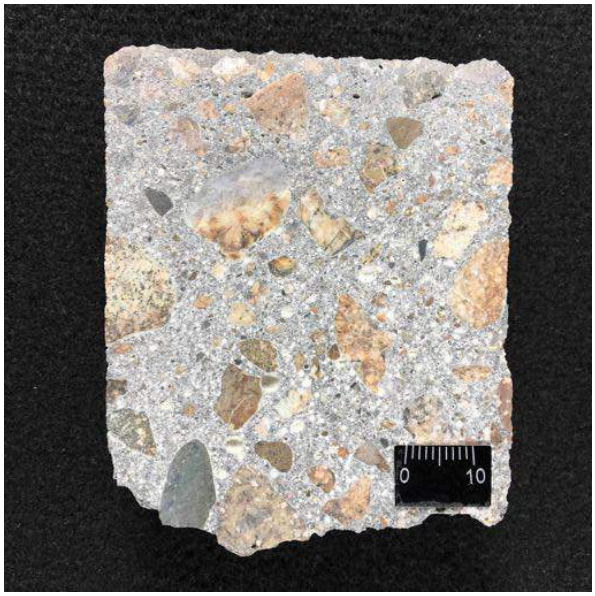
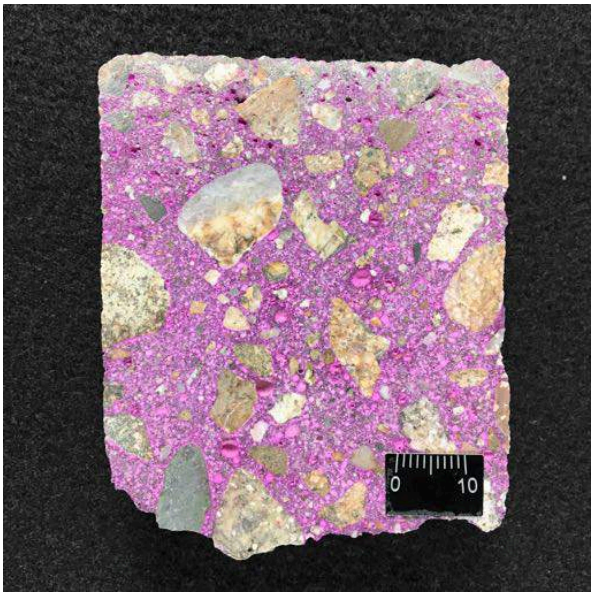
The concrete core sample evaluated for the Cap & Main parking garage facility exhibits localized indications of water escape artifacts that have been locally impacted by expansion and contraction attributed to freeze / thaw weathering + the penetration of de-icing salt residues.

Appendix I
Petrographic Findings

As Received - CMP1



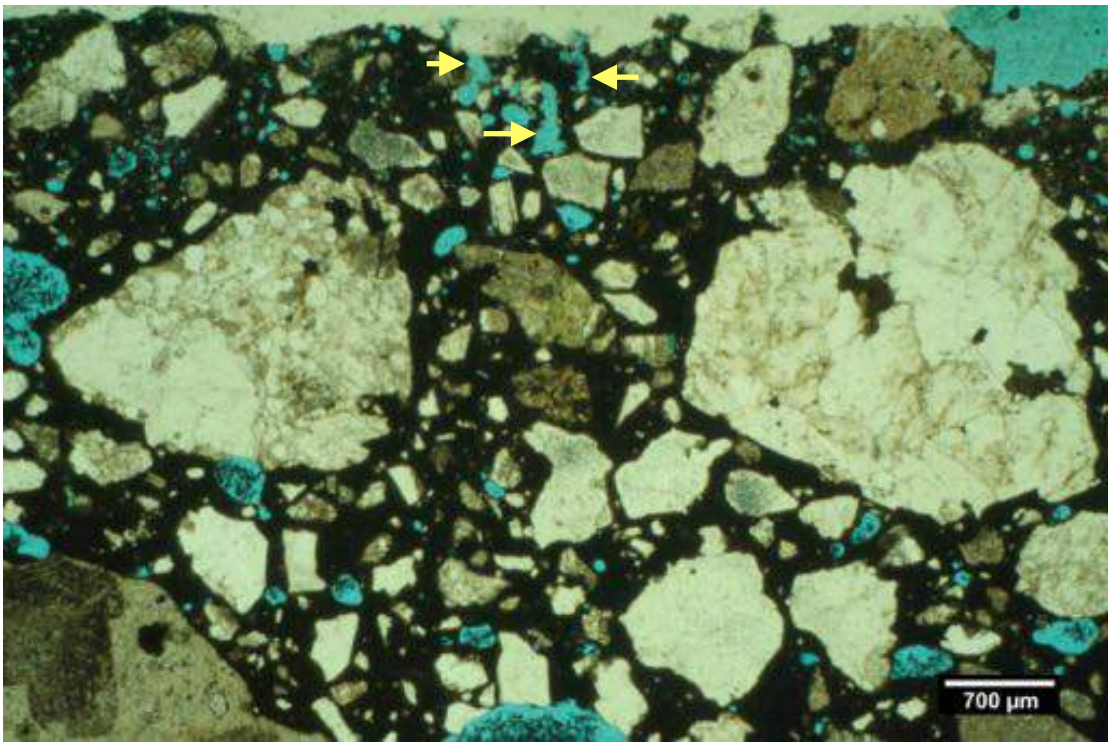
CMP1; MI#19235-01 - Petrographic Data

Slab View	Phenolphthalein
	

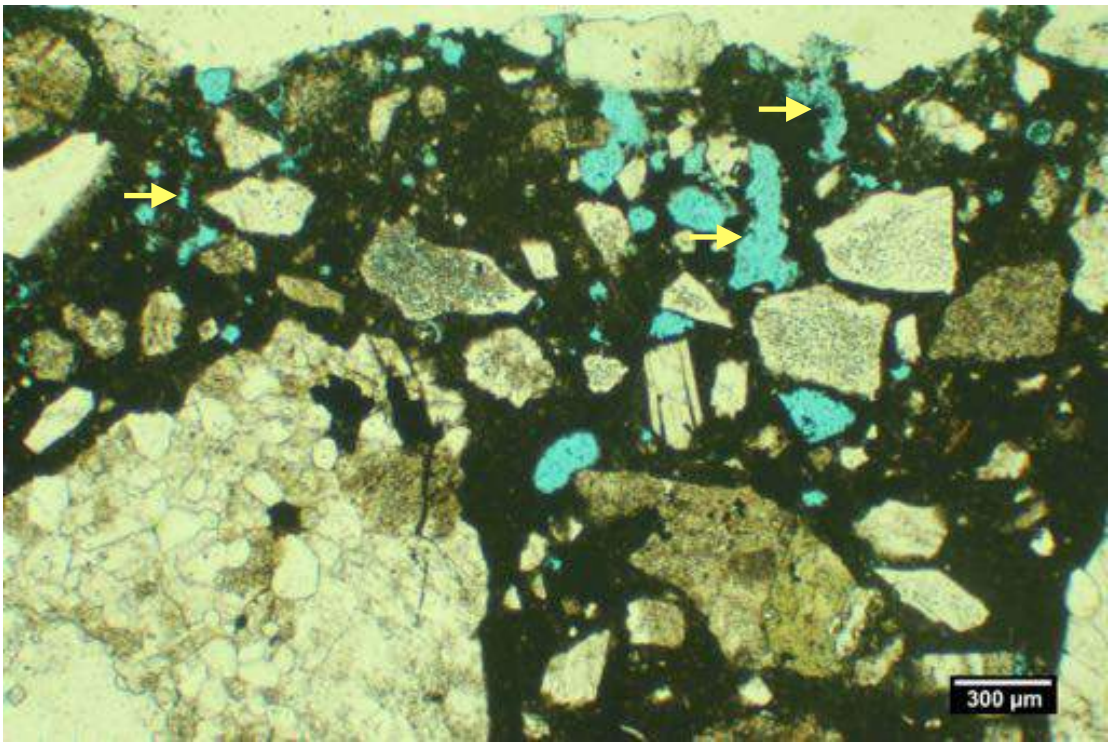
Macroscopic Properties	CMP1 MI#19235-01
Length (cm) / in	(8.4 cm) 3.25”
Diameter (cm) / in	(6.8 cm) 2.70”
Embedded Objects	not present
Cement Color	light gray (N7) with a medium gray (N5) surface patina
Surface Coatings	Broom finish
General Condition	The concrete fabric is microporous, air-entrained, granule & pebble-rich, grain-supported, poorly sorted, well-graded, durable and mechanically competent.
ICRI Surface Profile	CSP 6
Carbonation (BTC) (below top of core)	Carbonation of the paste in the uppermost 4 mm of the cross section.
Base Surface	Partial penetration core w/ fractured base contact surface

Sub-slab Membrane	Not available
Max Grain Diameter	20 mm
Concrete Mix Design	**CMP1 MI#19235-01**
Total Aggregate (%)	~56-58%
Coarse Aggregate	Igneous rock fragments (RFs) - including: basalt, granite, and dacite RFs. Selected granite RFs are corroded and partially altered /replaced with authigenic clay
Sand Aggregate	Igneous RFs > monocrystalline quartz > feldspar > mica > magnetite
Cement (%)	~22-24%; amorphous calcium silicate hydrate > calcite > partially hydrated portlandite, belite and alite crystals > calcium iron oxide > calcium aluminum oxide. Traces of chloride salt residue are distributed throughout portions of the groundmass - especially concentrated along the aggregate grain surfaces.
Water / Cement	~0.55
Macroporosity	~ 9.5% (including air-entrainment & air-entrapment macropores
Alkali-aggregate reaction (ASR / NSAR / ACR)	Not present

CMP1; MI#19235-01

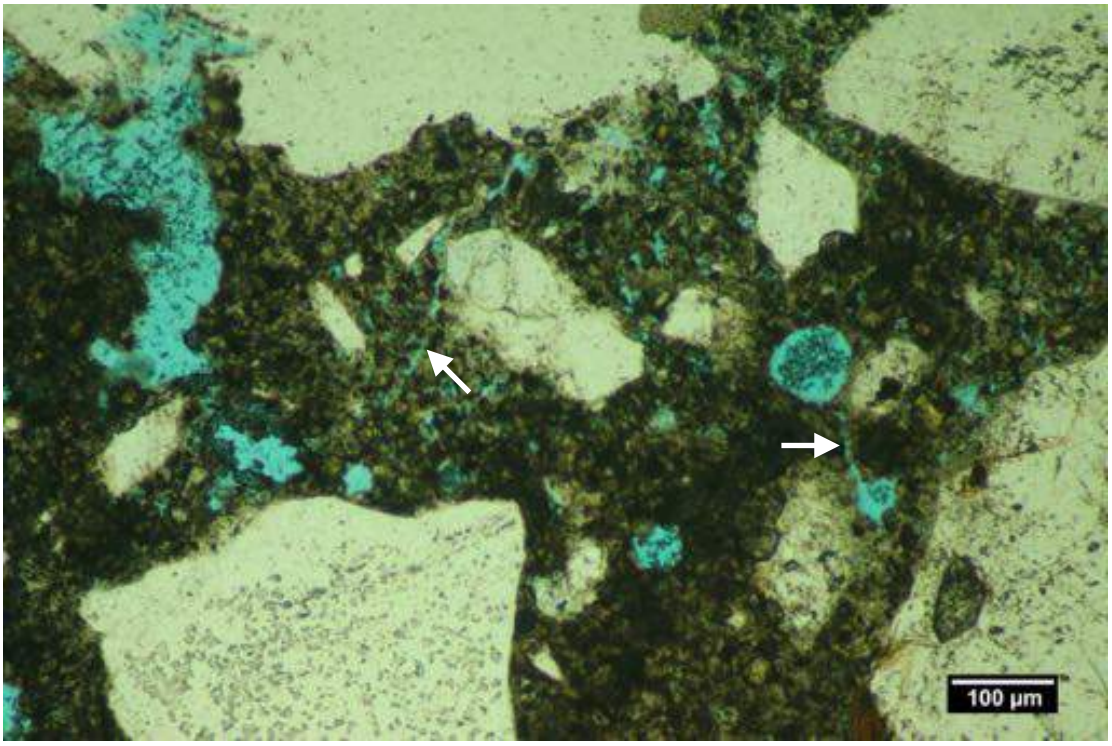


1A. Over-sized air-entrapment micropores at the slab surface (yellow <) are possible artifacts of water-escape modified via freeze/thaw expansion & contraction.

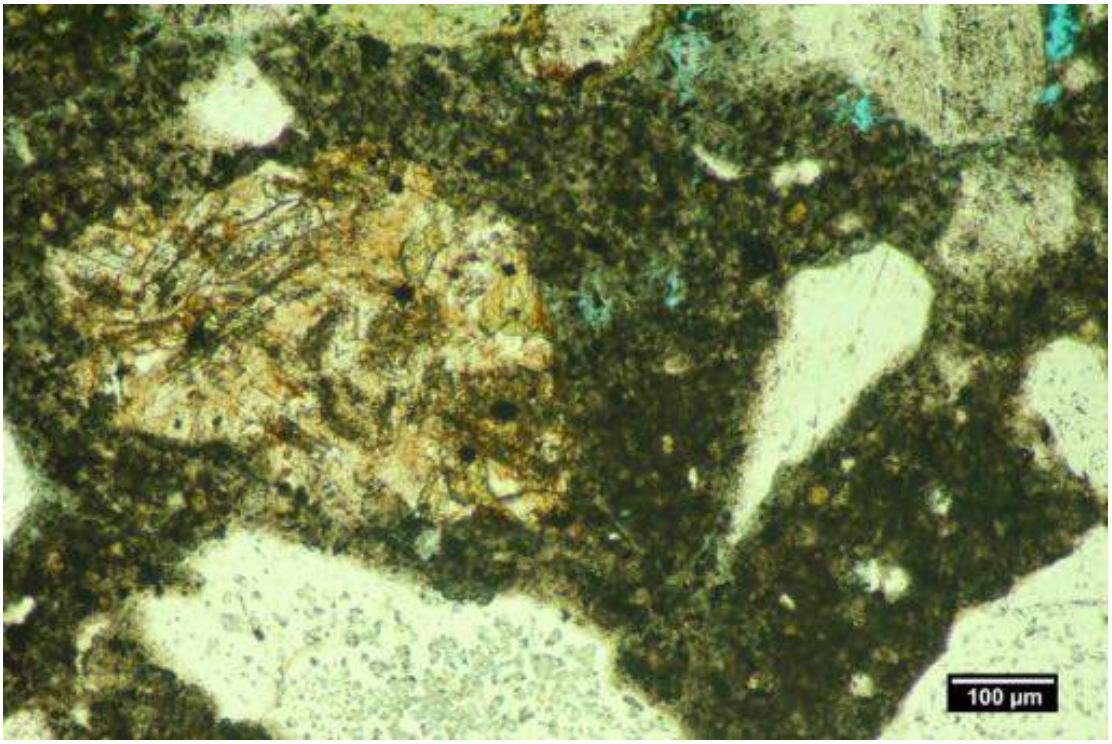


1B. Water-escape artifacts (yellow <).

CMP1; MI#19235-01



1C. Minor expansive strain cracking within the near-surface cement paste (white <) is likely associated with freeze-that strain.



1D. The paste constituents are microporous, densely interlocked and are well adhered to the aggregate grain surfaces.

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TEST REPORT

A & S Project Number:	111672
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L6-N North Column
Mix Number:	PT Anchor Zone
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	40 ppm
Percent Chloride Content:	0.0040%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111673
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L6-S South Column
Mix Number:	PT Anchor Zone
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	25 ppm
Percent Chloride Content:	0.0025%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111674
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L1-Ra L1 Ramp 0-1"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	1,425 ppm
Percent Chloride Content:	0.1425%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111675
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L1-Rb L1 Ramp 1-2"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	570 ppm
Percent Chloride Content:	0.0570%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111676
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L1-Rc L1 Ramp 2-3"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	135 ppm
Percent Chloride Content:	0.0135%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111677
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L2-Ra Ramp at Crack
Mix Number:	0-1"
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	1,570 ppm
Percent Chloride Content:	0.1570%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111678
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L2-Rb Ramp at Crack
Mix Number:	1-2"
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	270 ppm
Percent Chloride Content:	0.0270%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111679
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L2-Rc Ramp at Crack
Mix Number:	2-3"
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	45 ppm
Percent Chloride Content:	0.0045%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111680
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Ra L5 Ramp 0-1.5"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	790 ppm
Percent Chloride Content:	0.0790%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111681
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Rb L5 Ramp 1.5-3"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	700 ppm
Percent Chloride Content:	0.0700%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111682
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Rc L5 Ramp 3-4.5"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	390 ppm
Percent Chloride Content:	0.0390%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111683
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Da
Mix Number:	L5 Deck at Crack 0-1
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	3,100 ppm
Percent Chloride Content:	0.3100%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111684
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Db
Mix Number:	L5 Deck at Crack 1-2
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	2,310 ppm
Percent Chloride Content:	0.2310%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111685
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L5-Dc
Mix Number:	L5 Deck at Crack 2-3
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	2,385 ppm
Percent Chloride Content:	0.2385%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111686
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L6-Da L6 Deck 0-1"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	1,015 ppm
Percent Chloride Content:	0.1015%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111687
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L6-Db L6 Deck 1-2"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	100 ppm
Percent Chloride Content:	0.0100%
Percent Chloride by Mass of Cement:	N/A

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TEST REPORT

A & S Project Number:	111688
Purchase Order Number	N/A
Customer:	Veritas Material Consulting
Plant:	19-051N Capitol and Main Garage
Attention:	Rusty Boicourt , P.G.

The results of tests performed in accordance with ASTM C1152 Acid Soluble Chloride in Mortar and Concrete are as follows:

Client ID Number:	L6-Dc L6 Deck 2-3"
Mix Number:	N/A
Project Number:	N/A
Class:	N/A
Date Sample Cast:	9/28/2019
Date Sample Tested:	10/8/2019
Core Weight (lbs./c.y.):	4,000
Cement Weight (lbs.):	0
Chloride Content (mg/kg)	50 ppm
Percent Chloride Content:	0.0050%
Percent Chloride by Mass of Cement:	N/A

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