

CODE DATA	CODE REFERENC UNLESS OTHERW	ENER	G١				
FACILITY: STEAM GENERATION	STEAM GENERATION (CAN	IOPY)	ELECTRICAL BUILDING	ELECTRICAL BUILDING		PER 2018 BUI	
GENERAL INFORMATION					ENVELOPE T	YPE	
USE AND OCCUPANCY CLASSIFICATION (SECTION 304.1 & 306.2)	F-1 MODERATE HAZARD		F-1 MODERATE HAZARD		EXTERIOR W	ALL	
CONSTURCTION TYPE OF (SECTION 602.5)	TYPE IIB, NON-COMBUSTIB	LE	TYPE IIB, NON-COMBUSTIBLE		FLOORS		
AREA AND HEIGHT LIMITATIONS					ROOF		
ALLOWABLE:(506.2)	N/A		F-1 OCCUPANCY NS, 15,50	00 SF	EXTERIOR DO		
FIRST FLOOR	N/A		15,500 SF		GLAZED DOC		
ACTUAL AREA			1.5,555.5		FIXED WINDO		
FIRST	3980 SF		396 SF		FIXED WINDO	,vv ===	
MAXIMUM ALLOWABLE STORIES (TABLE 504.4 & SECTION 503)	N/A		3				
ACTUAL NUMBER OF STORIES	1		1	1		RVEN ING	
MAXIMUM ALLOWABLE HEIGHT (TABLE 504.3)	N/A		55 FT	55 FT		SAN FRANCISCO AMENDMENTS	
ACTUAL ROOF HEIGHT	26'-5"		14' - 1 1/2"	14' - 1 1/2"		RAN	
OCCUPANCY/ENGRESS INFORMATION					• 2016 CALIF		
DESIGN OCCUPANCY (TABLE 1006.3.2 & 1004.1	.2):				• 2016 CALIF		
OCCUPANTS PER FLOOR	CALC OCC LOAD	MIN EXITS	CALC OCC LOAD	MIN EXITS	• 2016 CALIF	ORN	
FIRST	20	N/A	2	1	• 2016 CALIF		
EGRESS WIDTH REQUIRED FOR DOORS (SECTION 1010.1.1)	N/A (MINIMUM 32" CLEAR W	IDTH)	MINIMUM 32" CLEAR WIDTH		CODE (CAL	GRE	
EGRESS WIDTH REQUIRED FOR STAIRS (SECTION 1011.2)	N/A		N/A		• 2010 ADA S	) I AI	
ALLOWABLE COMMON PATH OF TRAVEL (TABLE 1006.2.1)	75 FT FOR F-2 NON-SPRINK	LED	75 FT FOR F-1 NON-SPRINKLED				
MAX TRAVEL DISTANCE ALLOWED (TABLE 1017.2)	300 FT FOR F-2 NON-SPRINI	KLED	200 FT FOR F-1 NON-SPRINKLED				
REQUIRED FIRE RESISTANT RATING					CHEMICAL		
BUILDING ELEMENTS (TABLE 601)						$^{+}$	
STRUCTURE FRAME	0 HR		0 HR		OXYGEN SCAVENGER		
EXTERIOR BEARING WALLS			1 HR (PER TABLE 602 FIRE SEPARATION DISTANCE FOR 5'-5.75") SOUTH WALL ONLY		OG/WEINGEN		
INTERIOR BEARING WALLS	N/A		N/A		AMINE		
INTERIOR NON-BEARING WALLS	N/A		N/A			_	
FLOOR CONSTRUCTION	0 HR		0 HR			r   F	
ROOF CONSTRUCTION	0 HR		0 HR			IN	
OCCUPANCY SEPARATIONS (508.4)							
FIRE WALL : FIRE RESISTANT RATING (TABLE 706.4)	NONE		NONE				
FIRE PROTECTION FEATURES							
FIRE SEPARATION DISTANCE (TABLE 602)	N/A		1 HR (PER TABLE 602 FIRE DISTANCE OF 5'-5.75")	SEPARATION			
FIRE PROTECTION SYSTEMS							
MAXIMUM AREA OF EXTERIOR WALL OPENINGS (PRE 705.8.1 EXCEPTION 2)							
SPRINKLERS	NOT REQUIRED		NOT REQUIRED				
EXIT LIGHTING	NOT REQUIRED		PROVIDED (SEE ELECTRICAL)				
FIRE EXTINGUISHERS	PROVIDED (SEE PLANS FOR	R LOCATIONS)	PROVIDED (SEE PLANS FOR LOCATIONS)				
PLUMBING FIXTURES							
NO FIXTURES NON-OCCUPIED FACILITY	·	·	·		1		

**ENERGY CODE PRESCRIPTIVE REQUIREMENTS** PER 2018 BUILDING ENERGY EFFICIENCY STANDARDS, MEASURED FOR CLIMATE ZONE 3 **ENVELOPE TYPE** EXTERIOR WALL (MASS HEAVY) 0.65 **FLOORS** 0.269 ROOF 0.75 EMITTANCE, AGED SOLAR REFLECTANCE 0.63 EXTERIOR DOORS 0.7 SWINGING, 1.45 NON SWINGING

## APPLICABLE CODES AND STANDARDS

- 2016 INTERVENING CALIFORNIA BUILDING CODE INTERVENING CYCLE DATED JULY 1, 2018 WITH SAN FRANCISCO BUILDING CODE AND SFMC
- 2016 SAN FRANCISCO FIRE CODE (SFFC)
- 2016 CALIFORNIA PLUMBING CODE (CPC)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC)
- 2016 CALIFORNIA ENERGY CODE SAN FRANCISCO MUNICIPAL CODE (SFMC)
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)
- 2010 ADA STANDARD

- 2015 NFPA 85 BOILER AND COMBUSTION ENGINES HAZARDS CODE
- 2016 NFPA 820 STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION
- NFPA 70: NATIONAL ELEC CODE

0.45 MAX U-FACTOR / 0.23 MAX RSHGC / 0.17 MIN VT 0.36 MAX U-FACTOR / 0.25 MAX RSHGC / 0.42 MIN VT

- 2016 CALIFORNIA MECHANICAL CODE (CMC)
- CALIFORNIA CODE OF REGULATIONS (CCR)
- SAN FRANCISCO ENVIRONMENT CODE

HAZARDOUS MATERIALS LIST										
CHEMICAL	CAS#	HAZARD TYPE	HMIS	QUANTITY STORED	ALLOWABLE QUANTITY PER CBC CHAPTER 4 CBC CHAPTER 3 TABLE 307.1	NOTES				
OXYGEN SCAVENGER	7681-57-4 7757-83-7	CORROSIVE, COMBUSTABLE (LIQUID CLASSIFCATION)	H: 2 F: 0 R: 1	PRIMARY: 120 GAL SECONDARY: 220 GAL	120 GAL - UNDER CANOPY	SECONDARY STORAGE IS 5FT FROM CANOPY				
AMINE	124-40-3	CORROSIVE, FLAMMABLE	H: 3 F: 4 R: 0	PRIMARY: 120 GAL SECONDARY: 110 GAL	120 GAL - UNDER CANOPY	SECONDARY STORAGE IS 5FT FROM CANOPY				
ANTISCALANT	NON-DOT REGULATED INGREDIENTS	CORROSIVE	H: 0 F: 0 R: 0	PRIMARY: 120 GAL SECONDARY: 110 GAL	120 GAL - UNDER CANOPY	SECONDARY STORAGE IS 5FT FROM CANOPY				

Exp.02-28-2021

Brown AND Caldwell ch2m D. GREEN A. HARM T. STIGERS A. HARM G. ROBLEY

BIOSOLIDS DIGESTER FACILITIES PROJECT CONSULTANT TEAM

KEY PLAN **CONTRACT NO. WW-647R** CITY AND COUNTY OF SAN FRANCISCO **PUBLIC UTILITIES COMMISSION** INFRASTRUCTURE DIVISION ENGINEERING MANAGEMENT BUREAU SOUTHEAST WATER POLLUTION CONTROL PLANT BIOSOLIDS DIGESTER FACILITIES PROJECT **CODE REVIEW** 

AS SHOWN

607-A-05-0001

Dec 30, 2020

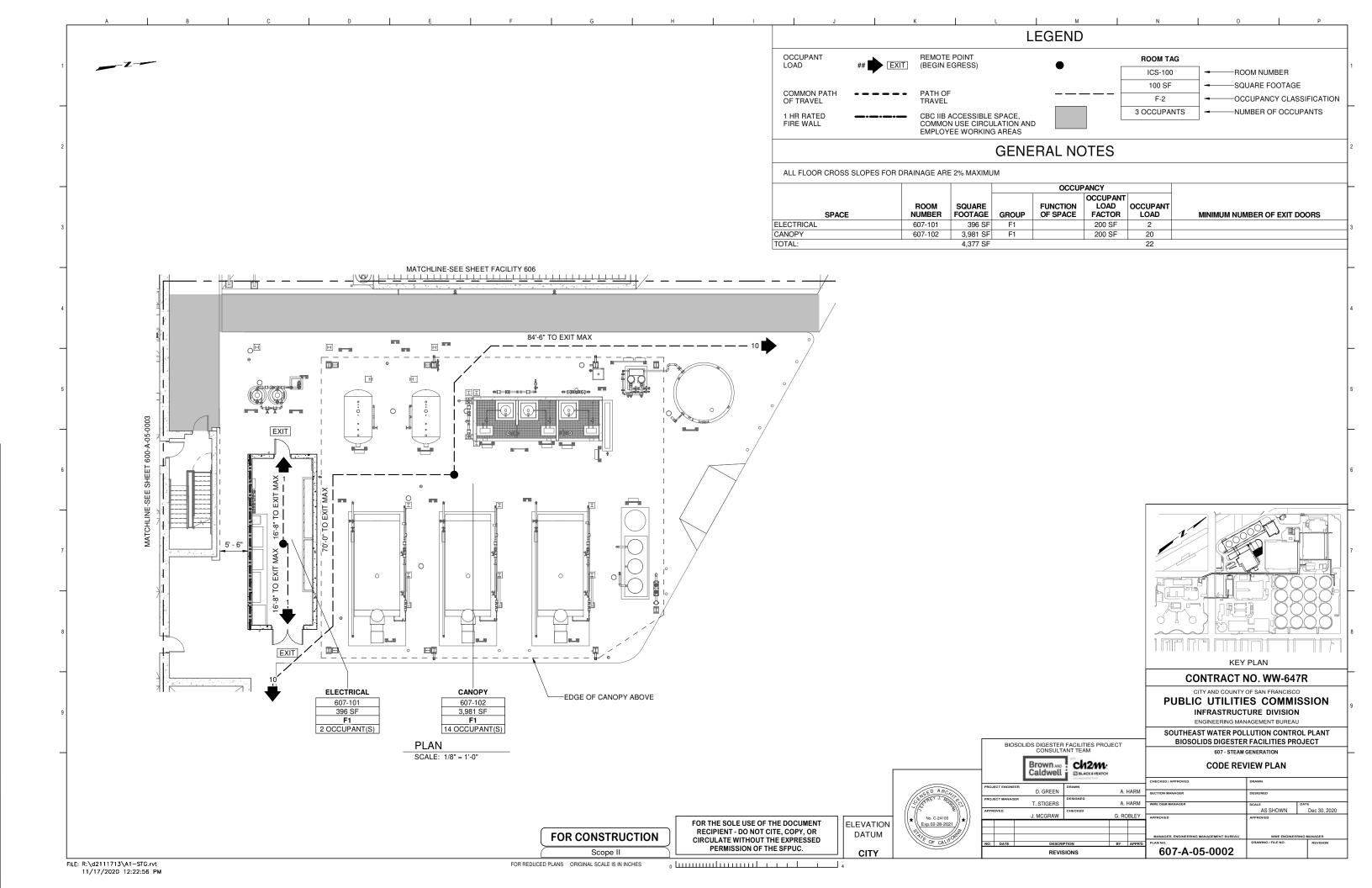
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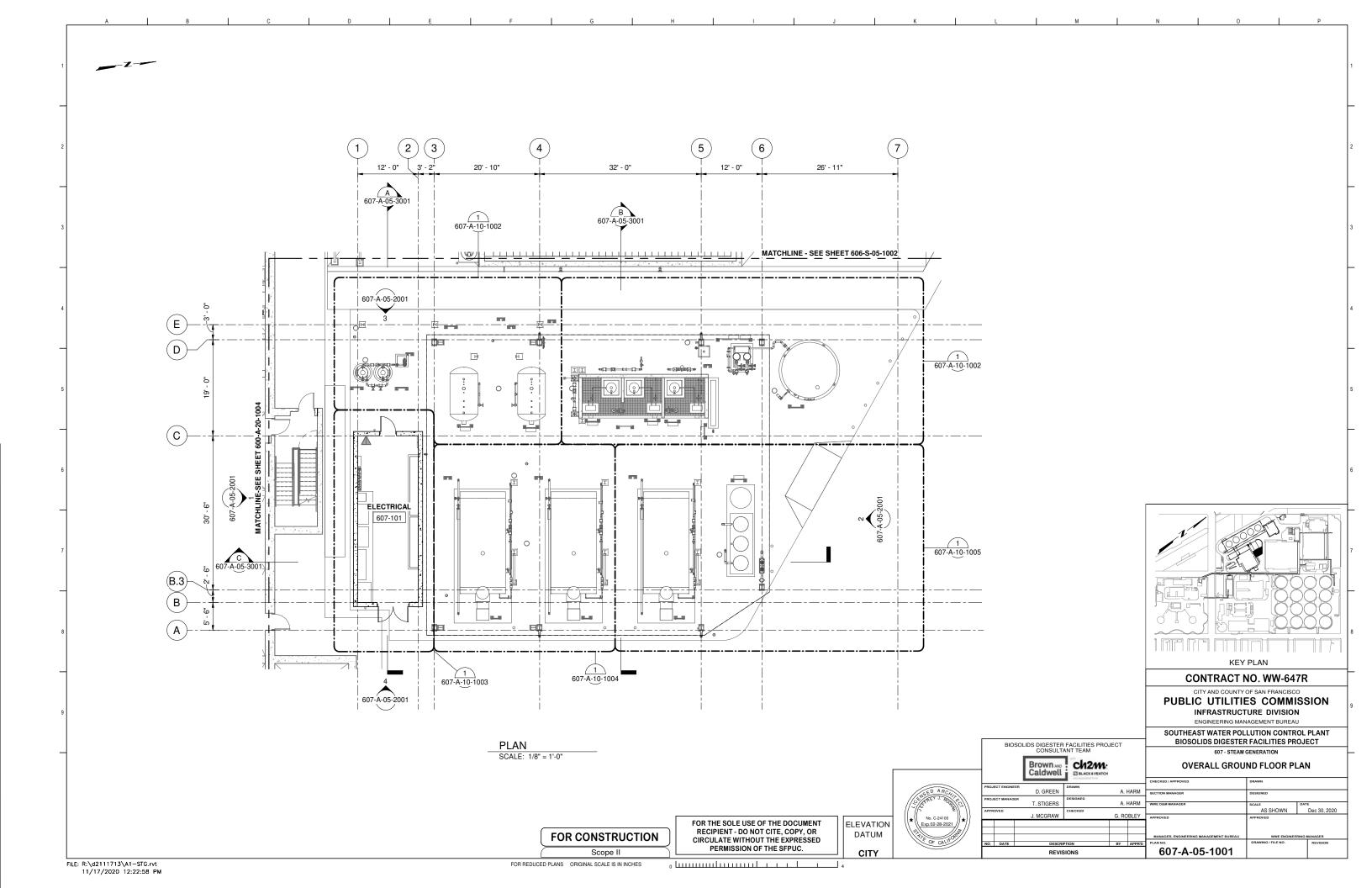
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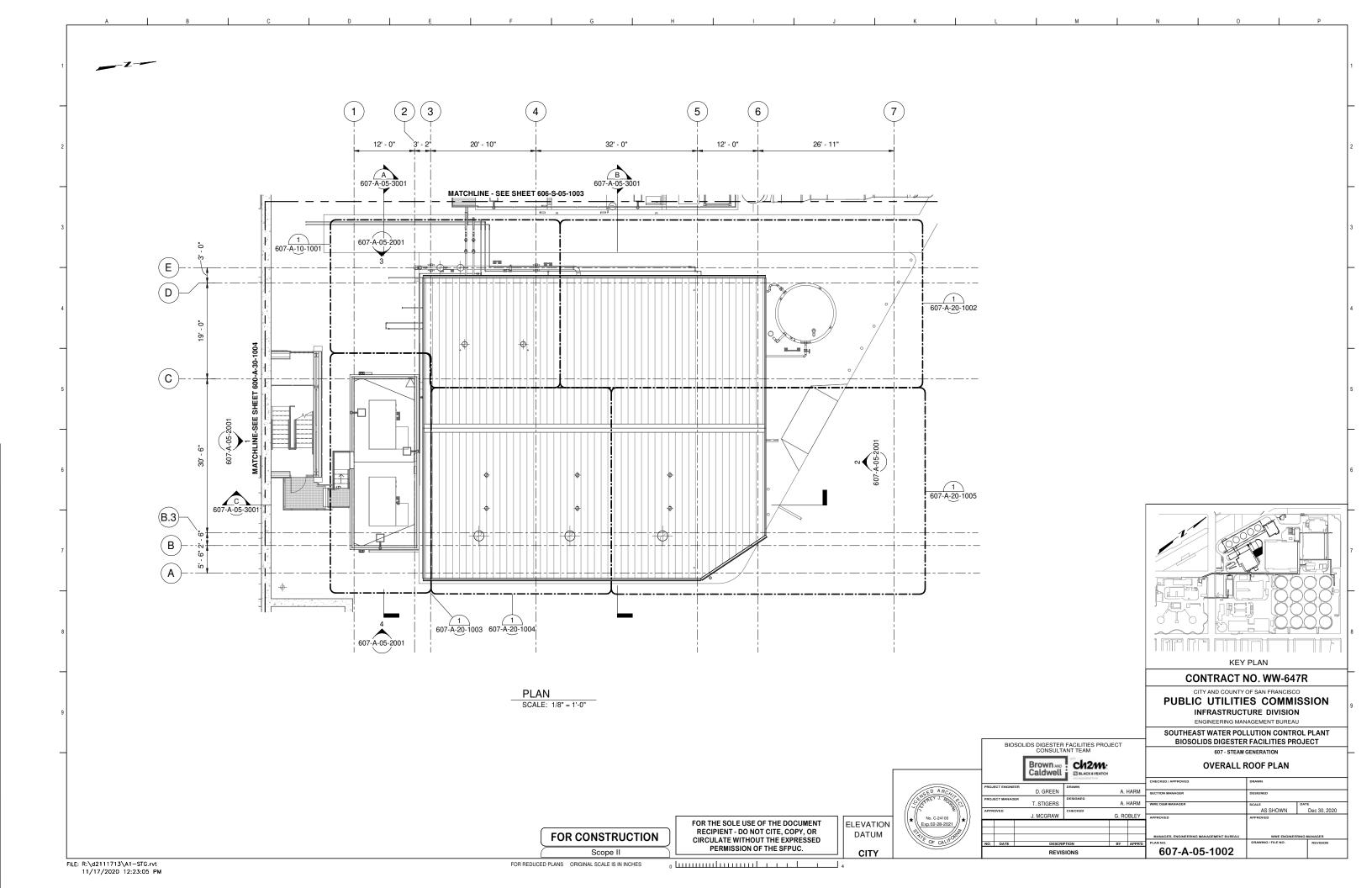
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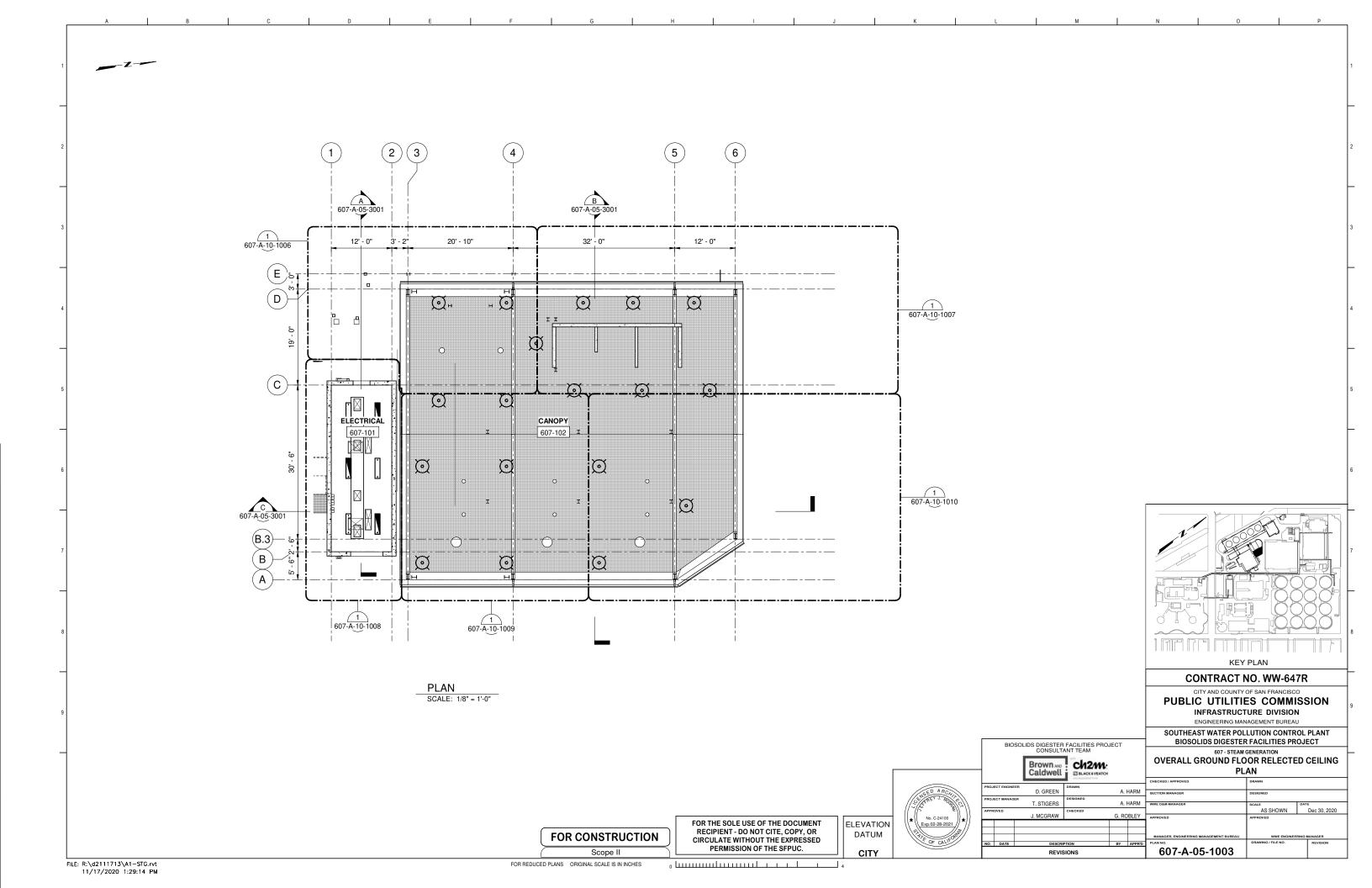
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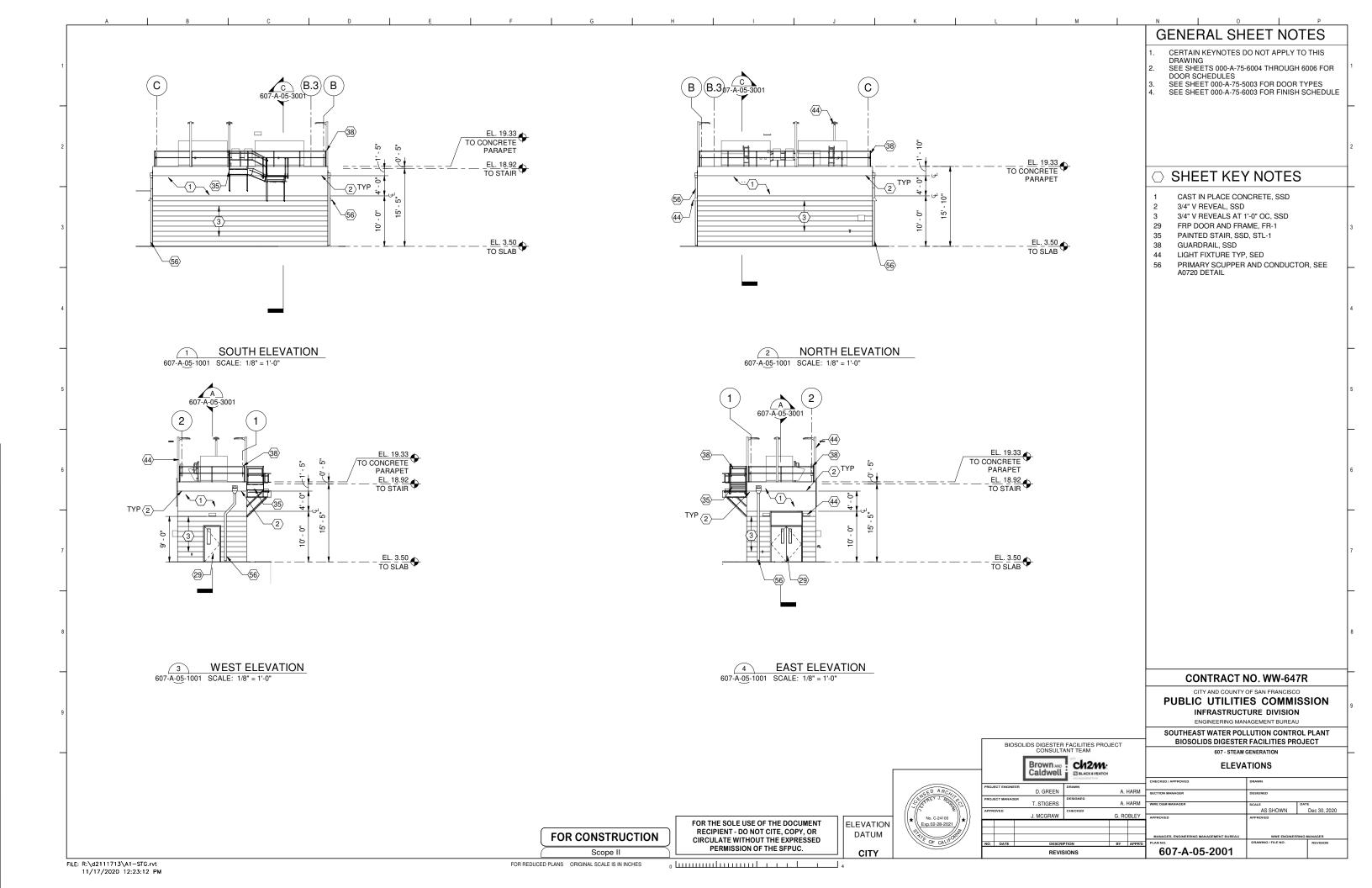
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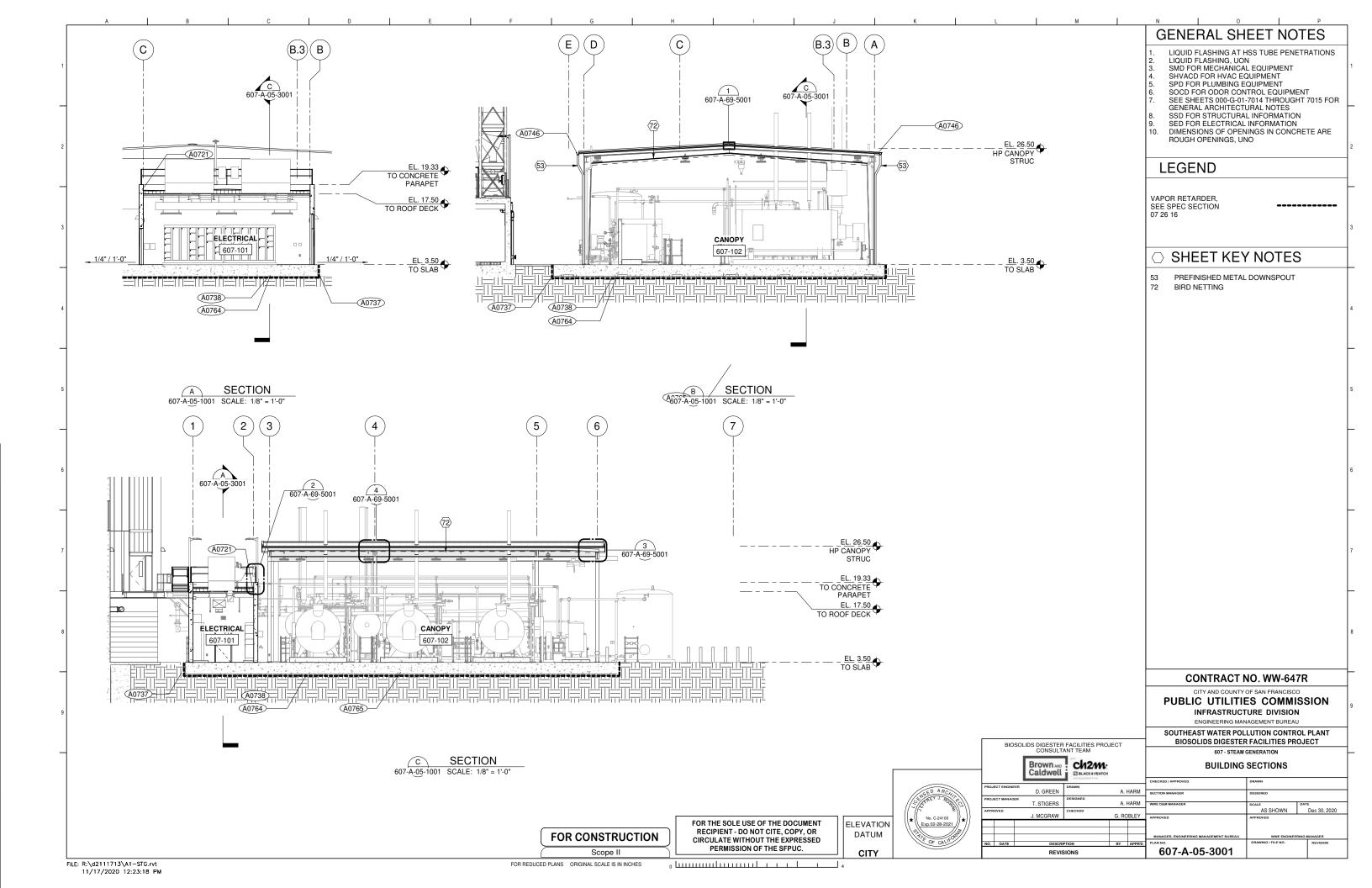


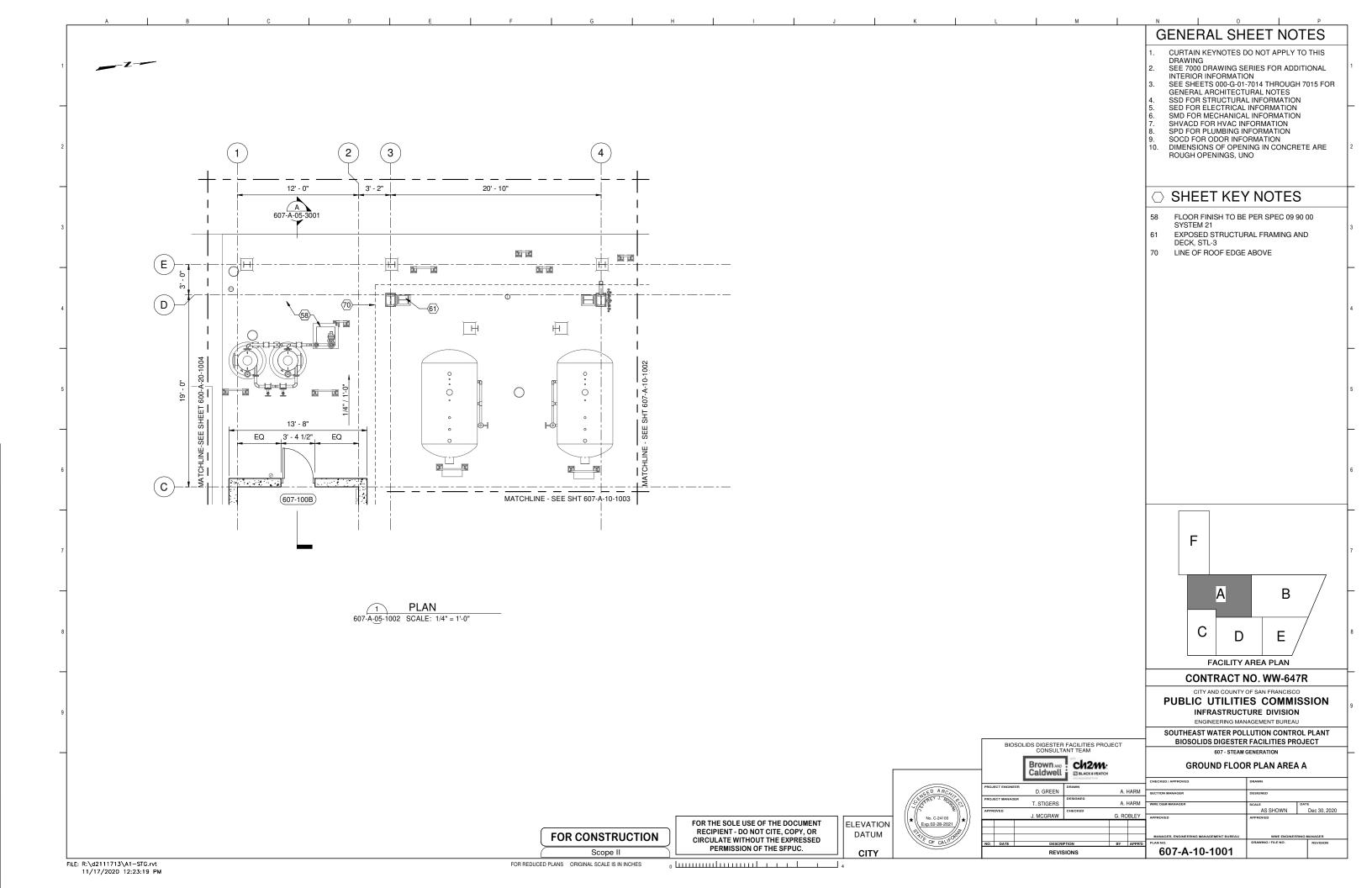


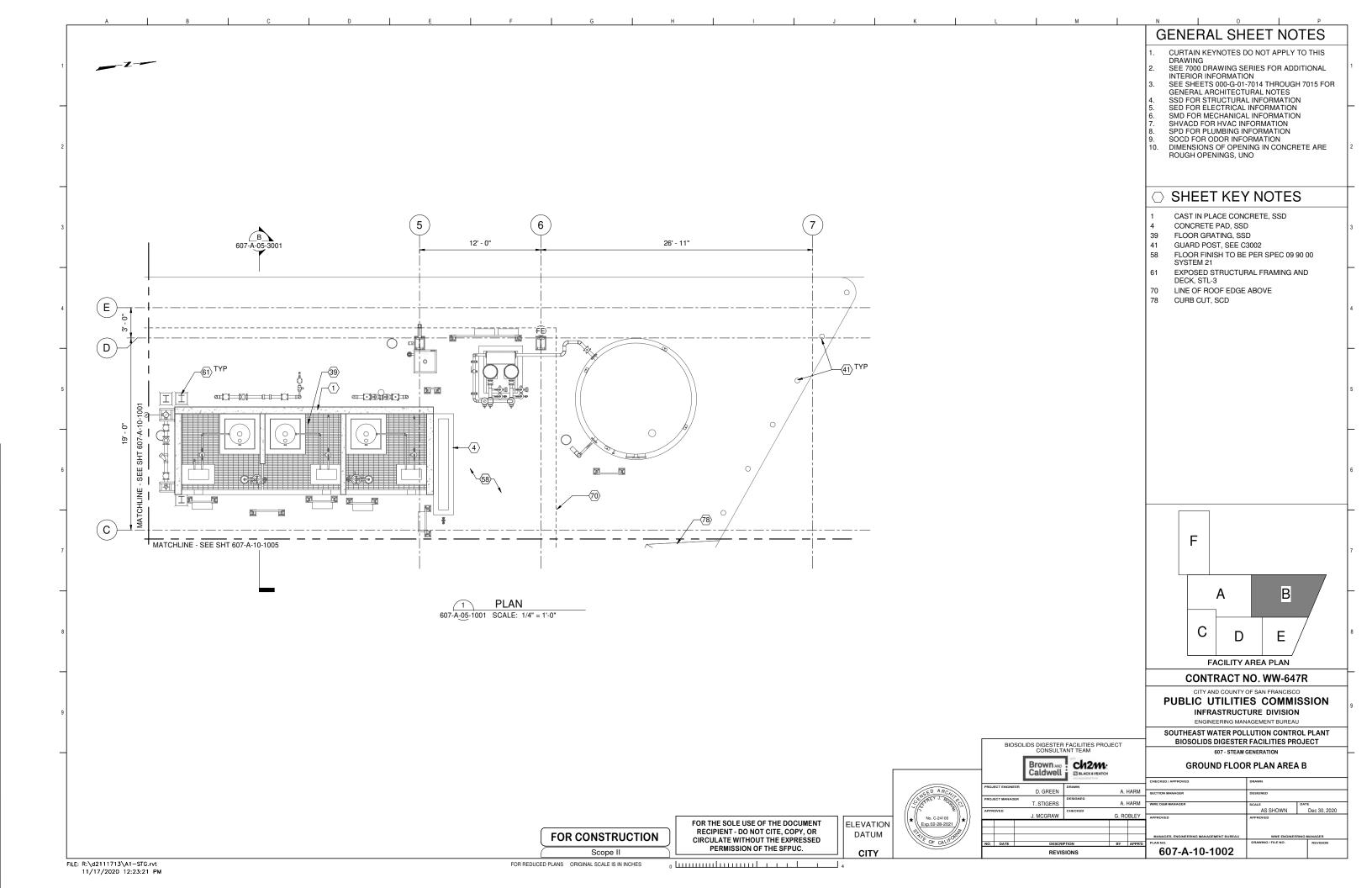


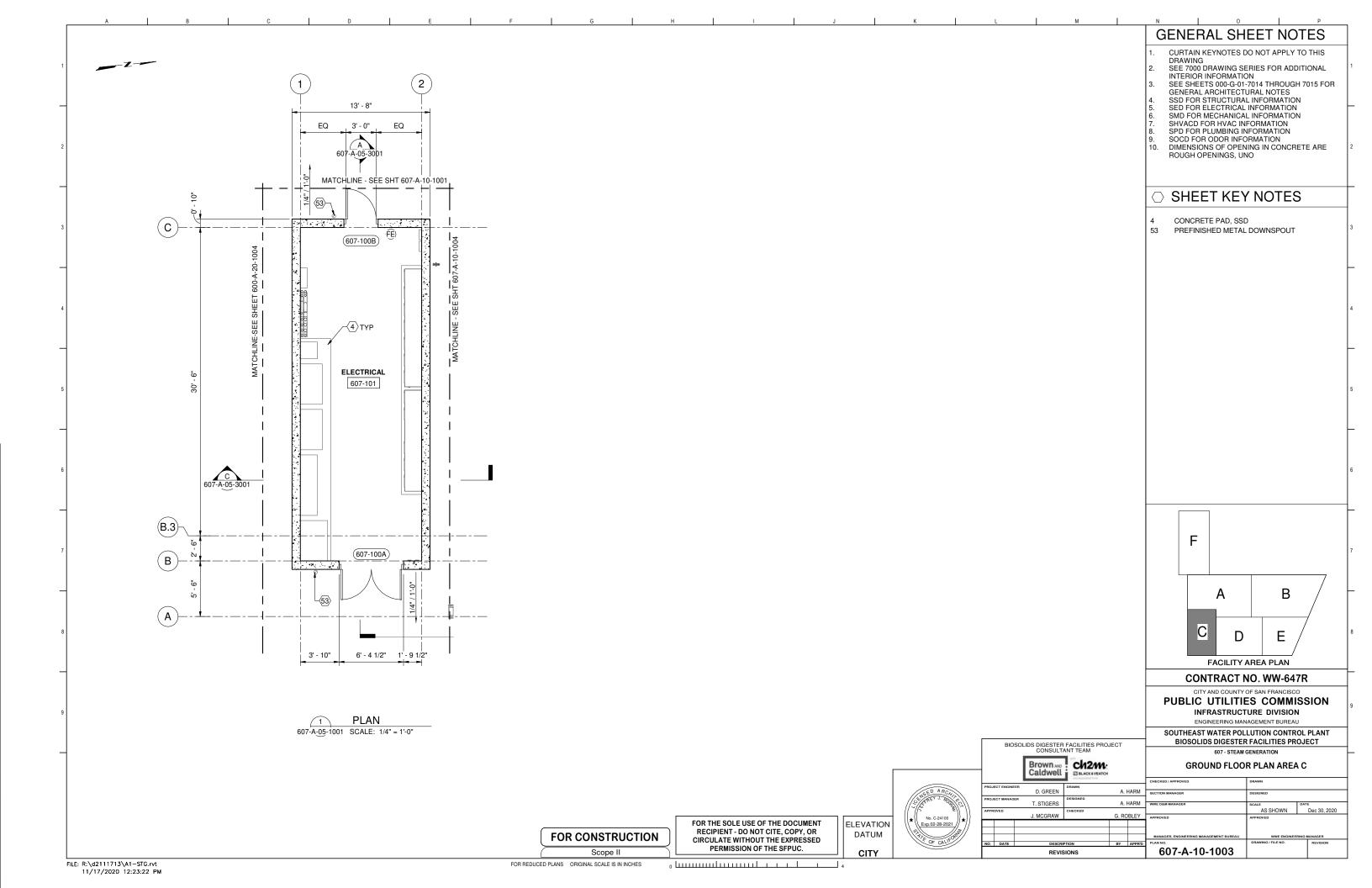


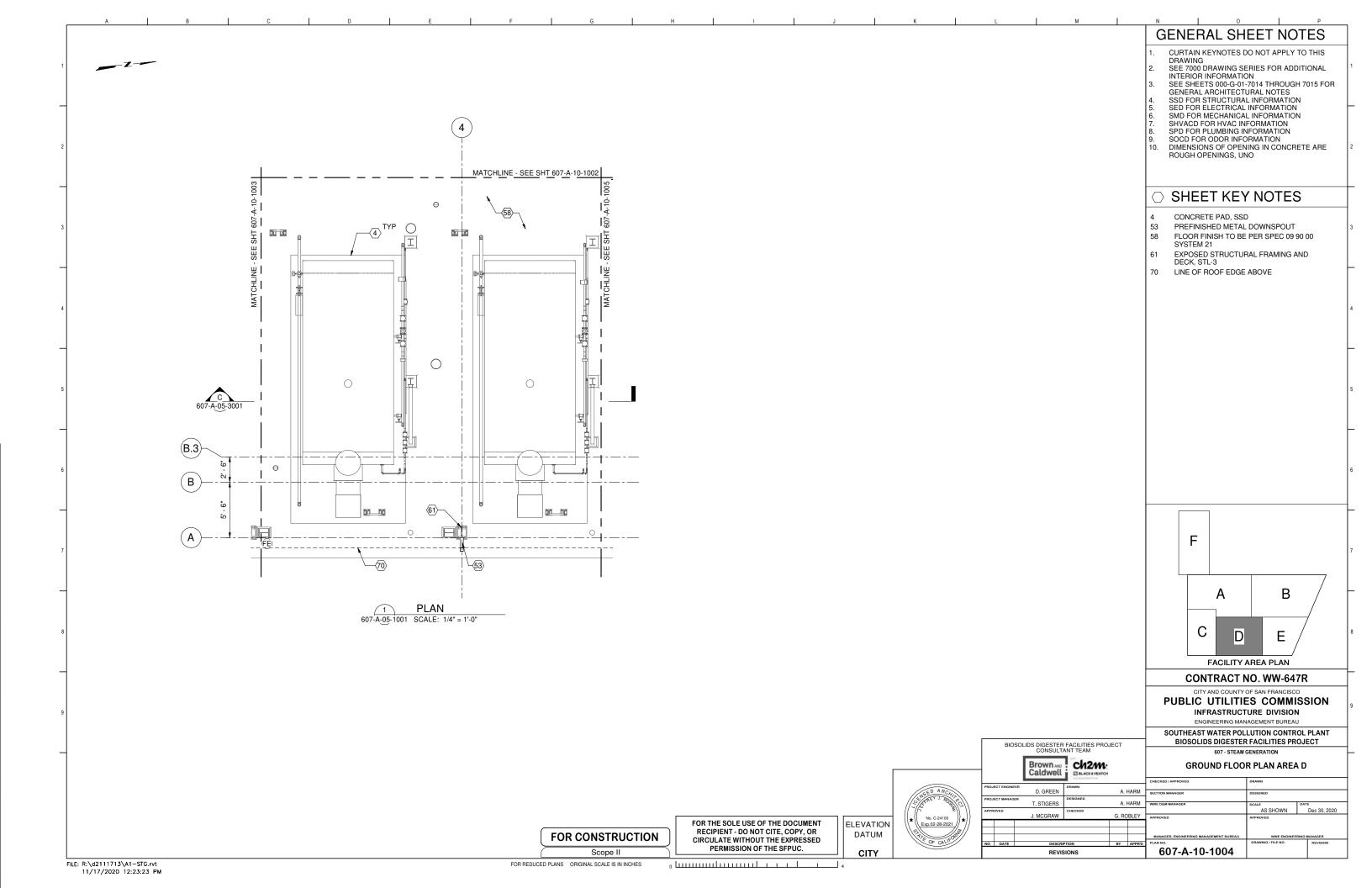


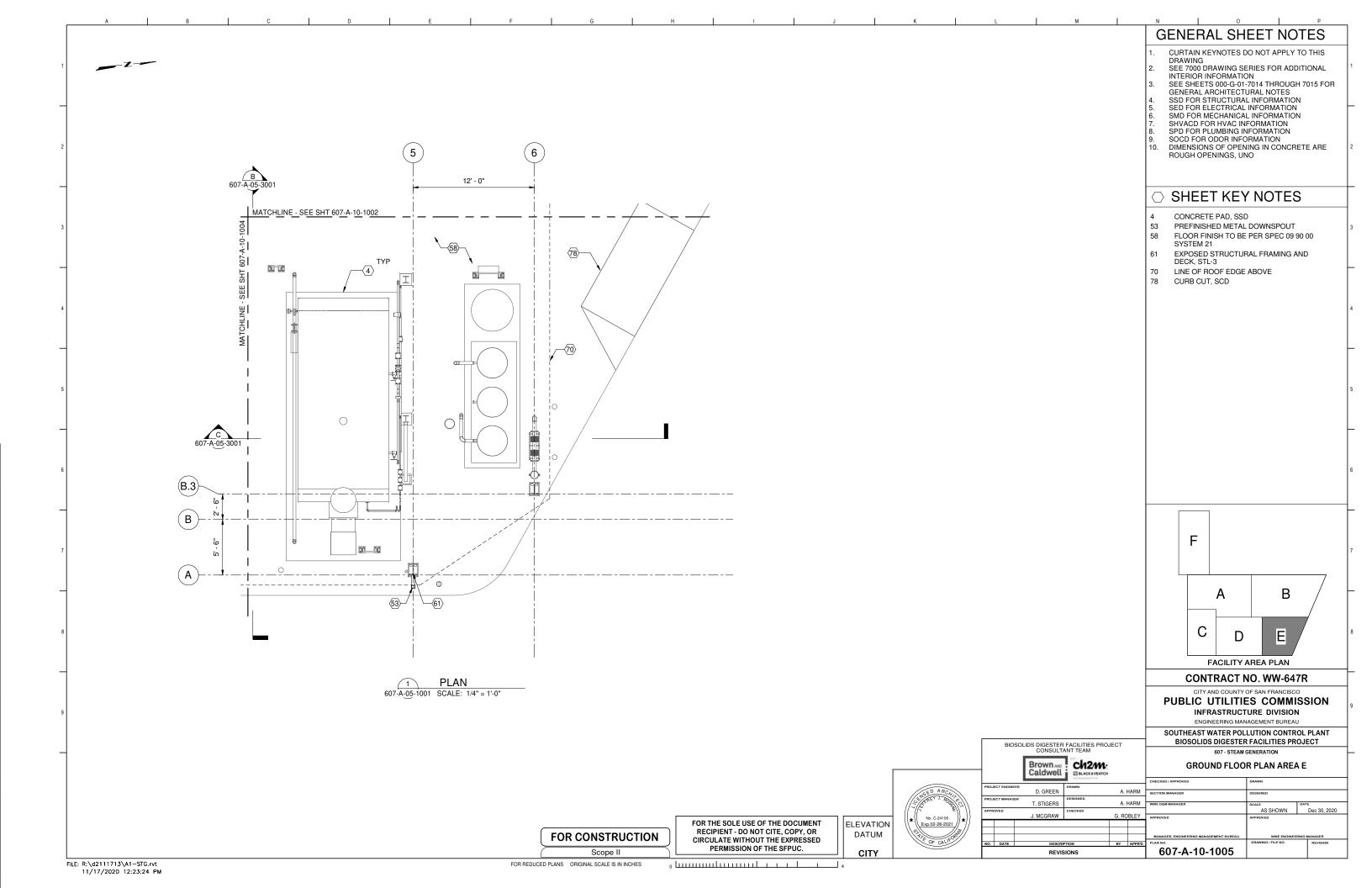


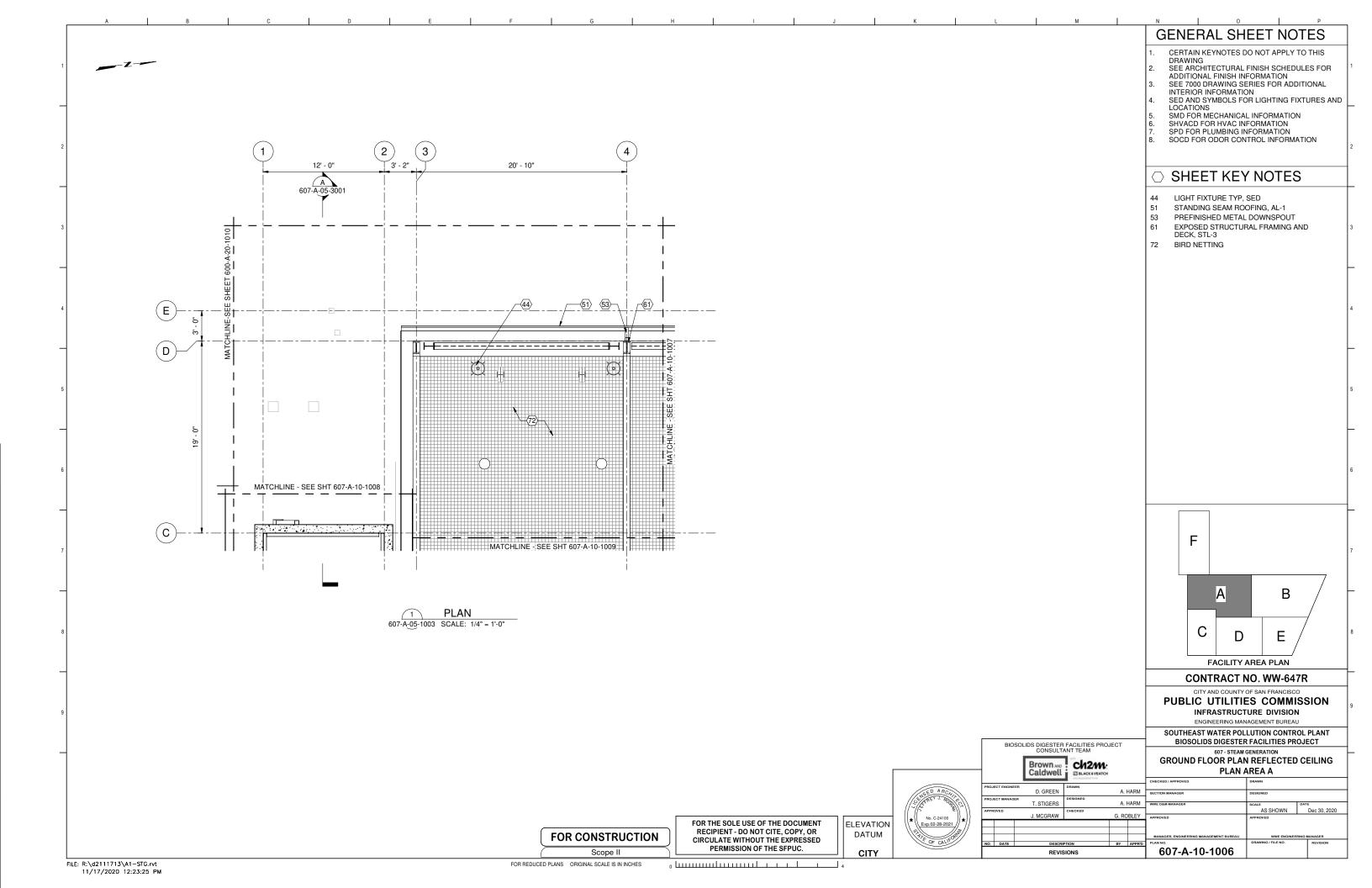


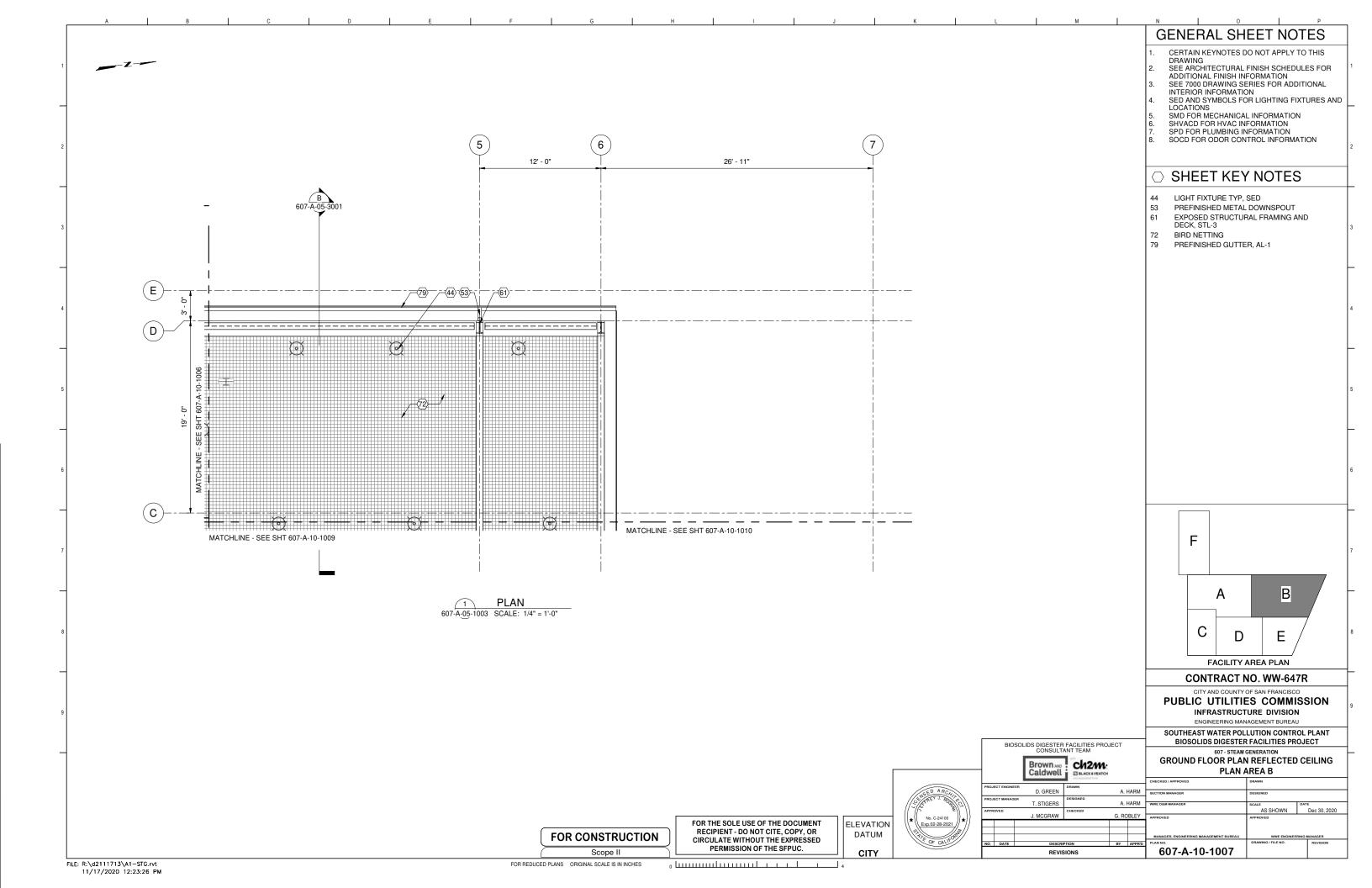


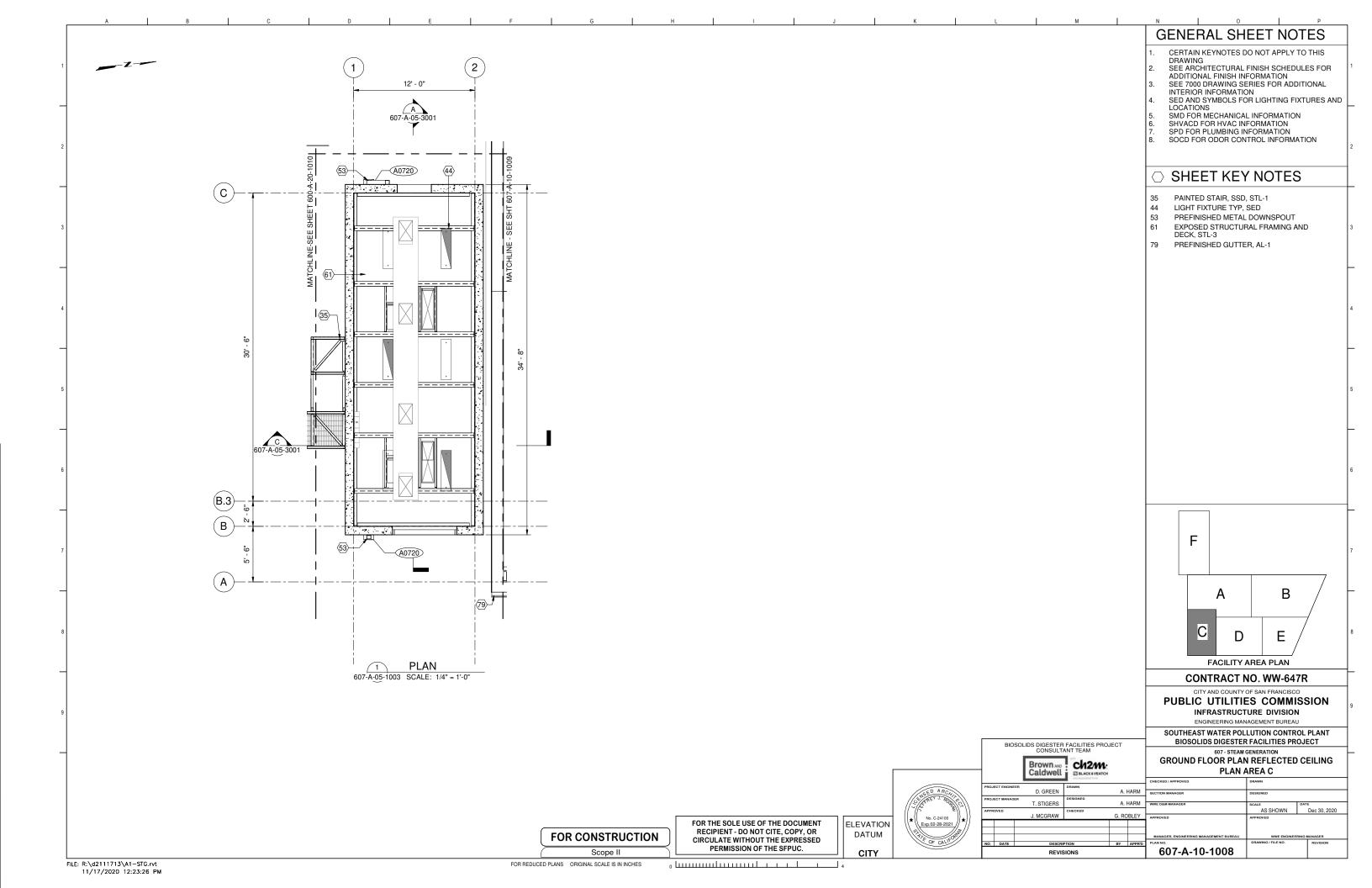


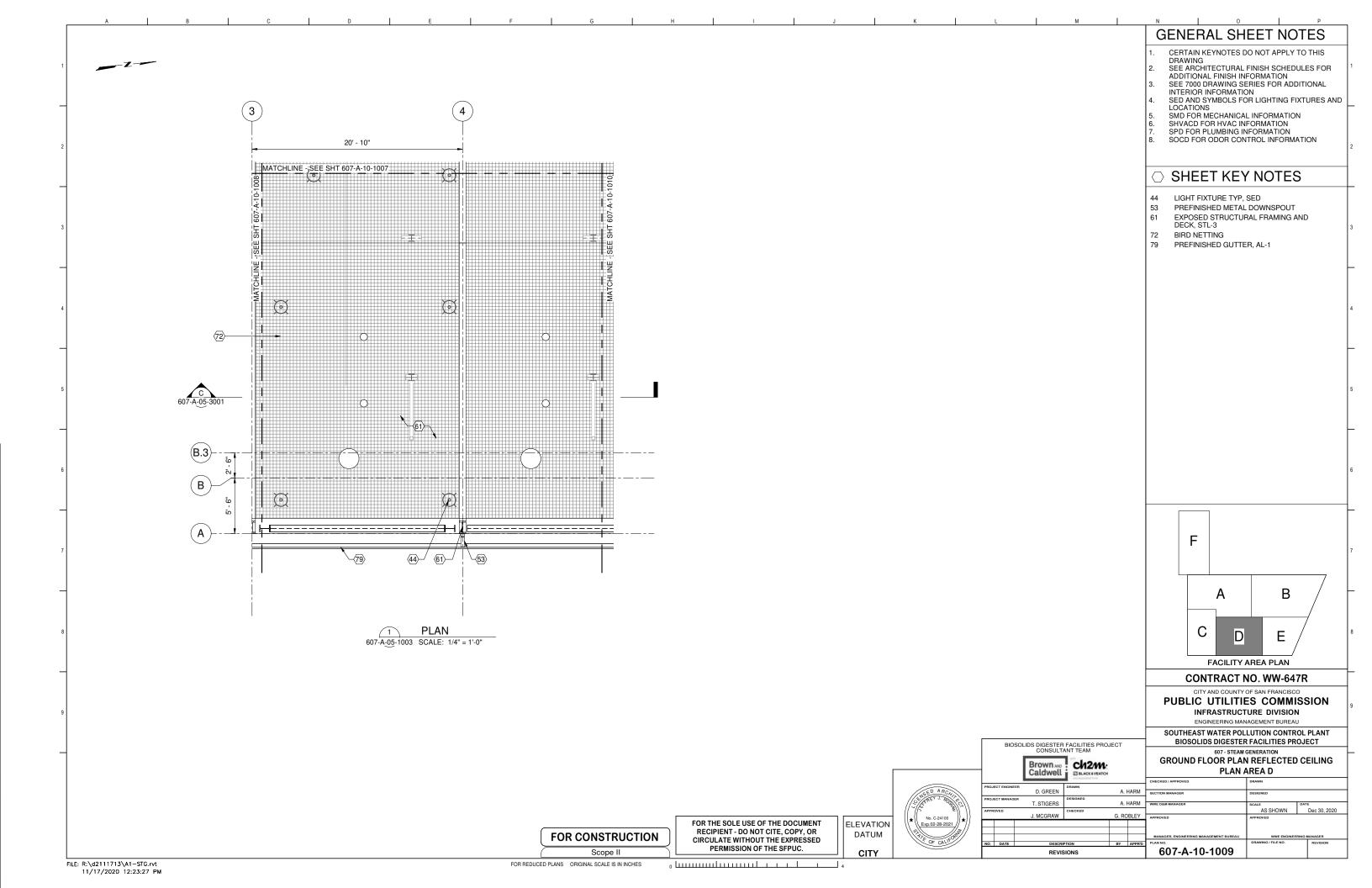


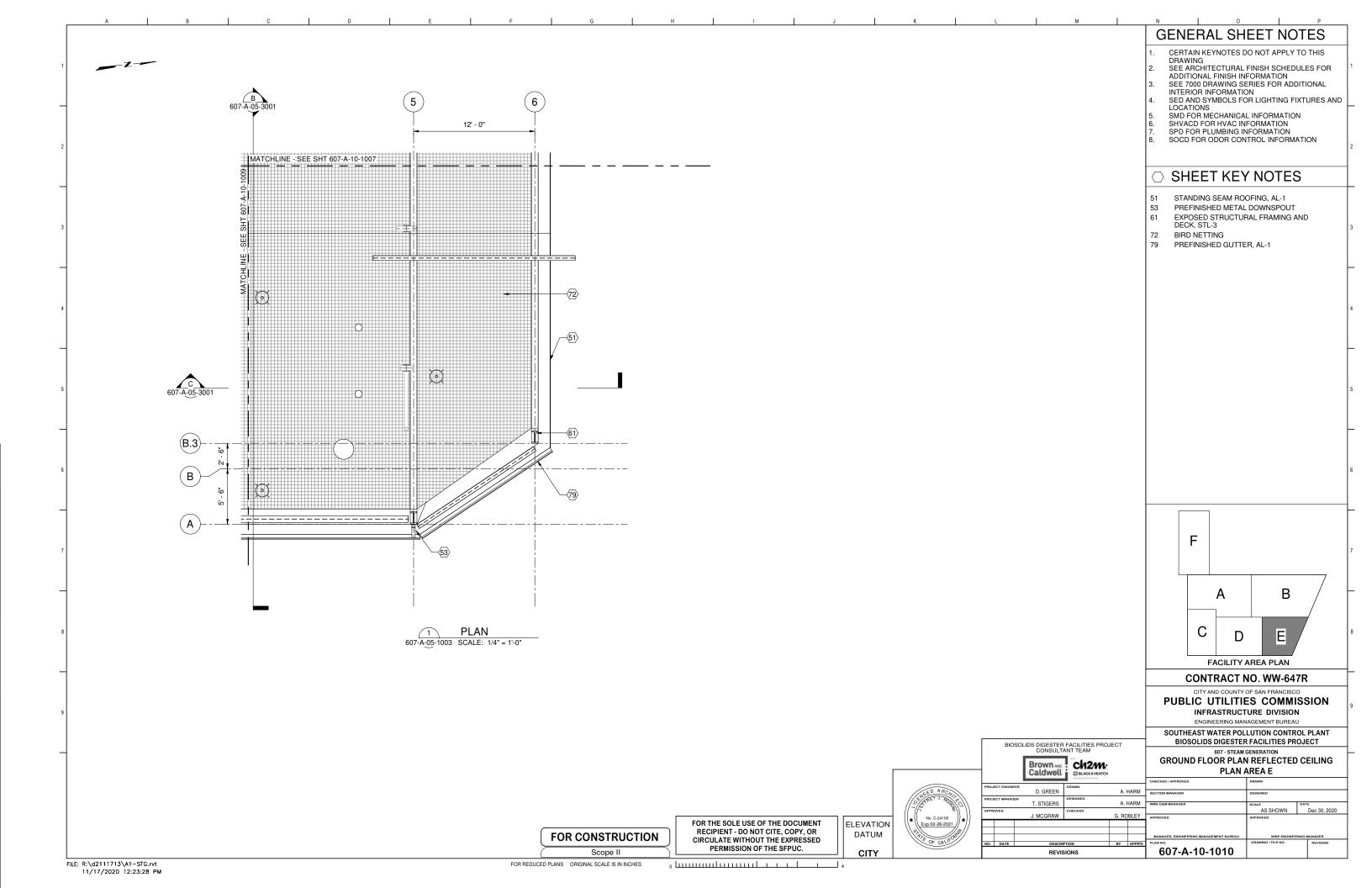


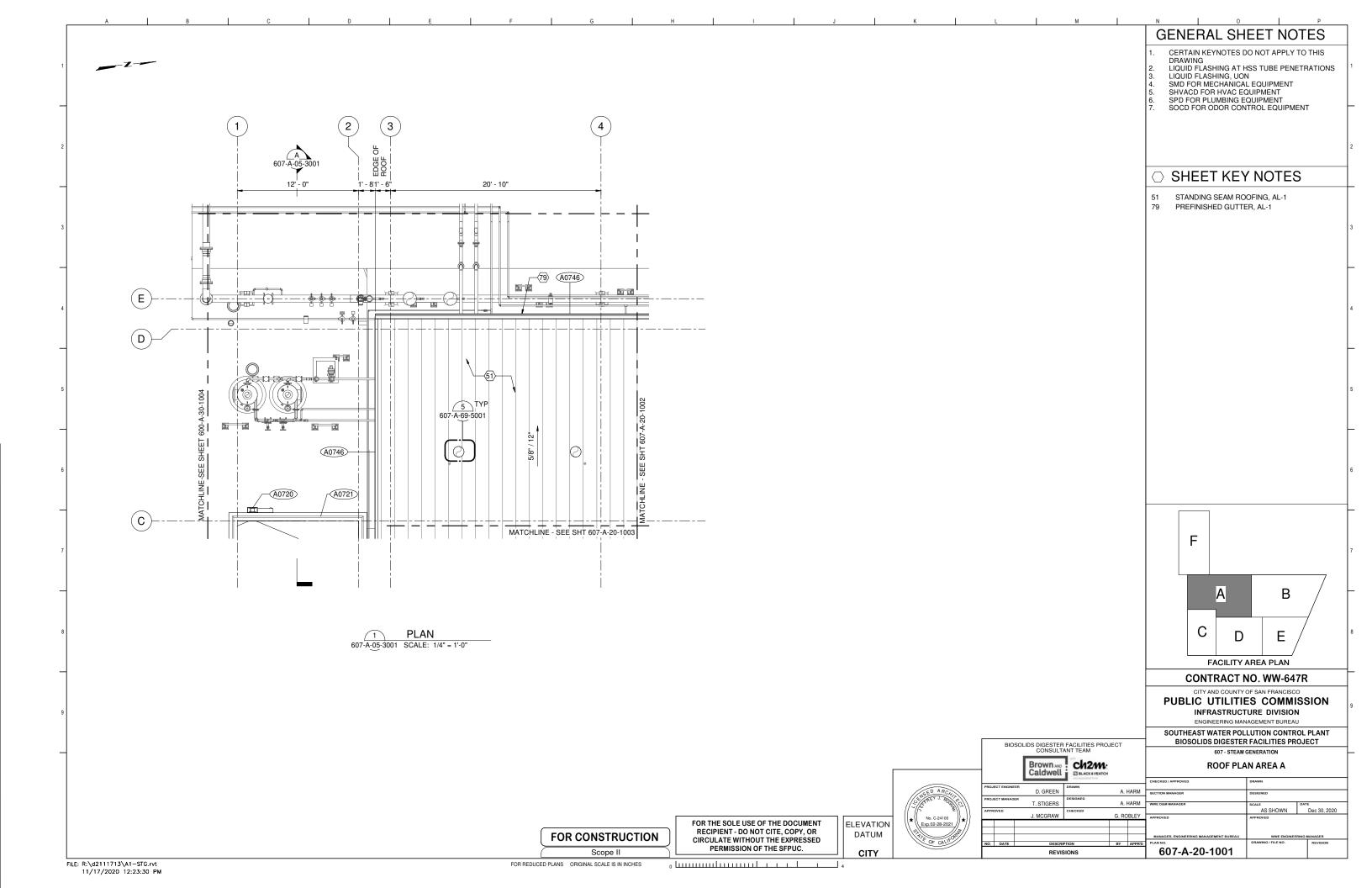


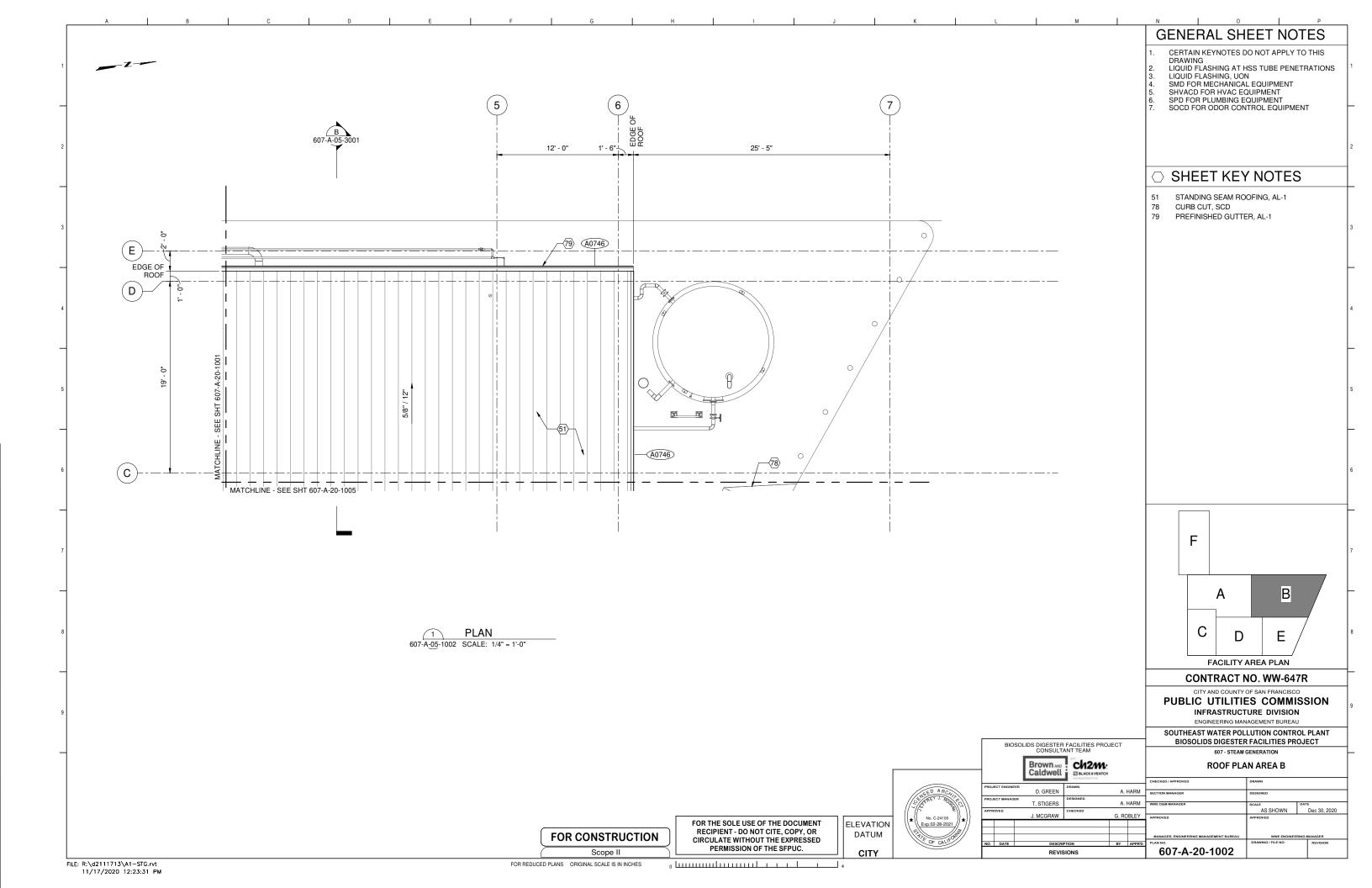


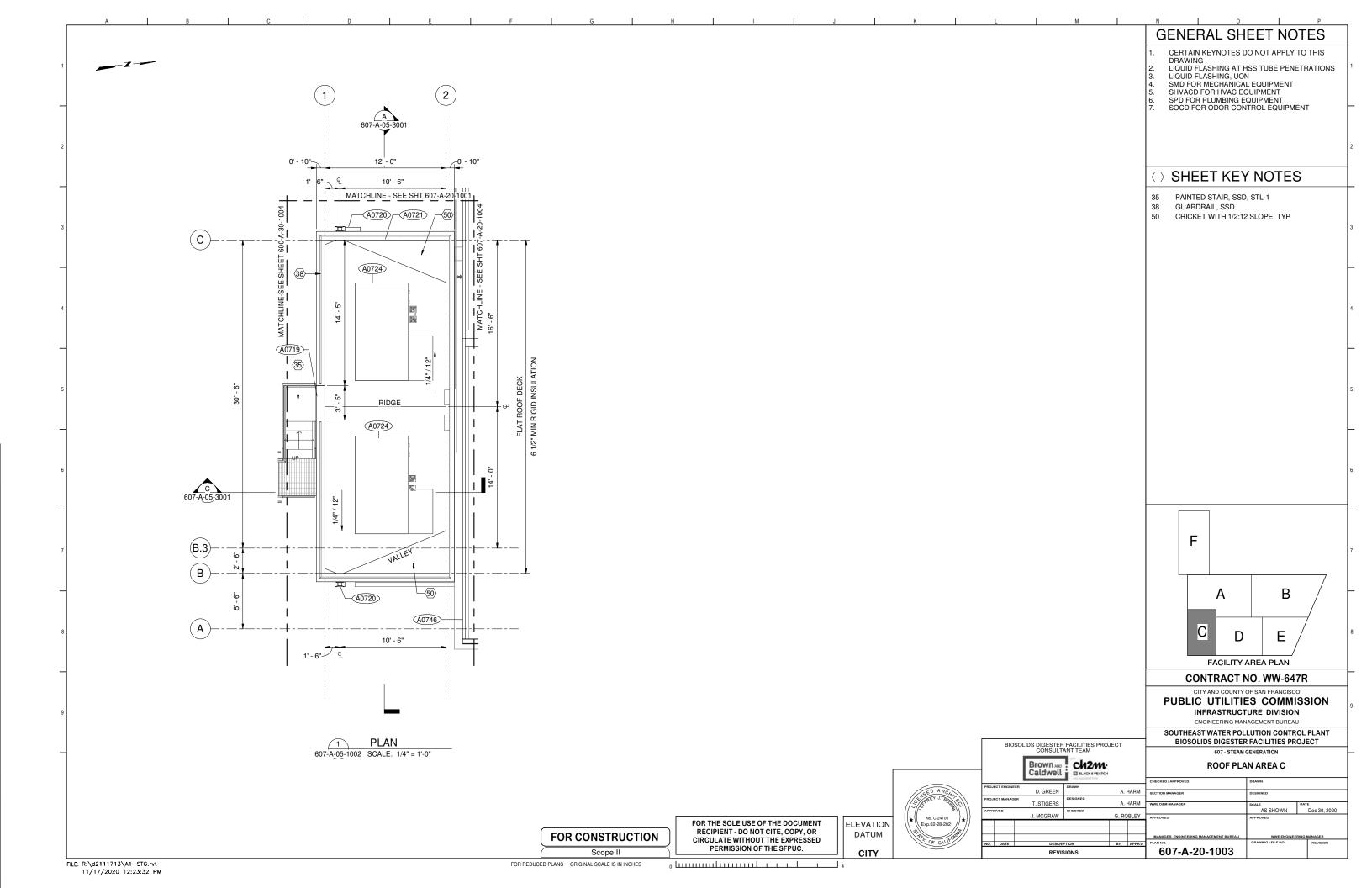


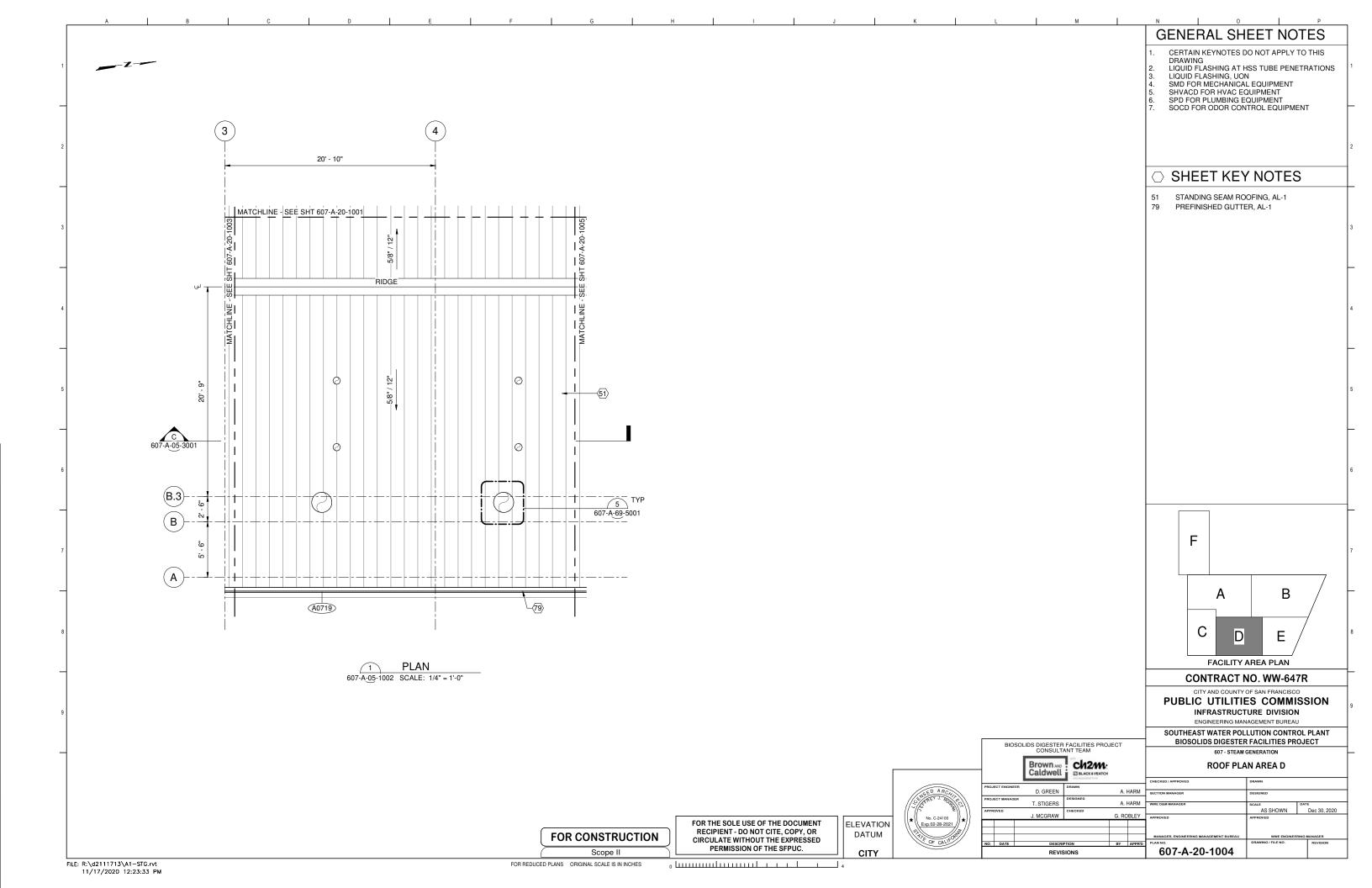


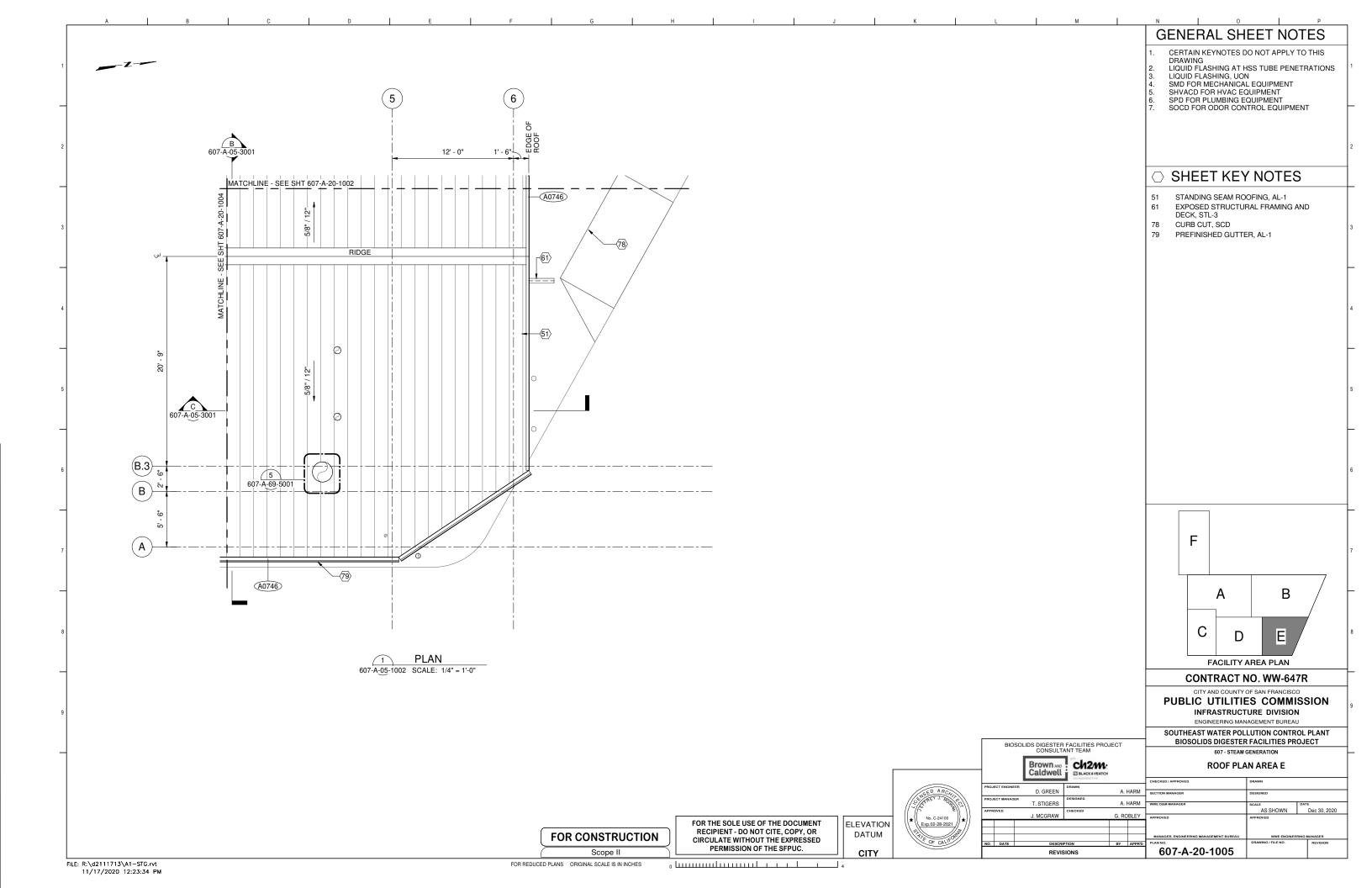


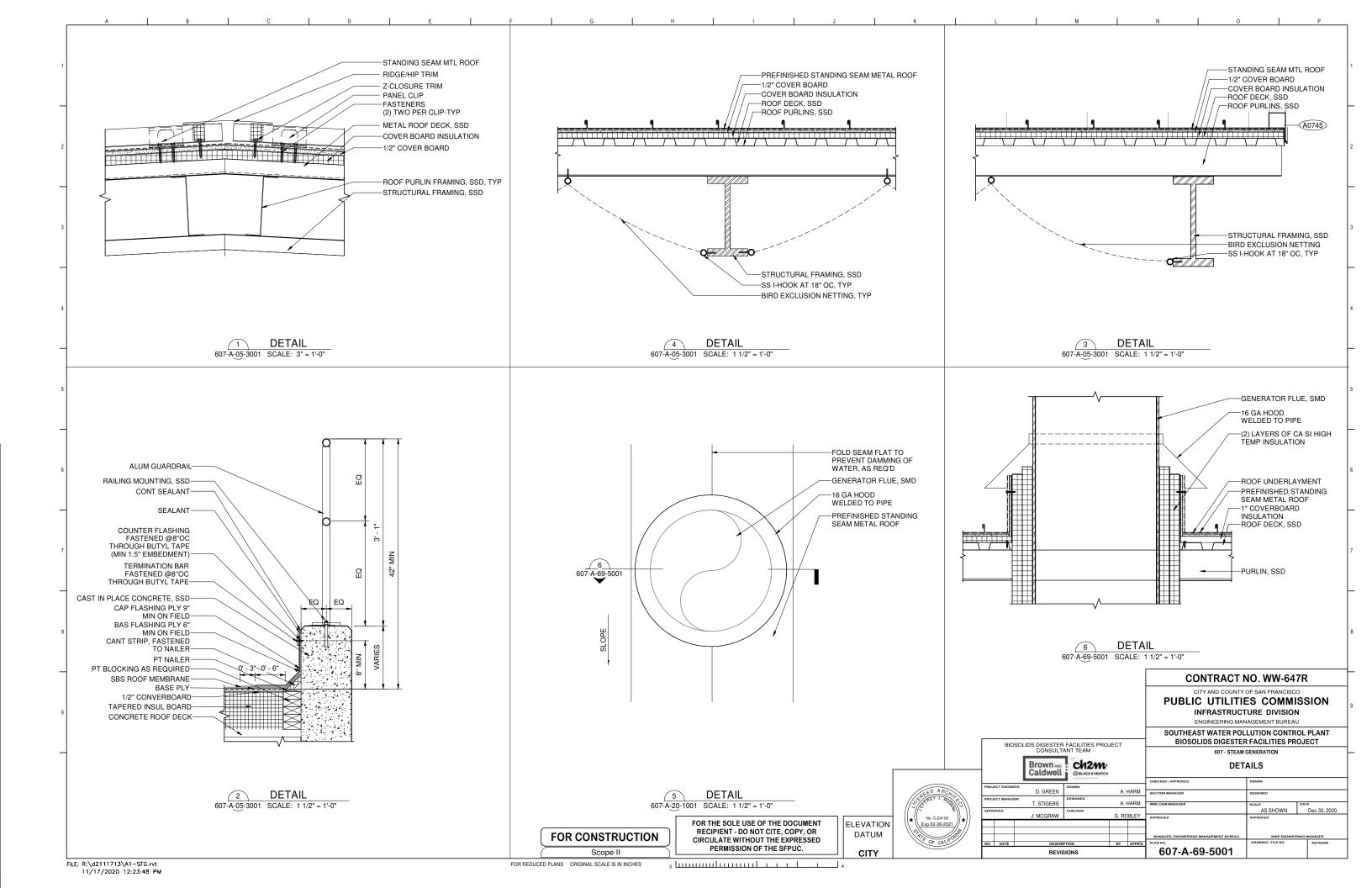


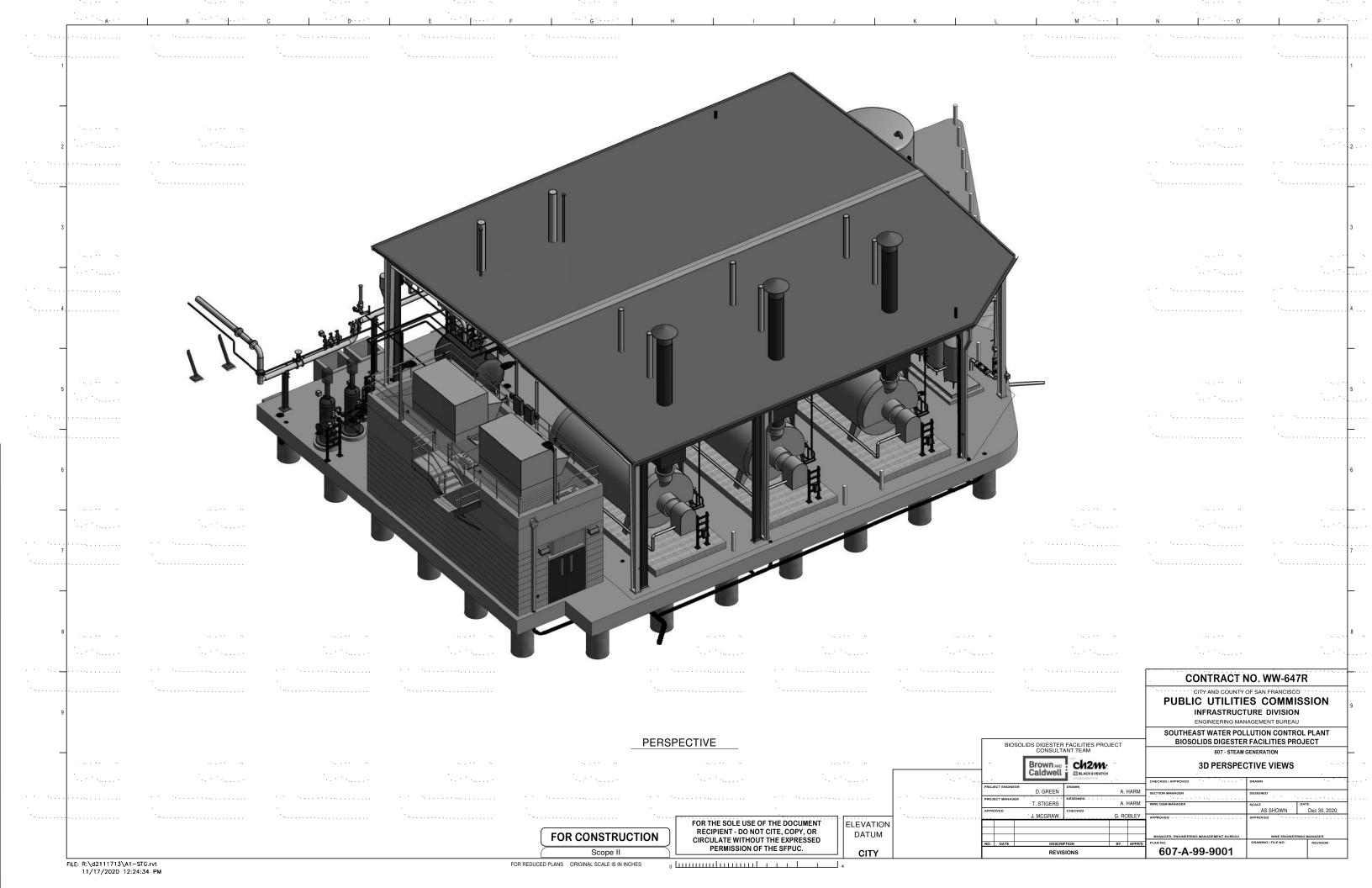












CODE DATA	CODE REFERE		16 CALIFORNIA BUI	LDING CODE,	REQUIRED FIRE RESISTANT RATING	
FACILITY: 610 ANAEROBIC DIGESTION	ANAEROBIC DIGESTION		ELECTRICAL BUILDING		NOTE ON BUILDING SEPARATION: THE ELECTRICAL BUILDING WILL BE S	
USE AND OCCUPANCY CLASSIFICATION (SECTIONS 306.3)	GROUPS F-2: LOW HAZARD FACTORY INDUSTRIAL		GROUPS F-1: MO HAZARD FACTOR		IMAGINARY LOT LINE AND A HORIZON SEPARATE BUILDING.	
CONSTRUCTION CLASSIFICATION (SECTION 602.2)	TYPE II-B, NON	COMBUSTIBLE	TYPE II-B, NON COMBUSTIBLE		BUILDING ELEMENTS (TABLE 601)	
AREA AND HEIGHT LIMITATIONS					STRUCTURAL FRAME	
					EXTERIOR BEARING WALLS	
		I			INTERIOR BEARING WALLS	
MAXIMUM ALLOWABLE AREA PER FLOOR (TABLE 506.2)	LOWER BASEMENT	(F2) <u>41,167</u> >1			INTERIOR NON-BEARING WALLS	
			15,50	0 SF	FLOOR CONSTRUCTION	
	UPPER BASEMENT (F2) 36,063 69,000 >1		,		ROOF CONSTRUCTION	
					SHAFT ENCLOSURE (TABLE 713.4)	
ACTUAL AREA (PER FLOOR IN SQ. FT.)					STAIRWAY ENCLOSURE (SECTION 10:	
LOWER BASEMENT	40,	918 SF	N/	Ά	FIRE PROTECTION FEATURES	
UPPER BASEMENT	39,	859 SF	N/	Ά	FIRE WALL: FIRE RESISTANCE RATING	
FIRST FLOOR	16,	301 SF	2,57	6 SF	(TABLE 706.4) & 707.3.10 HORIZONTAL FIRE ASSEMBLY: 711.2	
TOTAL AREA	97,	078 SF	2,57	6 SF	FIRE SEPARATION DISTANCE; (TABLE	
MAXIMUM ALLOWABLE STORIES (TABLE 503 AND SECTION 504.2)		4	2		FIRE RESISTANCE RATING	
ACTUAL NUMBER OF STORIES	2 + 2 BEI	OW GRADE	1		OCCUPANCY SEPARATIONS	
MAXIMUM ALLOWABLE HEIGHT (TABLE 503 AND SECTION 504.2)	75 FT		55 FT		FIRE PROTECTION SYSTEMS	
MAXIMUM ALLOWABLE ROOF HEIGHT (SFMC)	65 FT			MAXIMUM AREA OF EXTERIOR WALL OPENINGS (705.8.1 EXCEPTION 2)		
ACTUAL ROOF HEIGHT	65 FT TO MID-POINT OF TANK				SPRINKLERS	
ALLOWARI E MEQUANIQAL COREEN LIFECUT	Co	OVER	20	FT	ELECTRICAL ROOMS ARE NON-SPRIN	
ALLOWABLE MECHANICAL SCREEN HEIGHT ABOVE ROOF (SF PLANNING CODE)	10 FT				FIRE EXTINGUISHERS	
ACTUAL MECHANICAL SCREEN HEIGHT ABOVE ROOF	6 FT N/A			Ά	EXIT LIGHTING	
OCCUPANCY / EGRESS INFORMATION					* DIGESTER TANKS ARE NOT OCCUPI	
DESIGN OCCUPANCY & MINIMUM					PLUMBING FIXTURES	
EXITS PER FLOOR (TABLES 1021.1, 1221.2 & 1004.1.2)					NO FIXTURES, UNOCCUPIED FACILITY	
OCCUPANTS PER FLOOR	CALC. OCC. LOAD	MIN. EXITS	CALC. OCC. LOAD	MIN. EXITS	ENERGY COD	
LOWER BASEMENT	143	2	N/A	N/A	PER 2016 BUILDING E	
UPPER BASEMENT	123	2	N/A	N/A	ENVELOPE TYPE	
FIRST FLOOR	3	1	11	1	EXTERIOR WALL (MASS HEAVY)	
TOP LEVEL	3	2	N/A	N/A	EXTERIOR WALL (METAL FRAMED)	
TOTAL	272		13		, , ,	
EGRESS WIDTH REQUIRED FOR DOORS		32" CL	EAR MIN.		CURTAIN WALL / STOREFRONT FLOORS	
(SECTION 1010.1.1) EGRESS WIDTH REQUIRED FOR					ROOF	
STAIRS(SECTION 1011.2)	44" CLEAR MIN. 36"		36" CLEAR MIN.			
ALLOWABLE COMMON PATH OF TRAVEL (TABLE 1006.2.1)	100 FT (W/ SPF	RINKLERS)	75 FT (W/OUT SPRINKLERS)		EXTERIOR DOORS GLAZED DOORS	
MAXIMUM TRAVEL DISTANCE ALLOWED (TABLE 1017.2)	400 FT (W/ SPF	RINKLERS)	300 FT (W/OUT SPRINKLERS)		FIXED WINDOWS	
- /	1				SKYLIGHT (CURB MOUNTED)	

	REQUIRED	FIRE	RESIST	ANT	RATING
--	----------	------	--------	-----	--------

OTE ON BUILDING SEPARATION: HE ELECTRICAL BUILDING WILL BE SEPARATED FROM THE DIGESTION FACILITY BY AN MAGINARY LOT LINE AND A HORIZONTAL FIRE RATED ASSEMBLY AND SHALL BE CONSIDERED A EPARATE BUILDING.

	BUILDING ELEMENTS (TABLE 601)	ANAEROBIC DIGESTION	ELECTRICAL BUILDING	
1	STRUCTURAL FRAME	0 HR	0 HR	
$\frac{1}{2}$	EXTERIOR BEARING WALLS	0 HR	0 HR	
1	INTERIOR BEARING WALLS	0 HR	0 HR	
	INTERIOR NON-BEARING WALLS	0 HR	0 HR	
	FLOOR CONSTRUCTION	0 HR	0 HR	
	ROOF CONSTRUCTION	0 HR	0 HR	
	SHAFT ENCLOSURE (TABLE 713.4)	2 HR	N/A	
	STAIRWAY ENCLOSURE (SECTION 1023.2)	2 HR	N/A	
	FIRE PROTECTION FEATURES			
	FIRE WALL: FIRE RESISTANCE RATING (TABLE 706.4) & 707.3.10 HORIZONTAL FIRE ASSEMBLY: 711.2	2 HR BETWEEN UPPER BASEMENT AND BUILDING 615 BASEMENT	3 HR BETWEEN ELECTRICAL BUILDING AND 610 UPPER BASEMENT	
FIRE SEPARATION DISTANCE; (TABLE 602) FIRE RESISTANCE RATING		X<5'=1 HR AT NORTH WALL OF MECH PENTHOUSE $X<5'=2$ HR AT WEST WALL OF ELECTRICAL BUILDING		
	OCCUPANCY SEPARATIONS	NONE	NONE	
_	I .			

RE PROTECTION SYSTEMS	

OPENINGS (705.8.1 EXCEPTION 2)		
SPRINKLERS	SPRINKLERED WITH EXCEPTIONS	SPRINKLERED

UNLIMITED

# LECTRICAL ROOMS ARE NON-SPRINKLERED AND SEPARATED BY 2-HOUR FIRE BARRIER

- RE EXTINGUISHERS PROVIDED (SEE AREA PLANS FOR LOCATION) XIT LIGHTING PROVIDED ( SEE ELECTRICAL)
- DIGESTER TANKS ARE NOT OCCUPIED SPACES AND NOT SPRINKLERED

#### LUMBING FIXTURES

### **ENERGY CODE PRESCRIPTIVE REQUIREMENTS**

PER 2016 BUILDING ENERGY EFFICIENCY STANDARDS, MEASURED FOR CLIMATE ZONE 3

-	ENVELOPE TYPE	MAXIMUM U-FACTOR (PER TABLE 140.3-B)				
-	EXTERIOR WALL (MASS HEAVY)	0.65				
-	EXTERIOR WALL (METAL FRAMED)	0.082				
-	CURTAIN WALL / STOREFRONT	0.41 MAX U-FACTOR / 0.26 MAX RSHGC / 0.46 VT				
	FLOORS	0.269				
	ROOF	0.75 EMITTANCE, AGED SOLAR REFLECTANCE 0.63				
1	EXTERIOR DOORS	0.7 SWINGING, 1.45 NON SWINGING				
4	GLAZED DOORS	0.45 MAX U-FACTOR / 0.23 MAX RSHGC / 0.17 MIN VT				
	FIXED WINDOWS	0.36 MAX U-FACTOR / 0.25 MAX RSHGC / 0.42 MIN VT				
_	SKYLIGHT (CURB MOUNTED)	0.58 MAX U-FACTOR / 0.25 MAX SHGC / 0.49 MIN VT				

## **APPLICABLE CODES & STANDARDS**

- 2016 INTERVENING CALIFORNIA BUILDING CODE INTERVENING CYCLE DATED JULY 1, 2018 WITH SAN FRANCISCO BUILDING CODE AND SFMC AMENDMENTS.
- 2016 SAN FRANCISCO FIRE CODE (SFFC)
- 2016 CALIFORNIA PLUMBING CODE (CPC)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC)
- 2016 CALIFORNIA ENERGY CODE
- SF MUNICIPAL CODE (SFMC)
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

- 2016 NFPA 820 STANDARD FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES
- 2016 NFPA 13: STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS
- NFPA 70: NATIONAL ELEC CODE
- 2016 CALIFORNIA MECHANICAL CODE (CMC)
- CALIFORNIA CODE OF REGULATIONS (CCR)
- SAN FRANCISCO ENVIRONMENT CODE

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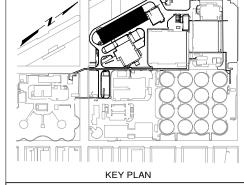
	CHEMICAL	CAS#	HAZARD	MAX AMOUNT STORED	ALLOWABLE PER CFC	NOTES
-	METHANE	74-82-8	FLAMMABL	194,000 CU. FT.	3,000 CU. FT.	EXTERIOR STORAGE**
	GAS	74 02 0	E GAS	MAX	2,000 CU. FT.	INTERIOR CONVEYED *
	HYDROGEN	=======================================	FLAMMABL	1,940	1,620 CU. FT.	EXTERIOR STORAGE**
	SULFIDE	7783-06-4	E GAS, TOXIC	CU. FT. MAX	1,620 CU. FT.	INTERIOR CONVEYED*
	FERRIC (IRON) CHLORIDE	74-82-8	CORROSIVE LIQUID	SEE NOTE	2,000 GAL	INTERIOR CONVEYED *

CONVEYED IN DOUBLE CONTAINED PIPES IN QUANTITIES BELOW ALLOWABLE LIMITS. EXCEEDS ALLOWABLE QUANTITY STORED

#### **ACCESSIBILITY**

ALL ENCLOSED SPACES IN THIS FACILITY ARE NORMALLY UNOCCUPIED MACHINERY SPACES AND ARE EXEMPT FROM ACCESSIBILITY REQUIREMENTS PER CBC SECTION 11B-203.4 AND 203.5.

AN ACCESSIBLE PATH OF TRAVEL IS PROVIDED AT GRADE ACROSS THE TOP OF THE UPPER BASEMENT ROOF.



**CONTRACT NO. WW-647R** CITY AND COUNTY OF SAN FRANCISCO

**PUBLIC UTILITIES COMMISSION** 

INFRASTRUCTURE DIVISION

ENGINEERING MANAGEMENT BUREAU

SOUTHEAST WATER POLLUTION CONTROL PLANT

BIOSOLIDS DIGESTER FACILITIES PROJECT

**CODE OVERVIEW** 

AS SHOWN

Oct 30, 2020

D. ELLIOT D. GREEN T. STIGERS A. HARM

ch2m

ELEVATION Exp.02-28-2021

DATUM

CITY

Caldwell 610-A-05-0001

BIOSOLIDS DIGESTER FACILITIES PROJECT CONSULTANT TEAM

Brown AND

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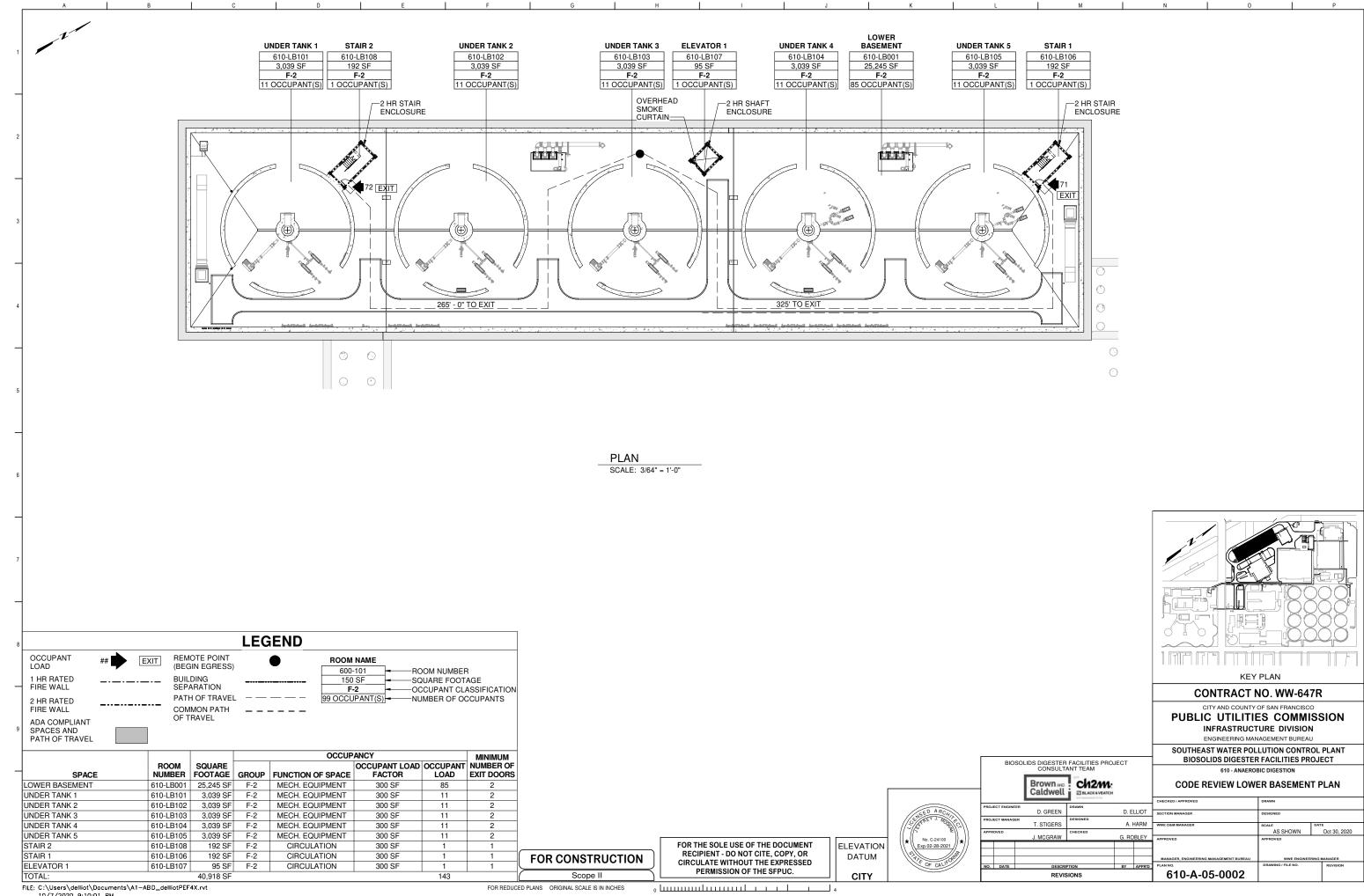
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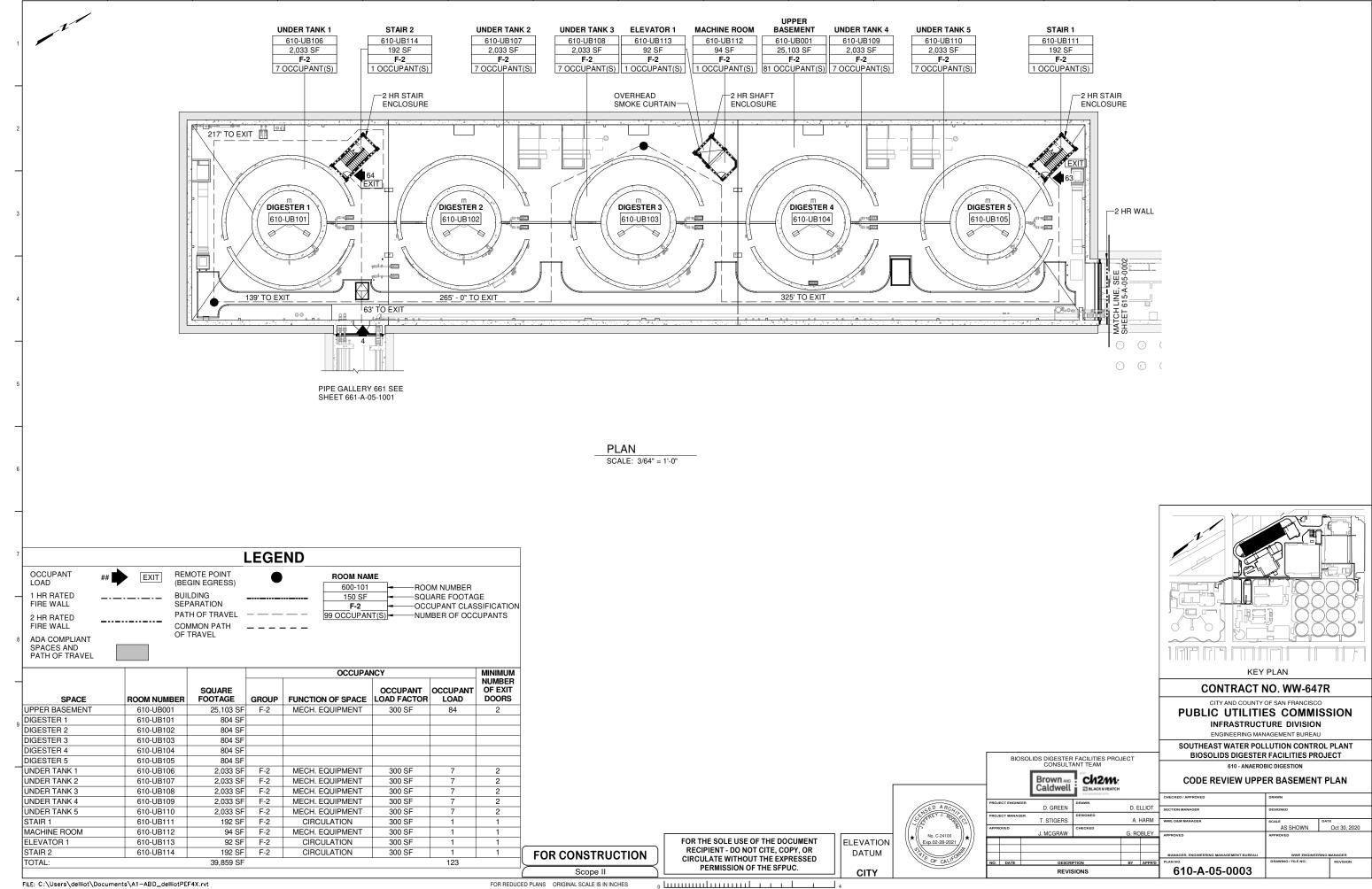
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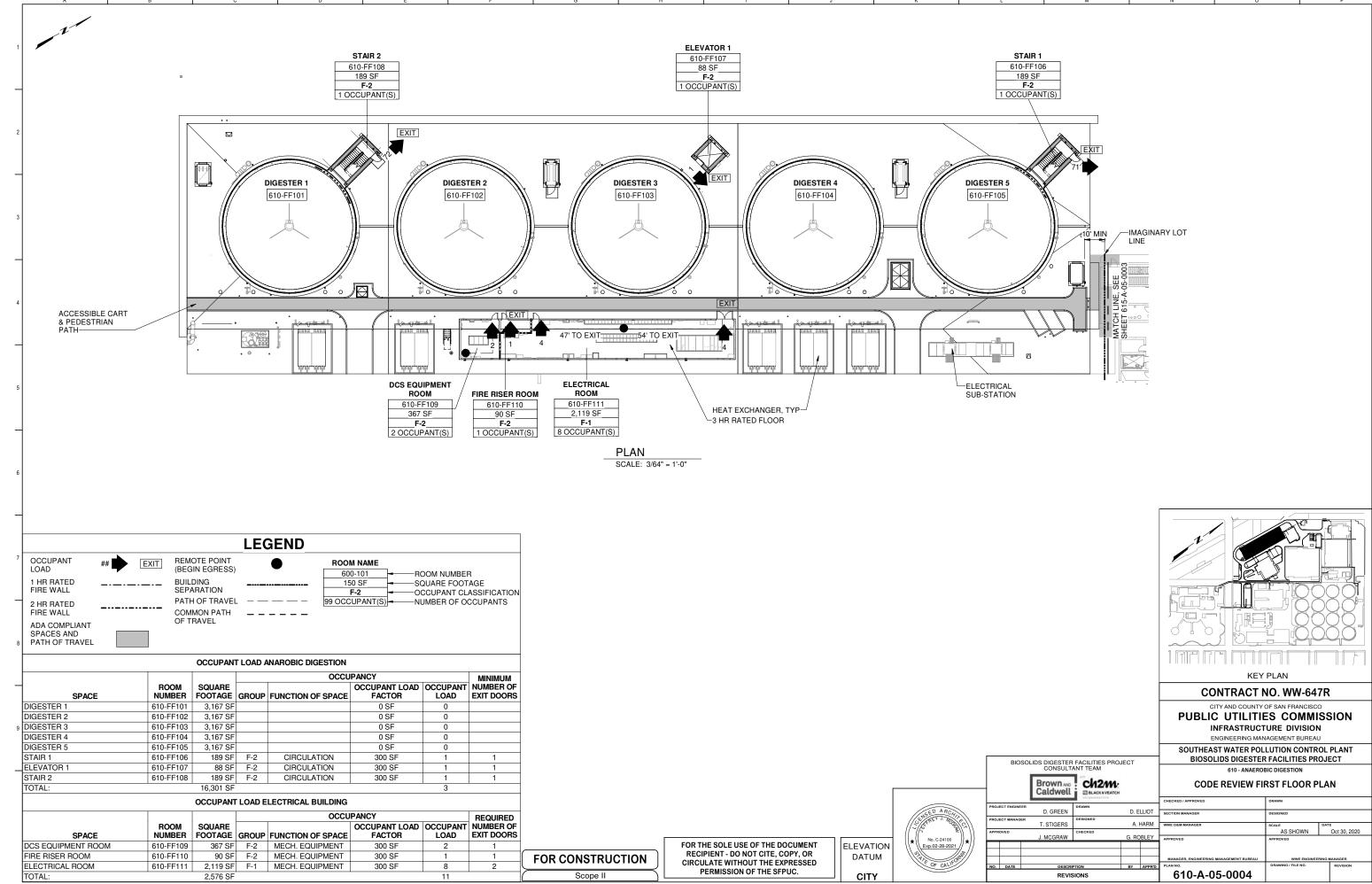
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FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES

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