



State of Utah

GARY R. HERBERT  
Governor

GREGORY S. BELL  
Lieutenant Governor

Department of Administrative Services

KIMBERLY K. HOOD  
Executive Director

Division of Facilities Construction and Management

DAVID G. BUXTON  
Director

## ADDENDUM NO. 1

Date: August 25, 2010

To: Contractors

From: Michael Ambre

Reference: State Office Building Tunnel Repairs  
Capitol Preservation Board – Salt Lake City, Utah

Project No.08234050

Subject: **Addendum No. 1**

Pages	Addendum	1 page
	Revised Bid Form	2 pages
	<u>Engineers Addendum</u>	<u>22 pages</u>
	Total	25 pages

**Note:** *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

**1.1 SCHEDULE CHANGES** – There are no changes to the project schedule.

**1.2 GENERAL** – Revised Bid Form adding four additive alternates.

Reaveley Engineers + Associates – Specifications and Drawings  
Please see attached.

**Utah!**  
Where ideas connect



**Division of Facilities Construction and Management**

**REVISED BID FORM**

NAME OF BIDDER \_\_\_\_\_ DATE \_\_\_\_\_

The undersigned, responsive to the "Notice to Contractors" and in accordance with the "Instructions to Bidders", in compliance with your invitation for bids for the **State Office Building Tunnel Repairs – Capitol Preservation Board – Salt Lake City, Utah – DFCM Project No. 08234050** and having examined the Contract Documents and the site of the proposed Work and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of labor, hereby proposes to furnish all labor, materials and supplies as required for the Work in accordance with the Contract Documents as specified and within the time set forth and at the price stated below. This price is to cover all expenses incurred in performing the Work required under the Contract Documents of which this bid is a part:

I/We acknowledge receipt of the following Addenda: \_\_\_\_\_

For all work shown on the Drawings and described in the Specifications and Contract Documents, I/we agree to perform for the sum of:

**BASE BID:**

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

(In case of discrepancy, written amount shall govern)

**ADDITIVE ALTERNATE No. 1: Replace the existing 12” and 8” heating water supply piping with new 10” heating water supply (see mechanical drawings).**

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

(In case of discrepancy, written amount shall govern)

**ADDITIVE ALTERNATE No. 2: Pothole tunnel wall at cracks and/or joints that are leaking into tunnel, repair crack as required and add localized exterior waterproofing to these vertical wall locations for full height of wall. This item will be priced on a Unit Price Basis. (see waterproofing drawing).**

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

(In case of discrepancy, written amount shall govern)

**ADDITIVE ALTERNATE No. 3: Raise cable tray from Boiler Plant to Southern end of Project boundry. (see electrical drawing).**

\_\_\_\_\_ DOLLARS (\$ \_\_\_\_\_)

(In case of discrepancy, written amount shall govern)

**ADDITIVE ALTERNATE No. 4: Re-locate irrigation control valves on west tunnel wall to more accessible location (see mechanical drawings).**

\_\_\_\_\_ DOLLARS (\$\_\_\_\_\_)  
(In case of discrepancy, written amount shall govern)

I/We guarantee that the Work will be Substantially Complete by December 30, 2010, should I/we be the successful bidder, and agree to pay liquidated damages in the amount of \$300.00 per day for each day after expiration of the Contract Time as stated in Article 3 of the Contractor's Agreement.

This bid shall be good for 45 days after bid opening.

Enclosed is a 5% bid bond, as required, in the sum of \_\_\_\_\_

The undersigned Contractor's License Number for Utah is \_\_\_\_\_.

Upon receipt of notice of award of this bid, the undersigned agrees to execute the contract within ten (10) days, unless a shorter time is specified in the Contract Documents, and deliver acceptable Performance and Payment bonds in the prescribed form in the amount of 100% of the Contract Sum for faithful performance of the contract.

The Bid Bond attached, in the amount not less than five percent (5%) of the above bid sum, shall become the property of the Division of Facilities Construction and Management as liquidated damages for delay and

additional expense caused thereby in the event that the contract is not executed and/or acceptable 100% Performance and Payment bonds are not delivered within the time set forth.

Type of Organization:

\_\_\_\_\_  
(Corporation, Partnership, Individual, etc.)

Any request and information related to Utah Preference Laws:

\_\_\_\_\_

Respectfully submitted,

\_\_\_\_\_  
Name of Bidder

ADDRESS:  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Authorized Signature

## STATE OFFICE BUILDING TUNNEL IMPROVEMENTS DFCM Project No. 08234050

Addendum #1  
August 20, 2010

Revisions between permit drawings and specifications dated July 16, 2010 and conformance drawings dated August 20, 2010.

### **SPECIFICATIONS**

#### TABLE OF CONTENTS

1. Section 02260 added (EARTHWORK SUPPORT PROTECTION).
2. Section 50120 added (STRUCTURAL STEEL).
3. Division 15 added (MECHANICAL).
4. Division 16 added (ELECTRICAL).
5. Part III – DRAWINGS (updated index).

#### SECTION 01100

- 1.2.F.2.d – Alternate #4 added.
- 1.2.F.3 – Owner Stipulated Contingency added.
- 1.7 – Hours, Utility Interruptions, Security Clearances added/revised.
- 1.9 – UTILITIES DISRUPTION AUTHORIZATION FORM added.

#### SECTION 02260

Section added – EXCAVATION SUPPORT AND PROTECTION

#### SECTION 05120

Section added – STRUCTURAL STEEL

#### DIVISION 15

SECTION 15000 added – GENERAL MECHANICAL REQUIREMENTS

#### DIVISION 16

SECTION 16050 added – BASIC ELECTRICAL MATERIALS AND METHODS

### **DRAWINGS**

- G0.01 Titleblock updated.  
Logos added.
- S0.01 Section V – Deferred Submittal information added.  
Additional Bid Alternate #4 added.

Continued

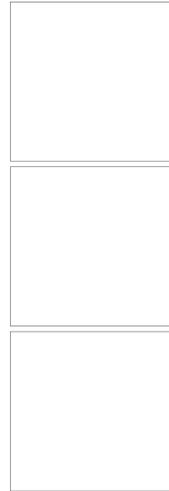
- S0.02 Special Inspection Requirements Sheet added
- S1.01 Notes & General Requirements added.  
Mobilization/Stockpiling area revised  
Bollard Details added  
  
Tunnel section cuts added  
Scope of Work notes added  
Site features added
- SD1.01 Sheet added
- S1.02 Scope of Work clarification notes added  
Steel shoring notes & details added  
Information for Alternate #2 added  
Tunnel Lid Top-Side Repair Notes added.  
Note & Detail for stair/header treatment added.
- S3.01 Sheet added/revised
- S5.01 Bollard details added  
Steel shoring details added  
Concrete repair steps revised
- S5.02 Alternate #2 information added  
Tunnel lid reinforcement & waterproofing information added
  
- MS1.01 Construction Notes 7 & 8 added/revised  
Base Bid Note #7 added  
Alternate #1 information added
- MD1.01 Notes 30, 35, 36 added/revised, clouded at affected areas.
- MD3.01 Drawing note 10 added
- MP1.01 Drawing notes 21-35 added/revised, clouded at affected areas.
- MP3.01 Drawing notes 12-16 added/revised  
Tunnel section H/MP3.01 added/revised
  
- ES100 Cloud added outlining scope of work.
- ED100 Keyed note 11 added/revised & clouded at affected regions
- EP100 Keyed note 7 added/revised & clouded at affected regions

PROJECT:  
**CAPITOL PRESERVATION BOARD  
 STATE OFFICE BUILDING TUNNEL IMPROVEMENTS**

350 NORTH STATE STREET  
 SALT LAKE CITY, UT 84114



State of Utah—Department of Administrative Services  
 DIVISION OF FACILITIES CONSTRUCTION  
 AND MANAGEMENT  
 4110 State Office Building/Salt Lake City, Utah 84114/538-3018



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 Project #: 50000.00

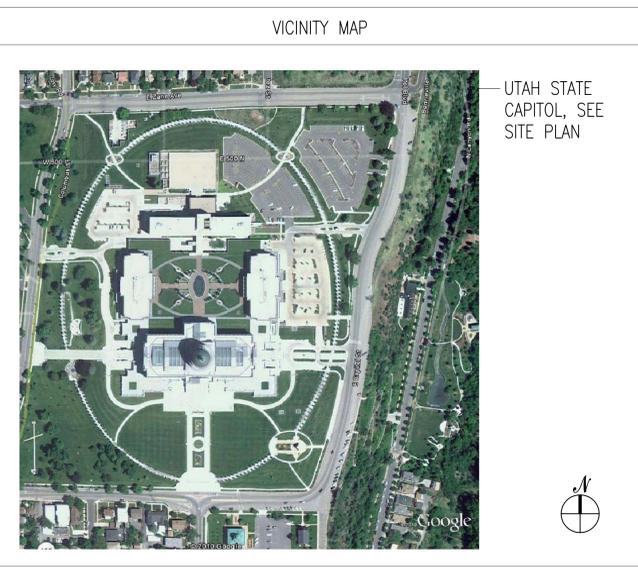
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**CAPITOL PRESERVATION BOARD  
 STATE OFFICE BUILDING  
 TUNNEL IMPROVEMENTS**

**DFCM  
 4110 STATE OFFICE BLDG**



APPROVALS

PRIME AGENCY	Date
DFCM	Date
PRIME AGENCY	Date
DFCM	Date

DRAWING INDEX

Sheet Title	Page
COVER SHEET	G0.01
CODE ANALYSIS & ABBREVIATIONS, GENERAL STRUCTURAL NOTES	S0.01
SPECIAL INSPECTION REQUIREMENTS	S0.02
SITE PLAN	S1.01
DEMOLITION SITE PLAN	SD1.01
OVERHEAD DAMAGE LAYOUT	S1.02
TUNNEL ELEVATION AND SECTIONS	S3.01
REPAIR DETAILS	S5.01
REPAIR DETAILS	S5.02
MECHANICAL SITE PLAN	MS1.01
TUNNEL PLAN (DEMOLITION)	MD1.01
TUNNEL SECTIONS (DEMOLITION)	MD3.01
TUNNEL PLAN (REMODEL)	MP1.01
TUNNEL SECTIONS (REMODEL)	MP3.01
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ELECTRICAL PLAN	EP 101

ISSUED:

NO.	DESCRIPTION	DATE
1	PERMIT SET	7/26/10
2		
3		
4		
5		

REVISIONS:

NO.	DESCRIPTION	DATE
△	ADDENDUM #1	8/20/10
△		
△		
△		
△		

DFCM PROJECT NO.	08234050
DFCM PHASE NO.	
RE&A PROJECT NO.	2010.172
DRAWING FILE:	
SCALE:	AS NOTED
DRAWN BY:	CAT/RE&A
CHECKED BY:	JGJ
DESIGNED BY:	JM
RECORD DRAWING DATE:	
SIGNATURE:	

DRAWING TITLE:  
**COVER SHEET**

DRAWING NUMBER:  
**G0.01**  
 SHEET 1 OF 20

# CODE ANALYSIS

APPLICABLE CODES		
	Year	Year
International Building Code	2009	National Electrical Code
International Mechanical Code		Uniform Code for Building Conservation
International Plumbing Code		ADA Accessibility Guidelines
International Fire Code		
International Energy Conservation Code		

A. Occupancy and Group: ASSEMBLY A-3

Change in Use: Yes  No  Mixed Occupancy: Yes  No   
 Special Use and Occupancy (e.g. High Rise, Covered Mall): \_\_\_\_\_

B. Seismic Design Category: X Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I A I B II A II B III A III B IV HT V A V B

D. Fire Resistance Rating - Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: \_\_\_\_\_ South: \_\_\_\_\_ East: \_\_\_\_\_ West: \_\_\_\_\_

E. Mixed Occupancies: \_\_\_\_\_ Nonseparated Uses: \_\_\_\_\_

F. Sprinklers: \_\_\_\_\_

Required: \_\_\_\_\_ Provided: \_\_\_\_\_ Type of Sprinkler System: \_\_\_\_\_

G. Number of Stories: \_\_\_\_\_ Building Height: \_\_\_\_\_

H. Actual Area per Floor (square feet): \_\_\_\_\_

I. Tabular Area: \_\_\_\_\_

J. Area Modifications:

$$A_a = A_1 + \left[ \frac{A_1 I_r}{100} \right] + \left[ \frac{A_1 I_s}{100} \right] \quad I_r = 100 \left[ \frac{F}{P} - 0.25 \right] \frac{W}{30}$$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:

- One Story: \_\_\_\_\_
- Two Story:  $A_a(2)$  \_\_\_\_\_
- Three Story:  $A_a(3)$  \_\_\_\_\_

d) Unlimited Area Building: Yes  No  Code Section: \_\_\_\_\_

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Hours	Assembly Listing
Exterior Bearing Walls				Floors - Ceiling Floors
Interior Bearing Walls				Roofs - Ceiling Roofs
Exterior Non-Bearing Walls				Exterior Doors and Windows
Structural Frame				Shaft Enclosures
Partitions - Permanent				Fire Walls
Fire Barriers				Fire Partitions
				Smoke Partitions

L. Design Occupant Load: \_\_\_\_\_

Exit Width Required: \_\_\_\_\_ Exit Width Provided: \_\_\_\_\_

M. Minimum Number of Required Plumbing Facilities:

- Water Closets - Required (m) \_\_\_\_\_ (f) \_\_\_\_\_ Provided (m) \_\_\_\_\_ (f) \_\_\_\_\_
- Lavatories - Required (m) \_\_\_\_\_ (f) \_\_\_\_\_ Provided (m) \_\_\_\_\_ (f) \_\_\_\_\_
- Bath Tubs or Showers: \_\_\_\_\_
- Drinking Fountains: \_\_\_\_\_ Service Sinks: \_\_\_\_\_

FOOTNOTES:

- In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
  - High Rise Requirements.
  - Atriums.
  - Performance Based Criteria.
  - Means or Egress Analysis.
  - Fire Assembly Locator Sheet.
  - Exterior and Interior Accessibility Route.
  - Fire Stopping, Including Tested Design Number.

## I. Design Criteria

A. Governing Building Code: 2009 International Building Code (IBC)

## II. Concrete

A. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-05, "Building Code Requirements for Structural Concrete."

- Compressive strengths of concrete at 28 days shall be as follows:
  - Walls: 4500 psi
  - Joints, Beams and Suspended Slabs: 4500 psi
  - All other Site Cast Concrete: 4500 psi
- Concrete Density (Maximum Air Dry Weight):
  - Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot.
  - Lightweight concrete shall not exceed 110 pounds per cubic foot and shall be made of lightweight coarse aggregates and a blend of lightweight and normal weight fines.

- Reinforcement steel:
  - ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise.
  - Reinforcement at concrete moment frames and shear wall jombs shall be ASTM A706 or ASTM A615 Grade 60, with the following properties:
    - Actual yield strength based on mill tests shall not exceed 78,000 psi.
    - Re-test shall not exceed 81,000 psi.
    - Ratio of actual ultimate tensile stress to the actual yield strength shall not be less than 1.25.
    - Mill tests shall be submitted to the Engineer.
- Admixtures:
  - Air-entraining admixtures, comply with ASTM C 260 (when used).
    - When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R-96 "Guide for Concrete Floor and Slab Construction" for proper finishing guidelines.
    - Calcium chloride shall not be added to the concrete mix.
  - Only one grade or type of concrete shall be poured on the site at any given time.
  - Plastic coated tie wires and chairs shall be used to support reinforcing bars, tie bars and tendons.

B. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.

C. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building Code Requirements for Structural Concrete".

- Cast-in-place Concrete: \_\_\_\_\_ Clear Cover \_\_\_\_\_
  - Unless noted otherwise: \_\_\_\_\_ "2"

D. Construction Joints and Control Joints:

- Match existing joint layout.
- Construction joints in suspended concrete pours shall be made at the center of spans.
- Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction. All discontinuous control or construction joints shall be reinforced with 2 - #4 x 48". See structural details. Construction joints shall not exceed a distance of 125'-0" o.c. in any direction.
- Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by:
  - Saw cut a depth of 1/4 the thickness of the slab
  - Tooled joints a depth of 1/4 the thickness of the slab

E. Detailing: All reinforcing, including WWF, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.

- Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler. They shall be covered by a current ICC Code Evaluation Report. Use "Cachewell" splice sleeves with ferrous filler, "Lentini" taper threaded rebar splices, "Bar-Lock" lock-rebar bolt coupling sleeves, or approved equivalent. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
- All embedments and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
- Use chairs or other support devices recommended by the CRSI to support and tie the reinforcement bars and WWF prior to placing concrete. WWF shall be continuously spaced at 36" o.c. maximum.
- Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing. Unless noted otherwise, corner bar lap lengths shall conform with reinforcing bar lap splice lengths as noted above.
- All vertical reinforcing shall be doweled to footings, or to the structure below. Dowels shall be the same size and at the same spacing as the vertical reinforcing scheduled (or detailed) for the element above. Lap splice lengths shall comply as noted above or as shown in the drawings. Dowels extending into footings shall terminate with a 90 degree standard ACI hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
- Horizontal wall reinforcing shall terminate at ends of walls and openings into the far end of the jamb column with a 90-degree standard ACI hook, unless shown otherwise. Lap horizontal bar splices as noted above or as shown in the drawings. Horizontal wall reinforcing shall be continuous through construction and control joints. Splices in horizontal reinforcing shall be staggered, so the splice laps will not overlap. Splices in two curtains where used shall not occur in the same location, splice laps shall not overlap.
- Provide 2-#5 x 4'-0" diagonal bars (or 1 - #7 x 4'-0" bar in 10" walls and thimble) at the corners of all openings. Diagonal bars shall be centered on the corner of the opening. All recesses in concrete walls that interrupt reinforcing steel shall be reinforced the same as an opening.
- Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
- All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the engineer.

## III. Special Instructions

A. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical details.

B. Shoring and Bracing Requirements:
 

- Floor and Roof Structures - The General Contractor is responsible for the method and sequence of all structural erection. He shall provide temporary shoring and bracing as his method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.

C. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the contractor of the responsibility of completing the project according to the contract documents. The general contractor shall review and mark all shop drawings prior to submitting them to the Engineer for his review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.

D. Project Coordination: It shall be the responsibility of the general contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the general contractor and shall be coordinated with the Engineers. The order of construction is the responsibility of the general contractor. It is the contractor's obligation to provide all items necessary for his chosen procedure.

E. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, contractor shall notify engineer prior to fabrication or construction within that area.

F. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers and Associates, Inc., All Rights reserved. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers & Associates, Inc.'s reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers and Associates, Inc. for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the contractor or his subcontractors for preparation of shop drawings or other submittals.

## IV. Quality Assurance

A. Quality Assurance Agency Requirements:

- The owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. All quality assurance personnel assigned to the project shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.
- Prior to construction, the QAA shall prepare a written Quality Assurance Implementation Plan (QAIP) for the project. The QAIP shall include a list of personnel assigned to the project, including management personnel, inspection procedures and frequency, proposed testing methods and frequency of testing, and reporting procedures. The QAIP shall also outline methods of documenting deficiencies and reporting corrections. A copy of the QAIP shall be given to the contractor for review and coordination with subcontractors.
- Prior to construction, the QAA shall submit the following information to the Engineer of Record for approval:
  - A copy of the Quality Assurance Implementation Plan for the project.
  - A copy of the appropriate certification and training records for each individual performing inspections or testing.
  - A list of the testing equipment designated for the project and recent calibration records for the equipment.
  - Sample inspection and testing reports and the distribution list for the reports.
- The special inspector shall inspect the work per Chapter 17 of the IBC for conformance with the contract documents. The special inspector shall send reports to the owner, building official, engineer, and contractor. All discrepancies shall be brought to the immediate attention of the contractor for correction. The QAA shall submit a final signed report stating that the special inspection work was, to the best of their knowledge, in conformance with the plans, specifications and applicable workmanship provisions of the IBC.

B. Special Inspection: Special Inspection shall be provided for the following elements per IBC sections 1704 and 1707:

- Concrete and elements embedded in concrete shall be special inspected prior to and during placement of concrete. Special inspection of concrete shall include the following:
  - Reinforcing steel size and placement.
  - Concrete shall receive continuous special inspection during placement, and periodic inspection after placement to ensure proper curing and weather protection procedures.
- Post-installed anchors, including but not limited to expansion anchors, adhesive anchors and rebar dowels, and low velocity fasteners, shall receive special inspection per the code evaluation reports for the anchors.
  - Continuous special inspection is required during the installation of all adhesive anchors and rebar dowels. Special inspector shall verify the following:
    - Anchor size and steel grade
    - Hole diameter, location, and type of bit drill.
    - Cleanliness of hole and anchor.
    - Adhesive application.
    - Anchor embedment.

C. Structural Testing: The following materials shall be tested per IBC sections 1704 and 1708. The owner reserves the right to test any and all materials using any appropriate non-destructive procedure. Any items found to be deficient shall be corrected and retested at no additional cost to the owner.

- Concrete Strength Verification and Testing: All concrete shall be tested to verify strength, slump, unit weight, air content, and temperature. See the specifications for testing criteria, testing frequency and acceptability criteria.
- Post-installed anchors, including but not limited to expansion anchors, adhesive anchors, and low velocity fasteners, shall be tested per the code evaluation reports for the anchors.

D. Structural Observations by the Engineer of Record:

- The Engineer of Record may perform structural observations at critical phases of the project. Copies of the engineer's report will be distributed to the contractor, owner, and QAA.
- Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.
- Notification of Engineer: The contractor shall notify the engineer twenty-four hours prior to:
  - Placing concrete in any footing.
  - Closing any wall forms.
  - Placing concrete in any column, beam or suspended slab.
  - Grouting any masonry.
  - Completing the welding of major sections of steel decking.
  - Completing the nailing of any plywood wall or deck.

E. Contractor Responsibility: The contractor shall prepare and submit a written statement of responsibility to the building official and the owner prior to commencement of work on the project. As a minimum the statement shall contain the following information:

- Acknowledgement of the quality assurance requirements for the structure.
- Acknowledgement of receipt of the Quality Assurance Implementation Plan (QAIP) from the testing agency.
- Acknowledgement that control will be exercised to obtain conformance to the Contract Documents and the QAIP.
- Quality control procedures within the contractors organization, methods and frequency of reporting, and distribution of the reports.
- Identification and qualifications of the person(s) responsible for quality control and their position(s) in the organization.

## V. Deferred Submittals

A. Deferred Submittals shall be submitted for review to the design professional in responsible charge prior to submitting to the DFCM Building Official for approval. Deferred submittals, upon submission to DFCM, shall be accompanied by a letter from the engineer stating that the drawings are in conformance with his design.

B. The contractor is responsible to submit a schedule of deferred submittals at project inception to the Engineer and Building Official for review (a minimum of 14 days for this review). No deferred submittals will be reviewed until the proposed schedule has been approved by the engineer and the Building Official. Deferred Submittals shall be submitted at least one month prior to the anticipated start date of construction work pertaining to the particular deferred submittal.

C. No deferred submittal items are to be installed until approval has been granted by the DFCM Building Official.

D. Items that may be provided as a deferred submittal include but are not limited to the following: Non-Structural components that are permanently attached to structures as their supports and attachments including seismic restrains.

E. If the seismic restraint of nonstructural components is to be deferred it should be clearly noted on the plans by means of the DFCM "Nonstructural Component Checklist".

F. All nonstructural component deferred submittals should be submitted in one single package or in groups by discipline. As an example, at no time should multiple submittals be provided for the seismic restraint of mechanical items, such as separate submittals for equipment, ductwork, piping, etc. The design professional in responsible charge should submit deferred submittals to the DFCM Building Official grouped in as few packages as feasible.

G. The deferred submittal must include all necessary details and specific information relating to the materials, type, size, etc. as necessary to fabricate and install the deferred submittal item.

H. The deferred submittal items should include a "Statement of Special Inspections" addressing any necessary special inspection and testing requirements during the fabrication and installation of such items.

## ABBREVIATIONS

AB	ANCHOR BOLT(S)	F.D.	FLOOR DRAIN	OPNG	OPENING
ABV	ABOVE	FDN	FOUNDATION	OPP	OPPOSITE
ACI	AMERICAN CONCRETE INSTITUTE	F.F.	FINISH FLOOR	O.C.	ON CENTER
AT	AT	FIN	FINISH	O.F.	OUTSIDE FACE
ALT	ALTERNATE	FL	FINISH	OWSJ	OPEN WEB STEEL JOIST
APPROX	APPROXIMATE	FT	FOOT		
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	FTG	FOOTING		
AWS	AMERICAN WELDING SOCIETY	FV	FIELD VERIFY	PCF	POUNDS/CUBIC FOOT
		GA	GAUGE	PL	PLATE
BM	BEAM	GALV	GALVANIZED	PLF	POUNDS/LINEAR FOOT
BLW	BELOW	GLB	GLUE LAMINATED BEAM	PNL	PANEL
BLDG	BUILDING	GR	GRADE	PSF	POUNDS/SQUARE FOOT
BOT	BOTTOM	GSN	GENERAL STRUCTURAL NOTES	PSI	POUNDS/SQUARE INCH
BRG	BEARING	HT	HORIZONTAL BRIDGING	PT	POINT
BTWN	BETWEEN	HB	HEIGHT	P.T.	POST TENSION
		HORIZ	HORIZONTAL	QAA	QUALITY ASSURANCE AGENCY
		HSA	HEADED STUD ANCHOR	QAIP	QUALITY ASSURANCE IMPLEMENTATION PLAN
C.J.	CONSTRUCTION JOINT OR CONTROL JOINT	IBC	INTERNATIONAL BUILDING CODE	REINF	REINFORCING
CJP	COMPLETE JOINT PENETRATION	ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS	RD	ROOF DRAIN
CMU	CONCRETE MASONRY UNIT	ICC	INTERNATION CODE COUNCIL	REQ'D	REQUIRED
COL	COLUMN			SHT	SHEET
CONC	CONCRETE			S.I.	SPECIAL INSPECTION
CONST	CONSTRUCTION	IN	INCH	SDI	STEEL DECK INSTITUTE
CONT	CONTINUOUS	INSUL	INSULATION	SJI	STEEL JOIST INSTITUTE
CONTR	CONTRACTOR	INT	INTERIOR	SOG	STANDARD SLAB ON GRADE
CTR	CENTER	I.F.	INSIDE FACE	STD	STANDARD
		JT	JOINT	STIFF	STIFFENER
DB	DECK BEARING	JST	JOIST	STL	STEEL
DBA	DEFORMED BAR ANCHOR			SQ	SQUARE
DBL	DOUBLE	KLF	KIPS PER LINEAR FOOT	SIR	SIMILAR
DET	DETAIL	KSF	KIPS PER SQUARE FOOT	STR	STRUCTURAL
DIA (#)	DIAMETER	KSI	KIPS PER SQUARE INCH	STAG	STAGGERED
DIM	DIMENSION	K	KIPS - 1000 POUNDS	T&B	TOP AND BOTTOM
DN	DOWN			TEMP	TEMPERATURE
DWG	DRAWING	LF	LINEAL FOOT	THDS	THREADS
DWL	DOWEL	LBS	POUNDS	THRU	THROUGH
EA	EACH	LLH	LONG LEG HORIZONTAL	T.O.	TOP OF
E.J.	EXPANSION JOINT (SEISMIC SEPARATION JOINT)	LLV	LONG LEG VERTICAL	TOF	TOP OF FOOTING
ELEC	ELECTRICAL	MAS	MASONRY	TOS	TOP OF SLAB
ELEV	ELEVATION	MAX	MAXIMUM	TOP	TOP OF WALL
EQUIP	EQUIPMENT	MCJ	MASONRY C.J.	TYP	TYPICAL
EQ	EQUAL	MECH	MECHANICAL		
EXIST	EXISTING	MFR	MANUFACTURER	UNO	UNLESS NOTED OTHERWISE
EXP	EXPANSION / EXPOSED	MIN	MINIMUM	VERT	VERTICAL
EXT	EXTERIOR	MISC	MISCELLANEOUS	W/	WITH
E.X.	EACH FACE	MPH	MILES PER HOUR	WWF	WELDED WIRE FABRIC
E.W.	EACH WAY	NIC	NOT IN CONTRACT		
		NTS	NOT TO SCALE		

## PLAN MARKS

BF-#	BRACED FRAME	CSS-#	CONC SUSPENDED SLAB	ML-#	MASONRY LINTEL
CB-#	CONCRETE BEAM	CSW-#	CONC SHEAR WALL	MP-#	MASONRY PIER
CC-#	CONCRETE COLUMN	CW-#	CONCRETE WALL	MW-#	MASONRY WALL
CDP-#	CONC DRILLED PIER	FC#	CONTINUOUS FOOTING	PD-#	PLYWOOD DIAPHRAGM
CFW-#	CONC FDTN. WALL	FM#	MAT FOOTING	PSW-#	PLYWOOD SHEAR WALL
CGB-#	CONC GRADE BEAM	FR#	RECTANGULAR FOOTING	SBP-#	STEEL BASE PLATE
CJ-#	CONCRETE JOIST	FS#	SQUARE FOOTING	SC-#	STEEL COLUMN
CL-#	CONCRETE LINTEL	FTS#	THICKEND SLAB FOOTING	SCP-#	STEEL CAP PLATE
CP-#	CONCRETE PIER	MC-#	MASONRY COLUMN	SD-#	STEEL DECK
CRW-#	CONC RETAINING WALL	MF-#	MOMENT FRAME		
CSG-#	CONC SLAB ON GRADE				

## ADDITIONAL BID ALTERNATES

- REPLACE EXISTING 12" AND 18" HEATING SUPPLY PIPING WITH 10" HEATING WATER SUPPLY PIPING (SEE MECHANICAL DRAWINGS).
- EXCAVATE TO EXPOSE EXTERIOR SIDE OF WALL AT CRACK. FILL CRACK AND APPLY WATERPROOFING (SEE C1/S5.02).
- RAISE CABLE TRAY FROM BOILER PLANT TO SOUTHERN END OF PROJECT BOUNDARY (SEE ELECTRICAL-DRAWINGS).
- RELOCATE IRRIGATION SHUT OFF VALVE (SEE MECH DRAWINGS).



## CAPITOL PRESERVATION BOARD

### STATE OFFICE BUILDING

### TUNNEL IMPROVEMENTS

## DFCM

### 4110 STATE OFFICE BLDG

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DFCM PROJECT NO.	08234050
DFCM PHASE NO.	
RE&A PROJECT NO.	2010.172

**SPECIAL INSPECTION AND TESTING UNDER THE PROVISIONS OF 2009 IBC Section 1704 AND FOR MISCELLANEOUS AREAS**

Indicate required Special Inspections for project by checking the appropriate boxes and provide specific instructions as to the inspection requirements and the expectations of the architect, engineer and owner.

**FABRICATORS (IBC 1704.2)**  
 Approved Fabricator Yes  No  Unapproved Fabricator Yes  No

Fabricators Name: To Be Determined After Bid is Awarded  
 Fabricators plant location: To Be Determined After Bid is Awarded  
 Required In-plant Inspections:  Steel Construction  Welding  Details

**STEEL (IBC 1704.3)**  
 High Strength Bolting (1704.3.3)  Continuous  Periodic  
 Visual check that proper materials are used, components were fabricated properly, and the bolted joint is brought into firm contact. See AISC 360 Section A3.3 and M2.5, RCSC Specification for Structural Joints Using ASTM A325 Section 9.1.

**WELDING (1704.3.1)**  
 Details (1704.3.2)  
 Complete & partial penetration groove welds  Continuous  Periodic N/A  
 Multipass fillet welds  Continuous  Periodic N/A  
 Single-pass fillet welds > 5/16"  Continuous  Periodic N/A  
 Single-pass fillet welds ≤ 5/16"  Continuous  Periodic AWS D1.1  
 Floor & roof deck welds  Continuous  Periodic N/A  
**REINFORCEMENT STEEL**  
 Verification of weldability  Continuous  Periodic Welding Reinforcing Steel Not Allowed.  
 Shear wall and shear reinforcement  Continuous  Periodic N/A  
 Other reinforcement  Continuous  Periodic N/A  
 Steel frame joint details  Continuous  Periodic N/A

**CONCRETE CONSTRUCTION (IBC 1704.4)**  
 Materials (1704.4.1)  Continuous  Periodic  
 Steel placement  Continuous  Periodic Visually verify conformance to ACI 318: 3.5, 7.1-7.7 and IBC 1913.4 At new tunnel lid.  
 Steel welding  Continuous  Periodic Welding Reinforcing Steel Not Allowed.  
 Bolts prior & during placement  Continuous  Periodic N/A  
 Use of required design mix  Continuous  Periodic Check mix and strength testing documents to ACI 318: 4, 5.2.5.4 and IBC 1904.2.2, 1913.2, 1913.3  
 Concrete sampling for strength test, slump, air content, and temperature of concrete  Continuous  Periodic 1 set of cylinders per day of placement ASTM C 172, ASTM C31, ACI 318: 5.8 and IBC 1913.10  
 Concrete & shotcrete placement  Continuous  Periodic N/A  
 Curing temperature and techniques  Continuous  Periodic Maintain at 50°F and in a moist condition for the first 7 days after placement. For cold or hot weather curing, see ACI 318: 5.11.5.13 and IBC 1913.9  
 Pre-stressed concrete  Continuous  Periodic N/A  
 Pre-cast concrete  Continuous  Periodic N/A  
 Post-tensioned concrete  Continuous  Periodic N/A  
 Form work  Continuous  Periodic ACI 318: 6.1

**MASONRY CONSTRUCTION (IBC 1704.5)**  
**Item** **Detailed Instructions and Frequencies**  
**As masonry construction begins:**  
 Indicate Category I II  
 Site prepared mortar  Continuous  Periodic N/A  
 Construction of mortar joints  Continuous  Periodic N/A  
 Location of reinforcement, connectors, pre-stressing tendons and anchorages  Continuous  Periodic N/A  
 Pre-stressing technique  Continuous  Periodic N/A  
 Grade and size of pre-stressing tendons and anchorages  Continuous  Periodic N/A  
**Inspection program verify:**  
 Size and location of structural elements  Continuous  Periodic N/A  
 Type, size and location of anchors  Continuous  Periodic N/A  
 Size, grade and type of reinforcement  Continuous  Periodic N/A  
 Welding of reinforcement  Continuous  Periodic N/A  
 Cold and hot weather protection  Continuous  Periodic N/A  
 Application and measurement of pre-stressing force  Continuous  Periodic N/A  
**Prior to grouting verify**  
 Clean grout space  Continuous  Periodic N/A  
 Placement of reinforcement  Continuous  Periodic N/A  
 Grout mix  Continuous  Periodic N/A  
 Mortar joints  Continuous  Periodic N/A  
 Grout placement  Continuous  Periodic N/A  
 Grout and mortar specimens and prisms  Continuous  Periodic N/A  
 Construction and submittal compliance verification  Continuous  Periodic N/A  
 Empirical masonry - Cat. I-III (1708.1.1)  Continuous  Periodic N/A  
 Empirical masonry - Cat. IV (1708.1.1)  Continuous  Periodic N/A  
 Engineered masonry - Cat. I-III (1708.1.1)  Continuous  Periodic N/A  
 Engineered masonry - Cat. IV (1708.1.1)  Continuous  Periodic N/A  
 Engineering & pre-stressing steel (1708.3)  Continuous  Periodic N/A  
 Structural steel (1708.4)  Continuous  Periodic N/A  
 Qualification of mechanical & electrical equipment (1708.5)  Continuous  Periodic N/A  
 Seismically isolated structures (1708.6)  Continuous  Periodic N/A  
 Testing for seismic resistance is  Continuous  Periodic N/A

**WOOD CONSTRUCTION (IBC 1704.6)**  
 Item **Detailed Instructions and Frequencies**  
 Prefabricated elements & assembly  Continuous  Periodic N/A

**SOILS CONSTRUCTION (IBC 1704.7)**  
 Item **Detailed Instructions and Frequencies**  
 Site preparation  Continuous  Periodic N/A  
 Structural fill material  Continuous  Periodic N/A  
 Structural fill lift thickness  Continuous  Periodic N/A  
 Structural fill soil densities  Continuous  Periodic N/A  
 Backfill soils materials  Continuous  Periodic N/A  
 Backfill soil densities  Continuous  Periodic Test compaction for each lift.

**PILE FOUNDATIONS (IBC 1704.8)**  
 Item **Detailed Instructions and Frequencies**  
 Observe driving operation and reporting  Continuous  Periodic N/A  
 Verify placement & installation data  Continuous  Periodic N/A

**PIER FOUNDATIONS (IBC 1704.9)**  
 Item **Detailed Instructions and Frequencies**  
 Observe drilling operation and reporting  Continuous  Periodic N/A  
 Verify placement & installation data  Continuous  Periodic N/A

**SPRAYED FIRE-RESISTANT MATERIALS (IBC 1704.10)**  
 Item **Detailed Instructions and Frequencies**  
 Structural member surface conditions  Continuous  Periodic N/A  
 Material application  Continuous  Periodic N/A  
 Material thickness  Continuous  Periodic N/A  
 Material density  Continuous  Periodic N/A  
 Bonding strength  Continuous  Periodic N/A

**MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS (IBC 1704.11)**  
 Item **Detailed Instructions and Frequencies**  
 Material and installation  Continuous  Periodic N/A

**EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS) (IBC 1704.12)**  
 Item **Detailed Instructions and Frequencies**  
 Material and installation  Continuous  Periodic N/A

**ALTERNATIVE CONSTRUCTION METHODS OR MATERIALS (IBC 1704.13)**  
 Item **Detailed Instructions and Frequencies**  
 Material and installation  Continuous  Periodic N/A

**EPOXY (IBC 1704.13)**  
 Item **Detailed Instructions and Frequencies**  
 Material and installation (specify  Continuous  Periodic N/A  
 locations)

**SMOKE CONTROL (IBC 1704.14)**  
 Item **Detailed Instructions and Frequencies**  
 Material  Continuous  Periodic N/A  
 Installation  Continuous  Periodic N/A

**Special inspection for seismic resistance (IBC 1707)**  
 Item **Detailed Instructions and Frequencies**  
 Structural Steel (1707.2)  Continuous  Periodic N/A  
 Structural Wood (1707.3)  Continuous  Periodic N/A  
 Cold-formed steel framing (1707.4)  Continuous  Periodic N/A  
 Pier foundations (1707.5)  Continuous  Periodic N/A  
 Storage racks & access floors (1707.6)  Continuous  Periodic N/A  
 Architectural components (1707.7)  Continuous  Periodic N/A  
 Mechanical & electrical items (1707.8)  Continuous  Periodic N/A  
 Designated systems verification (1707.9)  Continuous  Periodic N/A  
 Seismic isolation systems (1707.10)  Continuous  Periodic N/A

**MISCELLANEOUS AREAS** **Detailed Instructions and Frequencies**  
 These inspections are recommended by the Architect/Engineer and approved by DFCM.  
 Suspended Ceiling Grid Clips  Continuous  Periodic N/A  
 Suspended Ceiling wire spacing (Seismic)  Continuous  Periodic N/A  
 Soils backfill (specify locations and frequency)  Continuous  Periodic 12" maximum lift height  
 Soils for curb and gutter (specify locations and frequency)  Continuous  Periodic See Item 3.2.A.3 of DFCM Design Requirements 061109  
 Soils for parking lots (specify locations and frequency)  Continuous  Periodic See Item 3.2.A.3 of DFCM Design Requirements 061109  
 Soils for utility trench backfill  Continuous  Periodic N/A  
 Reinforcement for slab on grade sidewalks and drive approaches (specify locations and frequency)  Continuous  Periodic N/A  
 Reinforcement for interior slab on grade (specify locations and frequency)  Continuous  Periodic N/A  
 Concrete testing for slab on grade sidewalks and drive approaches (specify locations and frequency)  Continuous  Periodic 1 set of cylinders per day of placement  
 Concrete testing for interior slab on grade (specify locations and frequency)  Continuous  Periodic N/A  
 Masonry Veneer (specify locations and frequency)  Continuous  Periodic N/A  
 Asphalt inspection (specify locations and frequency)  Continuous  Periodic N/A  
 Asphalt testing (specify locations and frequency)  Continuous  Periodic N/A  
 Inspection of seismic resistance  Continuous  Periodic N/A

(specify locations and frequency)  
 Steam and water line welding (specify locations and frequency)  Continuous  Periodic N/A  
 Seismic supports for duct work and sealing of joints for duct work  Continuous  Periodic N/A  
 Seismic supports for electrical raceways, cable trays and lights  Continuous  Periodic N/A  
 Seismic supports for plumbing lines including gas, water and steam and condensation  Continuous  Periodic N/A  
 Seismic bracing for mechanical units both on slab and suspended  Continuous  Periodic N/A

- Special Inspectors Shall:**
- Be approved by the Building Official prior to performing any duties.
  - Provide proof of licensure as a special inspector by the State of Utah for each type of inspection.
  - Inspection reports are to meet the requirements of IBC 1704.1.2 and DFCM standards.
  - Inspection reports are to be submitted to the code consultant, architect, DFCM project manager, and the State of Utah Building Official within 48 hrs. of inspection.
  - A final inspection report shall be submitted following completion of the project documenting the types of special inspections performed and a statement indicating that the structure is in compliance with the drawings, specifications and applicable codes. IBC 1704.1.2

Updated July 29, 2010

**Special Inspections for Specified Anchors**

Listed below are the special inspections necessary for any specified proprietary products used on the project from their respective ICC-ES Reports.

**ICC-ES ESR-2322 Hilti Hi-RE 500-SD Adhesive Anchoring System**

Periodic special inspection must be performed where required in accordance with Section 1704.15 of the 2009 IBC, Sections 1704.4 and 1704.13 of the 2005, 2003 or 2000 IBC, whereby periodic special inspection is defined in Section 1702.1 of the IBC and this report. The special inspector must be on the jobsite during anchor installation to verify anchor type, anchor dimensions, concrete type, concrete compressive strength, hole dimensions, hole clearing procedures, anchor spacing, edge distances, concrete thickness, anchor embedment, and tightening torque. The special inspector must verify the initial installations of each type and size of adhesive anchor by construction personnel on site. Subsequent installations of the same anchor type and size by the same construction personnel must be permitted to be performed in the absence of the special inspector. Any change in the anchor product being installed or the personnel performing the installation must require an initial inspection. For ongoing installations over an extended period, the special inspector must make regular inspections to confirm correct handling and installation of the product.

For cases where anchors are designed to resist sustained tension loads, continuous special inspection is required.

Under the IBC, additional requirements as set forth in Sections 1705 and 1706 must be observed, where applicable.

**ICC-ES ESR-1917 Hilti Kwik Bolt TZ Anchor**

Special inspection is required in accordance with Section 1704.13 of the IBC and, as applicable, Section 1701.5.2 of the IBC. The special inspector must make periodic inspections during anchor installation to verify anchor type, anchor dimensions, concrete type, concrete thickness, anchor embedment and adherence to the manufacturer's printed installation instructions. The special inspector must be present as often as required in accordance with the "statement of special inspection." Under the IBC, additional requirements as set forth in Sections 1705 and 1706 must be observed, where applicable.



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**TUNNEL IMPROVEMENTS**

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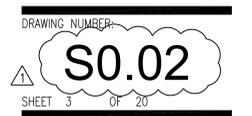
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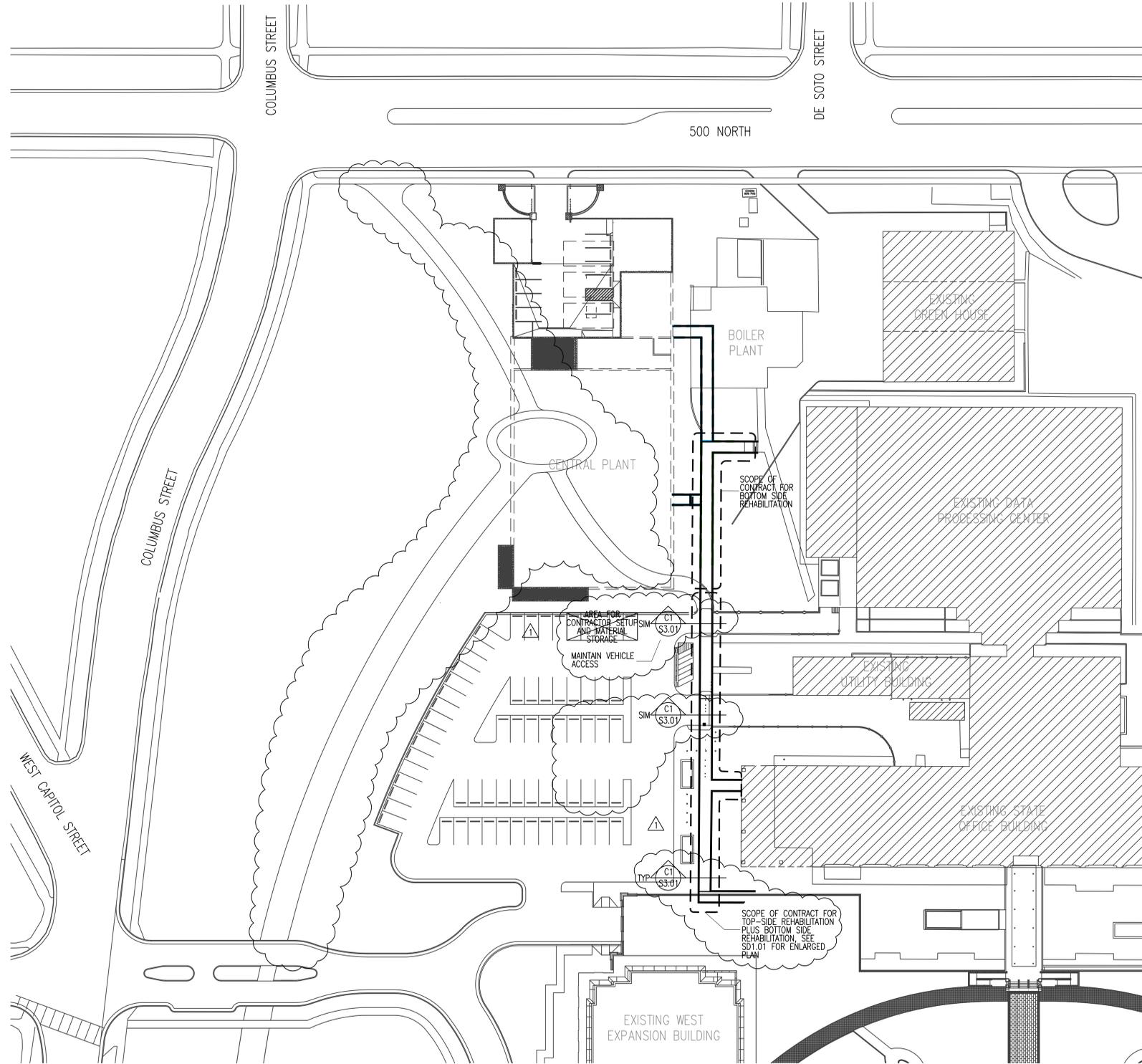
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SCALE:	AS NOTED
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CHECKED BY:	RE&A
DESIGNED BY:	RE&A
RECORD DRAWING DATE:	
SIGNATURE:	

**DRAWING TITLE:**  
**SPECIAL INSPECTION REQUIREMENTS**





**SITE PLAN**  
SCALE: 1/32"=1'-0"



**NOTES & GENERAL REQUIREMENTS**

1. DISRUPTION OF UTILITIES PASSING THROUGH TUNNEL SHALL BE PERMITTED ONLY BETWEEN THE HOURS FROM THURSDAY 6:00 PM TO MONDAY 5:00 AM. ALL DISRUPTED UTILITIES SHALL BE ON-LINE AND FULLY FUNCTIONAL BY 5:00 AM. DEPARTURES FROM THIS PROVISION SHALL BE ALLOWED ONLY AS PERMITTED BY THE OWNER. CONTRACTOR SHALL SOLICIT AUTHORIZATION FOR UTILITY DISRUPTION NO LESS THAN 1 WEEK PRIOR TO THE DISRUPTION. IF THE DISRUPTION FALLS WITHIN THE TIME FRAME OUTLINED ABOVE, SEE PROJECT SPECIFICATIONS FOR UTILITIES DISRUPTION AUTHORIZATION FORM.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY, CODE COMPLIANT ACCESS ACROSS CONSTRUCTION ZONE BETWEEN PARKING LOT AND ADJACENT BUILDINGS. TEMPORARY ACCESS PLAN SHALL BE DEVELOPED AND SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION. ANY DEVIATIONS OR DEPARTURES FROM APPROVED TEMPORARY ACCESS PLAN SHALL BE DOCUMENTED AND SUBMITTED FOR APPROVAL BEFORE PROCEEDING.
3. STOCKPILING OF EXCAVATION MATERIALS ON SITE SHALL BE PERMITTED AT AREAS DESIGNATED BY THE OWNER THROUGH THE DURATION OF CONSTRUCTION. SUCH AREAS SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITION BY THE CONTRACTOR AT THE CLOSEOUT OF WORK SHOWN HEREIN.
4. FILL MATERIAL PLACED AGAINST TUNNEL SHALL CONSIST OF NATURALLY CONSOLIDATING FLOWABLE MATERIALS OR PROPERLY COMPACTED MATERIALS REMOVED AS PART OF DEMOLITION MATERIALS REQUIRING MECHANICAL COMPACTION SHALL BE PLACED AS CONSOLIDATED IN LIFTS NOT EXCEEDING 12 INCHES. CONSOLIDATION OF FILLS SHALL BE INSPECTED IN ACCORDANCE WITH PROJECT SPECIFICATIONS.



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DRAWING TITLE:  
**SITE PLAN**

DRAWING NUMBER:

**S1.01**



**CAPITOL PRESERVATION BOARD**  
**STATE OFFICE BUILDING**  
**TUNNEL IMPROVEMENTS**

**DFCM**  
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**NOTES & GENERAL REQUIREMENTS**

- TUNNEL LID SHALL BE EXPOSED FOR TOP SIDE REHABILITATION AT THE REGION SHOWN. EXISTING SITE FEATURES INCLUDING (BUT NOT LIMITED TO) SLABS ON GRADE, PLANTERS, LANDSCAPING, SITE UTILITIES, ELECTRICAL LINES AND CONDUITS, IRRIGATION SYSTEMS SHALL BE REMOVED FOR THE PURPOSES OF EFFECTIVE TOP-SIDE TUNNEL REPAIRS AS SHOWN ON THESE DOCUMENTS.
- CONTRACTOR SHALL RESTORE ALL FEATURES REMOVED FOR TUNNEL LID ACCESS TO A CONDITION EQUAL OR BETTER THAN THE PRE-CONSTRUCTION CONDITION. DEPARTURES FROM THIS SHALL BE PERMITTED PENDING APPROVAL FROM THE OWNER AND STRUCTURAL ENGINEER. AS-BUILT CONDITION OF REGION IN QUESTION SHALL BE DOCUMENTED BY CONTRACTOR PRIOR TO CONSTRUCTION AND CONTRACTOR SHALL MAINTAIN AND UPDATE AS-BUILT DRAWING THROUGHOUT THE ENTIRE TOP-SIDE DEMOLITION PROCESS. THE AS-BUILT DRAWING SHALL BE THE BASIS FOR RESTORING FEATURES AT THE TUNNEL TOP-SIDE TO THE PRE-CONSTRUCTION CONDITION.
- CONTRACTOR SHALL INCLUDE PROVISIONS FOR TEMPORARY DISTRIBUTION OF SITE UTILITIES (I.E. SPRINKLER SYSTEM) TO ENABLE THEIR USE THROUGH CONSTRUCTION. SUCH MEASURES SHALL INCLUDE (BUT SHALL NOT BE LIMITED TO): TEMPORARY CAPPING IRRIGATION LINES AND TEMPORARY RE-ROUTING POWER TO SITE LIGHTING OR IRRIGATION CONTROL BOXES. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR MORE INFORMATION.

**TUNNEL LID TOP-SIDE REPAIR NOTES:**

- AS PART OF BASE BID, CONTRACTOR SHALL INCLUDE PROVISIONS FOR THE REPAIR OF DETERIORATED CONCRETE AT THE TOP SIDE OF THE TUNNEL LID (SEE DETAILS ON SHEET S5.01). THESE AREAS MAY RANGE FROM 2 SQUARE FEET TO 20 SQUARE FEET. CONTRACTOR SHALL INCLUDE AN AGGREGATE TOTAL OF 200 SQUARE FEET FOR THE TREATMENT OF SUCH AREAS WITH THE TYPICAL DETAILS AND PROVISIONS SHOWN HEREIN.
- UPON EXPOSING TUNNEL LID AND REMOVING ALL LATENT MATERIAL, CONTRACTOR SHALL CONTACT PROJECT ENGINEER OF RECORD WITH AT LEAST 48 HOURS NOTICE TO REVIEW TUNNEL LID AND PERFORM A SOUNDING SURVEY TO IDENTIFY AREAS OF DAMAGE AND DE-LAMINATION. SHOULD THE TOTAL DAMAGED AREA EXCEED 200 SQUARE FEET, CONTRACTOR SHALL SUBMIT A REQUEST FOR CHANGE TO THE CONTRACT SCOPE THROUGH APPROPRIATE PROCEDURES OUTLINED IN THE PROJECT SPECIFICATIONS.
- AS PART OF BASE BID, CONTRACTOR SHALL INCLUDE PROVISIONS FOR THE TREATMENT OF DEPRESSED CONCRETE AT THE TOP SIDE OF THE TUNNEL LID REQUIRING FILL TO ENABLE POSITIVE DRAINAGE (SEE C1/S3.01). THESE AREAS ARE TO BE IDENTIFIED USING A 6" LEVEL ON THE TOP SURFACES. THIS SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF THE PROJECT ENGINEER OF RECORD OR HIS REPRESENTATIVE. AREAS DEPRESSED MORE THAN 3/16" BELOW LOWER EDGE OF TUNNEL SHALL REQUIRE TREATMENT. SUCH AREAS MAY RANGE FROM 2 SQUARE FEET TO 20 SQUARE FEET. CONTRACTOR SHALL INCLUDE AN AGGREGATE TOTAL OF 100 SQUARE FEET FOR THE TREATMENT OF SUCH AREAS. SHOULD THE TOTAL DEPRESSED AREA EXCEED 100 SQUARE FEET, CONTRACTOR SHALL SUBMIT A REQUEST FOR CHANGE TO THE CONTRACT SCOPE THROUGH APPROPRIATE PROCEDURES OUTLINED IN THE PROJECT SPECIFICATIONS.

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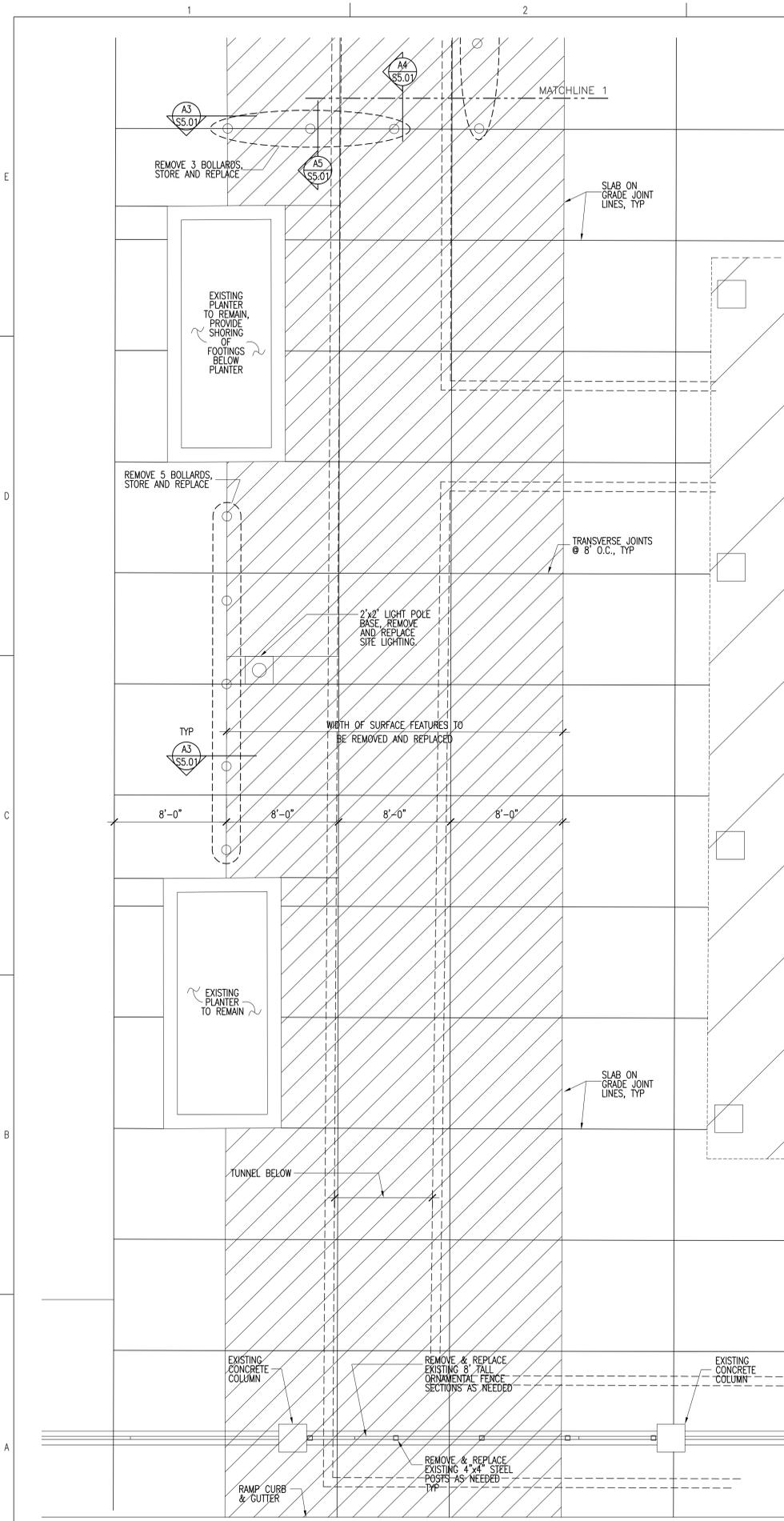
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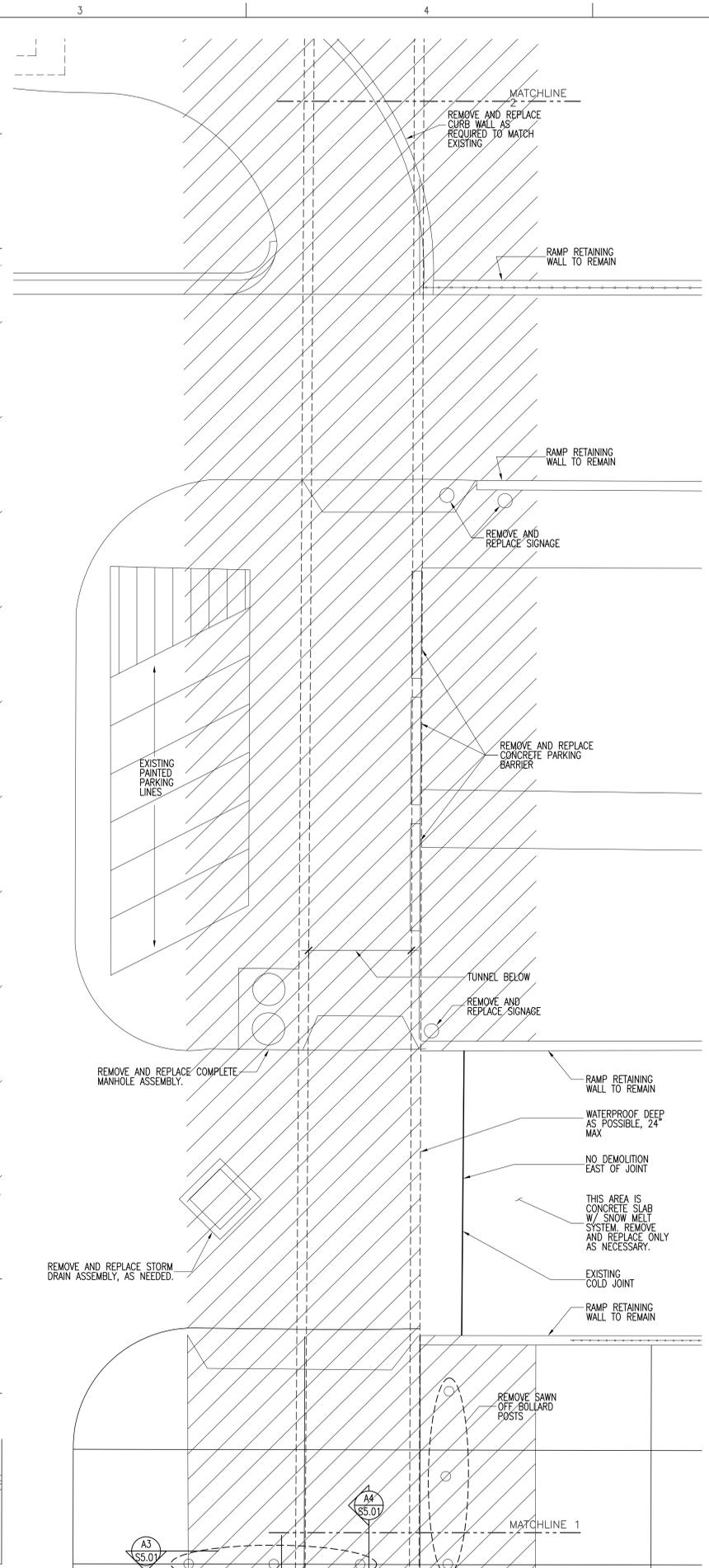
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DFCM PHASE NO.  
RE&A PROJECT NO. 2010.172  
DRAWING FILE:  
SCALE: AS NOTED  
DRAWN BY: RE&A  
CHECKED BY: RE&A  
DESIGNED BY: RE&A  
RECORD DRAWING DATE:  
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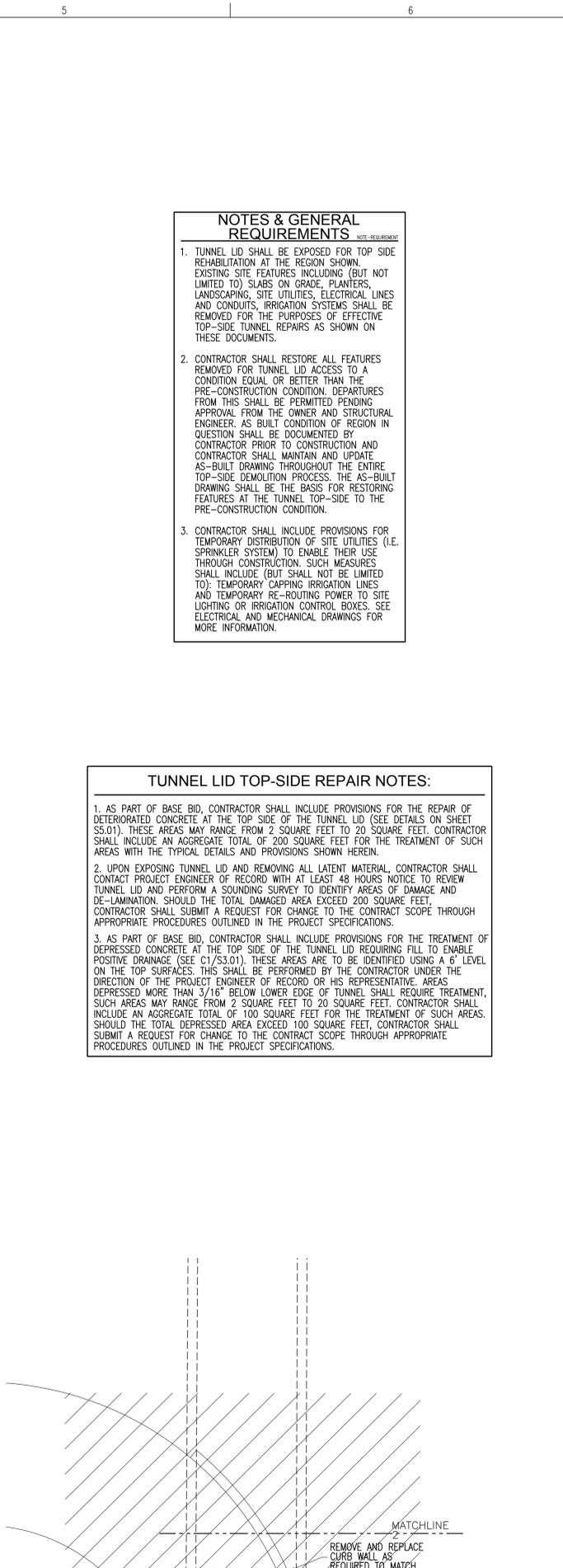
**DEMOLITION SITE PLAN**



**A1**  
**S1.02** SCALE: 1/4"=1'-0"  
**PARTIAL DEMOLITION SITE PLAN**



**A3**  
**S1.02** SCALE: 1/4"=1'-0"  
**PARTIAL DEMOLITION SITE PLAN**

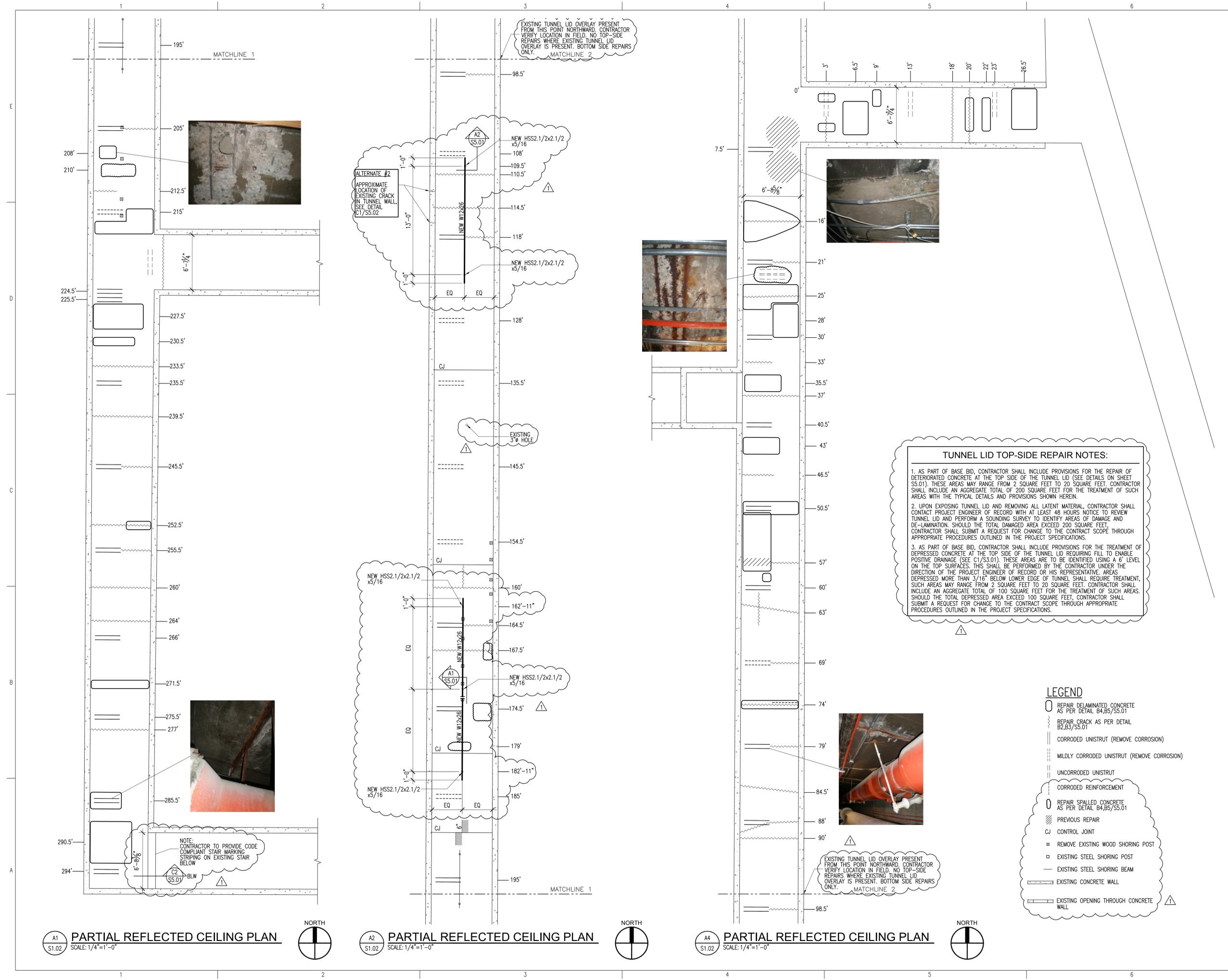


**A5**  
**S1.02** SCALE: 1/4"=1'-0"  
**PARTIAL DEMOLITION SITE PLAN**



**CAPITOL PRESERVATION BOARD**  
STATE OFFICE BUILDING  
TUNNEL IMPROVEMENTS

**DFCM**  
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**TUNNEL LID TOP-SIDE REPAIR NOTES:**

- AS PART OF BASE BID, CONTRACTOR SHALL INCLUDE PROVISIONS FOR THE REPAIR OF DETERIORATED CONCRETE AT THE TOP SIDE OF THE TUNNEL LID (SEE DETAILS ON SHEET S5.01). THESE AREAS MAY RANGE FROM 2 SQUARE FEET TO 20 SQUARE FEET. CONTRACTOR SHALL INCLUDE AN AGGREGATE TOTAL OF 200 SQUARE FEET FOR THE TREATMENT OF SUCH AREAS WITH THE TYPICAL DETAILS AND PROVISIONS SHOWN HEREIN.
- UPON EXPOSING TUNNEL LID AND REMOVING ALL LATENT MATERIAL, CONTRACTOR SHALL CONTACT PROJECT ENGINEER OF RECORD WITH AT LEAST 48 HOURS NOTICE TO REVIEW TUNNEL LID AND PERFORM A SOUNDING SURVEY TO IDENTIFY AREAS OF DAMAGE AND DE-LAMINATION. SHOULD THE TOTAL DAMAGED AREA EXCEED 200 SQUARE FEET, CONTRACTOR SHALL SUBMIT A REQUEST FOR CHANGE TO THE CONTRACT SCOPE THROUGH APPROPRIATE PROCEDURES OUTLINED IN THE PROJECT SPECIFICATIONS.
- AS PART OF BASE BID, CONTRACTOR SHALL INCLUDE PROVISIONS FOR THE TREATMENT OF DEPRESSED CONCRETE AT THE TOP SIDE OF THE TUNNEL LID REQUIRING FILL TO ENABLE POSITIVE DRAINAGE (SEE C1/S3.01). THESE AREAS ARE TO BE IDENTIFIED USING A 6' LEVEL ON THE TOP SURFACES. THIS SHALL BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF THE PROJECT ENGINEER OF RECORD OR HIS REPRESENTATIVE. AREAS DEPRESSED MORE THAN 3/16" BELOW LOWER EDGE OF TUNNEL SHALL REQUIRE TREATMENT. SUCH AREAS MAY RANGE FROM 2 SQUARE FEET TO 20 SQUARE FEET. CONTRACTOR SHALL INCLUDE AN AGGREGATE TOTAL OF 100 SQUARE FEET FOR THE TREATMENT OF SUCH AREAS. SHOULD THE TOTAL DEPRESSED AREA EXCEED 100 SQUARE FEET, CONTRACTOR SHALL SUBMIT A REQUEST FOR CHANGE TO THE CONTRACT SCOPE THROUGH APPROPRIATE PROCEDURES OUTLINED IN THE PROJECT SPECIFICATIONS.

- LEGEND**
- REPAIR DELAMINATED CONCRETE AS PER DETAIL B4,B5/S5.01
  - REPAIR CRACK AS PER DETAIL B2,B3/S5.01
  - CORRODED UNISTRUT (REMOVE CORROSION)
  - MILDLY CORRODED UNISTRUT (REMOVE CORROSION)
  - UNCORRODED UNISTRUT
  - CORRODED REINFORCEMENT
  - REPAIR SPALLED CONCRETE AS PER DETAIL B4,B5/S5.01
  - PREVIOUS REPAIR
  - CJ CONTROL JOINT
  - REMOVE EXISTING WOOD SHORING POST
  - EXISTING STEEL SHORING POST
  - EXISTING STEEL SHORING BEAM
  - EXISTING CONCRETE WALL
  - EXISTING OPENING THROUGH CONCRETE WALL

**A1**  
S1.02 **PARTIAL REFLECTED CEILING PLAN**  
SCALE: 1/4"=1'-0"

**A2**  
S1.02 **PARTIAL REFLECTED CEILING PLAN**  
SCALE: 1/4"=1'-0"

**A4**  
S1.02 **PARTIAL REFLECTED CEILING PLAN**  
SCALE: 1/4"=1'-0"

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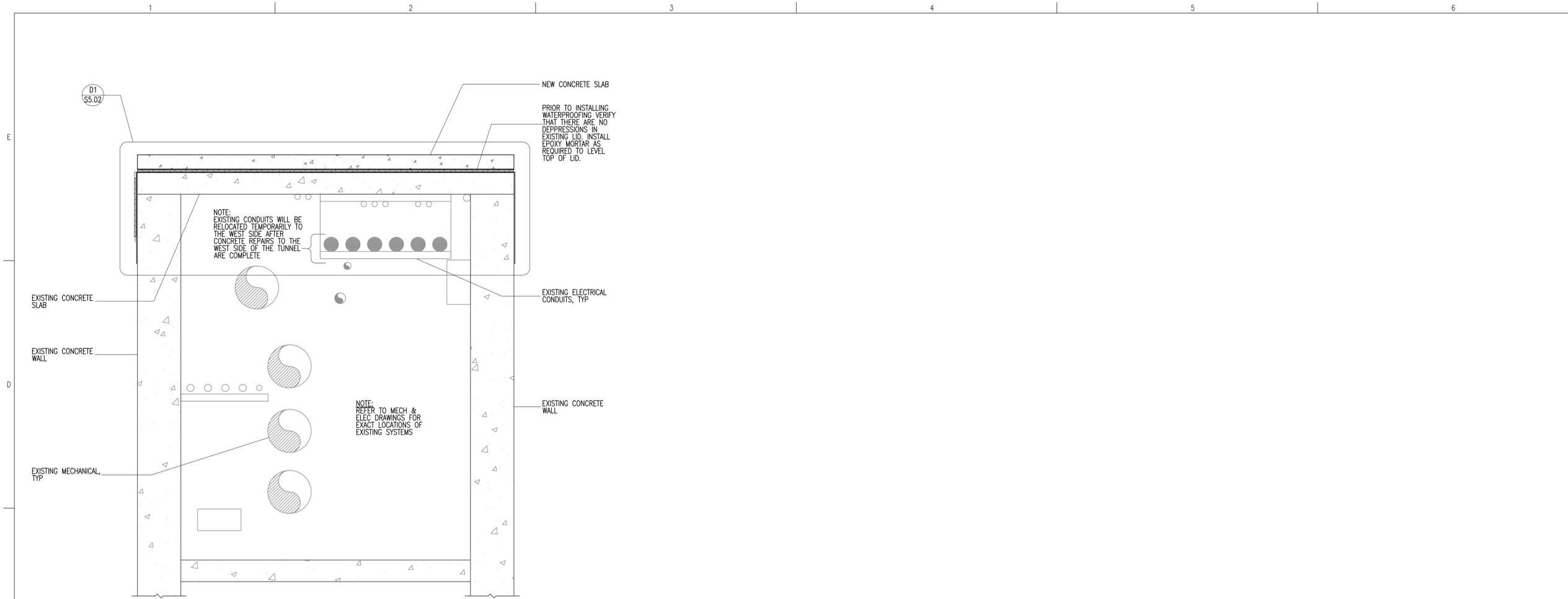
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**OVERHEAD DAMAGE LAYOUT**

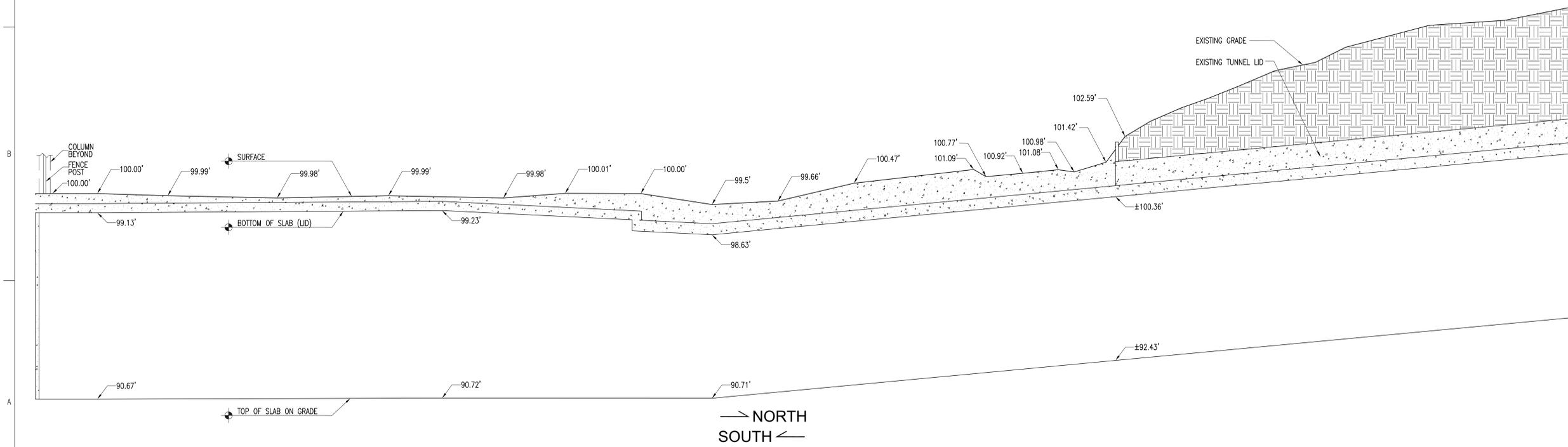


**CAPITOL PRESERVATION BOARD**  
**STATE OFFICE BUILDING**  
**TUNNEL IMPROVEMENTS**

**DFCM**  
4110 STATE OFFICE BLDG



**S3.01** TYPICAL EXISTING TUNNEL SECTION  
NO SCALE



**S3.01** TYPICAL EXISTING TUNNEL LONGITUDINAL SECTION  
NO SCALE

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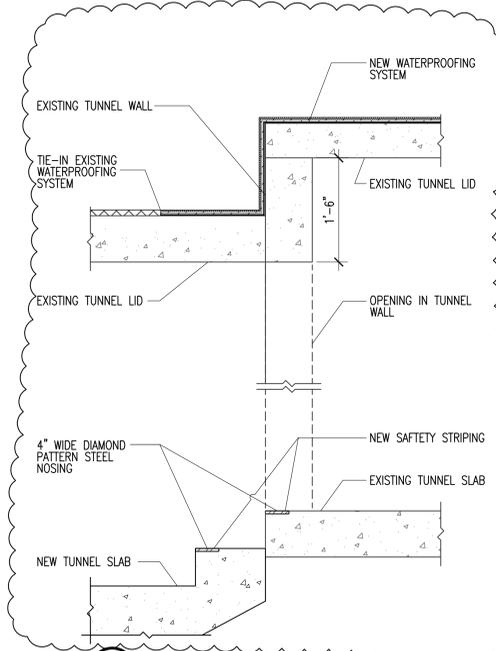
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**TUNNEL ELEVATION AND SECTIONS**

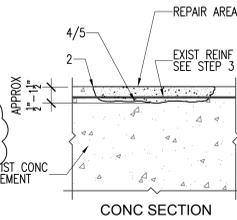
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**S3.01**  
SHEET 7 OF 20



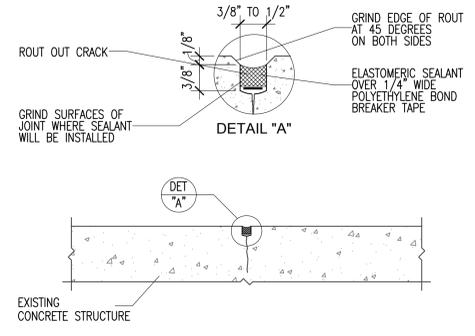
**C2 STAIR DETAIL**  
S5.01 NO SCALE  
2010-172-SS.01/2

**CONCRETE REPAIR STEPS**

- REPAIR AREA SHALL BE NO LESS THAN 3/8" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- WHEN REINFORCING IS ENCOUNTERED AND CORROSION IS PRESENT REFER TO DETAIL D5/SS.01 FOR PREPARATION OF REINFORCING.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET APPLY POLYMER REPAIR MORTAR IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.



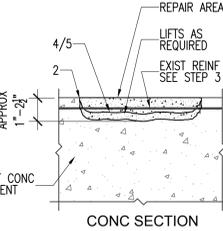
**C3 TYPE C-1 CONCRETE REPAIR (1/2"-1.1/2" DEEP)**  
S5.01 NO SCALE  
CONCREP-01



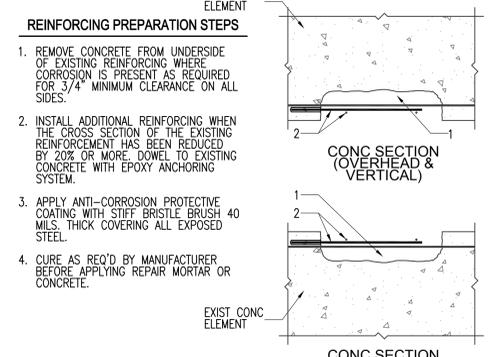
**D4 TYPICAL ROUT AND SEAL CRACKS & JOINTS**  
S5.01 NO SCALE  
CONCREP-07

**CONCRETE REPAIR STEPS**

- REPAIR AREA SHALL BE NO LESS THAN 3/8" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- WHEN REINFORCING IS ENCOUNTERED AND CORROSION IS PRESENT REFER TO DETAIL D5/SS.01 FOR PREPARATION OF REINFORCING.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET APPLY POLYMER REPAIR MORTAR IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.



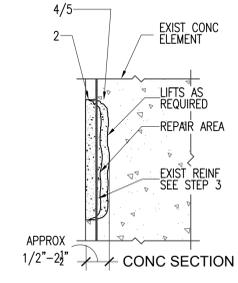
**C4 TYPE C-2 CONCRETE REPAIR (1"-2.1/2" DEEP)**  
S5.01 NO SCALE  
CONCREP-02



**D5 PREPARATION OF DETERIORATED EXISTING REINFORCING**  
S5.01 NO SCALE  
CONCREP-01

**CONCRETE REPAIR STEPS**

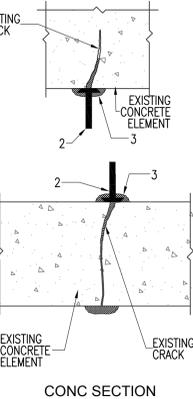
- REPAIR AREA SHALL BE NO LESS THAN 3/8" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- WHEN REINFORCING IS ENCOUNTERED AND CORROSION IS PRESENT REFER TO DETAIL D5/SS.01 FOR PREPARATION OF REINFORCING.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET APPLY POLYMER REPAIR MORTAR IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.



**C5 TYPE D-1 CONCRETE REPAIR (1/2"-2.1/2" DEEP)**  
S5.01 NO SCALE  
CONCREP-03

**CONCRETE REPAIR STEPS**

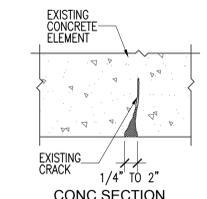
- SURFACE PREPARATION:** THE CRACKS AND ADJACENT SUBSTRATE MUST BE CLEAN, SOUND AND FREE OF FROST. REMOVE DUST, LAITANCE, GREASE CURING COMPOUNDS, WAXES, IMPREGNATIONS, FOREIGN PARTICLES, EFFLORESCENCE AND OTHER BOND INHIBITING MATERIALS FROM THE SURFACE INSIDE LARGE CRACKS AND FROM THE ADJACENT SUBSTRATE BY MECHANICAL MEANS, I.E. ABRASIVE BLASTING, HIGH PRESSURE WATER-BLASTING, ETC.
- SET PORTING DEVICES OVER CRACKS.
- PLACE CAP SEAL MATERIAL, AS RECOMMENDED BY THE MANUFACTURER, OVER CRACKS AND AROUND EACH INJECTION PORT AS REQUIRED TO SUCCESSFULLY INJECT THE CRACK.
- ALLOW SUFFICIENT TIME FOR CAP SEAL TO SET BEFORE INJECTING THE CRACK.
- WHEN THE CAP SEAL HAS CURED INJECT THE EPOXY RESIN AS RECOMMENDED BY THE MANUFACTURER.
- REMOVE CAP SEAL AFTER FINISHING INJECTION OF CRACKS AND RESTORE SURFACE TO ORIGINAL FINISH.



**B2 TYPE A-1 CONCRETE REPAIR 0.01"-0.25" (EPOXY INJECTION)**  
S5.01 NO SCALE  
CONCREP-01

**CONCRETE REPAIR STEPS**

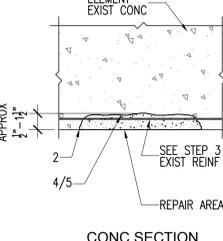
- REPAIR AREA SHALL BE NO LESS THAN 1/2" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET, PLACE POLYMER REPAIR MORTAR FILLING ENTIRE CAVITY.
- STRIKE OFF AND LEVEL AS REQUIRED.
- WASH AND/OR BRUSH SURFACE AS REQUIRED TO MATCH EXISTING.



**B3 TYPE A-3 CONCRETE REPAIR 1/4"-2"**  
S5.01 NO SCALE  
CONCREP-01

**CONCRETE REPAIR STEPS**

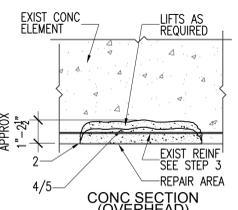
- REPAIR AREA SHALL BE NO LESS THAN 1/2" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- WHEN REINFORCING IS ENCOUNTERED AND CORROSION IS PRESENT REFER TO DETAIL D5/SS.01 FOR PREPARATION OF REINFORCING.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET APPLY POLYMER REPAIR MORTAR IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.



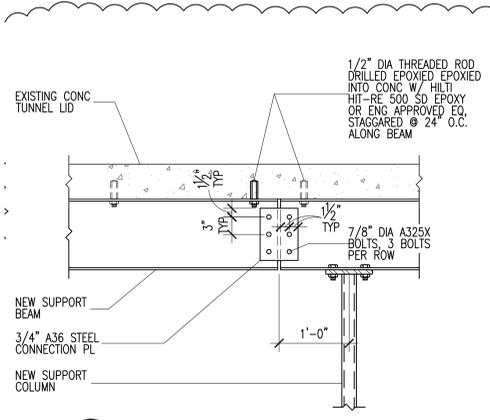
**B4 TYPE E-1 CONCRETE REPAIR (1/2"-1.1/2" DEEP)**  
S5.01 NO SCALE  
CONCREP-01

**CONCRETE REPAIR STEPS**

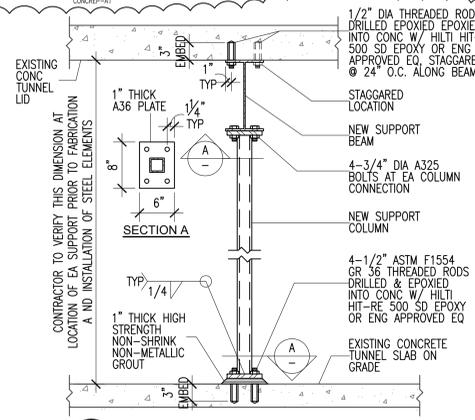
- REPAIR AREA SHALL BE NO LESS THAN 1/2" IN DEPTH.
- SAW CUT 1/2" AT EDGE OF REPAIR AREA IN STRAIGHT VERTICAL AND HORIZONTAL LINES.
- WHEN REINFORCING IS ENCOUNTERED AND CORROSION IS PRESENT REFER TO DETAIL D5/SS.01 FOR PREPARATION OF REINFORCING.
- SUBSTRATE SHALL BE CLEAN & SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER.
- APPLY SCRUB COAT AND/OR BONDING AGENT (AS REQ'D BY MFR.) TO SUBSTRATE FILLING ALL POURS & VOIDS.
- WHILE SCRUB COAT IS STILL WET APPLY POLYMER REPAIR MORTAR IN LIFTS AS RECOMMENDED BY THE MANUFACTURER.



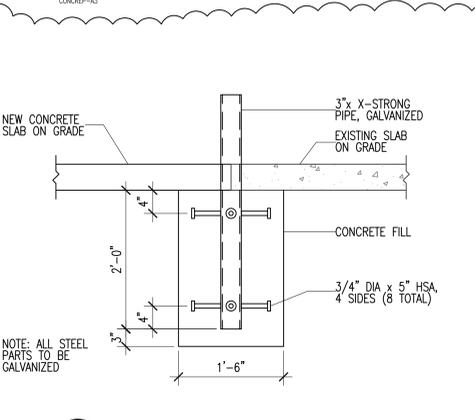
**B5 TYPE E-2 CONCRETE REPAIR (1"-2.1/2" DEEP)**  
S5.01 NO SCALE  
CONCREP-01



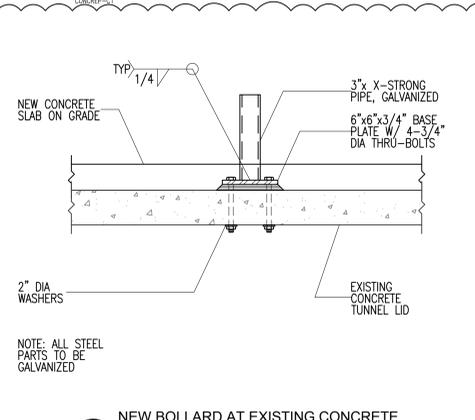
**A1 NEW SLAB SUPPORT AT DRIVES OVER TUNNEL**  
S5.01 NO SCALE  
2010-172-SS.01/A1



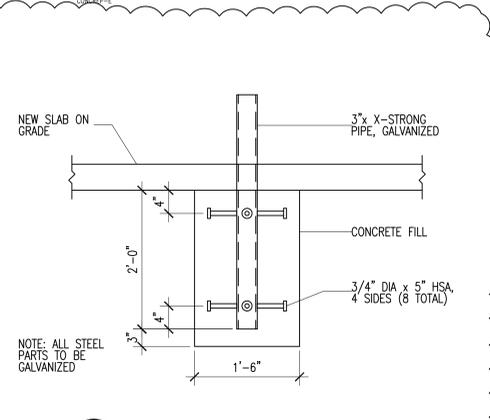
**A2 NEW SLAB SUPPORT AT DRIVES OVER TUNNEL**  
S5.01 NO SCALE  
2010-172-SS.01/A2



**A3 NEW BOLLARD AT EXISTING SLAB ON GRADE**  
S5.01 NO SCALE  
2010-172-SS.01/A3



**A4 NEW BOLLARD AT EXISTING CONCRETE TUNNEL LID**  
S5.01 NO SCALE  
2010-172-SS.01/A4



**A5 NEW BOLLARD AT NEW SLAB ON GRADE**  
S5.01 NO SCALE  
2010-172-SS.01/A5

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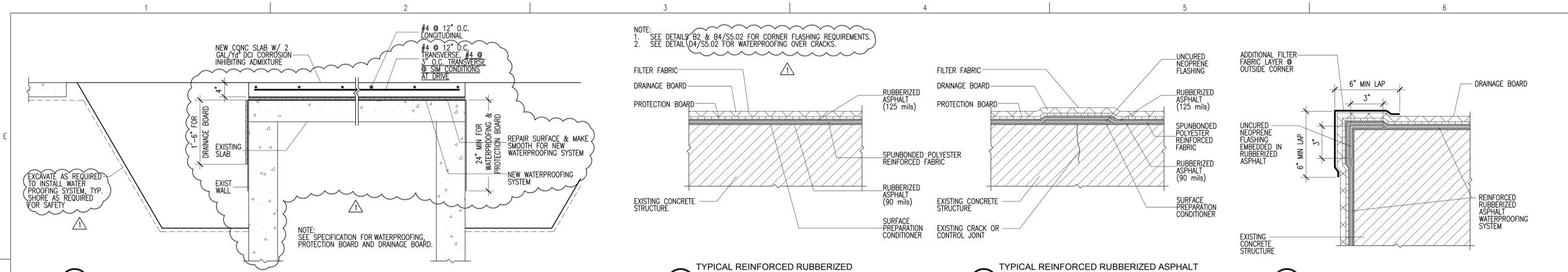
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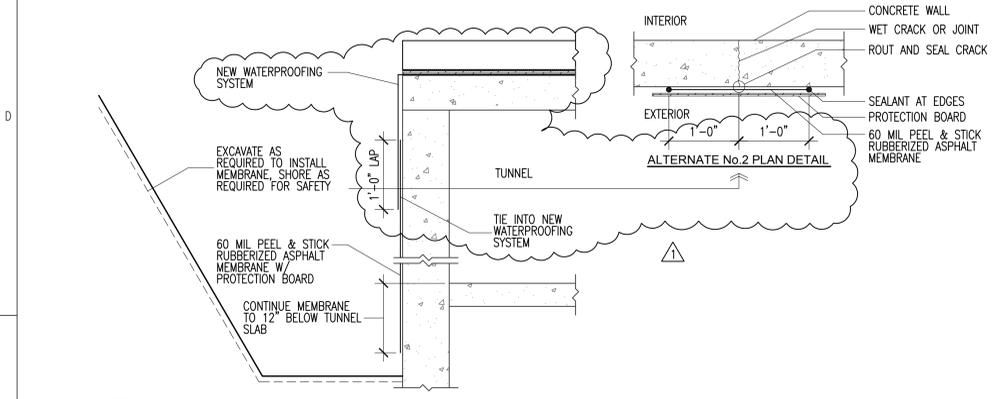
**REPAIR DETAILS**

DRAWING NUMBER:

**S5.01**

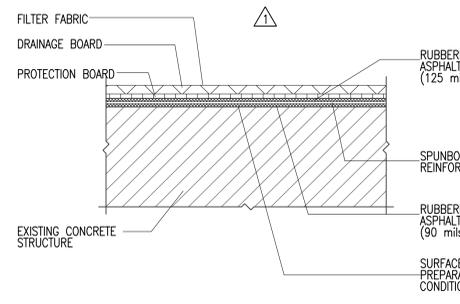


**D1 CUP TUNNEL SLAB OVERLAY**  
S5.02 NO SCALE  
2010-172-5502/D1

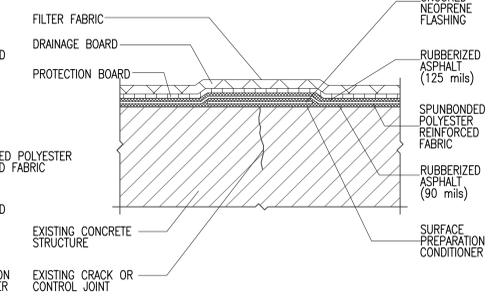


**C1 ALTERNATE NO. 2 SECTION**  
S5.02 NO SCALE  
2010-172-5502/C1

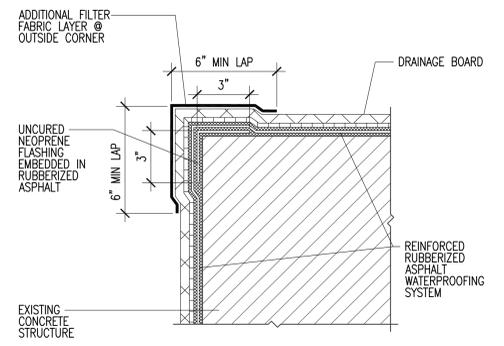
NOTE:  
1. SEE DETAILS B2 & B4/S5.02 FOR CORNER FLASHING REQUIREMENTS.  
2. SEE DETAIL D4/S5.02 FOR WATERPROOFING OVER CRACKS.



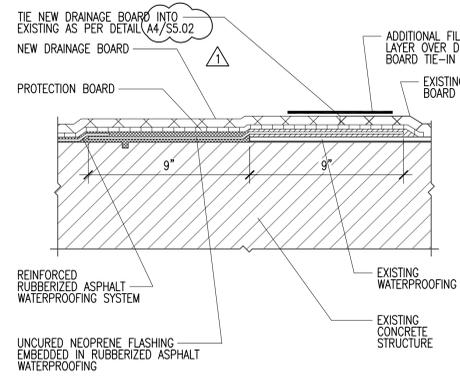
**D3 TYPICAL REINFORCED RUBBERIZED ASPHALT MEMBRANE SYSTEM**  
S5.02 NO SCALE  
2010-172-5502/D3



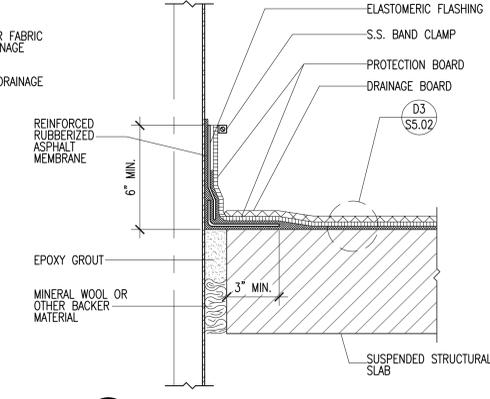
**D4 TYPICAL REINFORCED RUBBERIZED ASPHALT MEMBRANE SYSTEM OVER CRACK OR JOINT**  
S5.02 NO SCALE  
2010-172-5502/D4



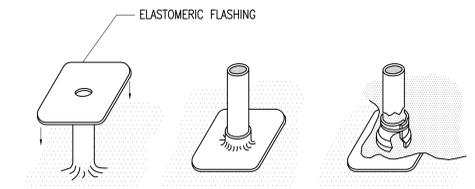
**D5 OUTSIDE CORNER WATERPROOFING**  
S5.02 NO SCALE  
2010-172-5502/D5



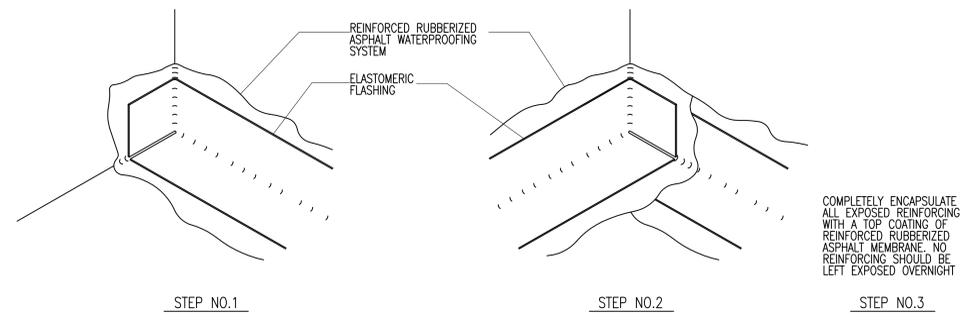
**C3 NEW WATERPROOFING TO EXISTING WATERPROOFING TIE-IN DETAIL**  
S5.02 NO SCALE  
2010-172-5502/C3



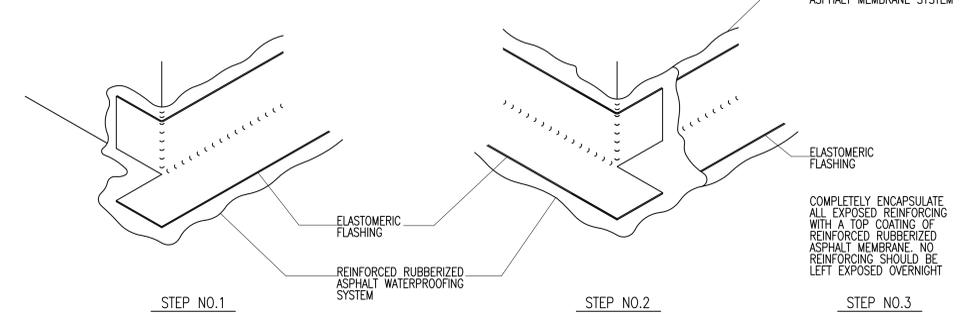
**C4 TYPICAL NON CAST-IN-PLACE PENETRATIONS (PIPE, VENT, ETC.)**  
S5.02 NO SCALE  
2010-172-5502/C4



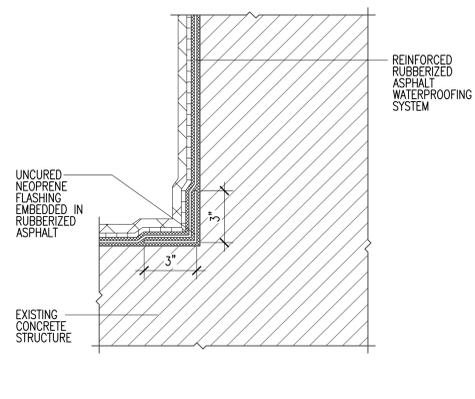
- NOTES:
- PENETRATION SHALL BE PROPERLY SECURED TO STRUCTURE TO PREVENT VERTICAL OR LATERAL MOVEMENT.
  - SOME PIPE MATERIALS (PVC, COPPER, BRASS) MAY REQUIRE ROUGHENING/SANDING, IN ADDITION TO PRIMING W/SURFACE CONDITIONER, FOR PROPER ADHESION OF MEMBRANE.
  - METAL PIPES MUST BE FREE OF ALL OIL AND RUST.



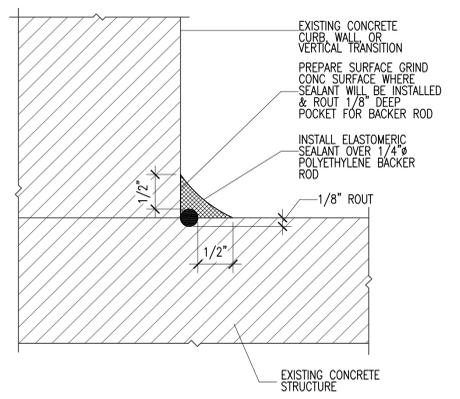
**B2 TYPICAL INSIDE CORNER & JOINT REINFORCEMENT**  
S5.02 NO SCALE  
2010-172-5502/B2



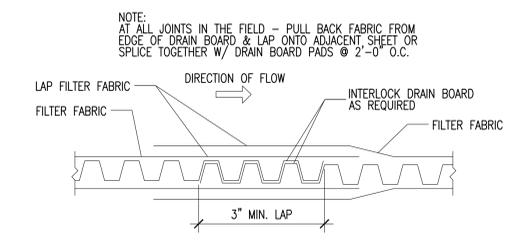
**B4 TYPICAL OUTSIDE CORNER & JOINT REINFORCEMENT**  
S5.02 NO SCALE  
2010-172-5502/B4



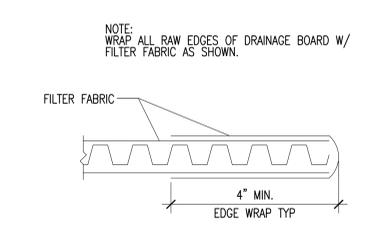
**A2 INSIDE CORNER WATERPROOFING**  
S5.02 NO SCALE  
2010-172-5502/A2



**A3 COVE SEALANT JOINT DETAIL**  
S5.02 FULL SCALE  
2010-172-5502/A3



**A4 DRAIN BOARD TIE-IN DETAIL TYP**  
S5.02 NO SCALE  
2010-172-5502/A4



**A5 DRAIN BOARD EDGE WRAP DETAIL TYP**  
S5.02 NO SCALE  
2010-172-5502/A5



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DRAWING TITLE:  
**REPAIR DETAILS**



**CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
UTAH STATE CAPITOL**

**DFCM  
4110 STATE OFFICE BLDG  
PROPERTY ID #**

**CONSTRUCTION NOTES**

**GENERAL**

1. THE PURPOSE OF THE PROJECT IS TO REMOVE ALL PIPING HANGING OR ATTACHED TO THE CEILING TO CLEAR A WAY FOR STRUCTURAL MODIFICATIONS TO THE TUNNEL CEILING. THE PIPING INCLUDES THE HEATING WATER SUPPLY, 5 LB. NATURAL GAS LINE, COMPRESSED AIR LINES, DRAIN LINES AND MAKE-UP WATER LINES.
2. THE WORK SHALL BE DONE IN PHASES TO INSURE DOWN-TIME OF EACH SYSTEM IS KEPT TO A MINIMUM.
3. ALL SHUT-DOWN MUST BE SCHEDULED 72 HOURS IN ADVANCE AND MUST HAVE WRITTEN AUTHORIZATION.
4. THE DOWN-TIME, WHEN AUTHORIZED, CAN ONLY OCCUR BETWEEN 6:00 P.M. THURSDAY AND 5:00 A.M. MONDAY WITH ALL SYSTEMS OPERATIONAL BY 5:00 A.M. MONDAY.
5. THE NEW CHANNEL STRUT SUPPORT SYSTEM WORK SHALL BE INSTALLED AT 10'-0" O.C. THE ENTIRE LENGTH OF THE NOTED WORK AREA TO SUPPORT THE PIPE BEING RELOCATED OR REPLACED.
6. THE CHANNEL STRUT SUPPORT SYSTEM SHALL BE CONSTRUCTED TO ALLOW FOR THE MAXIMUM WALKWAY POSSIBLE AND FOR THE MAXIMUM CLEARANCE ABOVE PIPING.
7. PROVIDE SEISMIC BRACING FOR ALL NEW PIPING SYSTEMS
8. SHOULD CONTRACTOR CHOOSE TO RUN TEMPORARY PIPE RATHER THAN DRAINING AND FILLING THE SYSTEM EACH WORK PERIOD THE FOLLOWING TEMPORARY PIPE SIZES APPLY: 6" IF WORK IS COMPLETED BY SEPTEMBER 30TH, 8" IF WORK IS COMPLETED BY OCTOBER 31ST AND 10" IF WORK EXTENDS INTO NOVEMBER.

**BASE BID**

1. THE HEATING WATER SUPPLY LINE WILL BE RELOCATED TO BE CARRIED ON THE NEW CHANNEL SUPPORT SYSTEM. PROVIDE ALL NEW FITTINGS TO MAKE THE NECESSARY OFFSETS AND TEMPORARY CONNECTIONS.
2. THE 3" GAS LINE WILL BE RELOCATED TO BE CARRIED BY THE NEW CHANNEL SUPPORT SYSTEM. PROVIDE ALL NEW FITTINGS TO MAKE THE NECESSARY OFFSETS AND TEMPORARY CONNECTIONS.
3. THE COMPRESSED AIR LINE WILL BE RELOCATED AND CARRIED BY THE UNISTRUT FRAME. PROVIDE ALL NEW FITTINGS TO MAKE THE NECESSARY OFFSETS AND CONNECT IT TO THE EXISTING PIPING. ONCE THE NEW CONNECTIONS ARE MADE THE REMAINING EXISTING COMPRESSED AIR PIPING SHALL BE REMOVED IN 10'-0" LENGTH AND RETURNED TO THE OWNER.
4. REMOVE THE ENTIRE SECTION OF THE HEATING WATER SUPPLY LINE INSULATION. REPLACE WITH NEW, INCLUDING PVC JACKET. PROTECT THE OTHER INSULATED PIPING FROM DAMAGE AND REPLACE ANY DAMAGED INSULATION THAT OCCURS DURING THIS PROJECT.
5. THE COOLING TOWER MAKE-UP WATER LINE SHALL BE REHING FROM NEW CHANNEL STRUT THAT SPANS WALL TO WALL IN TUNNEL.
6. THE COOLING TOWER MAKE-UP WINTER DRAIN LINES SHALL BE REHING FROM CHANNEL STRUT THAT SPANS WALL TO WALL IN TUNNEL.

7. INSULATE ALL NEW AND RELOCATED HWS PIPING AND FITTINGS AND COVER WITH COMPLETE PVC JACKETING.

**ALTERNATE NO. 1**

1. WILL BE THE SAME AS THE BASE BID EXCEPT THE 12" SECTION AND 8" SECTION OF HEATING WATER SUPPLY WILL BE REPLACED WITH NEW 10" HEATING WATER SUPPLY TO CREATE A 10' HEATING WATER SUPPLY LINE FROM THE CENTRAL PLANT TO THE WEST OFFICE BUILDING.
2. PROVIDE AND INSTALL ALL NEW EXPANSION JOINTS IN HEATING WATER SUPPLY LINE.
3. INSULATE ALL NEW HWS PIPING AND FITTINGS AND COVER WITH COMPLETE PVC JACKETING.

**DRAWING NOTES**

- ① THIS AREA HAS GLYCOL SNOW MELT.
- ② THE END SECTION OF THE GLYCOL SNOW MELT SYSTEM WILL NEED TO BE EXPOSED TO ALLOW STRUCTURAL REPAIRS OF TUNNEL. PATCH AND REPAIR ANY DAMAGED PIPING. FILL WITH 50% GLYCOL SOLUTION TO MATCH EXISTING GLYCOL AND PLACE IN FULL WORKING ORDER.

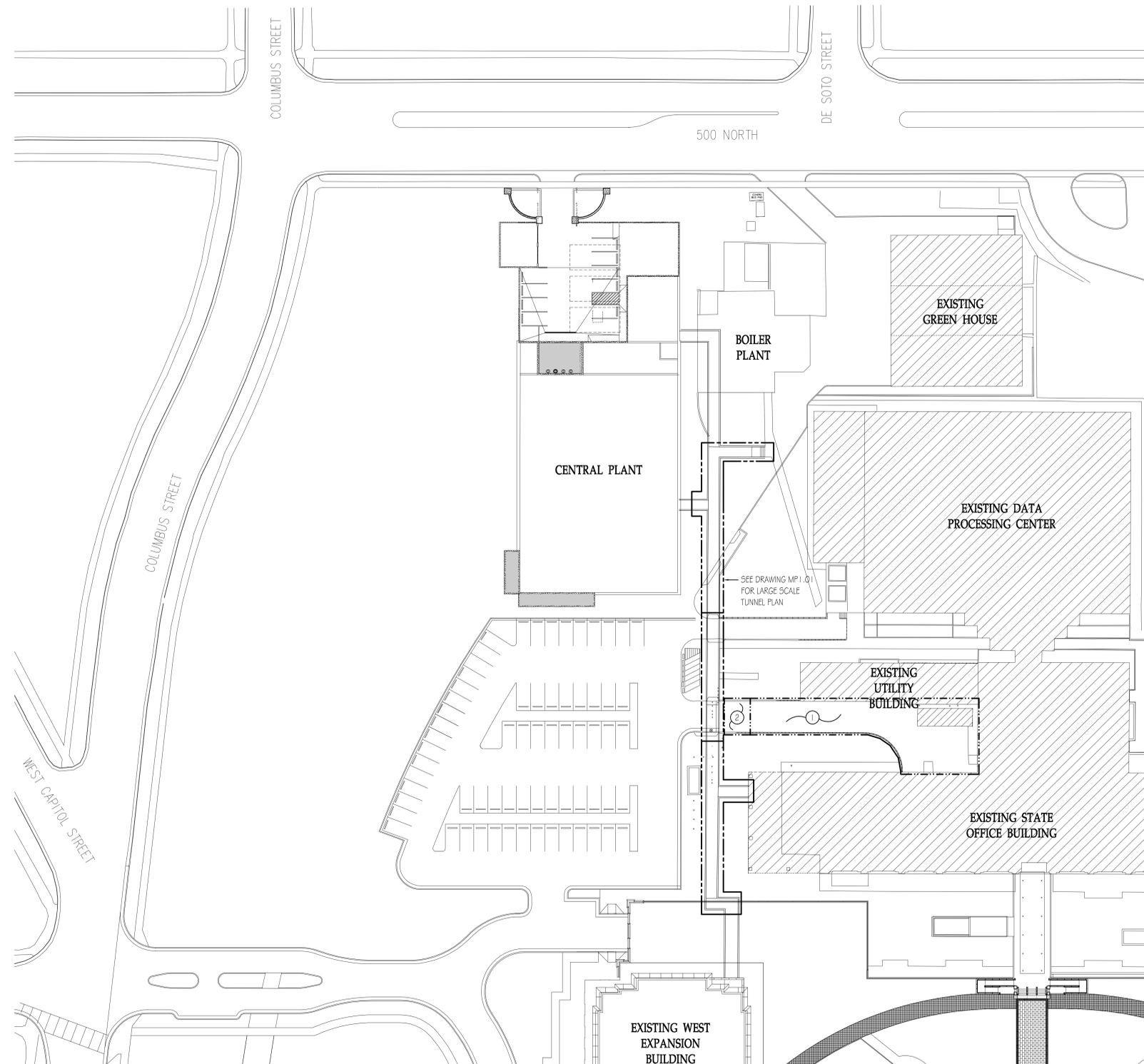
ISSUED:		
NO.	DESCRIPTION	DATE
1	PERMIT SET	7/26/10
	CONFORMANCE SET	8/20/10

REVISIONS:		
NO.	DESCRIPTION	DATE
△	ADDENDUM #1	8/24/10
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DFCM PROJECT NO. 08234050  
DFCM PHASE NO.  
RE&A PROJECT NO. 2010.172  
DRAWING FILE:  
SCALE: AS NOTED  
DRAWN BY: GWM  
CHECKED BY: LDV  
DESIGNED BY: LDV  
RECORD DRAWING DATE:  
SIGNATURE:

**DRAWING TITLE:  
MECHANICAL  
SITE PLAN**

DRAWING NUMBER:  
**MS1.01**  
SHEET X OF X



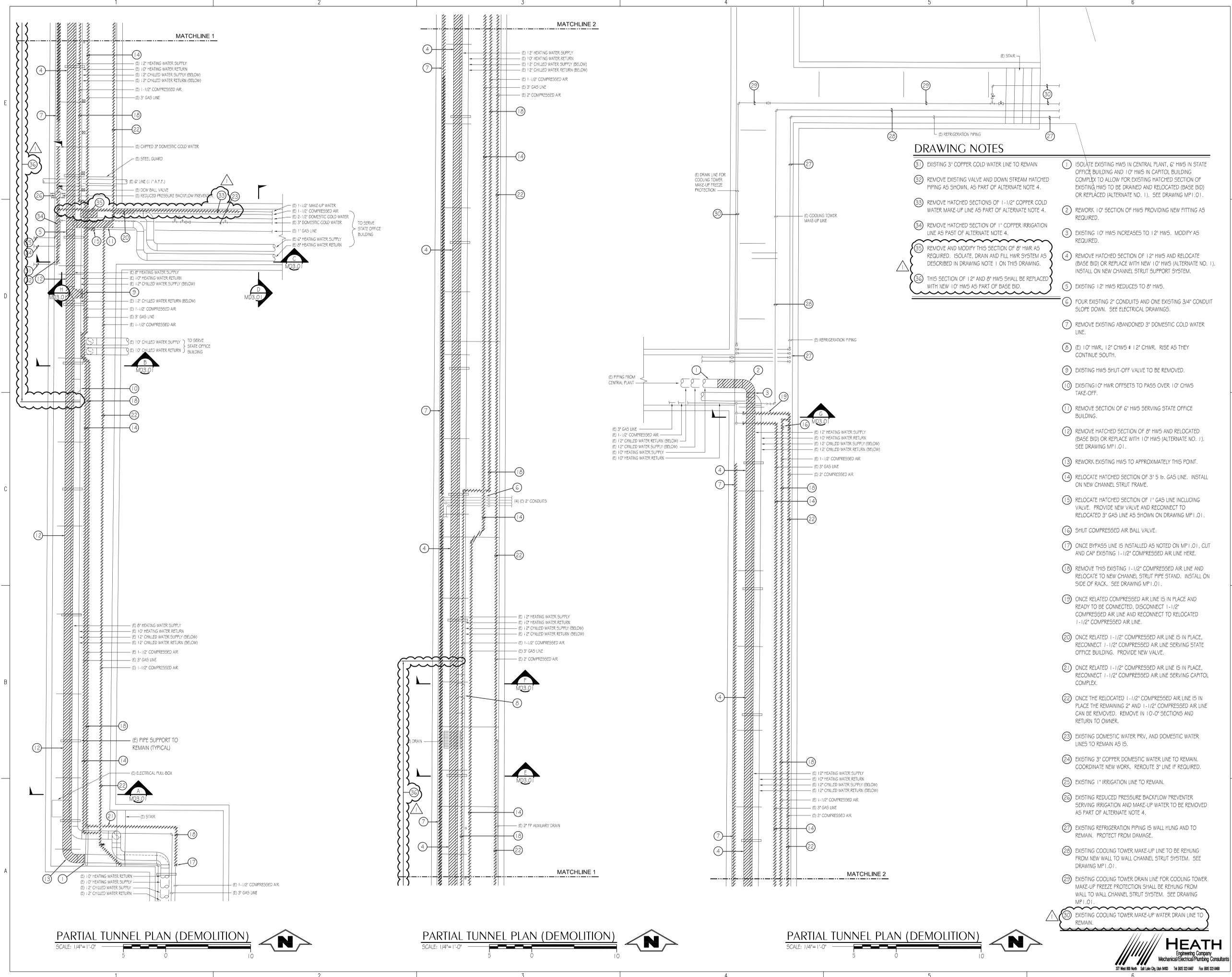
**MECHANICAL SITE PLAN**  
SCALE: 1/32" = 1'-0"  
40 20 0 40 80





**CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
UTAH STATE CAPITOL**

**DFCM  
4110 STATE OFFICE BLDG  
PROPERTY ID #**



**DRAWING NOTES**

- 1 EXISTING 3" COPPER COLD WATER LINE TO REMAIN
- 2 REMOVE EXISTING VALVE AND DOWN STREAM HATCHED PIPING AS SHOWN, AS PART OF ALTERNATE NOTE 4.
- 3 REMOVE HATCHED SECTIONS OF 1-1/2" COPPER COLD WATER MAKE-UP LINE AS PART OF ALTERNATE NOTE 4.
- 4 REMOVE HATCHED SECTION OF 1" COPPER IRRIGATION LINE AS PART OF ALTERNATE NOTE 4.
- 5 REMOVE AND MODIFY THIS SECTION OF 8" HWR AS DESCRIBED IN DRAWING NOTE 1 ON THIS DRAWING.
- 6 THIS SECTION OF 12" AND 8" HWS SHALL BE REPLACED WITH NEW 10" HWS AS PART OF BASE BID.
- 7 ISOLATE EXISTING HWS IN CENTRAL PLANT, 6" HWS IN STATE OFFICE BUILDING AND 10" HWS IN CAPITOL BUILDING COMPLEX TO ALLOW FOR EXISTING HATCHED SECTION OF EXISTING HWS TO BE DRAINED AND RELOCATED (BASE BID) OR REPLACED (ALTERNATE NO. 1). SEE DRAWING MP1.01.
- 8 REWORK 10" SECTION OF HWS PROVIDING NEW FITTING AS REQUIRED.
- 9 EXISTING 10" HWS INCREASES TO 12" HWS. MODIFY AS REQUIRED.
- 10 REMOVE HATCHED SECTION OF 12" HWS AND RELOCATE (BASE BID) OR REPLACE WITH NEW 10" HWS (ALTERNATE NO. 1). INSTALL ON NEW CHANNEL STRUT SUPPORT SYSTEM.
- 11 EXISTING 12" HWS REDUCES TO 8" HWS.
- 12 FOUR EXISTING 2" CONDUITS AND ONE EXISTING 3/4" CONDUIT SLOPE DOWN. SEE ELECTRICAL DRAWINGS.
- 13 REMOVE EXISTING ABANDONED 3" DOMESTIC COLD WATER LINE.
- 14 (E) 10" HWR, 12" CHWS + 12" CHWR. RISE AS THEY CONTINUE SOUTH.
- 15 EXISTING HWS SHUT-OFF VALVE TO BE REMOVED.
- 16 EXISTING 10" HWR OFFSETS TO PASS OVER 10" CHWS TAKE-OFF.
- 17 REMOVE SECTION OF 6" HWS SERVING STATE OFFICE BUILDING.
- 18 REMOVE HATCHED SECTION OF 8" HWS AND RELOCATED (BASE BID) OR REPLACE WITH 10" HWS (ALTERNATE NO. 1). SEE DRAWING MP1.01.
- 19 REWORK EXISTING HWS TO APPROXIMATELY THIS POINT.
- 20 RELOCATE HATCHED SECTION OF 3" GAS LINE. INSTALL ON NEW CHANNEL STRUT FRAME.
- 21 RELOCATE HATCHED SECTION OF 1" GAS LINE INCLUDING VALVE. PROVIDE NEW VALVE AND RECONNECT TO RELOCATED 3" GAS LINE AS SHOWN ON DRAWING MP1.01.
- 22 SHUT COMPRESSED AIR BALL VALVE.
- 23 ONCE BYPASS LINE IS INSTALLED AS NOTED ON MP1.01, CUT AND CAP EXISTING 1-1/2" COMPRESSED AIR LINE HERE.
- 24 REMOVE THIS EXISTING 1-1/2" COMPRESSED AIR LINE AND RELOCATE TO NEW CHANNEL STRUT PIPE STAND. INSTALL ON SIDE OF RACK. SEE DRAWING MP1.01.
- 25 ONCE RELATED COMPRESSED AIR LINE IS IN PLACE AND READY TO BE CONNECTED, DISCONNECT 1-1/2" COMPRESSED AIR LINE AND RECONNECT TO RELOCATED 1-1/2" COMPRESSED AIR LINE.
- 26 ONCE RELATED 1-1/2" COMPRESSED AIR LINE IS IN PLACE, RECONNECT 1-1/2" COMPRESSED AIR LINE SERVING STATE OFFICE BUILDING. PROVIDE NEW VALVE.
- 27 ONCE RELATED 1-1/2" COMPRESSED AIR LINE IS IN PLACE, RECONNECT 1-1/2" COMPRESSED AIR LINE SERVING CAPITOL COMPLEX.
- 28 ONCE THE RELOCATED 1-1/2" COMPRESSED AIR LINE IS IN PLACE THE REMAINING 2" AND 1-1/2" COMPRESSED AIR LINE CAN BE REMOVED. REMOVE IN 10'-0" SECTIONS AND RETURN TO OWNER.
- 29 EXISTING DOMESTIC WATER PRV, AND DOMESTIC WATER LINES TO REMAIN AS IS.
- 30 EXISTING 3" COPPER DOMESTIC WATER LINE TO REMAIN. COORDINATE NEW WORK. REROUTE 3" LINE IF REQUIRED.
- 31 EXISTING 1" IRRIGATION LINE TO REMAIN.
- 32 EXISTING REDUCED PRESSURE BACKFLOW PREVENTER SERVING IRRIGATION AND MAKE-UP WATER TO BE REMOVED AS PART OF ALTERNATE NOTE 4.
- 33 EXISTING REFRIGERATION PIPING IS WALL HUNG AND TO REMAIN. PROTECT FROM DAMAGE.
- 34 EXISTING COOLING TOWER MAKE-UP LINE TO BE REHUNG FROM NEW WALL TO WALL CHANNEL STRUT SYSTEM. SEE DRAWING MP1.01.
- 35 EXISTING COOLING TOWER DRAIN LINE FOR COOLING TOWER MAKE-UP FREEZE PROTECTION SHALL BE REHUNG FROM WALL TO WALL CHANNEL STRUT SYSTEM. SEE DRAWING MP1.01.
- 36 EXISTING COOLING TOWER MAKE-UP WATER DRAIN LINE TO REMAIN.

ISSUED:

NO.	DESCRIPTION	DATE
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 SCALE: AS NOTED  
 DRAWN BY: GWM  
 CHECKED BY: LDV  
 DESIGNED BY: LDV  
 RECORD DRAWING DATE:  
 SIGNATURE:

**DRAWING TITLE:  
TUNNEL PLAN  
(DEMOLITION)**



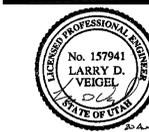
**PARTIAL TUNNEL PLAN (DEMOLITION)**  
SCALE: 1/4"=1'-0"

**PARTIAL TUNNEL PLAN (DEMOLITION)**  
SCALE: 1/4"=1'-0"

**PARTIAL TUNNEL PLAN (DEMOLITION)**  
SCALE: 1/4"=1'-0"





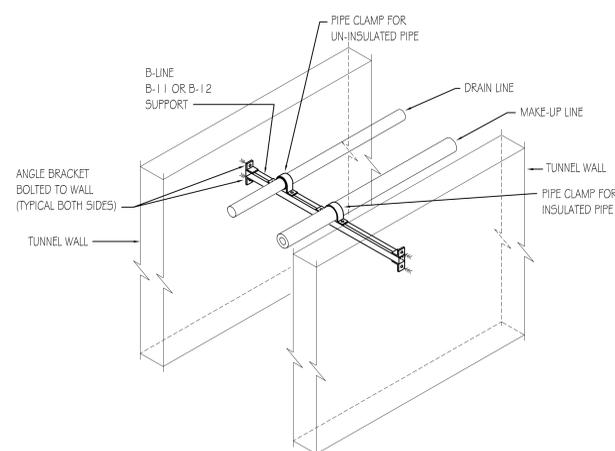


**CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
UTAH STATE CAPITOL**

**DFCM  
4110 STATE OFFICE BLDG  
PROPERTY ID #**

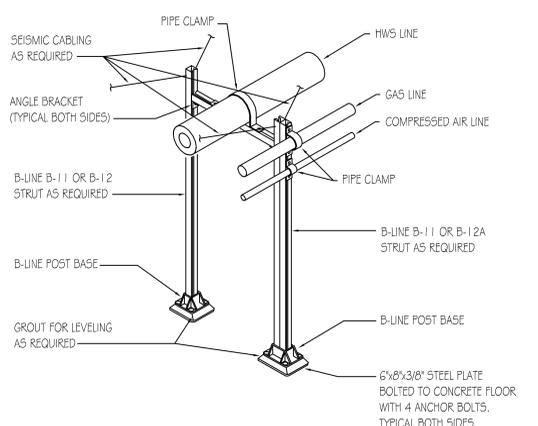
**DRAWING NOTES**

- 1 RELOCATE 1 2" HWS ONTO NEW CHANNEL STRUT PIPE STAND (BASE BID) OR PROVIDE NEW 1 0" HWS AND INSTALL ON NEW CHANNEL STRUT PIPE STAND (ALTERNATE NO. 1). INSTALL AS LOW AS POSSIBLE.
- 2 MODIFY, PROVIDE NEW FITTING ETC. TO CONNECT EXISTING 6" HWS SERVING STATE OFFICE BUILDING. CONNECT TO RELOCATED 1 2" HWS (BASE BID) OR NEW 1 0" HWS (ALTERNATE NO. 1).
- 3 RELOCATE 8" HWS ONTO NEW CHANNEL STRUT PIPE STAND (BASE BID) OR PROVIDE NEW 1 0" HWS (ALTERNATE NO. 1) AND INSTALL ON NEW CHANNEL STRUT PIPE STAND.
- 4 CONNECT RELOCATED 3" GAS LINE TO EXISTING 3" GAS. PROVIDE NEW FITTINGS AS REQUIRED.
- 5 RELOCATE EXISTING 3" GAS LINE AND RACK ON SIDE OF NEW CHANNEL STRUT PIPE STAND. PROVIDE NEW FITTINGS AND OFFSET AS REQUIRED.
- 6 PROVIDE NEW VALVE AND CONNECT EXISTING 1" GAS LINE TO RELOCATED 3" GAS LINE. PROVIDE NEW FITTINGS AS REQUIRED.
- 7 SHUT COMPRESSED AIR BALL VALVE.
- 8 RELOCATE EXISTING 1-1/2" COMPRESSED AIR LINE AND RACK ON THE SIDE OF THE NEW CHANNEL STRUT PIPE STAND. PROVIDE NEW FITTINGS AND OFFSET AS REQUIRED.
- 9 ONCE THE RELOCATED 1-1/2" COMPRESSED AIR LINE IS IN PLACE, THE REMAINING 2" AND 1-1/2" COMPRESSED AIR LINES CAN BE REMOVED. SEE DRAWING MD.1.01.
- 10 EXISTING COLD WATER SYSTEM TO REMAIN. PROTECT FROM DAMAGE.
- 11 EXISTING COLD WATER SYSTEM WITH REDUCED PRESSURE BACKFLOW PREVENTER TO REMAIN. PROTECT FROM DAMAGE.
- 12 NEW REDUCED PRESSURE BACKFLOW PREVENTER (RPBP) ASSEMBLY WITH SHUT OFF VALVE, STRAINER, RPBP GAUGES FITTINGS, ETC. RACKED ON WALL AS PART OF ALTERNATE NO. 4
- 13 CONNECT NEW 3" COPPER WATER LINE TO EXISTING 3" COPPER WATER LINE OFF-SET AS REQUIRED AND EXTEND TO NEW RPBP.
- 14 NEW 1-1/2" COPPER COLD WATER MAKE-UP LINES. EXTEND AND CONNECT TO EXISTING 1-1/2" COLD WATER MAKE-UP LINE AS PART OF ALTERNATE NO. 4
- 15 NEW 1" COPPER IRRIGATION LINE. EXTEND AND CONNECT TO EXISTING 1" IRRIGATION LINE AS PART OF ALTERNATE NO. 4
- 16 NEW CHANNEL STRUT SUPPORT.



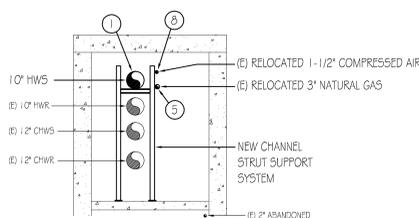
**TUNNEL WALL TO WALL  
CHANNEL STRUT SUPPORT DETAIL**

SCALE: NONE INSTALL AT 10'-0" O.C. MAX. IN TUNNEL MP3.01



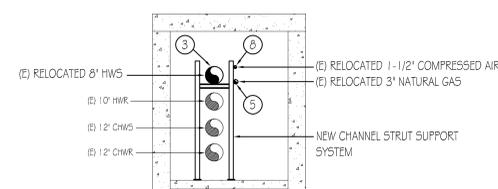
**TUNNEL CHANNEL STRUT SUPPORT DETAIL**

SCALE: NONE INSTALL AT 10'-0" O.C. MAX. IN TUNNEL MP3.01



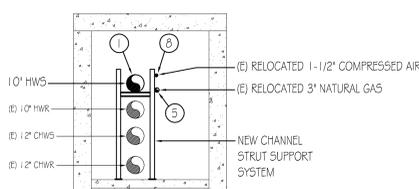
**TUNNEL SECTION (REMODEL)**

SCALE: 1/4"=1'-0" MP3.01



**TUNNEL SECTION (REMODEL)**

SCALE: 1/4"=1'-0" MP3.01





CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
UTAH STATE CAPITOL

DFCM  
4110 STATE OFFICE BLDG

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Project #: 10049

NO.	DESCRIPTION	DATE

NO.	DESCRIPTION	DATE
△	ADDENDUM #1	8/25/10

DFCM PROJECT NO. 08234050  
DFCM PHASE NO.                      
PE&A PROJECT NO. 2010.172  
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SCALE: AS NOTED  
DRAWN BY: KGE  
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DESIGNED BY: TS  
RECORD DRAWING DATE:              
SIGNATURE:                    

DRAWING TITLE:  
**SYMBOLS,  
ABBREVIATIONS  
& DRAWING INDEX**

DRAWING NUMBER:

**EG100**

SHEET OF

**SYMBOL LIST**

- POLE TOP MOUNTED LIGHT FIXTURE
- SURFACE/WALL MOUNTED FLUORESCENT LIGHT FIXTURE
- EMERGENCY BATTERY LIGHT FIXTURE
- SINGLE POLE SWITCH
- DUPLEX RECEPTACLE
- MAGNETIC DOOR HOLDER (WALL OR FLOOR MOUNTED)
- DRAWING NOTE DESIGNATION
- LIGHT FIXTURE DESIGNATION
- FLEXIBLE CONDUIT
- CONDUIT CONCEALED IN WALLS, CEILING OR FLOOR
- CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDERFLOOR
- EXISTING CONDUIT
- GROUND WIRE
- STUB UP
- STUB DOWN
- STUB OUT
- ISOLATED GROUND CONDUCTOR
- EQUIPMENT GROUND CONDUCTOR
- PHASE CONDUCTOR
- NEUTRAL CONDUCTOR
- PHASE CONDUCTOR PROVIDE GREEN GROUND WIRE SIZED PER NEC IN ALL RACEWAYS
- MECHANICAL EQUIPMENT DESIGNATION

**ABBREVIATIONS**

- AFB ABOVE FINISHED FLOOR
- AIC AMP INTERRUPTING CURRENT (SYMMETRICAL)
- AL ALUMINUM
- BG BELOW GRADE
- CKT CIRCUIT
- CU COPPER
- EM EMERGENCY
- (E) EXISTING
- FLA FULL LOAD AMPS
- GF1 GROUND FAULT INTERRUPTER
- GFP GROUND FAULT PROTECTOR
- GRD GROUND
- GRC GALVANIZED RIGID CONDUIT
- IG ISOLATED GROUND
- LTG LIGHTING
- MLO MAIN LUGS ONLY
- (N) NEW
- NTS NOT TO SCALE
- PNL PANEL
- ST SHUNT TRIP
- TYP TYPICAL
- UNO UNLESS NOTED OTHERWISE
- WG WIRE GUARD
- WP WEATHER PROOF
- XFMR TRANSFORMER

ELECTRICAL ADDITIVE ALTERNATES	
ALT. #	DESCRIPTION
3	RELOCATE AND RESUPPORT EXISTING CABLE TRAY. CABLE TRAY AFFECTED BEGINS AT THE TUNNEL CONNECTION TO THE CENTRAL PLANT AND ENDS AT THE SOUTHERN END OF THE TUNNEL REPAIR PROJECT, WHERE THE MAIN TUNNEL TURNS EAST. NEW LOCATION OF TRAY IS TO BE DIRECTLY ABOVE LOWERED HIGH TEMP WATER LINE. ALL NEW SUPPORTS ARE TO BE PROVIDED AND INSTALLED. ALL EXISTING CABLES IN TRAY ARE TO BE PROTECTED, MAINTAINED, AND RELOCATED ALONG WITH TRAY.

ELECTRICAL SPECIAL INSPECTIONS AND DEFERRED SUBMITTALS		
ITEM	DEFERRED SUBMITTAL REQUIRED	SPECIAL INSPECTION REQUIRED
CABLE TRAYS	X	X
CONDUIT SUPPORT RACKS	X	X

**GENERAL NOTES - SHEET EG100**

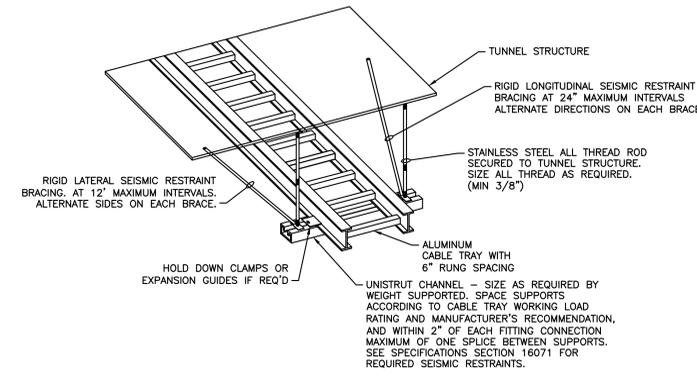
A. ELECTRICAL CONTRACTOR TO MEET ALL REQUIREMENTS OF SPECIFICATION SECTION 16071 FOR SEISMIC RESTRAINT OF ELECTRICAL COMPONENTS INCLUDING THE REQUIREMENT FOR A DEFERRED SUBMITTAL INCLUDING CALCULATIONS FROM A STRUCTURAL ENGINEER LICENSED IN THE STATE OF UTAH.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY RELOCATION OR SHIFTING OF ALL NON-PRESSURIZED UTILITY LINES AS SHOWN WITHIN THE COMPLETE SET OF CONTRACT DRAWINGS. IN NO CASE SHALL ELECTRICAL, TELECOMMUNICATION, DATA OR OTHER SUCH LINES BE SEVERED AS PART OF THE CONSTRUCTION AND TUNNEL REHABILITATION PROCESS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE REPAIR AND OR REPLACEMENT OF ANY UTILITIES DAMAGED BY VIRTUE OF UNDERTAKING THE SCOPE OF WORK DEPICTED HEREIN.

**LUMINAIRE SCHEDULE - SHEET EG100**

TYPE	DESCRIPTION	LAMP(S) AND INPUT	MANUFACTURER(S)
E	DESCRIPTION: COMMERCIAL EMERGENCY LIGHT SIZE: 14" X 5" X 5" HOUSING: HIGH IMPACT THERMOPLASTIC FINISH: WHITE MOUNTING: SURFACE MOUNTED BATTERY: MAINTENANCE FREE LEAD CALCIUM OTHER: FULLY AUTOMATIC BATTERY CHARGER	(2) 5.4W INCANDESCENT 120V	DUAL LITE EZ-2 • LITHONIA • LIGHTQUICKER • SOUTE
T	DESCRIPTION: LENSED INDUSTRIAL SIZE: 5.5" X 50" X 5" HOUSING: DIE CAST ALUMINUM FINISH: BAKED POWDER GREY LENS: PRISMATIC, IMPACT RESISTANT POLYCARBONATE MOUNTING: SURFACE MOUNTED OTHER: WET LOCATION LISTED	(2) F32T8/ADV835/ALTO (1) 2-LAMP ADVANCE IOP-2P32-LW-SC PREMIUM ELECTRONIC MULTI-VOLT	COLUMBIA FDPS4-232-PP-EHLU-GLR-PTBS • LITHONIA • LIGHTQUICKER • SOUTE

\* ADDITIONAL APPROVED MANUFACTURERS



**A3 LADDER RACK CABLE TRAY SUPPORT DETAIL**  
EG100 SCALE: NTS

DRAWING INDEX	
EG100	SYMBOLS, ABBREVIATIONS & DRAWING INDEX
ES100	ELECTRICAL SITE PLAN
ED100	ELECTRICAL DEMOLITION TUNNEL PLAN
ED101	ELECTRICAL DEMOLITION TUNNEL PLAN
EP100	ELECTRICAL PLAN
EP101	ELECTRICAL PLAN



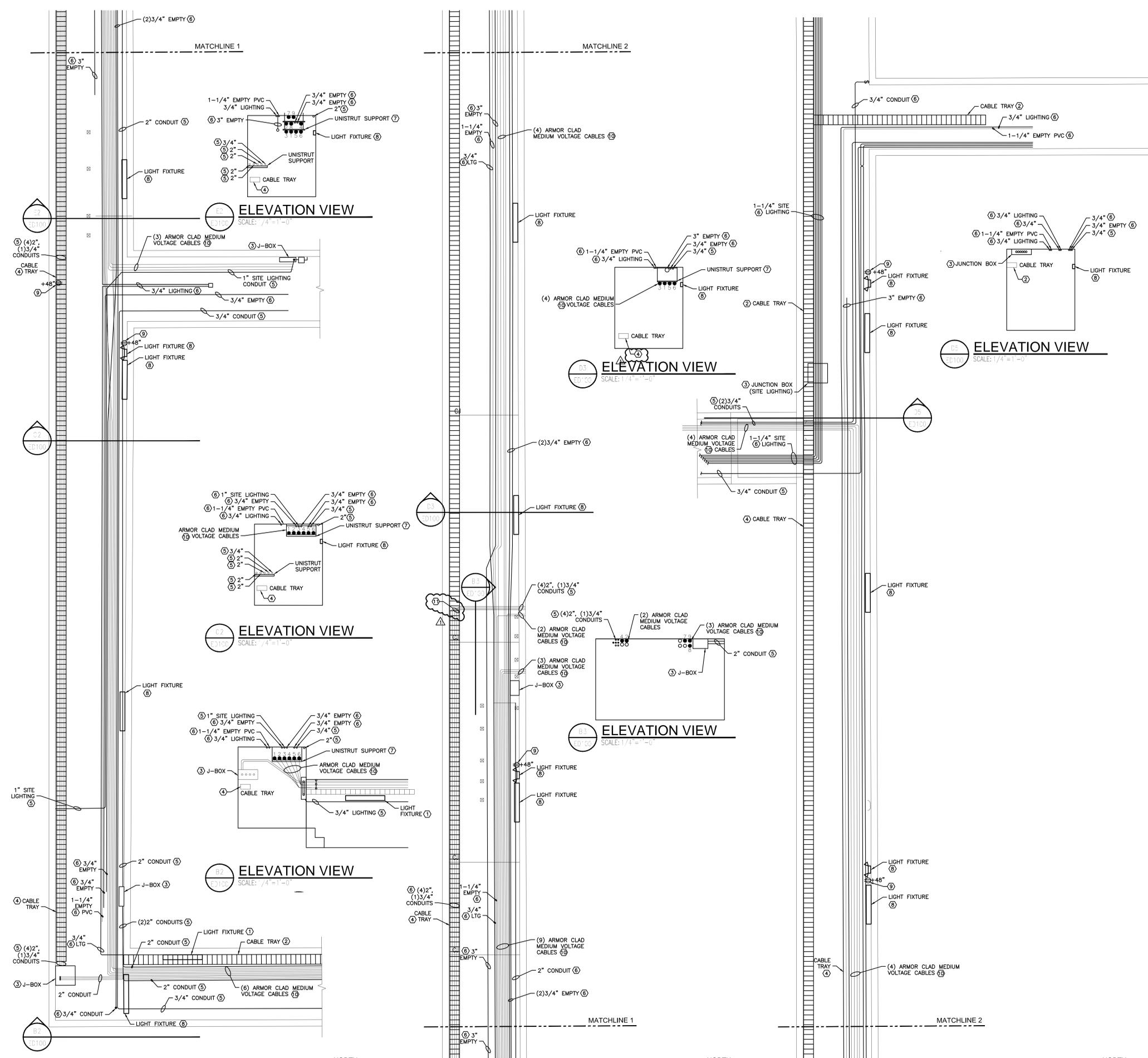


**CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
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- KEYED NOTES - SHEET ED100**
- PROTECT AND MAINTAIN EXISTING LIGHT FIXTURE ALONG WITH ALL ASSOCIATED CONDUIT AND WIRE.
  - PROTECT AND MAINTAIN EXISTING CABLE TRAY.
  - PROTECT AND MAINTAIN EXISTING J-BOX ALONG WITH ALL ASSOCIATED CONDUIT AND WIRE.
  - PROTECT AND MAINTAIN EXISTING CABLE TRAY. AS PART OF ADD. ALTERNATE #3, CABLE TRAY IS TO BE RAISED AND LOCATED SUCH THAT THE TOP OF THE TRAY IS 6" FROM THE TOP OF THE TUNNEL. OTHER THAN BEING RAISED, CABLE TRAY TO RETAIN ITS CURRENT LOCATION IN THE TUNNEL. PROVIDE ALL NECESSARY SUPPORTS AND ACCESSORIES.
  - PROTECT AND MAINTAIN EXISTING CONDUIT(S) ALONG WITH ALL ASSOCIATED WIRING. PROVIDE TEMPORARY RELOCATION AS NECESSARY TO ACCOMMODATE TUNNEL REPAIRS. PROVIDE ALL ADDITIONAL CONDUIT, CABLE AND SUPPORTS AS NECESSARY. REINSTALL AND RESUPPORT AT COMPLETION OF TUNNEL REPAIRS.
  - DEMOLISH EXISTING CONDUIT ALONG WITH ALL WIRING AND SUPPORTS.
  - DEMOLISH EXISTING CABLE/CONDUIT SUPPORT RACK TO ACCOMMODATE TUNNEL REPAIRS. PROVIDE ALL NECESSARY TEMPORARY SUPPORTS FOR CABLES AND CONDUITS TO REMAIN THROUGH CONSTRUCTION.
  - DEMOLISH EXISTING LIGHT FIXTURE ALONG WITH ALL ASSOCIATED CONDUIT AND WIRE.
  - DEMOLISH EXISTING RECEPTACLE ALONG WITH ALL ASSOCIATED CONDUIT AND WIRE.
  - PROTECT AND MAINTAIN EXISTING ARMOR CLAD MEDIUM VOLTAGE CABLES. CABLES ARE TO BE MAINTAINED IN EXISTING LOCATION WHILE REPAIRS OF THE WESTERN PORTION OF THE TUNNEL ARE COMPLETED. AFTER REPAIRS ARE COMPLETE IN WESTERN PORTION OF TUNNEL, CABLES ARE TO BE TEMPORARILY RELOCATED AND SUPPORTED SO THAT REPAIRS CAN BE COMPLETED IN THE EASTERN PORTION OF THE TUNNEL. AFTER ALL TUNNEL REPAIRS ARE COMPLETE, CABLES ARE TO BE MOVED BACK TO THEIR ORIGINAL LOCATION AND NEW PERMANENT SUPPORTS PROVIDED.
  - RELOCATION EXISTING 2" & 3/4" CONDUITS TO ACCOMMODATE LOWERING OF WATER LINE. DISCONNECT CABLES, RELOCATE PIPE, THEN RECONNECT, REUSE EXISTING CABLES. PROVIDE NEW CONDUIT AS NECESSARY.

- GENERAL NOTES - SHEET ED100**
- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION.
  - CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
  - PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
  - CONTRACTOR TO PROVIDE ALL NECESSARY MATERIALS FOR TEMPORARY RELOCATION AND SUPPORT OF ALL EXISTING CONDUITS AND CABLES TO REMAIN.
  - CONTRACTOR TO PROVIDE TEMPORARY LIGHTING IN TUNNEL THROUGHOUT ALL DEMOLITION AND RECONSTRUCTION.



**A1 PARTIAL ELECTRICAL TUNNEL DEMO PLAN** SCALE: 1/4" = 1'-0" NORTH

**A2 PARTIAL ELECTRICAL TUNNEL DEMO PLAN** SCALE: 1/4" = 1'-0" NORTH

**A3 PARTIAL ELECTRICAL TUNNEL DEMO PLAN** SCALE: 1/4" = 1'-0" NORTH

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**ELECTRICAL  
DEMOLITION  
TUNNEL PLAN**

DRAWING NUMBER:  
**ED100**

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Contact: Trevor Spencer  
Project #: 10049

ISSUED:		
NO.	DESCRIPTION	DATE
Δ 1	ADDENDUM #1	8/25/10

REVISIONS:		
NO.	DESCRIPTION	DATE

DFCM PROJECT NO.	08234050
DFCM PHASE NO.	
PE&A PROJECT NO.	20'0.172
DRAWING FILE:	
SCALE:	AS NOTED
DRAWN BY:	KG
CHECKED BY:	KG
DESIGNED BY:	TS
RECORD DRAWING DATE:	
SIGNATURE:	

**ELECTRICAL  
DEMOLITION  
TUNNEL PLAN**

DRAWING NUMBER:  
**ED101**

**KEYED NOTES - SHEET ED101**

1. PROTECT AND MAINTAIN EXISTING ARMOR CLAD MEDIUM VOLTAGE CABLES. CABLES IN THIS LOCATION ARE SUPPORTED DIRECTLY TO STRUCTURE. IF ADDITIONAL CABLE LENGTH IS REQUIRED TO RELOCATE CABLE IN TUNNEL, IT MAY BE GAINED IN THIS LOCATION BY REROUTING AND RESUPPORTING CABLE. THIS IS SHOWN FOR INFORMATIONAL PURPOSES ONLY.

**GENERAL NOTES - SHEET ED101**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION.
- B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
- C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
- D. CONTRACTOR TO PROVIDE ALL NECESSARY MATERIALS FOR TEMPORARY RELOCATION AND SUPPORT OF ALL EXISTING CONDUITS AND CABLES TO REMAIN.
- E. CONTRACTOR TO PROVIDE TEMPORARY LIGHTING IN TUNNEL THROUGHOUT ALL DEMOLITION AND RECONSTRUCTION.



**PARTIAL ELECTRICAL TUNNEL DEMO PLAN**  
SCALE: 1/4" = 1'-0"  
NORTH



**GENERAL NOTES - SHEET EP101**

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS, MATERIALS, FINISHES, AND DIMENSIONS BEFORE AND AFTER DEMOLITION
- B. CONTRACTOR TO ENSURE THAT ALL CORRIDORS OUTSIDE OF CONSTRUCTION AREA ARE KEPT CLEAN AND CLEAR OF DEBRIS AND OBSTRUCTIONS AT ALL TIMES.
- C. PROTECT ALL ITEMS TO REMAIN FROM DAMAGE.
- D. UNLESS NOTED OTHERWISE, ALL ITEMS SHOWN ARE EXISTING.
- E. CONTRACTOR IS TO PROVIDE AND INSTALL NEW SUPPORTS FOR ALL EXISTING CONDUITS AND CABLES.



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**CENTRAL UTILITY  
PLANT TUNNEL REPAIR  
UTAH STATE CAPITOL**

**DFCM  
4110 STATE OFFICE BLDG**

**Ken Garner  
Engineering, Inc.**  
ELECTRICAL CONSULTING ENGINEERS  
102 West 500 South, Suite 225  
Salt Lake City, Utah 84101  
Telephone: 801.328.8800  
Fax: 801.328.8802  
Contact: Trevor Spencer  
Project #: 10049

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REVISIONS:

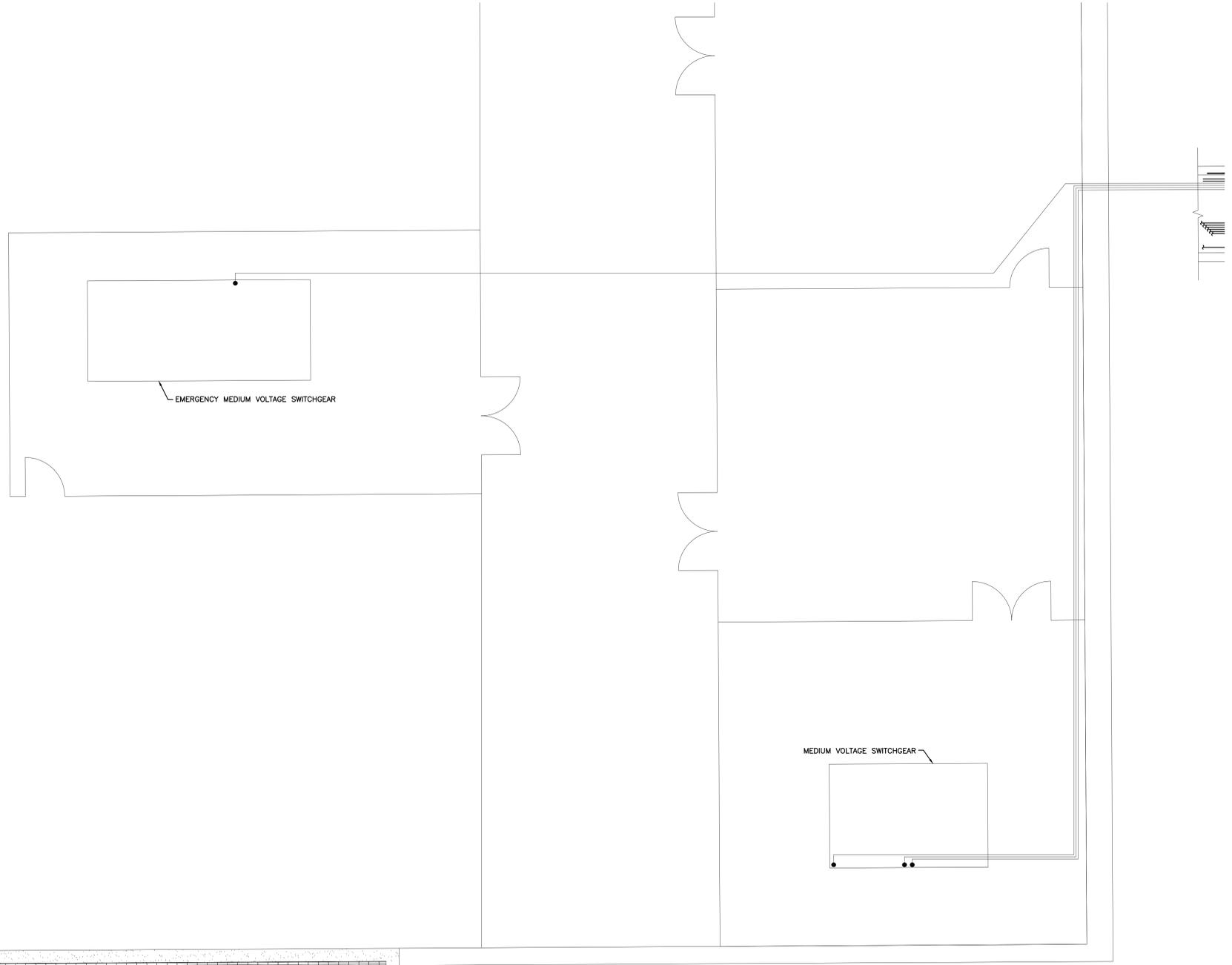
NO.	DESCRIPTION	DATE

DFCM PROJECT NO. 08234050  
DFCM PHASE NO.                      
REBA PROJEC NO. 2010.172  
DRAWING FILE:                      
SCALE: AS NOTED  
DRAWN BY: KGE  
CHECKED BY: KG  
DESIGNED BY: TS  
RECORD DRAWING DATE:             
SIGNATURE:                    

DRAWING TITLE:  
**ELECTRICAL  
PLAN**

DRAWING NUMBER:  
**EP101**

SHEET X OF X



**PARTIAL ELECTRICAL TUNNEL PLAN**  
SCALE: 1/4" = 1'-0"  
NORTH

**SHEET INCLUDED FOR REFERENCE ONLY**

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 8/25/10 10:00 AM