



August 22, 2024

Jason Pezzullo
Planning Director
Cranston City hall
869 Park Avenue
Cranston, RI 02910

Subject: Initial Review/Pre-Application Request for Proposed Redevelopment Project
1 Kenney Drive, Cranston, RI 02920
CEC Project 342-782

Dear Mr. Pezzullo,

On behalf of Storage Five Niles, LLC, we are requesting an initial review or pre-application meeting as appropriate, to confirm the permitting requirements associated with the proposed redevelopment project at 1 Kenney Drive, in Cranston, RI. The project involves subdividing a portion of the existing property for redevelopment as a self-storage facility, an allowed use within the Industrial M-2 Zoning District in which the subject parcel exists.

The subject property is comprised of three (3) parcels of land totaling approximately 15.95-acres: City of Cranston Assessor's Parcel Numbers 13-5-0, 13-50-0 and 16-67-0. The project would involve subdividing the property into two parcels, "Parcel-A" and "Parcel-B". Parcel-A is proposed to be approximately 6.65 acres with Parcel B taking up the remaining 9.30 acres. The proposed redevelopment would occur predominantly within proposed Parcel A, converting the existing structure to a climate controlled self-storage facility and adding two drive-up non-climate-controlled storage buildings with a total footprint of 15,000 SF in a portion of the existing parking area with associated access and circulation areas. The proposed project results in a net decrease of impervious area and adds new landscape islands.

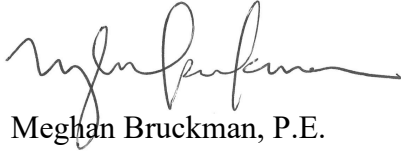
If you refer to the attached draft Site Plan, you will see summary parking and zoning tables that demonstrate compliance with the City of Cranston's local zoning ordinance.

Jason Pezzullo, Cranston Planning Director
CEC Project 342-782
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August 22, 2024

Please call or email if you have questions or require anything further to process this request.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

A handwritten signature in black ink, appearing to read 'Meghan Bruckman', written in a cursive style.

Meghan Bruckman, P.E.
Project Manager III

Attached: Draft Site Plan – 1 Kenney Dr



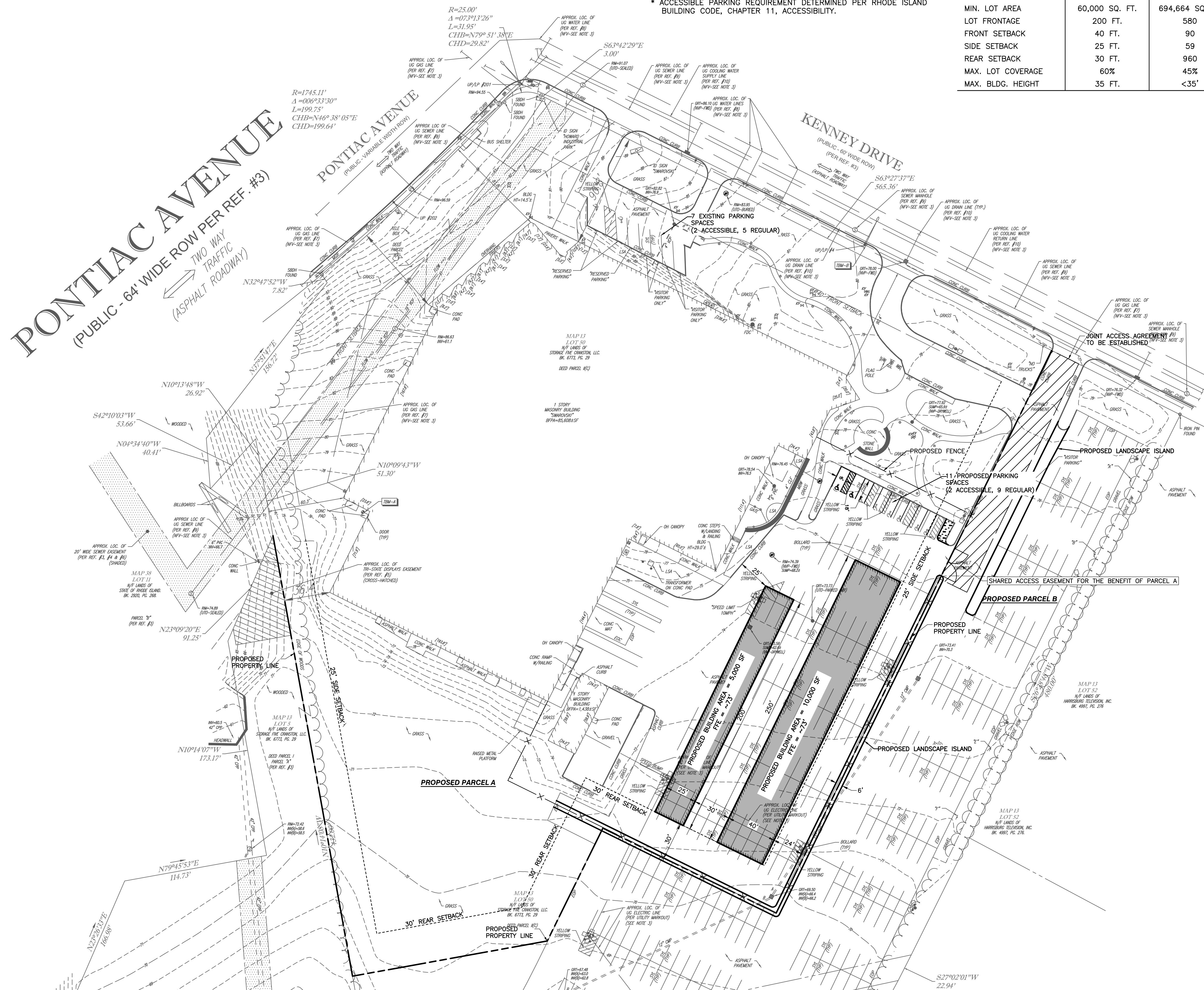
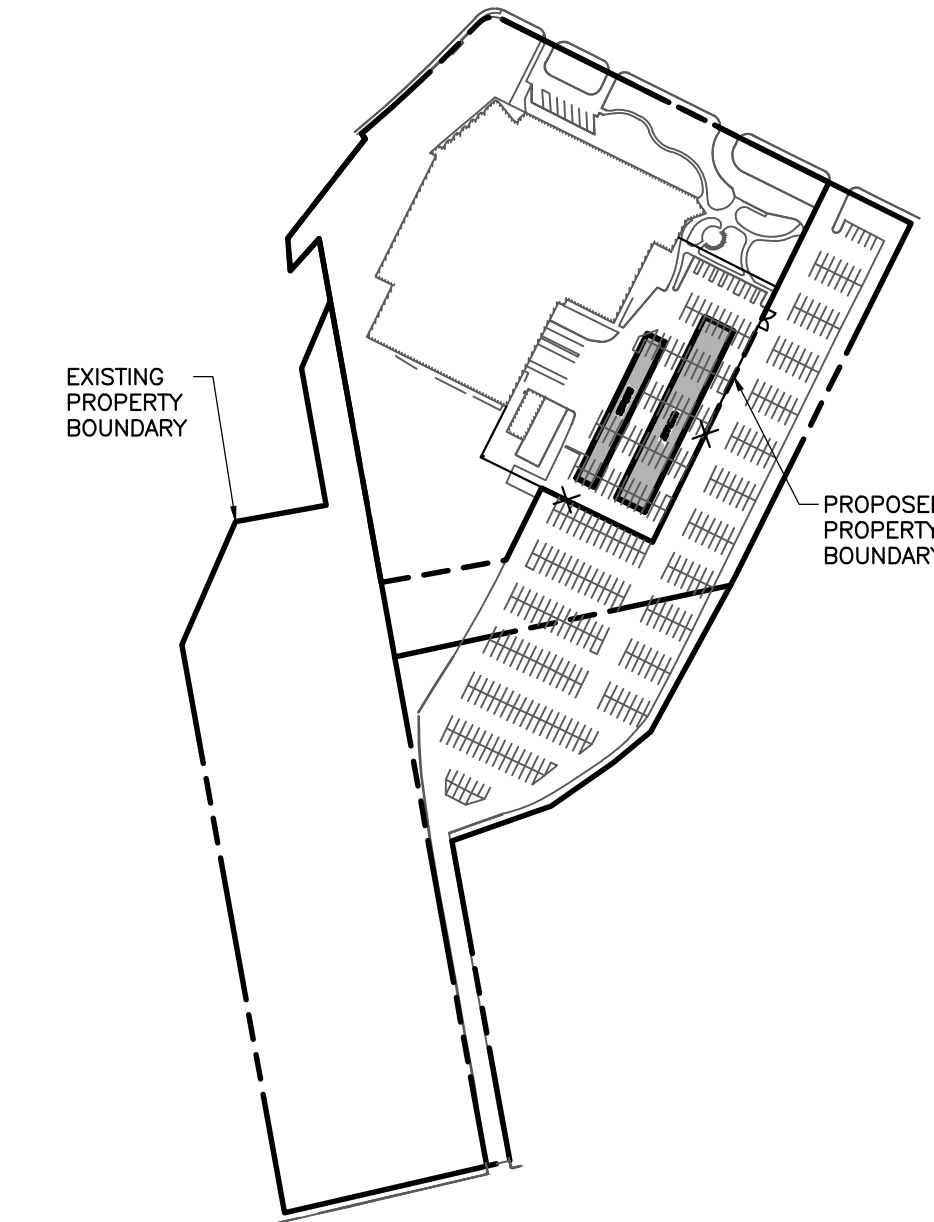
PARKING DATA		
	REQUIRED	PROVIDED
REQUIRED:		
INDUSTRIAL:		
±100,608 SQ. FT OF BUILDINGS		
0.1 SPACES PER 1,000 SQ. FT*	11	14
TOTAL:	11	18
TOTAL ADA ACCESSIBLE SPACES :	1	4

* PARKING REQUIREMENTS BASED ON ITE DESIGN STANDARDS FOR USE 151 (MINI-WAREHOUSE)
 * ACCESSIBLE PARKING REQUIREMENT DETERMINED PER RHODE ISLAND BUILDING CODE, CHAPTER 11, ACCESSIBILITY.

SITE DEVELOPMENT ZONING DATA			
TOTAL AREA OF PARCEL:	±378,972 SF		
ZONING DISTRICT:	INDUSTRIAL M-2		
CURRENT USE:	INDUSTRIAL MDL96		
INDUSTRIAL:			
PROPOSED NO. OF BUILDINGS:	2		
PROPOSED INDUSTRIAL FLOOR AREA:	±15,000 S.F.		
TOTAL BUILDING GROSS FLOOR AREA:	±100,608 S.F.		

REGULATION	REQUIREMENT (INDUSTRIAL M-2)	EXISTING	PROPOSED
MIN. LOT AREA	60,000 SQ. FT.	694,664 SQ. FT	289,780 SQ. FT
LOT FRONTAGE	200 FT.	580	466
FRONT SETBACK	40 FT.	90	90
SIDE SETBACK	25 FT.	59	25
REAR SETBACK	30 FT.	960	30
MAX. LOT COVERAGE	60%	45%	58%
MAX. BLDG. HEIGHT	35 FT.	<35'	<35'

- LEGEND**
- EXISTING PROPERTY LINE
 - EXISTING EASEMENT
 - EXISTING RIGHT-OF-WAY
 - EXISTING INTERNAL PROPERTY LINE
 - EXISTING ADJACENT PROPERTY LINE
 - EXISTING EDGE OF PAVEMENT
 - EXISTING OVERHEAD ELECTRIC LINE
 - EXISTING GAS LINE
 - EXISTING STRUCTURE
 - EXISTING CONCRETE
 - EXISTING STORM INLET/MANHOLE/HEADWALL
 - EXISTING SANITARY MANHOLE
 - EXISTING GAS VALVE
 - EXISTING ELECTRIC MANHOLE/TRAFFIC CONTROL BOX/LIGHT POLE/GROUND LIGHT
 - EXISTING FIRE HYDRANT/WATER VALVE
 - EXISTING UNKNOWN MANHOLE
 - PROPOSED BUILDING
 - PROPOSED SETBACK



DRAFT

NO.	DATE	REVISION RECORD	DESCRIPTION

31 Bellows Road
 Raynham, MA 02767
 Ph: 774.501.2176
 www.cecinc.com

CEC
 Civil & Environmental
 Consultants, Inc.

SITE PLAN

STORAGE FIVE
1 KENNEY DRIVE
CRANSTON, RHODE ISLAND
PROVIDENCE COUNTY, 02920

DATE: AUGUST 2024
 DWG SCALE: 1"=40'
 PROJECT NO: 342-782
 DRAWN BY: C/JW
 CHECKED BY: C/JW
 APPROVED BY: C/JW

DRAFT

DRAFT

DRAFT

A:\140-0001\142-782-1\0400\Draw\CP01\142782-CP01-CP01.dwg (2/20/2024) - L: 8/22/2024 1:33 PM
 A:\140-0001\142-782-1\0400\Draw\CP01\142782-CP01-CP01.dwg (2/20/2024) - L: 8/22/2024 1:33 PM



September 26, 2024

Mr. Jason M. Pezzullo, MCP, MPA, AICP
City Planning Director
Planning Board
City of Cranston
869 Park Avenue
Cranston, RI 02910

Subject: Development Plan Review
1 Kenney Drive & 0 Sharpe Street, Cranston, RI 02920-4403
Site Redevelopment
CEC Project Number 342-782

Dear Mr. Pezzullo:

On behalf of Storage Five Cranston, LLC, Civil & Environmental Consultants, Inc. (CEC) herewith submits a Development Plan Review application form and supporting information for the proposed redevelopment project located at 1 Kenney Drive & 0 Sharpe Street, in Cranston, Rhode Island.

Storage Five Cranston, LLC is proposing to redevelop an existing portion of impervious area within the subject parcel, Parcel 13-50-0, as identified by the City of Cranston Assessor's office, located at 1 Kenney Drive in Cranston, Rhode Island, within the Industrial M-2 Zoning District. Though the Site is comprised of three parcels (13-5-00, 13-50-01, 13-67-00) which are proposed to be subdivided into two parcels, Parcel A and Parcel B where the proposed redevelopment occurs on proposed Parcel A with updates to the existing building facade as depicted by the Architectural Plans prepared by Jon Clark Architecture. Proposed Parcel A totals approximately 6.67 acres, though the proposed limit of disturbance is only approximately 1.40 acres. The proposed work includes the demolition of the existing southeast surface parking area and repaving to accommodate the construction of two self-storage facilities totaling ±13,625 GSF along with associated site, landscape, and drainage improvements (the "Project"). The project results in a net increase of pervious area and a net decrease of impervious area, providing an overall improvement to the existing site condition in addition to proposed drainage improvements to satisfy RIDEM's redevelopment criteria.

The proposed use of the site is Self-Storage, an allowed use within the Industrial M-2 Zoning District.

Submission Materials

In support of the aforementioned project, the following materials have been provided for your review:

- One (1) Development Plan Review Submission Checklist;
- One (1) check for \$520 for the Development Plan Review application fee;
- Six (6) copies of the Development Plan Review Application;
- Six (6) copies of the Development Plan Review Checklist;
- Six (6) copies of the City of Cranston Lien Certificate request and copy of check provided;
- Six (6) copies of the Abutters List within a 200-ft radius;
- Six (6) full-size copies of Development Plan Review Plan Set, prepared by CEC, dated September 25, 2024;
- Six (6) full-size copies of Architectural Plans prepared by Jon Clark Architecture, dated September 20, 2024;
- Six (6) full-size copies of Lighting Plans prepared by National LED, dated September 25, 2024; and
- Six (6) copies of the Stormwater Management Memo, prepared by CEC, dated September 2024.

We appreciate your consideration of the enclosed Development Plan Review and Special Permit Application. Please contact the undersigned if you have any questions or comments on the submitted materials.

Sincerely,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.



Karlis Skulte, P.E.
Principal



Meghan Bruckman
Project Manager III

Attachments: Development Plan Review Application
Development Plan Review Checklist
Lien Certificate Request & Copy of Check
Abutters List – 200'
Stormwater Report, dated September 2024 (Under Separate Cover)
Development Plan Review Plan Set, dated September 25, 2024 (Under Separate Cover)
Architectural Plans, dated September 20, 2024 (Under Separate Cover)
Lighting Plans, dated September 25, 2024 (Under Separate Cover)

**CRANSTON, RHODE ISLAND
APPLICATION FOR DEVELOPMENT PLAN REVIEW**

<u>PROJECT NAME:</u> STORAGE FIVE CRANSTON	
<u>ADDRESS:</u> 1 KENNEY DRIVE & 0 SHARPE STREET, CRANSTON, RI	
<u>ASSESSOR'S PLAT(s):</u> 13, 13, 13	<u>LOT(s):</u> -5-00, -50-01, -67-00
<u>ZONING:</u> INDUSTRIAL M-2	<u>AREA:</u> 290,556 SF (6.67 AC) - <i>Proposed Parcel A</i>

<u>OWNER:</u> STORAGE FIVE CRANSTON, LLC	
<u>ADDRESS:</u> P.O. BOX 1042, SEABROOK, TEXAS 77586	<u>PHONE #:</u> 713-545-0883
<u>APPLICANT:</u> (if different)	
<u>ADDRESS:</u>	<u>PHONE #:</u>
<u>ATTORNEY</u>	<u>PHONE #:</u>
<u>ENGINEER:</u> CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC)	<u>PHONE #:</u> 774-501-2176
<u>SURVEYOR:</u> CONTROL POINT ASSOCIATES, INC.	<u>PHONE #:</u> 518-217-5010
<u>LANDSCAPE ARCHITECT:</u>	<u>PHONE #:</u>

PROJECT DESCRIPTION:

The Applicant is proposing to redevelop an existing portion of impervious area within the subject parcel, Parcel 13-50-0, as identified by the City of Cranston Assessor's office, located at 1 Kenney Drive in Cranston, Rhode Island, though the Site is comprised of three parcels (13-5-00, 13-50-01, 13-67-00) which are proposed to be subdivided into two parcels, Parcel A and Parcel B where the proposed redevelopment occurs on proposed Parcel A with updates to the existing building facade as depicted by the Architectural Plans prepared by Jon Clark Architecture. Proposed Parcel A totals approximately 6.67 acres, though the proposed limit of disturbance is only approximately 1.40 acres. The proposed work includes the demolition of the existing southeast surface parking area and repaving to accommodate the construction of two self-storage facilities totaling ±13,625 GSF along with associated site, landscape, and drainage improvements (the "Project"). The project results in a net increase of pervious area and a net decrease of impervious area, providing an overall improvement to the existing site condition in addition to proposed drainage improvements to satisfy RIDEM's redevelopment criteria.

DOCUMENTS SUBMITTED:

- Storage Five Cranston Development Plan Review Civil Plan Set dated 9/25/2024, prepared by Civil & Environmental Consultants, Inc. (6 hard copies, 1 electronic)
- Lighting Plan generated by National LED (6 hard copies, 1 electronic)
- Architectural Plans generated by Jon Clark Architecture
- Storage Five Cranston Development Plan Review Stormwater Memorandum dated 9/25/2024, prepared by Civil & Environmental Consultants, Inc. (6 hard copies, 1 electronic)
- Application Fee check for \$520
- Copy of lien certificate request and copy of check for \$75
- Abutters list for properties within 200' of proposed project and set of stamped envelopes addressed to abutters

SIGNATURE OF OWNER (s)

SIGNATURE OF APPLICANCT (s)

09/26/2024
DATE

DATE

**CRANSTON, RHODE ISLAND
DEVELOPMENT PLAN REVIEW
SUBMISSION CHECK LIST**

PROJECT DATA		
	Project Name: STORAGE FIVE CRANSTON	
	Address: 1 KENNEY DRIVE & 0 SHARPE STREET, CRANSTON, RI	
	Assessor's plat(s): 13, 13, 13	Lot(s): -5-00, -50-01, -67-00
	Owner(s)/Applicant : STORAGE FIVE CRANSTON, LLC	
	Engineer: CIVIL & ENVIRONMENTAL CONSULTANTS, INC. (CEC)	
		DEPARTMENT COMMENTS
SUBMISSION REQUIREMENTS		✓
	6 copies of the Application including plans.	✓
	1 electronic copy of the Application including all plans and documents submitted.	✓
	Filing fee of \$500 plus \$20 per acre for each full acre in the Development.	✓
	Identification of all permits required from state or federal agencies prior to commencement of construction.	✓
	Municipal lien certificate showing that all taxes are current.	✓
	List of the owners of all land within 200' of the perimeter of the parcel that is being reviewed.	✓
	Set of stamped envelopes addressed to the abutters in the order which they appear on said list.	✓
PLAN REQUIREMENTS		✓
	Locus map referencing the Development to the surrounding area, streets and zoning district boundaries w/in 500'.	✓
	Name of the Development, north arrow, scale, assessor's plat and lot number, bench mark and datum, the dates of plans and revisions and signature blocks on all plans to be endorsed.	✓
	Name and address of the owner of record, applicant and professionals preparing the plan.	✓
	Assessor's plat and lot number and names of all owners of land abutting the Development.	✓
	Zoning district boundaries and all the data necessary to show compliance with Zoning.	✓
	Parcel area and boundaries; existing/proposed streets, lot lines, easements and public areas.	✓
	Distances to the nearest street intersections and fire hydrants measured along the ROW lines.	✓
	Existing/proposed grading at 2' contours where slopes are less than 15% and at 5' contours where slopes are 15% or more. Elevations shall be referenced to the City's datum.	✓
	Environmental features including soils, rock outcroppings, wooded areas, trees 8" caliper and above, watercourses, water bodies, wetlands, floodplains [showing base flood elevation].	
	Location, dimensions, GFA, floor plans and heights of existing/proposed buildings, equipment and other structures such as walls, fences, culverts and bridges. Buildings and structures to be removed shall be indicated by dashed lines.	✓

		✓	DEPARTMENT COMMENTS
PLAN REQUIREMENTS CONT.	Location of existing/proposed utilities including sewers, water, gas and electricity with pipe sizes, elevations, slopes and directions of flow.	✓	
	Location, type and density of land uses that will be in the Development.	✓	
	Renderings as needed to illustrate the visual impact on abutting properties.		
	Signage including location, size, design and illumination.	✓	
	Exterior lighting including type, location, intensity, shielding and times of operation.	✓	
	Landscape Plan including landscape materials, paving, lighting and street furniture. Said plan shall indicate the location, type and size of plantings at the time of planting and at maturity.		
	Site circulation showing access to and egress from the Development; size and location of driveways and curb cuts; parking, loading and outdoor storage areas; dumpsters and any off-site traffic improvements necessary to ensure public safety.	✓	
	Profile and cross-section of proposed streets and sidewalks showing utilities.		
DRAINAGE PLAN/REPORT	A drainage plan/report demonstrating that the development's stormwater management system will meet the standards set by the Rhode Island Stormwater Design and Installation Standards Manual as most recently amended. At a minimum said plan/report shall show the following:	✓	
	Changes in land use and the routes that storm water will flow through the Development,		
	Existing/proposed drainage structures, basins and channels. [Drainage structures shall comply with City specification and shall be approved by the City Engineer.]	✓	
	Drainage calculations demonstrating that the peak rates of storm water runoff leaving the post-development parcel will not exceed the pre-development conditions for the 2-year, 10-year, 25-year and 100-year storm events. Said calculations shall be based on the rational method, SCS TR55 or other method approved by the City Engineer. <ol style="list-style-type: none"> 1. The drainage system shall be designed to accommodate the 25 year storm event. 2. Retention or detention basins shall be designed to accommodate a 100 year storm event. 	✓	
	A drainage plan showing tributary and downstream areas affected by run-off, soil types and surficial cover characteristics for both pre- and post- development conditions.	✓	
	Design calculations to determine the size of all pipes, culverts and basins. Sizing of the piping system shall be based on the Rational Method.	✓	
	Results of percolation tests performed for any proposed retention/detention basin in order to determine the suitability of the subsurface conditions to accommodate said basin.		
	A maintenance plan which shall: <ol style="list-style-type: none"> 1. identify all of the Control Measures that will be inspected and maintained; 2. provide an inspection schedule for each Control Measure; 3. list typical maintenance procedures for each Control Measure; 4. describe steps to take if additional repair is required; 5. provide forms and instructions for record keeping and notification to the City; 6. list the names and personnel assigned to each task and the training needed to be able to do the job. 	✓	

		✓	DEPARTMENT COMMENTS
SUPPORTING DOCUMENTATION	Impact assessment.		
	Traffic impact study.		
	Easements, Deed Restrictions, Covenants		
	Maintenance plan.		
	Monitoring plan.		
LANDSCAPE REQUIREMENTS	15% of a Development's parcel shall be landscaped		
	One street tree shall be planted for every 35' of frontage.		
	A year-round buffer a minimum of 8' in height.		
	Landscaped strips <ul style="list-style-type: none"> • Minimum 10' wide landscaped strip along property lines parallel to a street where parking or circulation areas abuts said street. • Minimum 5' landscape strip along side and rear property lines where parking and circulation areas are adjacent to abutting properties. • Where a residential use abuts non-residential use, a 25' wide buffer strip may be required. 		
	Minimum of 10 SF of landscaped area shall be provided within a parking area for each parking space in said area.		
	20% of a parking area shall be shaded by deciduous trees that shall have a crown [canopy] of 30' at maturity surrounded by at least 100 SF of unpaved area.		
	Each row of parking spaces shall be terminated by a landscaped island not less than 6' wide and 12' long.		
	Continuous landscaped island not less than 8' wide shall be provided between every 4 rows of parking spaces.		

REQUEST FOR CERTIFICATE UNDER 44-7-11 OF THE GENERAL LAWS OF RHODE ISLAND. 1956

Name of Taxpayer Storage Five Cranston LLC

Property Location 1 Kenny Drive and 0 Sharpe Drive

Assessor's Plat _____ Lot _____ Condo _____ Account # _____

13-5-0 0 SHARPE DRIVE 20272193
13-50-0 1 KENNEY DRIVE 11077370
13-67-0 0 SHARPE DRIVE 20272193

Fee for municipal lien certificates is \$25.00 per lot. Multiple lots may be included in one request. Please include either \$.37 for postage or a self addressed stamped envelope.

Requested by:


CHRIS CATANIA

Storage Five Cranston LLC
PO Box 1042
Seabrook, Texas 77586

(phone number) 713-545-0883
chris@buonproperties.com

City of Cranston
Department of Tax Collection
869 Park Avenue
Cranston, RI 02910
(401) 780-3333

Abbutters List*Properties with 200' of Project Parcel*

Storage Five Cranston

PropertyID	Location	Owner	Owner, Attn	Owner Address	Owner Address, Attn	City	State	Zip
13-83-0	33 SHARPE DRIVE	BOCADA 33 SHARPE DRIVE LLC		1300 PONTIAC AVE		CRANSTON	RI	02920-4405
13-81-0	19 SHARPE DRIVE	CMR ENTERPRISE LLC		19 SHARPE DR		CRANSTON	RI	02920
13-45-0	40 SHARPE DRIVE	G3 40 SHARPE DRIVE LLC		33 SHARPE DR		CRANSTON	RI	02920-4402
14-14-0	PONTIAC AVENUE	STATE LOTTERY COMMISSION		85 SMITH STREET		PROVIDENCE	RI	02903
13-54-0	1500 PONTIAC AVENUE	PONTIAC MEDICAL GROUP LLC	C/O RI HOSPITAL	17 VIRGINIA AVE STE 101		PROVIDENCE	RI	02905-4406
13-79-0	20 SHARPE DRIVE	JRB REALTY INC		20 SHARPE DR		CRANSTON	RI	02920
13-55-0	1510 PONTIAC AVENUE	STYLECRAFT INC		1510 PONTIAC AVE		CRANSTON	RI	02920
13-52-0	23 KENNEY DRIVE	HARRISBURG TELEVISION INC		10706 BEAVER DAM RD		COCKEYSVILLE	MD	21030-2207
13-59-0	50 SHARPE DRIVE	DONNELLY REAL ESTATE LLC		50 SHARPE DRIVE		CRANSTON	RI	02920-4410
14-5-0	HOWARD AVENUE	RHODE ISLAND STATE OF		39 HOWARD AV - BUSSINESS OFFICE	ATTN NANCY LEFORT	CRANSTON	RI	02920
13-72-0	25 SHARPE DRIVE	25 SHARPE LLC		25 SHARPE DRIVE		CRANSTON	RI	02920-4463
38-12-0	0 BIKE PATH	STATE OF RHODE ISLAND		P O BOX 8268		CRANSTON	RI	02920-0268
13-1-0	1690 PONTIAC AVENUE	PONTIAC RECLAMATION LP	C/O NAUTILUS SOLAR ENERGY LLC	396 SPRINGFIELD AVE 2ND FL		SUMMIT	NJ	07901-2704
38-11-0	0 PONTIAC AVENUE	STATE OF RHODE ISLAND		P O BOX 8268		CRANSTON	RI	02920-0268
13-9-0	1400 PONTIAC AVENUE	BOTTLING GROUP LLC	ATTN TAX DEPT 3A-300	P O BOX 660937		DALLAS	TX	75266-0937

STATE OF RHODE ISLAND
PROVIDENCE, SC.

CITY OF CRANSTON
PLANNING COMMISSION

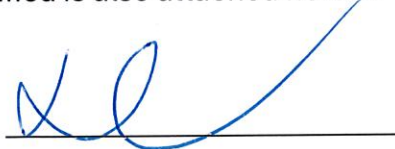
RE: 1 KENNEY DRIVE & 0 SHARPE DRIVE
PROPOSED REDEVELOPMENT

AFFIDAVIT OF NOTICE OF COMPLIANCE

I, Karlis Skulte, of Raynham, Massachusetts, make affidavit and state that I gave notice of the meeting on Monday October 7, 2024 to the property owners within the 100' radius under the Cranston Subdivision Regulations for the Public Hearing for the Preliminary Application for Development Plan Review for the redevelopment project entitled, "Storage Five" located at 1 Kenney Drive and 0 Sharpe Drive, further identified as Assessor's Plat 13, Lot's 5, 50 & 67. The property owner/applicant is Storage Five Cranston, LLC, of P.O. Box 1042, Seabrook, Texas 77586.

That said notices were mailed on October 7, 2024, by regular mail, postage prepaid and that a true copy of said notice is attached hereto.

A copy of the certified abutters notified is also attached hereto.



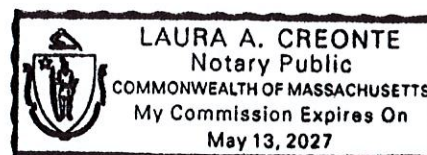
Karlis Skulte, PE

Subscribed and sworn to before me this 7th day of October, 2024.



Notary Public

My Commission Expires: *May 13, 2027*



Storage Five Cranston, LLC

1 Kenney Drive
Cranston, Rhode Island 02920

INDEX OF DRAWINGS						
SHEET NUMBER	SHEET NAME	SET ISSUES		SHEET ISSUE DATE	CURRENT REVISION DATE	CURRENT REVISION DESCRIPTION
		PERMIT SET	REV #1			
GENERAL						
G 0.1	TITLE SHEET					XX/XX/XX
G 0.2	ABBREVIATIONS & SYMBOLS					XX/XX/XX
G 2.1	MAIN LEVEL RENOVATED LIFE SAFETY FLOOR PLAN					XX/XX/XX
G 2.2	UPPER LEVEL RENOVATED LIFE SAFETY FLOOR PLAN					XX/XX/XX
ARCHITECTURAL						
A 1.1.1	MAIN LEVEL DEMOLITION FLOOR PLAN - DIVISION A					XX/XX/XX
A 1.1.2	MAIN LEVEL - DIVISION B & BASEMENT DEMOLITION FLOOR PLAN					XX/XX/XX
A 1.2.1	UPPER LEVEL DEMOLITION FLOOR PLAN - DIVISION A					XX/XX/XX
A 1.2.2	UPPER LEVEL DEMOLITION FLOOR PLAN - DIVISION B					XX/XX/XX
A 1.3.1	ROOF DEMOLITION PLAN - DIVISION A					XX/XX/XX
A 1.3.2	ROOF DEMOLITION PLAN - DIVISION B					XX/XX/XX
A 2.1.1	MAIN LEVEL RENOVATED FLOOR PLAN - DIVISION A					XX/XX/XX
A 2.1.2	MAIN LEVEL RENOVATED FLOOR PLAN - DIVISION B					XX/XX/XX
A 2.2.1	UPPER LEVEL RENOVATED FLOOR PLAN - DIVISION A					XX/XX/XX
A 2.2.2	UPPER LEVEL RENOVATED FLOOR PLAN - DIVISION B					XX/XX/XX
A 2.3.1	ROOF RENOVATED PLAN - DIVISION A					XX/XX/XX
A 2.3.2	ROOF RENOVATED PLAN - DIVISION B					XX/XX/XX
A 3.1	COMPOSITE & ENLARGED RENOVATED EXTERIOR EAST ELEVATIONS					XX/XX/XX
A 3.2	COMPOSITE & ENLARGED RENOVATED EXTERIOR NORTH ELEVATIONS					XX/XX/XX
A 3.3	COMPOSITE & ENLARGED RENOVATED EXTERIOR SOUTH ELEVATIONS					XX/XX/XX
A 3.4	COMPOSITE & ENLARGED RENOVATED EXTERIOR WEST ELEVATIONS					XX/XX/XX
A 3.5	RENOVATED EXTERIOR ELEVATIONS - UPPER LEVEL MECHANICAL COURTYARD					XX/XX/XX
A 3.6	RENOVATED EXTERIOR ELEVATIONS - ACCESSORY BUILDING					XX/XX/XX
A 4.1	DOOR SCHEDULE, ELEVATIONS & DETAILS					XX/XX/XX
A 4.2	WINDOW SCHEDULE, ELEVATIONS & DETAILS					XX/XX/XX
A 6.1	ENLARGED TOILET PLANS					XX/XX/XX
A 6.2	TOILET DETAILS					XX/XX/XX
A 7.2	GUARDRAIL & HANDRAIL DETAIL				6.25.2024	
A 8.1	MAIN LEVEL RENOVATED L/V PLAN					XX/XX/XX
A 8.2	UPPER LEVEL RENOVATED L/V PLAN					XX/XX/XX
A 8.3	ENLARGED FLOOR PLAN - LEASING OFFICE					XX/XX/XX
A 8.4	CASEWORK DETAILS					XX/XX/XX
A 9.1	TYPICAL STEEL STUD FRAMING DETAILS					XX/XX/XX

PRELIMINARY -
NOT FOR
CONSTRUCTION

PROJECT INFORMATION:

Project Name:

Storage Five
Cranston, LLC

PERMITTING SET

Project Address:

1 Kenney Drive
Cranston, Rhode Island 02920

Project Number:

23127

Drawn By:

MTD

Date:

9.20.2024

Revision Date:

PROJECT TEAM

OWNER:

STORAGE FIVE CRANSTON, LLC
P.O. BOX 1042
SEABROOK, TEXAS 77587
TEL: (713) 545-0883
POINT OF CONTACT: CHRIS CATANIA

ARCHITECT:

JONATHAN W. CLARK, ARCHITECT
55 NORTH 1ST STREET - SUITE 300
CLARKSVILLE, TENNESSEE 37040
TEL: (931) 552-3860
ARCHITECT OF RECORD: JONATHAN W. CLARK
PROJECT MANAGER: JONATHAN W. CLARK

STRUCTURAL:

RAKER RHODES ENGINEERING
4717 GRAND AVENUE
DES MOINES, IOWA 50312
TEL: (515) 277-0275
ENGINEER OF RECORD: JOHN D. RHODES
PROJECT MANAGER: BRETT TIGGES

MECHANICAL/PLUMBING/ELECTRICAL:

PROFICIENT ENGINEERING, INC.
6991 PEACHTREE INDUSTRIAL BOULEVARD
BUILDING 700
PEACHTREE CORNERS, GEORGIA 30092
TEL: (404) 330-9798
ENGINEER OF RECORD:
MECH/PLUMBING: JOHN PAUL KENNEY
ELECTRICAL: BRIAN M. ARMENTA
PROJECT MANAGER: MIKE ROEDER

PROJECT INFORMATION

CODE DATA:

RI SBC-1 State Commercial Building Code (2018 ed.)
Incorporates the International Building Code, 2018 Edition, by reference
RI SBC-3 State Plumbing Code (2018 ed.)
Incorporates the International Plumbing Code, 2018 Edition, by reference
RI SBC-4 State Mechanical Code (2018 ed.)
Incorporates the International Mechanical Code, 2018 Edition, by reference
RI SBC-5 State Electrical Code (NFPA 70 2020 ed.)
Incorporates the International Electrical Code, 2020 Edition, by reference
RI SBC-6 Property Maintenance Code (2018 ed.)
Incorporates the International Property Maintenance Code, 2018 Edition, by reference
RI SBC-8 Energy Conservation Code (2018 ed.)
Incorporates the International Energy Code, 2018 Edition, by reference
RI SBC-19 Fuel Gas Code (2018 ed.)
Incorporates the International Fuel Gas Code, 2018 Edition, by reference
Fire Safety Code Sections 1 through 6 (450-RICR-00-00-1)
RI Fire Code (450-RICR-00-00-7)
Incorporates the Fire Code of the National Fire Protection Association, Inc., (NFPA 1) 2018 Edition, by reference
RI Life Safety Code (450-RICR-00-00-8)
Incorporates the Life Safety Code of the National Fire Protection Association, Inc., (NFPA 101), 2018 Edition, by reference
Rehabilitation Building & Fire Code for Existing Structures ((450-RICR-00-00-9)
RI Fire Alarm Code (450-RICR-00-00-10)
Incorporates the National Fire Alarm & Signaling Code (NFPA 72), 2019 Edition, by reference
2018 INTERNATIONAL FIRE CODE
2010 U.S. DEPARTMENT OF JUSTICE CODE OF FEDERAL REGULATIONS - ADA STANDARDS FOR ACCESSIBLE DESIGN

BUILDING INFORMATION:

CONSTRUCTION TYPE: **IIB - FULLY SPRINKLED**

OCCUPANCY TYPE: **GROUP S-1 MODERATE HAZARD STORAGE**

NUMBER OF STORIES:

Allowable: **THREE**
Actual: **TWO**

Height of Building:

Allowable: **75'-0"**
Actual: **20'-8" (existing - see drawing 1/ A3.2)**

Square footage:

Allowable: **Unlimited - meets requirements of IBC 507.5 Two-story buildings**
Building is equipped with an automatic sprinkler system in accordance with 903.3.1.1 and is surrounded and adjoined by public ways or yards not less than 60' in width.

Actual:

Main Level: **86,227 SF +/-**

Upper Level: **60,615 SF +/-**

Jonathan W. Clark,
Architect

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Sheet Name

TITLE SHEET

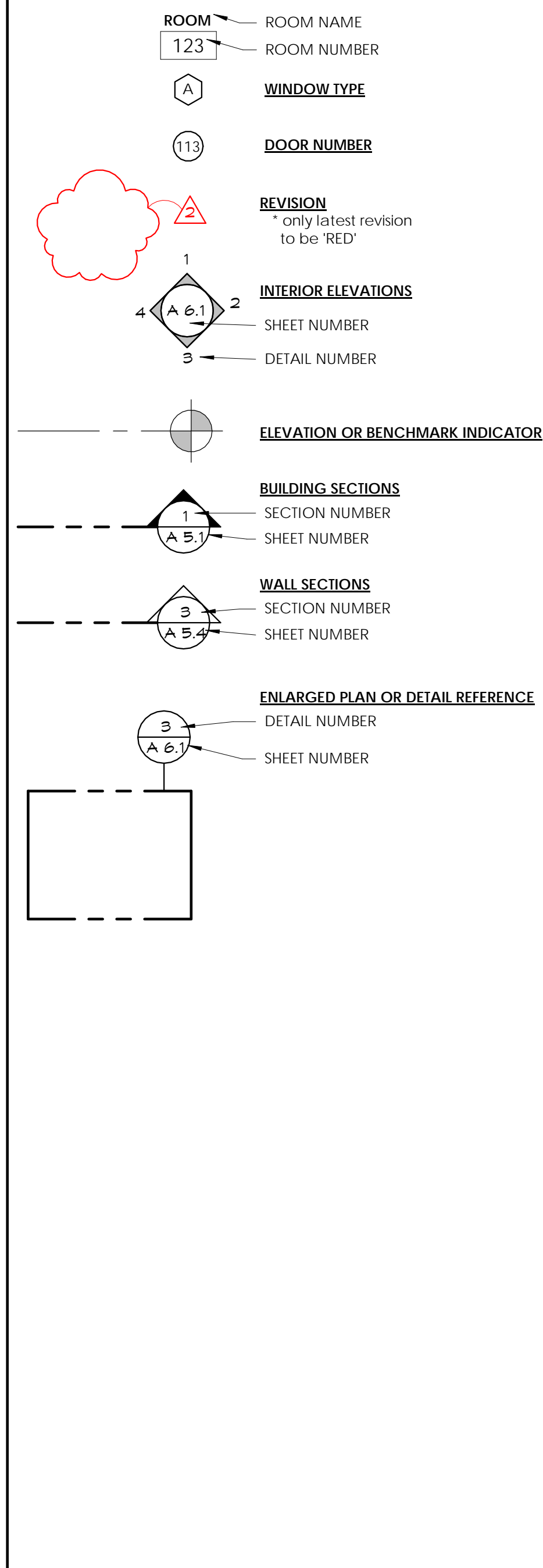
Sheet Number

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ARCHITECTURAL ABBREVIATIONS:

¢	CENTERLINE	FA	FIRE ALARM
&	AND	FD	FLOOR DRAIN
@	AT	FDC	FIRE DEPARTMENT CONNECTION
#	NUMBER or POUNDS	FDN	FOUNDATION
AB	ANCHOR BOLT	FE	FIRE EXTINGUISHER
AC	ASPHALTIC CONCRETE	FEC	FIRE EXTINGUISHER CABINET
ACOUS	ACOUSTICAL	FH	FIRE HYDRANT
ACT	ACOUSTICAL CEILING TILE	FHC	FIRE HOSE CABINET
AD	AREA DRAIN	FIN	FINISH
ADJ	ADJUSTABLE	FJ	FLOOR JOIST
AFF	ABOVE FINISH FLOOR	FLASH	FLASHING
AGG	AGGREGATE	FLR	FLOOR
ALUM	ALUMINUM	FLUOR	FLUORESCENT
ANOD	ANODIZED	FO	FRAMED OPENING
AP	ACCESS PANEL	FOC	FACE OF CONCRETE
APPROX	APPROXIMATELY	FOF	FACE OF FINISH
ARCH	ARCHITECTURAL	FOM	FACE OF MASONRY
		FOS	FACE OF STUD
BD	BOARD	FRPF	FIREPROOF
BITUM	BITUMINOUS	FRPL	FIREPLACE
BLDG	BUILDING	FS	FLOOR SINK
BLK	BLOCK	FT	FOOT
BM	BEAM	FTG	FOOTING
		FURR	FURRING
		FUT	FUTURE
CAB	CABINET	GA	GAUGE
CB	CATCH BASIN	GALV	GALVANIZED
CCTV	CLOSED CIRCUIT TELEVISION	GB	GRAB BAR
CEM	CEMENT	GFRG	GLASS FIBER REINFORCED CONCRETE
CER	CERAMIC	GFRG	GLASS FIBER REINFORCED GYPSUM
CJ	CAST IRON	GL	GLASS
CIP	CAST IN PLACE	GND	GROUND
CJ	CONTROL JOINT	GR	GRADE
CLG	CEILING	GYP	GYPSUM
CLKG	CAULKING		
CLOS	CLOSET		
CLR	CLEAR	(H) or HT	HEIGHT
CMU	CONCRETE MASONRY UNIT	HB	HOSE BIBB
CO	CLEAN OUT	HC	HOLLOW CORE
COL	COLUMN	HCP	HANDICAPPED
CONC	CONCRETE	HDWR	HARDWARE
CONN	CONNECTION	HEPA	HIGH EFFICIENCY PARTICULATE AIR (FILTER)
CONST	CONSTRUCTION	HM	HOLLOW METAL
CONT	CONTINUOUS	HORIZ	HORIZONTAL
CORR	CORRIDOR		
CT	CERAMIC TILE	ID	INSIDE DIAMETER
CTSK	COUNTERSUNK	INSUL	INSULATION
CTR	CENTER	INT	INTERIOR
		JAN	JANITOR
(D)	DEMOLISH	JST	JOIST
DBL	DOUBLE	JT	JOINT
DEPT	DEPARTMENT		
DET	DETAIL	(L)	LENGTH
DF	DRINKING FOUNTAIN	LAB	LABORATORY
DIA or Ø	DIAMETER	LAM	LAMINATE
DIM	DIMENSION	LAV	LAVATORY
DISP	DISPENSER	LB or #	POUND
DN	DOWN	LKR	LOCKER
DO	DOOR OPENING	LT	LIGHT
DR	DOOR		
DS	DOWNSPOUT	MAX	MAXIMUM
DSP	DRY STANDPIPE	MECH	MECHANICAL
DW	DISHWASHER	MFR	MANUFACTURER
DWG	DRAWING	MH	MANHOLE
DWR	DRAWER	MIN	MINIMUM
		MIR	MIRROR
(E) or EXIST	EXISTING	MISC	MISCELLANEOUS
E	EAST	MO	MASONRY OPENING
EA	EACH	MTD	MOUNTED
EIFS	EXTERIOR INSULATED FINISH SYSTEM	MTL	METAL
EJ	EXPANSION JOINT	MUL	MULLION
EL	ELEVATION	MVO	MICROWAVE OVEN
ELEC	ELECTRICAL		
ELEV	ELEVATOR	(L)	NEW
EMER	EMERGENCY	N	NORTH
ENCL	ENCLOSED	NIC	NOT IN CONTRACT
EP	ELECTRIC PANELBOARD	NO or #	NUMBER
EQ	EQUAL	NOM	NOMINAL
EQUIP	EQUIPMENT	NTS	NOT TO SCALE
EWC	ELECTRIC WATER COOLER	O/	OVER
EXP	EXPANSION	OA	OVER ALL
EXPO	EXPOSED	OFF	OFFICE
EXT	EXTERIOR	OC	ON CENTER
		OD	OUTSIDE DIAMETER or OVERFLOW DRAIN
		OPCI	OWNER PROVIDED, CONTRACTOR INSTALLED
		OPNG	OPENING
		OPDI	OWNER PROVIDED, OWNER INSTALLED
		OPP	OPPOSITE

ARCHITECTURAL SYMBOLS:



GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY ALL CONDITIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
- CONDITIONS THAT ARE NOT DETAILED SHALL BE ASSUMED TO BE SIMILAR IN CHARACTER TO THOSE WHICH ARE WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE. DO NOT SCALE THE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
- DIMENSIONS ARE TAKEN FROM TO FACE OF STUD, FACE OF CONCRETE, OR FACE OF MASONRY, CENTERLINE OF COLUMN, UNLESS OTHERWISE NOTED OR DETAILED. TOILET FIXTURE LOCATIONS ARE TYPICALLY DIMENSIONED FROM FACE OF ADJACENT FINISH IN ORDER TO COMPLY WITH FEDERAL AND LOCAL ADA CODES.
- WHERE REQUIRED FOR FIRE RESISTIVE CONSTRUCTION, ALL WOOD TRIM, SPACERS, FILLERS, BLOCKING, ETC. SHALL BE TREATED.
- ALL PIPES, DUCTS, AND CONDUITS THAT PENETRATE FLOOR SLABS AND/OR RATED WALLS SHALL BE INSTALLED IN A MANNER THAT PRESERVE THE FIRE RESISTANCE AND STRUCTURAL INTEGRITY OF THE BUILDING.
- COORDINATE PLACEMENT OF ALL CEILING ELEMENTS WITH MECHANICAL, ELECTRICAL, FIRE PROTECTION, AND CEILING SUBCONTRACTORS. WHERE DISCREPANCIES EXIST BETWEEN DRAWINGS AND INSTALLATION, THE GENERAL CONTRACTOR SHALL CONSULT THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
- THE DRAWINGS DO NOT SHOW ALL REQUIRED ACCESS PANELS. THE GENERAL CONTRACTOR SHALL CONSULT WITH ALL SUB-CONTRACTORS AND SUBMIT DRAWINGS SHOWING REQUIRED ACCESS PANELS AND INDICATING BOTH SIZE AND TYPE.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACINGS, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL TOILET ROOM ACCESSORIES AND PARTITIONS, AND ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL, AND MISCELLANEOUS EQUIPMENT.
- CASEWORK DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AND INSTALLATION OF CASEWORK.
- HANDICAPPED TOILET GRAB BARS SHALL BE 1-1/2" DIA. STAINLESS STEEL W/ 1-1/2" CLEAR HAND SPACE BETWEEN THE INNER FACE OF THE GRAB BAR & THE FINISHED FACE OF THE WALL. GRAB BARS SHALL BE DESIGNED, CONSTRUCTED & INSTALLED TO RESIST A CONCENTRATED LOAD OF 250 POUNDS APPLIED AT ANY POINT & IN ANY DIRECTION.
- HANDICAPPED LAVATORY SHALL HAVE A CLEAR KNEE SPACE OF 2'-5" & A FINISHED HEIGHT OF 2'-10". ALL EXPOSED PIPING IS TO BE INSULATED.
- PROVIDE 2"x6" WOOD BLOCKING BETWEEN STUDS FOR ATTACHMENT OF WALL-HUNG FURNISHINGS & EQUIPMENT, INCLUDING LOCKERS.

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:

Project Name:
 Storage Five Cranston, LLC

Project Address:
 1 Kenney Drive
 Cranston, Rhode Island 02920

Project Number:
 23127

Drawn By:	WCE
Date:	9.20.2024
#	Revision Date:

Jonathan W. Clark,
 Architect

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Sheet Name
 ABBREVIATIONS & SYMBOLS

Sheet Number
 G 0.2

NOTE:
Existing stairs are original to the building. Existence of handrail and/or guards have been verified and they appear to be in good condition at the time of visual verification.

Stairs are equipped w/ closed risers.

If during construction the guards, handrails, treads and/or risers lose structural integrity Contractor shall issue notification to Architect of Record. A remediation plan will be coordinated between all involved including the AHJ.

NOTE:
All existing exterior doors to remain shall be equipped w/ panic exit device at the interior.

Exterior hardware shall be removed and replaced w/ blank plates w/ tamper-proof fixings, except as noted. Doors to have active exterior hardware shall be equipped w/ lever style hardware.

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:

Project Name:

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PRELIMINARY

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Project Number:

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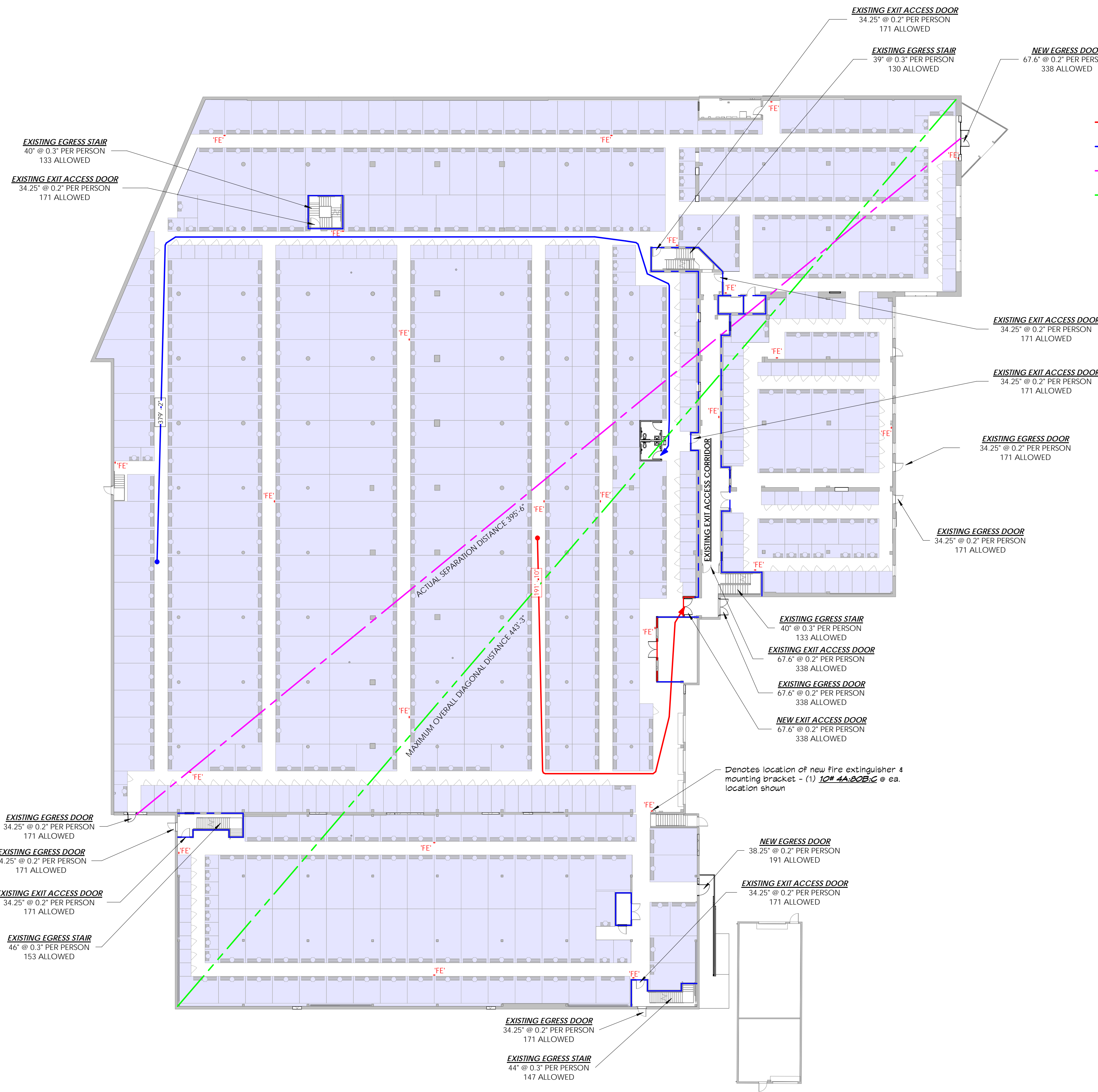
Drawn By:

WCE & MTD

Date:

9.20.2024

Revision Date:



- Travel Distance
- Distance to Toilet Facility
- - - Separation Distance
- - - Maximum Overall Diagonal Distance

THE FOLLOWING HAS BEEN FACTORED:

Warehouse (Moderate Hazard), S-1 Storage Occupancy

MAX. TRAVEL DISTANCE: Warehouse (Moderate Hazard) S-1: 250' w/ Sprinkler System

MAX. ACTUAL DISTANCE = 191'-10" @ MAIN LEVEL TO EXIT EGRESS STAIRWAY
240'-1" @ UPPER LEVEL TO EXIT EGRESS STAIRWAY

OCCUPANCY LOAD: Warehouse (Moderate Hazard) S-1:
MAIN LEVEL = 86,227 SF @ 300 GSF/person = 287 occupants
UPPER LEVEL = 60,615 SF @ 300 GSF/person = 202 occupants
TOTAL = 146,842 SF = 489 occupants

MEANS OF EGRESS: (6) Man-door openings of 34.25' @ 0.2'/person = 1,026 occupants
(1) Man-door opening @ 42.25' @ 0.2'/person = 211 occupants
(1) Man-door opening of 38.25' @ 0.2'/person = 191 occupants
(2) Auto-Door w/ Break-Out width of 67.5' @ 0.2'/person = 674 occupants

TOTAL Egress Capacity = 2,102 occupants (exceeds maximum allowable occupancy)

NUMBER OF EXITS (Per IBC Section 1006.2), because the Occupant Load exceeds the value listed in Table 1006.2.1 for this building (100' Max), and the Occupant Load is less than 501 occupants, a minimum of two exits or exit access doorways shall be provided.

EXIT & EXIT ACCESS DOORWAY CONFIGURATION (Per IBC 1007.1.1 exception for building provided with an automatic sprinkler system):
Maximum Overall Diagonal Distance: MAIN LEVEL = 443'-3"
UPPER LEVEL = 443'-3"
Minimum required Separation Distance = 1/3 x Diagonal Distance, = 147'-9" (each floor)
ACTUAL SEPARATION DISTANCE = MAIN LEVEL = 395'-6"
UPPER LEVEL = 342'-2"

MAXIMUM TRAVEL DISTANCE TO TOILET FACILITY IN OCCUPANCIES OTHER THAN MALLS: 500' MAX ALLOWED
(Per 2018 International Building Code Section 2902.3.3)

MAX ACTUAL DISTANCE = 379'-2" @ MAIN LEVEL ONLY
445'-1" @ UPPER LEVEL ONLY

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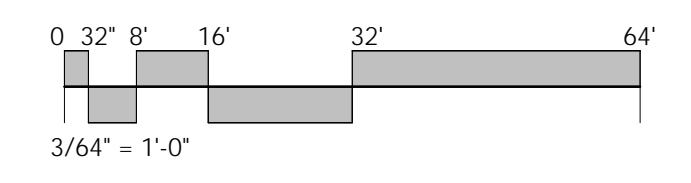
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MAIN LEVEL RENOVATED LIFE SAFETY FLOOR PLAN

Sheet Number

G 2.1

1 Main Level Renovated Life Safety Floor Plan
3/64" = 1'-0"



NOTE:
Existing stairs are original to the building. Existence of handrail and/or guards have been verified and they appear to be in good condition at the time of visual verification.

Stairs are equipped w/ closed risers.

If during construction the guards, handrails, treads and/or risers lose structural integrity Contractor shall issue notification to Architect of Record. A remediation plan will be coordinated between all involved including the AHJ.

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All existing exterior doors to remain shall be equipped w/ panic exit device at the interior.

Exterior hardware shall be removed and replaced w/ blank plates w/ tamper-proof fixings, except as noted. Doors to have active exterior hardware shall be equipped w/ lever style hardware.

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PRELIMINARY

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Drawn By:
WCE & MTD

Date:
9.20.2024

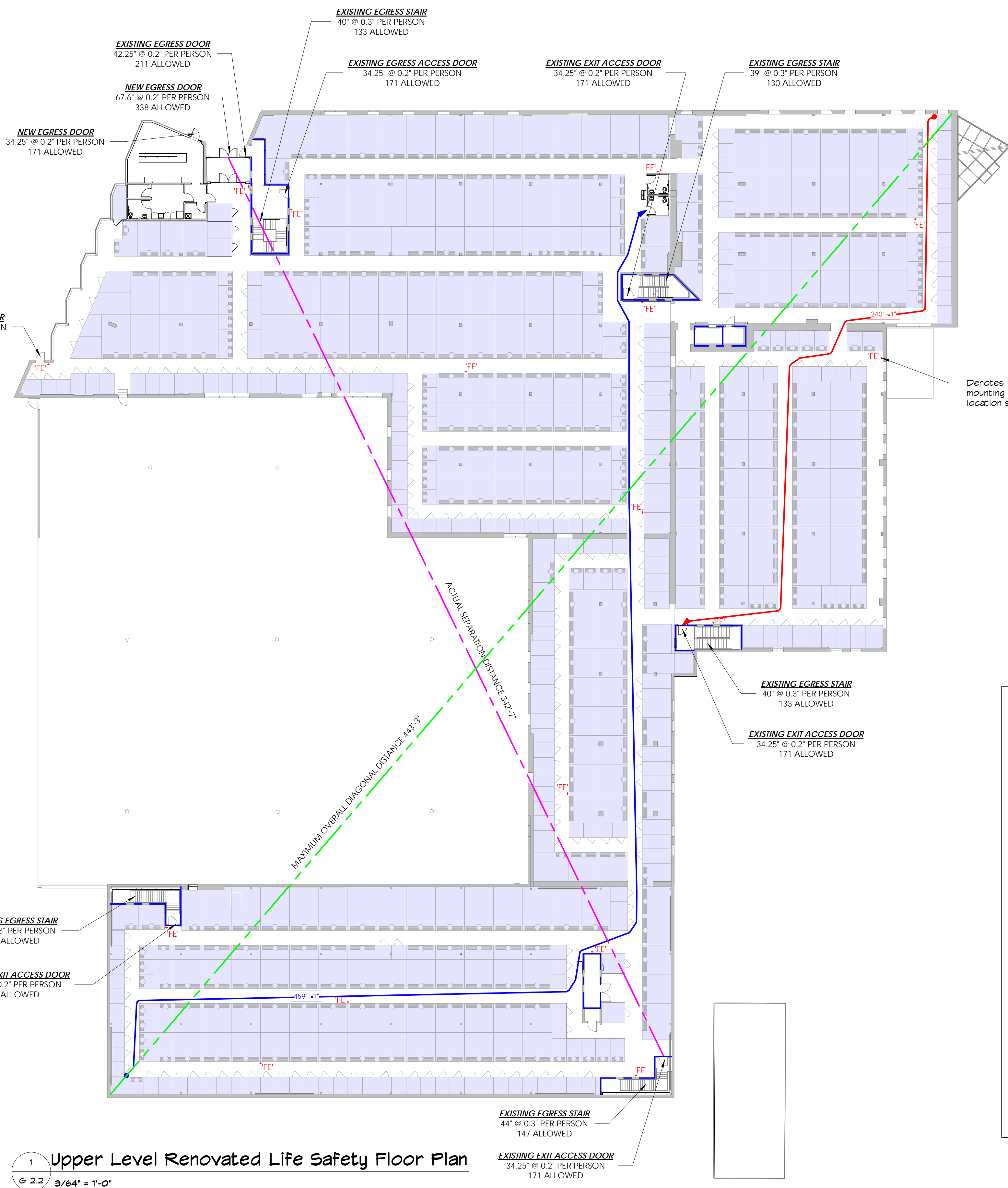
#	Revision Date:

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Sheet Name
UPPER LEVEL RENOVATED LIFE SAFETY FLOOR PLAN

Sheet Number
G 2.2



THE FOLLOWING HAS BEEN FACTORED:

Warehouse (Moderate Hazard), S-1 Storage Occupancy

MAX. TRAVEL DISTANCE: Warehouse (Moderate Hazard) S-1 250' w/ Sprinkler System

MAX. ACTUAL DISTANCE = 191'-10" @ MAIN LEVEL TO EXIT EGRESS STAIRWAY
240'-1" @ UPPER LEVEL TO EXIT EGRESS STAIRWAY

OCCUPANCY LOAD: Warehouse (Moderate Hazard) S-1
MAIN LEVEL = 86,227 SF @ 300 GSF/person = 287 occupants
UPPER LEVEL = 60,615 SF @ 300 GSF/person = 202 occupants
TOTAL = 146,842 SF = 489 occupants

MEANS OF EGRESS:
(4) Man-door openings of 34.25' @ 0.2'/person = 1,026 occupants
(1) Man-door opening @ 42.25' @ 0.2'/person = 211 occupants
(1) Man-door opening of 38.25' @ 0.2'/person = 191 occupants
(2) Auto-Door w/ Break-Out width of 67.5' @ 0.2'/person = 674 occupants

TOTAL Egress Capacity = 2,102 occupants (exceeds maximum allowable occupancy)

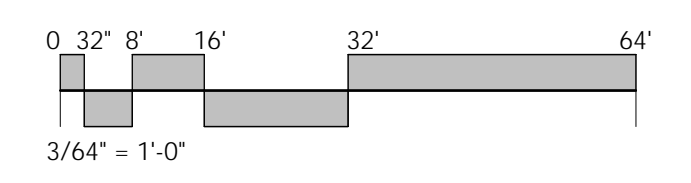
NUMBER OF EXITS: (Per IBC Section 1006.2), because the Occupant Load exceeds the value listed in Table 1006.2.1 for this building (100' Max), and the Occupant Load is less than 501 occupants, a minimum of two exits or exit access doorways shall be provided.

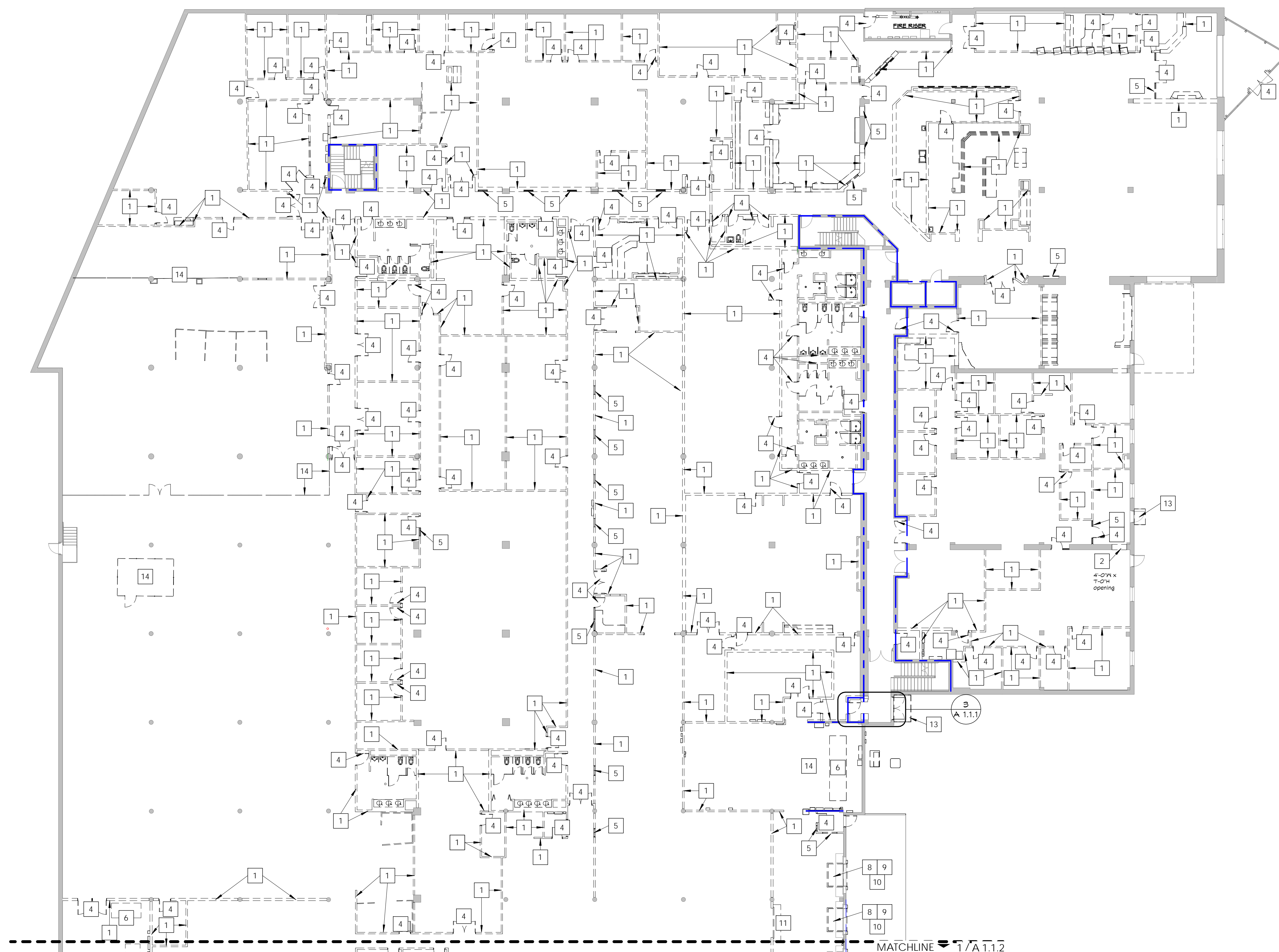
EXIT & EXIT ACCESS DOORWAY CONFIGURATION: (Per IBC 1007.1.1 exception for building provided with an automatic sprinkler system):
Maximum Overall Diagonal Distance: MAIN LEVEL = 443'-3"
UPPER LEVEL = 443'-3"
Minimum required Separation Distance = 1/3 x Diagonal Distance, = 147'-9" (each floor)
ACTUAL SEPARATION DISTANCE = MAIN LEVEL = 395'-6"
UPPER LEVEL = 342'-7"

MAXIMUM TRAVEL DISTANCE TO TOILET FACILITY IN OCCUPANCIES OTHER THAN MALLS: 500' MAX ALLOWED (Per 2018 International Building Code Section 2902.3.3)

MAX ACTUAL DISTANCE = 379'-2" @ MAIN LEVEL ONLY
445'-1" @ UPPER LEVEL ONLY

1 Upper Level Renovated Life Safety Floor Plan
G 2.2 3/64" = 1'-0"





GENERAL DEMOLITION NOTES:

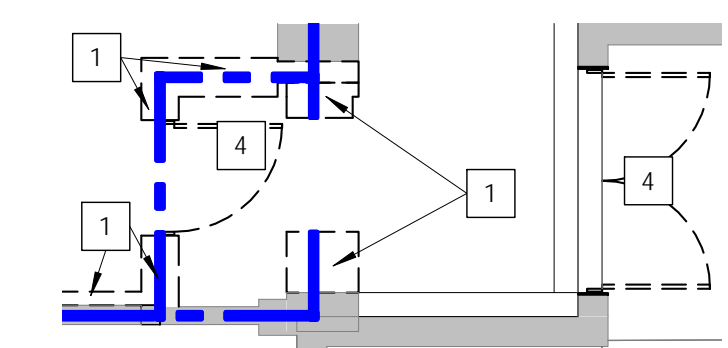
- PARTITIONS SHOWN TO BE DEMO'D SHALL BE REMOVED AS SHOWN - ALL ASSOCIATED DOORS, HARDWARE, GLAZING SYSTEMS, CASEWORK SHALL BE REMOVED.
- EXISTING CEILINGS, FLOOR FINISHES, WALL BASE SHALL BE REMOVED IN ALL AREAS OTHER THAN TOILET RMS. THAT ARE TO REMAIN.
- EXISTING BUILDING THAT IS TO REMAIN EXPOSED SHALL BE CLEANED. COORDINATE EXISTING WALLS, EXPOSED STRUCTURE, CEILINGS TO RECEIVE PAINT FINISH W/ OWNER.
- REMOVE EXISTING CUBICLE PARTITION & ALL ASSOCIATED CASEWORK, 7 FURNITURE
- ALL EXISTING CASEWORK & ANY REMAINING APPLIANCES OR EQUIPMENT SHALL BE REMOVED IN ALL AREAS, TYP.
- REMOVE ENTIRE EXISTING ELECTRICAL SYSTEM BACK TO THE LOCATION OF THE INCOMING SERVICE, INCLUDING, BUT NOT LIMITED TO: GENERATORS, TRANSFORMERS, PANELS, CONDUIT, WIRING & SWITCHES - COORDINATE W/ MPE DRAWINGS.
- REMOVE ALL EXISTING PLUMBING FIXTURES, TOILET PARTITIONS & ACCESSORIES - COORDINATE W/ MEP DRAWINGS.
- ANY MECHANICAL, PLUMBING OR ELECTRICAL TO BE REMOVED SHALL HAVE ASSOCIATED PLUMBING REMOVED & CAPPED BELOW SLAB, AND/OR ELECTRICAL REMOVED BACK TO ASSOCIATED PANEL - COORDINATE REQUIREMENTS W/ MPE SHEETS, TYP.
- AT ALL NEW DOOR/WINDOW OPENINGS UP TO 5'-0" WIDTH IN EXISTING CMU WALLS CONTRACTOR SHALL PROVIDE A NEW BOND BEAM W/ (1) #5 BAR @ HEAD. FOR NEW OPENINGS OVER 5' WIDTH REFER TO STRUCTURAL ENGINEER'S DRAWING FOR BOND BEAM SIZE & SPECIFICATION. TOOTH-IN MASONRY @ JAMBS AT ALL NEW OPENINGS IN EXISTING CMU WALLS & PROVIDE VERT. #5 BAR @ EA. JAMB & GROUT SOLID.

EXCEPTIONS:
ALL ITEMS ASSOCIATED WITH THE OPERATION &/OR CONTROL OF THE FOLLOWING SYSTEMS ARE TO REMAIN:

- A. PASSENGER ELEVATOR
- B. FREIGHT ELEVATOR
- C. FIRE RISER
- D. FIRE ALARM

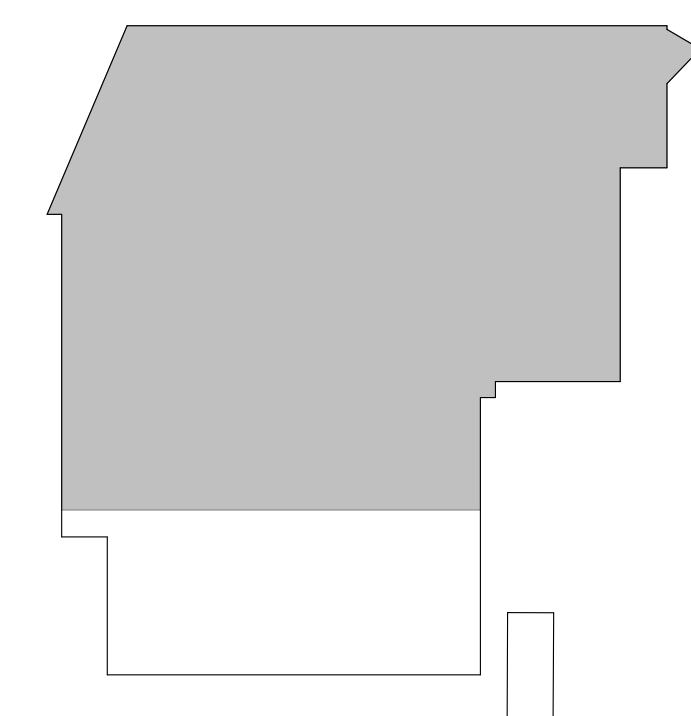
DEMOLITION NOTES

- 1 REMOVE EXISTING PARTITION OR PORTION OF EXISTING PARTITION AS INDICATED
- 2 REMOVE PORTION OF EXISTING EXTERIOR WALL SYSTEM AS SHOWN
- 3 REMOVE PORTION OF EXISTING PARTITION AS SHOWN FOR THE INSTALLATION OF NEW OPENING OR DOOR & FRAME ASSEMBLY AS SCHEDULED
- 4 REMOVE EXISTING DOOR & FRAME ASSEMBLY
- 5 REMOVE EXISTING WINDOW SYSTEM
- 6 REMOVE EXISTING RAISED CONCRETE EQUIPMENT PAD & PREPARE AREA FOR NEW COMPACTED GRAVEL FILL & CONCRETE INFILL.
- 7 REMOVE AREA OF WOOD FRAME INFILL OF APPROX 4'-6" x 4'-6" OPENING IN ROOF STRUCTURE & RE-ROOF AREA
- 8 REMOVE EXISTING DOCK LEVELER & PREPARE AREA FOR NEW COMPACTED GRAVEL FILL & CONCRETE SLAB INFILL
- 9 REMOVE EXISTING DOCK SEAL
- 10 REMOVE EXISTING DOCK BUMPERS & ALL ASSOCIATED HARDWARE
- 11 REMOVE EXISTING OVERHEAD DOOR & ALL ASSOCIATED HARDWARE
- 12 REMOVE EXISTING GENERATOR AND ALL ASSOCIATED EQUIPMENT
- 13 REMOVE EXISTING CANOPY & ALL ASSOCIATED HARDWARE
- 14 REMOVE EXISTING METAL & WIRE CAGE & GATES
- 15 REMOVE EXISTING STEEL FRAME STRUCTURE & ASSOCIATED COMPONENTS
- 16 REMOVE EXISTING STAIR, RAILING, &/OR ASSOCIATED PLATFORM SYSTEM
- 17 REMOVE EXISTING HANDRAIL & ALL ASSOCIATED HARDWARE

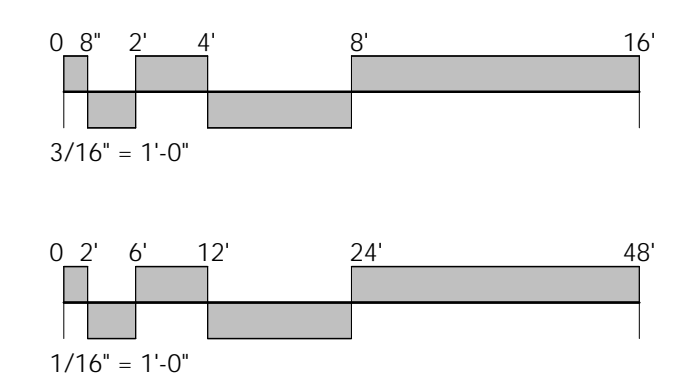


3 Enlarged Partial Demolition Plan
A 1.1.1 3/16" = 1'-0"

1 Main Level Demolition Floor Plan - Division A
A 1.1.1 1/16" = 1'-0"



Key Plan
No Scale



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:

Project Name:
Storage Five Cranston, LLC

PRELIMINARY

Project Address:
1 Kenney Drive
Cranston, Rhode Island 02920

Project Number:
23127

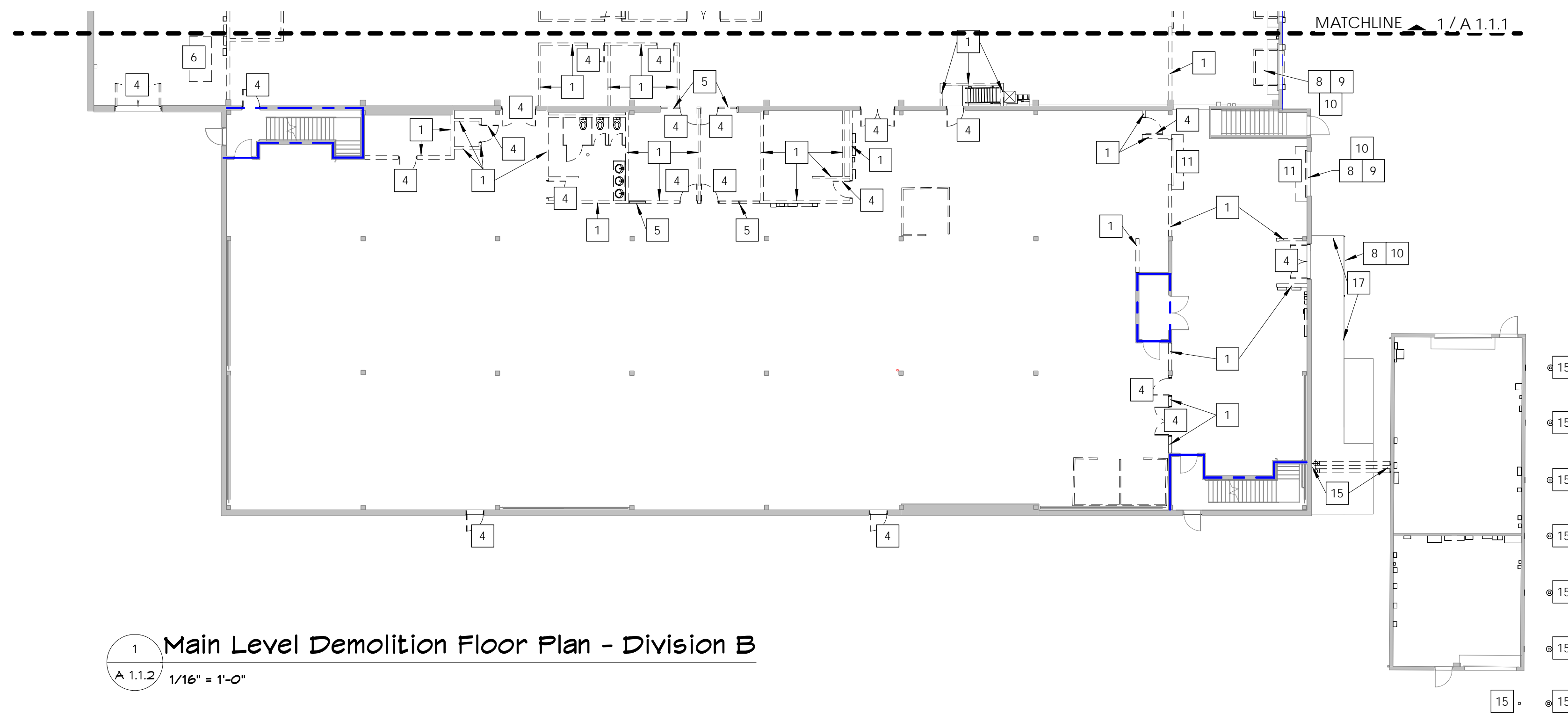
Drawn By:	WCE
Date:	9.20.2024
#	Revision Date:

Jonathan W. Clark,
Architect

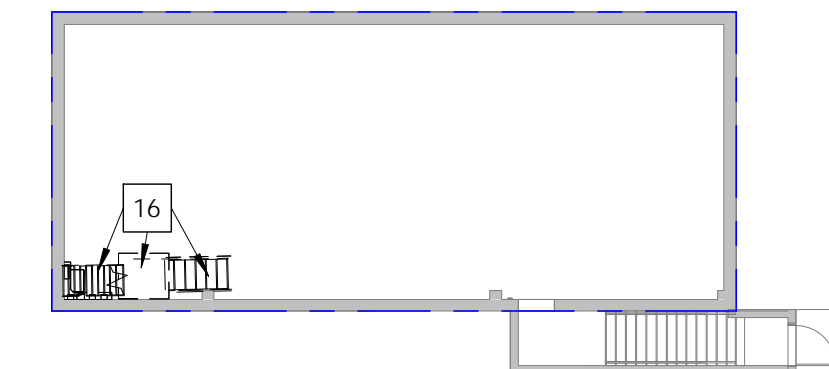
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Clarksville, Tennessee 37040
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Sheet Name
MAIN LEVEL DEMOLITION FLOOR PLAN - DIVISION A

Sheet Number
A 1.1.1



1 Main Level Demolition Floor Plan - Division B
A 1.1.2 1/16" = 1'-0"



2 Basement Level Demolition Plan
A 1.1.2 1/16" = 1'-0"

GENERAL DEMOLITION NOTES:

- PARTITIONS SHOWN TO BE DEMO'D SHALL BE REMOVED AS SHOWN - ALL ASSOCIATED DOORS, HARDWARE, GLAZING SYSTEMS, CASEWORK SHALL BE REMOVED.
- EXISTING CEILINGS, FLOOR FINISHES, WALL BASE SHALL BE REMOVED IN ALL AREAS OTHER THAN TOILET RMS. THAT ARE TO REMAIN.
- EXISTING BUILDING THAT IS TO REMAIN EXPOSED SHALL BE CLEANED. COORDINATE EXISTING WALLS, EXPOSED STRUCTURE, CEILINGS TO RECEIVE PAINT FINISH W/ OWNER.
- REMOVE EXISTING CUBICLE PARTITION & ALL ASSOCIATED CASEWORK, 7 FURNITURE
- ALL EXISTING CASEWORK & ANY REMAINING APPLIANCES OR EQUIPMENT SHALL BE REMOVED IN ALL AREAS, TYP.
- REMOVE ENTIRE EXISTING ELECTRICAL SYSTEM BACK TO THE LOCATION OF THE INCOMING SERVICE, INCLUDING, BUT NOT LIMITED TO: GENERATORS, TRANSFORMERS, PANELS, CONDUIT, WIRING & SWITCHES - COORDINATE W/ MPE DRAWINGS.
- REMOVE ALL EXISTING PLUMBING FIXTURES, TOILET PARTITIONS & ACCESSORIES - COORDINATE W/ MEP DRAWINGS.
- ANY MECHANICAL, PLUMBING OR ELECTRICAL TO BE REMOVED SHALL HAVE ASSOCIATED PLUMBING REMOVED & CAPPED BELOW SLAB, AND/OR ELECTRICAL REMOVED BACK TO ASSOCIATED PANEL - COORDINATE REQUIREMENTS W/ MPE SHEETS, TYP.
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EXCEPTIONS:
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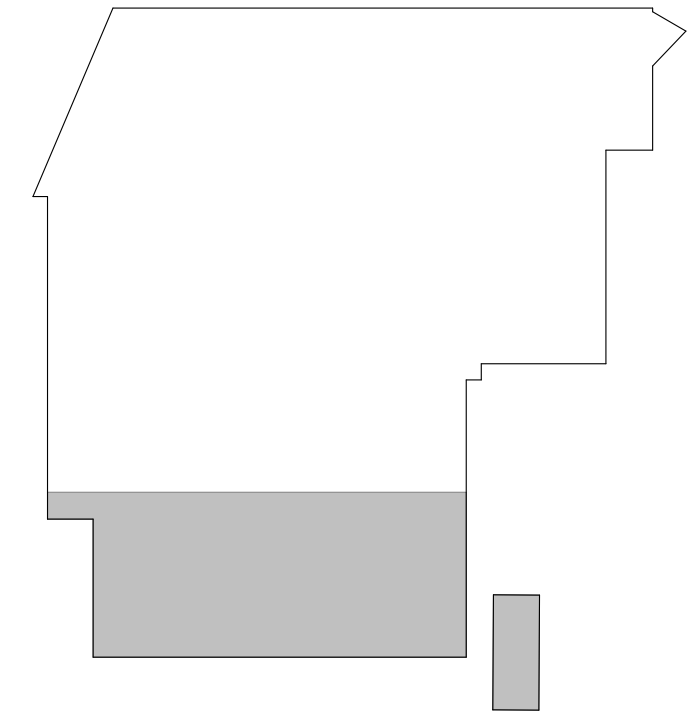
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Date:	9.20.2024
#	Revision Date:

Jonathan W. Clark,
Architect

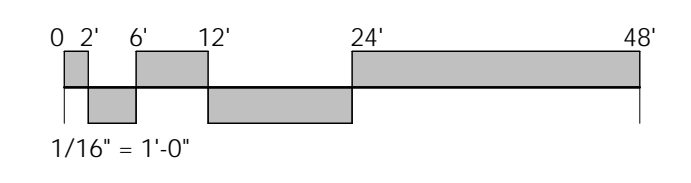
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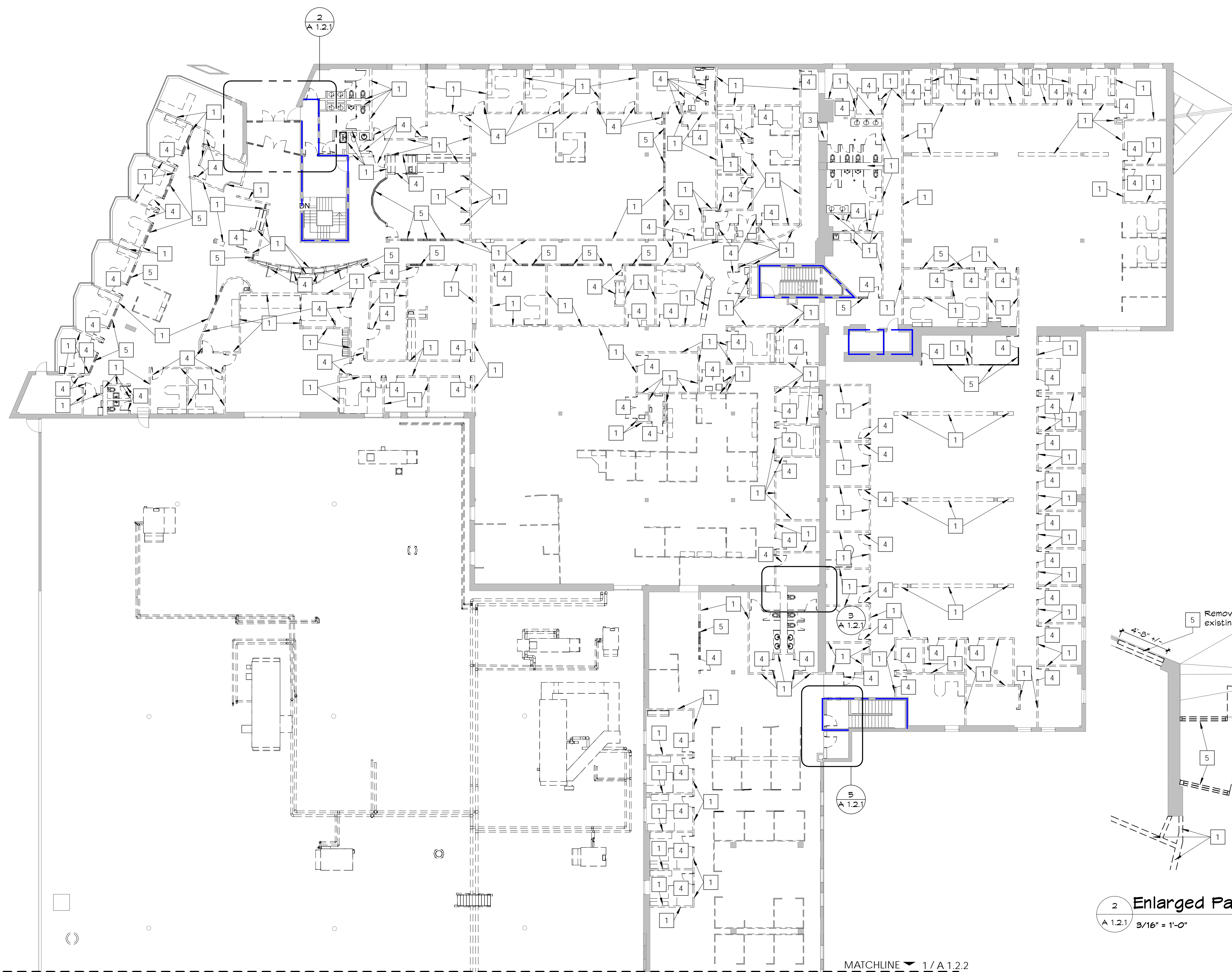
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MAIN LEVEL - DIVISION B & BASEMENT DEMOLITION FLOOR PLAN

Sheet Number
A 1.1.2



Key Plan
No Scale





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Drawn By:
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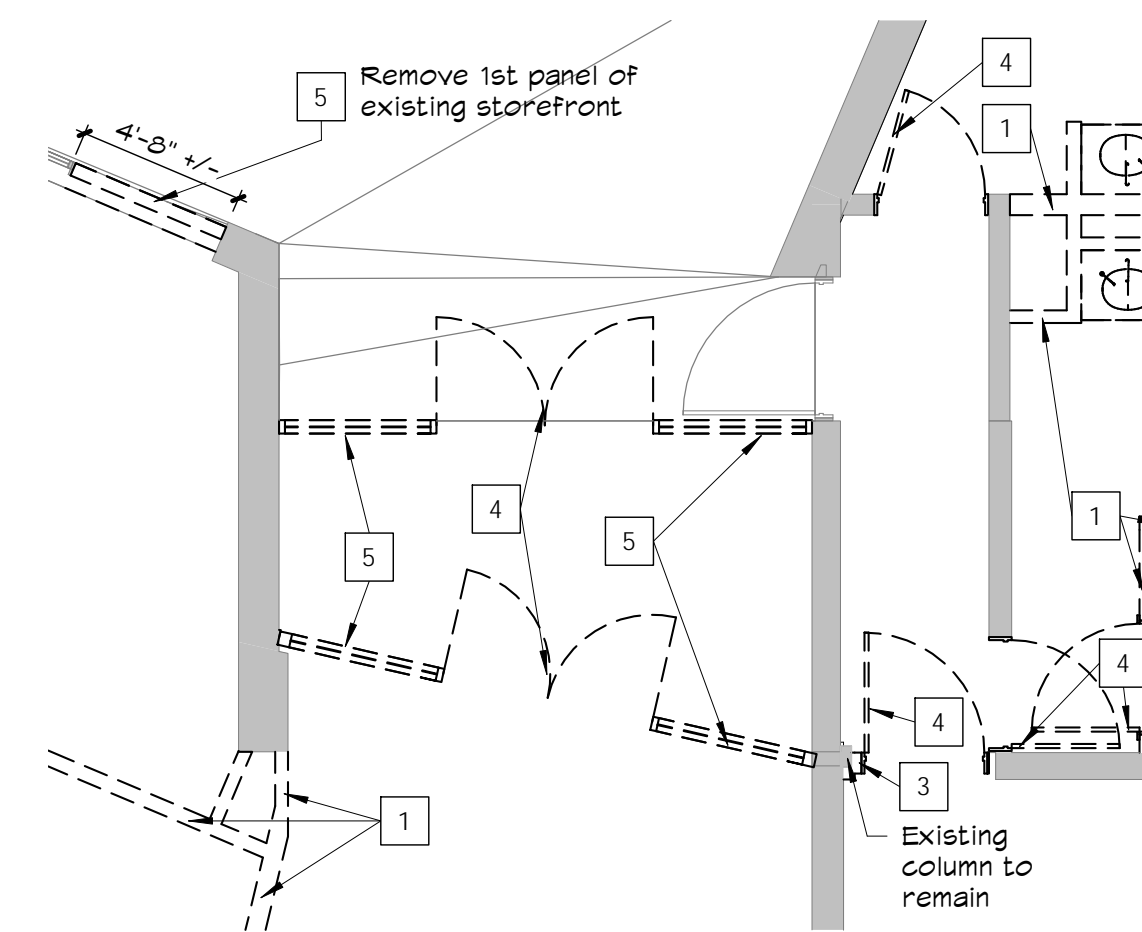
Revision Date:

Jonathan W. Clark, Architect

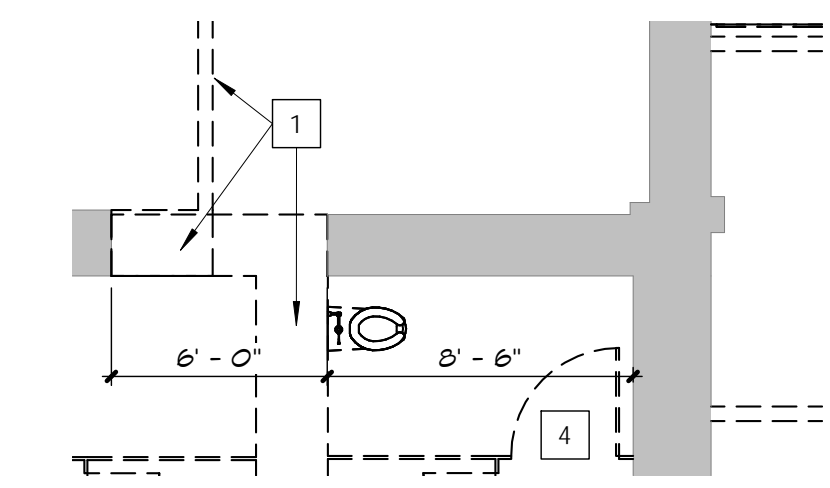
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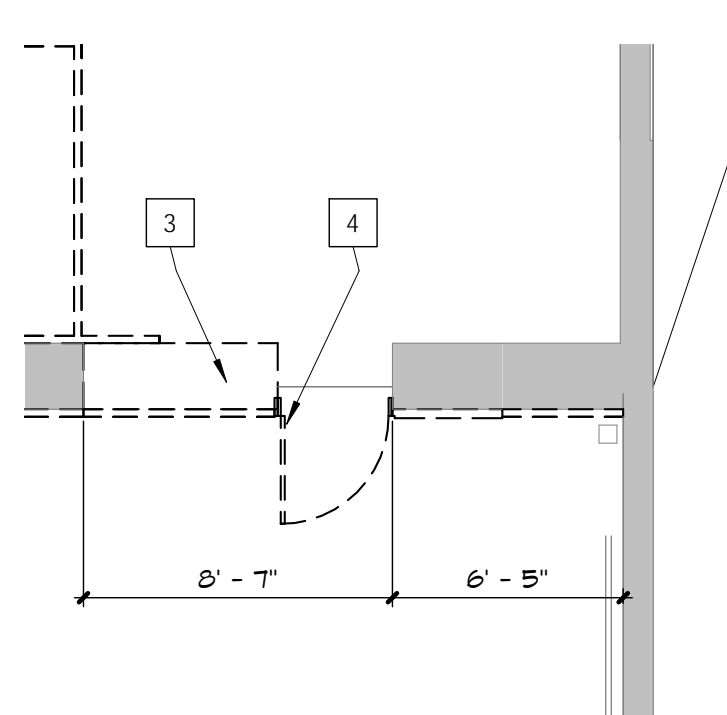
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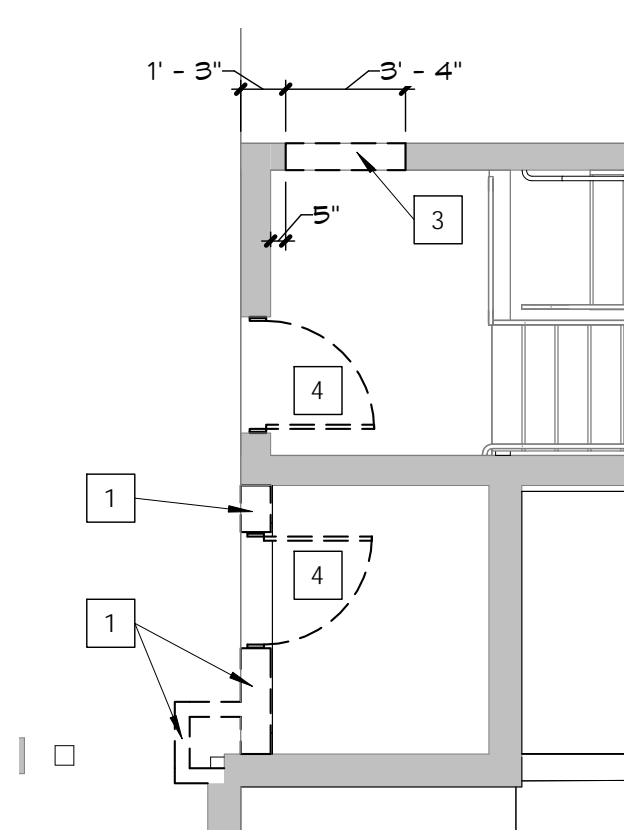
2 Enlarged Partial Demolition Plan
A 1.2.1 3/16" = 1'-0"



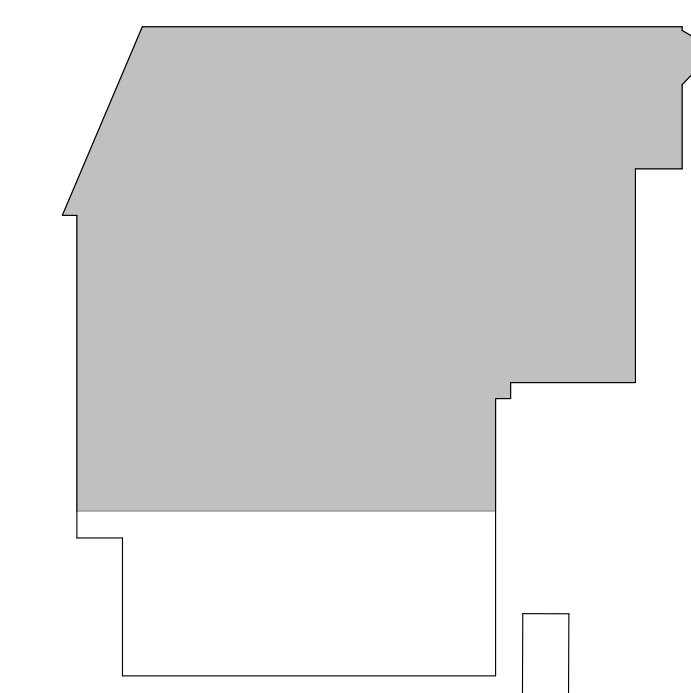
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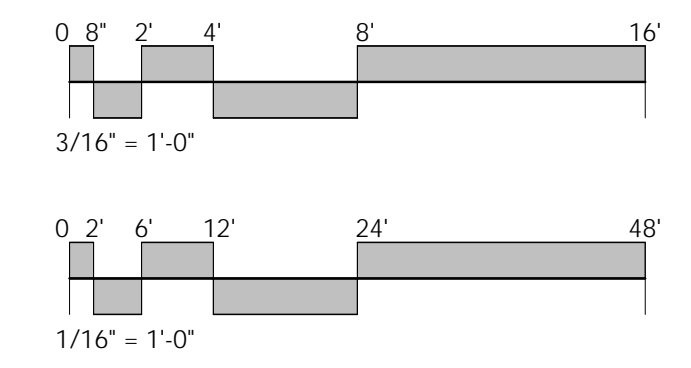
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A 1.2.1 3/16" = 1'-0"



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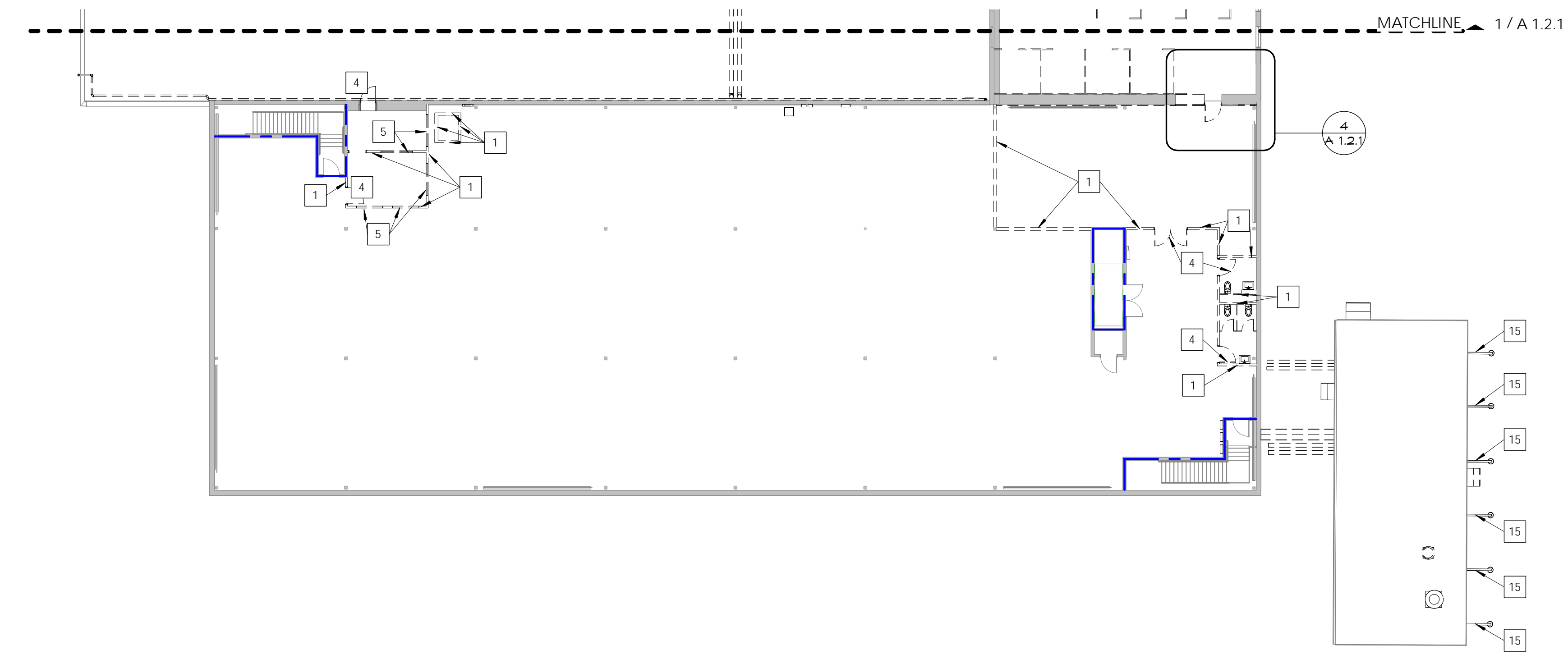


Key Plan
No Scale



1 Upper Level Demolition Floor Plan - Division A
A 1.2.1 1/16" = 1'-0"

MATCHLINE 1 / A 1.2.2



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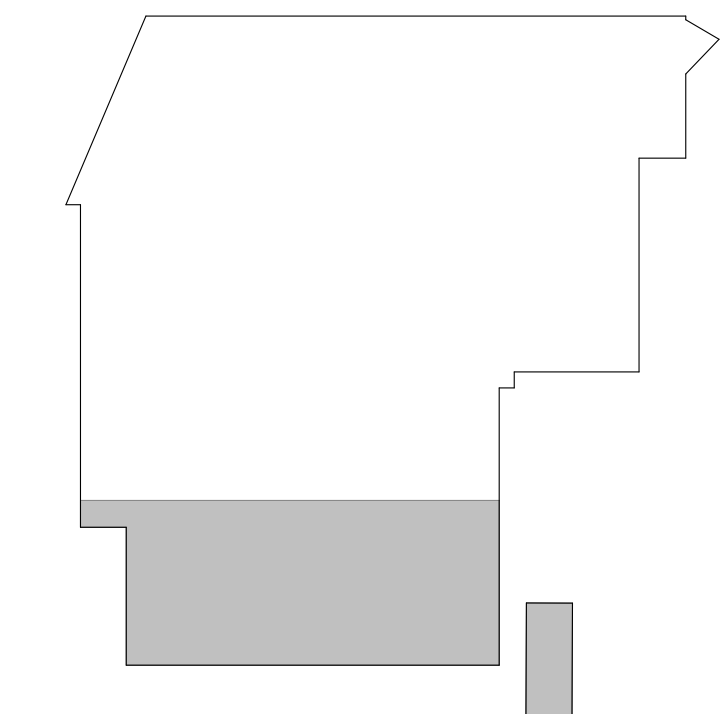
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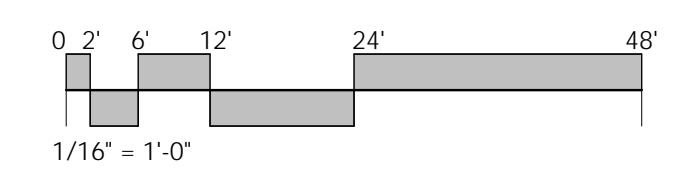
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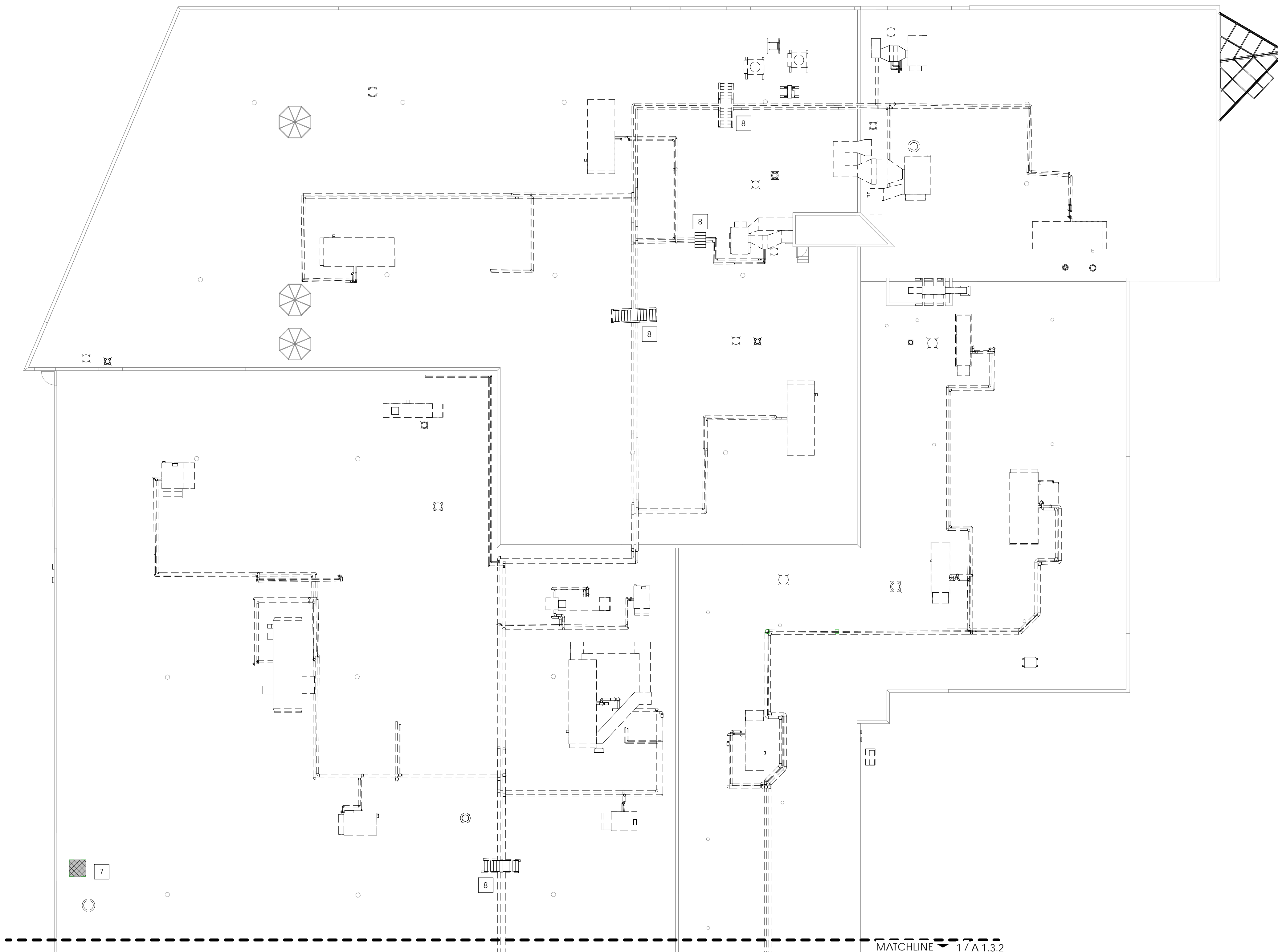
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1 Upper Level Demolition Floor Plan - Division B
A 1.2.2 1/16" = 1'-0"



Key Plan
No Scale





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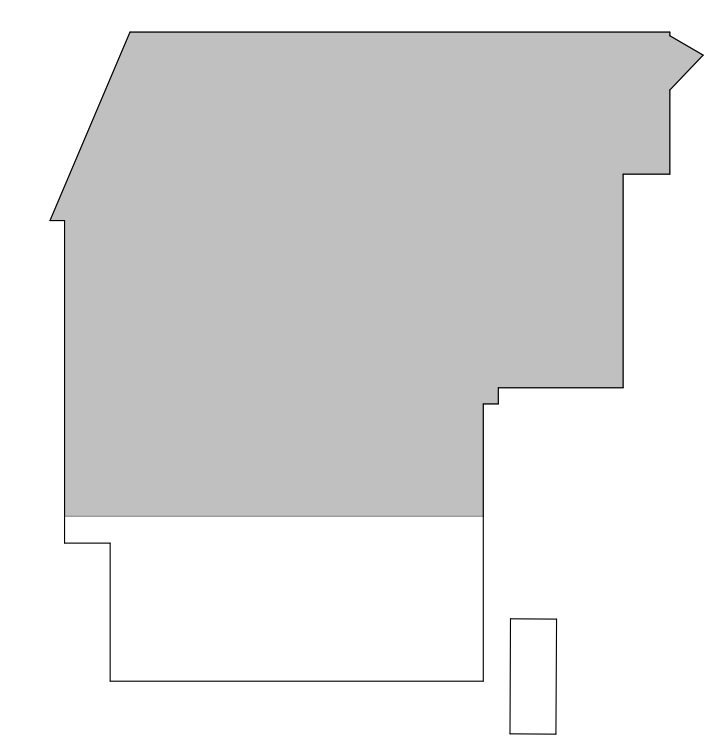
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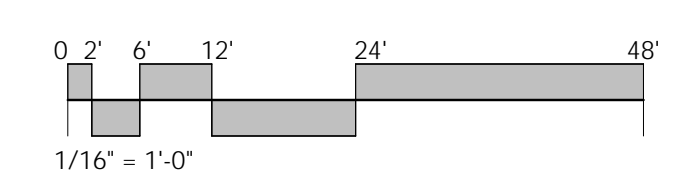
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Sheet Name
ROOF
DEMOLITION
PLAN - DIVISION
A

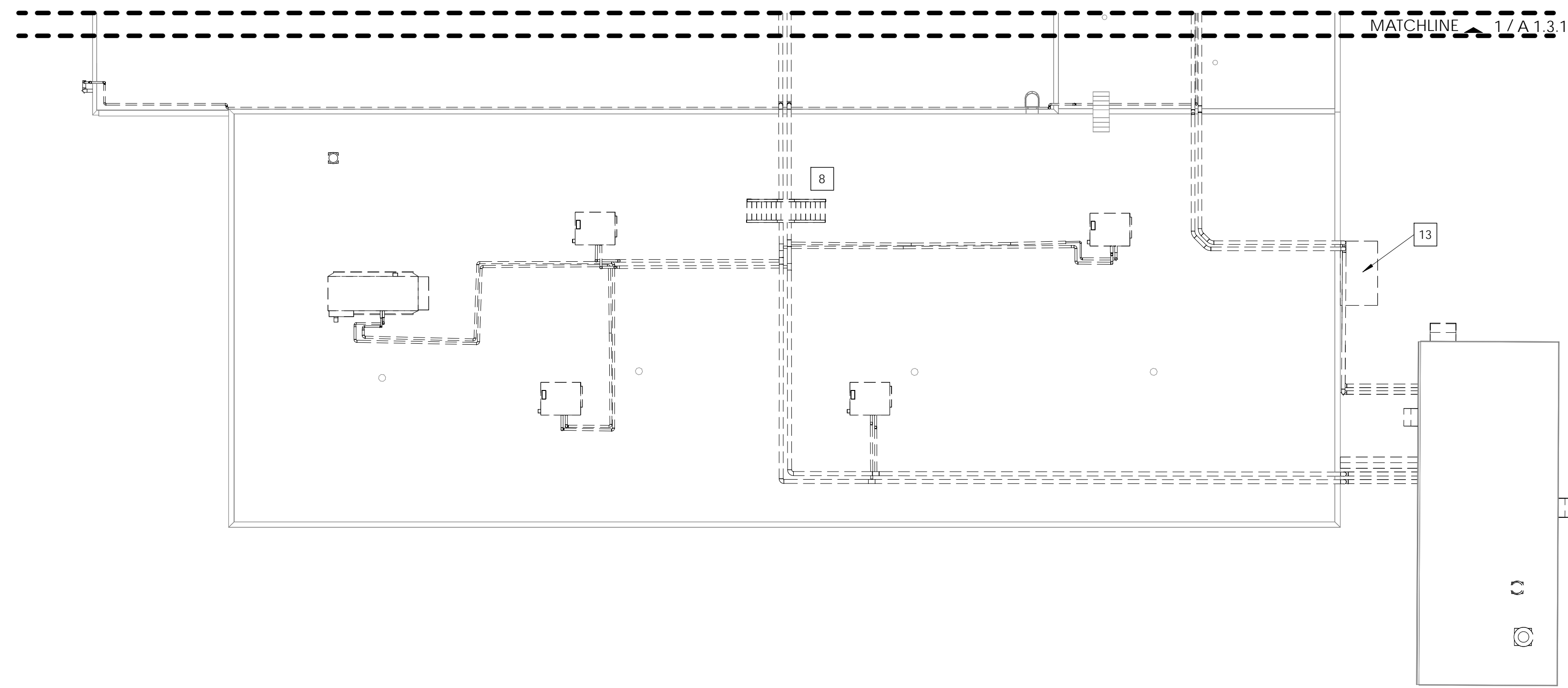
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Key Plan
No Scale



1 Roof Demolition Plan - Division A
A 1.3.1 1/16" = 1'-0"



1 Roof Demolition Plan - Division B
A 1.3.2 1/16" = 1'-0"

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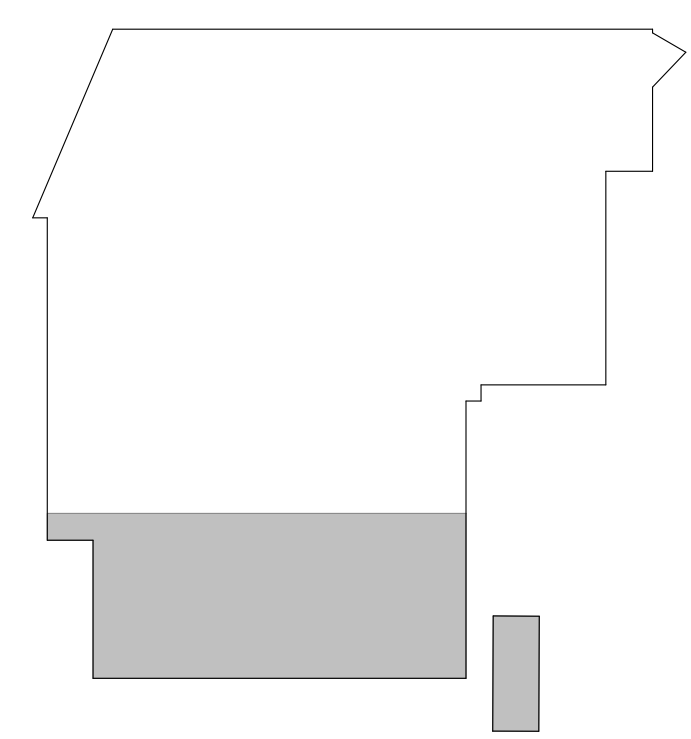
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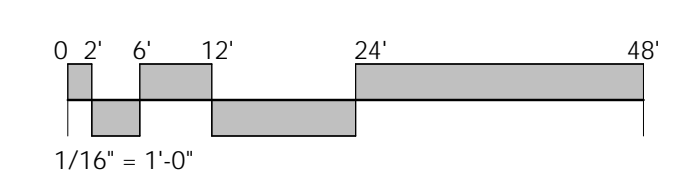
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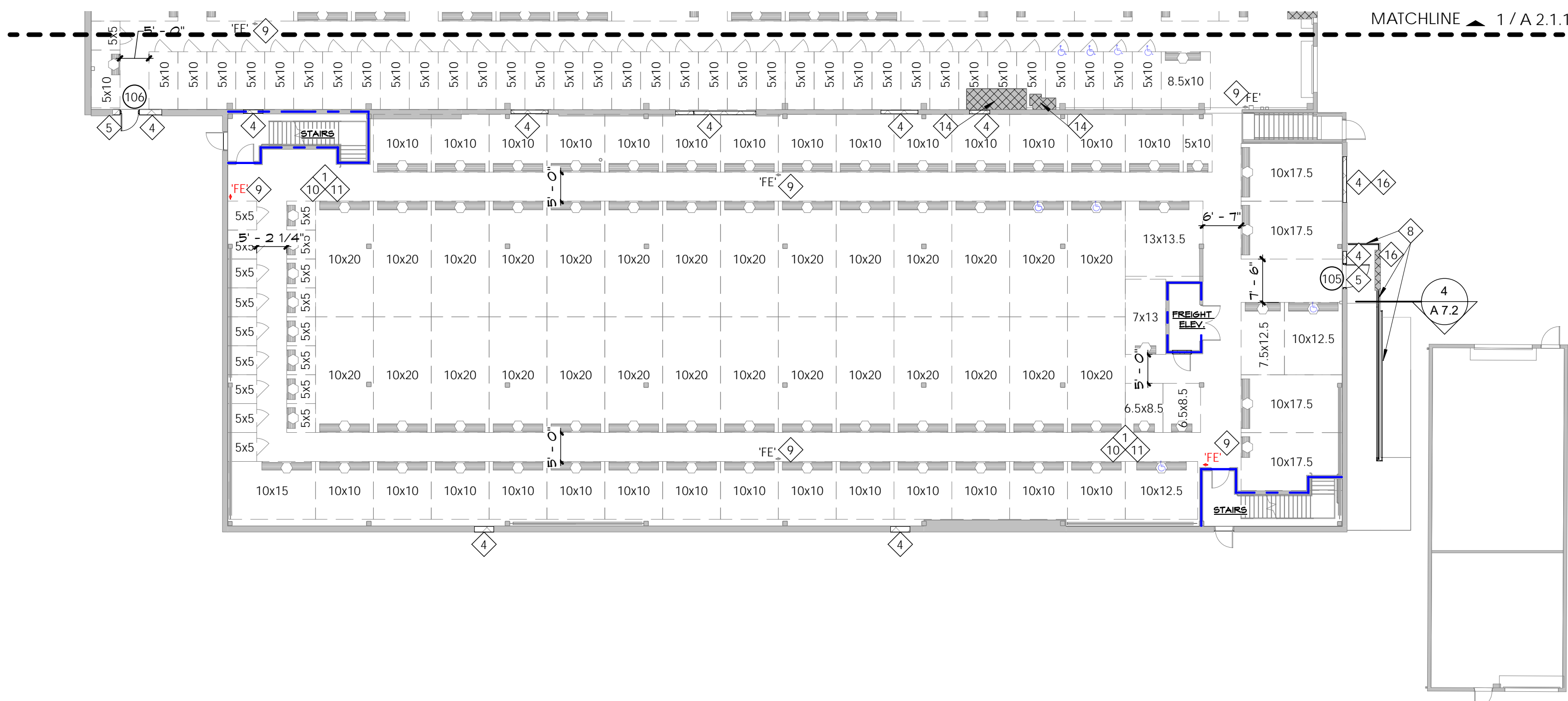
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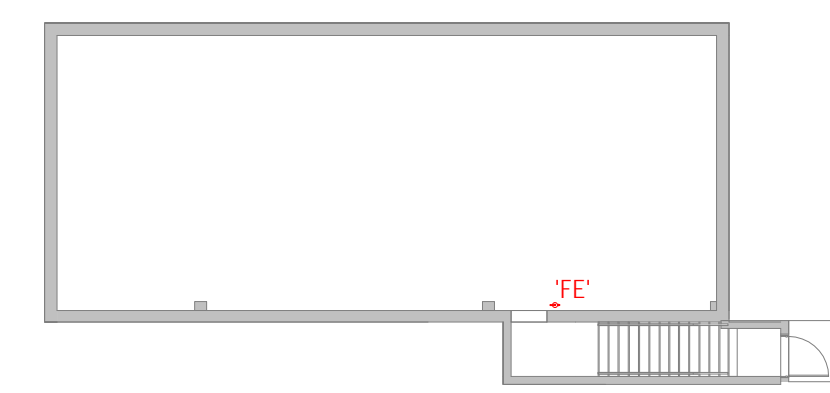


Key Plan
No Scale





1 Main Level Renovated Floor Plan - Division B
A 2.1.2 1/16" = 1'-0"



2 Basement Level Renovated Plan
A 2.1.2 1/16" = 1'-0"

Main Level Unit Summary

SIZE	# of UNITS
5x5	92
5x6	22
5x6.5	1
5x7.5	14
5x8	9
5x8.5	5
5x9.5	1
5x10	45
5x10 IT	1
5x12	2
6.5x7.5	1
6.5x8.5	2
6x8.5	1
6x9	1
6x9.5	1
6x10	1
6x15	1
7.5x8.5	1
7.5x12.5	1
7x7.5	2
7x10	1
7x13	1
8.5x10	1
9x10e	1
9x13.5	1
10x9.5	4
10x10	125
10x12.5	23
10x12e	1
10x13.5	18
10x13.5e	1
10x13e	1
10x14	1
10x15	41
10x16	4
10x17.5	19
10x17e	1
10x19e	1
10x20	82
10x25	36
12.5x13.5	1
12x12.5	1
13.5x17.5	1
13.5x17.5e	1
13x13.5	1
13x15	2

Grand total: 575

Shaded units excluded from unit schedule.

CONTRACTOR SHALL PROVIDE ADA ACCESSIBLE UNITS IN COMPLIANCE WITH 2018 IBC - TABLE 1108.3

MINIMUM NUMBER OF ACCESSIBLE UNITS REQUIRED:
1 TO 200 TOTAL UNITS PROVIDE 5% OF TOTAL (1 MINIMUM)

OVER 200 TOTAL UNITS PROVIDE 10 plus 2% OF TOTAL OVER 200

1,024 UNITS TOTAL - PROVIDE EVEN MIX OF 27 UNITS - SEE FLOOR PLAN(S) FOR LOCATIONS.

- (7) 5x5
- (6) 5x10
- (5) 10x10
- (4) 10x12.5
- (3) 10x15
- (2) 10x20

WALL LEGEND:

- THIS DENOTES LOCATION OF EXISTING WALLS OR PARTITIONS OR PORTIONS THEREOF THAT ARE DEMOLISHED
- THIS DENOTES LOCATION OF EXISTING WALLS OR PARTITIONS TO REMAIN
- THIS DENOTES LOCATION OF EXISTING 2 HR FIRE BARRIER (BELIEVED TO BE CONSTRUCTED EQUIVALENT TO U905) TO PROTECT EGRESS STAIR AND/ OR EGRESS CORRIDOR AND/OR ELEVATOR SHAFT. EXISTING WALL SHALL BE INSPECTED, ANY DAMAGE SHALL BE REPAIRED IN A MANNER CONSISTENT W/ THE EXISTING CONSTRUCTION. ANY CRACKS OR GAPS SHALL BE SEALED W/ FIRE SAFE SEALANT & FIRE SAFE SEALANT AS NEEDED TO PROVIDE A SMOKE-TIGHT ASSEMBLY.
- THIS DENOTES LOCATIONS WALLS OR PARTITIONS CONSTRUCTED W/ 8" CMU (D-2 CLASSIFICATION) REINFORCED AS DETAILED. PARTITION SHALL EXTEND FROM FINISHED FLOOR TO THE UNDERSIDE OF ROOF DECK ABOVE & CONT. SEALED W/ FIRE SAFE INSULATION & FIRE SAFE SEALANT TO FORM A SMOKE-TIGHT ASSEMBLY
UL ASSEMBLY U-905
TWO HR FIRE RATING
(EXCEEDS DESIGN REQUIREMENT VALUE OF TWO HR)
- THIS DENOTES LOCATIONS PARTITIONS CONSTRUCTED W/ 3625162-54 OR 6005162-54 FRAMING SPACED 1'-4" O.C. MAX. (1) LAYER 5/8" TYPE 'X' GYP. WALL BD. SHALL BE APPLIED TO EA. FACE & FINISHED AS SCHEDULED. PARTITION SHALL EXTEND FROM FINISHED FLOOR TO THE UNDERSIDE OF ROOF OR DECK ABOVE
UN-RATED ASSEMBLY

GENERAL RENOVATION NOTES:

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- CONTRACTOR SHALL INSPECT ALL EXISTING DOORS & FRAMED ASSEMBLIES TO REMAIN. ANY DOORS, FRAMES, HARDWARE, GLAZING NOT FUNCTIONING PROPERLY OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED NEW TO MATCH OTHER NEW FUNCTION, FINISH & STYLE.

ALL EXISTING &/OR NEW EGRESS ONLY DOORS SHALL HAVE HARDWARE SLICKED @ EXTERIOR FACE & BE EQUIPPED W/ PANIC EXIT DEVICE

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- INSTALL NEW FIRE EXTINGUISHER & MOUNTING BRACKET - (1) **10F-4A-808-C** @ EA. LOCATION INDICATED
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Drawn By:
WCE & MITD

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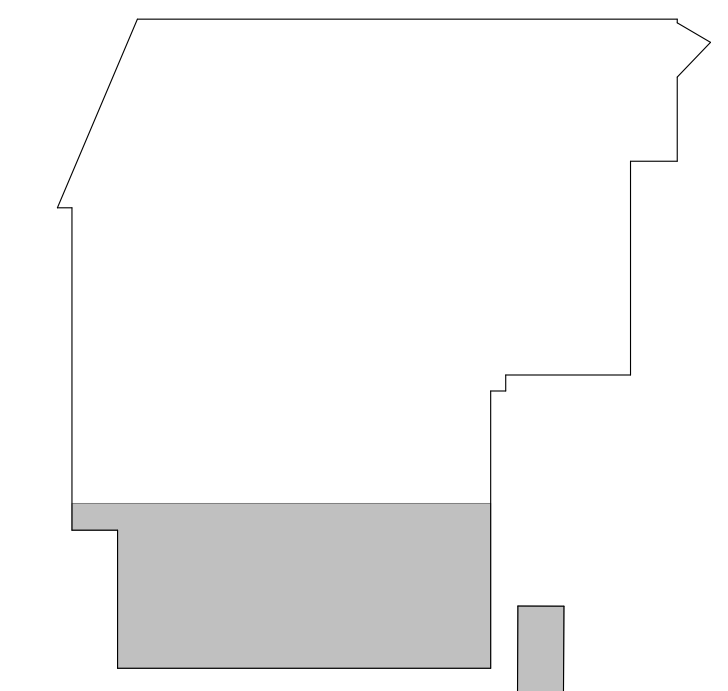
#	Revision Date:

Jonathan W. Clark,
Architect

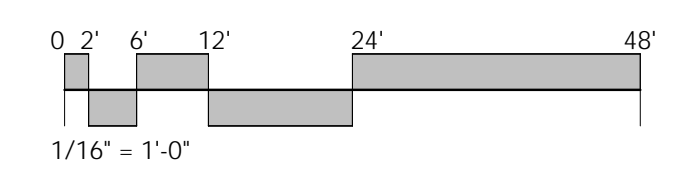
55 North 1st Street - Suite 300
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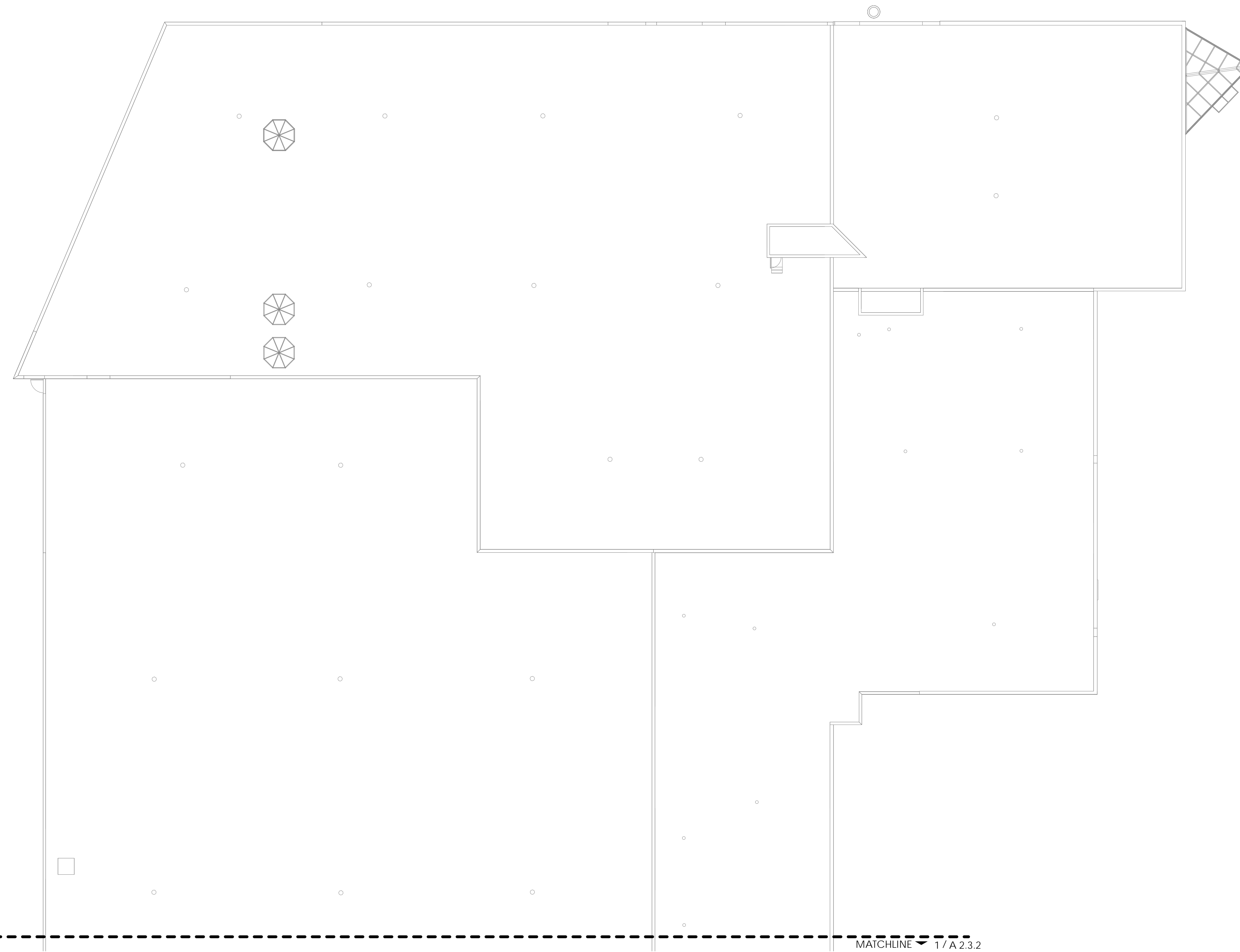
Sheet Name
MAIN LEVEL RENOVATED FLOOR PLAN - DIVISION B

Sheet Number
A 2.1.2



Key Plan
No Scale





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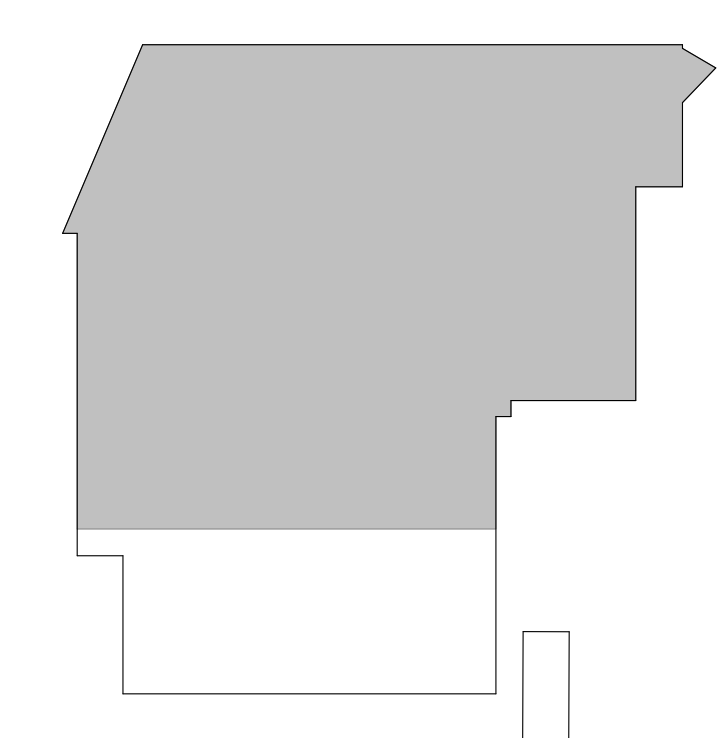
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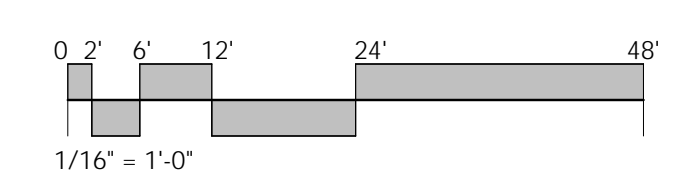
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ROOF RENOVATED PLAN - DIVISION A

Sheet Number
A 2.3.1

1 Roof Renovated Plan - Division A
A 2.3.1 1/16" = 1'-0"



Key Plan
No Scale





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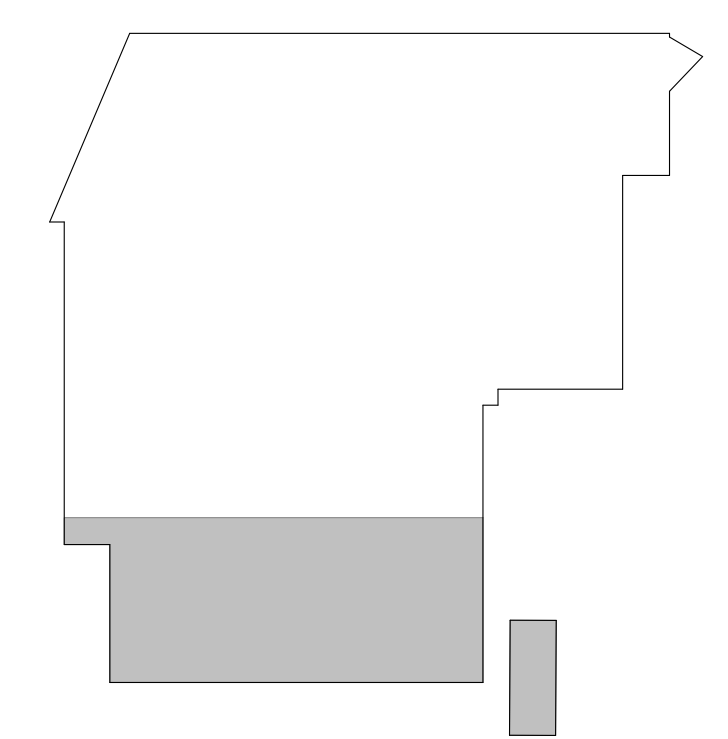
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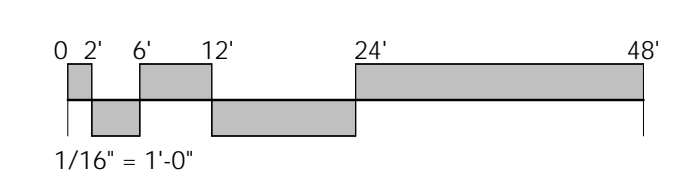
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ROOF RENOVATED PLAN - DIVISION B

Sheet Number
A 2.3.2

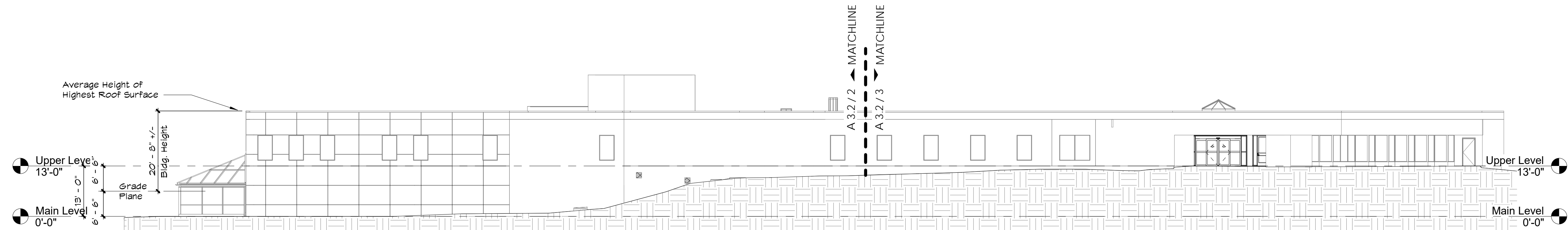
1 Roof Renovated Plan - Division B
A 2.3.2 1/16" = 1'-0"



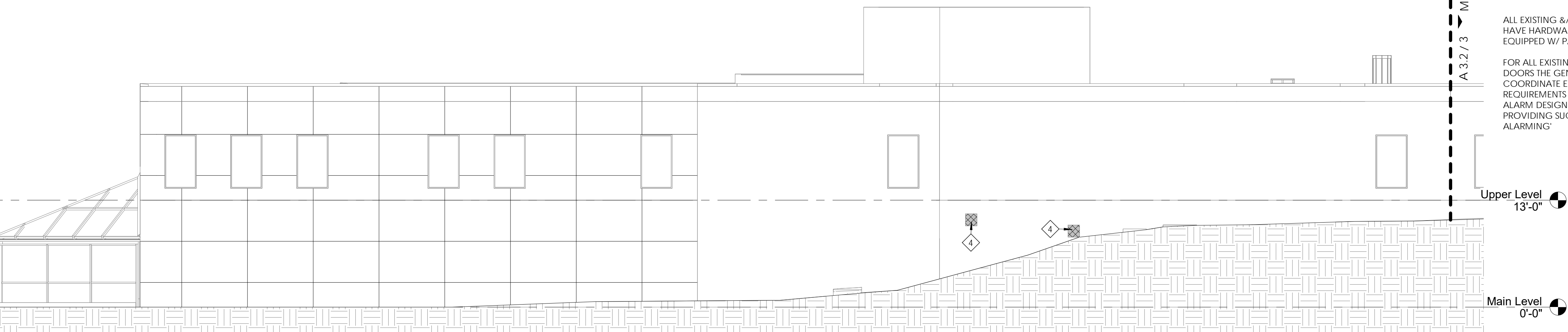
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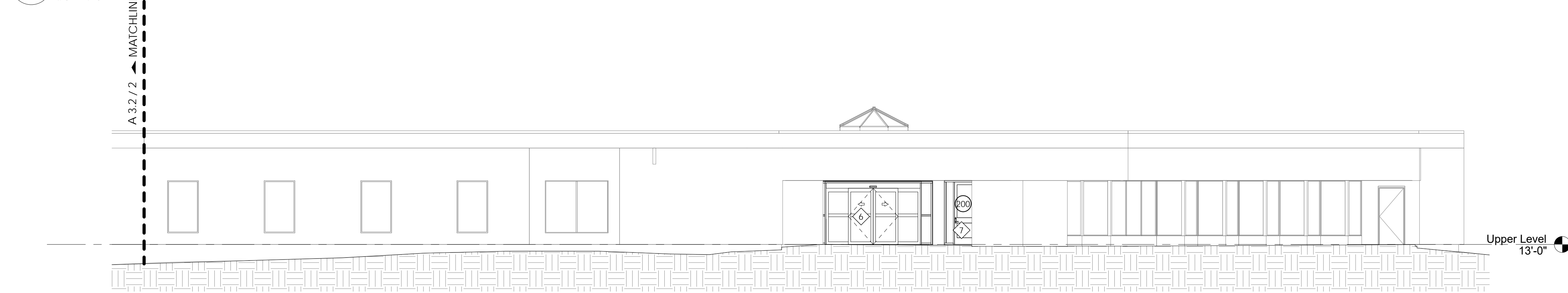
PRELIMINARY - NOT FOR CONSTRUCTION



1 Composite Renovated North Elevation
A 3.2 1/16" = 1'-0"



2 Partial Renovated North Elevation
A 3.2 1/8" = 1'-0"



3 Partial Renovated North Elevation
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GS3D

Date:

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Jonathan W. Clark, Architect

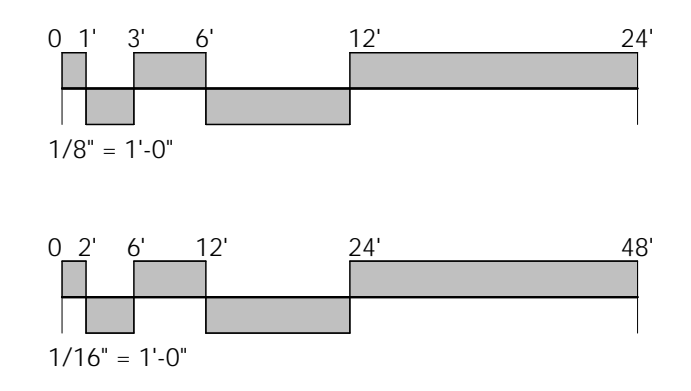
55 North 1st Street - Suite 300
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Sheet Name

COMPOSITE & ENLARGED RENOVATED EXTERIOR NORTH ELEVATIONS

Sheet Number

A 3.2



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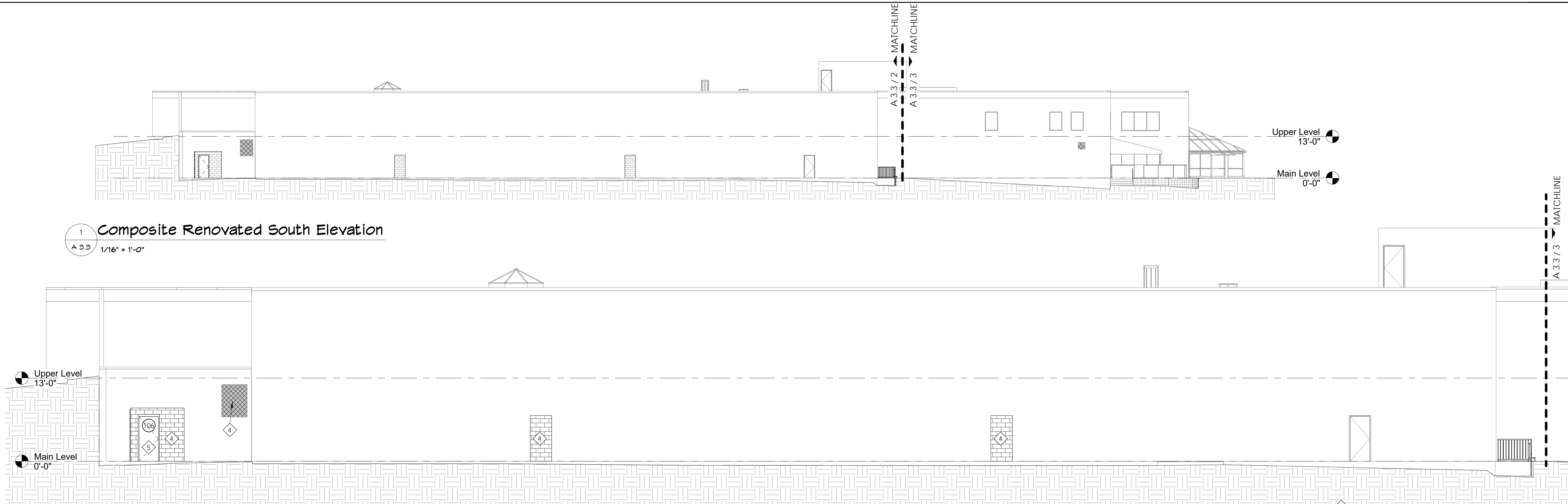
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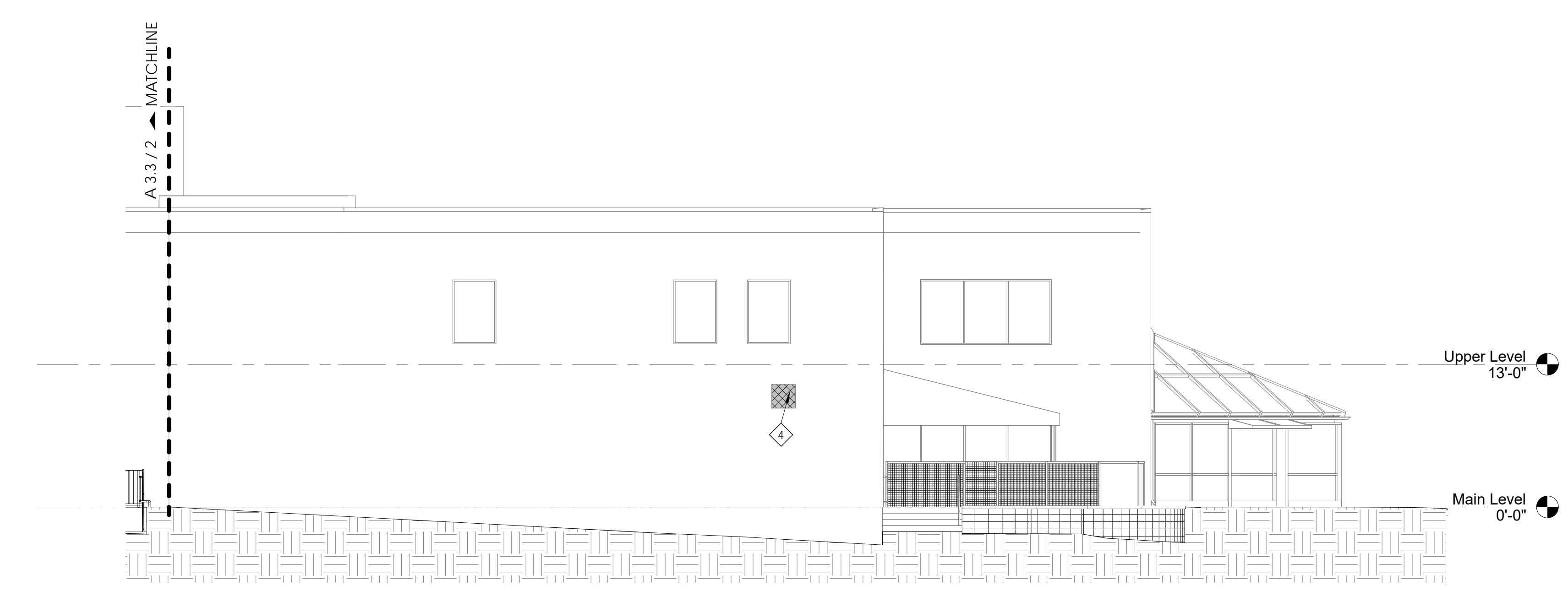
Sheet Name
COMPOSITE & ENLARGED RENOVATED EXTERIOR SOUTH ELEVATIONS

Sheet Number
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1 Composite Renovated South Elevation
 A 3.3 1/16" = 1'-0"



2 Partial Renovated South Elevation
 A 3.3 1/8" = 1'-0"



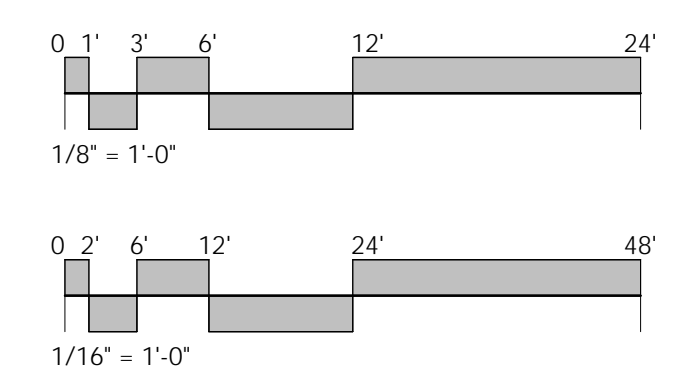
3 Partial Renovated South Elevation
 A 3.3 1/8" = 1'-0"

GENERAL RENOVATION NOTES:

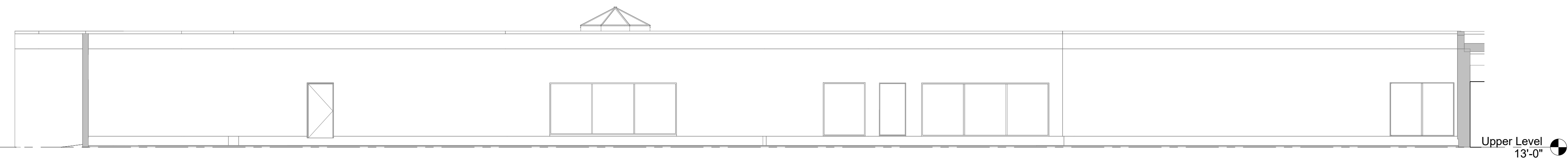
- ALL EXISTING ABANDONED CHASES & UNUSED CHASES RESULTING FROM REMOVAL OF MECHANICAL OR OTHER EQUIPMENT IN EXTERIOR WALLS, FLOORS & ROOF STRUCTURES ARE TO BE INFILLED AS FOLLOWS:
 REFER TO STRUCTURAL ENGINEER'S DRAWINGS.
 ALL INFILLED ROOF AREAS ARE TO BE ROOFED WITH ROOFING SYSTEM TO MATCH SURROUNDING AREA WITH WARRANTED STRIP-IN TO EXISTING ROOFING SYSTEM.
 - CONTRACTOR TO CLEAN ENTIRE EXTERIOR OF BUILDING. EXISTING CONTROL JOINTS IN EXISTING PRECAST EXTERIOR WALLS ARE TO BE RAKED CLEAN AND PREPARED FOR NEW BACKER ROD & APPROVED JOINT SEALANT PRIOR TO ANY EXTERIOR PAINT WORK, TYP.
 - CONTRACTOR SHALL INSPECT EACH EXISTING GLAZED OPENING TO REMAIN W/ OWNER. ANY BROKEN OR OTHERWISE COMPROMISED GLAZING, SEALS, SEALANT JOINTS SHALL BE REPAIRED/REPLACED.
 - CONTRACTOR SHALL INSPECT ALL EXISTING DOORS & FRAMED ASSEMBLIES TO REMAIN. ANY DOORS, FRAMES, HARDWARE, GLAZING NOT FUNCTIONING PROPERLY OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED NEW TO MATCH OTHER NEW FUNCTION, FINISH & STYLE.
- ALL EXISTING &/OR NEW EGRESS ONLY DOORS SHALL HAVE HARDWARE SLICKED @ EXTERIOR FACE & BE EQUIPPED W/ PANIC EXIT DEVICE
- FOR ALL EXISTING &/OR NEW EMERGENCY EGRESS DOORS THE GENERAL CONTRACTOR & SUBS SHALL COORDINATE ELECTRICAL OR LOW-VOLTAGE REQUIREMENTS FOR FIRE ALARM SYSTEM W/ FIRE ALARM DESIGN & SHALL MAKE PROVISIONS FOR PROVIDING SUCH TO ALL DOOR REQUIRING ALARMING

RENOVATION NOTES:

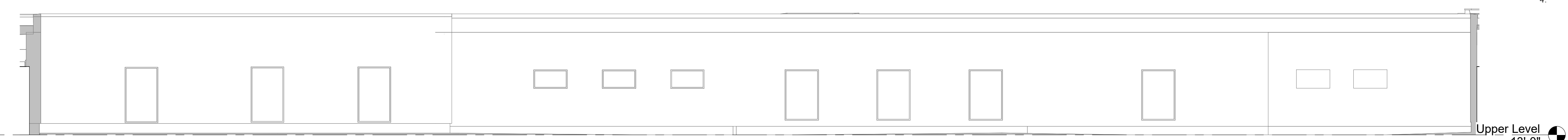
- INSTALL NEW STORAGE SYSTEM - COORDINATE W/ MANUFACTURER'S FINAL LAYOUT & SCOPE. MANUFACTURER SHALL PROVIDE SIGNED & SEALED SHOP DRAWINGS SHOWING THE UNITS, UNIT SUMMARY, ACCESSIBLE SELF-STORAGE UNIT CALCULATION & LOCATIONS ON THE PLAN
- INSTALL NEW AUTOMATIC DOOR IN NEW OR MODIFIED OPENING
- SEE CASEWORK DETAILS
- IN-FILL EXISTING OPENING W/ MATERIALS TO MATCH EXISTING - ALL TRANSITIONS FROM EXISTING TO NEW SHALL ALIGN ON BOTH SIDES AND BE FLUSH, SMOOTH & TRUE
- INSTALL NEW DOOR & FRAME ASSEMBLY AS SCHEDULED
- INSTALL NEW AUTOMATIC DOOR & NEW STOREFRONT SIDELIGHTS IN EXISTING OPENING
- INSTALL NEW DOOR & SIDELIGHT IN MODIFIED EXISTING STOREFRONT
- INSTALL NEW ADA COMPLIANT GUARDRAIL & HANDRAIL SYSTEM
- INSTALL NEW FIRE EXTINGUISHER & MOUNTING BRACKET - (1) **10# 4A.80B-C** @ EA. LOCATION INDICATED
- SEE ELECTRICAL FOR NEW LIGHTING & POWER, TYP.
- SEE MECHANICAL FOR NEW HVAC, TYP.
- NEW LEASING OFFICE - SEE ENLARGED PLANS & ELEVATIONS
- NEW ADA TOILETS AS DETAILED
- NEW CONCRETE FLOOR OR ROOF STRUCTURE IN-FILL - TRANSITION FROM EXISTING TO NEW SHALL BE SMOOTH, FLUSH & TRUE - COORDINATE W/ STRUCTURAL DRAWINGS
- TOOTH-IN JAMBS OF NEW OPENINGS IN EXISTING CMU WALLS/PARTITIONS
- IN-FILL W/ COMPACTED GRAVEL FILL, 10MIL POLY VAPOR BARRIER & 4' x 4000PSI CONCRETE FLOOR SLAB W/ 6x6 1010 WWM - HAMMER-DRILL & DRY FIT 1'-0" #5 DOWEL INTO EXISTING SLAB EDGE @ 2'-8" O.C.
- CONTRACTOR SHALL INSTALL (1) NEW HOLD OPEN CLOSER (4040SE BY LCN) PER DOOR LEAF. RUN ELECTRICAL &/OR LV TO SERVICE NEW DEVICE(S). COORDINATE W/ HARDWARE SUPPLIER/INSTALLER, ELECTRICIAN & FIRE ALARM SUBCONTRACTOR. NOTIFY ARCHITECT OF ANY DISCREPANCIES IN EXISTING CONDITIONS & SCOPE PRIOR TO BEGINNING WORK.



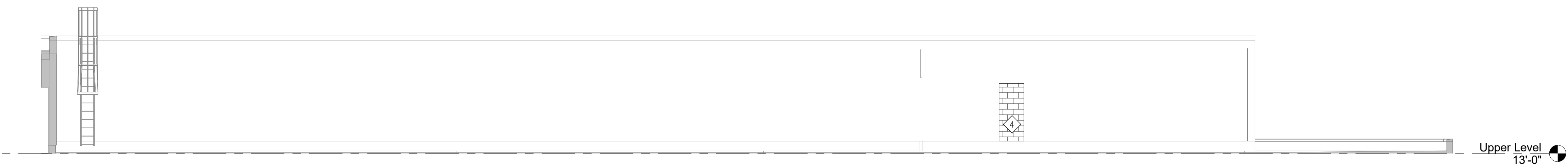
PRELIMINARY - NOT FOR CONSTRUCTION



1 Renovated North Elevation - Upper Level Mechanical Courtyard
A 3.5 1/8" = 1'-0"



2 Renovated East Elevation - Upper Level Mechanical Courtyard
A 3.5 1/8" = 1'-0"



3 Renovated South Elevation - Upper Level Mechanical Courtyard
A 3.5 1/8" = 1'-0"

GENERAL RENOVATION NOTES:

1. ALL EXISTING ABANDONED CHASES & UNUSED CHASES RESULTING FROM REMOVAL OF MECHANICAL OR OTHER EQUIPMENT IN EXTERIOR WALLS, FLOORS & ROOF STRUCTURES ARE TO BE INFILLED AS FOLLOWS:

REFER TO STRUCTURAL ENGINEER'S DRAWINGS.

ALL INFILLED ROOF AREAS ARE TO BE ROOFED WITH ROOFING SYSTEM TO MATCH SURROUNDING AREA WITH WARRANTED STRIP-IN TO EXISTING ROOFING SYSTEM.
2. CONTRACTOR TO CLEAN ENTIRE EXTERIOR OF BUILDING. EXISTING CONTROL JOINTS IN EXISTING PRECAST EXTERIOR WALLS ARE TO BE RAKED CLEAN AND PREPARED FOR NEW BACKER ROD & APPROVED JOINT SEALANT PRIOR TO ANY EXTERIOR PAINT WORK, TYP.
3. CONTRACTOR SHALL INSPECT EACH EXISTING GLAZED OPENING TO REMAIN W/ OWNER. ANY BROKEN OR OTHERWISE COMPROMISED GLAZING, SEALS, SEALANT JOINTS SHALL BE REPAIRED/REPLACED.
4. CONTRACTOR SHALL INSPECT ALL EXISTING DOORS & FRAMED ASSEMBLIES TO REMAIN. ANY DOORS, FRAMES, HARDWARE, GLAZING NOT FUNCTIONING PROPERLY OR OTHERWISE DAMAGED SHALL BE REMOVED AND REPLACED NEW TO MATCH OTHER NEW FUNCTION, FINISH & STYLE.

ALL EXISTING &/OR NEW EGRESS ONLY DOORS SHALL HAVE HARDWARE SLICKED @ EXTERIOR FACE & BE EQUIPPED W/ PANIC EXIT DEVICE'

FOR ALL EXISTING &/OR NEW EMERGENCY EGRESS DOORS THE GENERAL CONTRACTOR & SUBS SHALL COORDINATE ELECTRICAL OR LOW-VOLTAGE REQUIREMENTS FOR FIRE ALARM SYSTEM W/ FIRE ALARM DESIGN & SHALL MAKE PROVISIONS FOR PROVIDING SUCH TO ALL DOOR REQUIRING ALARMING'

RENOVATION NOTES:

- 1. INSTALL NEW STORAGE SYSTEM - COORDINATE W/ MANUFACTURER'S FINAL LAYOUT & SCOPE. MANUFACTURER SHALL PROVIDE SIGNED & SEALED SHOP DRAWINGS SHOWING THE UNITS, UNIT SUMMARY, ACCESSIBLE SELF-STORAGE UNIT CALCULATION & LOCATIONS ON THE PLAN
- 2. INSTALL NEW AUTOMATIC DOOR IN NEW OR MODIFIED OPENING
- 3. SEE CASEWORK DETAILS
- 4. IN-FILL EXISTING OPENING W/ MATERIALS TO MATCH EXISTING - ALL TRANSITIONS FROM EXISTING TO NEW SHALL ALIGN ON BOTH SIDES AND BE FLUSH, SMOOTH & TRUE
- 5. INSTALL NEW DOOR & FRAME ASSEMBLY AS SCHEDULED
- 6. INSTALL NEW AUTOMATIC DOOR & NEW STOREFRONT SIDELIGHTS IN EXISTING OPENING
- 7. INSTALL NEW DOOR & SIDELIGHT IN MODIFIED EXISTING STOREFRONT
- 8. INSTALL NEW ADA COMPLIANT GUARDRAIL & HANDRAIL SYSTEM
- 9. INSTALL NEW FIRE EXTINGUISHER & MOUNTING BRACKET - (1) 10# 4A-80B-C @ EA. LOCATION INDICATED
- 10. SEE ELECTRICAL FOR NEW LIGHTING & POWER, TYP.
- 11. SEE MECHANICAL FOR NEW HVAC, TYP.
- 12. NEW LEASING OFFICE - SEE ENLARGED PLANS & ELEVATIONS
- 13. NEW ADA TOILETS AS DETAILED
- 14. NEW CONCRETE FLOOR OR ROOF STRUCTURE IN-FILL - TRANSITION FROM EXISTING TO NEW SHALL BE SMOOTH, FLUSH & TRUE - COORDINATE W/ STRUCTURAL DRAWINGS
- 15. TOOTH-IN JAMBS OF NEW OPENINGS IN EXISTING CMU WALLS/PARTITIONS
- 16. IN-FILL W/ COMPACTED GRAVEL FILL, 10MIL POLY VAPOR BARRIER & 4" x 4000PSI CONCRETE FLOOR SLAB W/ 6x6 1010 WWM - HAMMER-DRILL & DRY FIT 1'-0" #5 DOWEL INTO EXISTING SLAB EDGE @ 2'-8" O.C.
- 17. CONTRACTOR SHALL INSTALL (1) NEW HOLD OPEN CLOSER (4040SE BY LCN) PER DOOR LEAF. RUN ELECTRICAL &/OR LV TO SERVICE NEW DEVICE(S). COORDINATE W/ HARDWARE SUPPLIER/INSTALLER, ELECTRICIAN & FIRE ALARM SUBCONTRACTOR. NOTIFY ARCHITECT OF ANY DISCREPANCIES IN EXISTING CONDITIONS & SCOPE PRIOR TO BEGINNING WORK.

PROJECT INFORMATION:

Project Name:
Storage Five Cranston, LLC

PRELIMINARY

Project Address:
1 Kenney Drive
Cranston, Rhode Island 02920

Project Number:
23127

Drawn By:
GS3D

Date:
9.20.2024

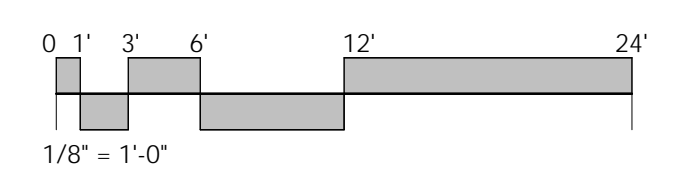
#	Revision Date:

Jonathan W. Clark,
Architect

55 North 1st Street - Suite 300
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p - 931.552.3860
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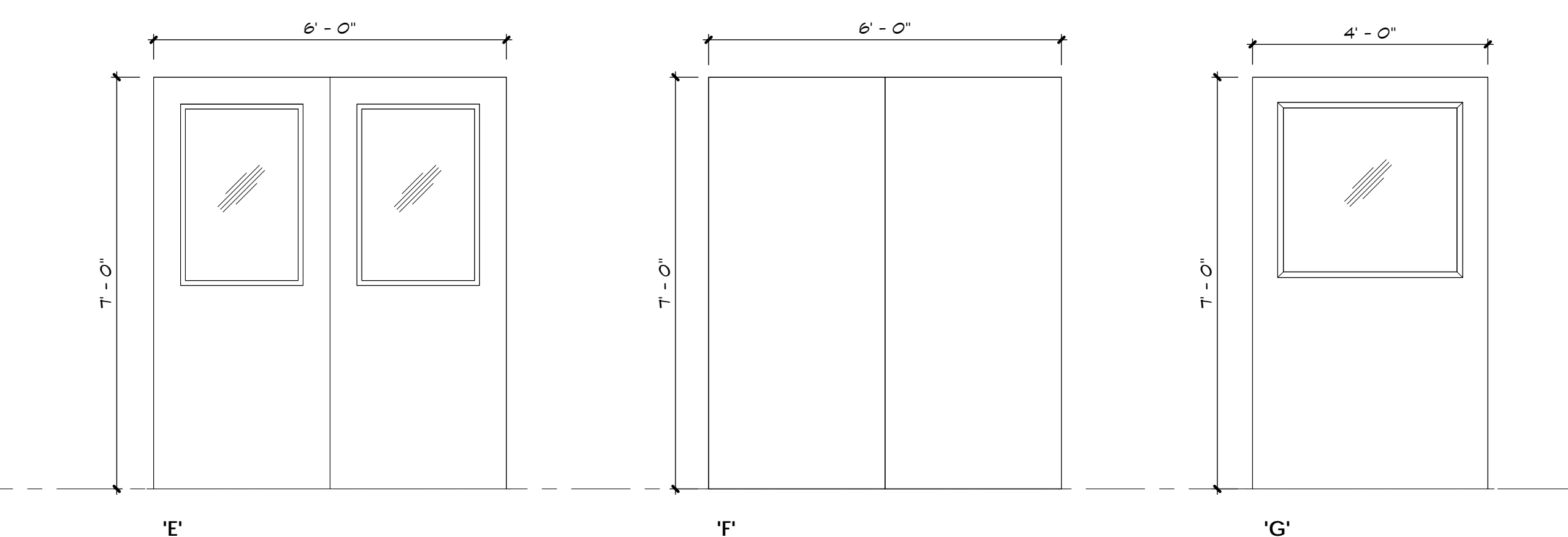
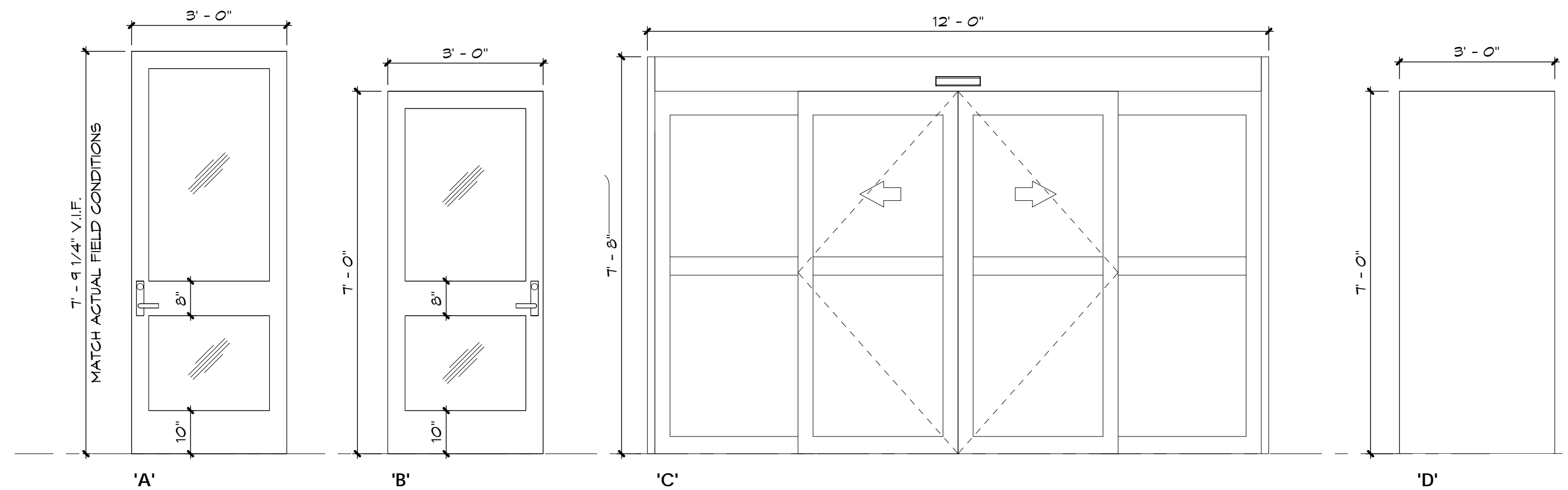
Sheet Name
RENOVATED EXTERIOR ELEVATIONS - UPPER LEVEL MECHANICAL COURTYARD

Sheet Number
A 3.5

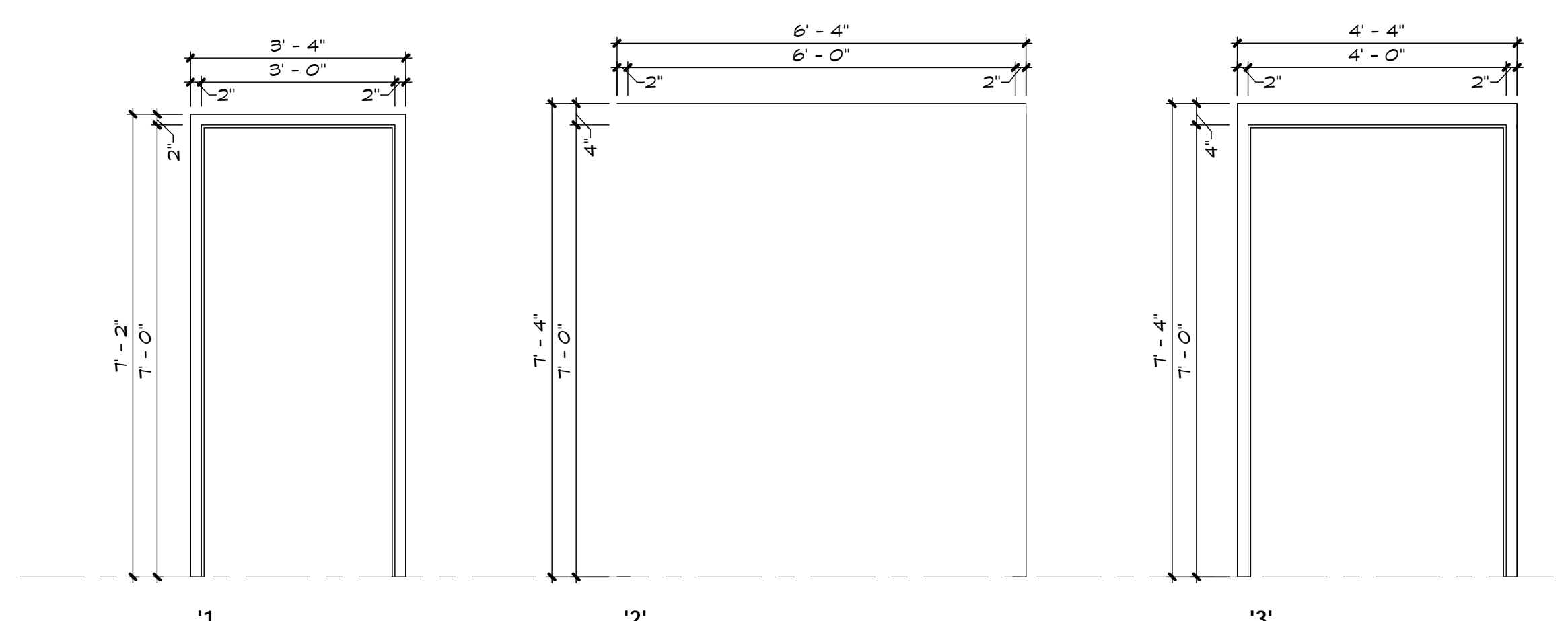


DOOR SCHEDULE										
DOOR NO.	DOOR MARK	SIZE	TYPE	FINISH	GLASS	FIRE RATING	FRAME	FRAME MARK	FRAME FINISH	REMARKS
Main Level										
100	C	12'-0" x 8'-8"	NOTE: 9	NOTE: 6	NOTE: 12	----	ALUM.	----	NOTE: 6	NOTE: 10
101	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	NOTE: 10
102	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	NOTE: 10
103	E	Pair 3'-0"x7'-0"x1 3/4"	HM	NOTE: 8	----	90 min.	HM	2	NOTE: 8	----
104	F	Pair 3'-0"x7'-0"x1 3/4"	HM	NOTE: 8	----	90 min.	HM	2	NOTE: 8	----
105	G	4'-0" X 7'-0" X 1 3/4"	IM	NOTE: 7	NOTE: 12	----	HM	3	NOTE: 7	NOTE: 10
106	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 7	----	----	HM	1	NOTE: 7	----
107	E	Pair 3'-0"x7'-0"x1 3/4"	IM	NOTE: 7	NOTE: 12	----	HM	3	NOTE: 7	NOTE: 10
Upper Level										
200	A	3'-0" x 7'-9 1/4" x 1 3/4"	ALUM/ GLASS	NOTE: 6	NOTE: 12	----	ALUM. SF	----	NOTE: 6	NOTE: 11
201	C	12'-0" x 8'-8"	NOTE: 9	NOTE: 6	NOTE: 12	----	ALUM.	----	NOTE: 6	NOTE: 10
202	C	12'-0" x 8'-8"	NOTE: 9	NOTE: 6	NOTE: 12	----	ALUM.	----	NOTE: 6	----
203	B	3'-0" x 7'-0" x 1 3/4"	ALUM/ GLASS	NOTE: 6	NOTE: 12	----	ALUM. SF	----	NOTE: 6	NOTE: 11
204	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	----
205	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	----
206	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	----
207	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	----
208	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	NOTE: 10
209	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	----	HM	1	NOTE: 8	NOTE: 10
210	D	3'-0" x 7'-0" x 1 3/4"	HM	NOTE: 8	----	90 min.	HM	1	NOTE: 8	----

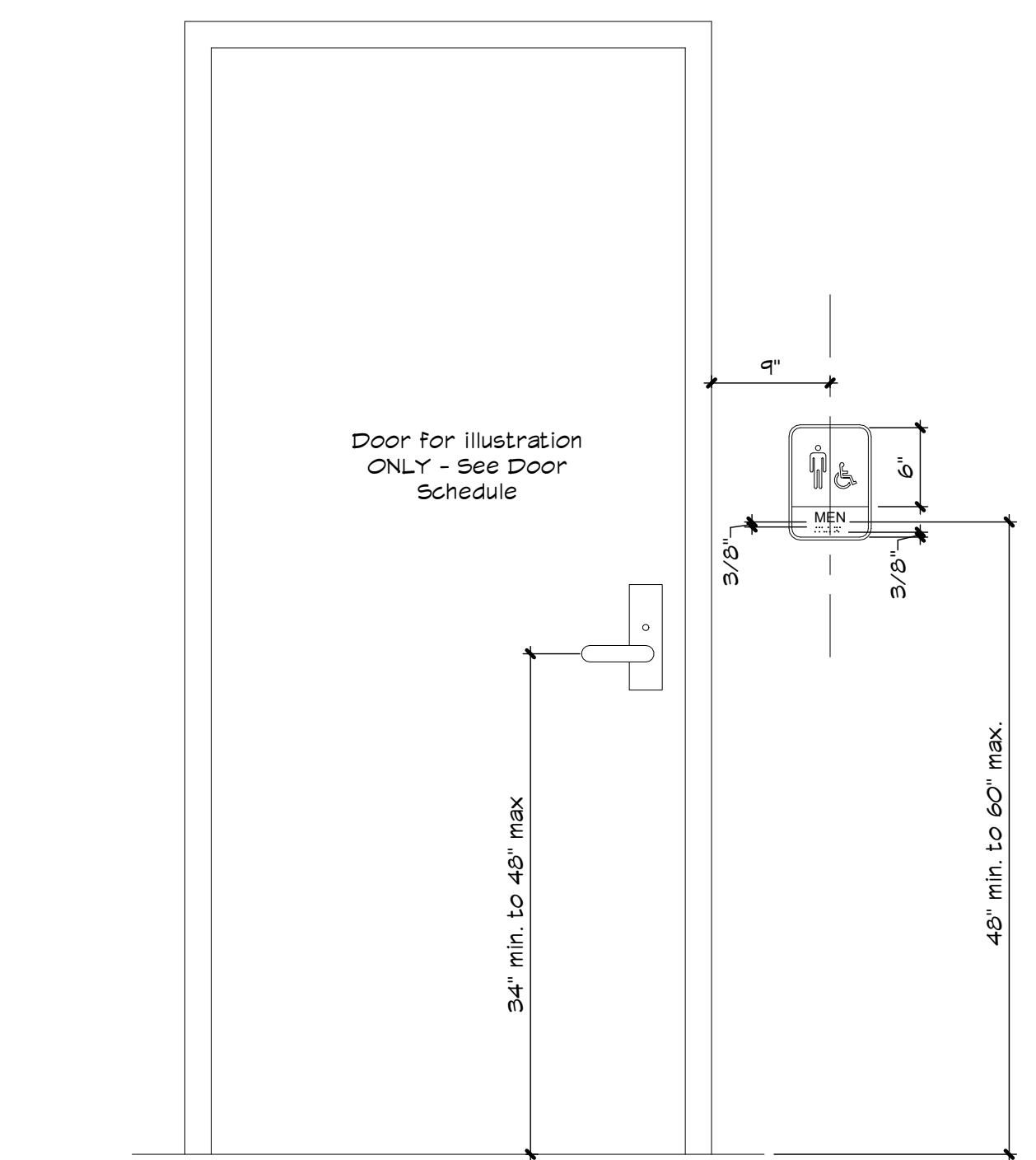
- DOOR SCHEDULE NOTES:
- DOOR FRAMES SHALL BE MIN. 14GA. W/ MITERED & WELDED CORNERS - SHOP PRIME FRAME & TOUCH UP PRIME COAT IMMEDIATELY AFTER INSTALLATION.
 - ALL HARDWARE SHALL BE U.L. APPROVED.
 - ALL HARDWARE SHALL MEET ADA REQUIREMENTS.
 - ALL DOORS TO HAZARDOUS AREAS SHALL BE EQUIPPED W/ TEXTURED FINISHED HARDWARE.
 - CONTRACTOR SHALL COORDINATE W/ OWNER REQUIREMENTS FOR KEYING OF HARDWARE (EXISTING & NEW) PRIOR TO ORDERING.
 - FINISH TO BE CLEAR ANODIZED ALUMINUM TO MATCH STOREFRONT SYSTEM
 - PAINT FINISH TO BE EXTERIOR GRADE LATEX ENAMEL - OWNER SELECTED COLOR
 - PAINT FINISH TO BE INTERIOR GRADE LATEX ENAMEL - OWNER SELECTED COLOR
 - DOOR EQUAL TO STANLEY DURA-GUARD 2000 BI-PART
 - PROVIDE ACCESS CONTROL ELEMENTS PER DOOR HARDWARE SCHEDULE.
 - SEE WINDOW SCHEDULE & ELEVATIONS
 - GLAZING TO BE:
 - A. 1" THK. TINT'D. TEMP'D. INSUL'G @ EXTERIOR
 - B. 1/4" THK. CLEAR, TEMP'D @ INTERIOR



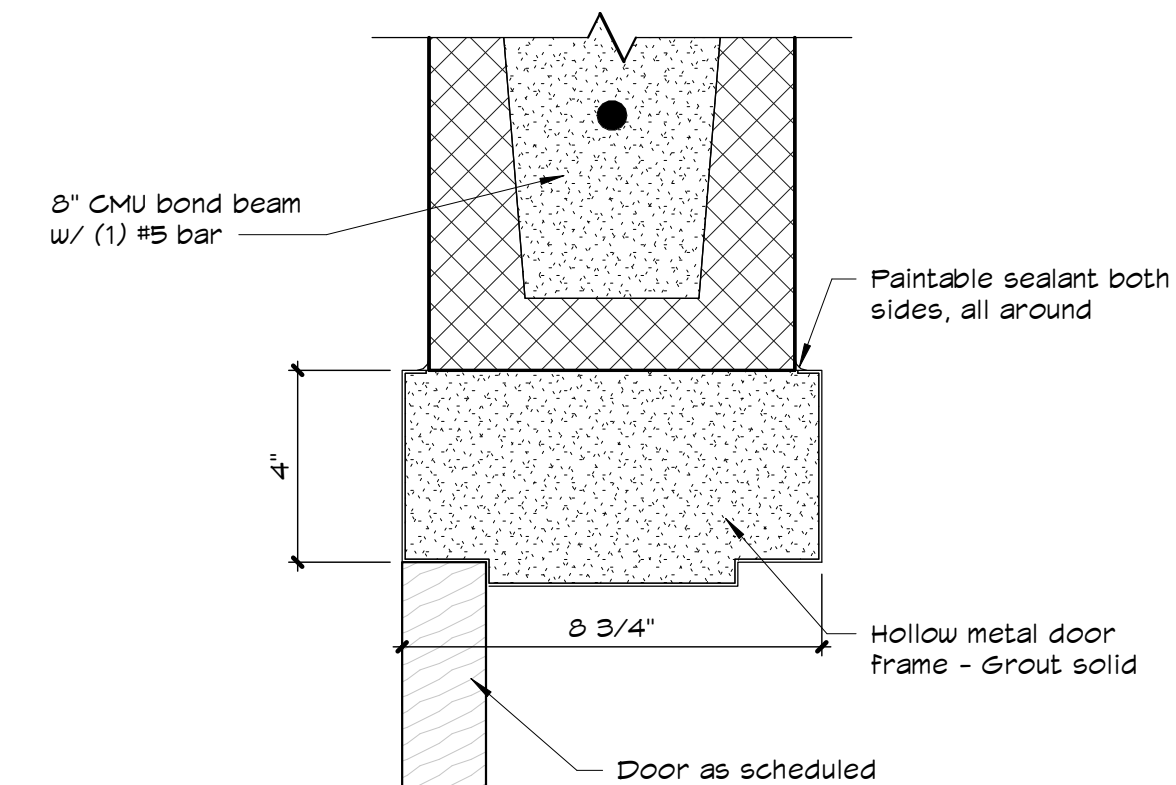
1 Door Elevations
A 4.1 1/2" = 1'-0"



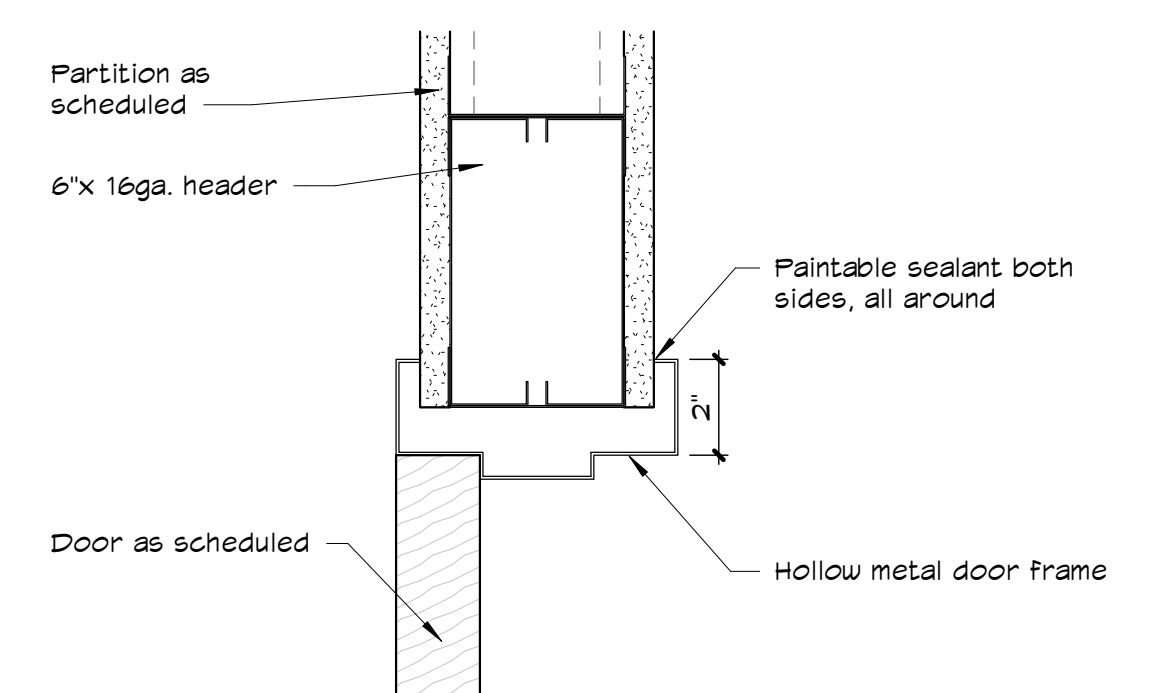
2 Door Frame Elevations
A 4.1 1/2" = 1'-0"



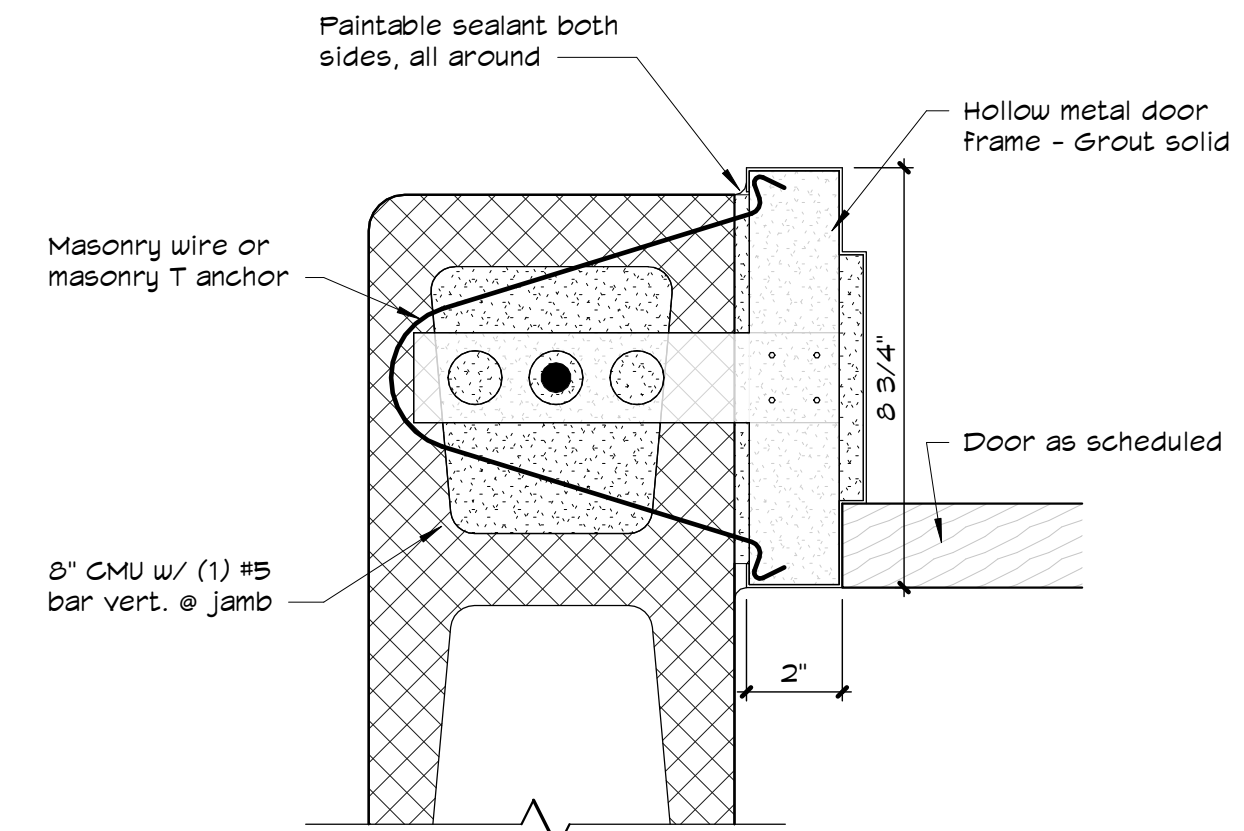
3 Typical ADA Signage Location
A 4.1 1" = 1'-0"



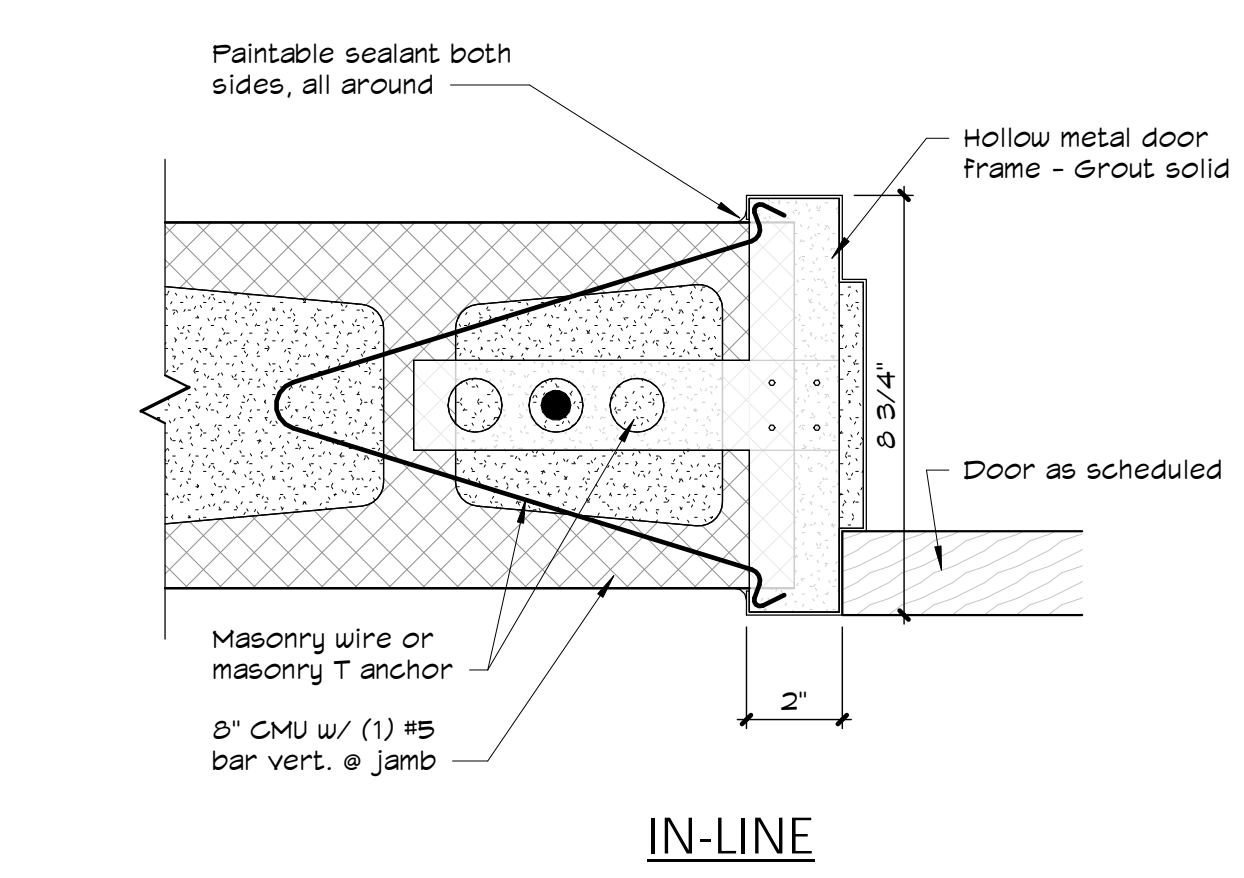
4 Typ. Head Detail
A 4.1 3" = 1'-0"



6 Typ. Head Detail
A 4.1 3" = 1'-0"

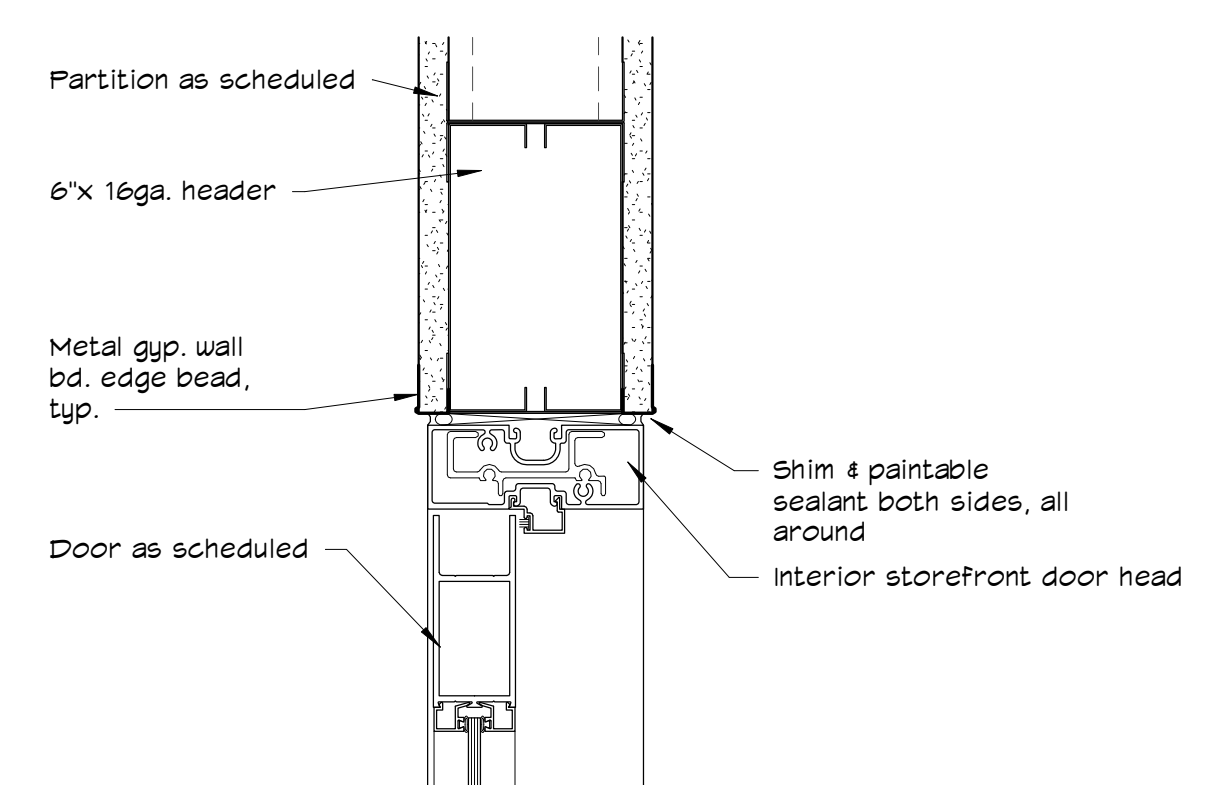


INTERSECTING

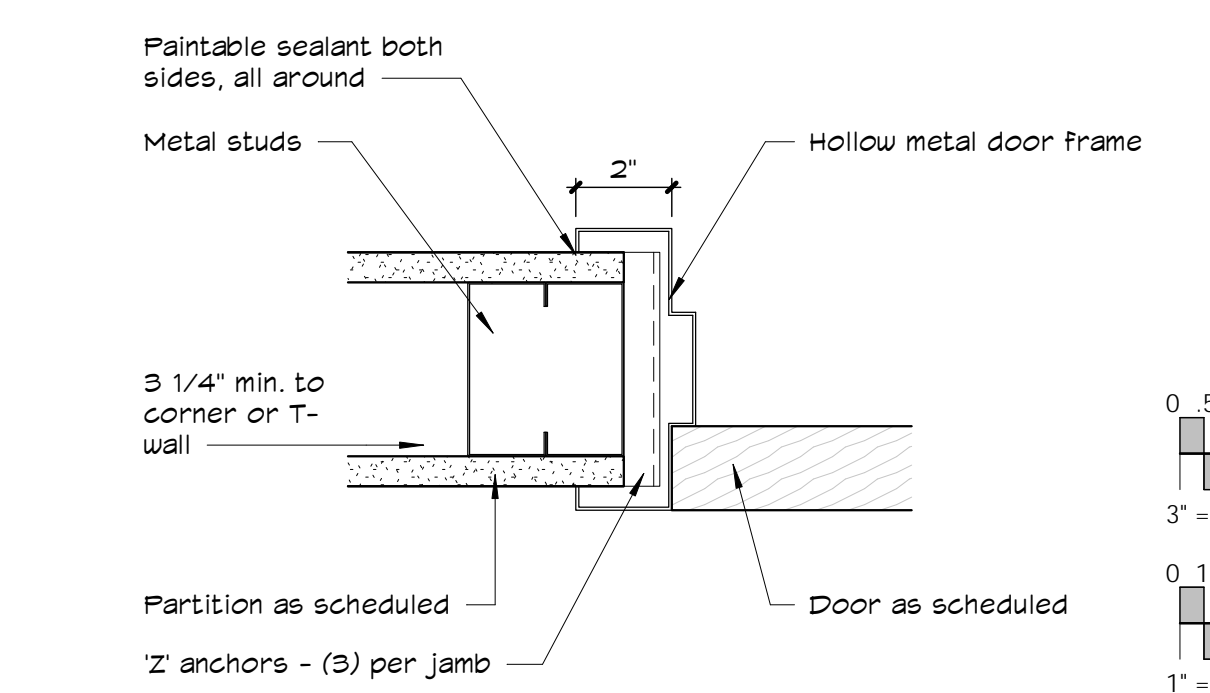


IN-LINE

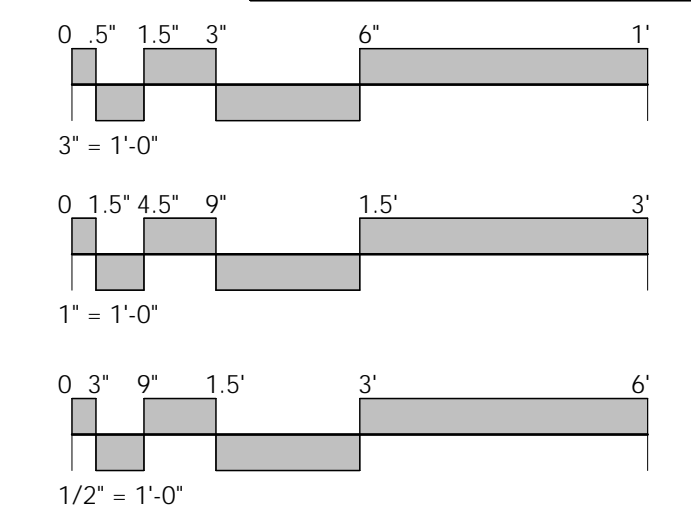
7 Typ. Jamb Detail
A 4.1 3" = 1'-0"



5 Typical Head Detail
A 4.1 3" = 1'-0"



8 Typ. Jamb Detail
A 4.1 3" = 1'-0"



PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:
 Project Name:
Storage Five Cranston, LLC
 PRELIMINARY
 Project Address:
 1 Kenney Drive
 Cranston, Rhode Island 02920
 Project Number:
 23127

Drawn By:
 WCE & MTD
 Date:
 9.20.2024
 # Revision Date:

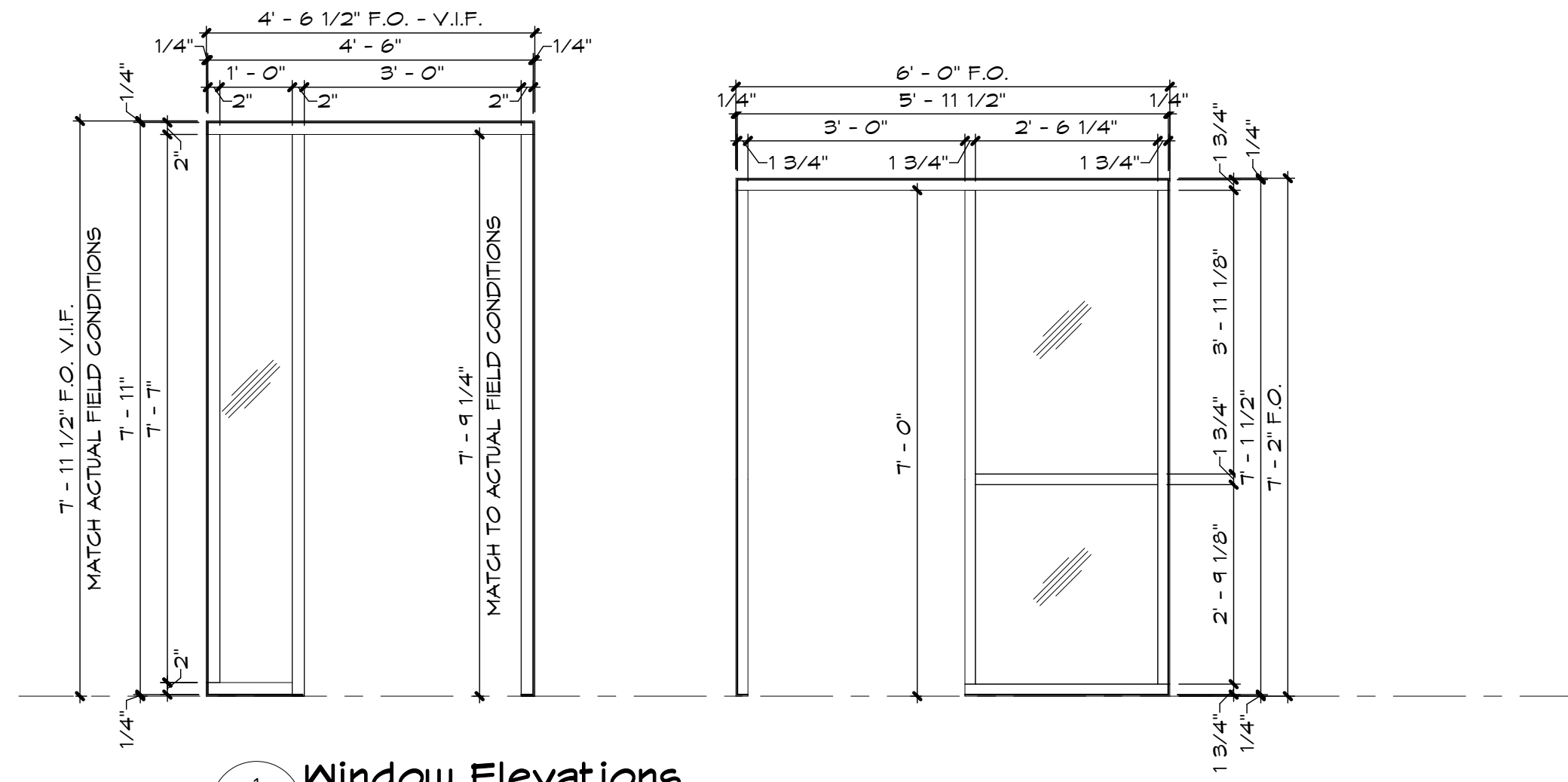
Jonathan W. Clark, Architect
 55 North 1st Street - Suite 300
 Clarksville, Tennessee 37040
 p - 931.552.3860
 e - jon@clarkarchitecture.com

Sheet Name
DOOR SCHEDULE, ELEVATIONS & DETAILS
 Sheet Number
A 4.1

WINDOW SCHEDULE						
MARK	SIZE	TYPE - OPERATION	FRAME	GLASS TYPE	FINISH	REMARKS
1	4'-6 1/2" x 7'-11 1/2" F.O. - V.I.F.	FIXED SASH	ALUMINUM STOREFRONT	NOTE: 4	NOTE: 3	SEE WINDOW ELEVATIONS
B	4'-1" x 7'-2 1/4" F.O. - V.I.F.	FIXED SASH	ALUMINUM STOREFRONT	NOTE: 4	NOTE: 3	SEE WINDOW ELEVATIONS
E	6'-8" x 7'-2" F.O.	FIXED SASH	ALUMINUM STOREFRONT	NOTE: 4	NOTE: 3	SEE WINDOW ELEVATIONS

WINDOW SCHEDULE NOTES:

- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS & NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO FABRICATION
- INSTALL .080 BRAKE-FORMED ALUMINUM SUB-SILL W/ END DAMS TO MATCH STOREFRONT SYSTEM - SET IN APPROVED MASTIC - TURN UP @ INTERIOR 1/2" & EXTEND TO FACE OF WALL & TURN DOWN 1/2"
- FINISH TO BE CLEAR ANODIZED ALUMINUM
- GLAZING TO BE:
 - A. 1" THK. TINT'D, TEMP'D, INSUL'G @ EXTERIOR
 - B. 1/4" THK. CLEAR, TEMP'D @ INTERIOR



1 Window Elevations
A 4.2 1/2" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

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Storage Five Cranston, LLC

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9.20.2024

Revision Date:

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Jonathan W. Clark, Architect

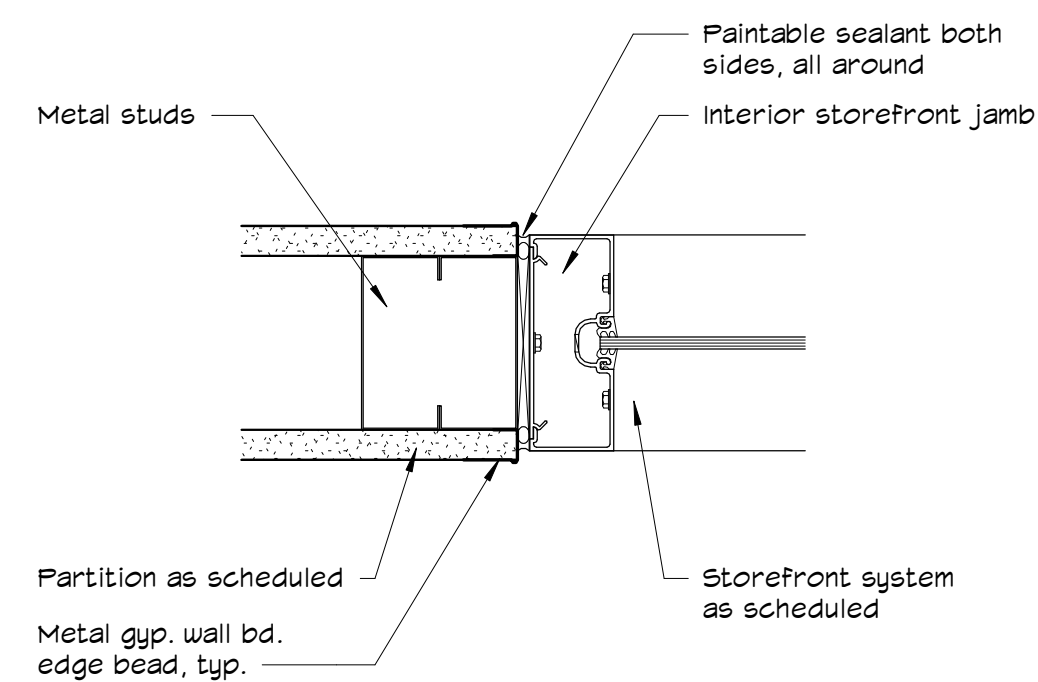
55 North 1st Street - Suite 300
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e - jon@jclarkarchitecture.com

Sheet Name

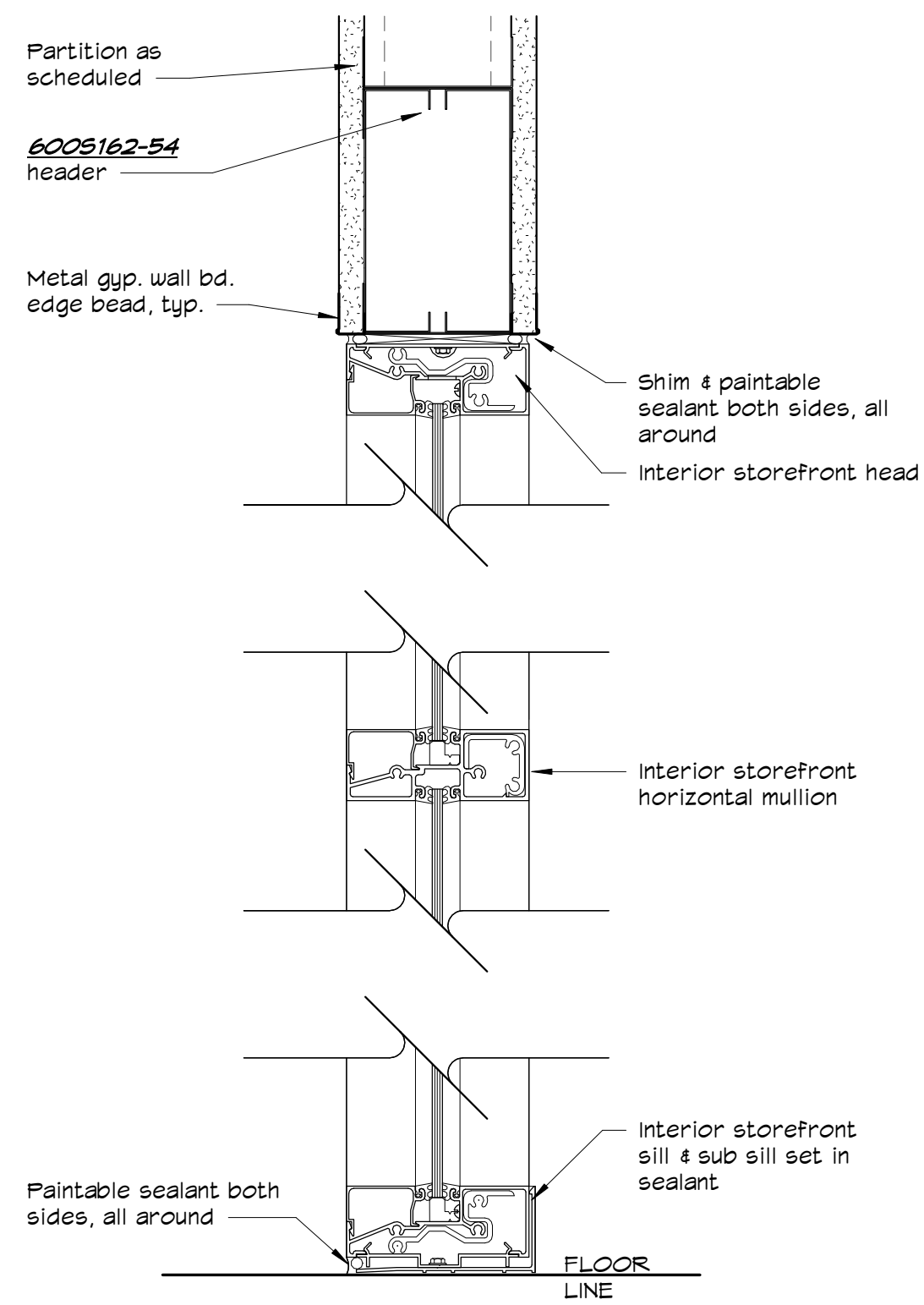
WINDOW SCHEDULE, ELEVATIONS & DETAILS

Sheet Number

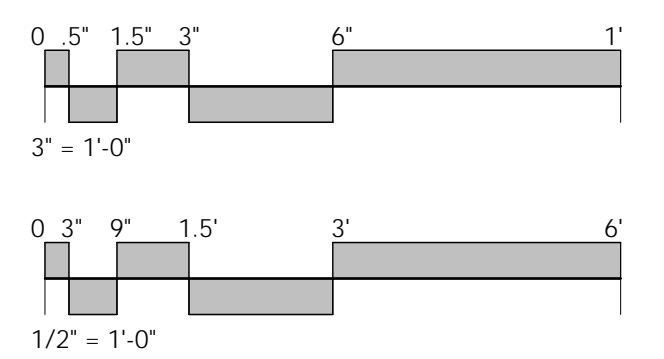
A 4.2



2 Typ. Interior Jamb Detail
A 4.2 3/8" = 1'-0"



3 Typ. Interior Head, Mullion, Sill Detail
A 4.2 3/8" = 1'-0"



PRELIMINARY -
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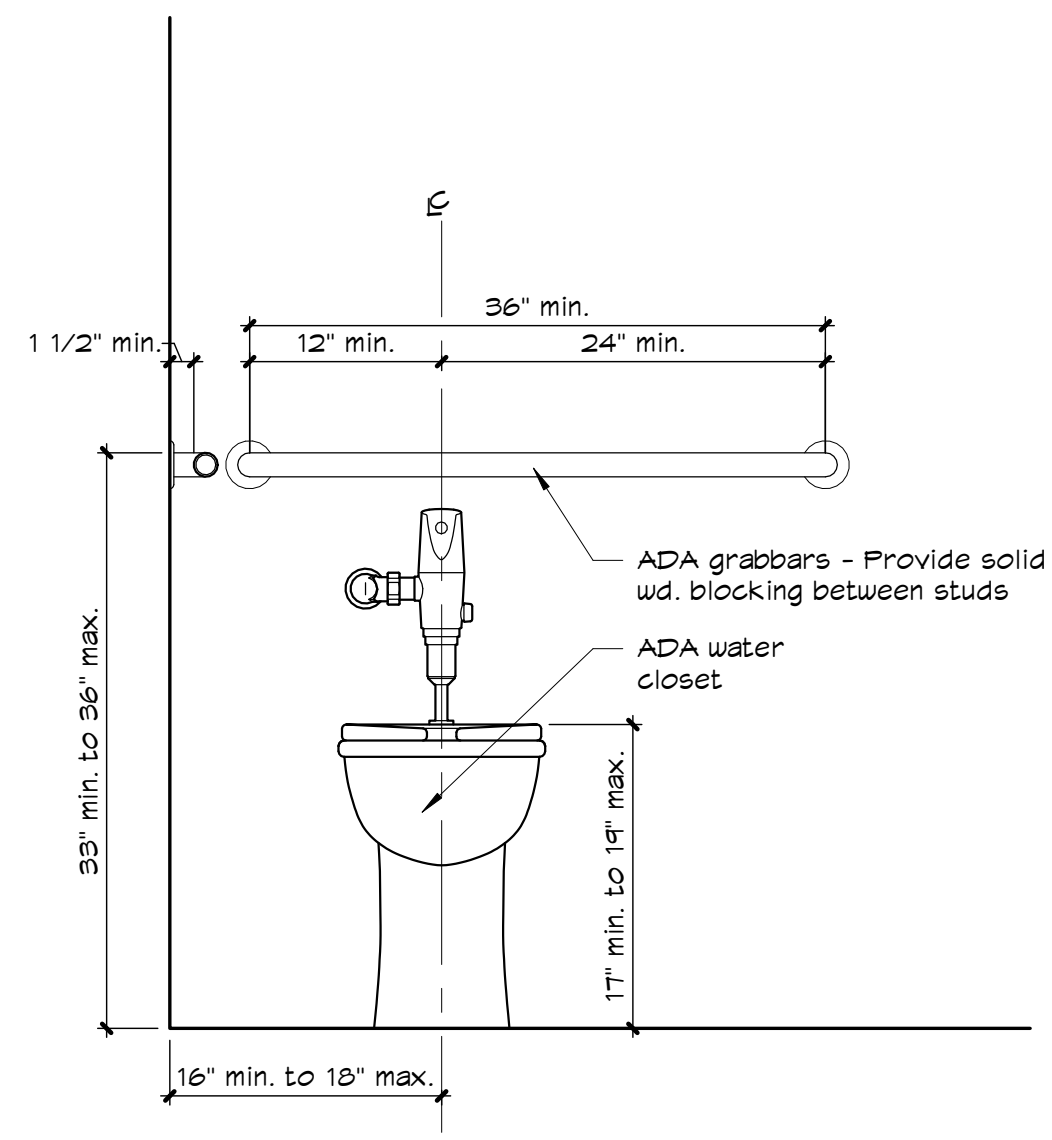
#	Revision Date:

**Jonathan W. Clark,
Architect**

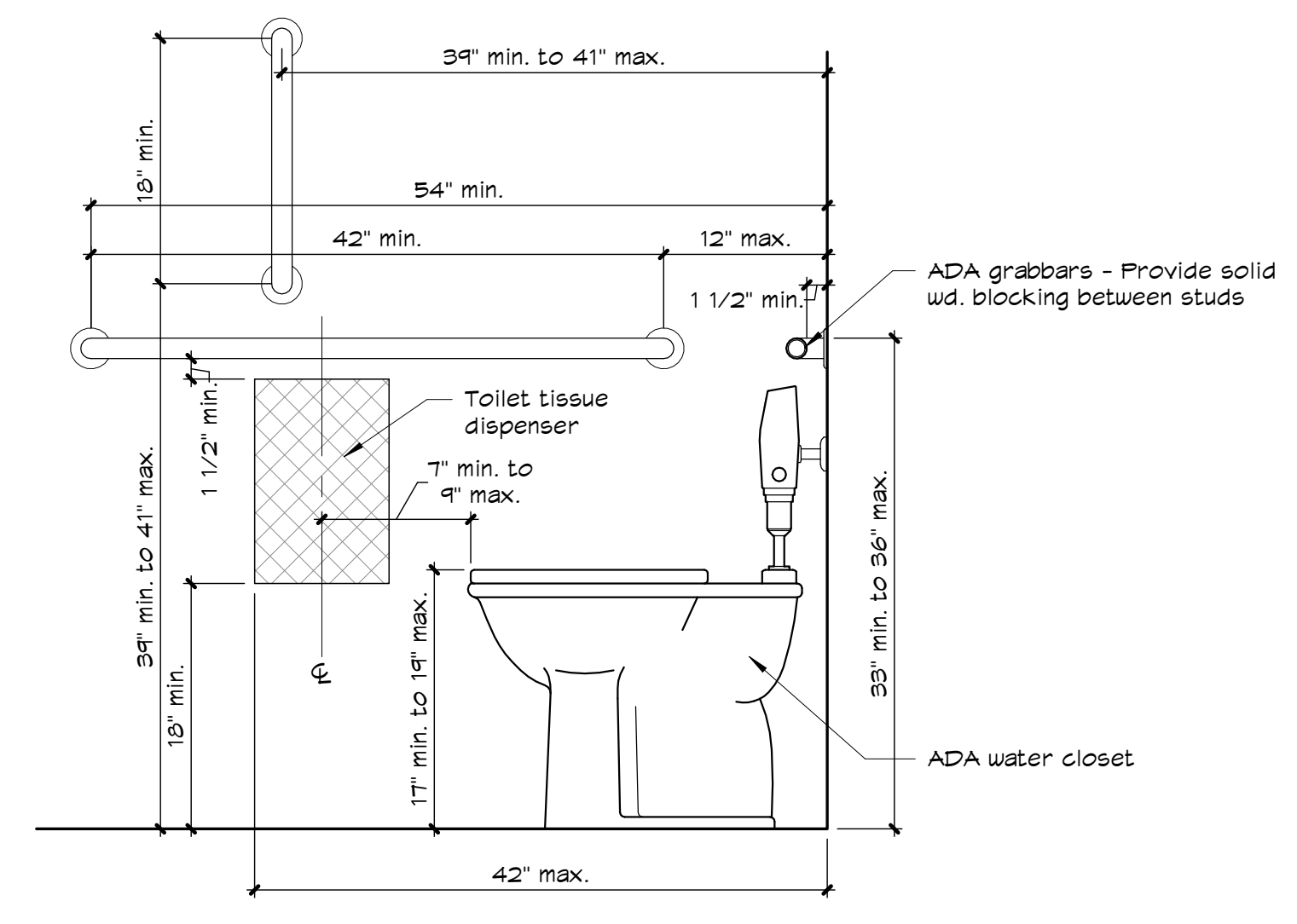
55 North 1st Street - Suite 300
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e - jon@clarkarchitecture.com

Sheet Name
TOILET DETAILS

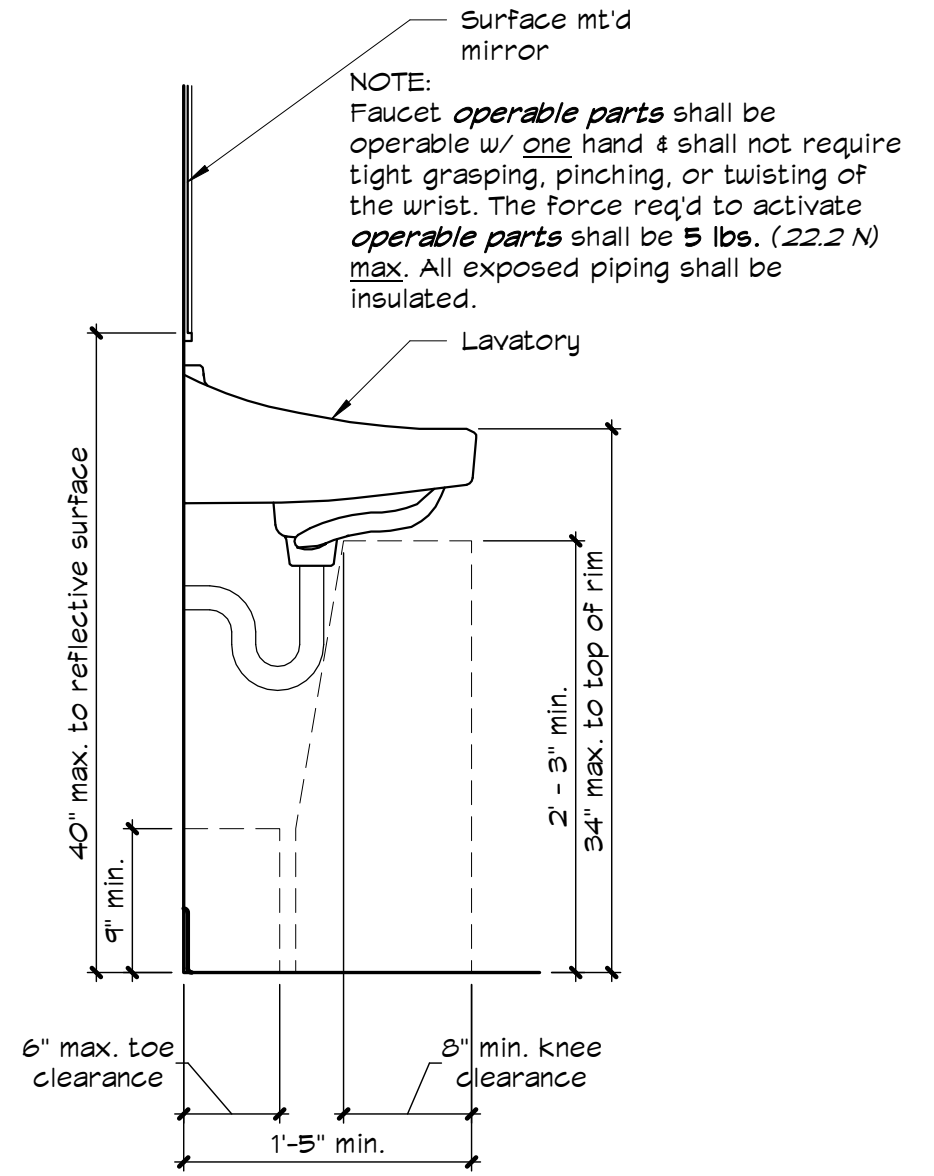
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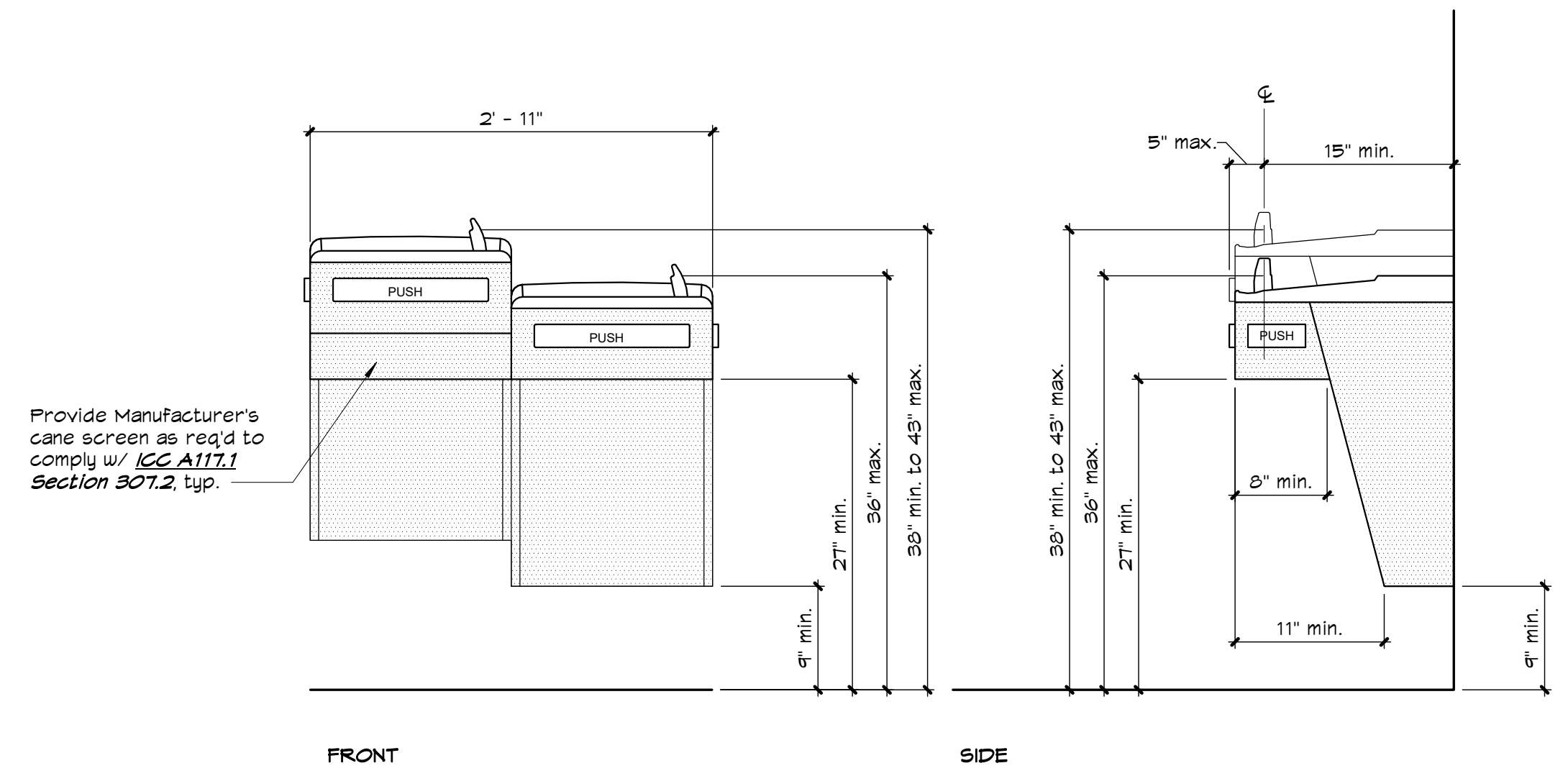
1 Toilet Elevation - Back
A 6.2 1" = 1'-0"



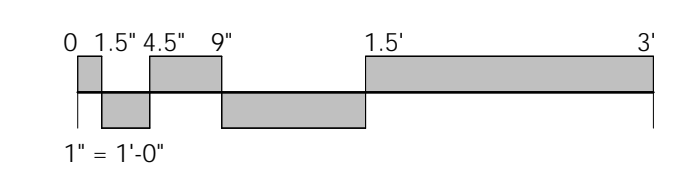
2 Toilet Elevation - Side
A 6.2 1" = 1'-0"

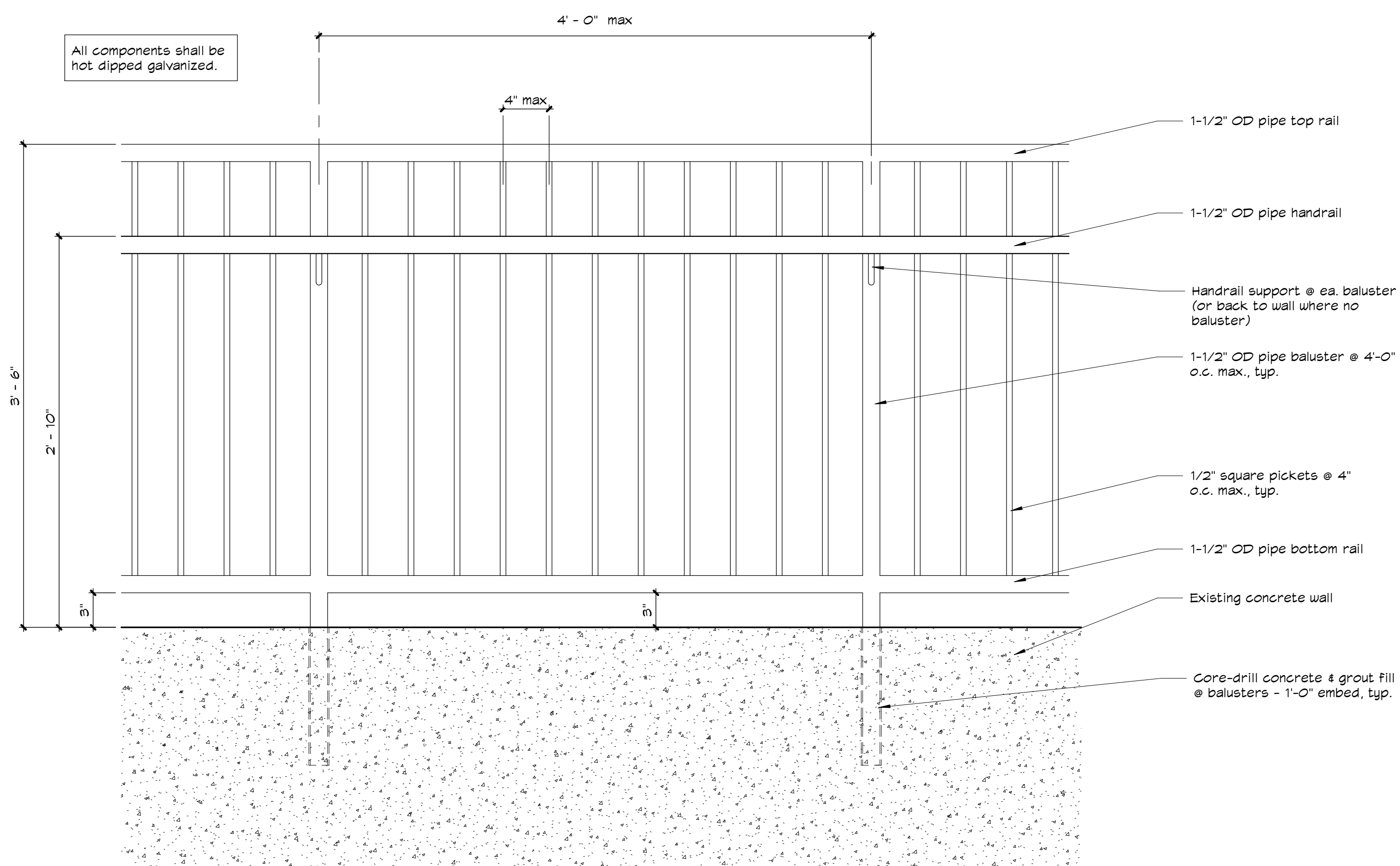


3 ADA Lav Detail1
A 6.2 1" = 1'-0"

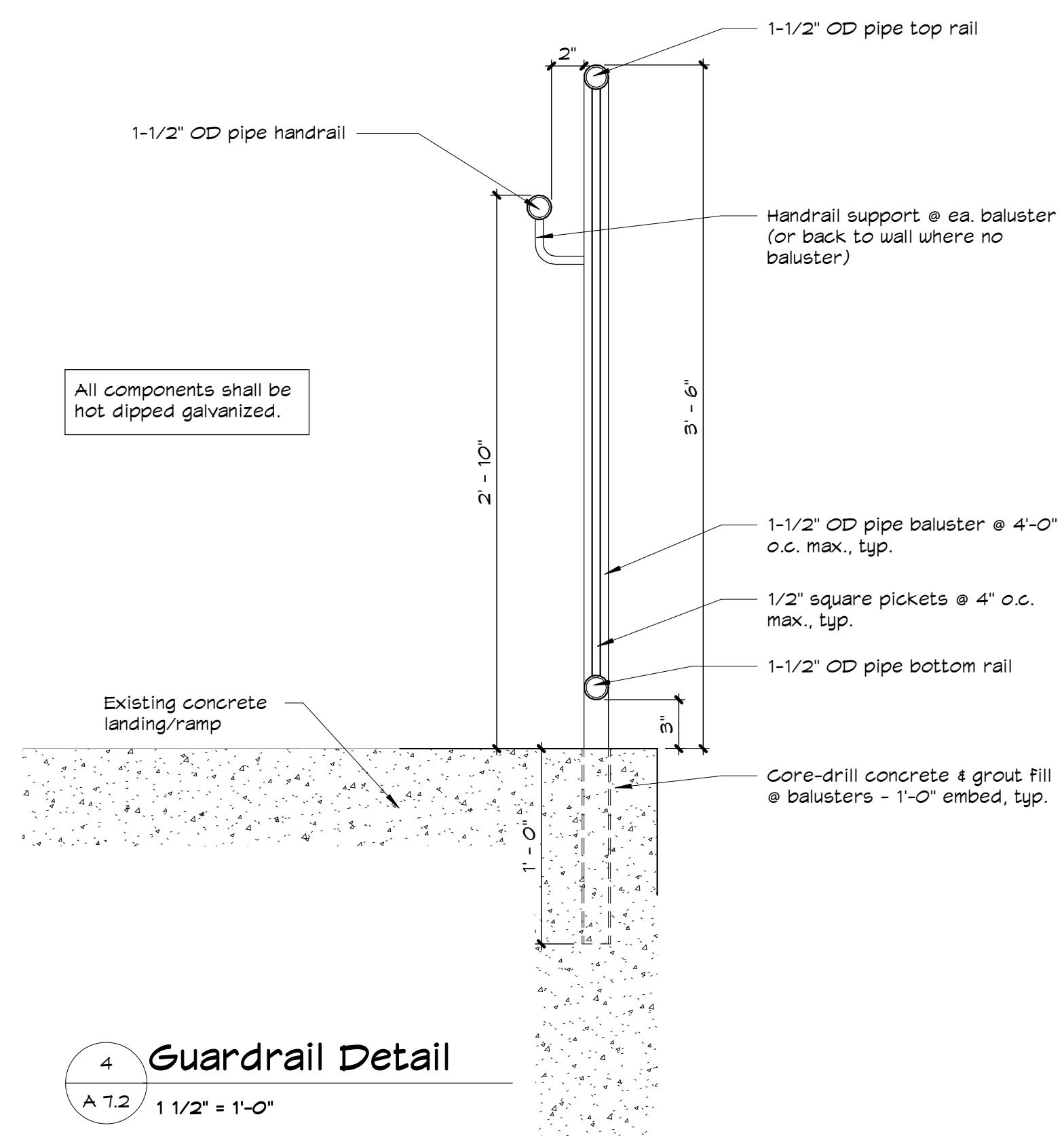


4 High/Lo Water Cooler
A 6.2 1" = 1'-0"





3 Landing Detail
 A 7.2 1 1/2" = 1'-0"



4 Guardrail Detail
 A 7.2 1 1/2" = 1'-0"

NOTE:
 Contractor to submit shop drawings to Architect before commencing with fabrication of guard rails and/or hand rails.

PRELIMINARY - NOT FOR CONSTRUCTION

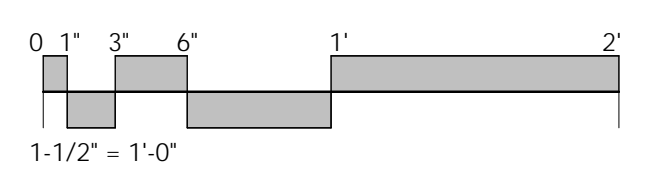
PROJECT INFORMATION:

Project Name:
Storage Five Cranston, LLC

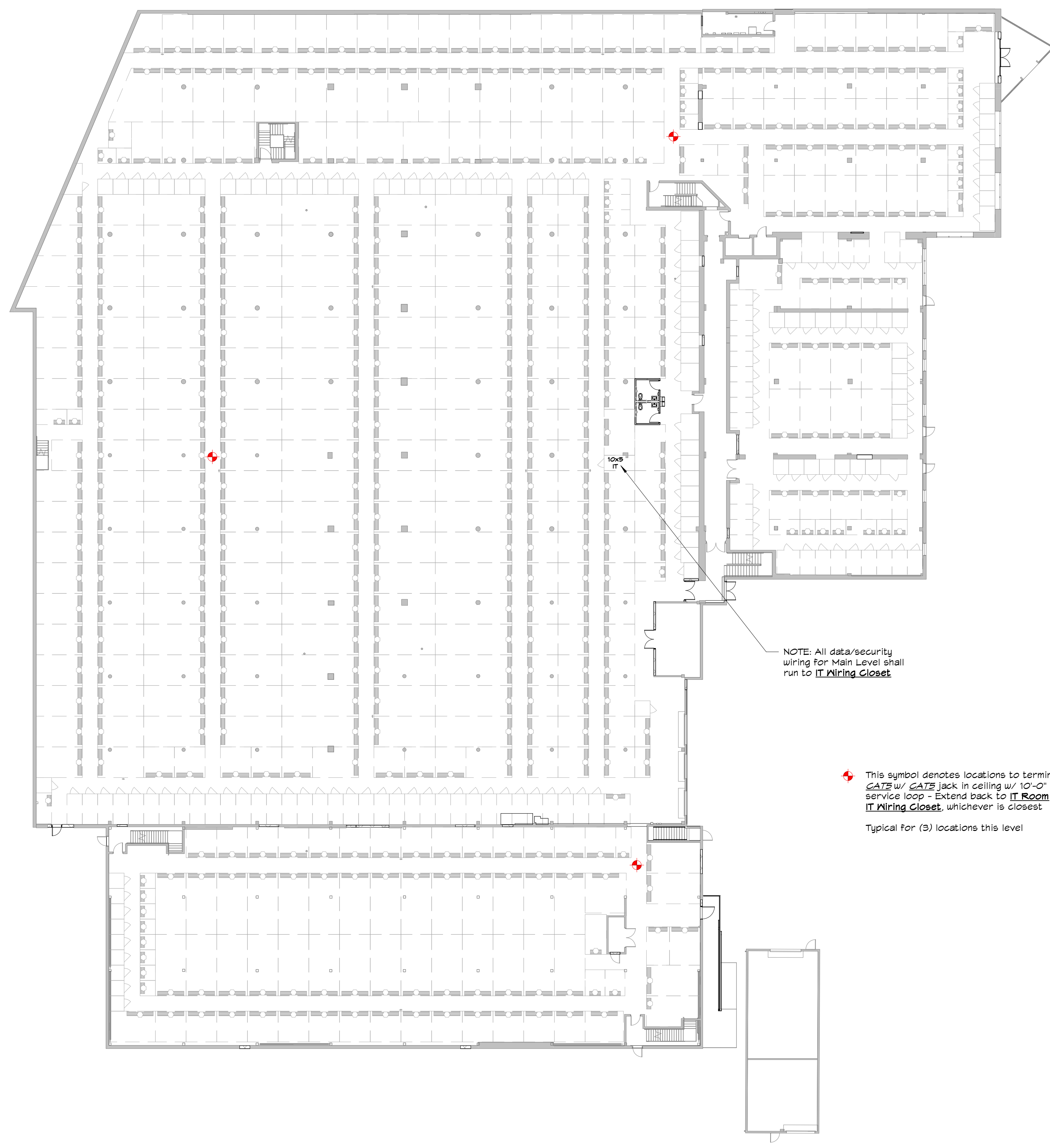
Project Address:
 1 Kenney Drive
 Cranston, Rhode Island 02920

Project Number:
 23127

Drawn By:	WCE
Date:	9.20.2024
#	Revision Date:



**PRELIMINARY -
NOT FOR
CONSTRUCTION**



NOTE: All data/security wiring for Main Level shall run to IT Wiring Closet

This symbol denotes locations to terminate CAT5 w/ CAT5 jack in ceiling w/ 10'-0" service loop - Extend back to IT Room or IT Wiring Closet, whichever is closest
Typical for (3) locations this level

1 Main Level Renovated L/V Plan
A 8.1 3/64" = 1'-0"

PROJECT INFORMATION:
Project Name:

**Storage Five
Cranston, LLC**

PRELIMINARY

Project Address:

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Cranston, Rhode Island 02920

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Architect**

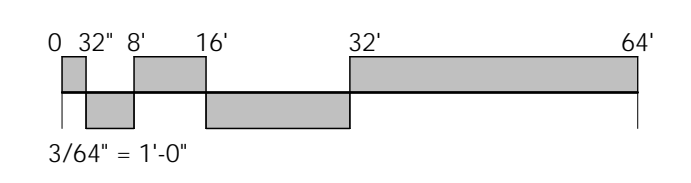
55 North 1st Street - Suite 300
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Sheet Name

**MAIN LEVEL
RENOVATED L/V
PLAN**

Sheet Number

A 8.1



**PRELIMINARY -
NOT FOR
CONSTRUCTION**

PROJECT INFORMATION:

Project Name:
**Storage Five
Cranston, LLC**

PRELIMINARY

Project Address:
1 Kenney Drive
Cranston, Rhode Island 02920

Project Number:
23127

Drawn By:
WCE & MTD

Date:
9.20.2024

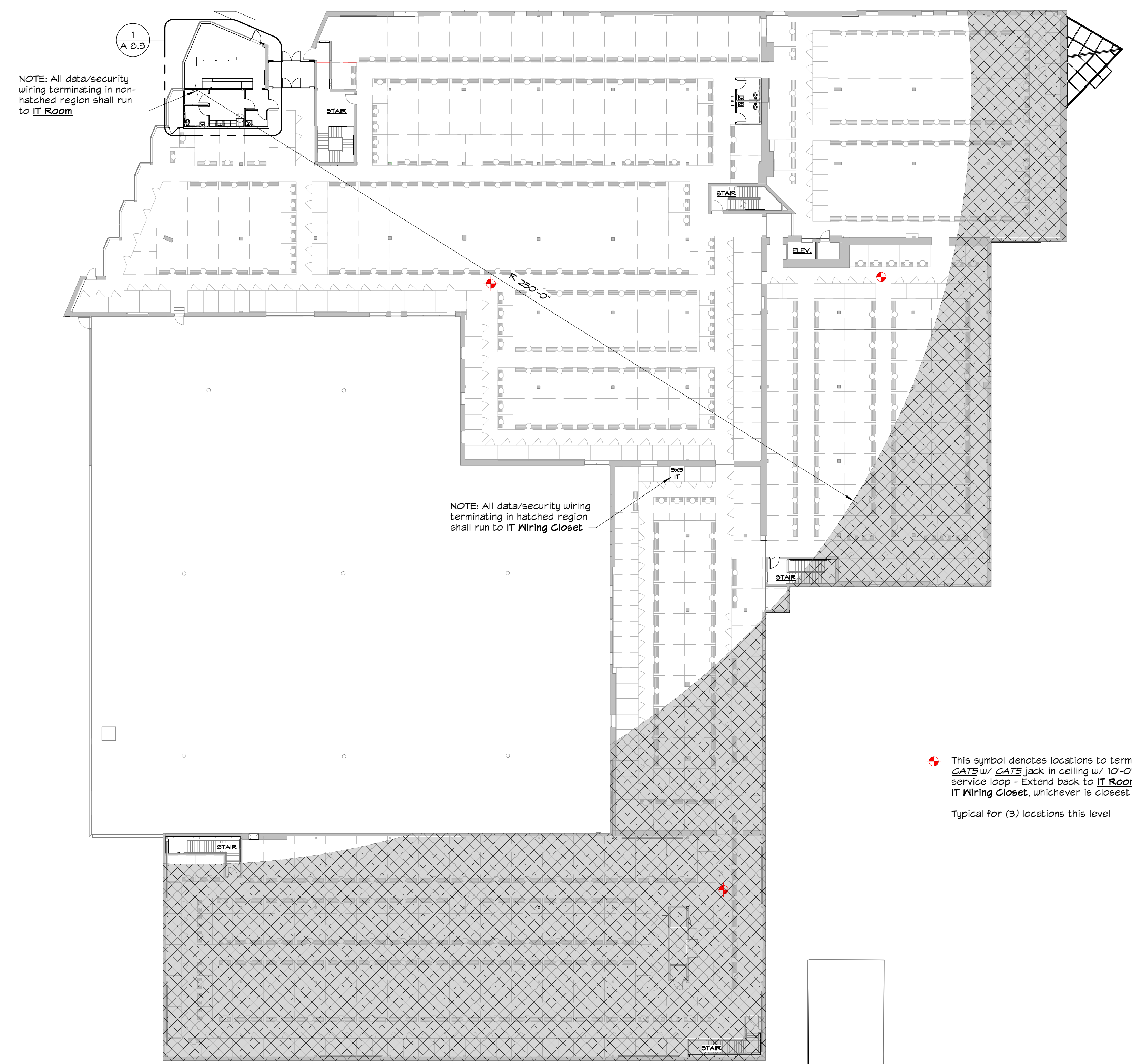
#	Revision Date:

**Jonathan W. Clark,
Architect**

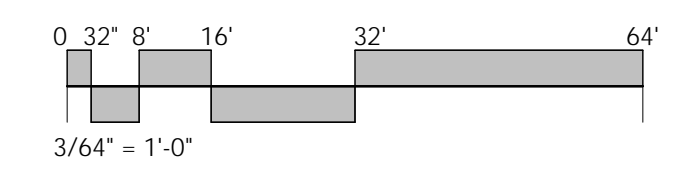
55 North 1st Street - Suite 300
Clarksville, Tennessee 37040
p - 931.552.3860
e - jon@clarkarchitecture.com

Sheet Name
**UPPER LEVEL
RENOVATED L/V
PLAN**

Sheet Number
A 8.2



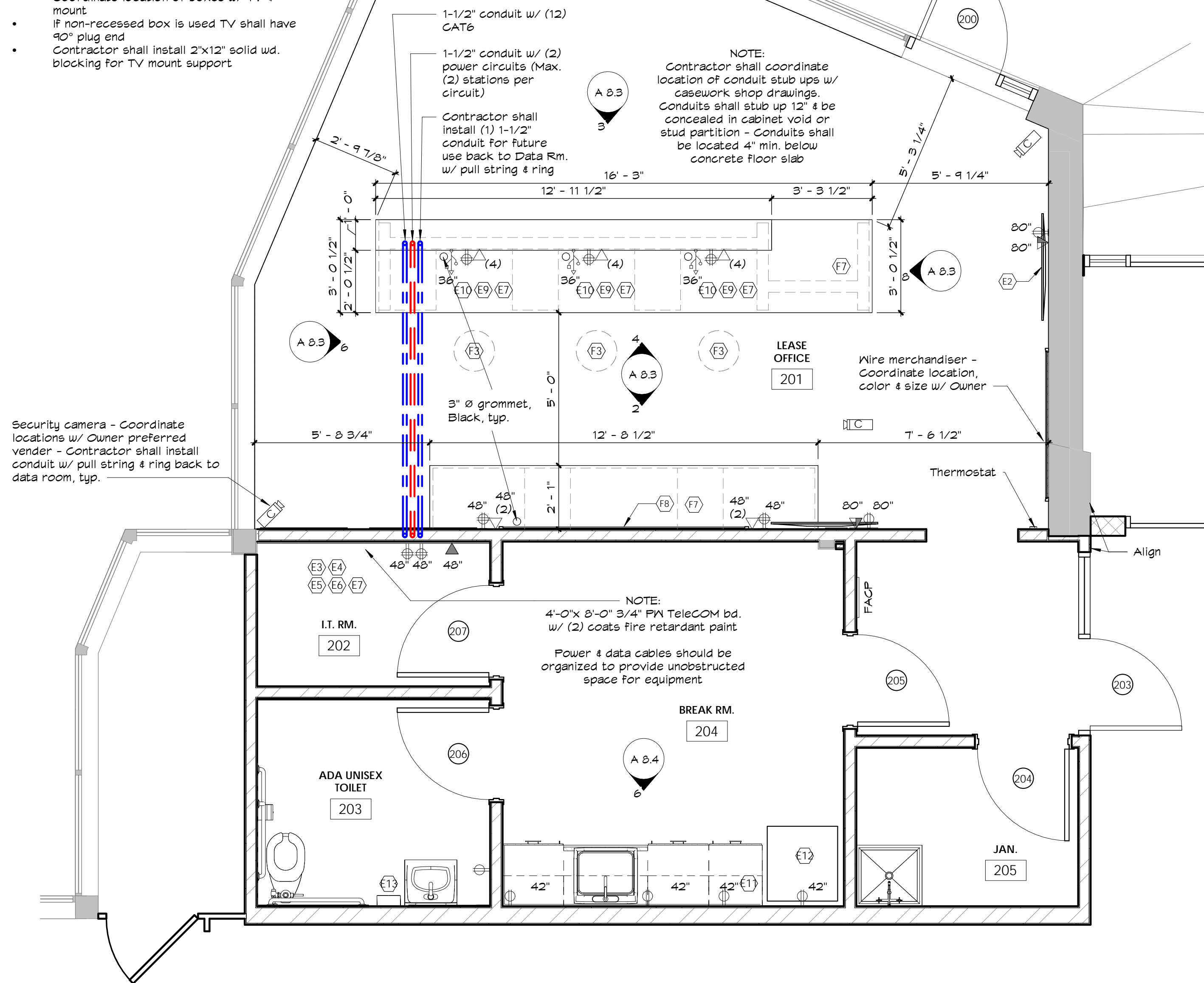
1 Upper Level Renovated L/V Plan
A 8.2 3/64" = 1'-0"



NOTE:
See Electrical drawings for general power distribution & lighting plans

Typ. at each E2 location -

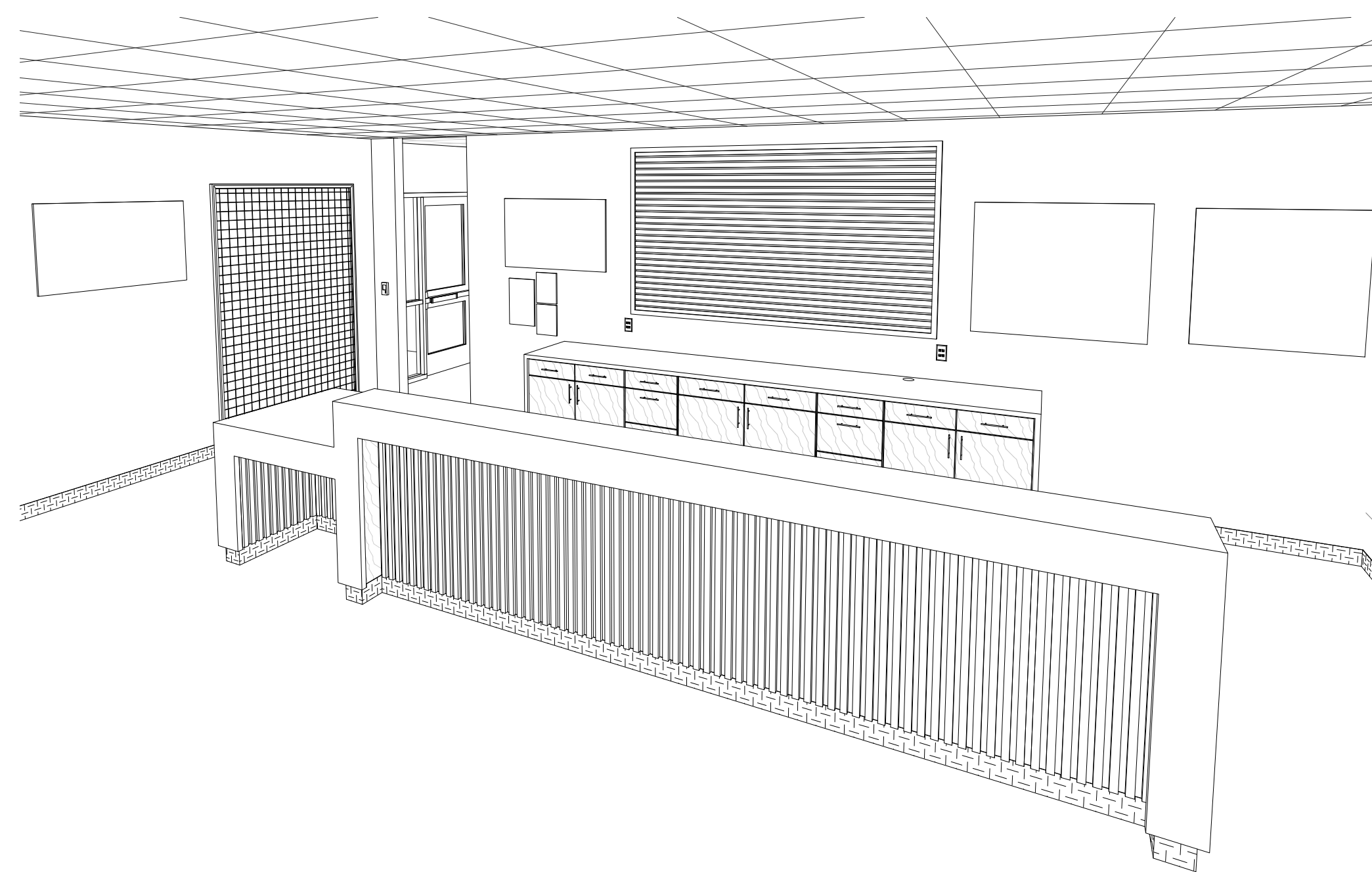
- Provide single-gang box w/ duplex receptacle
- Provide double gang box w/ single gang mud ring for (2) data ports, (1) HDMI port & route back to Data Rm
- Coordinate location of boxes w/ TV & mount
- If non-recessed box is used TV shall have 30° plug end
- Contractor shall install 2"x12" solid wd. blocking for TV mount support



1 Enlarged Plan - Lease F&E Plan

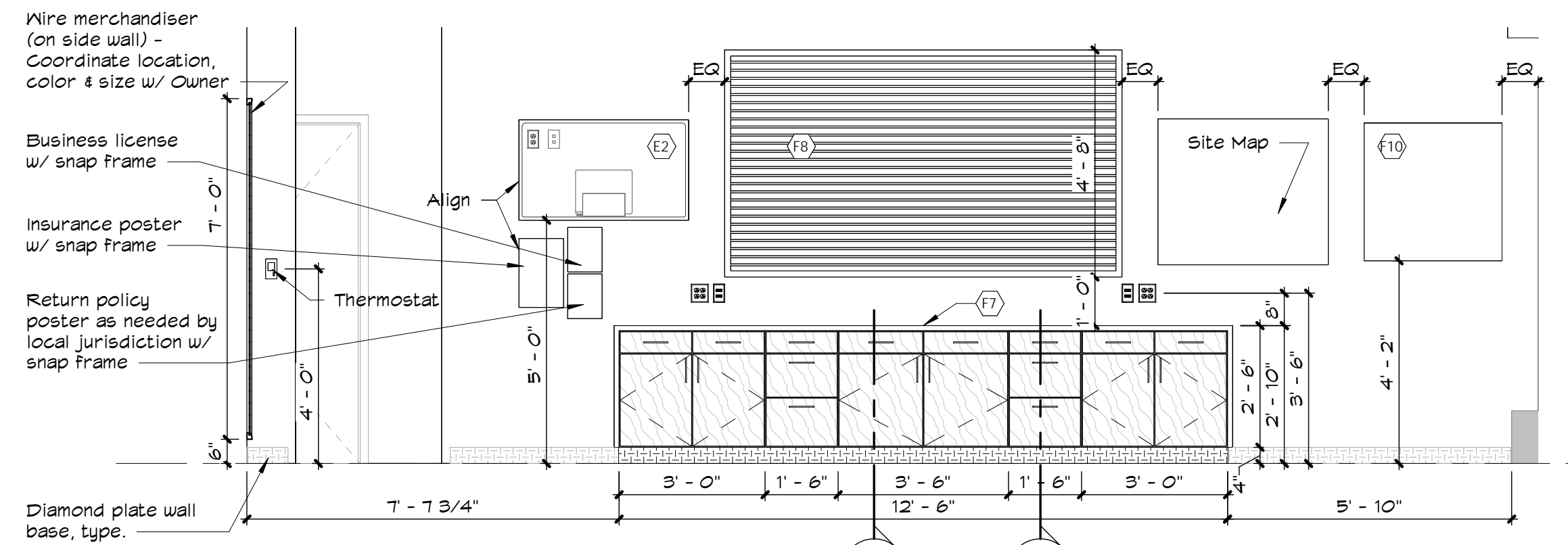
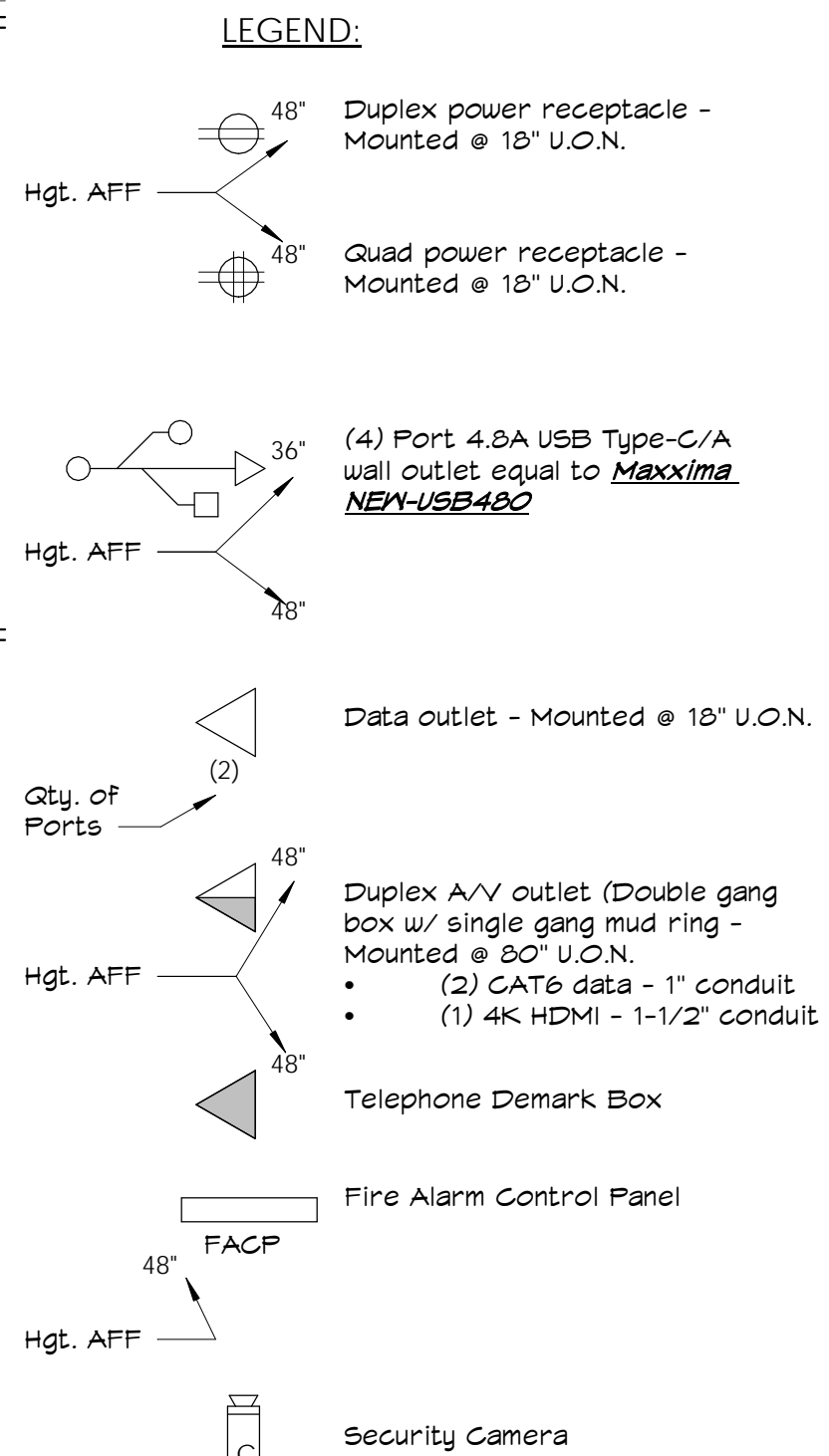
A 8.3 3/8" = 1'-0"

EQUIPMENT / FURNITURE SCHEDULE		
ITEM NO.	DESCRIPTION	NOTE
E1	DVR	BY OWNER PREFERRED VENDER
E2	MONITOR	BY OWNER PREFERRED VENDER
E3	GATE ACCESS CONTROL	BY OWNER PREFERRED VENDER
E4	WIRELESS	BY OWNER PREFERRED VENDER
E5	ROUTER	BY OWNER PREFERRED VENDER
E6	MODEM	BY OWNER PREFERRED VENDER
E7	POWER SURGE PROTECTOR	BY OWNER PREFERRED VENDER
E8	PRINTER / FAX	BY OWNER PREFERRED VENDER
E9	CPU / MONITOR	BY OWNER PREFERRED VENDER
E10	IPAD	BY OWNER PREFERRED VENDER
E11	MICROWAVE	BY OWNER PREFERRED VENDER
E12	REFRIGERATOR	BY OWNER PREFERRED VENDER
E13	HAND DRYER	DYSON AIRBLADE V W/ SS BACK PLATE
F3	EMPLOYEE STOOL	BY OWNER PREFERRED VENDER
F7	LEASE COUNTER	AS DETAILED - PROVIDE SHOP DRAWINGS
F8	ARTIFACT PANEL	BY OWNER PREFERRED VENDER
F10	MARKETING PANEL	BY OWNER PREFERRED VENDER
F11	BOX RACK	BY OWNER PREFERRED VENDER



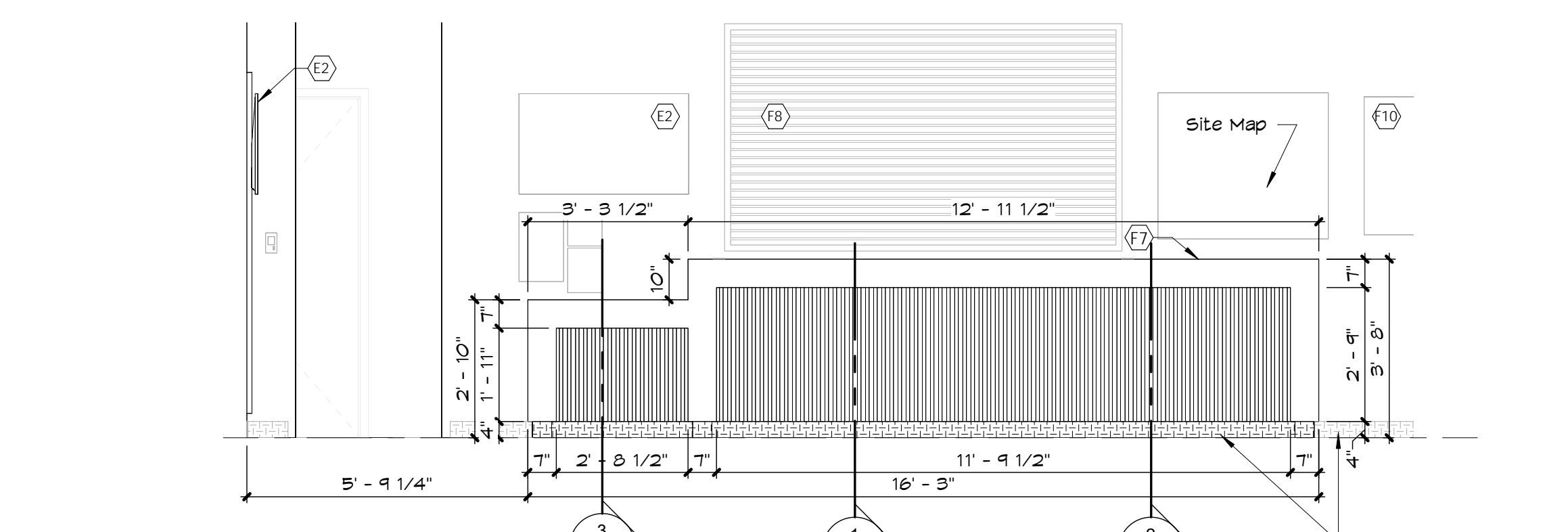
5 Lease Office 3d View

A 8.3



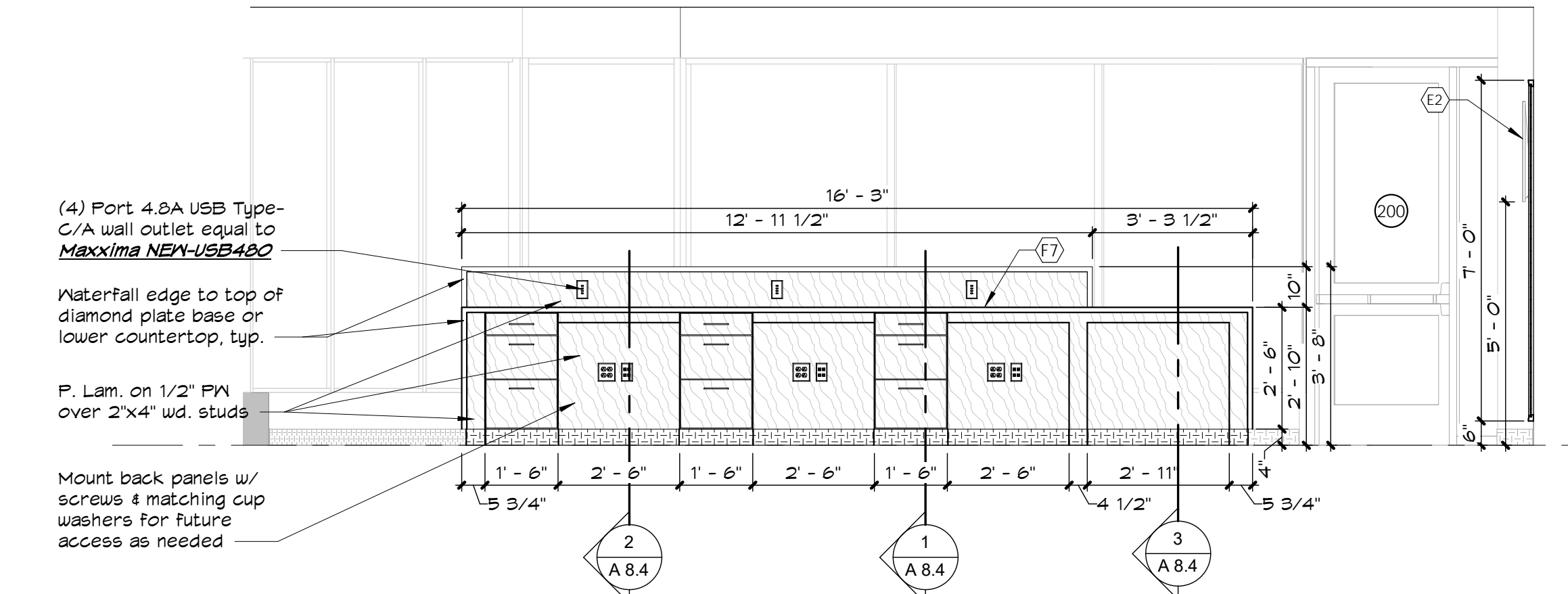
2 Interior Elevation

A 8.3 3/8" = 1'-0"



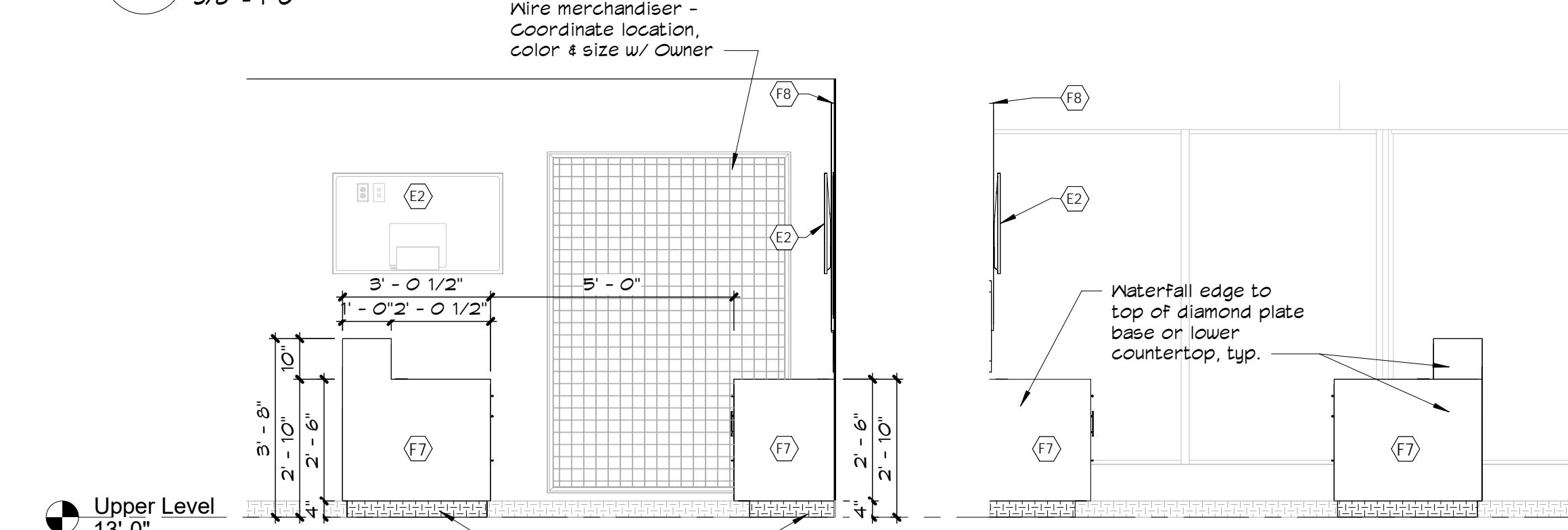
3 Interior Elevation

A 8.3 3/8" = 1'-0"



4 Interior Elevation

A 8.3 3/8" = 1'-0"



6 Interior Elevation

A 8.3 3/8" = 1'-0"

8 Interior Elevation

A 8.3 3/8" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:

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Storage Five Cranston, LLC

PRELIMINARY

Project Address:

1 Kenney Drive
Cranston, Rhode Island 02920

Project Number:

23127

Drawn By:

WCE & MITD

Date:

9.20.2024

Revision Date:

Jonathan W. Clark, Architect

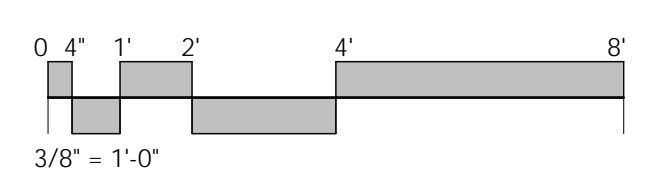
55 North 1st Street - Suite 300
Clarksville, Tennessee 37040
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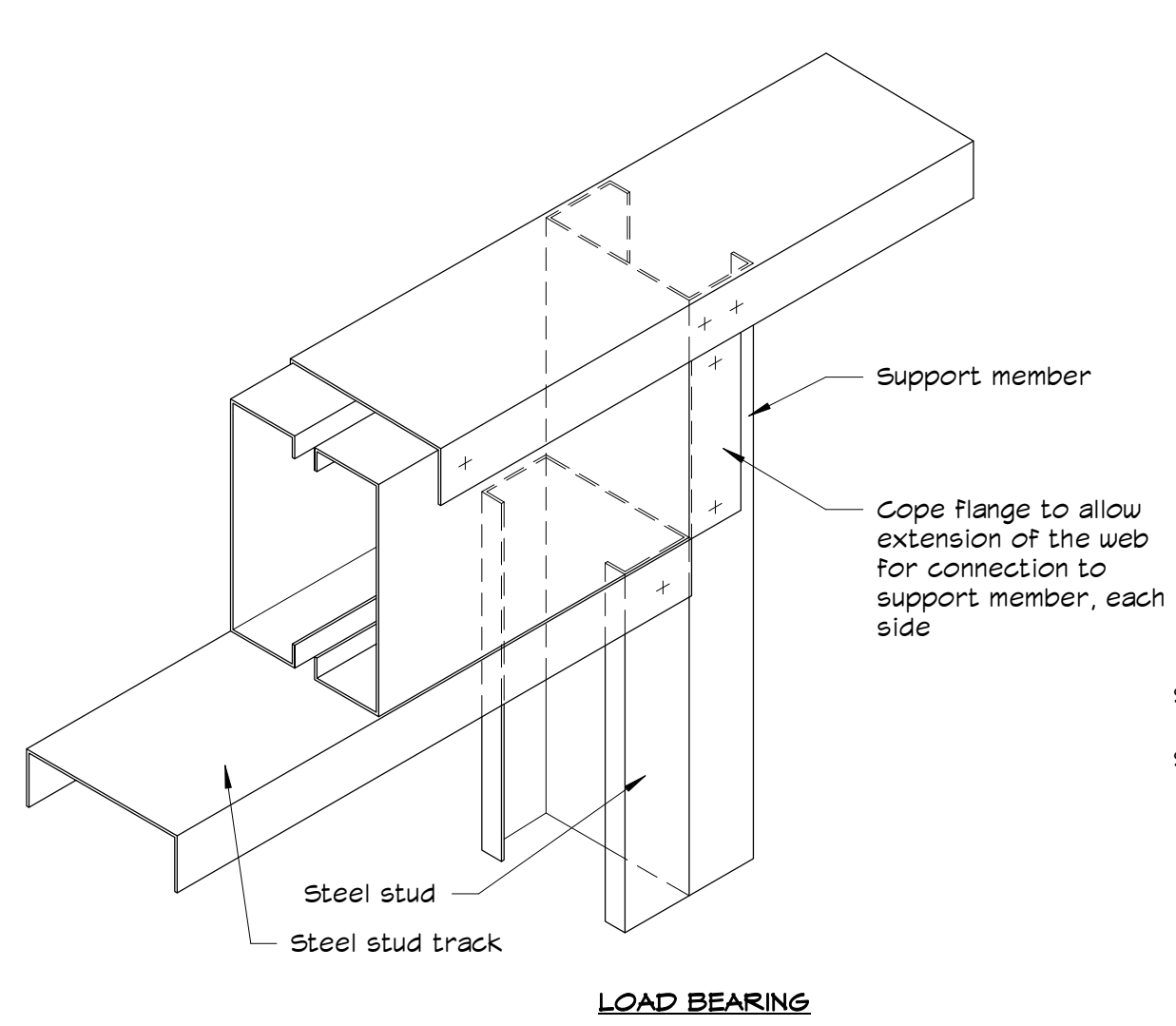
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ENLARGED FLOOR PLAN - LEASING OFFICE

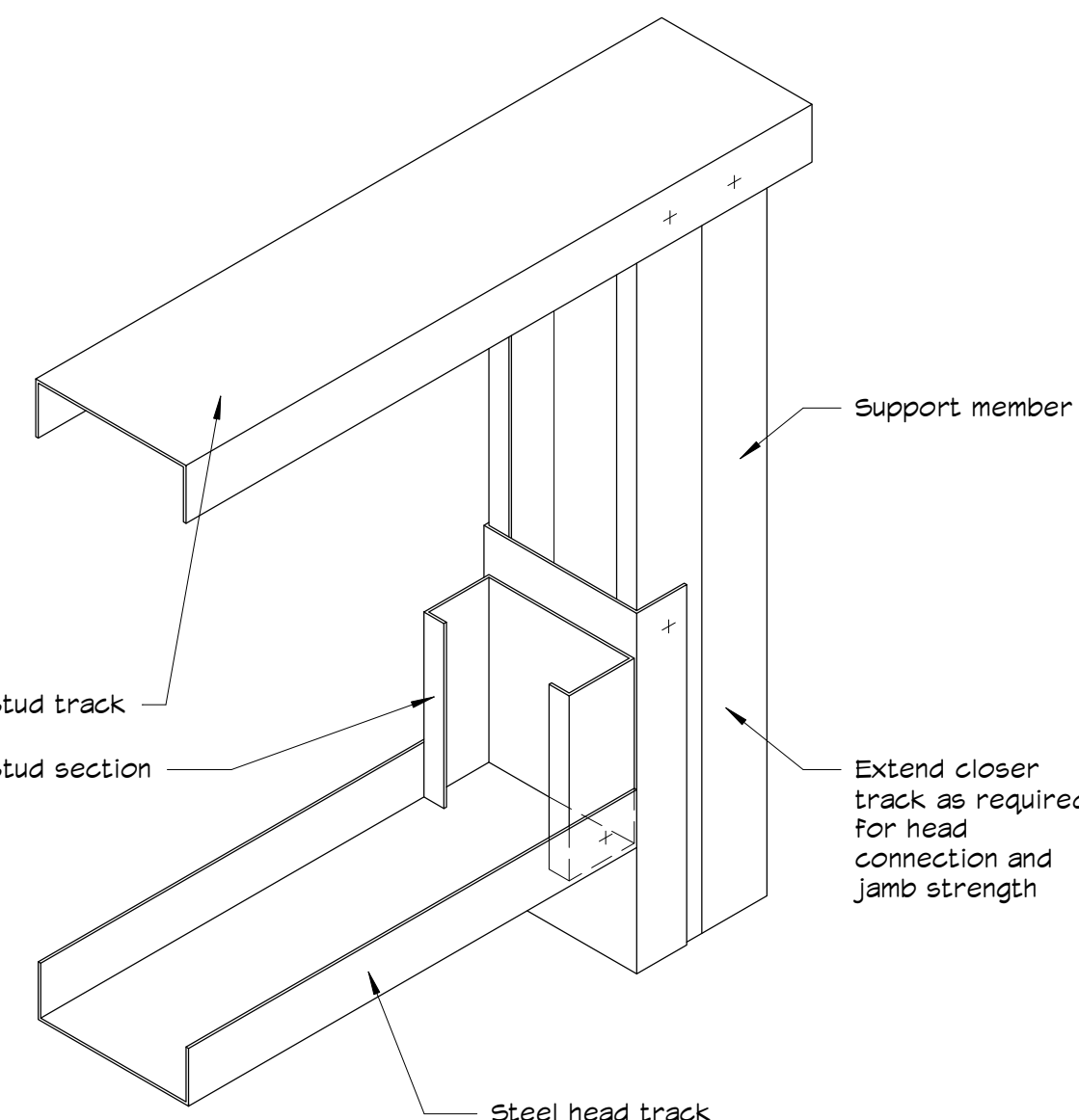
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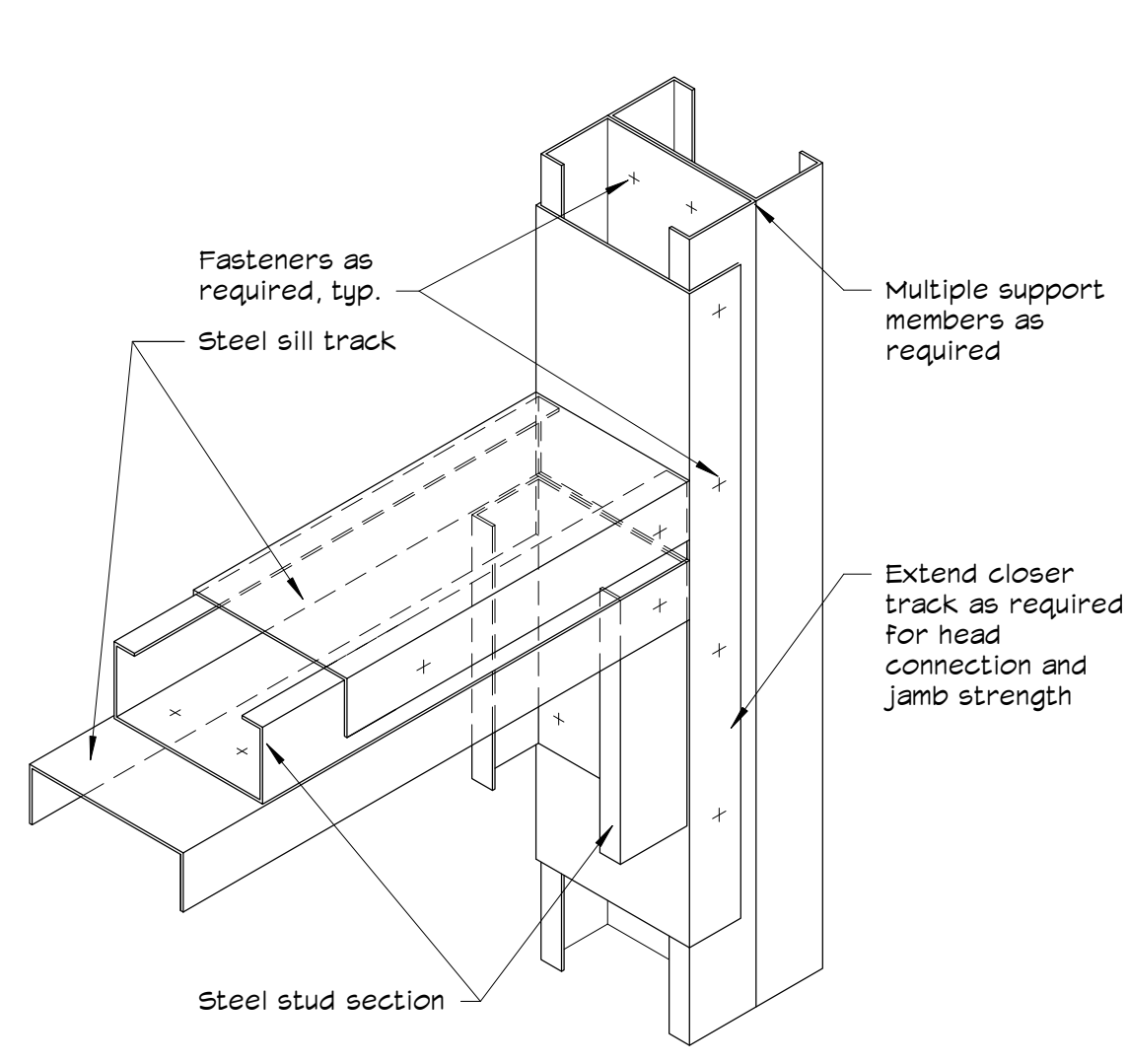




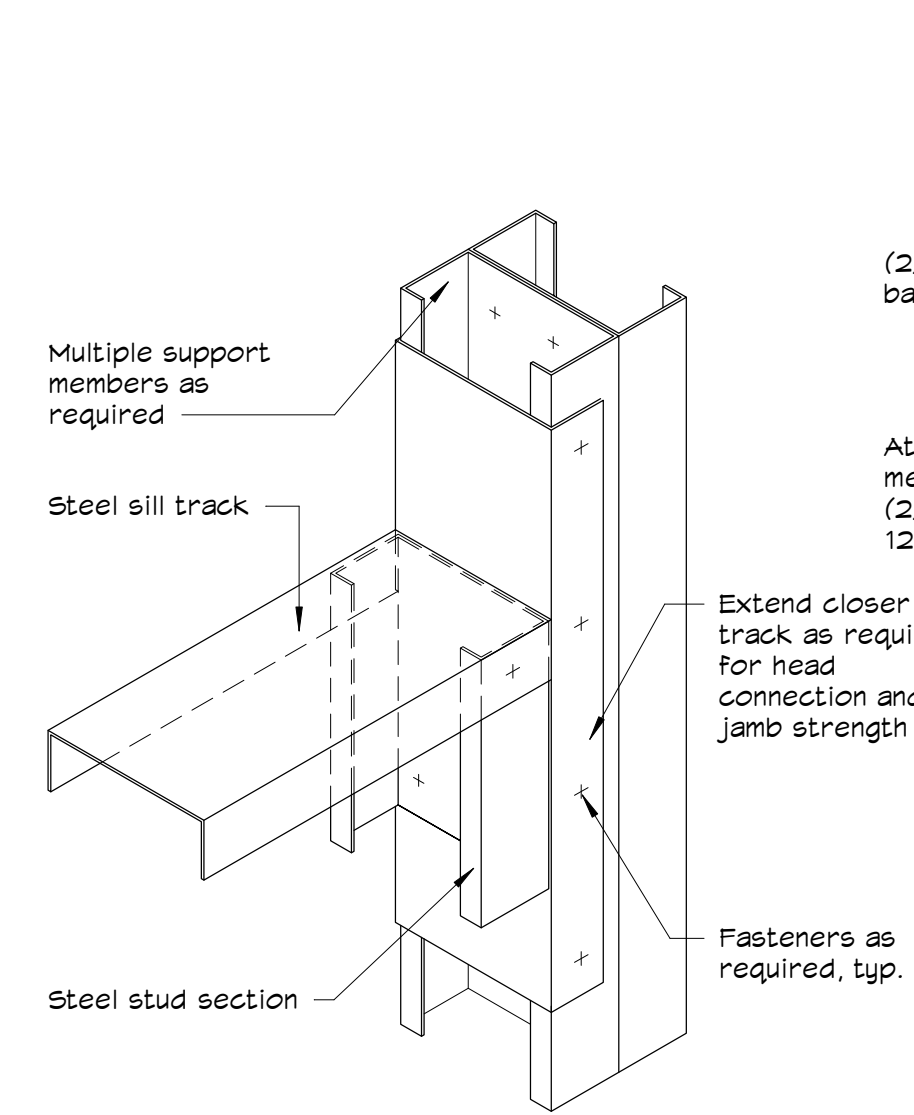
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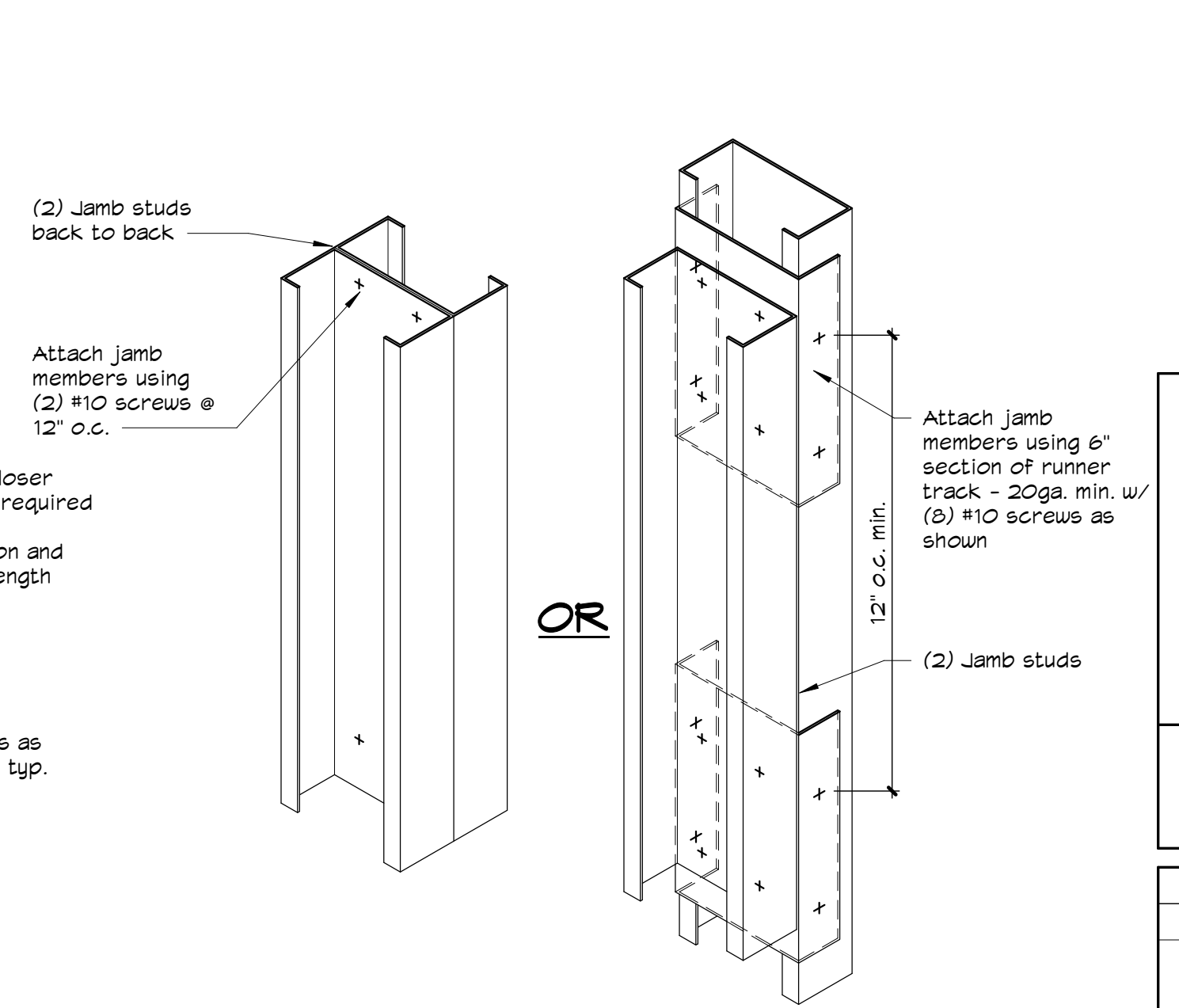
2 Typ Header Opening
A 9.1 Not to Scale



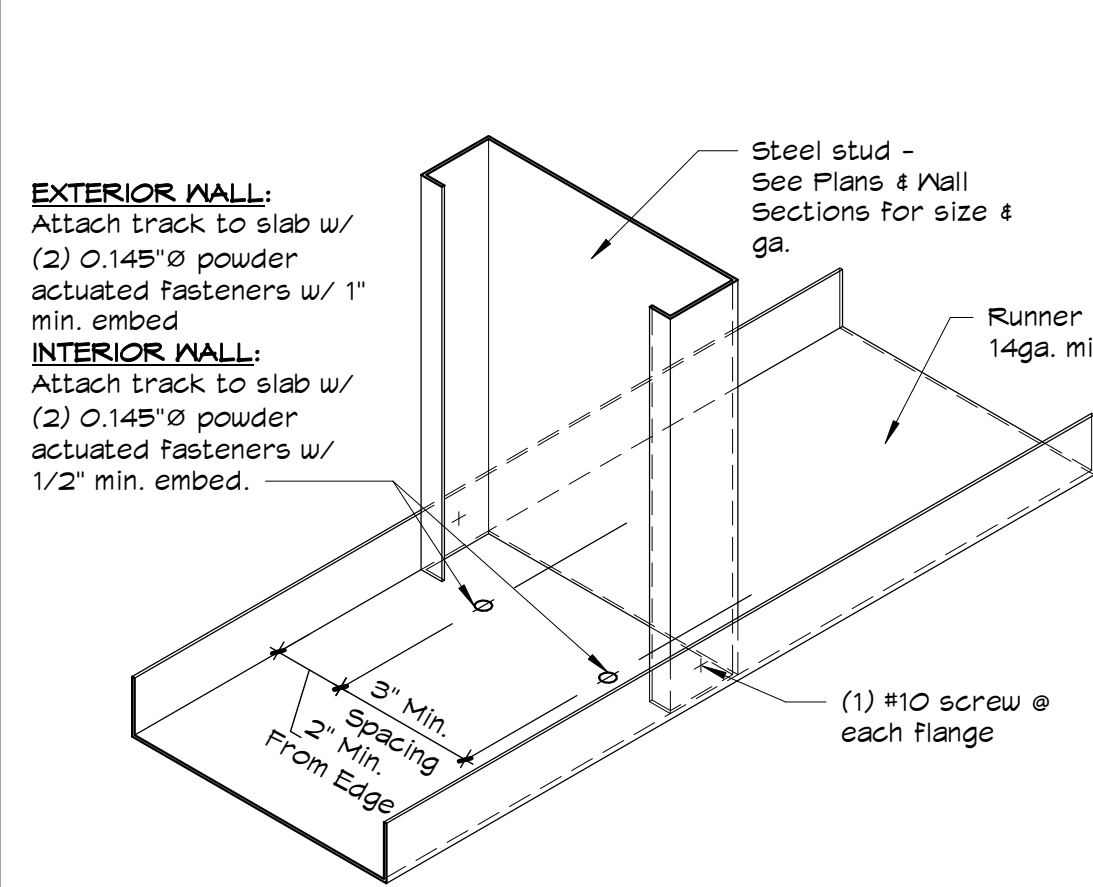
3 Long Span Sill Connection
A 9.1 Not to Scale



4 Short Span Sill Connection
A 9.1 Not to Scale

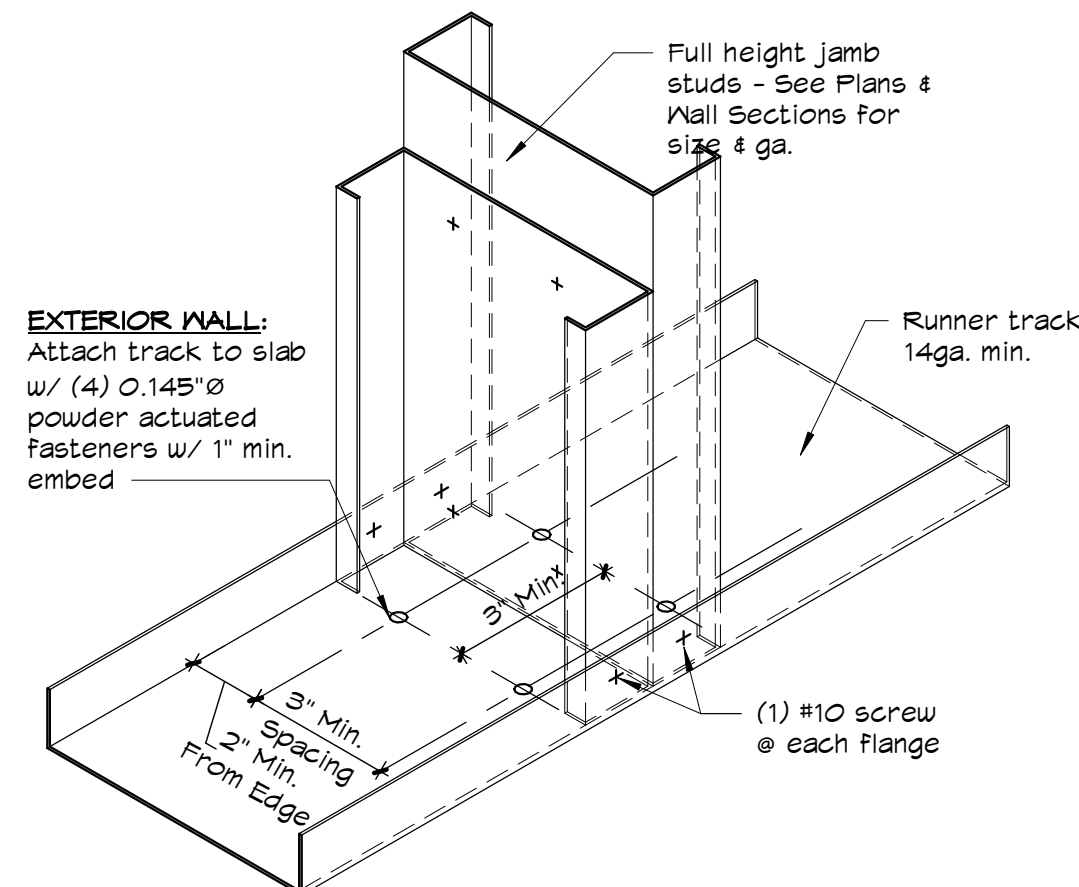


5 Tied Jamb Studs
A 9.1 Not to Scale



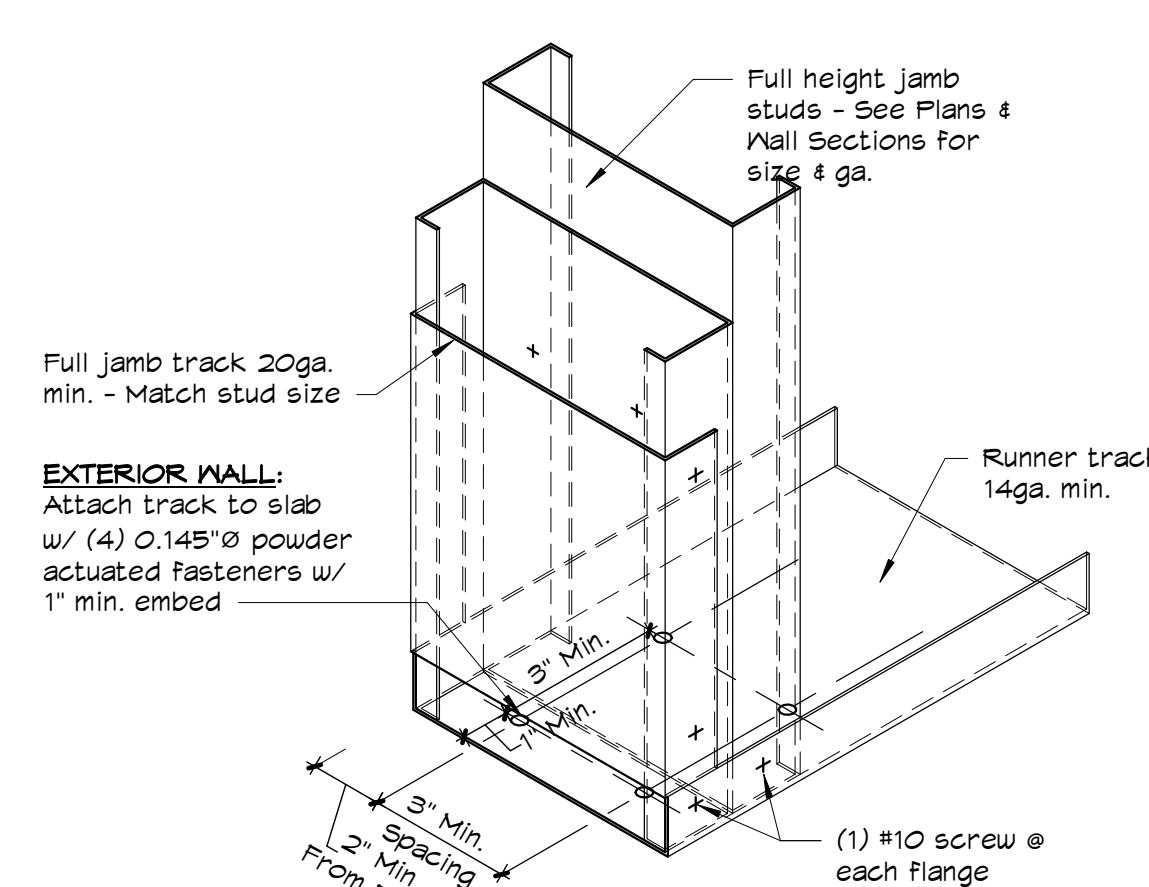
NOTE: Load bearing studs must be seated tight to track web

6 Stud to Track
A 9.1 Not to Scale



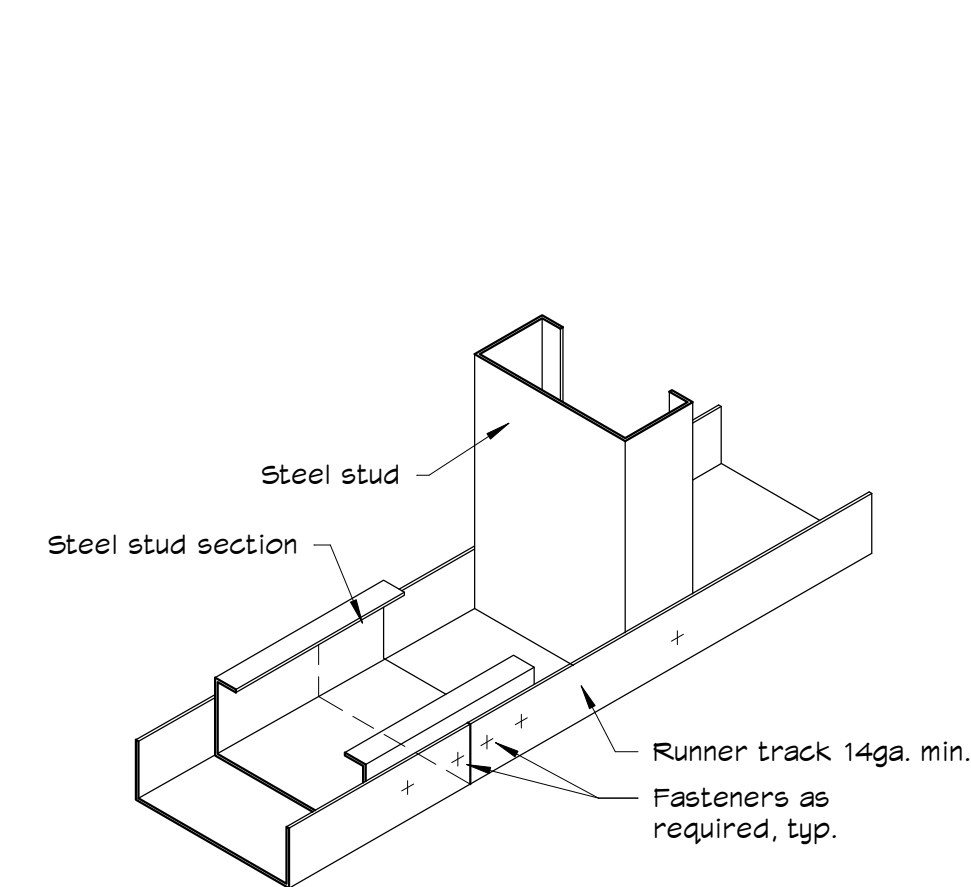
NOTE: Load bearing studs must be seated tight to track web

7 Window Jamb Anchorage
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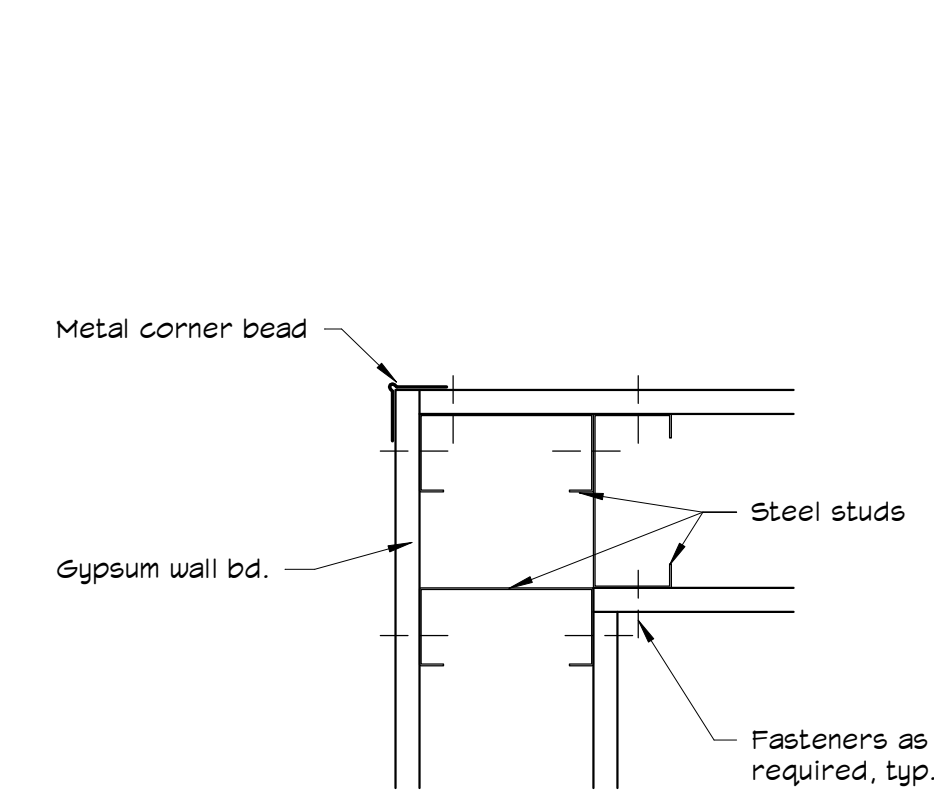


NOTE: Load bearing studs must be seated tight to track web

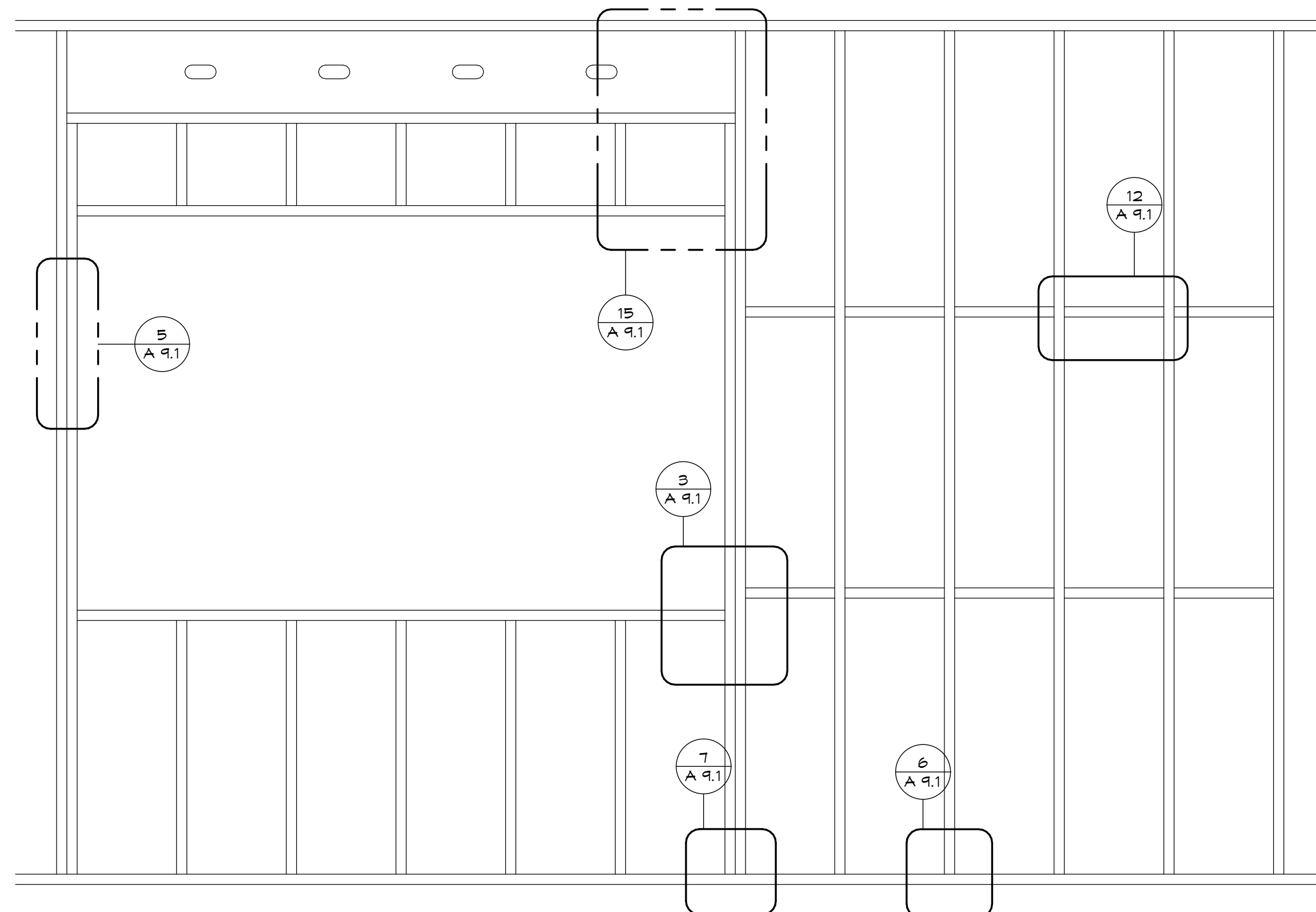
8 Door Jamb Anchorage
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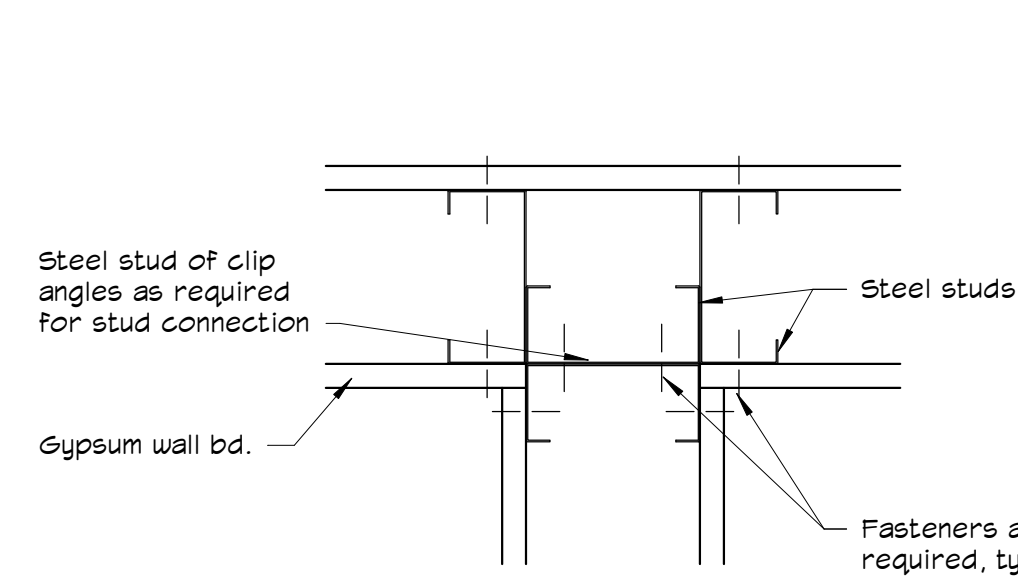
9 Track Splice
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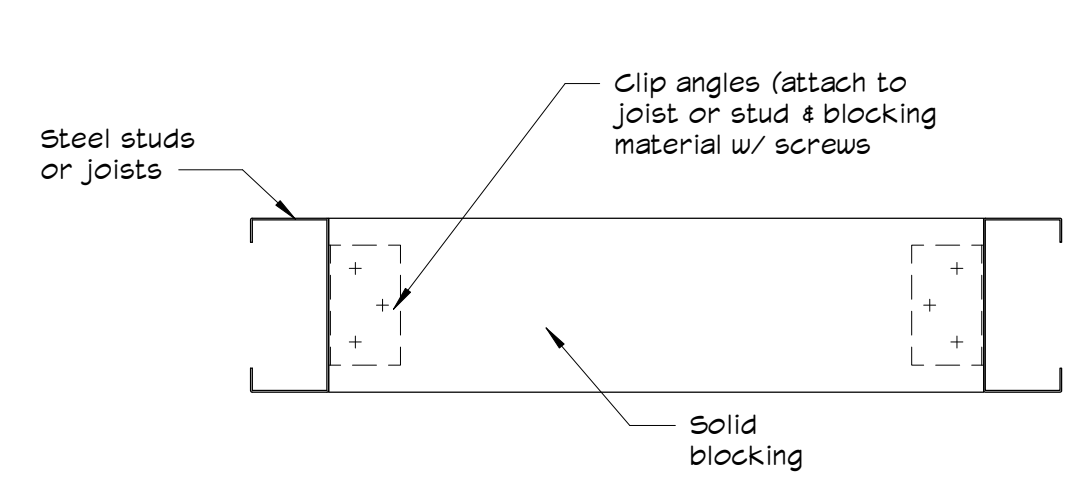
10 Corner Framing
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13 Load Bearing Wall Framing
A 9.1 Not to Scale

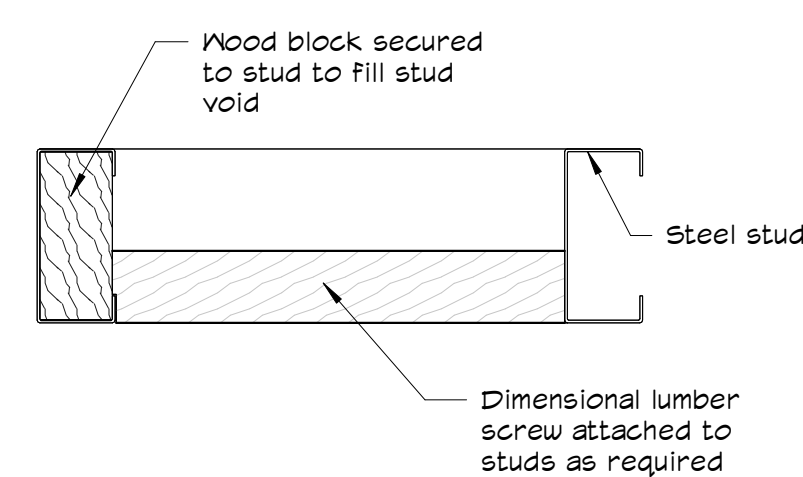


11 Wall Intersection Framing
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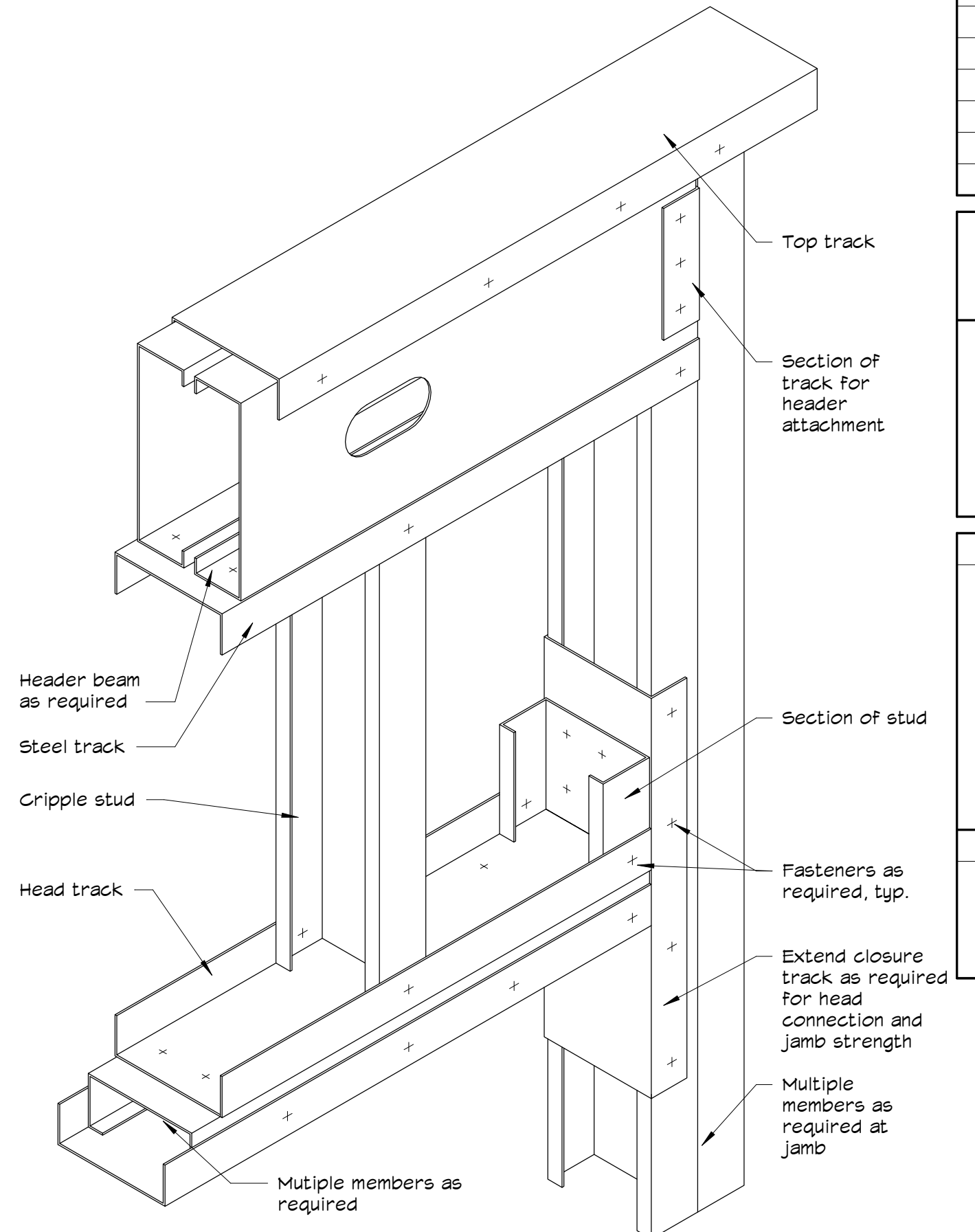


NOTE: Where blocking material thickness allows, notch & bend track 90 degrees for connections. Where provisions are made for transfer of flange forces to solid blocking, blocking need not be the full depth of the member.

12 Solid Blocking
A 9.1 Not to Scale



14 Heavy Fixture Attachment
A 9.1 Not to Scale



15 Load Bearing Wall Opening
A 9.1 Not to Scale

PRELIMINARY - NOT FOR CONSTRUCTION

PROJECT INFORMATION:

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WCE
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9.20.2024

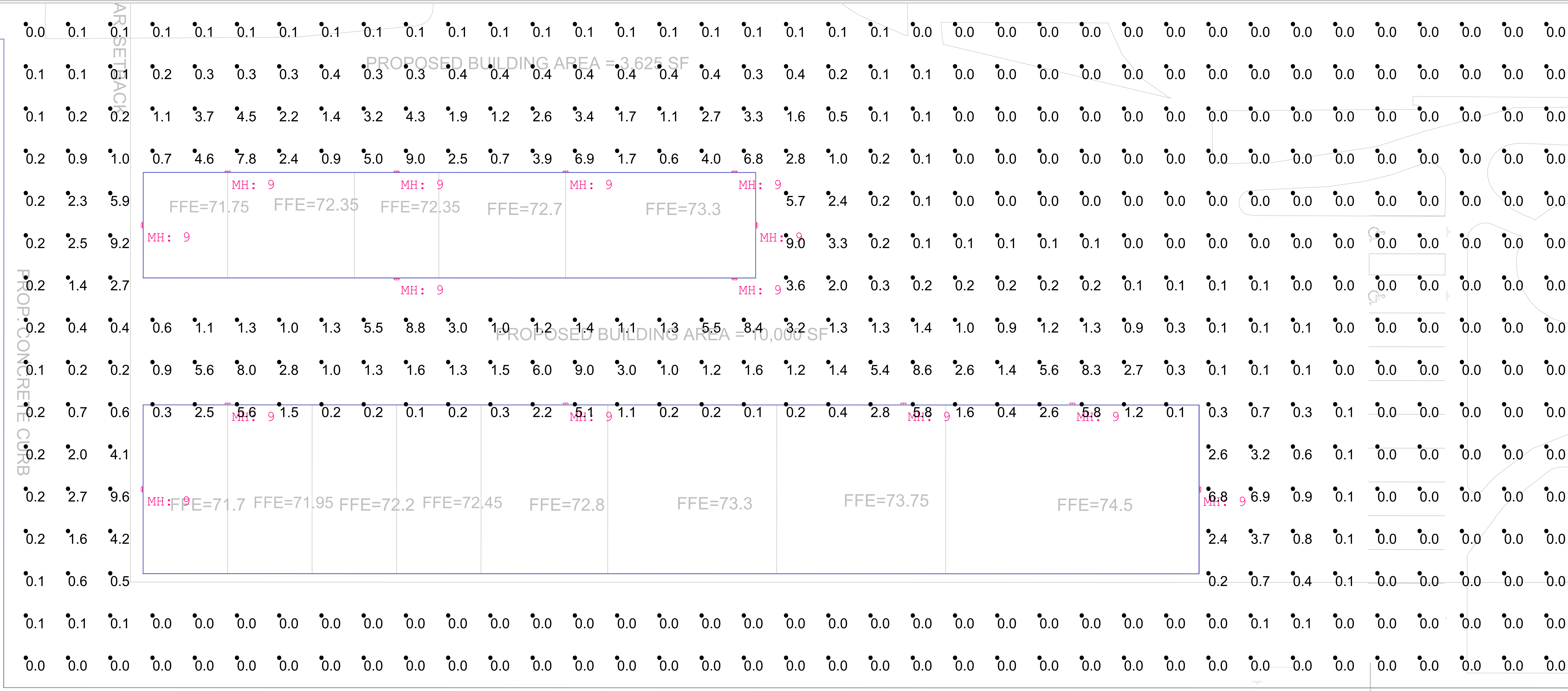
Revision Date:

Jonathan W. Clark, Architect

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Clarksville, Tennessee 37040
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Sheet Name
TYPICAL STEEL STUD FRAMING DETAILS

Sheet Number
A 9.1



Layout designs are based on information provided by the client and are only to be used as USLED recommendations for luminaire placement. Determination of luminaire application within existing or new field conditions is the responsibility of the engineer and/or architect.
 The illumination level calculations within this layout are of those luminaires that have been laboratory tested under controlled conditions in accordance with Illuminating Engineering Society standard practices. Performance of any USLED luminaire may vary based on any varying field conditions. Unless otherwise noted, calculations do not include landscaping, buildings, curbs, or any other architectural elements which may alter the results.

LL-18216-R-0 (EN EXT).AGI

Date:9/25/2024

Project Name:Storage Five - Rhode Island

Prepared For: National LED

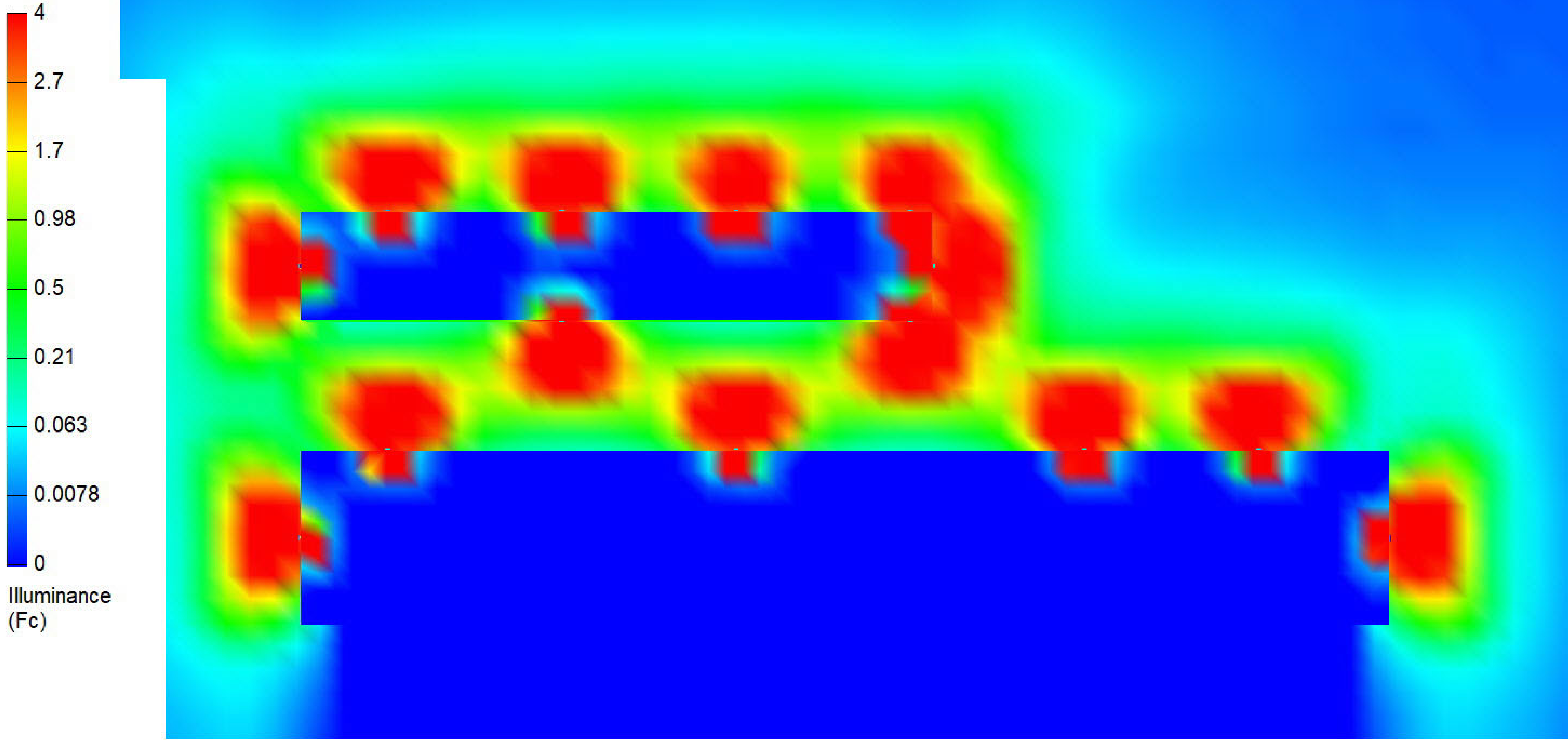
Page 1 of 2 Completed By:Lapp

6807 Portwest Drive
 Houston, TX 77024



Luminaire Schedule								
Symbol	Qty	Label	Arrangement	LLF	Lum. Watts	Total Watts	Lum. Lumens	MH
↓	14	ULFC1-1-UNVL-50-40-BZ	SINGLE	0.963	39.4943	552.9202	6642	9'

Calculation Summary @ GRADE - Calculation Points = 10'x10'						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
ground_Planar	Fc	0.64	9.6	0.0	N.A.	N.A.



Layout designs are based on information provided by the client and are only to be used as USLED recommendations for luminaire placement. Determination of luminaire application within existing or new field conditions is the responsibility of the engineer and/or architect. The illumination level calculations within this layout are of those luminaires that have been laboratory tested under controlled conditions in accordance with Illuminating Engineering Society standard practices. Performance of any USLED luminaire may vary based on any varying field conditions. Unless otherwise noted, calculations do not include landscaping, buildings, curbs, or any other architectural elements which may alter the results.

LL-18216-R-0 (EN EXT).AGI
 Date:9/25/2024
 Project Name:Storage Five - Rhode Island
 Prepared For:National LED

6807 Portwest Drive
 Houston, TX 77024



STORMWATER MEMORANDUM

**STORAGE FIVE CRANSTON
1 KENNEY DRIVE & O SHARPE STREET
CRANSTON, RHODE ISLAND 02920**

Applicant:

**STORAGE FIVE CRANSTON, LLC.
P.O BOX 1042
SEABROOK, TX 77586**

Prepared By:

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
31 BELLOWS ROAD
RAYNHAM, MASSACHUSETTS 02767**

CEC Project 342-782

SEPTEMBER 2024



Civil & Environmental Consultants, Inc.

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2.2	Description of Runoff Controls	5
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3.3	Results of Analysis	9
4.0	CONCLUSION	10

FIGURES

Figure 1 – Site Locus

Figure 2 – Aerial Exhibit

Figure 3 – FEMA FIRMette

Figure 4 – NHESP Map

Figure HYD-EX – Existing Conditions Drainage Area Map

Figure HYD-PR – Proposed Conditions Drainage Area Map

APPENDICES

Appendix A – Geotechnical Information

- NRCS Custom Soil Resource Report

Appendix B – Supporting Calculations

- HydroCAD Drainage Analysis
- Water Quality Volume Calculations
- Groundwater Recharge Calculations

Appendix C – Operations and Maintenance (O&M) Plans

- Construction Period Pollution Prevention and Sedimentation and Erosion Control Plan
- Operations and Maintenance (O&M) Plan

1.0 PROJECT NARRATIVE

1.1 INTRODUCTION

On behalf of Storage Five Development (the “Applicant”), Civil & Environmental Consultants, Inc. (CEC) has prepared this stormwater memorandum and analysis to demonstrate compliance with the Rhode Island Department of Environmental Management (RIDEM) Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8) and City of Cranston Requirements for redevelopment projects.

The Applicant is proposing to redevelop an existing portion of impervious area within the subject parcel, Parcel 13-50-01, as identified by the City of Cranston Assessor’s office, located at 1 Kenney Drive in Cranston, Rhode Island (the “Site”). It’s important to note that the existing Site is comprised of three parcels (13-5-00, 13-50-01, 13-67-00), which are proposed to be subdivided into two parcels, Parcel A and Parcel B where the proposed redevelopment occurs on proposed Parcel A (the subject parcel). While the subject parcel totals approximately 6.67 acres, the proposed limit of disturbance is only approximately 1.40 acres. The proposed work includes the demolition of the existing southeast surface parking area and repaving to accommodate the construction of two self-storage facilities totaling ±13,625 GSF along with associated site, landscape, and drainage improvements (the “Project”). The project results in a net increase of pervious area and a net decrease of impervious area, providing an overall improvement to the existing site condition in addition to proposed drainage improvements to satisfy RIDEM’s redevelopment criteria.

This Stormwater Memorandum describes proposed design of the Site’s stormwater management system as depicted in the Development Plan Review Plan Set, prepared by CEC, dated September 25, 2024, provided under separate cover.

1.2 EXISTING CONDITIONS

The Site is located at 1 Kenney Drive in Cranston, Rhode Island, bounded to the west by Pontiac Ave, to the north by Kenney Drive, to the east by existing industrial property, and to the south existing industrial property. The site contains an existing 1 story masonry building that was previously home to the “Swarovski” offices along with associated parking, sidewalk, and landscape areas. See Figure 1 for a Site Locus Map and Figure 2 for an Aerial Map.

The proposed limit of work exists entirely within existing impervious area that currently consists of paved parking area proximate to the existing loading docks. Existing topography on the Site ranges from elevation 76.8 feet (NAVD 88) at the northern corner of the parking lot and elevation 69.5 feet at the southern end of the parking lot. Stormwater from the Site flows overland to existing

catch basins prior to connecting into an existing drainage network and ultimately discharging to an existing stormwater basin located at the southwestern corner of the site.

The Site is located within Zone X (unmapped) as shown on the Federal Emergency Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Cranston, Map # 44007C0427H, effective October 2, 2015.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, the Site is classified as Urban Land (#603) – Urban land, wet substratum, 0 to 3 percent slopes. Urban land refers to land that has been excavated and filled. The Urban Land soil classification does not have an assigned hydrological soil group. Due to the presence of fill material and general impervious nature of the site, exfiltration was not modeled in the assessed stormwater design.

1.3 PROPOSED PROJECT

The proposed project includes the construction of two self-storage facilities totaling ±13,625 GSF along with associated site, landscape, and drainage improvements (the “Project”). As the project is proposed entirely within existing impervious area, and includes additional landscape islands, the project results in a net increase of pervious area and a net decrease of impervious area, providing an overall improvement to the existing site condition in addition to proposed drainage improvements to satisfy RIDEM’s redevelopment criteria.

In the proposed condition, 98% of the project area is impervious, consisting of paved parking area and building footprint. This is a net reduction over the existing condition, with 2% of the project area now consisting of grassed/landscape area. The overall drainage pattern will be maintained in the proposed condition, as the majority of runoff will flow overland to an existing catch basin at the southeast corner of the site, connecting into the existing drainage system and ultimately discharging to an existing drainage basin. The new roof area associated with the proposed self-storage buildings will connect to a proposed subsurface infiltration system before tying into the existing southeast catch basin and ultimately connecting to the rest of the existing drainage system. The subsurface infiltration system has been sized to accommodate the tributary roof area in the 100-year storm and is sized to provide the required water quality and recharge requirements outlined in Section 3.2.6 of the RISDISM Redevelopment Criteria guidance. The site qualifies as a redevelopment as it involves construction, alteration, or improvement totaling more than 10,000 SF of existing impervious area. The site also qualifies for reduced water quality and recharge requirements as in its existing condition, the site is greater than 40% impervious. The assessed stormwater treatment area is based off of 50% treatment for disturbed existing impervious area, as the proposed work exists entirely within existing impervious area, and subtracts out the net increase in pervious area, as outlined in Section 3.2.6 of the RISDISM Redevelopment Criteria guidance.

2.0 STORMWATER MANAGEMENT PLAN

2.1 DESCRIPTION OF STANDARDS

Consistent with the Rhode Island Department of Environmental Management (RIDEM) Stormwater Management, Design, and Installation Rules (250-RICR-150-10-8), we have outlined the Project's general compliance with the required standards.

Standard 1: LID Planning & Design Strategies – Low impact design (LID) and design strategies must be used to the maximum extent practicable.

Standard met – the proposed subsurface infiltration system and proposed reduction in net impervious area result in reduction of peak rates and volumes, an increase in recharge, and an increase in water quality treatment.

Standard 2: Groundwater Recharge – Stormwater must be recharged within the same sub-watershed to maintain base flow at pre-development recharge levels to the maximum extent practicable.

Standard met – Groundwater recharge will be provided onsite within the same sub-watershed through the proposed subsurface infiltration system. The infiltration system was sized to provide recharge consistent with Section 3.2.6 of the RISDISM Redevelopment Criteria guidance. The required recharge (Re_v) associated with the proposed project was assessed to be 218 cubic feet, assuming HSG D soils, as the site is currently mapped as urban fill. The assessed provided recharge is 1,274 cubic feet, well in excess of the required. Refer to Appendix B for the WQv calculation spreadsheet and Groundwater Recharge Spreadsheet.

Standard 3: Water Quality – Stormwater Runoff from site must be treated prior to discharge.

Standard partially met – The existing drainage pattern is being maintained in the proposed condition and water quality volume is provided to the extent practicable. Catch basins are utilized in the existing and proposed condition to provide pre-treatment for TSS associated with tributary impervious area. An existing dry well is utilized in the existing and proposed condition to provide water quality treatment. There is an existing infiltration basin in southwest site that the existing drainage system discharges to which also provides water quality treatment in the existing and proposed condition. Additionally, the project includes a proposed subsurface infiltration system to provide recharge and water quality treatment associated with the clean roof runoff of both proposed self-storage buildings. The total provided water quality volume by the subsurface infiltration system is 1,274 CF. If the required water quality volume is calculated for the first half-inch of runoff, the required Water Quality Volume (WQv) is 1,131 CF; the provided WQv is greater than required.

However, if WQv is required to be assessed for the first full inch of runoff, the required WQv is 2,262 CF and the provided WQv is not met, however, this does not take into consideration the water quality treatment provided by the existing drywell maintained within the redevelopment area nor does it consider water quality treatment provided by the existing infiltration basin receiving flow from the redevelopment area in both the existing and proposed conditions. The proposed stormwater design utilizes the entire new roof area for recharge and water quality treatment. The remaining impervious area considered is repaving existing impervious area, generally consistent with site maintenance, with improvements made to reduce existing impervious area by proposing new pervious area through proposed landscape islands. Water Quality treatment has been provided to the extent practicable, in excess of the first half-inch of runoff, and additional water quality is being provided by the existing drywell and existing infiltration basin to which the site drainage is tributary. The RIDEM Stormwater Design and Installation Standards Manual requires the minimum WQv value of 0.2” over the entire disturbed area, which the proposed project exceeds as it provides WQv value in excess of 0.5”. See Appendix C4 for calculations.

Standard 4: Conveyance and Natural Channel Protection – Provide adequate stormwater conveyance systems.

Standard met – the proposed project maintains the existing drainage pattern and no additional area is tributary to the existing site drainage system in the proposed condition. The proposed reduction in impervious area and the inclusion of the proposed infiltration system results in a reduction of peak flows and volumes. As such, the capacity of the existing conveyance system is maintained, if not slightly improved, in the proposed condition.

Standard 5: Overbank Flood Protection - Peak rate attenuation from pre- to post-development in the 10- and 100-year 24-hr storms.

Standard met – Peak rates are maintained from the pre- to post-development condition in the 10- and 100-year 24-hr storms based on NRCC rainfall data per the Rhode Island Stormwater Management, Design and Installation Rules. See summary calculation in Section 3.3 below.

Standard 6: Redevelopment and Infill Projects

Standard met - The existing site has greater than 40% impervious coverage and the proposed development will result in a decrease in impervious area, and as such qualifies as a redevelopment.

Standard 7: Pollution Prevention

Standard met – The site has been designed to minimize impact on stormwater runoff. Soil erosion and pollution control measures including a crushed stone construction entrance, inlet protection, and silt sock are proposed during construction. Please see Soil Erosion and Sediment Control Plan provided in the Development Review Plan Set under separate cover and Operations and Maintenance Plans provided in Appendix C.

Standard 8: Land Uses with Higher Potential Pollutant Loads (LUHPPLs)

Standard not applicable - The proposed project and self-storage use is not a Land Use with Higher Potential Pollutant Loads, as defined in Section 8.14.C of the Rhode Island Stormwater Management, Design, and Installation Rules.

Standard 9: Illicit Discharges

Standard met - No illicit discharges are proposed.

Standard 10: Construction Erosion and Sedimentation Control

Standard met - The site has been designed to minimize impact on stormwater runoff. Soil erosion and pollution control measures including a crushed stone construction entrance, inlet protection, and silt sock are proposed during construction. Please see Soil Erosion and Sediment Control Plan provided in the Development Review Plan Set under separate cover.

Standard 11: Stormwater Management System Operation and Maintenance

Standard met - A stormwater management system Operation and Maintenance (O&M) Plan has been prepared for this project and is included in Appendix C of this report. The O&M Plan includes specific requirements for the long-term function of each component of the proposed system, in order to ensure compliance with these minimum standards. The O&M Plan indicates the responsible party (the property owner) and provides an estimated annual budget. The O&M for this site will be privately financed by the owner.

2.2 DESCRIPTION OF RUNOFF CONTROLS

The stormwater management improvements consist of a net decrease in impervious area, the proposed subsurface infiltration system to manage runoff from the new roof area, and the use of existing catch basins to provide TSS treatment consistent with the existing condition. These components attenuate runoff discharge peaks, minimize erosion, minimize the transport of

sediments, improve water quality, provide recharge, and prevent impact to downstream resource areas to the extent practicable.

The proposed stormwater management system will use the following specific control measure:

- Subsurface Stormwater Chambers (Cultec Recharger 902HD Chambers): Water Quality for the proposed redevelopment is provided from subsurface stormwater chambers that collect the clean runoff from the 2 building's roof areas, which are located beneath the paved parking and circulation areas. Runoff from the rest of the site is capture into the existing catch basin located at the southern corner of the project. Although infiltration was not used in the calculations, the subsurface chambers will provide stormwater recharge through the infiltration treated runoff from the building's roof areas. Calculations for the provided water quality volume and system drawdown time are provided in Appendix B.

The proposed runoff control is detailed on the Development Plan Set included under separate cover.

2.3 CONSTRUCTION SEQUENCE PLAN

The purpose of the Construction Sequence Plan is to develop a working schedule for the implementation of the proposed stormwater improvements.

Prior to initiating any work, siltation control barriers will be installed along the limit of work. Once the appropriate permits are obtained, the construction project will commence in the following sequence:

1. Install all necessary siltation barriers and inlet protections as shown in the design drawings.
2. Perform demolition of existing pavement and remove existing site features shown on the design drawings.
3. Perform excavation for building foundation areas and proposed drainage improvements.
4. Place clean fill/pavement base materials and install pavement base and curbing.
5. Construct buildings.
6. Install proposed final landscaping (*if applicable*).
7. Remove existing erosion control measures.

All construction water will be collected and treated in accordance with the Erosion and Sediment Control Plan included in Appendix C.

3.0 STORMWATER ANALYSIS

3.1 METHOD OF ANALYSIS

A hydrologic analysis has been performed for the Site comparing existing conditions and post-development conditions using a software program developed by HydroCAD Software Solutions LLC. This program analyzes site hydrology by the graphic peak discharge method documented in Technical Release No. 20 and Technical Release No. 55 published by the United States Department of Agriculture (USDA) Soil Conservation Service.

The following variables were developed for the contributing watersheds (drainage areas) in order to complete the analysis:

- **Rainfall Depth:** A hydrologic analysis was performed for the 24-hour 2-year, 10-year, 25-year, and 100-year, Type III storm events (3.3, 4.9, 6.1, and 8.7 inches respectively) for each drainage area. The rainfall depths for the study area were obtained from the Northeast Regional Climate Center (NRCC) for Providence County, in which the project parcel resides.
- **Runoff Curve Number (RCN):** The RCN is a hydrologic characteristic that contributes to the peak rate of runoff and volume from a given storm event. It is dependent upon soil conditions and land use. Generally, higher curve numbers are associated with less pervious soils and, hence, greater amounts of runoff. As previously noted, based on the NRCS Web Soil Survey Report, Hydrologic Soil Group (HSG) D was assumed in determining RCNs due to the presence of urban fill.
- **Time of Concentration:** The time of concentration is defined as the time it takes runoff to travel from the hydraulically most distant part of the watershed to the downstream point of interest. This parameter is dependent on the characteristics of the ground surface and condition of the travel path. Times of concentration were calculated for the various sub catchments using the HydroCAD program, with a minimum time of concentration of six (6.0) minutes used in accordance with the protocol outlined in Technical Release No. 55.

3.2 DRAINAGE AREAS

Drainage areas delineating the pre- and post-development conditions were determined from existing and proposed topography respectively. Brief descriptions of the existing conditions and proposed condition drainage areas are as follows:

- **Existing Condition:** The project is divided into only one (1) drainage area as stormwater runoff from the disturbed impervious area within the project area ultimately drains to one (1) design point, the existing stormwater system (Design Point A). A1-EX captures the entirety of the redevelopment area discharging directly to the existing stormwater system via existing catch basins. Refer to Figure HYD-EX for the existing conditions drainage areas.

TABLE 3.1 PRE-DEVELOPMENT CONDITIONS				
Drainage Area	Design Point	Area (sf.)	Curve Number	Time of Concentration (minutes)
A1-EX	A	56,700	98	6.0

- **Proposed Conditions:** The post-development condition was delineated into two (2) drainage areas ultimately conveying to one (1) design point, the existing stormwater system (Design Point A).
 - A1-PR is inclusive of non-roof area, overland flow from the redevelopment discharging to the existing stormwater system via the existing catch basin in southeast site.
 - A2-PR is inclusive of proposed roof area associated with the proposed self-storage buildings which connect to the proposed subsurface stormwater chambers before ultimately connecting to the existing stormwater system via the existing catch basin.
 - Refer to Figure HYD-PR for the proposed conditions drainage areas.

TABLE 3.2 POST-DEVELOPMENT CONDITIONS				
Drainage Area	Design Point	Area (sf.)	Curve Number	Time of Concentration (minutes)
A1-PR	A	43,075	97	6.0
A2-PR		13,625	98	6.0

3.3 RESULTS OF ANALYSIS

A stormwater analysis was performed for the 24-hour 2-, 10-, 25-, and 100-year storm events to determine that there will be no increase in stormwater runoff offsite once the proposed construction is complete and the stormwater control structures are in place. Detailed calculations are attached in Appendix B. A summary of the peak runoff rates is provided in Table 3.3 detailing that there has been no increase in peak rates from pre- to post-development condition.

TABLE 3.3 PROJECT STORMWATER RUNOFF RATES								
	Peak Runoff Rate (cfs)							
	2-Year		10-Year		25-Year		100-Year	
	Ex.	Prop.	Ex.	Prop.	Ex.	Prop.	Ex.	Prop.
A	4.1	4.0	6.1	6.1	7.6	7.6	10.9	10.9

cfs = cubic feet per second

4.0 CONCLUSION

The proposed improvements have been designed to minimize impacts of the proposed site redevelopment by meeting or reducing peak stormwater runoff rates in the 2-, 10-, 25-, and 100-yr storms and increasing the quality of the stormwater leaving the site by the installation of BMP's including the proposed subsurface infiltration system. The proposed subsurface infiltration system infiltrates, recharges, and attenuates roof runoff that under the existing condition was impervious parking area that discharged overland to the existing drainage system, creating an improvement over the existing condition. The proposed work also results in a net increase in pervious area and net decrease in impervious area from the pre- to post-development condition.

FIGURES

Figure 1 – Site Locus

Figure 2 – Aerial Exhibit

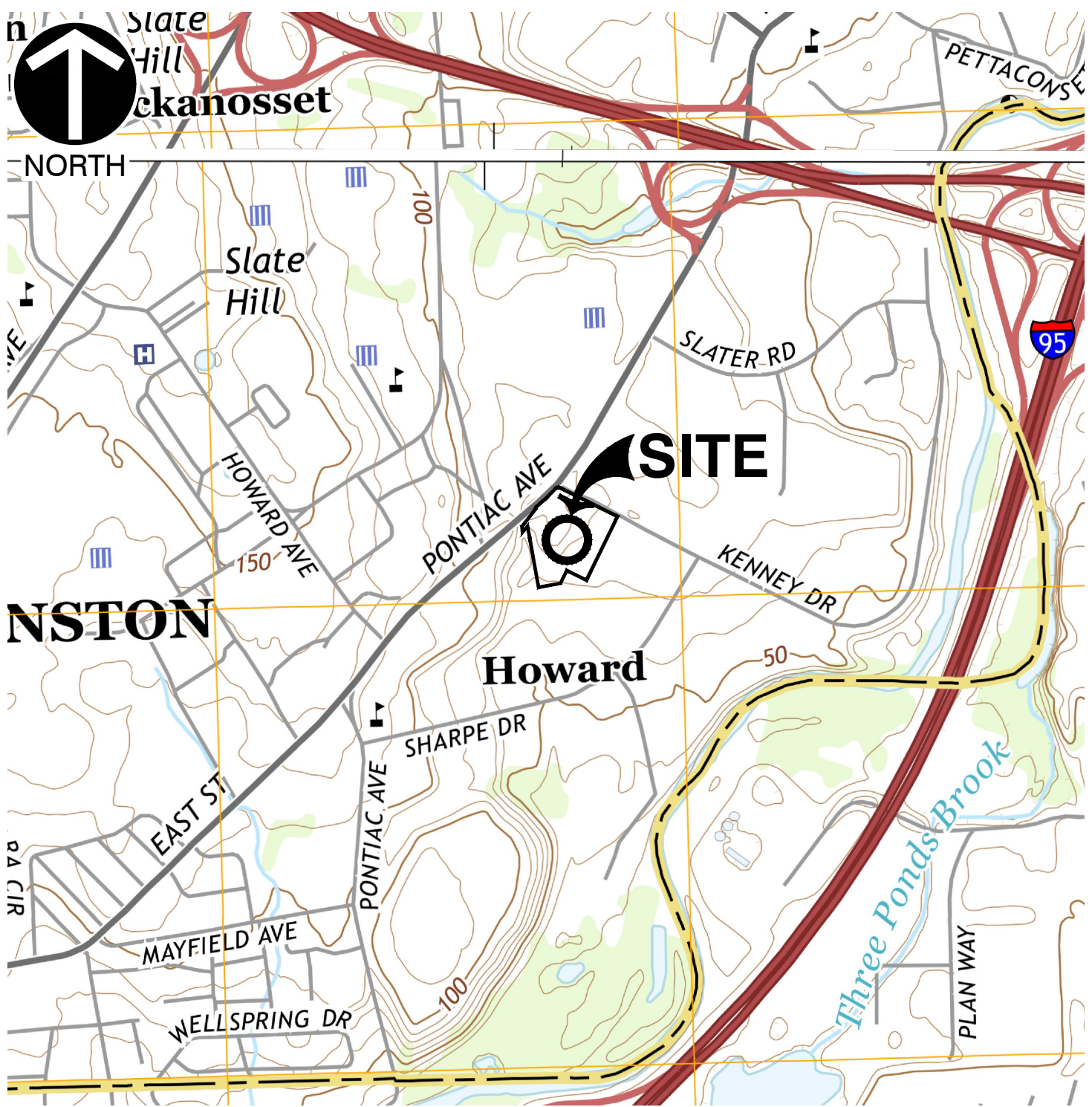
Figure 3 – FEMA FIRMette

Figure 4 – NHESP Map

Figure HYD-EX – Existing Conditions Drainage Area Map

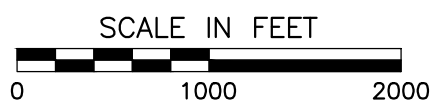
Figure HYD-PR – Proposed Conditions Drainage Area Map

P:\340-000\342-782\CADD\DWG\SP01-Site Locus.dwg\FIGURE 1 LS:(9/20/2024 - cvandenbergh) - LP: 9/23/2024 8:28 AM



REFERENCE

1. U.S.G.S. 7.5' TOPOGRAPHIC MAP, 20150709, 2015070Z, QUADRANGLE, RI DATED: 2015, ACCESSED: SEPTEMBER 2024.



Civil & Environmental Consultants, Inc.
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STORAGE FIVE DEVELOPMENT
 SELF STORAGE FACILITIES
 1 KENNEY DRIVE
 CRANSTON, RHODE ISLAND

USGS LOCUS

DRAWN BY:	CJV	CHECKED BY:	CJV	APPROVED BY:	MB	FIGURE NO.:	1
DATE:	SEPTEMBER 2024	DWG SCALE:	1"=500'	PROJECT NO.:	342-782		



REFERENCE

1. ORTHOGRAPHIC AERIAL IMAGERY AND MAPS ARE BASED ON GIS DATA OBTAINED FROM RIGIS GIS DATA OBTAINED FROM RIGIS PROVIDED BY THE RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM ACCESSED: SEPTEMBER 2024. ACCESSED: SEPTEMBER 2024.

SCALE IN FEET



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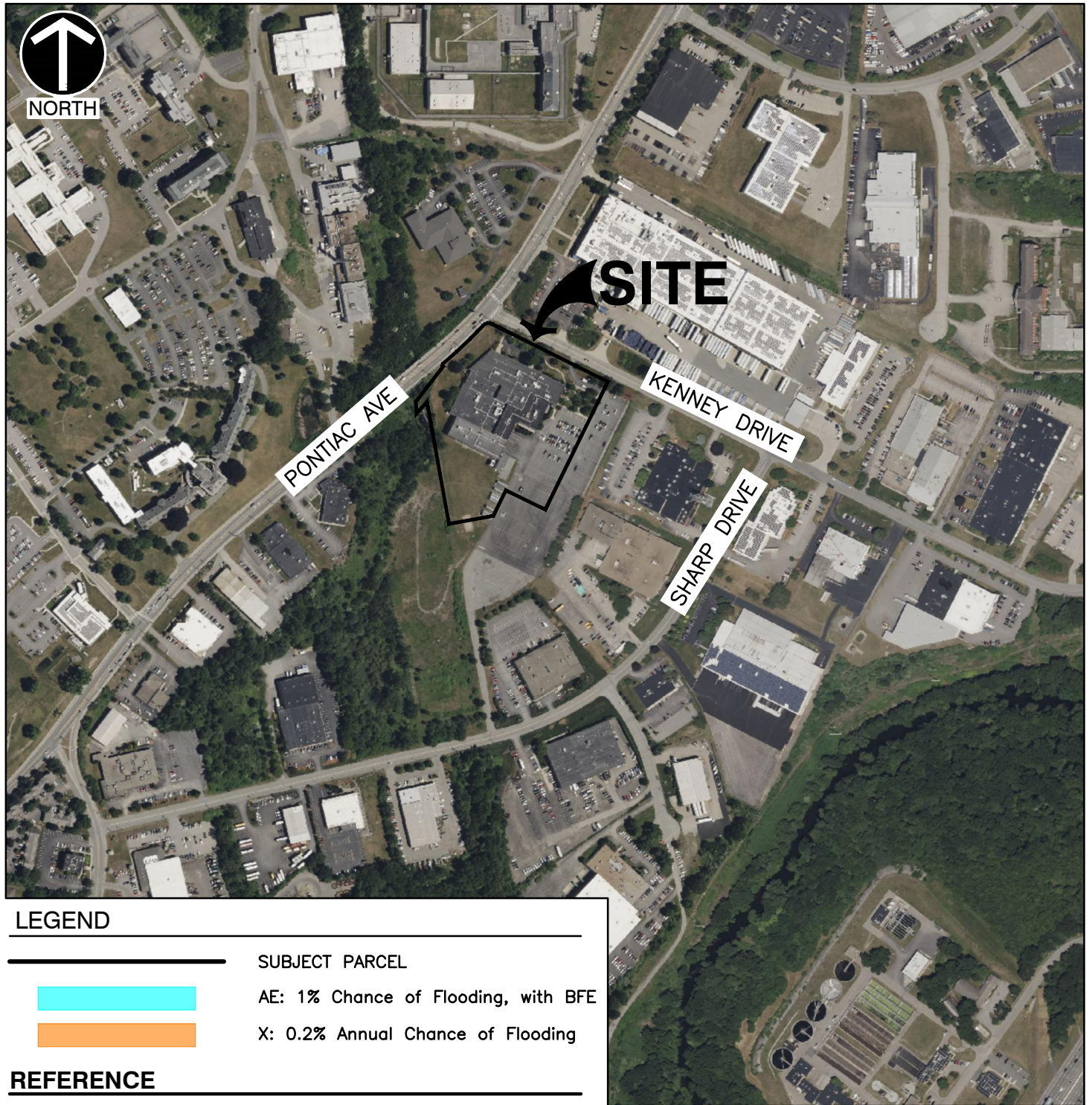
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CRANSTON, RHODE ISLAND**




AERIAL EXHIBIT

DRAWN BY:	CJV	CHECKED BY:	CJV	APPROVED BY:	MB	FIGURE NO.:	2
DATE:	SEPTEMBER 2024	DWG SCALE:	1"=500'	PROJECT NO:	342-782		

P:\340-000\342-782\CADD\DWG\SP01-Aerial Exhibit.dwg\FIGURE 2\LS(9/20/2024 - SP01-CV01-342782-CV01-Aerial Exhibit.dwg\FIGURE 2) LP: 9/23/2024 8:30 AM



LEGEND

-  SUBJECT PARCEL
-  AE: 1% Chance of Flooding, with BFE
-  X: 0.2% Annual Chance of Flooding

REFERENCE

1. ORTHOGRAPHIC AERIAL IMAGERY, MAPS, AND FLOOD ZONE DATA ARE BASED ON GIS DATA OBTAINED FROM RIGIS PROVIDED BY THE RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM ACCESSED: SEPTEMBER 2024.
2. THE SITE LIES WITHIN A ZONE "X" (UNSHADED), AN AREA OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD.



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FEMA FLOOD MAP

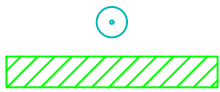
DRAWN BY: CJV	CHECKED BY: CJV	APPROVED BY: MB	FIGURE NO.: 3
DATE: SEPTEMBER 2024	DWG SCALE: 1"=500'	PROJECT NO: 342-782	

P:\340-000\342-782\CADD\DWG\SP01-GIS-FEMA_FIRMette.dwg\FIGURE 3} LS:(9/20/2024 - cvandenbergh) - LP: 9/23/2024 8:31 AM

P:\340-000\342-782\CADD\DWG\SP01-342782-CV01-SP01-GIS-FEMA FIRMette.dwg\FIGURE 4\LS(9/20/2024 - cvandenbergh) - LP: 9/23/2024 8:46 AM



LEGEND

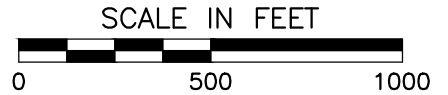


POTENTIAL VERNAL POOLS
NHESP PRIORITY HABITATS OF RARE SPECIES

REFERENCE

- 1. NHESP DATA ARE BASED ON GIS DATA OBTAINED FROM ORTHOGRAPHIC AERIAL IMAGERY, MAPS, AND FLOOD ZONE DATA ARE BASED ON GIS DATA OBTAINED FROM RIGIS PROVIDED BY THE RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM ACCESSED: SEPTEMBER 2024.

<https://cranston.maps.arcgis.com/apps/webappviewer/index.html?id=603b95d5ee9c40f48cf45639c134c9e1>



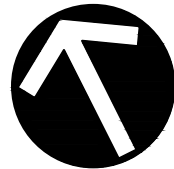
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NATURAL HERITAGE MAP

DRAWN BY:	CJV	CHECKED BY:	CJV	APPROVED BY:	MB	FIGURE NO.:	4
DATE:	SEPTEMBER 2024	DWG SCALE:	1"=500'	PROJECT NO:	342-782		



NORTH

PONTIAC AVENUE
(PUBLIC - VARIABLE WIDTH ROW)

SBDH FOUND

TELE BOX

1 STORY
MASONRY BUILDING
"SWAROVSKI"
BFPA=85,608±SF

A1-EX

A

LEGEND



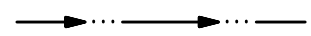
DESIGN POINT



SUBCATCHMENT AREA



SUBCATCHMENT BOUNDARY



TIME OF CONCENTRATION PATH

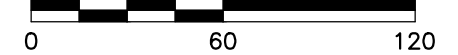


VEGETATED AREA



PAVED AREA

SCALE IN FEET



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DRAINAGE AREA MAP
EXISTING CONDITIONS

DRAWN BY:

CJV

CHECKED BY:

MB

APPROVED BY:

KPS

FIGURE NO.:

DATE:

SEPTEMBER 2024

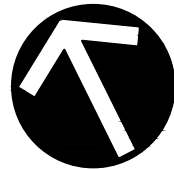
DWG SCALE:

1"=60'

PROJECT NO.:

342-782

HYD-EX



NORTH

PONTIAC AVENUE
(PUBLIC - VARIABLE WIDTH ROW)

SBDH FOUND





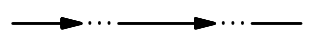
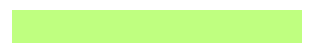


SOUTH FOUND

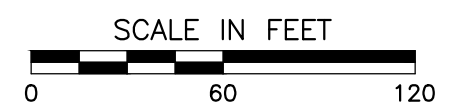
IRON PIN FOUND

1 STORY
MASONRY BUILDING
"SWAROVSKI"
BFPA=85,608±SF

EDGE OF WOODS

LEGEND

-  DESIGN POINT
-  SUBCATCHMENT AREA
-  POND/DETENTION AREA
-  SUBCATCHMENT BOUNDARY
-  TIME OF CONCENTRATION PATH
-  PROPOSED VEGETATED AREA
-  PROPOSED PAVED AREA
-  PROPOSED ROOF AREA




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 DRAINAGE AREA MAP
 PROPOSED CONDITIONS

DRAWN BY:	CJV	CHECKED BY:	MB	APPROVED BY:	KPS	FIGURE NO.:	HYD-PR
DATE:	SEPTEMBER 2024	DWG SCALE:	1"=60'	PROJECT NO.:	342-782		

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APPENDIX A

GEOTECHNICAL INFORMATION

NRCS Custom Soil Resource Report

NRCS Custom Soil Resource Report



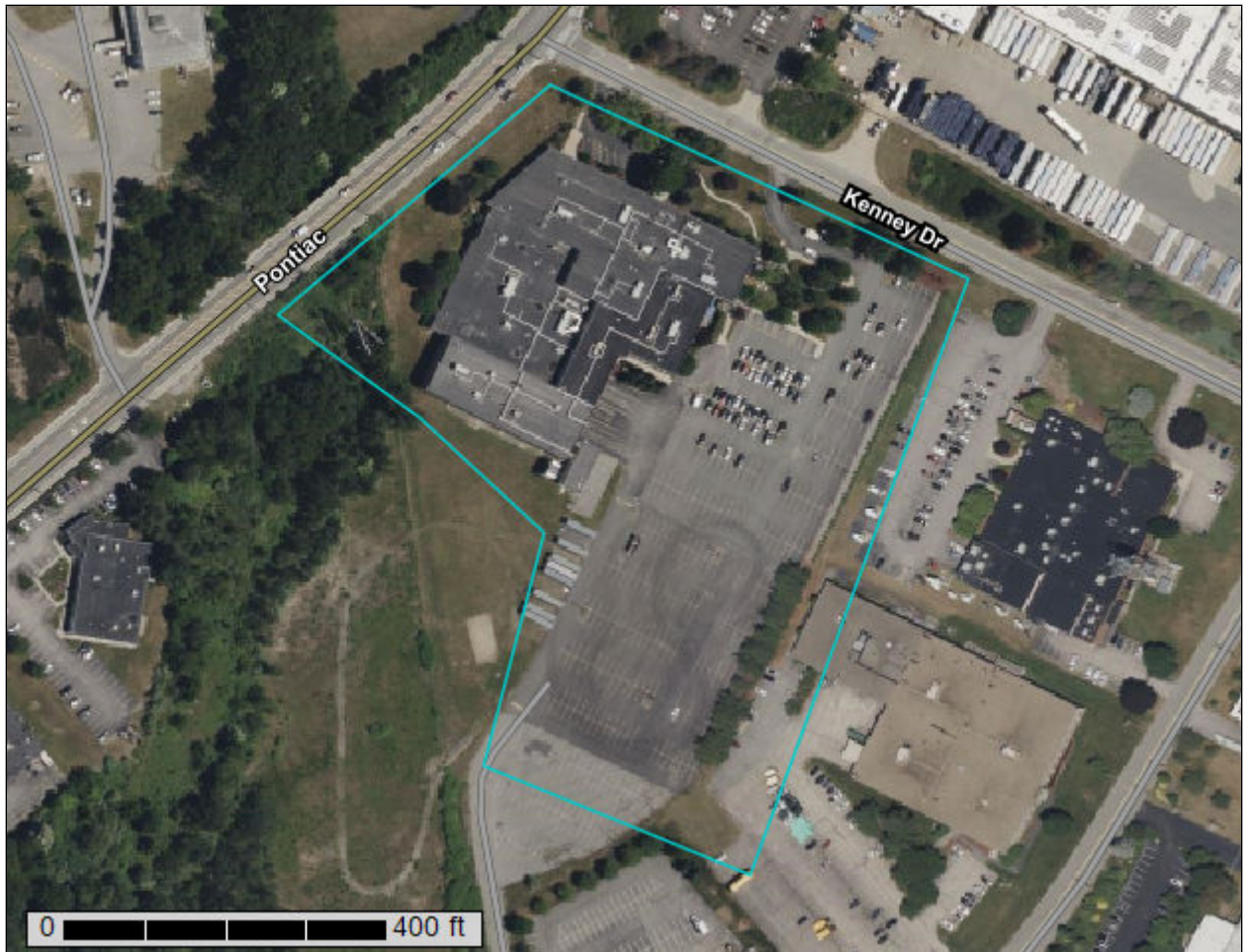
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	12
Map Unit Descriptions.....	12
State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties.....	14
UD—Udorthents-Urban land complex.....	14
References	16

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

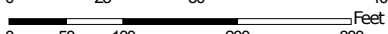
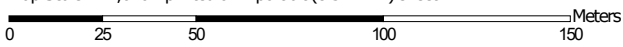
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Soil Map may not be valid at this scale.

Map Scale: 1:2,020 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties
 Survey Area Data: Version 23, Sep 8, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Jul 1, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
UD	Udorthents-Urban land complex	10.0	100.0%
Totals for Area of Interest		10.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

State of Rhode Island: Bristol, Kent, Newport, Providence, and Washington Counties

UD—Udorthents-Urban land complex

Map Unit Setting

National map unit symbol: 9lxj
Elevation: 0 to 670 feet
Mean annual precipitation: 44 to 50 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 120 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 70 percent
Urban land: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Setting

Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Human transported material

Typical profile

A - 0 to 12 inches: sandy loam
C1 - 12 to 25 inches: sandy loam
C2 - 25 to 60 inches: stratified sand to very gravelly coarse sand

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: More than 80 inches
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 42 to 54 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Hydrologic Soil Group: A
Ecological site: F149BY100NY - Urban Site Complex
Hydric soil rating: No

Description of Urban Land

Setting

Parent material: Human transported material

Typical profile

R - 0 to 6 inches: variable

Custom Soil Resource Report

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s

Hydric soil rating: No

Minor Components

Quonset

Percent of map unit: 5 percent

Landform: Outwash plains, terraces, outwash terraces, eskers

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Merrimac

Percent of map unit: 5 percent

Landform: Terraces, outwash plains, kames

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

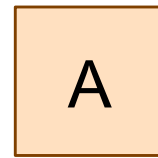
United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B

SUPPORTING CALCULATIONS

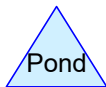
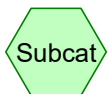
HydroCAD Drainage Analysis
Water Quality Volume Calculations
Groundwater Recharge Calculations

HydroCAD Drainage Analysis



Flow to existing catch
basin

Existing Catch Basin



342-782-Existing Drainage Calcs

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.30	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.90	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.10	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.70	2

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.3	98	Paved parking, HSG D (A1-EX)
1.3	98	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.0	HSG A	
0.0	HSG B	
0.0	HSG C	
1.3	HSG D	A1-EX
0.0	Other	
1.3		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.0	0.0	0.0	1.3	0.0	1.3	Paved parking	A1-EX
0.0	0.0	0.0	1.3	0.0	1.3	TOTAL AREA	

342-782-Existing Drainage Calcs

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Storage Five Cranston
Type III 24-hr 2-yr Rainfall=3.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1-EX: Flow to existing Runoff Area=56,700 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=4.1 cfs 0.311 af

Reach A: Existing Catch Basin Inflow=4.1 cfs 0.311 af
Outflow=4.1 cfs 0.311 af

Total Runoff Area = 1.3 ac Runoff Volume = 0.311 af Average Runoff Depth = 2.87"
0.00% Pervious = 0.0 ac 100.00% Impervious = 1.3 ac

342-782-Existing Drainage Calcs

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Type III 24-hr 2-yr Rainfall=3.30"

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Summary for Subcatchment A1-EX: Flow to existing catch basin

Runoff = 4.1 cfs @ 12.09 hrs, Volume= 0.311 af, Depth> 2.87"
Routed to Reach A : Existing Catch Basin

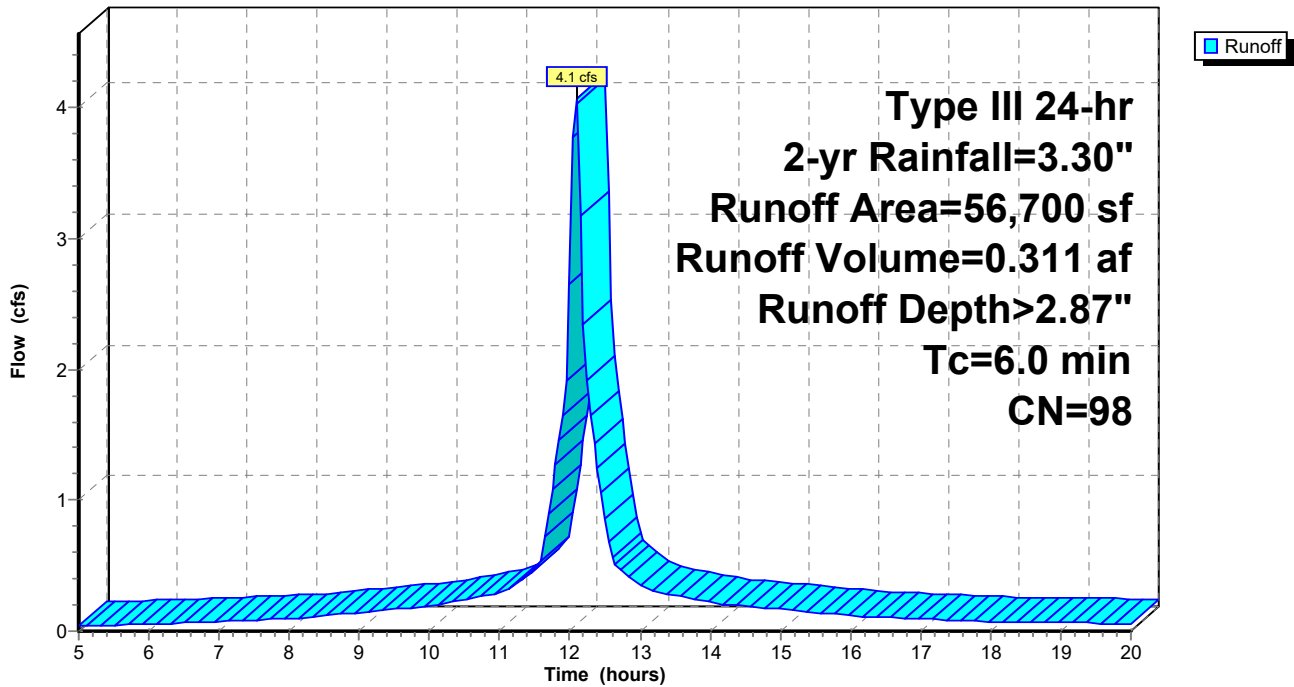
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
56,700	98	Paved parking, HSG D
56,700		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-EX: Flow to existing catch basin

Hydrograph



342-782-Existing Drainage Calcs

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Type III 24-hr 2-yr Rainfall=3.30"

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Summary for Reach A: Existing Catch Basin

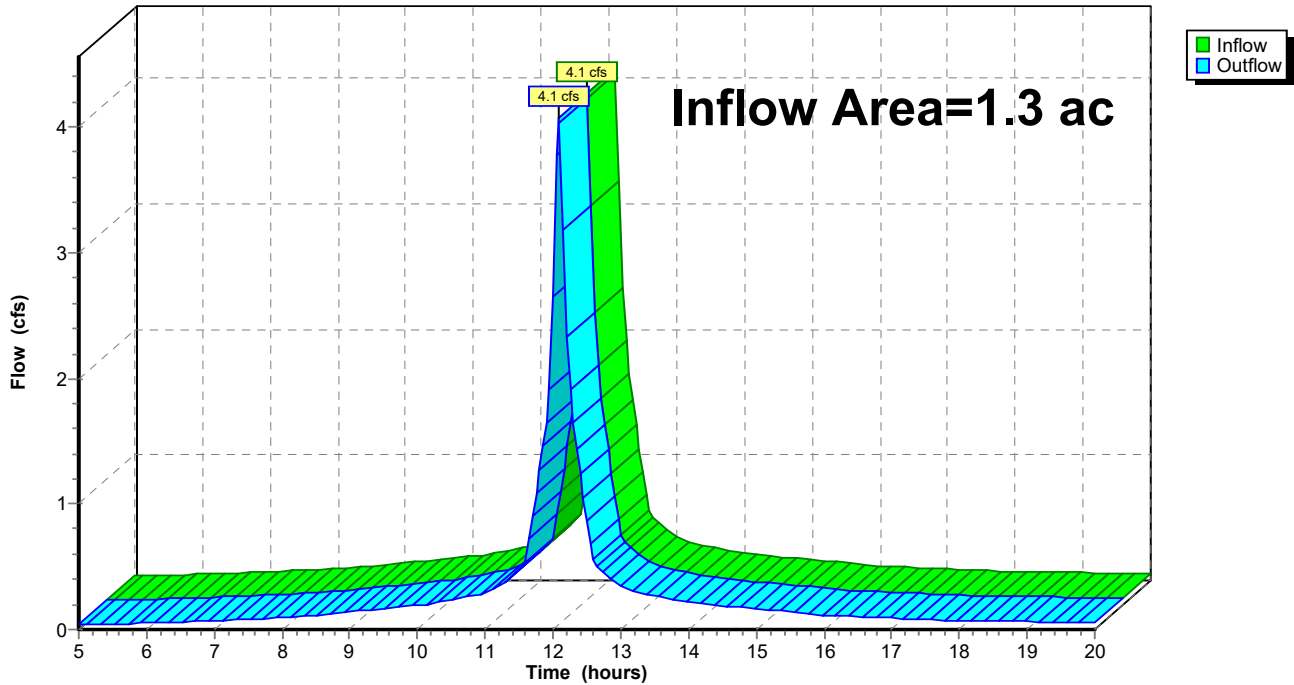
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 100.00% Impervious, Inflow Depth > 2.87" for 2-yr event
Inflow = 4.1 cfs @ 12.09 hrs, Volume= 0.311 af
Outflow = 4.1 cfs @ 12.09 hrs, Volume= 0.311 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



342-782-Existing Drainage Calcs

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Type III 24-hr 10-yr Rainfall=4.90"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1-EX: Flow to existing Runoff Area=56,700 sf 100.00% Impervious Runoff Depth>4.33"
Tc=6.0 min CN=98 Runoff=6.1 cfs 0.469 af

Reach A: Existing Catch Basin Inflow=6.1 cfs 0.469 af
Outflow=6.1 cfs 0.469 af

Total Runoff Area = 1.3 ac Runoff Volume = 0.469 af Average Runoff Depth = 4.33"
0.00% Pervious = 0.0 ac 100.00% Impervious = 1.3 ac

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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Subcatchment A1-EX: Flow to existing catch basin

Runoff = 6.1 cfs @ 12.09 hrs, Volume= 0.469 af, Depth> 4.33"
Routed to Reach A : Existing Catch Basin

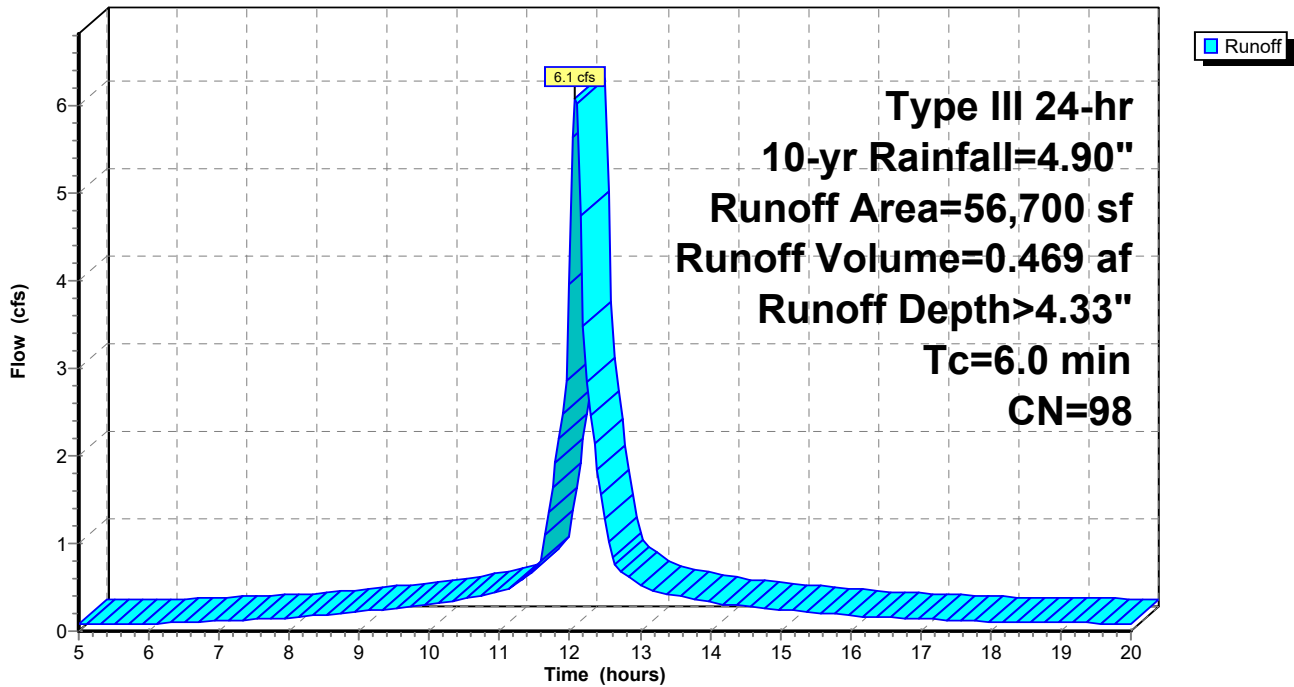
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
56,700	98	Paved parking, HSG D
56,700		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-EX: Flow to existing catch basin

Hydrograph



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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Reach A: Existing Catch Basin

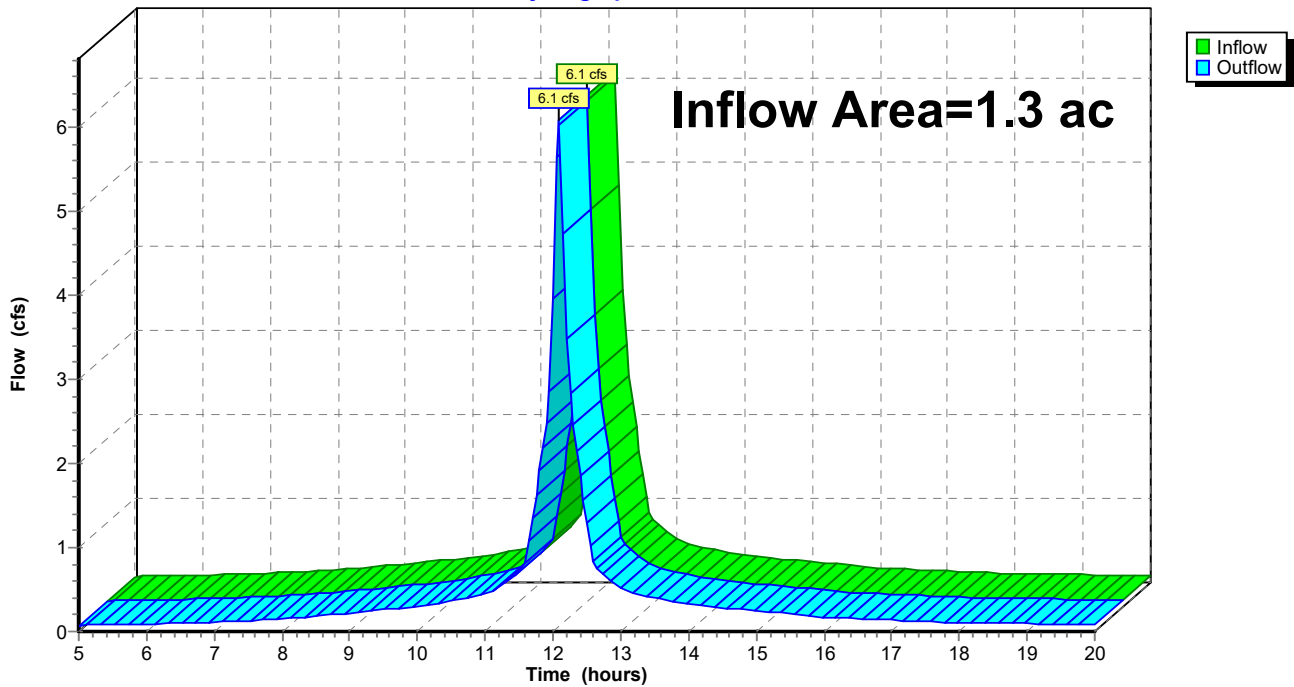
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 100.00% Impervious, Inflow Depth > 4.33" for 10-yr event
Inflow = 6.1 cfs @ 12.09 hrs, Volume= 0.469 af
Outflow = 6.1 cfs @ 12.09 hrs, Volume= 0.469 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.10"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1-EX: Flow to existing Runoff Area=56,700 sf 100.00% Impervious Runoff Depth>5.42"
Tc=6.0 min CN=98 Runoff=7.6 cfs 0.588 af

Reach A: Existing Catch Basin

Inflow=7.6 cfs 0.588 af
Outflow=7.6 cfs 0.588 af

Total Runoff Area = 1.3 ac Runoff Volume = 0.588 af Average Runoff Depth = 5.42"
0.00% Pervious = 0.0 ac 100.00% Impervious = 1.3 ac

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Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Subcatchment A1-EX: Flow to existing catch basin

Runoff = 7.6 cfs @ 12.09 hrs, Volume= 0.588 af, Depth> 5.42"
Routed to Reach A : Existing Catch Basin

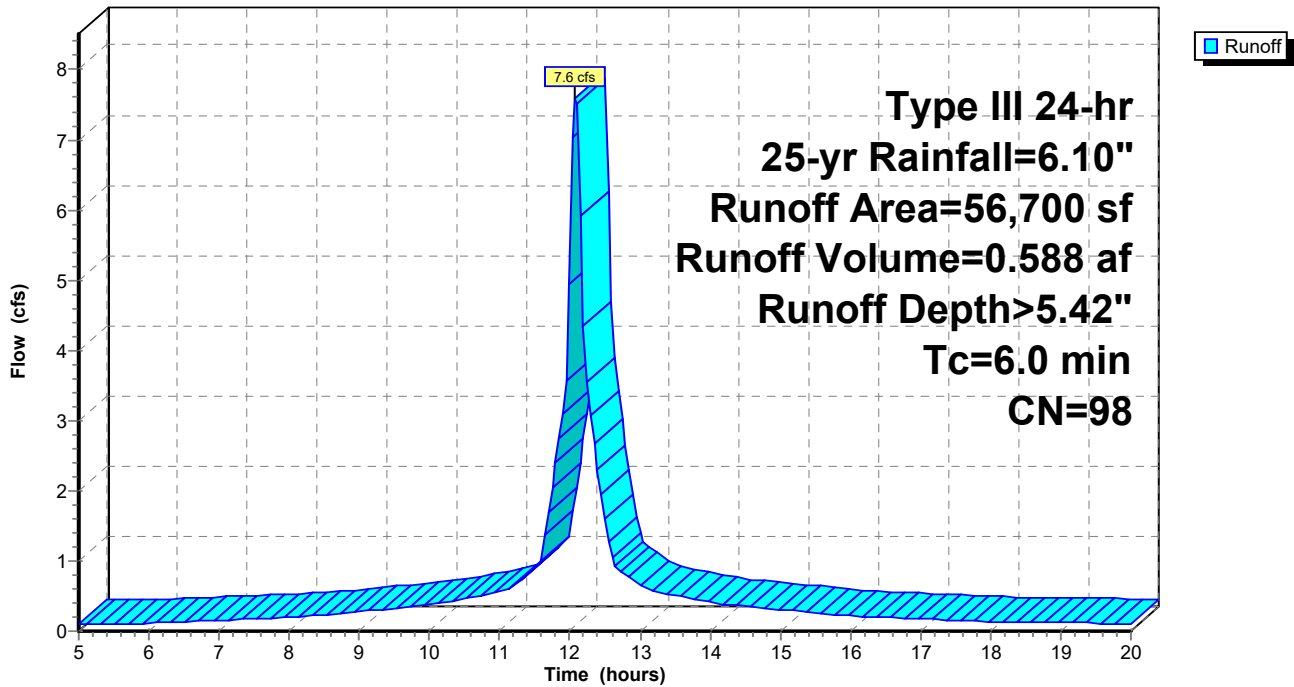
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.10"

Area (sf)	CN	Description
56,700	98	Paved parking, HSG D
56,700		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-EX: Flow to existing catch basin

Hydrograph



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Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Reach A: Existing Catch Basin

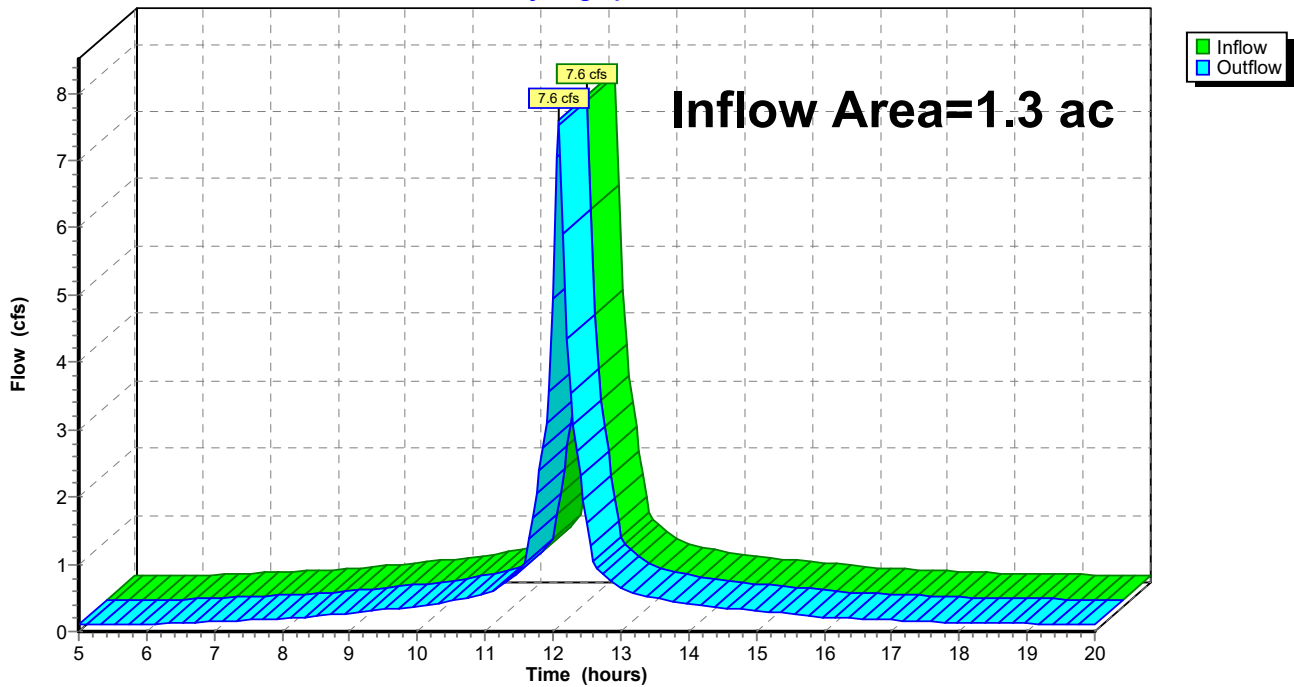
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 100.00% Impervious, Inflow Depth > 5.42" for 25-yr event
Inflow = 7.6 cfs @ 12.09 hrs, Volume= 0.588 af
Outflow = 7.6 cfs @ 12.09 hrs, Volume= 0.588 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



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Type III 24-hr 100-yr Rainfall=8.70"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1-EX: Flow to existing Runoff Area=56,700 sf 100.00% Impervious Runoff Depth>7.78"
Tc=6.0 min CN=98 Runoff=10.9 cfs 0.844 af

Reach A: Existing Catch Basin Inflow=10.9 cfs 0.844 af
Outflow=10.9 cfs 0.844 af

Total Runoff Area = 1.3 ac Runoff Volume = 0.844 af Average Runoff Depth = 7.78"
0.00% Pervious = 0.0 ac 100.00% Impervious = 1.3 ac

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Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Subcatchment A1-EX: Flow to existing catch basin

Runoff = 10.9 cfs @ 12.09 hrs, Volume= 0.844 af, Depth> 7.78"
Routed to Reach A : Existing Catch Basin

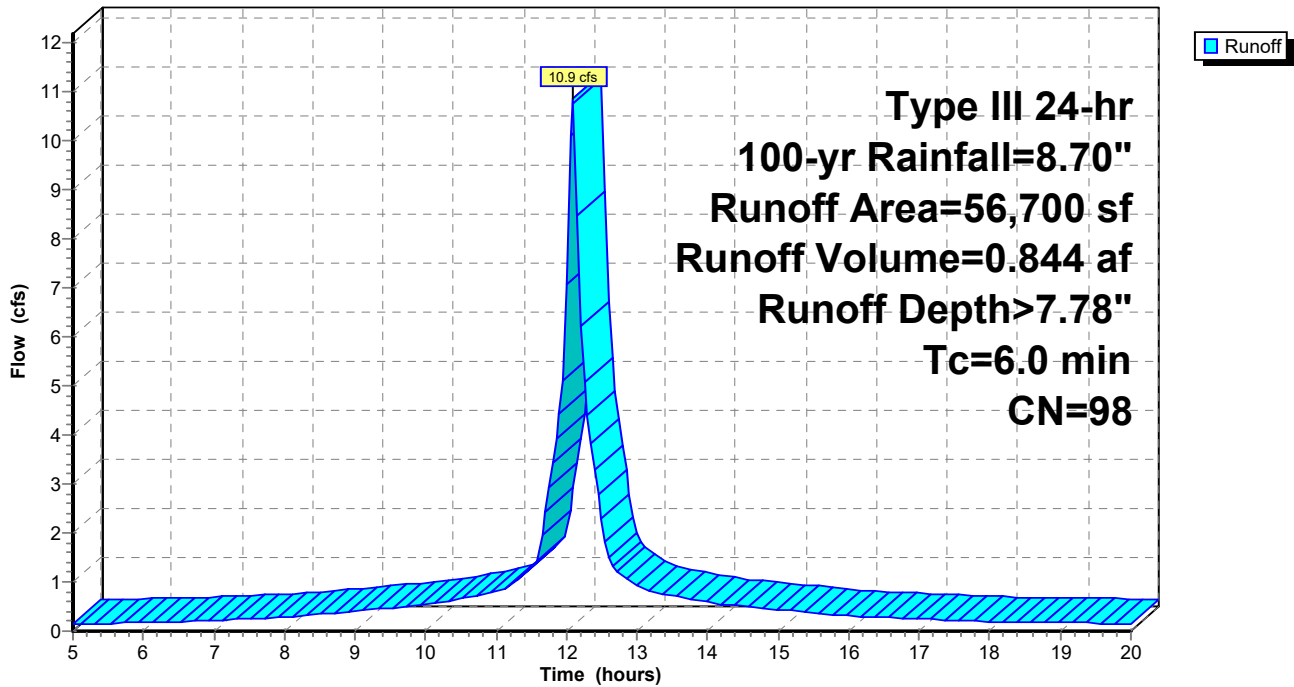
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-yr Rainfall=8.70"

Area (sf)	CN	Description
56,700	98	Paved parking, HSG D
56,700		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-EX: Flow to existing catch basin

Hydrograph



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Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Reach A: Existing Catch Basin

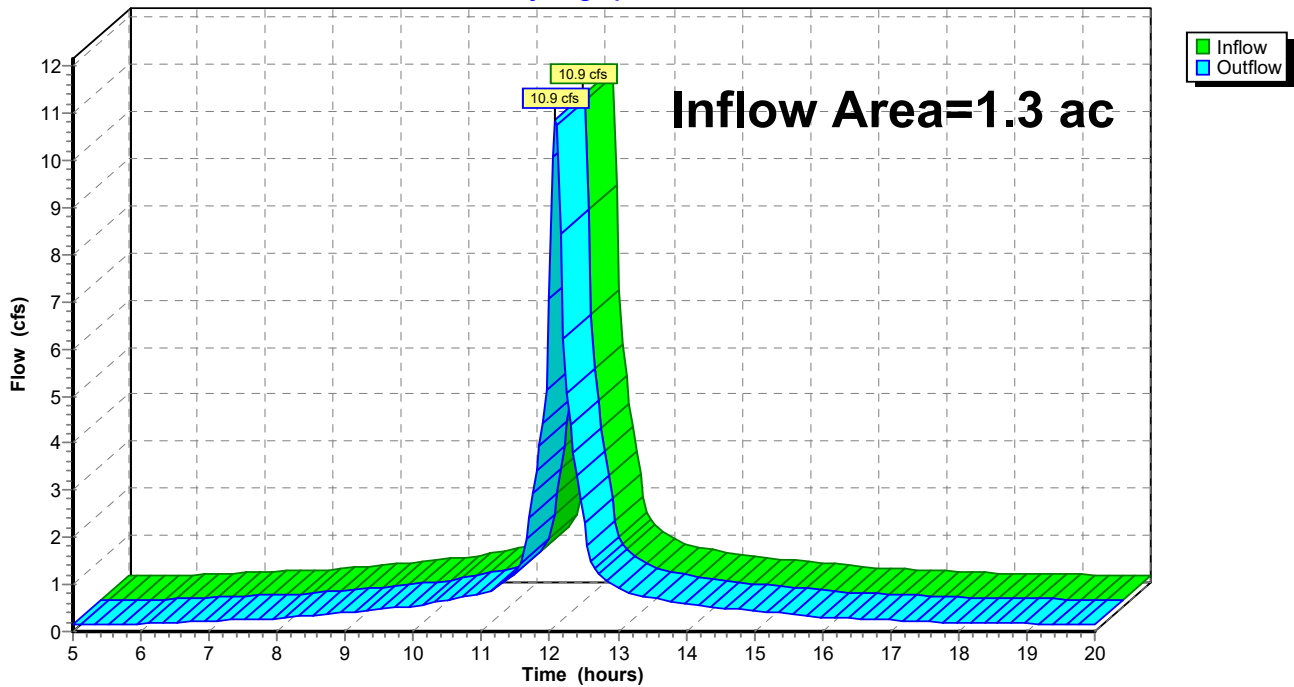
[40] Hint: Not Described (Outflow=Inflow)

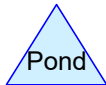
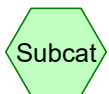
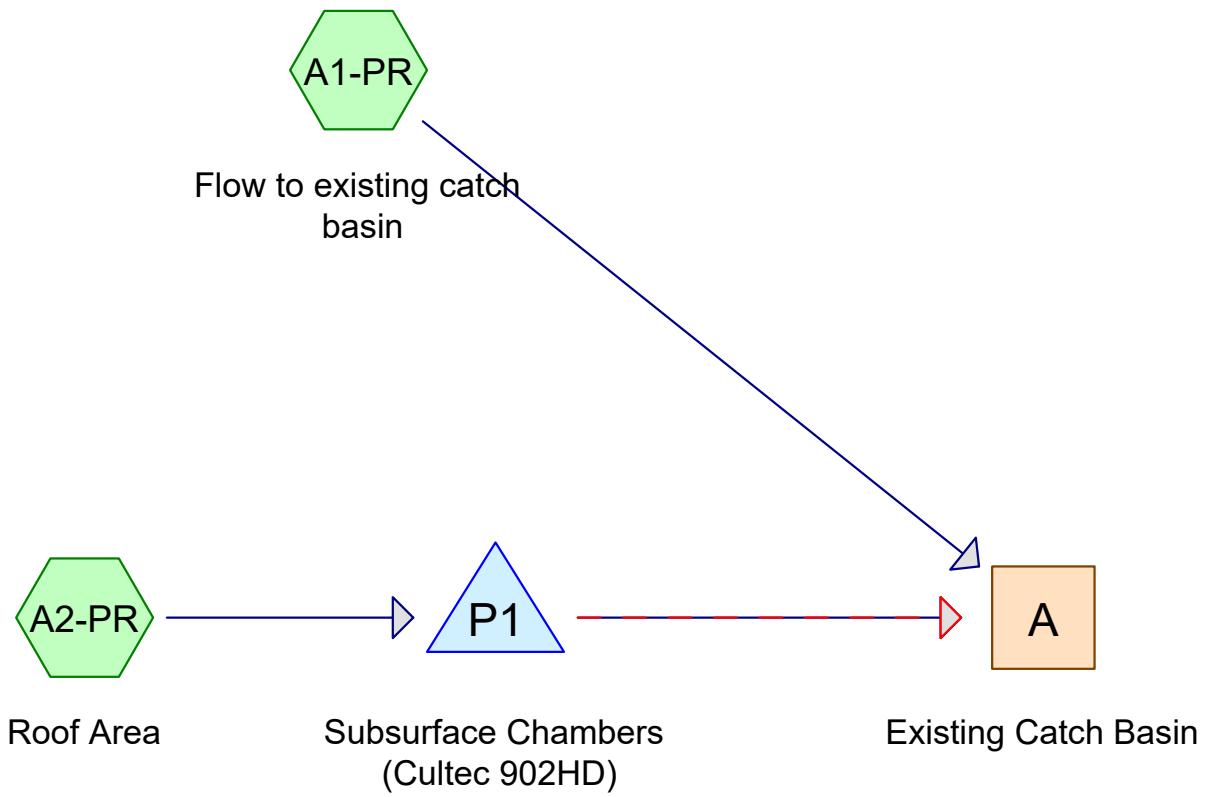
Inflow Area = 1.3 ac, 100.00% Impervious, Inflow Depth > 7.78" for 100-yr event
Inflow = 10.9 cfs @ 12.09 hrs, Volume= 0.844 af
Outflow = 10.9 cfs @ 12.09 hrs, Volume= 0.844 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph





342-782-Post Drainage Calcs

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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-yr	Type III 24-hr		Default	24.00	1	3.30	2
2	10-yr	Type III 24-hr		Default	24.00	1	4.90	2
3	25-yr	Type III 24-hr		Default	24.00	1	6.10	2
4	100-yr	Type III 24-hr		Default	24.00	1	8.70	2

342-782-Post Drainage Calcs

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.0	80	>75% Grass cover, Good, HSG D (A1-PR)
1.0	98	Paved parking, HSG D (A1-PR)
0.3	98	Roofs, HSG D (A2-PR)
1.3	98	TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.0	HSG A	
0.0	HSG B	
0.0	HSG C	
1.3	HSG D	A1-PR, A2-PR
0.0	Other	
1.3		TOTAL AREA

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Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.0	0.0	0.0	0.0	0.0	0.0	>75% Grass cover, Good	A1-PR
0.0	0.0	0.0	1.0	0.0	1.0	Paved parking	A1-PR
0.0	0.0	0.0	0.3	0.0	0.3	Roofs	A2-PR
0.0	0.0	0.0	1.3	0.0	1.3	TOTAL AREA	

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Storage Five Cranston
Type III 24-hr 2-yr Rainfall=3.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1-PR: Flow to existing Runoff Area=43,075 sf 97.68% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=3.1 cfs 0.236 af

SubcatchmentA2-PR: Roof Area Runoff Area=13,625 sf 100.00% Impervious Runoff Depth>2.87"
Tc=6.0 min CN=98 Runoff=1.0 cfs 0.075 af

Reach A: Existing Catch Basin Inflow=4.0 cfs 0.282 af
Outflow=4.0 cfs 0.282 af

Pond P1: Subsurface Chambers (Cultec) Peak Elev=68.29' Storage=1,323 cf Inflow=1.0 cfs 0.075 af
Outflow=1.1 cfs 0.045 af

Total Runoff Area = 1.3 ac Runoff Volume = 0.311 af Average Runoff Depth = 2.87"
1.76% Pervious = 0.0 ac 98.24% Impervious = 1.3 ac

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Type III 24-hr 2-yr Rainfall=3.30"

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Summary for Subcatchment A1-PR: Flow to existing catch basin

Runoff = 3.1 cfs @ 12.09 hrs, Volume= 0.236 af, Depth> 2.87"
Routed to Reach A : Existing Catch Basin

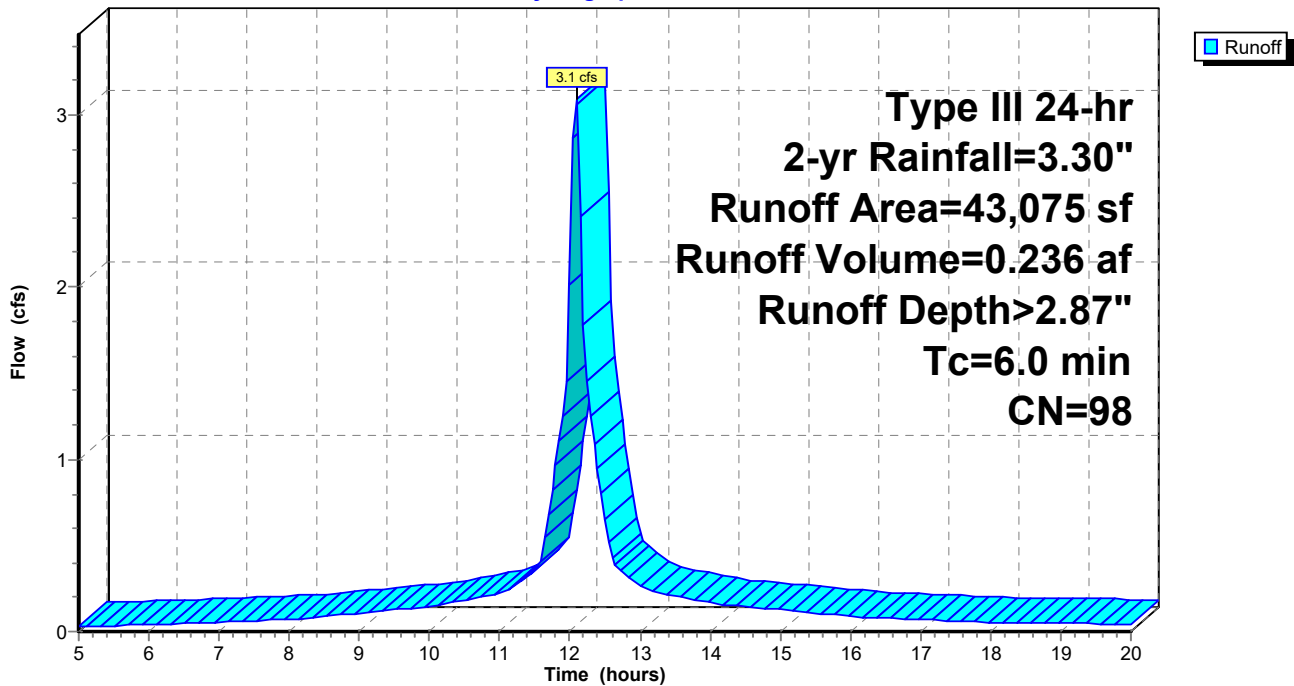
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
42,075	98	Paved parking, HSG D
1,000	80	>75% Grass cover, Good, HSG D
43,075	98	Weighted Average
1,000		2.32% Pervious Area
42,075		97.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-PR: Flow to existing catch basin

Hydrograph



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Type III 24-hr 2-yr Rainfall=3.30"

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Summary for Subcatchment A2-PR: Roof Area

Runoff = 1.0 cfs @ 12.09 hrs, Volume= 0.075 af, Depth> 2.87"
Routed to Pond P1 : Subsurface Chambers (Cultec 902HD)

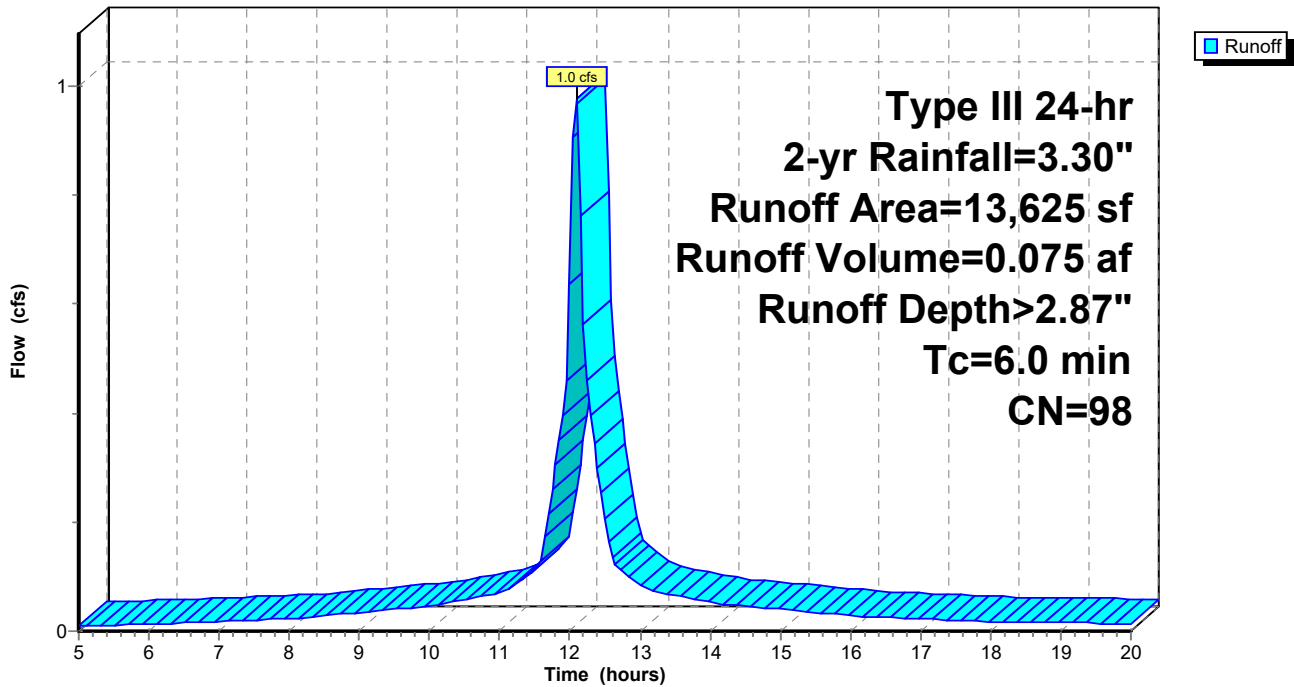
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-yr Rainfall=3.30"

Area (sf)	CN	Description
13,625	98	Roofs, HSG D
13,625		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A2-PR: Roof Area

Hydrograph



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Type III 24-hr 2-yr Rainfall=3.30"

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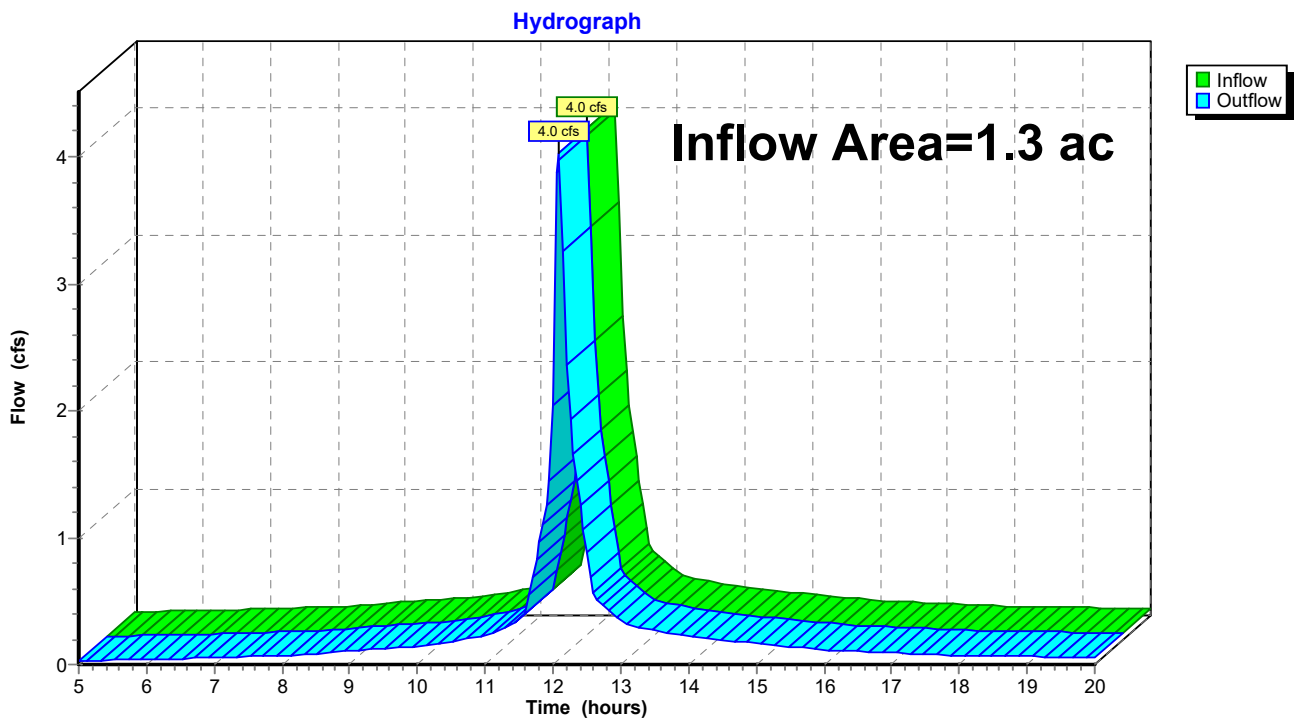
Summary for Reach A: Existing Catch Basin

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 98.24% Impervious, Inflow Depth > 2.60" for 2-yr event
Inflow = 4.0 cfs @ 12.08 hrs, Volume= 0.282 af
Outflow = 4.0 cfs @ 12.08 hrs, Volume= 0.282 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin



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Storage Five Cranston
Type III 24-hr 2-yr Rainfall=3.30"

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Summary for Pond P1: Subsurface Chambers (Cultec 902HD)

[82] Warning: Early inflow requires earlier time span

[88] Warning: Qout>Qin may require smaller dt or Finer Routing

Inflow Area = 0.3 ac, 100.00% Impervious, Inflow Depth > 2.87" for 2-yr event
 Inflow = 1.0 cfs @ 12.09 hrs, Volume= 0.075 af
 Outflow = 1.1 cfs @ 12.07 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min
 Primary = 1.1 cfs @ 12.07 hrs, Volume= 0.045 af
 Routed to Reach A : Existing Catch Basin

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 68.29' @ 12.05 hrs Surf.Area= 421 sf Storage= 1,323 cf

Plug-Flow detention time= 154.1 min calculated for 0.045 af (61% of inflow)
 Center-of-Mass det. time= 76.0 min (814.3 - 738.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	63.00'	682 cf	9.50'W x 44.37'L x 5.75'H Field A 2,424 cf Overall - 718 cf Embedded = 1,706 cf x 40.0% Voids
#2A	63.75'	718 cf	Cultec R-902HD x 11 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf
		1,400 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.40' S= 0.0103 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	68.00'	2.0' long x 0.50' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 4.0' Crest Height
#3	Device 1	68.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.0 cfs @ 12.07 hrs HW=68.28' (Free Discharge)

1=Culvert (Passes 1.0 cfs of 2.6 cfs potential flow)

2=Sharp-Crested Rectangular Weir (Weir Controls 1.0 cfs @ 1.75 fps)

3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 2-yr Rainfall=3.30"

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Pond P1: Subsurface Chambers (Cultec 902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger®902HD)

Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf

Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap

Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf

11 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 41.37' Row Length +18.0" End Stone x 2 = 44.37' Base Length

1 Rows x 78.0" Wide + 18.0" Side Stone x 2 = 9.50' Base Width

9.0" Stone Base + 48.0" Chamber Height + 12.0" Stone Cover = 5.75' Field Height

11 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 717.6 cf Chamber Storage

2,423.5 cf Field - 717.6 cf Chambers = 1,705.9 cf Stone x 40.0% Voids = 682.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,400.0 cf = 0.032 af

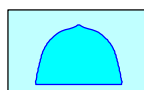
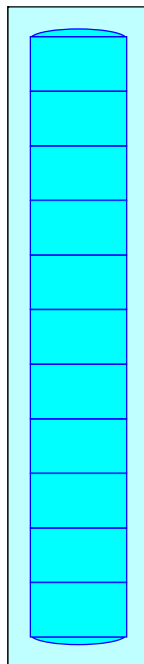
Overall Storage Efficiency = 57.8%

Overall System Size = 44.37' x 9.50' x 5.75'

11 Chambers

89.8 cy Field

63.2 cy Stone



342-782-Post Drainage Calcs

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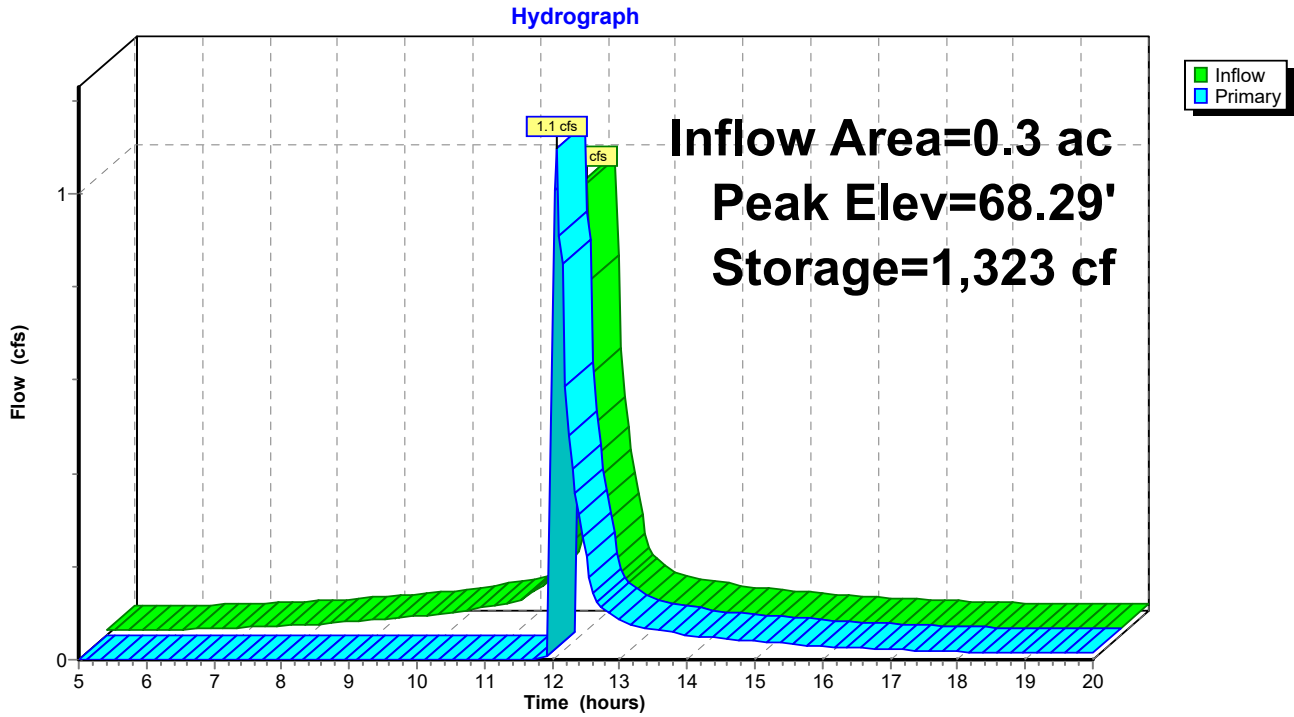
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Type III 24-hr 2-yr Rainfall=3.30"

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Pond P1: Subsurface Chambers (Cultec 902HD)



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Type III 24-hr 2-yr Rainfall=3.30"

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Stage-Area-Storage for Pond P1: Subsurface Chambers (Cultec 902HD)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
63.00	0	65.55	671	68.10	1,290
63.05	8	65.60	685	68.15	1,299
63.10	17	65.65	700	68.20	1,307
63.15	25	65.70	714	68.25	1,316
63.20	34	65.75	729	68.30	1,324
63.25	42	65.80	743	68.35	1,333
63.30	51	65.85	758	68.40	1,341
63.35	59	65.90	772	68.45	1,349
63.40	67	65.95	786	68.50	1,358
63.45	76	66.00	801	68.55	1,366
63.50	84	66.05	815	68.60	1,375
63.55	93	66.10	829	68.65	1,383
63.60	101	66.15	843	68.70	1,392
63.65	110	66.20	857	68.75	1,400
63.70	118	66.25	871		
63.75	126	66.30	885		
63.80	142	66.35	899		
63.85	157	66.40	913		
63.90	173	66.45	927		
63.95	188	66.50	940		
64.00	204	66.55	954		
64.05	219	66.60	967		
64.10	235	66.65	981		
64.15	250	66.70	994		
64.20	265	66.75	1,007		
64.25	281	66.80	1,020		
64.30	296	66.85	1,033		
64.35	311	66.90	1,046		
64.40	327	66.95	1,058		
64.45	342	67.00	1,071		
64.50	357	67.05	1,083		
64.55	372	67.10	1,095		
64.60	388	67.15	1,108		
64.65	403	67.20	1,119		
64.70	418	67.25	1,131		
64.75	433	67.30	1,143		
64.80	448	67.35	1,154		
64.85	463	67.40	1,165		
64.90	478	67.45	1,175		
64.95	493	67.50	1,186		
65.00	508	67.55	1,195		
65.05	523	67.60	1,205		
65.10	538	67.65	1,214		
65.15	553	67.70	1,223		
65.20	568	67.75	1,231		
65.25	582	67.80	1,240		
65.30	597	67.85	1,248		
65.35	612	67.90	1,257		
65.40	627	67.95	1,265		
65.45	641	68.00	1,274		
65.50	656	68.05	1,282		

342-782-Post Drainage Calcs

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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Subcatchment A1-PR: Flow to existing catch basin

Runoff = 4.6 cfs @ 12.09 hrs, Volume= 0.357 af, Depth> 4.33"
 Routed to Reach A : Existing Catch Basin

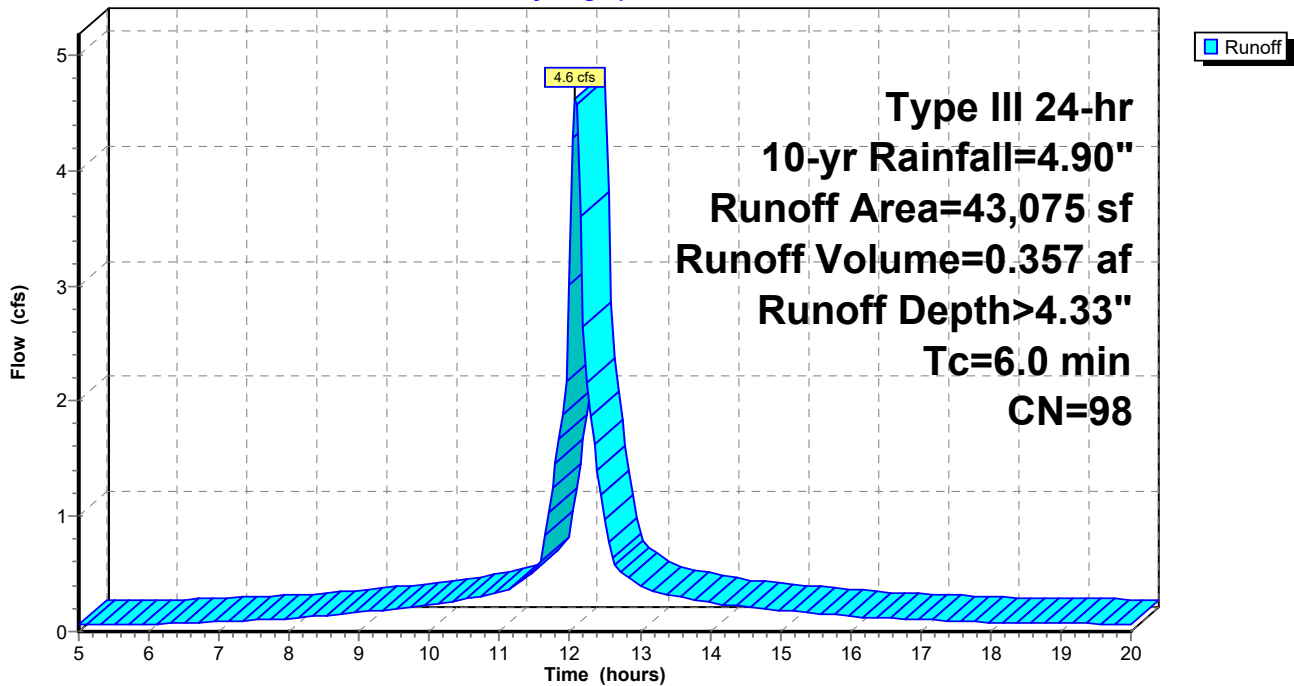
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
42,075	98	Paved parking, HSG D
1,000	80	>75% Grass cover, Good, HSG D
43,075	98	Weighted Average
1,000		2.32% Pervious Area
42,075		97.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-PR: Flow to existing catch basin

Hydrograph



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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Subcatchment A2-PR: Roof Area

Runoff = 1.5 cfs @ 12.09 hrs, Volume= 0.113 af, Depth> 4.33"
Routed to Pond P1 : Subsurface Chambers (Cultec 902HD)

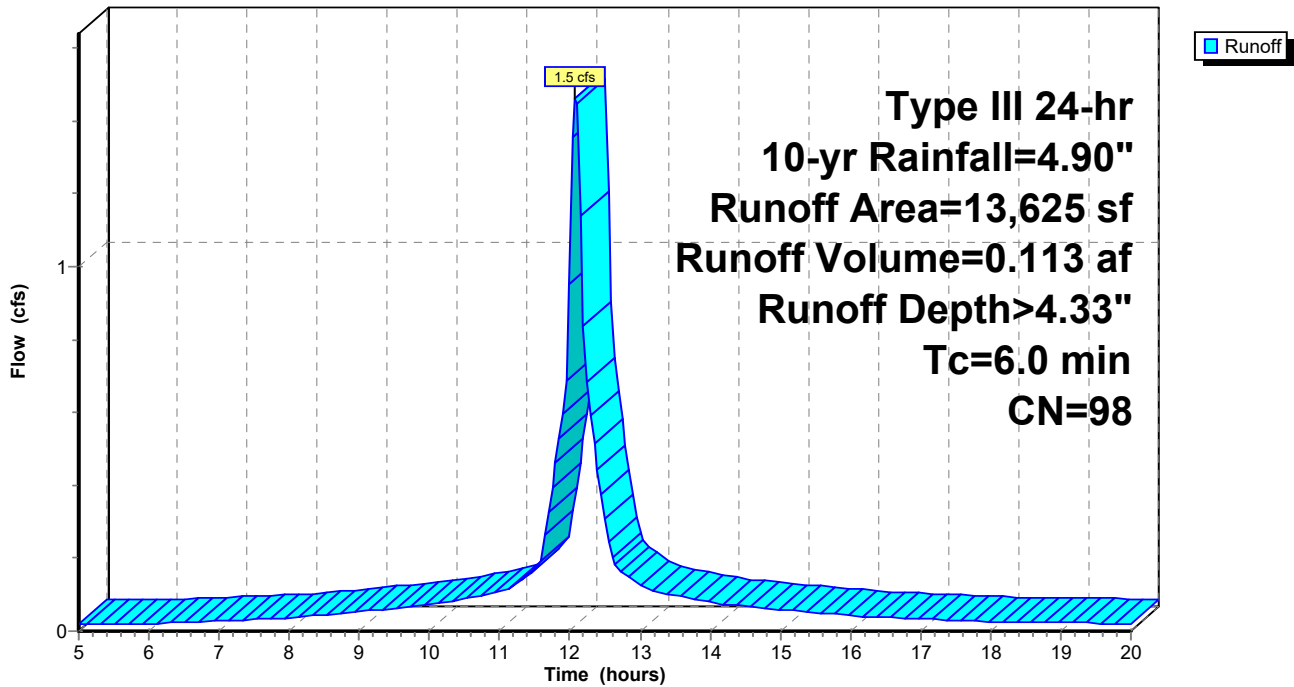
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-yr Rainfall=4.90"

Area (sf)	CN	Description
13,625	98	Roofs, HSG D
13,625		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A2-PR: Roof Area

Hydrograph



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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Reach A: Existing Catch Basin

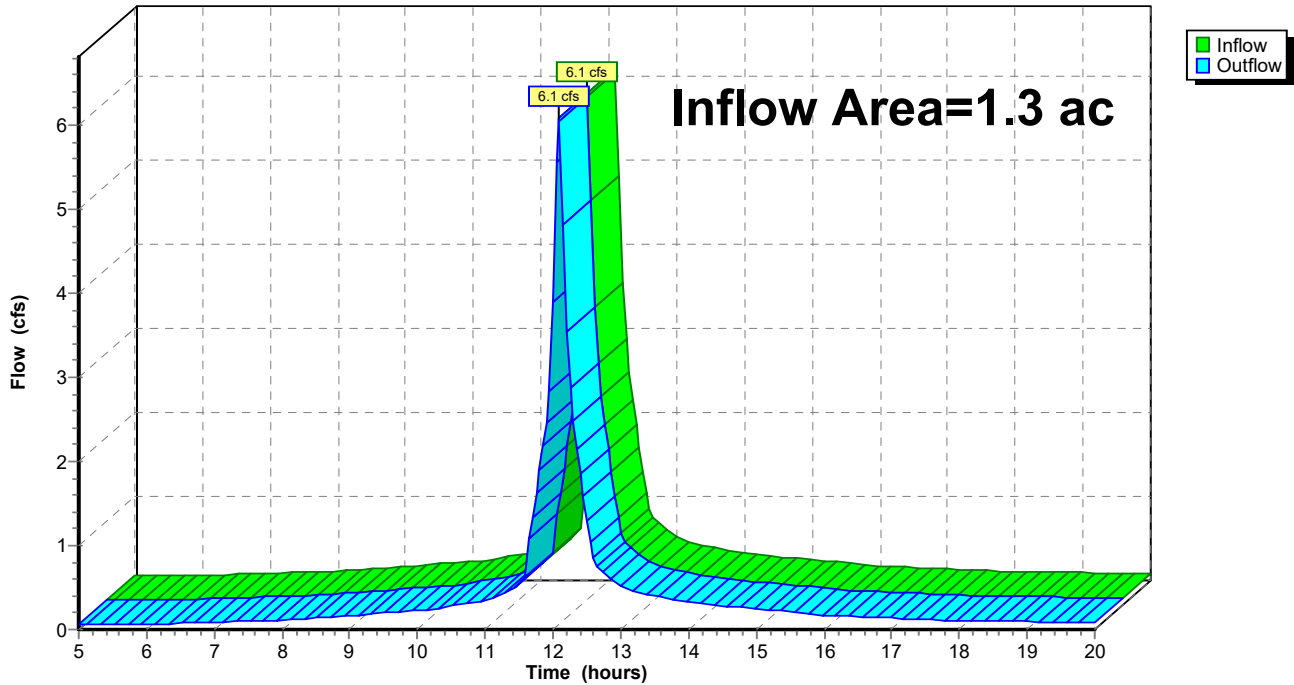
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 98.24% Impervious, Inflow Depth > 4.06" for 10-yr event
Inflow = 6.1 cfs @ 12.09 hrs, Volume= 0.440 af
Outflow = 6.1 cfs @ 12.09 hrs, Volume= 0.440 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



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Type III 24-hr 10-yr Rainfall=4.90"

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Summary for Pond P1: Subsurface Chambers (Cultec 902HD)

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.3 ac, 100.00% Impervious, Inflow Depth > 4.33" for 10-yr event
 Inflow = 1.5 cfs @ 12.09 hrs, Volume= 0.113 af
 Outflow = 1.5 cfs @ 12.10 hrs, Volume= 0.084 af, Atten= 0%, Lag= 0.6 min
 Primary = 1.5 cfs @ 12.10 hrs, Volume= 0.084 af
 Routed to Reach A : Existing Catch Basin

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 68.38' @ 12.10 hrs Surf.Area= 421 sf Storage= 1,337 cf

Plug-Flow detention time= 121.8 min calculated for 0.083 af (74% of inflow)
 Center-of-Mass det. time= 59.4 min (794.6 - 735.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	63.00'	682 cf	9.50'W x 44.37'L x 5.75'H Field A 2,424 cf Overall - 718 cf Embedded = 1,706 cf x 40.0% Voids
#2A	63.75'	718 cf	Cultec R-902HD x 11 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf
		1,400 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.40' S= 0.0103 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	68.00'	2.0' long x 0.50' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 4.0' Crest Height
#3	Device 1	68.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.4 cfs @ 12.10 hrs HW=68.37' (Free Discharge)

- 1=Culvert (Passes 1.4 cfs of 2.8 cfs potential flow)
- 2=Sharp-Crested Rectangular Weir (Weir Controls 1.4 cfs @ 2.02 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

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Storage Five Cranston

Type III 24-hr 10-yr Rainfall=4.90"

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Pond P1: Subsurface Chambers (Cultec 902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger®902HD)

Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf

Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap

Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf

11 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 41.37' Row Length +18.0" End Stone x 2 = 44.37' Base Length

1 Rows x 78.0" Wide + 18.0" Side Stone x 2 = 9.50' Base Width

9.0" Stone Base + 48.0" Chamber Height + 12.0" Stone Cover = 5.75' Field Height

11 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 717.6 cf Chamber Storage

2,423.5 cf Field - 717.6 cf Chambers = 1,705.9 cf Stone x 40.0% Voids = 682.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,400.0 cf = 0.032 af

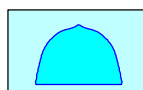
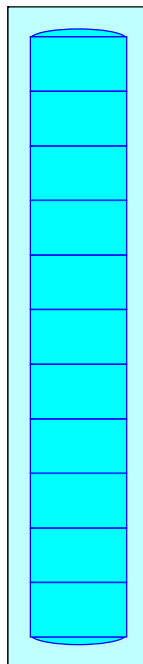
Overall Storage Efficiency = 57.8%

Overall System Size = 44.37' x 9.50' x 5.75'

11 Chambers

89.8 cy Field

63.2 cy Stone



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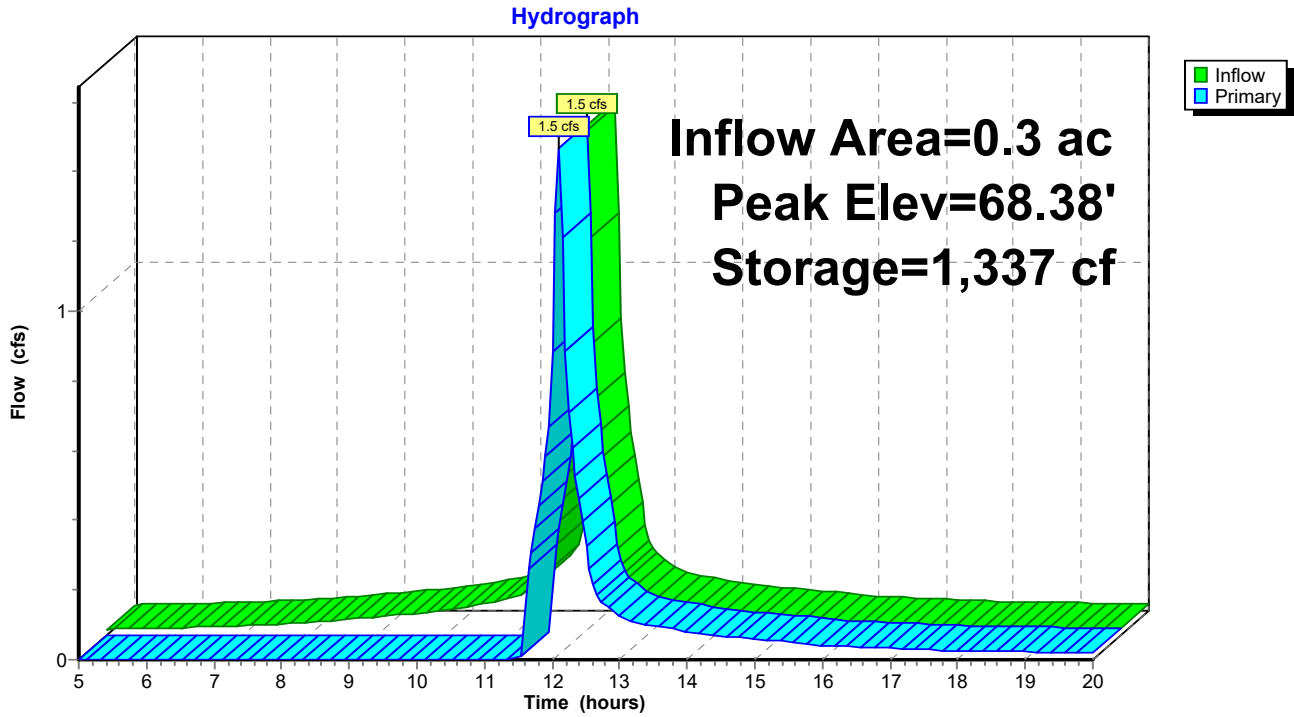
Storage Five Cranston

Type III 24-hr 10-yr Rainfall=4.90"

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Pond P1: Subsurface Chambers (Cultec 902HD)



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Storage Five Cranston

Type III 24-hr 10-yr Rainfall=4.90"

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Stage-Area-Storage for Pond P1: Subsurface Chambers (Cultec 902HD)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
63.00	0	65.55	671	68.10	1,290
63.05	8	65.60	685	68.15	1,299
63.10	17	65.65	700	68.20	1,307
63.15	25	65.70	714	68.25	1,316
63.20	34	65.75	729	68.30	1,324
63.25	42	65.80	743	68.35	1,333
63.30	51	65.85	758	68.40	1,341
63.35	59	65.90	772	68.45	1,349
63.40	67	65.95	786	68.50	1,358
63.45	76	66.00	801	68.55	1,366
63.50	84	66.05	815	68.60	1,375
63.55	93	66.10	829	68.65	1,383
63.60	101	66.15	843	68.70	1,392
63.65	110	66.20	857	68.75	1,400
63.70	118	66.25	871		
63.75	126	66.30	885		
63.80	142	66.35	899		
63.85	157	66.40	913		
63.90	173	66.45	927		
63.95	188	66.50	940		
64.00	204	66.55	954		
64.05	219	66.60	967		
64.10	235	66.65	981		
64.15	250	66.70	994		
64.20	265	66.75	1,007		
64.25	281	66.80	1,020		
64.30	296	66.85	1,033		
64.35	311	66.90	1,046		
64.40	327	66.95	1,058		
64.45	342	67.00	1,071		
64.50	357	67.05	1,083		
64.55	372	67.10	1,095		
64.60	388	67.15	1,108		
64.65	403	67.20	1,119		
64.70	418	67.25	1,131		
64.75	433	67.30	1,143		
64.80	448	67.35	1,154		
64.85	463	67.40	1,165		
64.90	478	67.45	1,175		
64.95	493	67.50	1,186		
65.00	508	67.55	1,195		
65.05	523	67.60	1,205		
65.10	538	67.65	1,214		
65.15	553	67.70	1,223		
65.20	568	67.75	1,231		
65.25	582	67.80	1,240		
65.30	597	67.85	1,248		
65.35	612	67.90	1,257		
65.40	627	67.95	1,265		
65.45	641	68.00	1,274		
65.50	656	68.05	1,282		

342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Subcatchment A1-PR: Flow to existing catch basin

Runoff = 5.8 cfs @ 12.09 hrs, Volume= 0.447 af, Depth> 5.42"
 Routed to Reach A : Existing Catch Basin

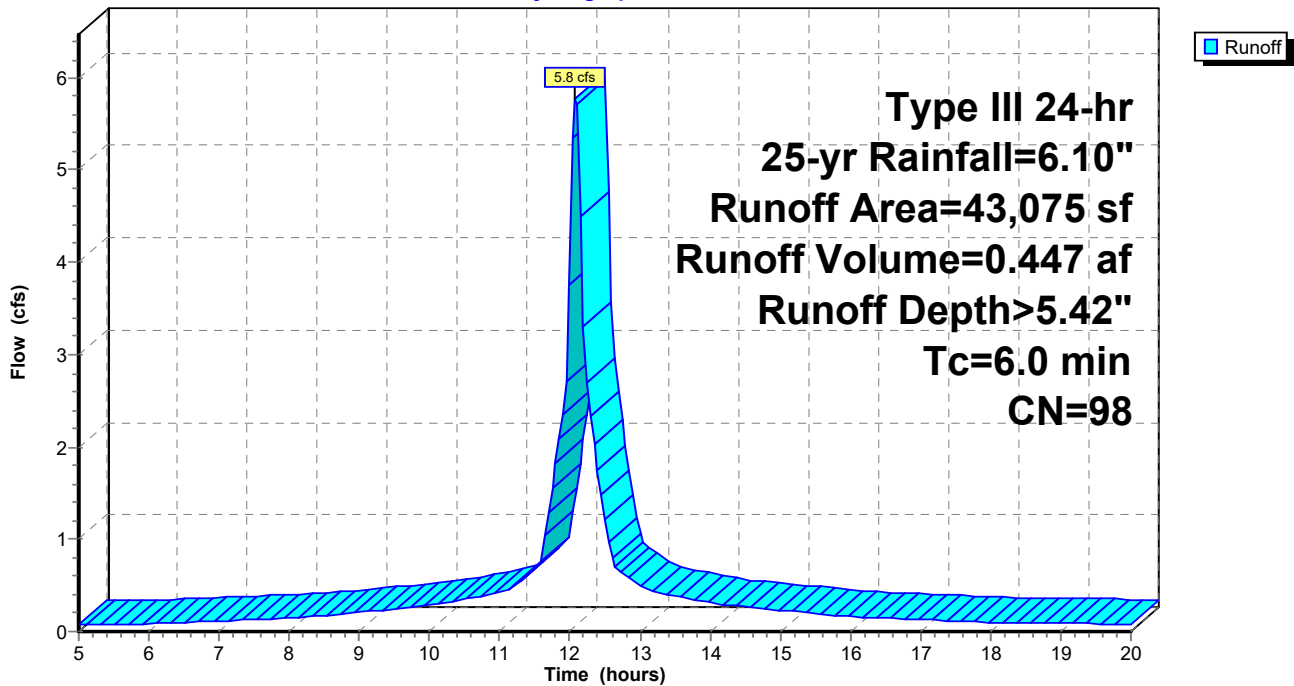
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 25-yr Rainfall=6.10"

Area (sf)	CN	Description
42,075	98	Paved parking, HSG D
1,000	80	>75% Grass cover, Good, HSG D
43,075	98	Weighted Average
1,000		2.32% Pervious Area
42,075		97.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-PR: Flow to existing catch basin

Hydrograph



342-782-Post Drainage Calcs

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Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Subcatchment A2-PR: Roof Area

Runoff = 1.8 cfs @ 12.09 hrs, Volume= 0.141 af, Depth> 5.42"
Routed to Pond P1 : Subsurface Chambers (Cultec 902HD)

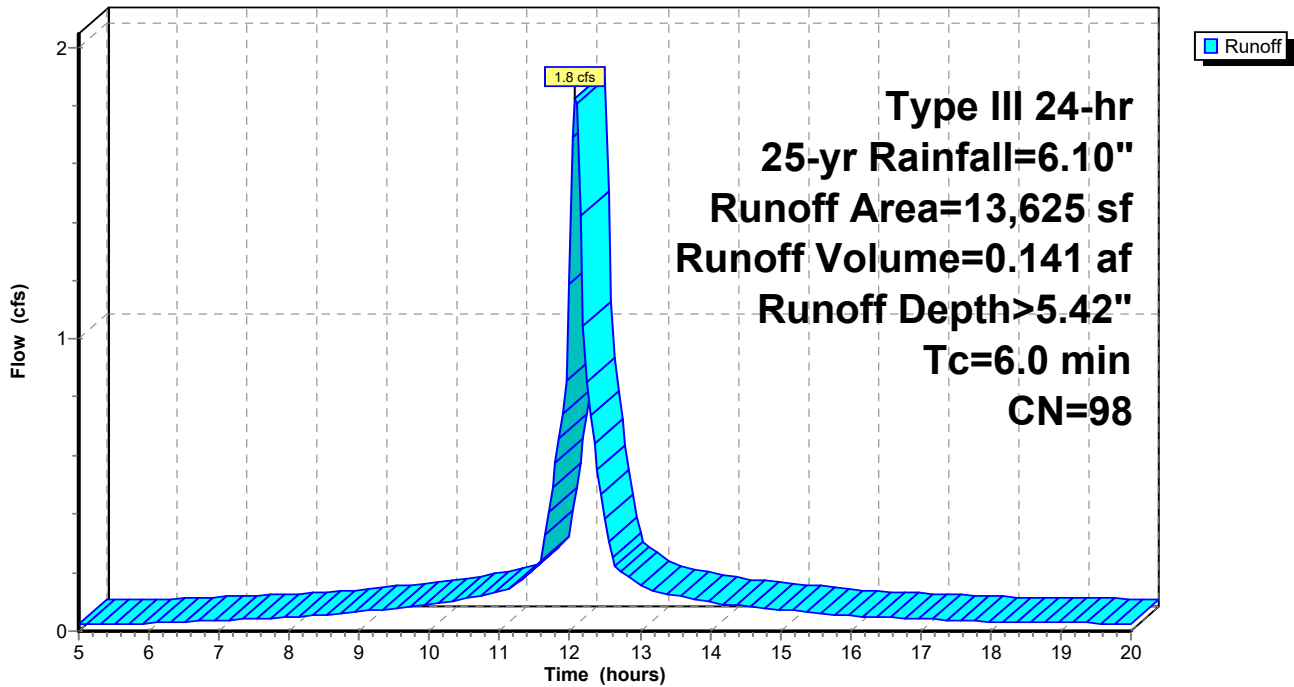
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-yr Rainfall=6.10"

Area (sf)	CN	Description
13,625	98	Roofs, HSG D
13,625		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A2-PR: Roof Area

Hydrograph



342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Reach A: Existing Catch Basin

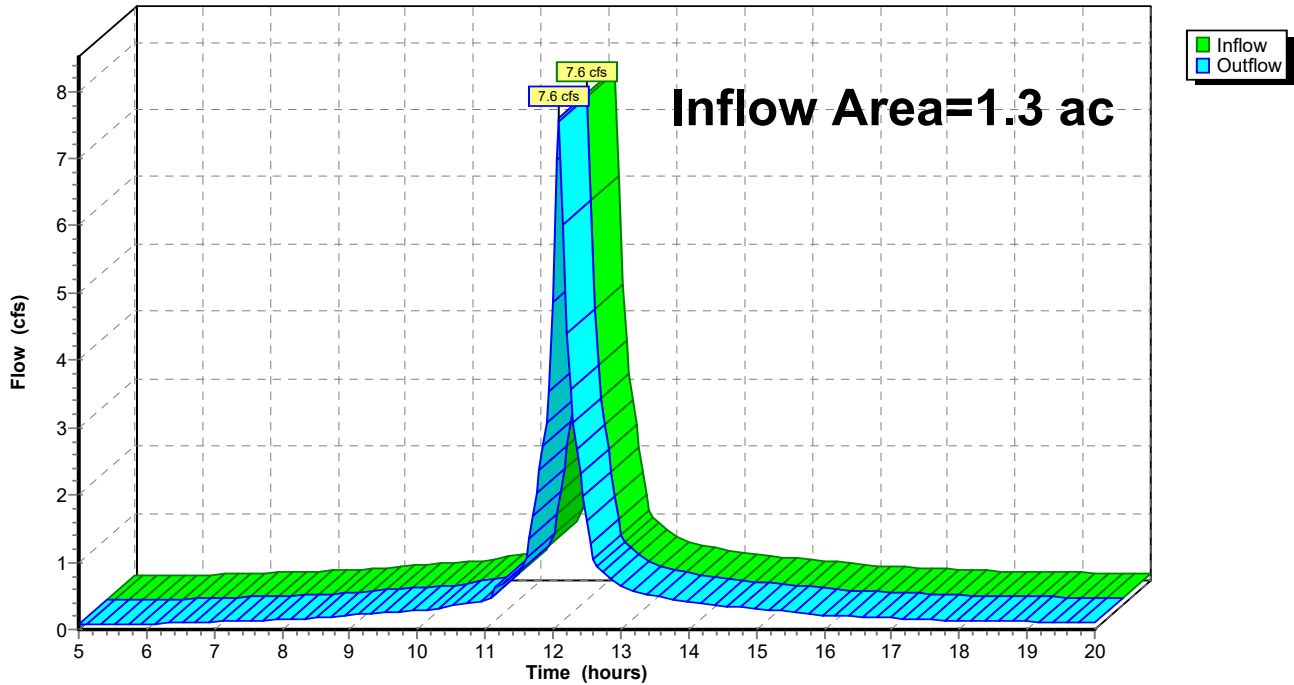
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 98.24% Impervious, Inflow Depth > 5.15" for 25-yr event
Inflow = 7.6 cfs @ 12.09 hrs, Volume= 0.559 af
Outflow = 7.6 cfs @ 12.09 hrs, Volume= 0.559 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 25-yr Rainfall=6.10"

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Summary for Pond P1: Subsurface Chambers (Cultec 902HD)

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.3 ac, 100.00% Impervious, Inflow Depth > 5.42" for 25-yr event
 Inflow = 1.8 cfs @ 12.09 hrs, Volume= 0.141 af
 Outflow = 1.8 cfs @ 12.10 hrs, Volume= 0.112 af, Atten= 0%, Lag= 0.5 min
 Primary = 1.8 cfs @ 12.10 hrs, Volume= 0.112 af
 Routed to Reach A : Existing Catch Basin

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 68.44' @ 12.10 hrs Surf.Area= 421 sf Storage= 1,347 cf

Plug-Flow detention time= 108.6 min calculated for 0.112 af (79% of inflow)
 Center-of-Mass det. time= 52.6 min (786.7 - 734.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	63.00'	682 cf	9.50'W x 44.37'L x 5.75'H Field A 2,424 cf Overall - 718 cf Embedded = 1,706 cf x 40.0% Voids
#2A	63.75'	718 cf	Cultec R-902HD x 11 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf
		1,400 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.40' S= 0.0103 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	68.00'	2.0' long x 0.50' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 4.0' Crest Height
#3	Device 1	68.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=1.8 cfs @ 12.10 hrs HW=68.43' (Free Discharge)

- 1=Culvert (Passes 1.8 cfs of 2.9 cfs potential flow)
- 2=Sharp-Crested Rectangular Weir (Weir Controls 1.8 cfs @ 2.18 fps)
- 3=Broad-Crested Rectangular Weir (Controls 0.0 cfs)

342-782-Post Drainage Calcs

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Type III 24-hr 25-yr Rainfall=6.10"

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Pond P1: Subsurface Chambers (Cultec 902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger®902HD)

Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf

Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap

Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf

11 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 41.37' Row Length +18.0" End Stone x 2 = 44.37'

Base Length

1 Rows x 78.0" Wide + 18.0" Side Stone x 2 = 9.50' Base Width

9.0" Stone Base + 48.0" Chamber Height + 12.0" Stone Cover = 5.75' Field Height

11 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 717.6 cf Chamber Storage

2,423.5 cf Field - 717.6 cf Chambers = 1,705.9 cf Stone x 40.0% Voids = 682.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,400.0 cf = 0.032 af

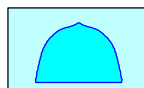
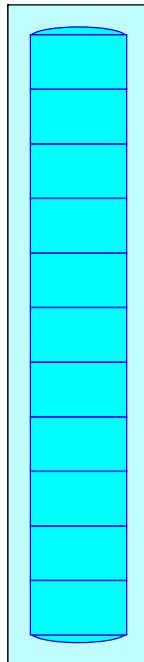
Overall Storage Efficiency = 57.8%

Overall System Size = 44.37' x 9.50' x 5.75'

11 Chambers

89.8 cy Field

63.2 cy Stone



342-782-Post Drainage Calcs

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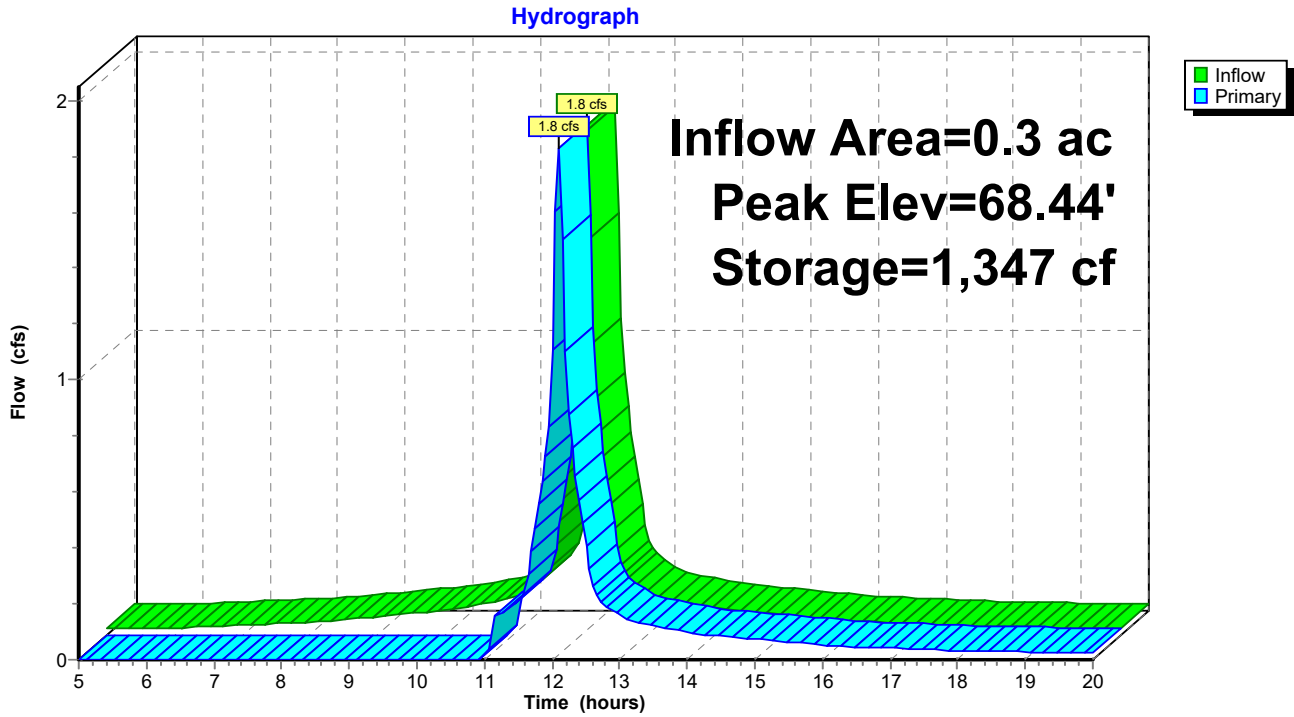
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Type III 24-hr 25-yr Rainfall=6.10"

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Pond P1: Subsurface Chambers (Cultec 902HD)



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Type III 24-hr 25-yr Rainfall=6.10"

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Stage-Area-Storage for Pond P1: Subsurface Chambers (Cultec 902HD)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
63.00	0	65.55	671	68.10	1,290
63.05	8	65.60	685	68.15	1,299
63.10	17	65.65	700	68.20	1,307
63.15	25	65.70	714	68.25	1,316
63.20	34	65.75	729	68.30	1,324
63.25	42	65.80	743	68.35	1,333
63.30	51	65.85	758	68.40	1,341
63.35	59	65.90	772	68.45	1,349
63.40	67	65.95	786	68.50	1,358
63.45	76	66.00	801	68.55	1,366
63.50	84	66.05	815	68.60	1,375
63.55	93	66.10	829	68.65	1,383
63.60	101	66.15	843	68.70	1,392
63.65	110	66.20	857	68.75	1,400
63.70	118	66.25	871		
63.75	126	66.30	885		
63.80	142	66.35	899		
63.85	157	66.40	913		
63.90	173	66.45	927		
63.95	188	66.50	940		
64.00	204	66.55	954		
64.05	219	66.60	967		
64.10	235	66.65	981		
64.15	250	66.70	994		
64.20	265	66.75	1,007		
64.25	281	66.80	1,020		
64.30	296	66.85	1,033		
64.35	311	66.90	1,046		
64.40	327	66.95	1,058		
64.45	342	67.00	1,071		
64.50	357	67.05	1,083		
64.55	372	67.10	1,095		
64.60	388	67.15	1,108		
64.65	403	67.20	1,119		
64.70	418	67.25	1,131		
64.75	433	67.30	1,143		
64.80	448	67.35	1,154		
64.85	463	67.40	1,165		
64.90	478	67.45	1,175		
64.95	493	67.50	1,186		
65.00	508	67.55	1,195		
65.05	523	67.60	1,205		
65.10	538	67.65	1,214		
65.15	553	67.70	1,223		
65.20	568	67.75	1,231		
65.25	582	67.80	1,240		
65.30	597	67.85	1,248		
65.35	612	67.90	1,257		
65.40	627	67.95	1,265		
65.45	641	68.00	1,274		
65.50	656	68.05	1,282		

342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Subcatchment A1-PR: Flow to existing catch basin

Runoff = 8.3 cfs @ 12.09 hrs, Volume= 0.641 af, Depth> 7.78"
 Routed to Reach A : Existing Catch Basin

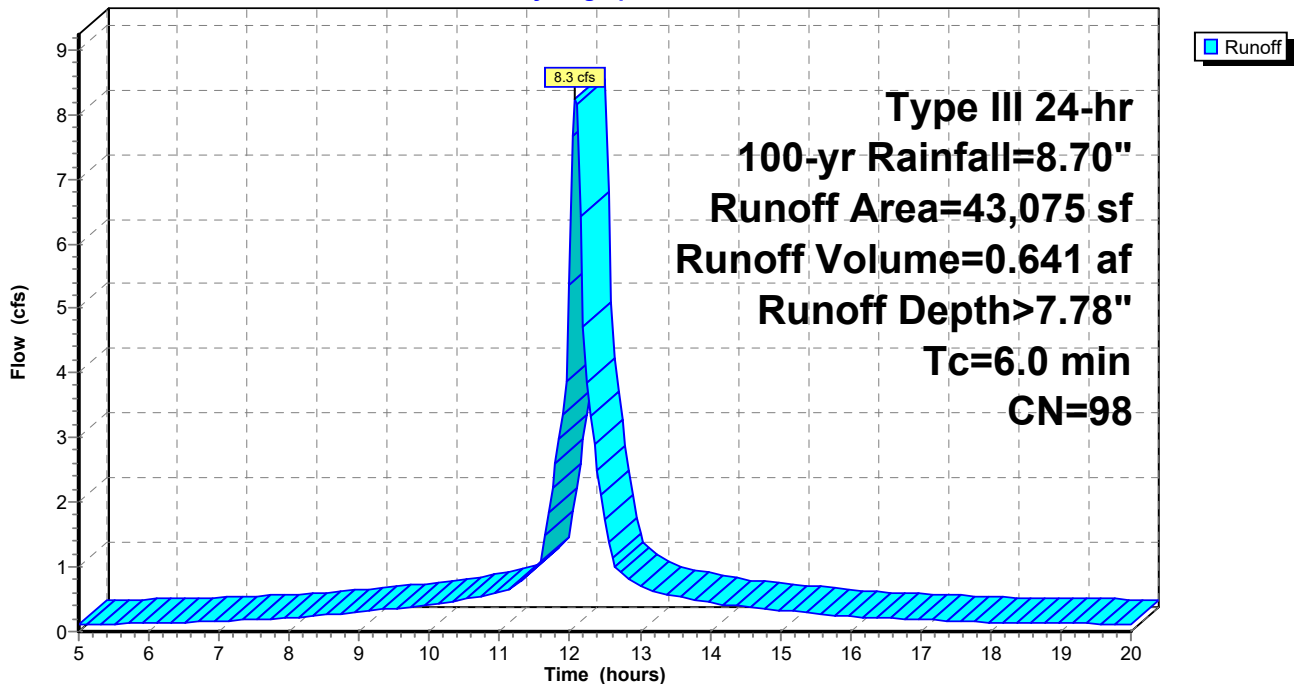
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.70"

Area (sf)	CN	Description
42,075	98	Paved parking, HSG D
1,000	80	>75% Grass cover, Good, HSG D
43,075	98	Weighted Average
1,000		2.32% Pervious Area
42,075		97.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A1-PR: Flow to existing catch basin

Hydrograph



342-782-Post Drainage Calcs

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Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Subcatchment A2-PR: Roof Area

Runoff = 2.6 cfs @ 12.09 hrs, Volume= 0.203 af, Depth> 7.78"
 Routed to Pond P1 : Subsurface Chambers (Cultec 902HD)

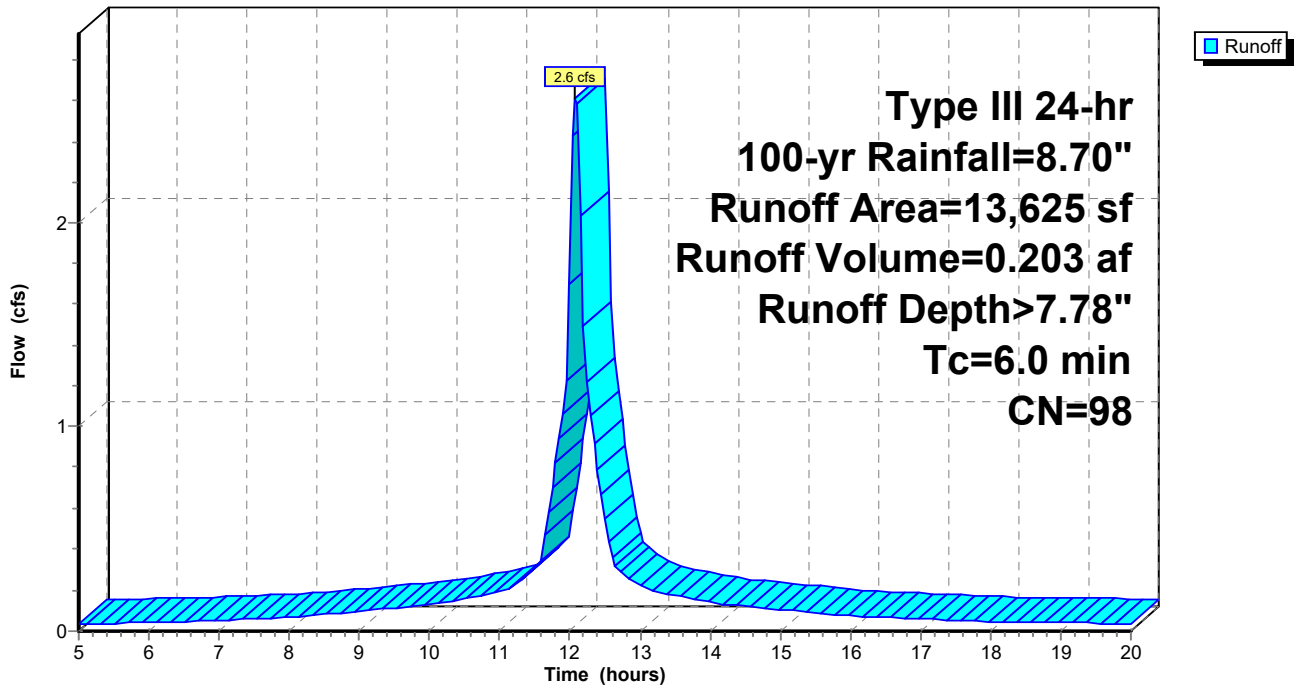
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type III 24-hr 100-yr Rainfall=8.70"

Area (sf)	CN	Description
13,625	98	Roofs, HSG D
13,625		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry,

Subcatchment A2-PR: Roof Area

Hydrograph



342-782-Post Drainage Calcs

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Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Reach A: Existing Catch Basin

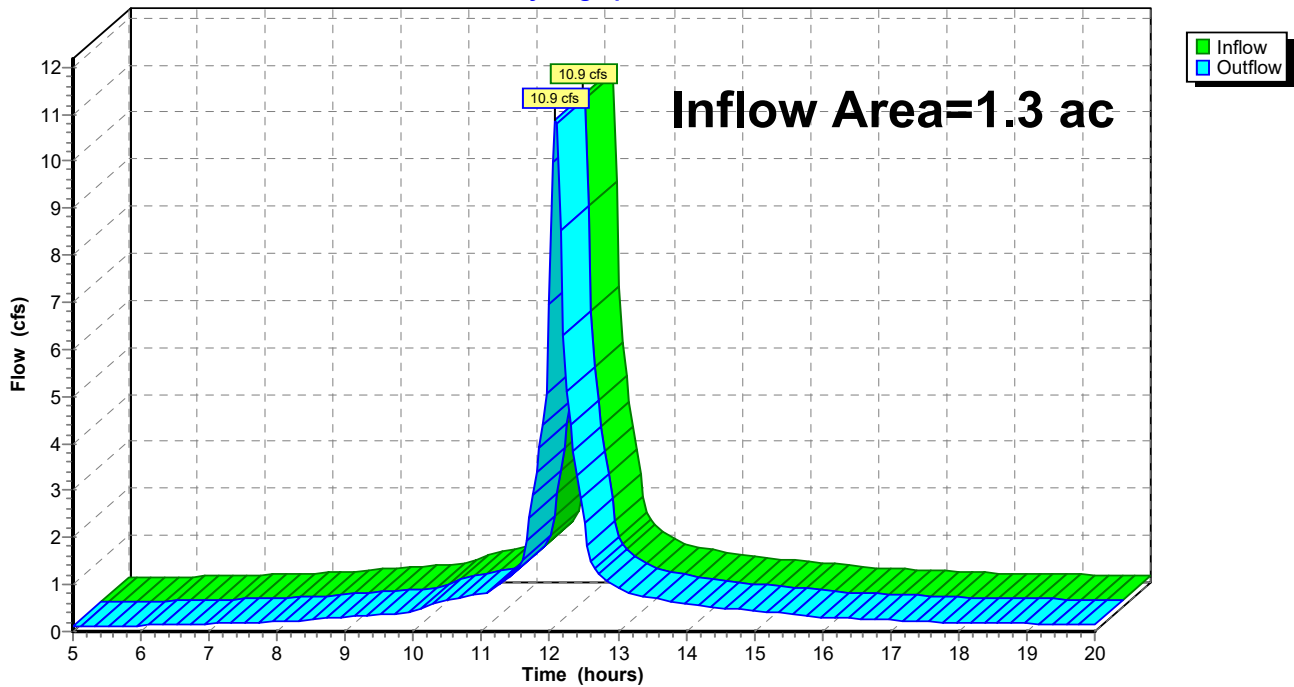
[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.3 ac, 98.24% Impervious, Inflow Depth > 7.51" for 100-yr event
Inflow = 10.9 cfs @ 12.09 hrs, Volume= 0.814 af
Outflow = 10.9 cfs @ 12.09 hrs, Volume= 0.814 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach A: Existing Catch Basin

Hydrograph



342-782-Post Drainage Calcs

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Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Summary for Pond P1: Subsurface Chambers (Cultec 902HD)

[82] Warning: Early inflow requires earlier time span

Inflow Area = 0.3 ac, 100.00% Impervious, Inflow Depth > 7.78" for 100-yr event
 Inflow = 2.6 cfs @ 12.09 hrs, Volume= 0.203 af
 Outflow = 2.6 cfs @ 12.09 hrs, Volume= 0.173 af, Atten= 0%, Lag= 0.5 min
 Primary = 2.6 cfs @ 12.09 hrs, Volume= 0.173 af
 Routed to Reach A : Existing Catch Basin

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 68.55' @ 12.09 hrs Surf.Area= 421 sf Storage= 1,366 cf

Plug-Flow detention time= 87.0 min calculated for 0.173 af (86% of inflow)
 Center-of-Mass det. time= 42.2 min (775.0 - 732.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	63.00'	682 cf	9.50'W x 44.37'L x 5.75'H Field A 2,424 cf Overall - 718 cf Embedded = 1,706 cf x 40.0% Voids
#2A	63.75'	718 cf	Cultec R-902HD x 11 Inside #1 Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf
		1,400 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	67.00'	12.0" Round Culvert L= 58.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 67.00' / 66.40' S= 0.0103 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Device 1	68.00'	2.0' long x 0.50' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 4.0' Crest Height
#3	Device 1	68.50'	4.0' long x 0.5' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 Coef. (English) 2.80 2.92 3.08 3.30 3.32

Primary OutFlow Max=2.6 cfs @ 12.09 hrs HW=68.54' (Free Discharge)

- ↑ 1=Culvert (Passes 2.6 cfs of 3.0 cfs potential flow)
- ↑ 2=Sharp-Crested Rectangular Weir (Orifice Controls 2.5 cfs @ 2.60 fps)
- ↑ 3=Broad-Crested Rectangular Weir (Weir Controls 0.1 cfs @ 0.58 fps)

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Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Pond P1: Subsurface Chambers (Cultec 902HD) - Chamber Wizard Field A

Chamber Model = Cultec R-902HD (Cultec Recharger®902HD)

Effective Size= 69.8"W x 48.0"H => 17.65 sf x 3.67'L = 64.7 cf

Overall Size= 78.0"W x 48.0"H x 4.10'L with 0.44' Overlap

Cap Storage= 2.8 cf x 2 x 1 rows = 5.5 cf

11 Chambers/Row x 3.67' Long +0.52' Cap Length x 2 = 41.37' Row Length +18.0" End Stone x 2 = 44.37' Base Length

1 Rows x 78.0" Wide + 18.0" Side Stone x 2 = 9.50' Base Width

9.0" Stone Base + 48.0" Chamber Height + 12.0" Stone Cover = 5.75' Field Height

11 Chambers x 64.7 cf + 2.8 cf Cap Volume x 2 x 1 Rows = 717.6 cf Chamber Storage

2,423.5 cf Field - 717.6 cf Chambers = 1,705.9 cf Stone x 40.0% Voids = 682.4 cf Stone Storage

Chamber Storage + Stone Storage = 1,400.0 cf = 0.032 af

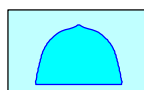
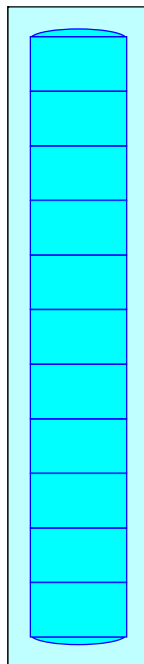
Overall Storage Efficiency = 57.8%

Overall System Size = 44.37' x 9.50' x 5.75'

11 Chambers

89.8 cy Field

63.2 cy Stone



342-782-Post Drainage Calcs

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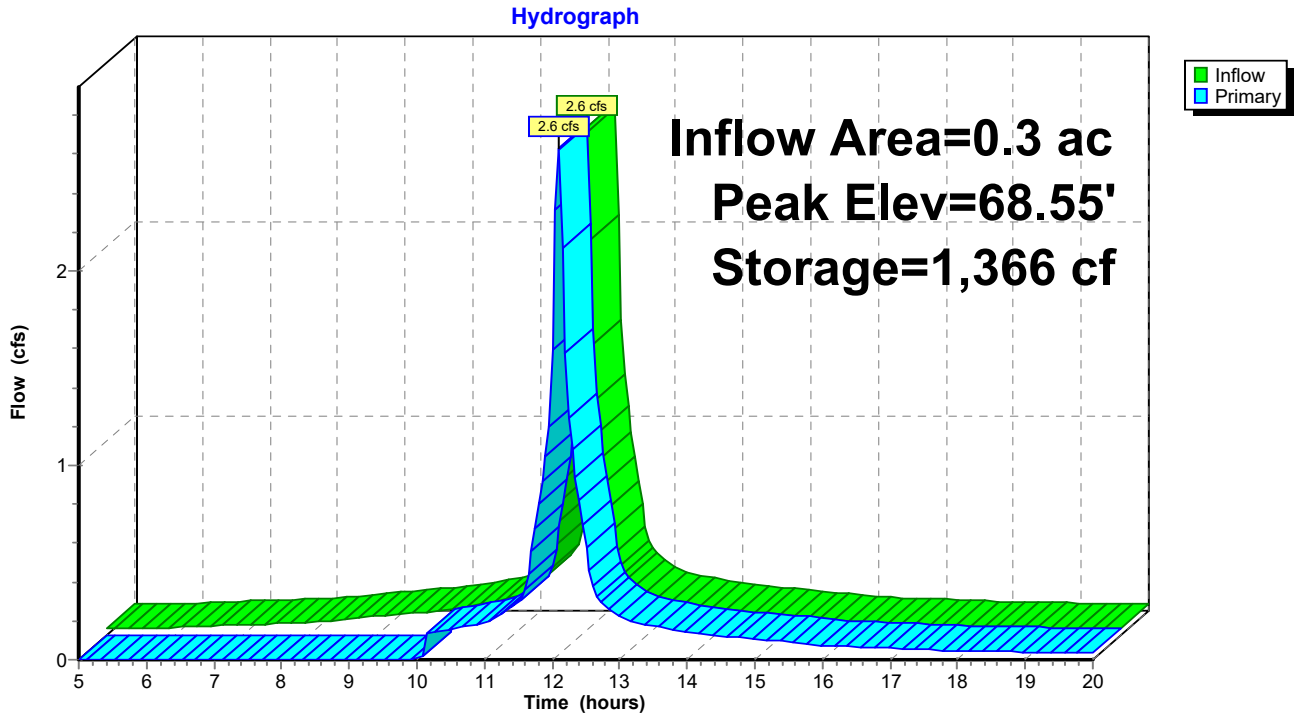
Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Pond P1: Subsurface Chambers (Cultec 902HD)



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Storage Five Cranston

Type III 24-hr 100-yr Rainfall=8.70"

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Stage-Area-Storage for Pond P1: Subsurface Chambers (Cultec 902HD)

Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)	Elevation (feet)	Storage (cubic-feet)
63.00	0	65.55	671	68.10	1,290
63.05	8	65.60	685	68.15	1,299
63.10	17	65.65	700	68.20	1,307
63.15	25	65.70	714	68.25	1,316
63.20	34	65.75	729	68.30	1,324
63.25	42	65.80	743	68.35	1,333
63.30	51	65.85	758	68.40	1,341
63.35	59	65.90	772	68.45	1,349
63.40	67	65.95	786	68.50	1,358
63.45	76	66.00	801	68.55	1,366
63.50	84	66.05	815	68.60	1,375
63.55	93	66.10	829	68.65	1,383
63.60	101	66.15	843	68.70	1,392
63.65	110	66.20	857	68.75	1,400
63.70	118	66.25	871		
63.75	126	66.30	885		
63.80	142	66.35	899		
63.85	157	66.40	913		
63.90	173	66.45	927		
63.95	188	66.50	940		
64.00	204	66.55	954		
64.05	219	66.60	967		
64.10	235	66.65	981		
64.15	250	66.70	994		
64.20	265	66.75	1,007		
64.25	281	66.80	1,020		
64.30	296	66.85	1,033		
64.35	311	66.90	1,046		
64.40	327	66.95	1,058		
64.45	342	67.00	1,071		
64.50	357	67.05	1,083		
64.55	372	67.10	1,095		
64.60	388	67.15	1,108		
64.65	403	67.20	1,119		
64.70	418	67.25	1,131		
64.75	433	67.30	1,143		
64.80	448	67.35	1,154		
64.85	463	67.40	1,165		
64.90	478	67.45	1,175		
64.95	493	67.50	1,186		
65.00	508	67.55	1,195		
65.05	523	67.60	1,205		
65.10	538	67.65	1,214		
65.15	553	67.70	1,223		
65.20	568	67.75	1,231		
65.25	582	67.80	1,240		
65.30	597	67.85	1,248		
65.35	612	67.90	1,257		
65.40	627	67.95	1,265		
65.45	641	68.00	1,274		
65.50	656	68.05	1,282		

Water Quality Volume Calculations



Water Quality Volume Flow Rate Calculations

Project Name: Cranston Self Storage
Project Location: 1 Kenney Drive
Project Number: 342-782

Date: 9/24/2024
Calculated By: CJV
Checked By: MB

Structure Name: P1
Subcatchment: A2-PR

Description: Cultec 902HD Chambers

Required WQv = (Required Treatment Depth) (I) / 12 in/ft

I = Impervious Area = STA = 27,141 sq ft
0.62 ac

Required Treatment Depth = 1.0 in

Required Water Quality Volume for 1" Treatment Depth:	2,262 cf
	0.05 ac ft

Required Treatment Depth = 0.5 in

Required Water Quality Volume for 0.5" Treatment Depth:	1,131 cf
	0.03 ac ft

Relief is requested to utilize treatment depth of 0.5 inches.

Provided Water Quality Volume

Bottom Area of System: 423 sq ft
Low Flow Outlet Elevation: 68 ft
**Water Quality Volume Provided: 1,274 cu ft

Provided Water Quality Volume:	1,274 cf
	0.03 ac ft

(**See attached documentation.)

*Stormwater Treatment Area Calculated Per Section 3.1.6.2 of the RISDISM Redevelopment Guidance.

Groundwater Recharge Calculations



Groundwater Recharge Calculations

Project Name: Cranston Storage Five
Project Location: 1 Kenney Drive
Project Number: 342-782

Date: 9/24/2024
Calculated By: CJV
Checked By: MB
1 of 2

Required Recharge Volume (Rev)

$Rev = (1")(F)(I) / 12$
F (recharge factor) = 0.1 in *assuming HSG D due to urban fill*
I (impervious area, acres) = STA = 0.64 ac
Rev Required = 0.005 ac-ft
Rev Required = 218 cf

Stormwater Treatment Area (STA) Calculation

per Section 3.2.6 of the RISDISM Redevelopment Criteria Guidance

Is this a redevelopment that disturbs > 10,000 SF? Yes

Is the site greater than 40% impervious in its existing condition? Yes

Existing Impervious Area = 3.87 ac
Existing Parcel Area (Site Size) = 6.68 ac
Existing % Impervious = 58%

All disturbed existing impervious area requires 50% treatment, new impervious area requires 100% treatment, and new pervious area can be subtracted out.

Disturbed Impervious Area - New Pervious Area = 1.28 ac
New Impervious Area = 0.00 ac
STA = 50% * Disturbed Impervious Area - New Pervious Area + 100% * New Impervious Area = 0.64 ac

Required Recharge Volume: 218 cu ft

Provided Recharge Volume

Pond P1 1,274 cf *Cultec 902HD*
TOTAL 1,274 cf

Provided Recharge Volume: 1,274 cu ft

APPENDIX C

OPERATIONS AND MAINTENANCE (O&M) PLANS

Construction Period Pollution Prevention and Sedimentation and Erosion Control Plan
Operations and Maintenance (O&M) Plan

**Construction Period Pollution Prevention and Sedimentation and Erosion
Control Plan**

**CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION
AND SEDIMENTATION CONTROL PLAN**

**PROPOSED SELF STORAGE
1 KENNEY DRIVE & O SHARPE STREET
CRANSTON, RHODE ISLAND 02920**

Applicant:

**STORAGE FIVE DEVELOPMENT
P.O BOX 1042
SEABROOK, TX 77586**

Prepared By:

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
31 BELLOWS ROAD
RAYNHAM, MASSACHUSETTS 02767**

CEC Project 342-782

SEPTEMBER 2024



Civil & Environmental Consultants, Inc.

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GENERAL

The greatest potential for sediment generation will occur during construction. An extensive erosion and sedimentation control program is proposed and will be diligently implemented during construction of the Project. The erosion control program will minimize erosion and sedimentation that could potentially impact resource areas. Water quality will be maintained by minimizing erosion of exposed soils and siltation. Erosion control barriers will be installed and exposed soil areas revegetated as soon as possible after work in an area is completed.

This Erosion and Sedimentation Control Plan includes preliminary measures and requirements for management and implementation of erosion and sediment controls during construction.

Responsible Party for Plan Compliance: Storage Five Development (Owner)

Emergency Contact Information:

To be determined.

CONSTRUCTION PHASE EROSION CONTROL MEASURES

The adjacent properties will be protected during construction by implementing siltation control measures, including the placement of compost silt socks as close as feasible to the down gradient limit of construction activity. Silt sacks will be installed in down gradient catch basins and a temporary stabilized construction exit will be constructed. The project may also implement other stabilization methods such as erosion netting and hydro seeding.

Short and Long Term Goals and Criteria

Short and long-term goals will include a variety of stabilizing sediment and erosion controls around the limit of work. All construction-phase erosion and sediment controls have been designed to retain sediment on-site to the extent practicable and limit runoff and the discharge of pollutants (sediment) from exposed areas of the Site.

All control measures will be installed and maintained in accordance with the manufacturer's specifications and good engineering practices. Weekly inspections and routine monitoring will be used to determine the effectiveness of controls in use.

Litter and solid construction debris potentially exposed to the stormwater will be prevented from becoming a pollution source through routine monitoring and the use of laborers to "pick" as necessary.

Stabilization Practices

The construction site activities will include numerous stabilizing practices. Sediment and erosion controls such as erosion netting, mulching and hydro-seeding may act as interim practices. Erosion netting material may include single net straw blankets or coconut blankets. Permanent stabilization practices will include the use of a hydro-seeding over vegetative support soil where additional exposure threatens stormwater quality. Seeding will be carried out with a seed mixture equal to the "Roadside Slope Mix" included below. All siltation barriers will remain in place until all exposed areas are re-vegetated.

Planting Schedule for Exposed Areas

1. All exposed areas will receive 6 inches of topsoil or compost material.
2. Seed will be equal to "Roadside Slope Mix" as specified by the Mass. Highway Department. Please refer to chart below for specifications. This mixture will be spread at a rate of 5 pounds per 1,000 square feet.

TABLE 1 ROADSIDE SLOPE MIX			
Common Name	Germination Proportion	Purity Minimum	Minimum
Creeping Red Fescue	50%	85%	95%
Kentucky 3	30%	85%	95%
Domestic Rye	10%	90%	98%
Red Top	5%	85%	92%
Ladino Clover	5%	85%	96%

Structural Practices

Perimeter controls will consist of compost silt socks. In order to ensure effective performance, proper installation is required.

A temporary stabilized construction exit will be constructed. A cross slope will be placed at the entrance to direct runoff to the settling area. If deemed necessary after construction begins, a wash pad may be included to wash off vehicle wheels before leaving the Site. Silt sacks will be installed in down gradient catch basins in order to capture sediment prior to stormwater entering the municipal drainage systems.

NON-STRUCTURAL CONTROLS

Good Housekeeping

Non-structural controls are as effective as structural controls in sediment control. Non-structural controls to be used at the construction Site include:

- Regular sweeping of paved surfaces; and
- Prompt cleanup of any waste or spilled waste materials.

Exposure Minimization

Exposure will be minimized by providing both permanent and temporary soil stabilization (see Section 5.2.2) over areas that have been completely constructed, or areas that will not be revisited within a 30-day period.

Where practicable, industrial materials and activities will be protected from exposure to rain, snow, snowmelt, or runoff.

Preventative Maintenance

A preventative maintenance program includes the timely inspection and maintenance of stormwater management devices. Examples of preventative maintenance include:

- Removal of obstructions, if any, from inlets and outlets.
- Removal of accumulated sediment and vacuuming water from sumps.
- Repairing and re-planting slope areas that experience erosion.

Inspections

An experienced Construction Monitor will conduct inspections of construction areas once every 7 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches or greater, or the occurrence of runoff from snowmelt sufficient to cause a discharge. Storm event information from a weather station representative of the Site's location may be used to determine if a storm event of 0.25 inches or greater has occurred on the Site. Total rainfall will be measured for any

day of rainfall during normal business hours that measures 0.25 inches or greater. Construction areas an experienced Construction Monitor will inspect include:

- Disturbed areas of the construction Site that have not been finally stabilized,
- Areas used for storage of materials that are exposed to precipitation,
- Structural control measures,
- Locations where vehicles enter or exit the Site, and
- The stormwater management system and discharge outlets.

Disturbed areas and areas used for storage of materials that are exposed to precipitation will be inspected for evidence of, or the potential for, pollutants entering the drainage system.

Sediment and erosion control measures identified will be observed to ensure that they are operating correctly. The discharge locations or points will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the Site will be inspected for evidence of offsite sediment tracking.

Based on the results of these routine inspections, the Contractor will correct any deficiencies found as soon as practicable. Results of the inspections, corrective actions taken in response to any deficiencies, and any opportunities for improvement that are identified will be documented in an inspection report.

RECORDKEEPING

The following records will be maintained on the Site:

1. Dates when major grading activities occur,
2. Dates when construction activities temporarily or permanently cease on a portion of the Site,
3. Dates when stabilization measures are initiated, and
4. In addition, the following records will also be kept:
 - The Order of Conditions; and any additional permit conditions/approvals,
 - All inspection reports, and
 - Any spill reports.

Operations and Maintenance (O&M) Plan

OPERATIONS AND MAINTENANCE (O&M) PLAN

**PROPOSED SELF STORAGE
1 KENNEY DRIVE & O SHARPE STREET
CRANSTON, RHODE ISLAND 02920**

Applicant:

**STORAGE FIVE DEVELOPMENT
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GENERAL

Stormwater management systems with multiple components, such as the one proposed for the project, assures the cleanest possible discharges of stormwater to the environment. However, these systems must be routinely maintained to keep them in good working order. Additionally, this plan identifies potential sources of pollution that may affect the quality of stormwater discharges and describes the implementation of Long-Term Pollution Prevention practices to reduce potential pollutants in stormwater discharge. The party identified below will be responsible for the operation and maintenance of the stormwater management system and Site. Schedules and procedures for inspection and maintenance of the existing and proposed stormwater management system components are provided in the following sections.

Responsible Party for Plan Compliance:

Upon a transfer of ownership, the future owner shall assume the responsibilities for compliance with this O&M Plan.

Emergency Contact Information:

To be determined.

Estimated O&M Budget

It is estimated that an annual budget of \$1,000 should be allocated to performing routine inspections and maintenance identified in this O&M Plan.

Employee Training

Training of personnel is essential to achieving proper operation and maintenance of the stormwater management system. Therefore, those Facility personnel who are responsible for operation and maintenance will be trained on the following subjects:

- Environmental laws and regulations relating to stormwater,
- The components and goals of the current Erosion and Sediment Control Plan,
- The components and goals of the current Spill Response Plan

- Site specific permit conditions and requirements,
- General Facility spill response procedures,
- General good housekeeping procedures, and
- General material management procedures.

Refresher training sessions will be held once a year following the completion of the Site Compliance Evaluation.

Record Keeping

Records of inspections and maintenance shall be up to date and available for review and inspection, if requested by the City's official.

STORMWATER BEST MANAGEMENT PRACTICES (BMP) PLAN

Routine Inspections

Inspections of the stormwater management system as a whole, and of the individual components of the system, will be carried out on a routine basis in accordance with the schedule identified in below in the Maintenance Plan Section. Components to be inspected include the trench drain and infiltration chambers. Each will be inspected for sediment buildup, presence of oil, color, and structural damage. The results of each inspection will be entered into an inspection log. Refer to Table 1 for the inspection log form.

Maintenance Plan

The Responsible Party will incorporate a routine maintenance program to assure proper operation of the stormwater management system. Maintenance will be performed based on the results of inspections in accordance with the schedules identified in Table 1. The program will include the following maintenance activities:

Roof Drain Leaders

- Perform routine roof inspections twice per year, typically in the spring and fall.
- Inspect for blockage and remove debris if required.
- Keep roofs clean and free of debris.
- Keep roof drainage systems clear.
- Keep roof access limited to authorized personnel.

Subsurface Stormwater Chambers

See the attached Manufacturer's instructions on operation and maintenance requirements and methodology.

- Perform routine inspections on a monthly basis for the first three months after installation. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually.

- The subsurface infiltration system will be inspected twice during for the first year and annually thereafter by removing the manhole/access port covers and determining the thickness of sediment that has accumulated.
- If sediment is more than two inches deep, it must be suspended via flushing with clean water and removed using a vacuum truck.
- Outlet pipe will be examined at least once each year and verified that no blockage has occurred.

LONG TERM POLLUTION PREVENTION MAINTENANCE

The Responsible Party will incorporate a routine maintenance program to ensure the continued effectiveness of the structural water quality controls. Maintenance will be performed based on the results of inspections in accordance with the schedules identified below. The program will include the following maintenance activities:

Maintenance of Pavement Systems

Regular maintenance of pavement surfaces will prevent pollutants such as oil and grease, trash, and sediments from entering the stormwater management system. The following practices should be performed:

- Sweep or vacuum asphalt pavement areas annually with a commercial cleaning unit and dispose of removed material.
- Routinely pick up and remove litter from the parking areas, islands, and perimeter landscaping.

Maintenance of Vegetated Areas

Proper maintenance of vegetated areas can prevent the pollution of stormwater runoff by controlling the source of pollutants such as suspended sediments, excess nutrients, and chemicals from landscape care products. Practices that should be followed under the regular maintenance of the vegetated landscape include:

- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- Grass vegetation should not be cut to a height less than four inches.
- Pesticide/Herbicide Usage – No pesticides are to be used unless a single spot treatment is required for a specific control application.

- Fertilizer usage should be avoided. If deemed necessary, slow release fertilizer should be used. Fertilizer may be used to begin the establishment of vegetation in bare or damaged areas, but should not be applied on a regular basis unless necessary.

Management of Snow and Ice

Should significant snow fall events occur, which result in stockpiled snow impacting the operation of the Project Site, through the temporary loss of parking or limiting access in any way, the property manager may choose to have snow removed from the site. All snow removal operations will be done in accordance with Massachusetts DEP guidelines BRPG01-01, effective date March 8, 2001.

Salt and Deicing Chemicals

The amount of salt and deicing chemicals to be used on the site shall be reduced to the minimum amount needed to provide safe pedestrian and vehicle travel. The following practices should be followed to control the amount of salt and deicing materials that come into contact with stormwater runoff:

- Devices used for spreading salt and deicing chemicals should be capable of varying the rate of application based on the site specific conditions.
- Sand and salt should be stockpiled under covered storage facilities that prevent precipitation and adjacent runoff from coming in contact with the deicing materials.

ATTACHMENT 1

CONSTRUCTION BMP MAINTENANCE LOG



Table 1.1 - Stormwater Operations and Maintenance Log

Project Name: Proposed Self Storage
 Project Location: 1 Kenney Drive
 Project Number: 342-782

Date: 9/13/2024
 Prepared By: CJV
 Approved By: MB

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning or Repair Needed (List Items if Required)	Date of Cleaning or Repair	Performed by
Pavement Sweeping	Inspect quarterly.			Paved areas will be swept annually at a minimum, and as otherwise needed.			
Existing Catch Basin	Inspect four times per year. Clean four times per year, in the spring and fall, or whenever sediment buildup exceeds two (2) feet in depth.			Remove trash and deposits. During cleanings, confirm the oil/debris trap (hood) is installed properly, is free of clogs, and is functional. Reinstall or replace as needed. Take care not to damage the oil/debris trap (hood) during cleaning.			
Roof Drain Leaders	Inspect twice per year, typically in the spring and fall.			Inspect for blockage and remove debris if required.			
Subsurface Stormwater Chambers	Inspect monthly for the first three months. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually as required by the manufacturer.			Remove sediment once per year or when buildup exceeds two (2) inches in depth.			
Vegetated Areas	Inspect twice per year, typically in the spring and fall.			Perform maintenance on a regular basis during the growing season. Mow grassed areas on a regular basis to maintain growth. Plant alternative mixture of grass species in the event of unsuccessful establishment. Grass vegetation should not be cut to a height less than six inches. Maintain planted areas adjacent to pavement to prevent soil washout and immediately clean any soil deposited on pavement. Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming. Remove trash, sediment debris and invasive vegetation.			