1200 MEMOREX

PCC PACKAGE

SCOPE OF WORK
THE PROJECT PROPOSES TO DEMOLISH THE EXISTING IMPROVEMENTS ON THE SITE TO CONSTRUCT A FOUR-STORY 472,920 SQUARE FOOT DATA CENTER BUILDING WITH AN ATTACHED SIX-STORY 87,520 SQUARE FOOT ANCILLARY USE OFFICE AND STORAGE COMPONENT, FOR A COMBINED SQUARE FOOTAGE OF 560,440.

SKYBOX DATA CENTERS
CORGAN
CRITICAL PROJECT SERVICES, LLC
R+G RUTH AND GOING, INC. Civil Engineering Land Surveying Planning
REED ASSOCIATES LANDSCAPE ARCHITECTURE 477 SOUTH MAFFE STREET SUNNYVALE, CALIFORNIA 94086
kW mission critical engineering

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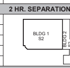
1200 Memorex - Santa Clara, CA

Development, Design, and Construction Anticipated Milestones

ACTIVITY	DATE
PCC Approval	4/09/2020
CEC CEQA Exemption	12/10/2020
Building Permit Issued	3/12/2021
Demolition Complete	5/24/2021
Grading Complete	6/21/2021
Building Shell Complete	6/13/2022
Interior Finish Out Complete	6/13/2022
Substantial Completion	**9/1/2022**

PROJECT DATA AND CODE INFORMATION

PROJECT DATA		
PROJECT NAME:	1200 MEMOREX	
PROJECT ADDRESS:	1200 Memorex Dr. Santa Clara, CA 95050	
OWNER:	1200 Partners, LLC	
APPLICABLE CODES	NOTE:INCLUDED IN SPECIFICATION SECTION 014100 REGULATORY REQUIREMENTS	
BUILDING CODE:	2016 California Building Code	
ACCESSIBILITY CODE:	2016 California Building Code - Chapter 11B	
ELECTRICAL CODE:	2016 California Electrical Code	
ENERGY CODE:	2016 California Energy Code & 2016 California Green Building Standards	
FIRE CODE:	2016 California Fire Code	
MECHANICAL CODE:	2016 California Mechanical Code	
PLUMBING CODE:	2016 California Plumbing Code	
REGIONAL OR MUNICIPAL CODE:	City of Santa Clara Zoning and Local Amendments	
LIFE SAFETY INFORMATION		**REFERENCE**
		2016 CBC
USE OR OCCUPANCY CLASSIFICATION		
OCCUPANCY:	(S2) STORAGE	
TYPE OF CONSTRUCTION		
CONSTRUCTION TYPE:	II-A	
FIRE PROTECTION REQUIREMENTS		
BEARING WALLS: INT./EXT.	1	
NONBEARING WALLS: INT./EXT.	0 AND 1 @ WEST EXT. WALL	
ROOF / CEILING:	0 AND 1 @ <20 FEET FROM FLOOR.	
FLOOR/ CEILING:	1	
STRUCTURAL FRAME / COLUMNS:	1	
RATED SEPARATIONS:	1 BUILDING SEPARATION @ 2 HR.	

DESIGN LIMITATIONS	MAX. ALLOWED	MAX. PROVIDED	2 HR. SEPARATION PLAN
HEIGHT:	85' - 0"	83' - 6"	
AREA:	1. 121700 SF	1. 118230 SF	
	2. 117000 SF	2. 14585 SF	
# OF FLOORS:	1. 6	1. 4	
	2. 6	2. 6	
MEANS OF EGRESS	**MAX. ALLOWED**	**MAX. PROVIDED**	
TRAVEL DISTANCE TO EXIT:			
TOTAL OCCUPANT LOAD:			
EGRESS WIDTH PER OCCUPANT	**MIN. ALLOWED**	**PROVIDED**	
0.2" STAIRS:	0' - 0"	0' - 0"	
0.15" DOORS:	0' - 0"	0' - 0"	

PLUMBING FIXTURE REQUIREMENTS

	FEMALE		MALE		SINGLE USER	
FIXTURE	# REQUIRED	# PROVIDED	# REQUIRED	# PROVIDED	# REQUIRED	# PROVIDED
WATER CLOSETS	#	#	#	#	#	#
URINALS			#	#	#	#
LAVATORIES	#	#	#	#	#	#
SHOWERS	#	#	#	#	#	#
	SERVICE					
	# REQUIRED	# PROVIDED				
SERVICE SINKS	#	#				
DRINKING FOUNTAINS	#	#				

PROJECT NARRATIVE

1200 Memorex

1.1.1 Existing Development

The 9.18-acre project site is located at 1200 Memorex Drive. The site is zoned ML-Light Industrial and has a General Plan designation of Light Industrial. The site is currently developed with three buildings: a three-story approximately 300,000 square foot building, a two-story approximately 46,000 square foot building, and a one-story approximately 2,950 square foot building. Roughly 100,000 square feet of active outdoor uses are located on the eastern portion of the site. Existing uses on the site are light industrial in nature and include operations such as aluminum plating, metal cleaning/polishing, a machine shop, construction contractors, a brewery, material storage, vehicle storage, and hauling. The vehicle storage and hauling operations are primarily located in the outdoor areas on the site.

1.1.2 Proposed Development

The project proposes to demolish the existing improvements on the site to construct a four-story 472,920 square foot data center building with an attached six-story 87,520 square foot ancillary use office and storage component, for a combined square footage of 560,440. The structure would have a height of 87 feet to the top of building parapet. The data center portion of the building would house computer servers for private clients in a secure and environmentally controlled structure and would be designed to provide 60 megawatts (MW) of information technology (IT) power. The ancillary use portion of the building would be used for office (roughly 51,000 square feet) and storage uses.

Three-quarters of the data center portion of the building would consist of production data hall space, which requires backup power generation, while the other quarter would consist of development data hall space, which does not require backup power generation. Standby backup emergency electrical generators would be installed to provide an uninterrupted power supply to the production data hall space. A total of 24 three-MW diesel-fueled engine generators would be located on the south side of the building, providing 48 MW of backup power generation capacity. Of the 24 proposed generators (16 critical & 8 redundant), 21 units would be located within a ground-level generator yard and three units would be located on the roof of the adjacent loading dock. Mechanical cooling equipment would be located on the roof with metal panel perimeter screening above the building parapet.

The project would also construct a 150 megavolt amps (MVA) electrical substation on the eastern portion of the site. The substation would have three 50 MVA transformers, one of which would be redundant and would only become active if one of the other transformers fails. The substation capacity would be a nominal 100 MVA. The substation would have an all-weather asphalt surface underlain by an aggregate base.

1.1.2.1 ***Site Access and Parking***

The site currently has four driveways on Memorex Drive and three driveways on Ronald Street/Di Giulio Avenue, all of which would be removed by the project. Access to the site would be provided by two new driveways on Memorex Drive and one new driveway on Di Giulio Avenue. The project would result in a net decrease in driveways accessing the site, reducing curb cuts and eliminating hazards associated with site distances from current driveways located near intersections and roadway bends.

Based on input from City staff, the project would be classified as a Storage use, which requires one parking space per 5,000 square feet of gross floor area. The office component (Business use), of the project would occupy less than 10 percent of the gross floor area and would be considered an ancillary use to the primary Storage use. As a result, the parking requirements for the Storage use would apply to the entire project. With a gross square footage of 560,440, and a required parking ratio of one space per 5,000 square feet, the project would be required to provide 112 spaces. The project proposes to provide 113 parking spaces in surface parking lots located on the eastern portion of the site. Five parking spaces would be ADA accessible, and 11 parking spaces would be dedicated for clean air vehicles. Electric vehicle charging stations would be located adjacent to the clean air vehicle spaces.

1.1.2.2 ***Building Height and Floor Area Ratio Variances***

The project would construct a building with a maximum height of 87 feet to the top of parapet, which would exceed the maximum height of 70 feet allowed under the ML – Light Industrial zoning designation. Additionally, the project would have a floor area ratio (FAR) of 1.40, which would exceed the maximum FAR of 0.6 allowed under the Light Industrial General Plan designation.

The project is requesting variances to allow building heights and FAR above those allowed in the Zoning Ordinance and General Plan. The building height and FAR variances would allow the project to maximize the efficiency of the proposed data center. By consolidating the data center equipment in a single large structure instead of multiple smaller structures, energy efficiency is increased and fewer resources are required for building operation and maintenance. Further, due to the low employment requirement of data centers, the proposed project would result in a decrease in vehicle trips and vehicle miles travelled associated with the site, even with the proposed increases in allowed height and FAR (see discussion below).

1.1.2.3 ***Vehicle Trips and Vehicle Miles Travelled***

Data centers result in fewer vehicle trips than typical light industrial uses because the building is primarily occupied by IT equipment and associated mechanical infrastructure. Few employees are required to operate the data center. While the project includes an office component, the office use is ancillary to the data center use and makes up less than 10 percent of the overall building square footage.

A preliminary assessment was completed to determine the net vehicle trip generation resulting from the project. Trip generation rates for existing uses on the site were based on the Institute of Transportation Engineers' (ITE) Trip Generation Manual, Tenth Edition's trip generation rates for general light industrial land uses (land use code 110). Trip generation rates for the proposed project were based on ITE rates for data centers (land use code 160) and general office buildings (land use code 710). The trip rates for existing uses were applied to 348,950 square feet of light industrial building area and roughly 100,000 square feet of active outdoor light industrial uses, resulting in an estimated total of 2,227 existing daily trips. For the proposed uses, the general office building trip rate was applied to the 51,000 square feet of office area, and the data center trip rate was applied to the remaining 509,440 square feet of the project, resulting in an estimated total of 1,001 daily project trips. Based on ITE trip rates, the project would result in a net reduction of 1,226 daily vehicle trips associated with the site. A reduction in daily vehicle trips would also result in a reduction in vehicle miles travelled (VMT). By reducing vehicle trips and VMT associated with the site, the project would result in a net reduction in air pollutants and greenhouse gas emissions associated with vehicle trips, and would reduce traffic congestion in the surrounding area. It should be noted that this assessment is preliminary and will be refined as part of the environmental review completed for the project.

1.1.2.4 ***Hazardous Materials Remediation***

Known contamination is present in the soils and groundwater on the site. The contamination is associated with historic uses by the Memorex Corporation, which manufactured magnetic tape on the site through approximately 1993. The site is subject to Regional Water Quality Control Board (RWQCB) oversight and cleanup requirements related to this contamination. Since 1993, uses on the site have included the use and storage of hazardous materials, and it is possible that additional contamination is present on the site in areas that have not been previously investigated. The project would complete soil, soil vapor, and groundwater quality investigations to determine the extent of contamination on the site. It is anticipated that the project would prepare a Site Management Plan (SMP) and a Health and Safety Plan (HSP) to establish appropriate protocols for handling and monitoring contaminated soil, soil vapor, and groundwater, and to determine what remediation measures are necessary. As a result, the project would facilitate the remediation of contamination on the site. Additionally, current uses on the site such as aluminum plating and metal cleaning/polishing likely involve the use and storage of hazardous materials. The proposed data center project would not involve the use or storage of hazardous materials, representing an improvement over existing condition. Further, by developing a data center on the site, the project would eliminate the potential for additional hazardous materials releases to occur from other light industrial uses that may otherwise occupy the site in the future.

1.1.2.5 ***Power Usage Effectiveness, Energy Efficiency, and Water Conservation***

Power Usage Effectiveness (PUE) is a metric used to compare the operating efficiency of data center facilities. PUE is defined as the ratio of total power use of a facility to the power used strictly by the information technology (IT) equipment (e.g. PUE=Total Facility Power/IT Equipment Power). For example, with a PUE of 2.0 a data center would use two watts of total power for every one watt of power used by the IT equipment. The annualized PUE for the proposed data center would be less than 1.29, which is on the low/efficient end of the scale for data centers in the area.

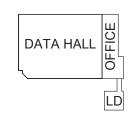
The project includes a variety of measures to minimize total power usage of the data center. Due to substantial cooling requirements, the primary method for achieving energy efficiency in data centers is through the cooling system. The proposed data center would maximize efficiency by utilizing direct outside air economization, economized chillers, or DSE cooling units, reducing energy consumption and eliminating the requirement for large quantities of water utilized for cooling purposes by other data centers in the area.

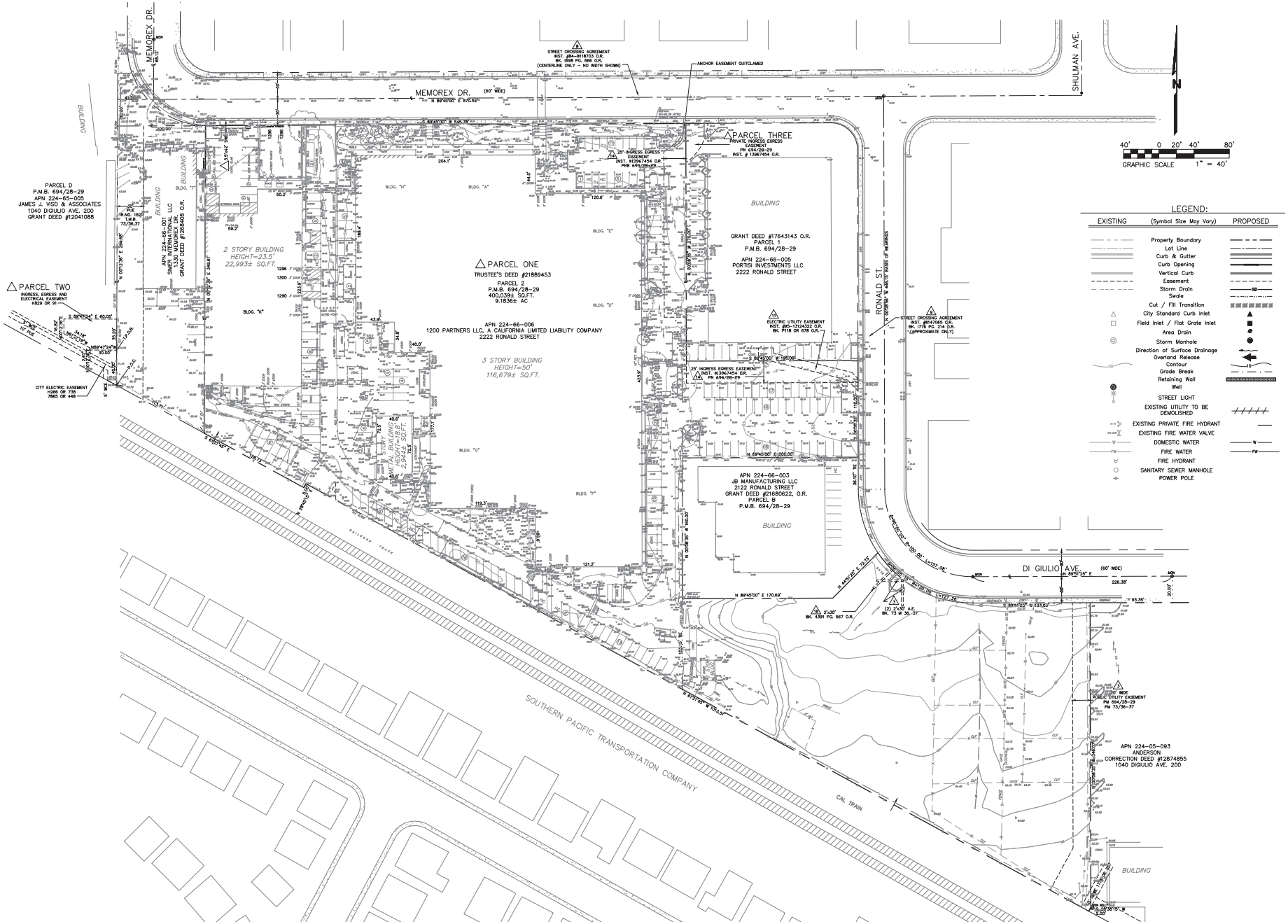
1.1.2.6 ***Landscaping and Stormwater Control***

Currently, landscaping on the site is sparse. Mature trees are located on the site's frontage with Memorex Drive, and additional trees and shrubbery are located along portions of the site's perimeter. Although the project would remove some of the existing trees and landscaping on the site, the project would plant replacement trees that would meet or exceed required replacement ratios, resulting in an increase in trees and landscaping on the site.

The project would result in a decrease in the amount of impervious area on the site. Storm drainage runoff from the site's impervious surfaces would be directed to treatment systems before being collected in a series of pipes sized for a 10-year storm event in accordance with the City's design requirements. These pipes would ultimately leave the site, connecting to the existing City storm drainage pipes in Memorex Drive and/or Di Giulio Avenue. No new off-site storm drain facilities are anticipated to serve the project. Since redevelopment of the site would not increase the storm drain runoff compared to existing conditions, the project would have no adverse impact on the existing City storm drainage system downstream of the site.

The goal of project is to ensure that the final design incorporates an efficient program of best management practices (BMP's) as appropriate to the site conditions and urban runoff pollution prevention requirements. To this end, development of the property shall comply with the requirements of the California Regional Water Quality Control Board, San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MRP). The project would implement site design measures, source control measures and treatment systems into the site design in accordance with Provision C.3 of the MRP. The project would also employ treatment control measures (TCMs) as appropriate based upon site specific design to achieve stormwater requirements for urban runoff pollution.





Project Number: 19110.0000

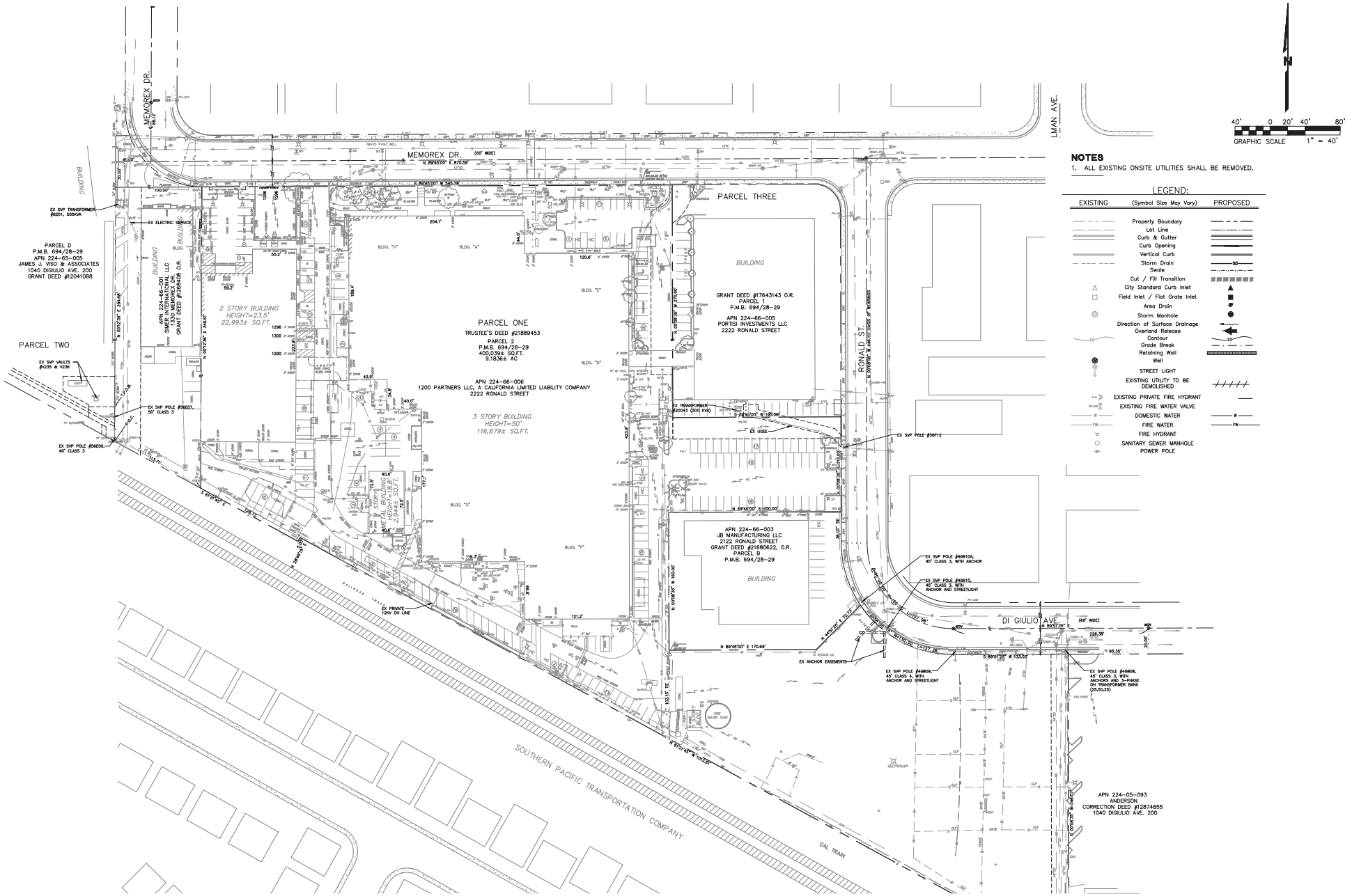
SKYBOX
CORGAN
RUTH AND GOENG, INC.
CRITICAL PROJECT SERVICES, LLC
kw mission critical engineering
REED ASSOCIATES LANDSCAPE ARCHITECTURE

EXISTING SITE CONDITIONS

04.09.2020

DATA HALL

C100



NOTES

1. ALL EXISTING ONSITE UTILITIES SHALL BE REMOVED.

LEGEND:

EXISTING	(Symbol Size May Vary)	PROPOSED
	Property Boundary	
	Lot Line	
	Curb & Gutter	
	Curb Opening	
	Vertical Curb	
SD	Storm Drain	SD
	Swale	
	Cut / Fill Transition	
	City Standard Curb Inlet	
	Field Inlet / Flat Grate Inlet	
	Area Drain	
	Storm Manhole	
	Direction of Surface Drainage	
	Overland Release	
10	Contour	10
	Grade Break	
	Retaining Wall	
	Well	
	STREET LIGHT	
	EXISTING UTILITY TO BE DEMOLISHED	
	EXISTING PRIVATE FIRE HYDRANT	
	EXISTING FIRE WATER VALVE	
W	DOMESTIC WATER	W
FW	FIRE WATER	FW
	FIRE HYDRANT	
	SANITARY SEWER MANHOLE	
	POWER POLE	

GRAPHIC SCALE 1" = 40'

Project Number: 19110.0000

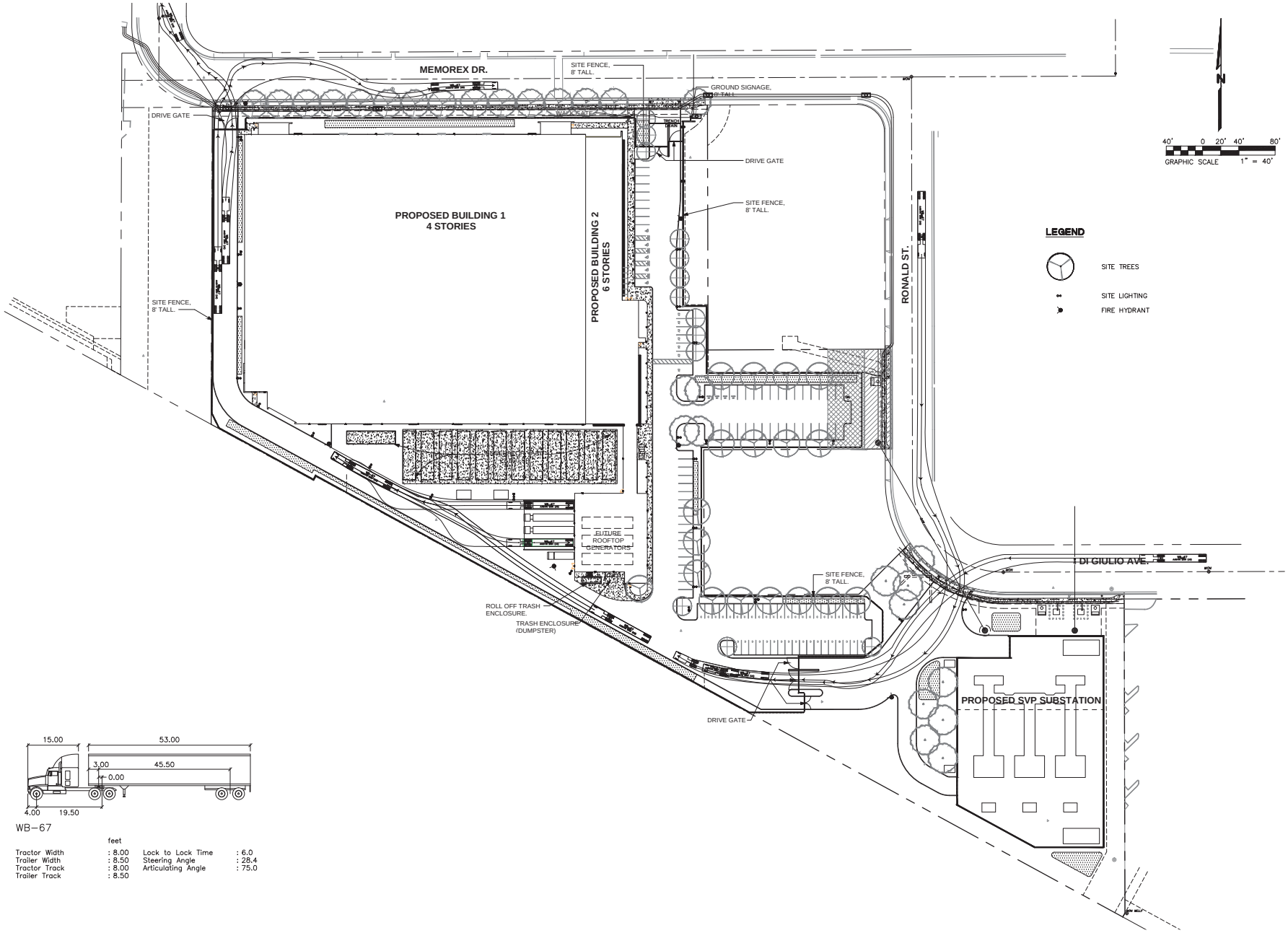
SKYBOX | CORGAN | RUTH AND GOENG, INC. | CRITICAL | kw mission critical engineering | REED ASSOCIATES LANDSCAPE ARCHITECTURE

EXISTING UTILITY CONDITIONS

04.09.2020

DATA HALL | OFFICE

C110



WB−67

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

Project Number: 19110.0000

SKYBOX DATA PARK

CORGAN

RUTH AND GOENG, INC.

CRITICAL PROJECT SERVICES, LLC

kW mission critical engineering

REED ASSOCIATES LANDSCAPE ARCHITECTURE

SITE ACCESS AND CIRCULATION PLAN

04.09.2020

DATA HALL

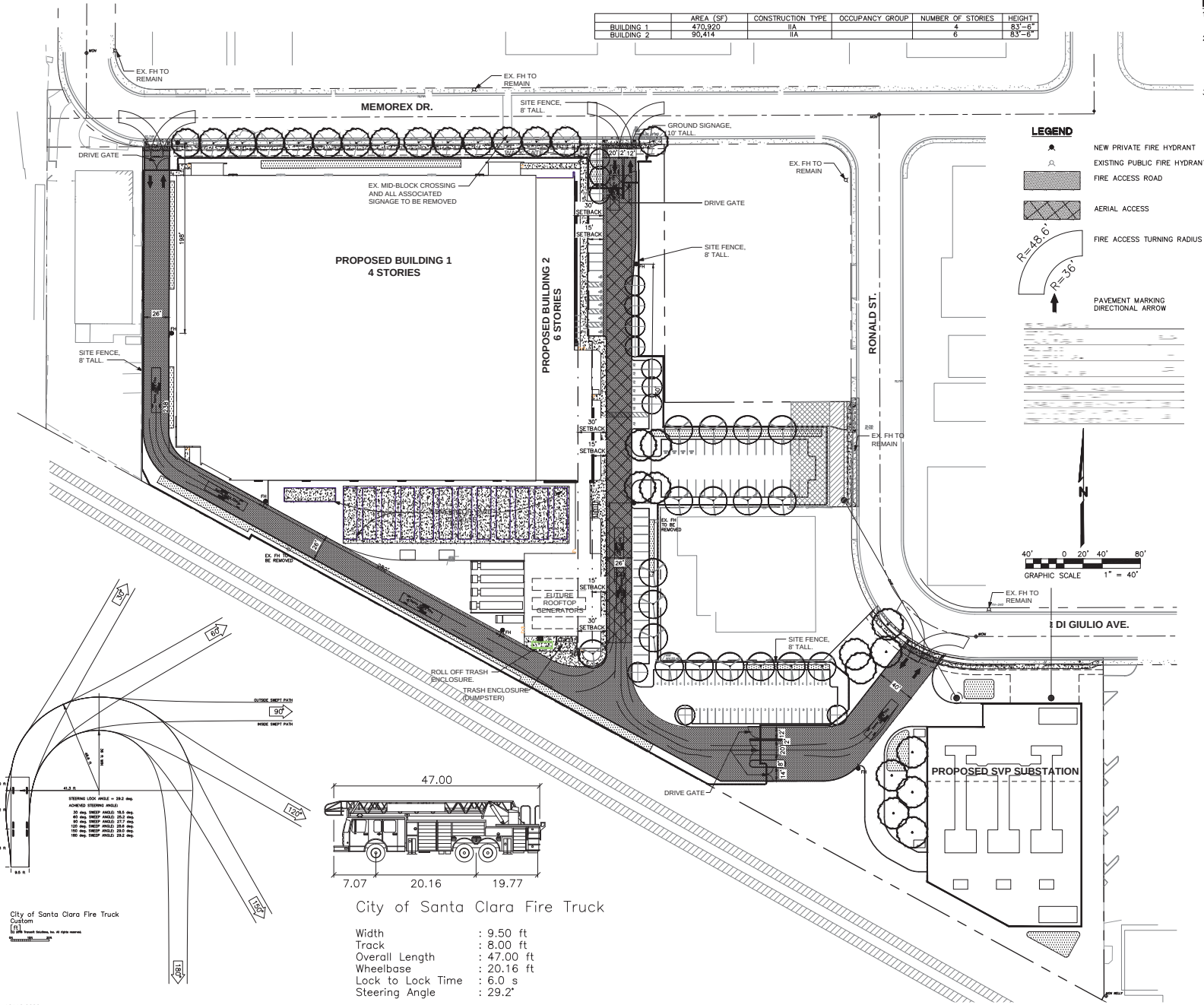
OFFICE

C200

	AREA (SF)	CONSTRUCTION TYPE	OCCUPANCY GROUP	NUMBER OF STORIES	HEIGHT
BUILDING 1	470,920	IIA		4	83'-6"
BUILDING 2	90,414	IIA		6	83'-6"

NOTES

1. SECURITY GATES SHALL BE EQUIPPED WITH OPTICOM SWITCH OR APPROVED ALTERNATIVE FOR FIRE DEPARTMENT ACCESS.
2. SCFD DEFICIENCY: ALL PORTIONS OF THE BUILDING (SOUTH WALL NEAR THE GENERATORS) ARE NOT WITH 150 FEET FROM AN APPROVED FIRE DEPARTMENT ACCESS ROAD. THE DIMENSION OF 150 FEET IN RELATION TO FIRE DEPARTMENT ACCESS IS COMMONLY REFERRED TO AS HOSE PULL DISTANCE. HOSE PULL IS MEASURED ALONG THE PATH THAT SIMULATES THE ROUTE A FIRE FIGHTER MAY TAKE TO ACCESS ALL PORTIONS OF THE EXTERIOR OF A STRUCTURE FROM THE NEAREST FIRE ROAD.
3. AMMR: PROJECT DESIGN TEAM WILL SUBMIT AN AMM TO SCFD, PROPOSING TO INCREASE BLDG FIRE SPRINKLER DENSITY TO SATISFY DEFICIENCY DURING PERMIT DOCS.



City of Santa Clara Fire Truck

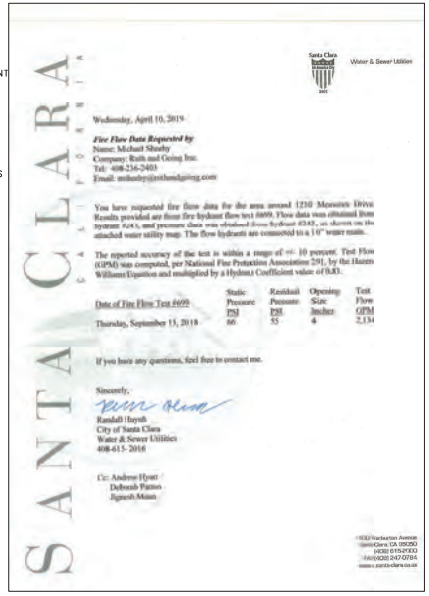
Width	: 9.50 ft
Track	: 8.00 ft
Overall Length	: 47.00 ft
Wheelbase	: 20.16 ft
Lock to Lock Time	: 6.0 s
Steering Angle	: 29.2°

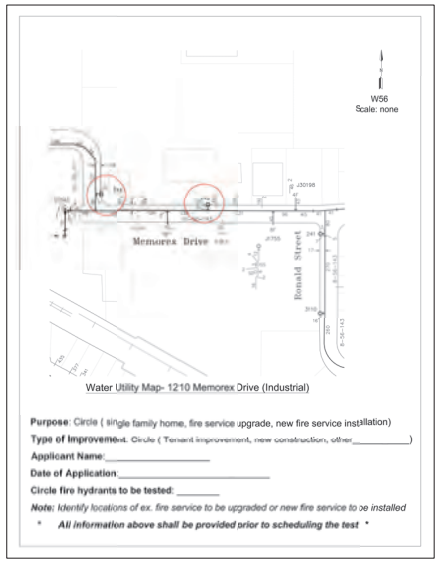
LEGEND

- NEW PRIVATE FIRE HYDRANT
- EXISTING PUBLIC FIRE HYDRANT
- FIRE ACCESS ROAD
- AERIAL ACCESS
- FIRE ACCESS TURNING RADIUS (R=48.6', R=36')
- PAVEMENT MARKING DIRECTIONAL ARROW

N

40' 0 20' 40' 80'
GRAPHIC SCALE 1" = 40'





Project Number: 19110.0000

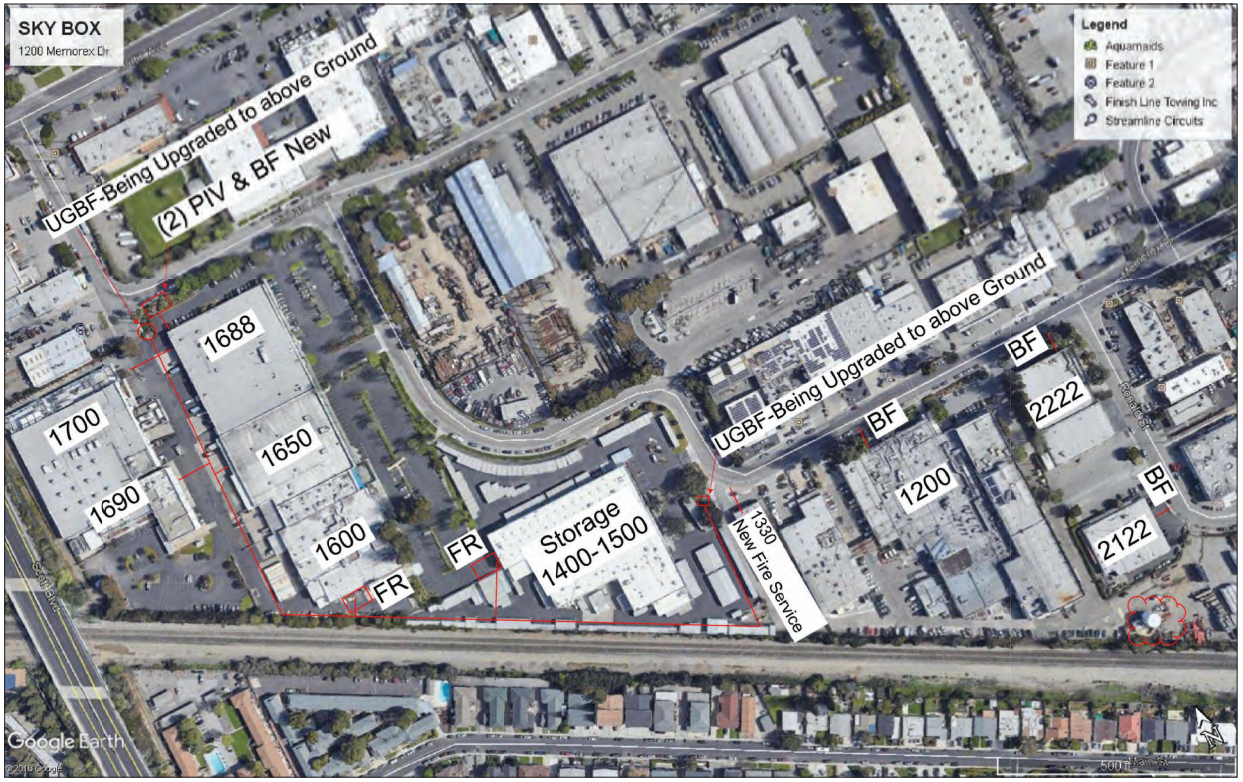
SKYBOX | CORGAN | RUTH AND GOING, INC. | CRITICAL | kW mission critical engineering | REED ASSOCIATES LANDSCAPE ARCHITECTURE

FIRE ACCESS AND APPARATUS DIAGRAM

04.09.2020

DATA HALL | OFFICE

C210



ABBREVIATIONS

1700	ADDRESS NUMBER
BF	CSC BACKFLOW
FR	FIRE RAISER
PIV	POST INDICATOR VALVE
UGBF	UNDERGROUND BACKFLOW

ADJACENT FIRE PERMITS

PERMIT #	ADDRESS
18-1101	1688 & 1700 RICHARD AVE
18-1094	1600, 1650 & 1690 RICHARD AVE

Project Number: 19110.0000

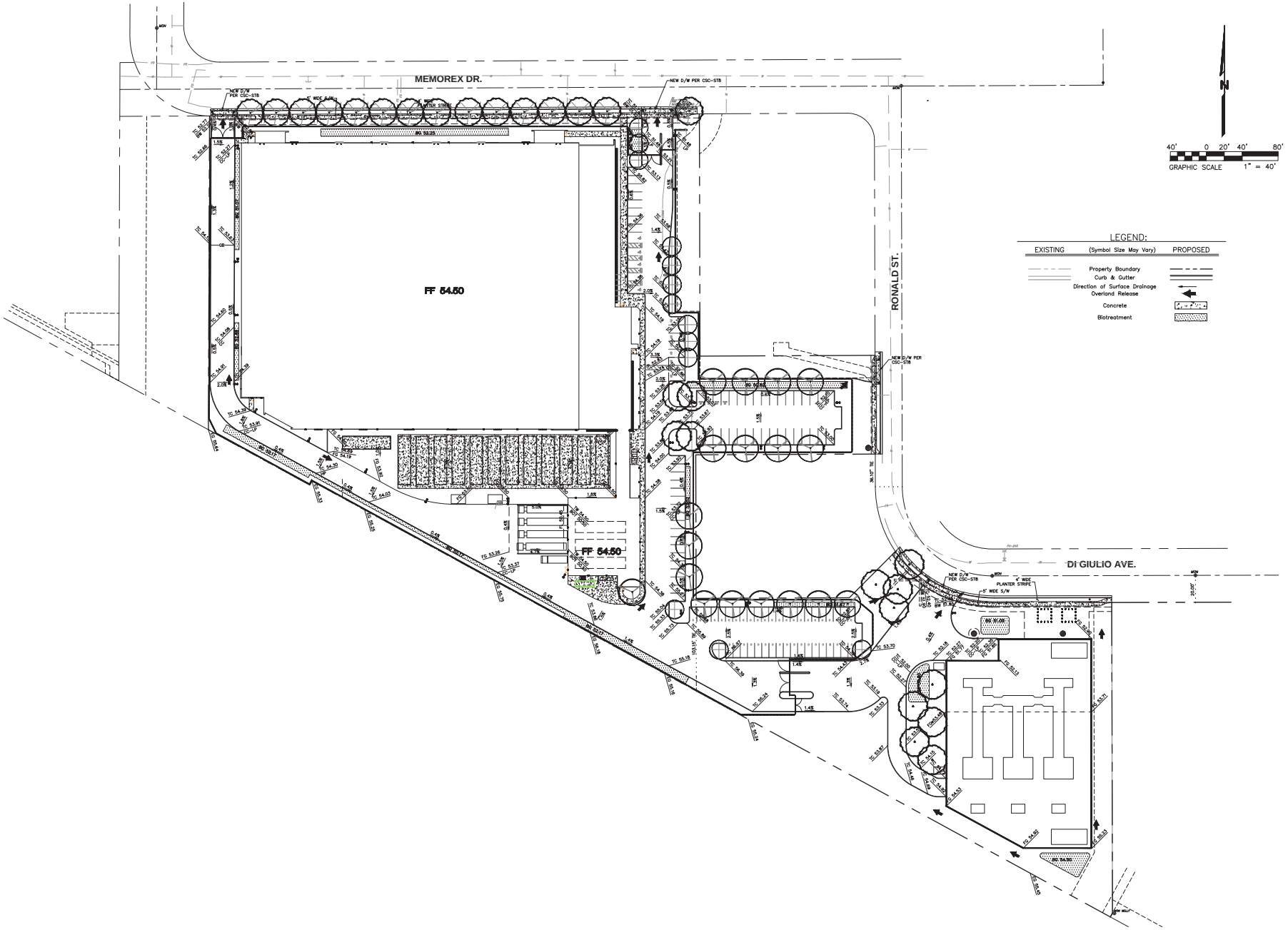
SKYBOX CORGAN RUTH AND GOENG, INC. CRITICAL kW mission critical engineering REED ASSOCIATES LANDSCAPE ARCHITECTURE

ADJACENT PARCEL
EXISTING FIRE SERVICE PLAN

04.09.2020

DATA HALL

C211



Project Number: 19110.0000

SKYBOX

CORGAN

RUTH AND GOING, INC.

CRITICAL PROJECT SERVICES, LLC

kW mission critical engineering

REED ASSOCIATES LANDSCAPE ARCHITECTURE

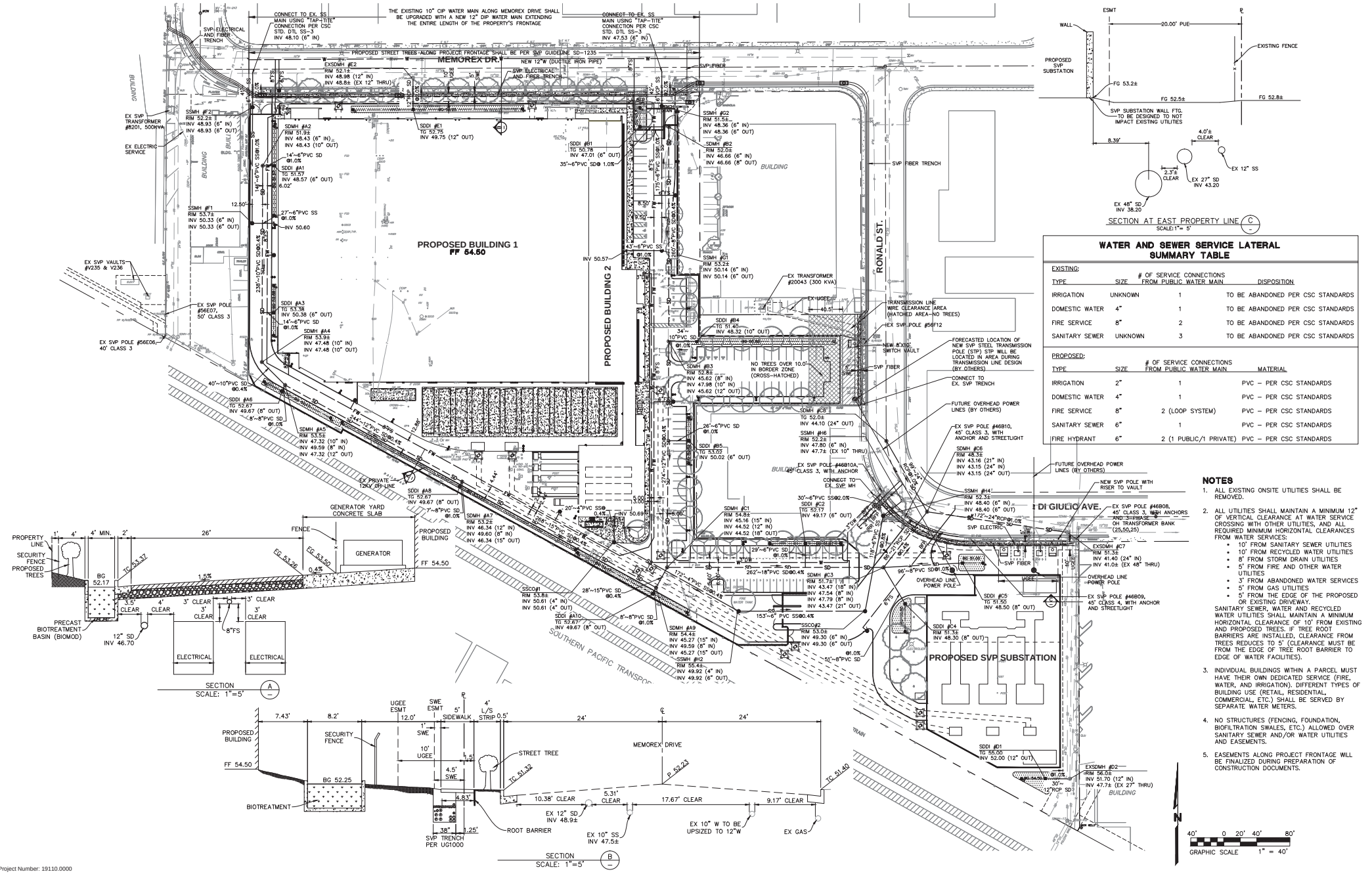
PRELIMINARY GRADING AND DRAINAGE PLAN

04.09.2020

DATA HALL

OFFICE

C300



WATER AND SEWER SERVICE LATERAL SUMMARY TABLE

EXISTING:

TYPE	SIZE	# OF SERVICE CONNECTIONS FROM PUBLIC WATER MAIN	DISPOSITION
IRRIGATION	UNKNOWN	1	TO BE ABANDONED PER CSC STANDARDS
DOMESTIC WATER	4"	1	TO BE ABANDONED PER CSC STANDARDS
FIRE SERVICE	8"	2	TO BE ABANDONED PER CSC STANDARDS
SANITARY SEWER	UNKNOWN	3	TO BE ABANDONED PER CSC STANDARDS

PROPOSED:

TYPE	SIZE	# OF SERVICE CONNECTIONS FROM PUBLIC WATER MAIN	MATERIAL
IRRIGATION	2"	1	PVC – PER CSC STANDARDS
DOMESTIC WATER	4"	1	PVC – PER CSC STANDARDS
FIRE SERVICE	8"	2 (LOOP SYSTEM)	PVC – PER CSC STANDARDS
SANITARY SEWER	6"	1	PVC – PER CSC STANDARDS
FIRE HYDRANT	6"	2 (1 PUBLIC/1 PRIVATE)	PVC – PER CSC STANDARDS

NOTES

1. ALL EXISTING ONSITE UTILITIES SHALL BE REMOVED.
2. ALL UTILITIES SHALL MAINTAIN A MINIMUM 12" OF VERTICAL CLEARANCE AT WATER SERVICE CROSSING WITH OTHER UTILITIES, AND ALL REQUIRED MINIMUM HORIZONTAL CLEARANCES FROM WATER SERVICES:
   - 10' FROM SANITARY SEWER UTILITIES
   - 10' FROM RECYCLED WATER UTILITIES
   - 8' FROM STORM DRAIN UTILITIES
   - 5' FROM FIRE AND OTHER WATER UTILITIES
   - 3' FROM ABANDONED WATER SERVICES
   - 5' FROM GAS UTILITIES
   - 5' FROM THE EDGE OF THE PROPOSED OR EXISTING DRIVEWAY.

   SANITARY SEWER, WATER AND RECYCLED WATER UTILITIES SHALL MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 10' FROM EXISTING AND PROPOSED TREES. IF TREE ROOT BARRIERS ARE INSTALLED, CLEARANCE FROM TREES REDUCES TO 5' (CLEARANCE MUST BE FROM THE EDGE OF TREE ROOT BARRIER TO EDGE OF WATER FACILITIES).
3. INDIVIDUAL BUILDINGS WITHIN A PARCEL MUST HAVE THEIR OWN DEDICATED SERVICE (FIRE, WATER, AND IRRIGATION). DIFFERENT TYPES OF BUILDING USE (RETAIL, RESIDENTIAL, COMMERCIAL, ETC.) SHALL BE SERVED BY SEPARATE WATER METERS.
4. NO STRUCTURES (FENCING, FOUNDATION, BIOFILTRATION SWALES, ETC.) ALLOWED OVER SANITARY SEWER AND/OR WATER UTILITIES AND EASEMENTS.
5. EASEMENTS ALONG PROJECT FRONTAGE WILL BE FINALIZED DURING PREPARATION OF CONSTRUCTION DOCUMENTS.

Project Number: 19110.0000

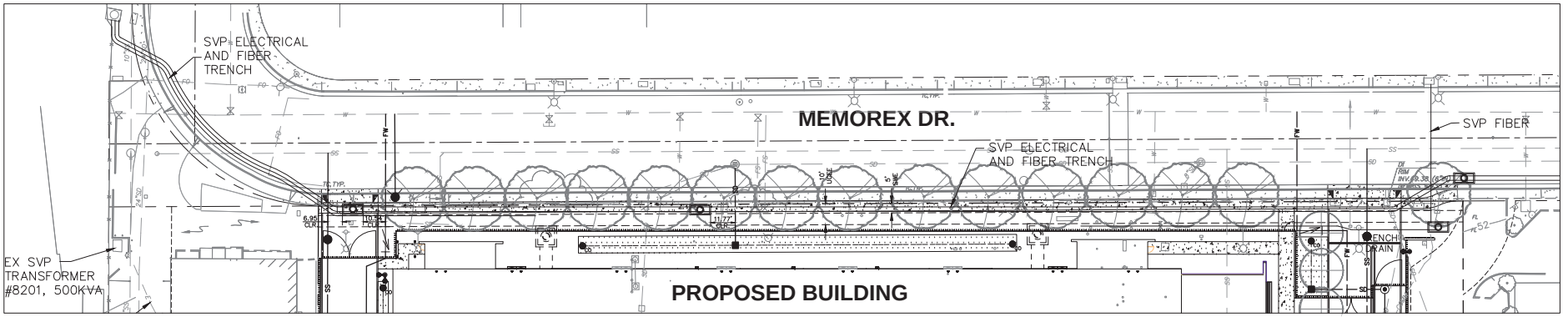
SKYBOX · CORGAN · RUTH AND GOING, INC. · CRITICAL · kW mission critical engineering · REED ASSOCIATES LANDSCAPE ARCHITECTURE

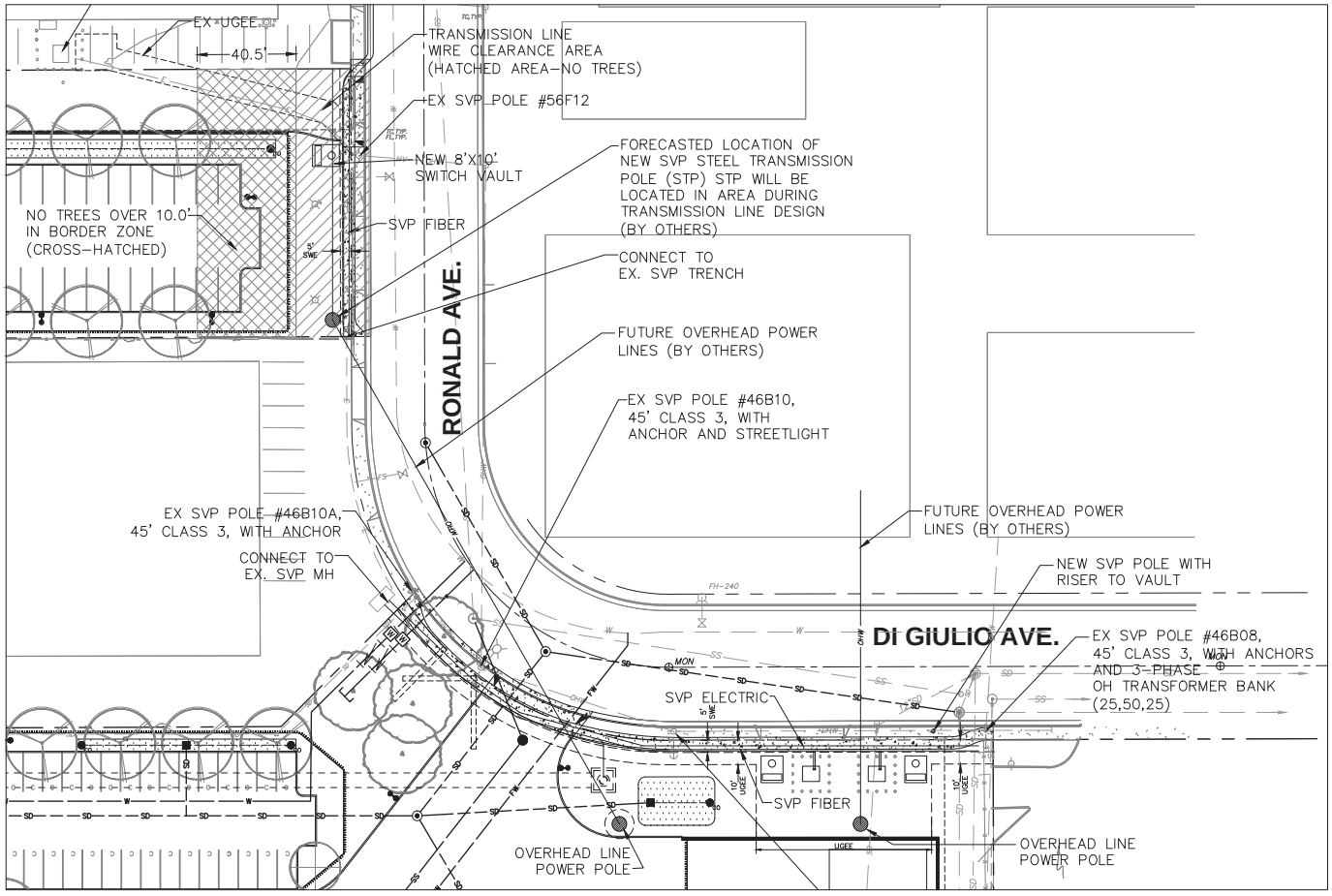
PRELIMINARY SITE UTILITY PLAN

04.09.2020

DATA HALL

C400





Project Number: 19110.0000

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ENLARGED SVP CLEARANCE PLAN

04.09.2020

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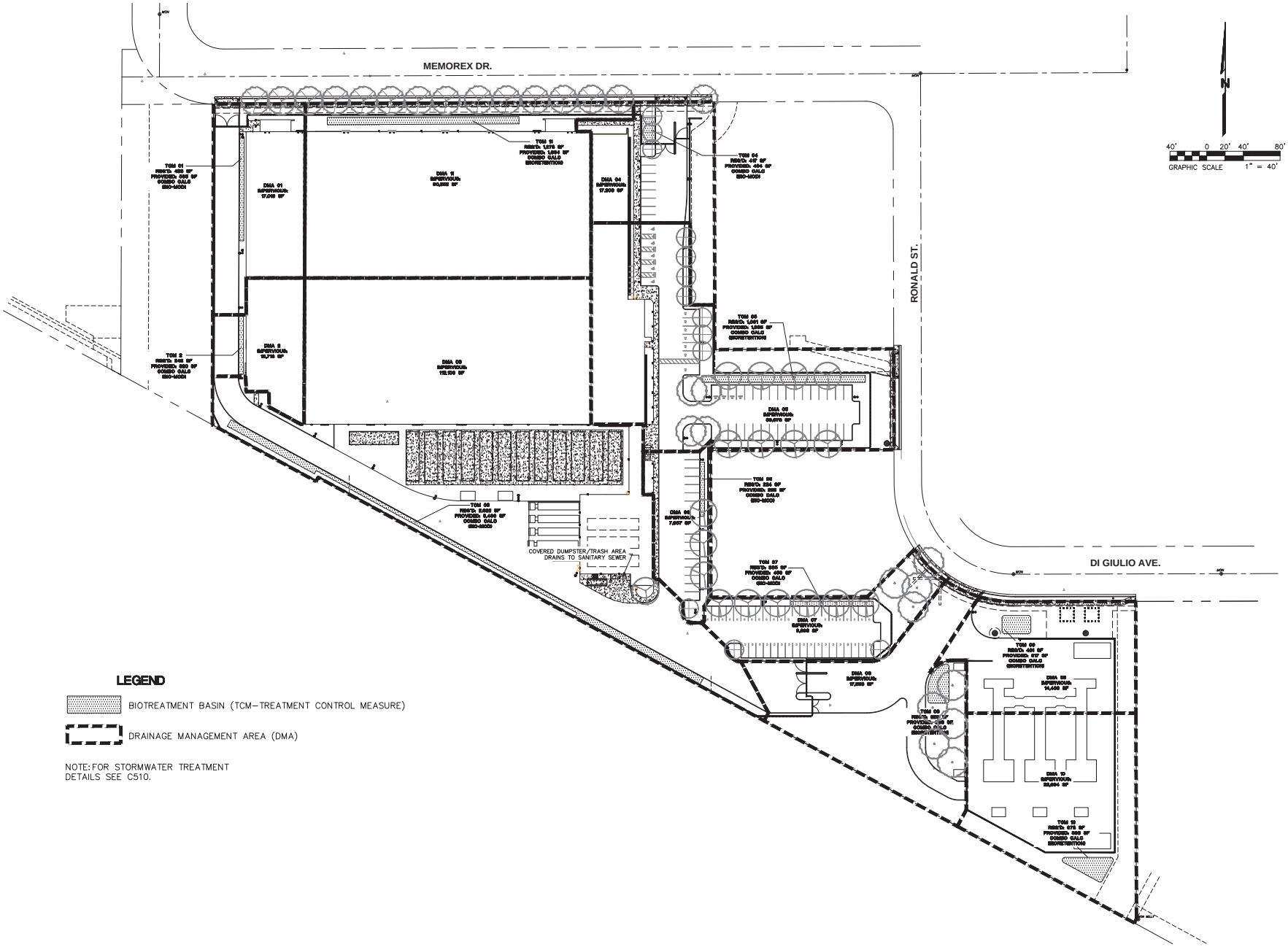
C401



Project Number: 19110.0000

SKYBOX | CORGAN | RUTH AND GOING, INC. | CRITICAL | kW mission critical engineering | REED ASSOCIATES LANDSCAPE ARCHITECTURE

PRELIMINARY STORMWATER CONTROL PLAN

04.09.2020

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BIOTREATMENT SOIL REQUIREMENTS

- BIORETENTION SOIL MIX SHALL MEET THE REQUIREMENTS AS OUTLINED IN APPENDIX C OF THE C.3 STORM WATER HANDBOOK AND SHALL BE A MIXTURE OF FINE SAND AND COMPOST MEASURED ON A VOLUME BASIS OF 60–70% SAND AND 30–40% COMPOST. CONTRACTOR TO REFER TO APPENDIX C FOR SAND AND COMPOST MATERIAL SPECIFICATIONS.
- PRIOR TO ORDERING THE BIOTREATMENT SOIL MIX OR DELIVERY TO THE PROJECT SITE, CONTRACTOR SHALL PROVIDE A BIOTREATMENT SOIL MIX SPECIFICATION CHECKLIST, COMPLETED BY THE SOIL MIX SUPPLIER AND CERTIFIED TESTING LAB.

STANDARD STORMWATER CONTROL NOTES:

- STANDING WATER SHALL NOT REMAIN IN THE TREATMENT MEASURES FOR MORE THAN FIVE DAYS, TO PREVENT MOSQUITO GENERATION. SHOULD ANY MOSQUITO ISSUES ARISE, CONTACT THE SANTA CLARA VALLEY VECTOR CONTROL DISTRICT (DISTRICT). MOSQUITO LARVICIDES SHALL BE APPLIED ONLY WHEN ABSOLUTELY NECESSARY, AS INDICATED BY THE DISTRICT, AND THEN ONLY BY A LICENSED PROFESSIONAL OR CONTRACTOR. CONTACT INFORMATION FOR THE DISTRICT IS PROVIDED BELOW.
- DO NOT USE PESTICIDES OR OTHER CHEMICAL APPLICATIONS TO TREAT DISEASED PLANTS, CONTROL WEEDS OR REMOVED UNWANTED GROWTH. EMPLOY NON-CHEMICAL CONTROLS (BIOLOGICAL, PHYSICAL AND CULTURAL CONTROLS) TO TREAT A PEST PROBLEM. PRUNE PLANTS PROPERLY AND AT THE APPROPRIATE TIME OF YEAR. PROVIDE ADEQUATE IRRIGATION FOR LANDSCAPE PLANTS. DO NOT OVER WATER.

BIORETENTION NOTES:

1. SEE GRADING PLAN FOR BASIN FOOTPRINT AND DESIGN ELEVATIONS.
2. PLACE 3 INCHES OF COMPOSTED, NON–FLOATABLE MULCH IN AREAS BETWEEN STORMWATER PLANTINGS.
3. SEE LANDSCAPE PLAN FOR MULCH, PLANT MATERIALS AND IRRIGATION REQUIREMENTS
4. CURB CUTS SHALL BE A MINIMUM 18" WIDE AND SPACED AT MAXIMUM 10' O.C. INTERVALS AND SLOPED TO DIRECT STORMWATER TO DRAIN INTO THE BASIN. CURB CUTS SHALL ALSO NOT BE PLACED INLINE WITH OVERFLOW CATCH BASIN.
5. A MINIMUM 0.2' DROP BETWEEN STORM WATER ENTRY POINT (I.E. CURB OPENING, FLUSH CURB, ETC.) AND ADJACENT LANDSCAPE FINISHED GRADE.
6. DO NOT COMPACT NATIVE SOIL / SUBGRADE AT BOTTOM OF BASIN. LOOSEN SOIL TO 12" DEPTH.

PROJECT SITE INFORMATION:

1. **SOILS TYPE:** ______
2. **GROUND WATER DEPTH:** ______
3. **NAME OF RECEIVING BODY:** ______
4. **FLOOD ZONE: ZONE X - AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD**
5. **FLOOD ELEVATION (IF APPLICABLE):** ______

OPERATION AND MAINTENANCE INFORMATION:

I. **PROPERTY INFORMATION:**

I.A. PROPERTY ADDRESS:
1220 MEMOREX DRIVE
SANTA CLARA, CA 95050

I.B. PROPERTY OWNER:
1220 SANTA CLARA PROPCO, LLC

II. **RESPONSIBLE PARTY FOR MAINTENANCE:**

II.A. CONTACT:
JOHN SHANK

II.B. PHONE NUMBER OF CONTACT:
(408) 872–9500

II.C. EMAIL:
JON@PELIO.COM

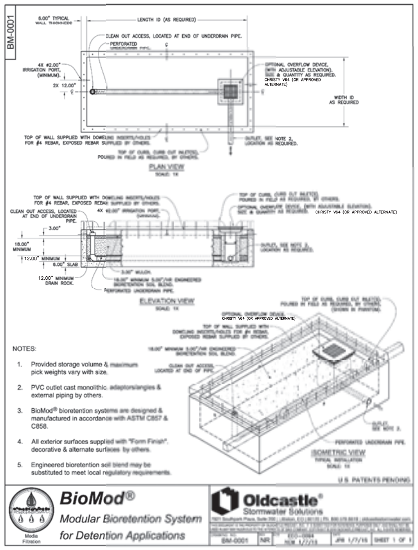
II.D. ADDRESS:
14573 BIG BASIN WAY
SARATOGA, CA 95070

SOURCE CONTROL MEASURES:

1. CONNECT THE FOLLOWING FEATURES TO SANITARY SEWER:
   a. COVERED TRASH/ RECYCLING ENCLOSURES.
   b. COVERED LOADING DOCKS AND MAINTENANCE BAYS.
2. BENEFICIAL LANDSCAPING.
3. USE OF WATER EFFICIENT IRRIGATION SYSTEMS.
4. MAINTENANCE (PAVEMENT SWEEPING, CATCH BASIN CLEANING, GOOD HOUSEKEEPING).
5. STORM DRAIN LABELING.

SITE DESIGN MEASURES:

1. PROTECT EXISTING TREES, VEGETATION, AND SOIL.
2. REDUCE EXISTING IMPERVIOUS SURFACES.
3. CREATE NEW PERVIOUS AREAS:
4. LANDSCAPING
   a. PARKING STALLS.
   b. PRIVATE STREETS AND SIDEWALKS.
5. DIRECT RUNOFF FROM ROOFS, SIDEWALKS, PATIOS TO LANDSCAPED AREAS.
6. CLUSTER STRUCTURES/PAVEMENT.
7. PLANT TREES ADJACENT TO AND IN PARKING AREAS AND ADJACENT TO OTHER IMPERVIOUS AREAS.
8. PARKING:
   a. NOT PROVIDED IN EXCESS OF CODE.



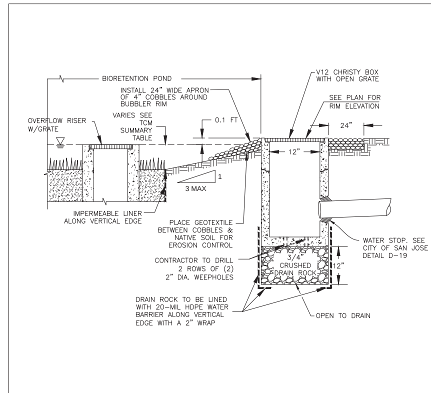
PERVIOUS AND IMPERVIOUS SURFACES COMPARISON TABLE

a. Total Site Area: 9.18 acre	b. Total Site Area Disturbed: [illegible]				
Impervious Area[1] (IA)	Pre-project (Existing) IA (ft²)	Existing IA Retained As-is (ft²) (a)	Existing IA Replaced with IA (ft²) (b)	New IA Created (ft²) (c)	Total Post-Project IA (ft²) (a+b+c)
Roof	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Surface Parking	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sidewalks, streets, etc.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
c. Total Impervious Area	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
d. Total new and replaced impervious area			[illegible]		
Pervious Area (PA)	Pre-project (Existing) PA (ft²)				Total Post-Project PA (ft²)
Landscaping[2]	[illegible]				[illegible]
Pervious Paving	[illegible]				[illegible]
Other (e.g. Green Roof)	[illegible]				[illegible]
e. Total Pervious Area	[illegible]				[illegible]
f. Total Area (IA+PA)	[illegible]				[illegible]
g. Percent Replacement of IA in Redevelopment Projects [illegible]					[illegible] %

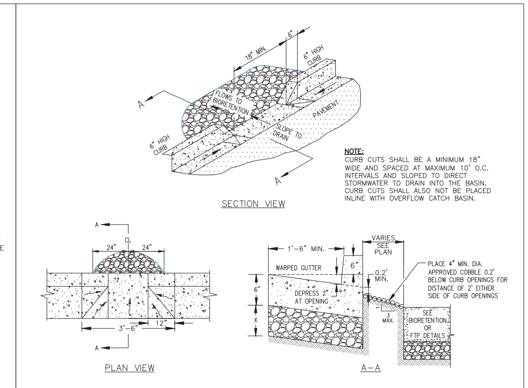
TREATMENT CONTROL MEASURE SUMMARY TABLE

DMA #	TCM #	Location	Treatment Type	LID or Non-LID	Sizing Method	Drainage Area (s.f.)	Impervious Area (s.f.)	Pervious Area (Permeable Pavement) (s.f.)	Pervious Area (Other) (s.f.)	% Onsite Area Treated by LID or Non-LID TCM	Bioretention Area Required (s.f.)	Bioretention Area Provided (s.f.)	Overflow Riser Height (in)	Comments
1	1	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	20,439	17,019	0	3,420	5.11%	433	565	6	
2	2	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	11,358	10,718	0	640	2.84%	248	320	6	
3	3	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	120,939	112,100	0	8,839	30.23%	2,622	3,400	6	
4	4	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	19,400	17,203	0	2,197	4.85%	417	434	11	
5	5	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	50,925	39,678	0	11,247	12.73%	1,061	1,335	7	
6	6	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	10,889	7,957	0	2,932	2.72%	224	295	6	
7	7	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	17,148	9,893	0	7,255	4.29%	335	450	6	
8	8	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	32,265	17,253	0	15,012	8.07%	620	838	6	
9	9	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	23,258	14,409	0	8,849	5.81%	461	617	6	
10	10	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	33,283	22,694	0	10,589	8.32%	673	893	6	
11	11	Onsite	Bioretention lined* w/ underdrain	LID	3. Flow-Volume Combo	60,134	50,252	0	9,882	15.03%	1,273	1,664	6	
					Totals:	400,038	319,176	0	80,862	100.00%				

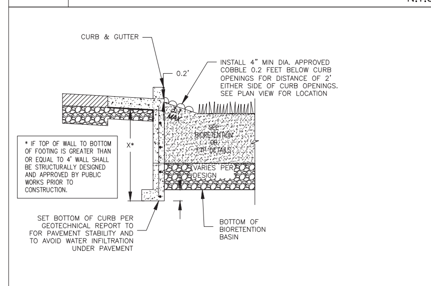
Footnotes:
* "Lined" refers to an impermeable liner placed on the bottom of a Bioretention basin or a concrete Flow-Through Planter, such that no infiltration into native soil occurs.



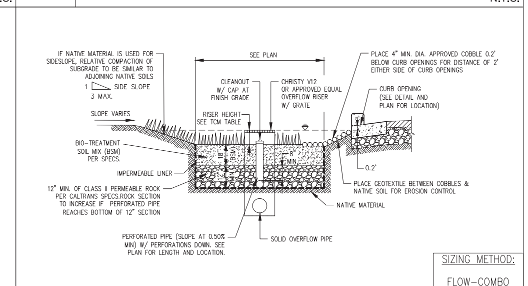
1 BUBBLER BOX DETAIL N.T.S.



2 CURB OPENING N.T.S.



3 CURB ADJACENT TO BIORETENTION N.T.S.



4 BIORETENTION BASIN W/ LINER N.T.S.

TABLE 1 ROUTINE MAINTENANCE ACTIVITIES FOR BIORETENTION AREAS		
NO.	**MAINTENANCE TASK**	**FREQUENCY OF TASK**
1	REMOVE OBSTRUCTIONS, WEEDS, DEBRIS AND TRASH FROM BIORETENTION AREA AND ITS INLETS AND OUTLETS; AND DISPOSE OF PROPERLY.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
2	INSPECT BIORETENTION AREA FOR STANDING WATER. IF STANDING WATER DOES NOT DRAIN WITHIN 2-3 DAYS, TILL AND REPLACE THE SURFACE BIOTREATMENT SOIL WITH THE APPROVED SOIL MIX AND REPLANT.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
3	CHECK UNDERDRAINS FOR CLOGGING. USE THE CLEANOUT RISER TO CLEAN ANY CLOGGED UNDERDRAINS.	QUARTERLY, OR AS NEEDED AFTER STORM EVENTS
4	MAINTAIN THE IRRIGATION SYSTEM AND ENSURE THAT PLANTS ARE RECEIVING THE CORRECT AMOUNT OF WATER (IF APPLICABLE).	QUARTERLY
5	ENSURE THAT THE VEGETATION IS HEALTHY AND DENSE ENOUGH TO PROVIDE FILTERING AND PROTECT SOILS FROM EROSION. PRUNE AND WEED THE BIORETENTION AREA. REMOVE AND/OR REPLACE ANY DEAD PLANTS.	ANNUALLY, BEFORE THE WET SEASON BEGINS
6	USE COMPOST AND OTHER NATURAL SOIL AMENDMENTS AND FERTILIZERS INSTEAD OF SYNTHETIC FERTILIZERS, ESPECIALLY IF THE SYSTEM USES AN UNDERDRAIN.	ANNUALLY, BEFORE THE WET SEASON BEGINS
7	CHECK THAT MULCH IS AT APPROPRIATE DEPTH (2 - 3 INCHES PER SOIL SPECIFICATIONS) AND REPLENISH AS NECESSARY BEFORE WET SEASON BEGINS. IT IS RECOMMENDED THAT 2" – 3" OF ARBOR MULCH BE REAPPLIED EVERY YEAR.	ANNUALLY, BEFORE THE WET SEASON BEGINS
8	INSPECT THE ENERGY DISSIPATION AT THE INLET TO ENSURE IT IS FUNCTIONING ADEQUATELY, AND THAT THERE IS NO SCOUR OF THE SURFACE MULCH. REMOVE ACCUMULATED SEDIMENT.	ANNUALLY, BEFORE THE WET SEASON BEGINS
9	INSPECT OVERFLOW PIPE TO ENSURE THAT IT CAN SAFELY CONVEY EXCESS FLOWS TO A STORM DRAIN. REPAIR OR REPLACE DAMAGED PIPING.	ANNUALLY, BEFORE THE WET SEASON BEGINS
10	REPLACE BIOTREATMENT SOIL AND MULCH, IF NEEDED. CHECK FOR STANDING WATER, STRUCTURAL FAILURE AND CLOGGED OVERFLOWS. REMOVE TRASH AND DEBRIS. REPLACE DEAD PLANTS.	
11	INSPECT BIORETENTION AREA USING THE ATTACHED INSPECTION CHECKLIST.	ANNUALLY, BEFORE THE WET SEASON

Project Number: 19110.0000

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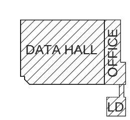
REED ASSOCIATES LANDSCAPE ARCHITECTURE

STORMWATER CONTROL DETAILS

04.09.2020



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SIZING FOR VOLUME BASED TREATMENT

DMA # 1
A= 20,439 s.f.
Impervious Area = 17,019 s.f. % Imperviousness= 83.27%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.52512858 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.54980185 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.52512858 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5402402 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 920.16 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 20,439 sq. ft
Impervious Area = 17,019 sq. ft
Pervious Area = 3,420 sq. ft
Equivalent Impervious Area = 342 sq. ft Total Equivalent Impervious = **17,361** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.701201 hrs

Estimate the Surface Area = 365 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 635.90773 cu. ft
Volume in Ponding Area = 284.25838 cu. ft
Depth of Ponding = 0.9031880 ft Depth of Ponding = 9 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 2
A= 11,322 s.f.
Impervious Area = 10,691 s.f. % Imperviousness= 94.43%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.55872302 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.58328034 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.55872302 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5748302 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 543.30 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 11,322 sq. ft
Impervious Area = 10,691 sq. ft
Pervious Area = 631 sq. ft
Equivalent Impervious Area = 63 sq. ft Total Equivalent Impervious = **10,754** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.8791508 hrs

Estimate the Surface Area = 320 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 383.88677 cu. ft
Volume in Ponding Area = 159.40898 cu. ft
Depth of Ponding = 0.4981531 ft Depth of Ponding = 6 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 3
A= 120,939 s.f.
Impervious Area = 112,100 s.f. % Imperviousness= 92.69%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.55434321 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.57807407 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.55434321 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5702955 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 5,747.69 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 120,939 sq. ft
Impervious Area = 112,100 sq. ft
Pervious Area = 8,839 sq. ft
Equivalent Impervious Area = 884 sq. ft Total Equivalent Impervious = **112,984** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.8514776 hrs

Estimate the Surface Area = 3400 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 4038.5833 cu. ft
Volume in Ponding Area = 1707.9878 cu. ft
Depth of Ponding = 0.5023493 ft Depth of Ponding = 6 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 4
A= 19,400 s.f.
Impervious Area = 17,203 s.f. % Imperviousness= 88.68%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.54189933 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.56802577 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.54189933 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5574874 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 901.27 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 19,400 sq. ft
Impervious Area = 17,203 sq. ft
Pervious Area = 2,197 sq. ft
Equivalent Impervious Area = 220 sq. ft Total Equivalent Impervious = **17,423** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.7874366 hrs

Estimate the Surface Area = 434 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 504.06148 cu. ft
Volume in Ponding Area = 397.20974 cu. ft
Depth of Ponding = 0.9152298 ft Depth of Ponding = 11 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 5
A= 50,925 s.f.
Impervious Area = 39,675 s.f. % Imperviousness= 77.91%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.5085352 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.53374374 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.5085352 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5231693 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 2,220.20 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 50,925 sq. ft
Impervious Area = 39,675 sq. ft
Pervious Area = 11,247 sq. ft
Equivalent Impervious Area = 1,125 sq. ft Total Equivalent Impervious = **40,800** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.6158465 hrs

Estimate the Surface Area = 1335 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 1450.0640 cu. ft
Volume in Ponding Area = 785.13511 cu. ft
Depth of Ponding = 0.5731349 ft Depth of Ponding = 6.9 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 6
A= 10,689 s.f.
Impervious Area = 7,957 s.f. % Imperviousness= 73.07%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.49352861 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.51922123 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.49352861 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5077309 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 460.72 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 10,689 sq. ft
Impervious Area = 7,957 sq. ft
Pervious Area = 2,932 sq. ft
Equivalent Impervious Area = 293 sq. ft Total Equivalent Impervious = **8,250** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.5386543 hrs

Estimate the Surface Area = 285 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 312.04293 cu. ft
Volume in Ponding Area = 148.58052 cu. ft
Depth of Ponding = 0.5040018 ft Depth of Ponding = 6 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 7
A= 17,148 s.f.
Impervious Area = 9,893 s.f. % Imperviousness= 57.69%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.44584476 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.47307558 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.44584476 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.4586748 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 655.45 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 17,148 sq. ft
Impervious Area = 9,893 sq. ft
Pervious Area = 7,255 sq. ft
Equivalent Impervious Area = 726 sq. ft Total Equivalent Impervious = **10,619** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.2933741 hrs

Estimate the Surface Area = 450 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 430.00765 cu. ft
Volume in Ponding Area = 225.43668 cu. ft
Depth of Ponding = 0.5008748 ft Depth of Ponding = 6 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 8
A= 32,265 s.f.
Impervious Area = 17,253 s.f. % Imperviousness= 53.47%

MAPsite = 14.3 Correction Factor= 1.0288
MAPgage = 13.9
Clay (C): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltration rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
UBS Volume for 1% Slope (UBS1%) = 0.43276569 inches (Use Figure B-2)
UBS Volume for 15% Slope (UBS15%) = 0.4604 1841 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.43276569 inches (Corrected Slope for the site)

Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.4452194 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 1,197.08 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 32,265 sq. ft
Impervious Area = 17,253 sq. ft
Pervious Area = 15,012 sq. ft
Equivalent Impervious Area = 1,561 sq. ft Total Equivalent Impervious = **18,754** sq. ft

Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.2260969 hrs

Estimate the Surface Area = 636 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 777.27883 cu. ft
Volume in Ponding Area = 419.80477 cu. ft
Depth of Ponding = 0.5009603 ft Depth of Ponding = 6 inches (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

Project Number: 19110.0000

SKYBOX DEVELOPMENT
CORGAN
RUTH AND GOING, INC.
CRITICAL PROJECT SERVICES, LLC
kw mission critical engineering
REED ASSOCIATES LANDSCAPE ARCHITECTURE

PRELIMINARY STORMWATER CALCULATIONS

04.09.2020

DATA HALL

C520

SIZING FOR VOLUME BASED TREATMENT

DMA # 9
A= 23,258 s.f.
Impervious Area = 14,409 s.f. % Imperviousness= 61.95%

MAPelze = 14.3 Correction Factor= 1.0288
MAPpage = 13.9
Clay (D): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltrasion rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
LBS Volume for 1% Slope (LBS1%) = 0.45905392 inches (Use Figure B-2)
LBS Volume for 15% Slope (LBS15%) = 0.48586863 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.46906392 inches (Corrected Slope for the site)
Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.4722641 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 916.33 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 23,258 sq. ft
Impervious Area = 14,409 sq. ft
Pervious Area = 8,849 sq. ft
Equivalent Impervious Area = 885 sq. ft Total Equivalent Impervious = 15,294 sq. ft
Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.3613205 hrs

Estimate the Surface Area = 517 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 607.05615 cu. ft
Volume in Ponding Area = 308.27039 cu. ft
Depth of Ponding = 0.4996279 ft Depth of Ponding = 6 inch(s) (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 10
A= 33,283 s.f.
Impervious Area = 22,694 s.f. % Imperviousness= 68.18%

MAPelze = 14.3 Correction Factor= 1.0288
MAPpage = 13.9
Clay (D): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltrasion rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
LBS Volume for 1% Slope (LBS1%) = 0.47637337 inches (Use Figure B-2)
LBS Volume for 15% Slope (LBS15%) = 0.50455498 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.47637337 inches (Corrected Slope for the site)
Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.4921395 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

Design Volume = 1,364.99 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 33,283 sq. ft
Impervious Area = 22,694 sq. ft
Pervious Area = 10,589 sq. ft
Equivalent Impervious Area = 1,059 sq. ft Total Equivalent Impervious = 23,753 sq. ft
Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.4609976 hrs

Estimate the Surface Area = 993 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 915.58455 cu. ft
Volume in Ponding Area = 449.4054 cu. ft
Depth of Ponding = 0.5032535 ft Depth of Ponding = 6 inch(s) (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.

SIZING FOR VOLUME BASED TREATMENT

DMA # 11
A= 60,134 s.f.
Impervious Area = 50,252 s.f. % Imperviousness= 83.57%

MAPelze = 14.3 Correction Factor= 1.0288
MAPpage = 13.9
Clay (D): X Sandy Clay (D): Clay Loam (D):
Silt Loam/Loam (B): Not Applicable (100% Impervious):

Are the soils outside the building footprint graded/compacted? No Yes/No

If yes, and the soil will be compacted during site preparation and grading, the soil infiltrasion rate will be decreased. Modify your answer to a soil with a lower infiltration rate (eg. Silt Loam to Clay).
Modified Soil Type:

S= 1.00%
LBS Volume for 1% Slope (LBS1%) = 0.52605677 inches (Use Figure B-2)
LBS Volume for 15% Slope (LBS15%) = 0.5507001 inches (Use Figure B-5)

UBS Volume for X% Slope (UBSX%) = 0.52605677 inches (Corrected Slope for the site)
Adjusted UBS = Correction Factor (Step 2) x UBSx% (Step 5)

Adjusted UBS = 0.5411951 inches
Design Volume = Adjusted UBS (Step 6) x Drainage Area (Step 1) x 1ft/12 inch

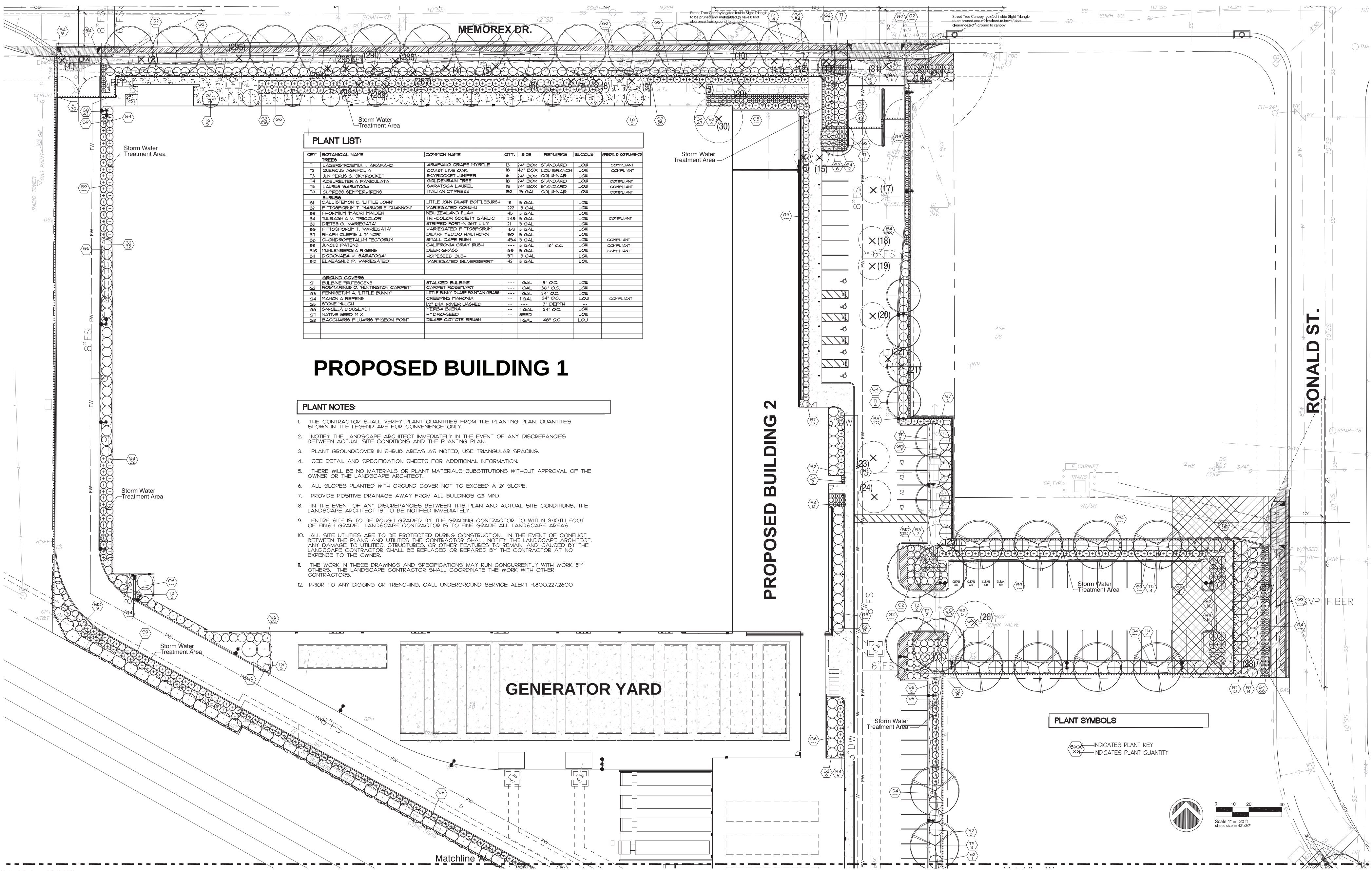
Design Volume = 2,712.02 ft^3

COMBO FLOW & VOLUME BIORETENTION CALCULATION

Total Drainage Area = 60,134 sq. ft
Impervious Area = 50,252 sq. ft
Pervious Area = 9,882 sq. ft
Equivalent Impervious Area = 988 sq. ft Total Equivalent Impervious = 51,240 sq. ft
Rainfall Intensity = 0.2 in/hr
Duration = Adjusted UBS (Step 6) / Rainfall Intensity
Duration = 2.7059755 hrs

Estimate the Surface Area = 1664 sq. ft (Typically start with Total Impervious x 0.03)
Volume of Treated Runoff = 1876.143 cu. ft
Volume in Ponding Area = 835.67583 cu. ft
Depth of Ponding = 0.5023292 ft Depth of Ponding = 6 inch(s) (Round up)

If Depth of Ponding is less than 6" the design can be optimized with a smaller surface area. (repeat)
If Depth of Ponding is greater than 12" a larger surface area will be required. (repeat)
If Depth of Ponding is between 6" to 12" this is the range allowable for Bioretention or Flow-Through Planters.



PLANT LIST:

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	WUCOLS	APENDX. 'D' COMPLIANT-C3
	TREES						
T1	LAGERSTROEMIA I. 'ARAPAHO'	ARAPAHO CRAPE MYRTLE	13	24" BOX	STANDARD	LOW	COMPLIANT
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	18	48" BOX	LOW BRANCH	LOW	COMPLIANT
T3	JUNIPERUS S. 'SKYROCKET'	SKYROCKET JUNIPER	6	24" BOX	COLUMNAR	LOW	
T4	KOELREUTERIA PANICULATA	GOLDENRAIN TREE	18	24" BOX	STANDARD	LOW	COMPLIANT
T5	LAURUS 'SARATOGA'	SARATOGA LAUREL	19	24" BOX	STANDARD	LOW	COMPLIANT
T6	CUPRESS SEMPERVIRENS	ITALIAN CYPRESS	152	15 GAL	COLUMNAR	LOW	COMPLIANT
	SHRUBS						
S1	CALLISTEMON C. 'LITTLE JOHN'	LITTLE JOHN DWARF BOTTLEBURSH	19	5 GAL		LOW	
S2	PITTOSPORUM T. 'MARJORIE CHANNON'	VARIEGATED KOHUHU	222	15 GAL		LOW	
S3	PHORMIUM 'MAORI MAIDEN'	NEW ZEALAND FLAX	45	5 GAL		LOW	
S4	TULBAGHIA V. 'TRICOLOR'	TRI-COLOR SOCIETY GARLIC	248	5 GAL		LOW	COMPLIANT
S5	DIETES G. 'VARIEGATA'	STRIPED FORTHNIGHT LILY	21	5 GAL		LOW	
S6	PITTOSPORUM T. 'VARIEGATA'	VARIEGATED PITTOSPORUM	169	5 GAL		LOW	
S7	RHAPHIOLEPIS U. 'MINOR'	DWARF YEDDO HAWTHORN	90	5 GAL		LOW	
S8	CHONDROPETALUM TECTORUM	SMALL CAPE RUSH	454	5 GAL		LOW	COMPLIANT
S9	JUNCUS PATENS	CALIFRONIA GRAY RUSH	---	5 GAL	18" o.c.	LOW	COMPLIANT
S10	MUHLENBERGIA RIGENS	DEER GRASS	65	5 GAL		LOW	COMPLIANT
S11	DODONAEA V. 'SARATOGA'	HOPESEED BUSH	57	15 GAL		LOW	
S12	ELAEAGNUS P. 'VARIEGATED'	VARIEGATED SILVERBERRY	42	5 GAL		LOW	
	GROUND COVERS						
G1	BULBINE FRUTESCENS	STALKED BULBINE	---	1 GAL	18" O.C.	LOW	
G2	ROSMARINUS O. 'HUNTINGTON CARPET'	CARPET ROSEMARY	---	1 GAL	36" O.C.	LOW	
G3	PENNISETUM A. 'LITTLE BUNNY'	LITTLE BUNNY DWARF FOUNTAIN GRASS	---	1 GAL	24" O.C.	LOW	
G4	MAHONIA REPENS	CREEPING MAHONIA	--	1 GAL	24" O.C.	LOW	COMPLIANT
G5	STONE MULCH	1/2" DIA. RIVER WASHED	--	---	3" DEPTH	--	
G6	SARUEJA DOUGLASII	YERBA BUENA	--	1 GAL	24" O.C.	LOW	
G7	NATIVE SEED MIX	HYDRO-SEED	--	SEED		LOW	
G8	BACCHARIS PILUARIS 'PIGEON POINT'	DWARF COYOTE BRUSH		1 GAL	48" O.C.	LOW	

PLANT NOTES:

1. THE CONTRACTOR SHALL VERIFY PLANT QUANTITIES FROM THE PLANTING PLAN. QUANTITIES SHOWN IN THE LEGEND ARE FOR CONVENIENCE ONLY.
2. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND THE PLANTING PLAN.
3. PLANT GROUNDCOVER IN SHRUB AREAS AS NOTED, USE TRIANGULAR SPACING.
4. SEE DETAIL AND SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION.
5. THERE WILL BE NO MATERIALS OR PLANT MATERIALS SUBSTITUTIONS WITHOUT APPROVAL OF THE OWNER OR THE LANDSCAPE ARCHITECT.
6. ALL SLOPES PLANTED WITH GROUND COVER NOT TO EXCEED A 2:1 SLOPE.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS (2% MIN.)
8. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THIS PLAN AND ACTUAL SITE CONDITIONS, THE LANDSCAPE ARCHITECT IS TO BE NOTIFIED IMMEDIATELY.
9. ENTIRE SITE IS TO BE ROUGH GRADED BY THE GRADING CONTRACTOR TO WITHIN 3/10TH FOOT OF FINISH GRADE. LANDSCAPE CONTRACTOR IS TO FINE GRADE ALL LANDSCAPE AREAS.
10. ALL SITE UTILITIES ARE TO BE PROTECTED DURING CONSTRUCTION. IN THE EVENT OF CONFLICT BETWEEN THE PLANS AND UTILITIES THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT. ANY DAMAGE TO UTILITIES, STRUCTURES, OR OTHER FEATURES TO REMAIN, AND CAUSED BY THE LANDSCAPE CONTRACTOR SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
11. THE WORK IN THESE DRAWINGS AND SPECIFICATIONS MAY RUN CONCURRENTLY WITH WORK BY OTHERS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS.
12. PRIOR TO ANY DIGGING OR TRENCHING, CALL UNDERGROUND SERVICE ALERT -1.800.227.2600

Project Number: 19110.0000

LANDSCAPE PLANTING PLAN

04-09-2020

PAUL JAY REED
9/30/2021
STATE OF CALIFORNIA

DATA HALL
OFFICE
LD

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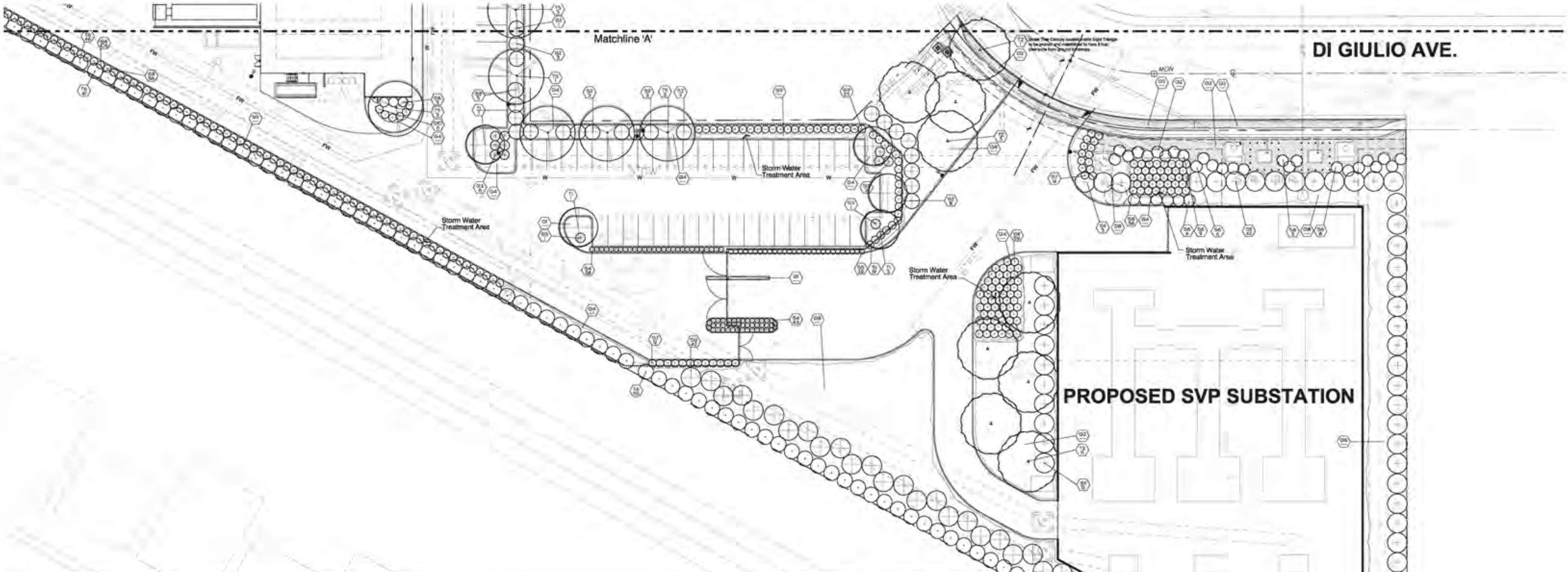


PLANT LIST:

KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	REMARKS	WUCOLS	[illegible]
	TREES						
T1	LAGERSTROEMIA I. 'ARAPAHO'	ARAPAHO CRAPE MYRTLE	[illegible]	24" BOX	STANDARD	LOW	COMPLIANT
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	[illegible]	48" BOX	LOW BRANCH	LOW	COMPLIANT
T3	JUNIPERUS S. 'SKYROCKET'	SKYROCKET JUNIPER	[illegible]	24" BOX	COLUMNAR	LOW	
T4	KOELREUTERIA PANICULATA	GOLDENRAIN TREE	[illegible]	24" BOX	STANDARD	LOW	COMPLIANT
T5	LAURUS 'SARATOGA'	SARATOGA LAUREL	[illegible]	24" BOX	STANDARD	LOW	COMPLIANT
T6	CUPRESSUS SEMPERVIRENS	ITALIAN CYPRESS	[illegible]	15 GAL	COLUMNAR	LOW	COMPLIANT
	SHRUBS						
S1	CALLISTEMON C. 'LITTLE JOHN'	LITTLE JOHN DWARF BOTTLEBRUSH	[illegible]	5 GAL		LOW	
S2	PITTOSPORUM T. 'MARJORIE CHANNON'	VARIEGATED KOHUHU	[illegible]	5 GAL		LOW	
S3	[illegible]	NEW ZEALAND FLAX	[illegible]	5 GAL		LOW	
S4	[illegible]	TRI-COLOR [illegible]	[illegible]	5 GAL		LOW	COMPLIANT
S5	DIETES G. 'VARIEGATA'	STRIPED FORTNIGHT LILY	[illegible]	5 GAL		LOW	
S6	PITTOSPORUM T. 'VARIEGATA'	VARIEGATED PITTOSPORUM	[illegible]	5 GAL		LOW	
S7	RHAPHIOLEPIS I. [illegible]	DWARF YEDDO HAWTHORN	[illegible]	5 GAL		LOW	
S8	CHONDROPETALUM TECTORUM	SMALL CAPE RUSH	[illegible]	5 GAL		LOW	COMPLIANT
S9	JUNCUS PATENS	CALIFORNIA GRAY RUSH	[illegible]	5 GAL	18" O.C.	LOW	COMPLIANT
S10	MUHLENBERGIA RIGENS	DEER GRASS	[illegible]	5 GAL		LOW	COMPLIANT
S11	DODONAEA V. [illegible]	HOPSEED BUSH	[illegible]	5 GAL		LOW	
S12	ELAEAGNUS P. 'VARIEGATED'	VARIEGATED SILVERBERRY	[illegible]	5 GAL		LOW	
	GROUND COVERS						
G1	[illegible]	[illegible]	---	1 GAL	[illegible] O.C.	LOW	
G2	ROSMARINUS O. 'HUNTINGTON CARPET'	CARPET ROSEMARY	---	1 GAL	[illegible] O.C.	LOW	
G3	PENNISETUM A. 'LITTLE BUNNY'	LITTLE BUNNY DWARF FOUNTAIN GRASS	---	1 GAL	[illegible] O.C.	LOW	
G4	MAHONIA REPENS	CREEPING MAHONIA	---	1 GAL	[illegible] O.C.	LOW	COMPLIANT
G5	STONE MULCH	1/2" DIA. RIVER WASHED	---	---	3" DEPTH	---	
G6	[illegible]	[illegible]	---	1 GAL	[illegible] O.C.	LOW	
G7	NATIVE SEED MIX	HYDRO-SEED	---	SEED		LOW	
G8	BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH		1 GAL	48" O.C.	LOW	

PLANT NOTES:

1. THE CONTRACTOR SHALL VERIFY PLANT QUANTITIES FROM THE PLANTING PLAN. QUANTITIES SHOWN IN THE LEGEND ARE FOR CONVENIENCE ONLY.
2. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES BETWEEN ACTUAL SITE CONDITIONS AND THE PLANTING PLAN.
3. PLANT GROUNDCOVER IN SHRUB AREAS AS NOTED. USE TRIANGULAR SPACING.
4. SEE DETAIL AND SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION.
5. THERE WILL BE NO MATERIALS OR PLANT MATERIALS SUBSTITUTIONS WITHOUT APPROVAL OF THE OWNER OR THE LANDSCAPE ARCHITECT.
6. ALL SLOPES PLANTED WITH GROUND COVER NOT TO EXCEED A [illegible] SLOPE.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS [illegible]
8. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THIS PLAN AND ACTUAL SITE CONDITIONS, THE LANDSCAPE ARCHITECT IS TO BE NOTIFIED IMMEDIATELY.
9. [illegible] SITE IS TO BE ROUGH GRADED BY THE GRADING CONTRACTOR TO WITHIN [illegible] FOOT OF FINISH GRADE. LANDSCAPE CONTRACTOR IS TO FINE GRADE ALL LANDSCAPE AREAS.
10. ALL SITE UTILITIES ARE TO BE PROTECTED DURING CONSTRUCTION. IN THE EVENT OF CONFLICT BETWEEN THE PLANS AND UTILITIES THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT. ANY DAMAGE TO UTILITIES, STRUCTURES, OR OTHER FEATURES TO REMAIN AND CAUSED BY THE LANDSCAPE CONTRACTOR SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
11. THE WORK IN THESE DRAWINGS AND SPECIFICATIONS MAY RUN CONCURRENTLY WITH WORK BY OTHERS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE THE WORK WITH OTHER CONTRACTORS.
12. PRIOR TO ANY DIGGING OR TRENCHING, CALL UNDERGROUND SERVICE ALERT [illegible]

PLANT SYMBOLS

INDICATES PLANT KEY
INDICATES PLANT QUANTITY

Scale 1" = 20 ft

Project Number: 19110.0000

SKYBOX · CRITICAL · CORGAN · kW · R+G · REED ASSOCIATES

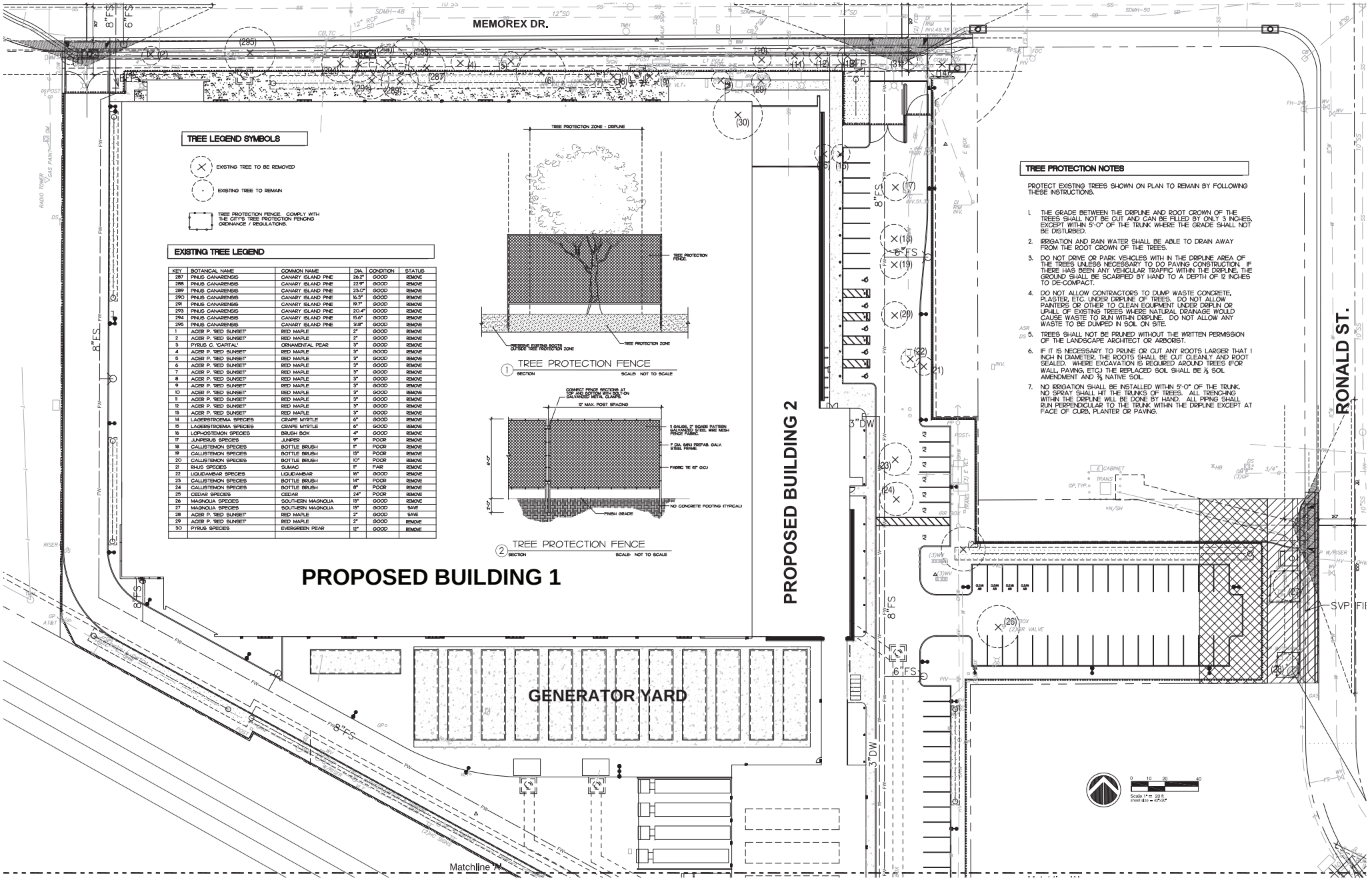
LANDSCAPE PLANTING PLAN

04-09-2020

PAUL JAY REED · STATE OF CALIFORNIA

DATA HALL · OFFICE · LD

L-101



KEY	BOTANICAL NAME	COMMON NAME	DIA.	CONDITION	STATUS
287	PINUS CANARIENSIS	CANARY ISLAND PINE	26.2"	GOOD	REMOVE
288	PINUS CANARIENSIS	CANARY ISLAND PINE	22.9"	GOOD	REMOVE
289	PINUS CANARIENSIS	CANARY ISLAND PINE	23.0"	GOOD	REMOVE
290	PINUS CANARIENSIS	CANARY ISLAND PINE	16.3"	GOOD	REMOVE
291	PINUS CANARIENSIS	CANARY ISLAND PINE	19.7"	GOOD	REMOVE
293	PINUS CANARIENSIS	CANARY ISLAND PINE	20.4"	GOOD	REMOVE
294	PINUS CANARIENSIS	CANARY ISLAND PINE	15.6"	GOOD	REMOVE
295	PINUS CANARIENSIS	CANARY ISLAND PINE	31.8"	GOOD	REMOVE
1	ACER P. "RED SUNSET"	RED MAPLE	2"	GOOD	REMOVE
2	ACER P. "RED SUNSET"	RED MAPLE	2"	GOOD	REMOVE
3	PYRUS C. 'CAPITAL'	ORNAMENTAL PEAR	3"	GOOD	REMOVE
4	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
5	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
6	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
7	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
8	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
9	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
10	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
11	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
12	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
13	ACER P. "RED SUNSET"	RED MAPLE	3"	GOOD	REMOVE
14	LAGERSTROEMIA SPECIES	CRAPE MYRTLE	6"	GOOD	REMOVE
15	LAGERSTROEMIA SPECIES	CRAPE MYRTLE	6"	GOOD	REMOVE
16	LOPHOSTEMON SPECIES	BRUSH BOX	4"	GOOD	REMOVE
17	JUNIPERUS SPECIES	JUNIPER	9"	POOR	REMOVE
18	CALLISTEMON SPECIES	BOTTLE BRUSH	11"	POOR	REMOVE
19	CALLISTEMON SPECIES	BOTTLE BRUSH	13"	POOR	REMOVE
20	CALLISTEMON SPECIES	BOTTLE BRUSH	10"	POOR	REMOVE
21	RHUS SPECIES	SUMAC	1"	FAIR	REMOVE
22	LIQUIDAMBAR SPECIES	LIQUIDAMBAR	16"	GOOD	REMOVE
23	CALLISTEMON SPECIES	BOTTLE BRUSH	14"	POOR	REMOVE
24	CALLISTEMON SPECIES	BOTTLE BRUSH	8"	POOR	REMOVE
25	CEDAR SPECIES	CEDAR	24"	POOR	REMOVE
26	MAGNOLIA SPECIES	SOUTHERN MAGNOLIA	13"	GOOD	REMOVE
27	MAGNOLIA SPECIES	SOUTHERN MAGNOLIA	13"	GOOD	SAVE
28	ACER P. "RED SUNSET"	RED MAPLE	2"	GOOD	SAVE
29	ACER P. "RED SUNSET"	RED MAPLE	2"	GOOD	REMOVE
30	PYRUS SPECIES	EVERGREEN PEAR	12"	GOOD	REMOVE

Project Number: 19110.0000

SKYBOX
CORGAN
RUTH AND GOING, INC.
CRITICAL PROJECT SERVICES, LLC
kw mission critical engineering
REED ASSOCIATES LANDSCAPE ARCHITECTURE

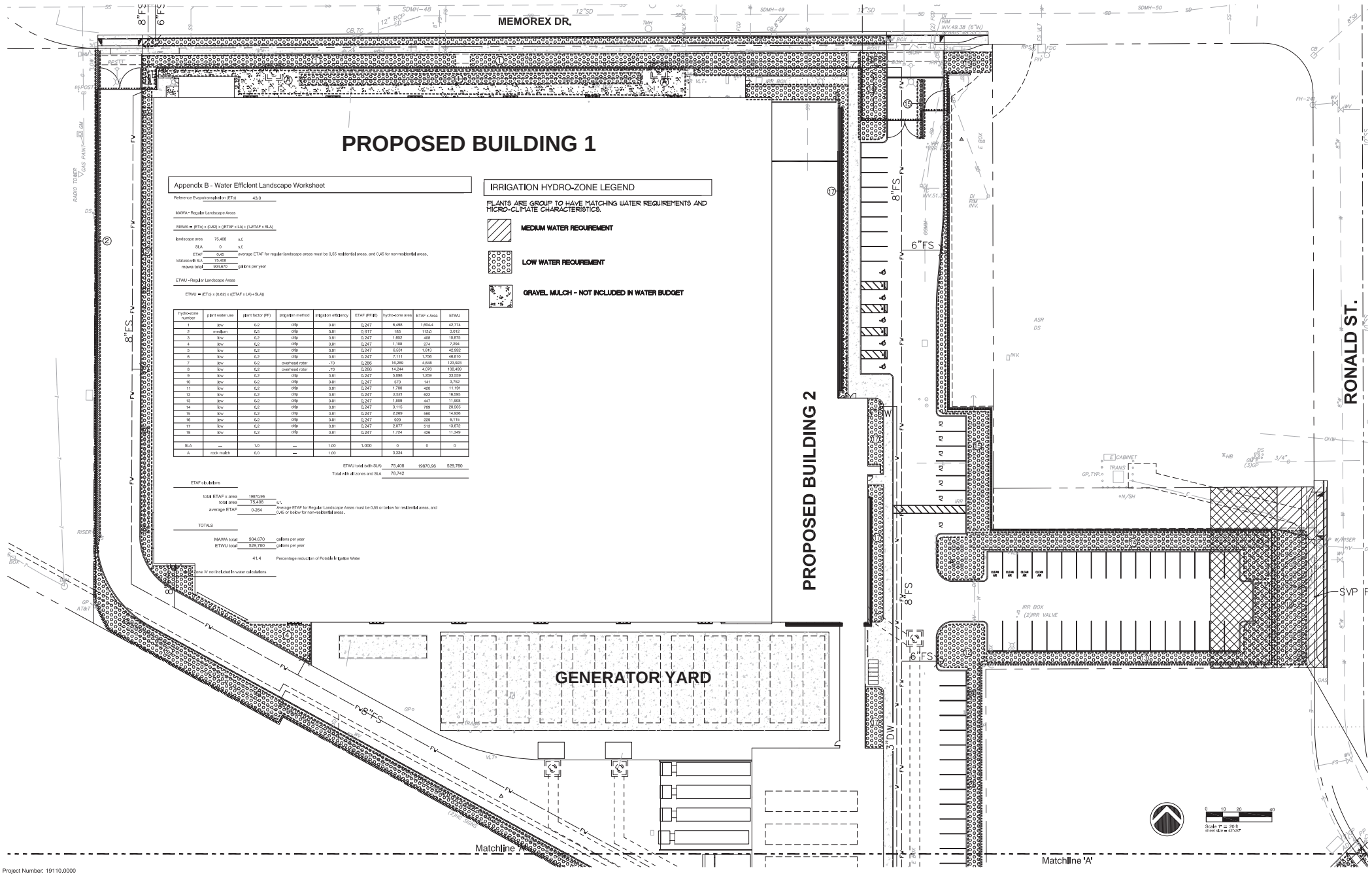
EXISTING TREE PLAN

04-09-2020

REGISTERED LANDSCAPE ARCHITECT PAUL JAY REED No. 2002 EXP. 9/30/2021 STATE OF CALIFORNIA

DATA HALL OFFICE

L-102



Appendix B - Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo) 43.0

MAWA - Regular Landscape Areas

MAWA = (ETo) x (0.62) x ((ETAF x LA) + (1-ETAF x SLA))

landscape area	75,408	s.f.
SLA	0	s.f.
ETAF	0.45	average ETAF for regular landscape areas must be 0.55 residential areas, and 0.45 for non-residential areas.
total area with SLA	75,408	
mawa total	904,670	gallons per year

ETWU - Regular Landscape Areas

ETWU = (ETo) x (0.62) x ((ETAF x LA) + SLA))

hydro-zone number	plant water use	plant factor (PF)	irrigation method	irrigation efficiency	ETAF (PF/IE)	hydro-zone area	ETAF x Area	ETWU
1	low	0.2	drip	0.81	0.247	6,495	1,604.4	42,774
2	medium	0.5	drip	0.81	0.617	183	113.0	3,012
3	low	0.2	drip	0.81	0.247	1,662	408	10,875
4	low	0.2	drip	0.81	0.247	1,108	274	7,294
5	low	0.2	drip	0.81	0.247	6,031	1,813	42,992
6	low	0.2	drip	0.81	0.247	7,111	1,756	46,810
7	low	0.2	overhead rotor	.70	0.286	16,269	4,648	123,923
8	low	0.2	overhead rotor	.70	0.286	14,244	4,070	108,499
9	low	0.2	drip	0.81	0.247	5,098	1,259	33,559
10	low	0.2	drip	0.81	0.247	570	141	3,752
11	low	0.2	drip	0.81	0.247	1,700	420	11,191
12	low	0.2	drip	0.81	0.247	2,521	622	16,595
13	low	0.2	drip	0.81	0.247	1,809	447	11,908
14	low	0.2	drip	0.81	0.247	3,115	769	20,505
15	low	0.2	drip	0.81	0.247	2,269	560	14,936
16	low	0.2	drip	0.81	0.247	929	229	6,115
17	low	0.2	drip	0.81	0.247	2,077	513	13,672
18	low	0.2	drip	0.81	0.247	1,724	426	11,349
SLA	—	1.0	—	1.00	1.000	0	0	0
A	rock mulch	0.0	—	1.00		3,334		
					ETWU total (with SLA)	75,408	19670.96	529,760
					Total with all zones and SLA	78,742		

ETAF calculations

total ETAF x area	19670.96	
total area	75,408	s.f.
average ETAF	0.264	Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

TOTALS

MAWA total	904,670	gallons per year
ETWU total	529,760	gallons per year
	41.4	Percentage reduction of Potable Irrigation Water

Hydro-zone 'A' not included in water calculations

IRRIGATION HYDRO-ZONE LEGEND

PLANTS ARE GROUP TO HAVE MATCHING WATER REQUIREMENTS AND MICRO-CLIMATE CHARACTERISTICS.

MEDIUM WATER REQUIREMENT

LOW WATER REQUIREMENT

GRAVEL MULCH - NOT INCLUDED IN WATER BUDGET

Project Number: 19110.0000

SKYBOX | CORGAN | RUTH AND GOING, INC. | CRITICAL PROJECT SERVICES, LLC | kw mission critical engineering | REED ASSOCIATES LANDSCAPE ARCHITECTURE

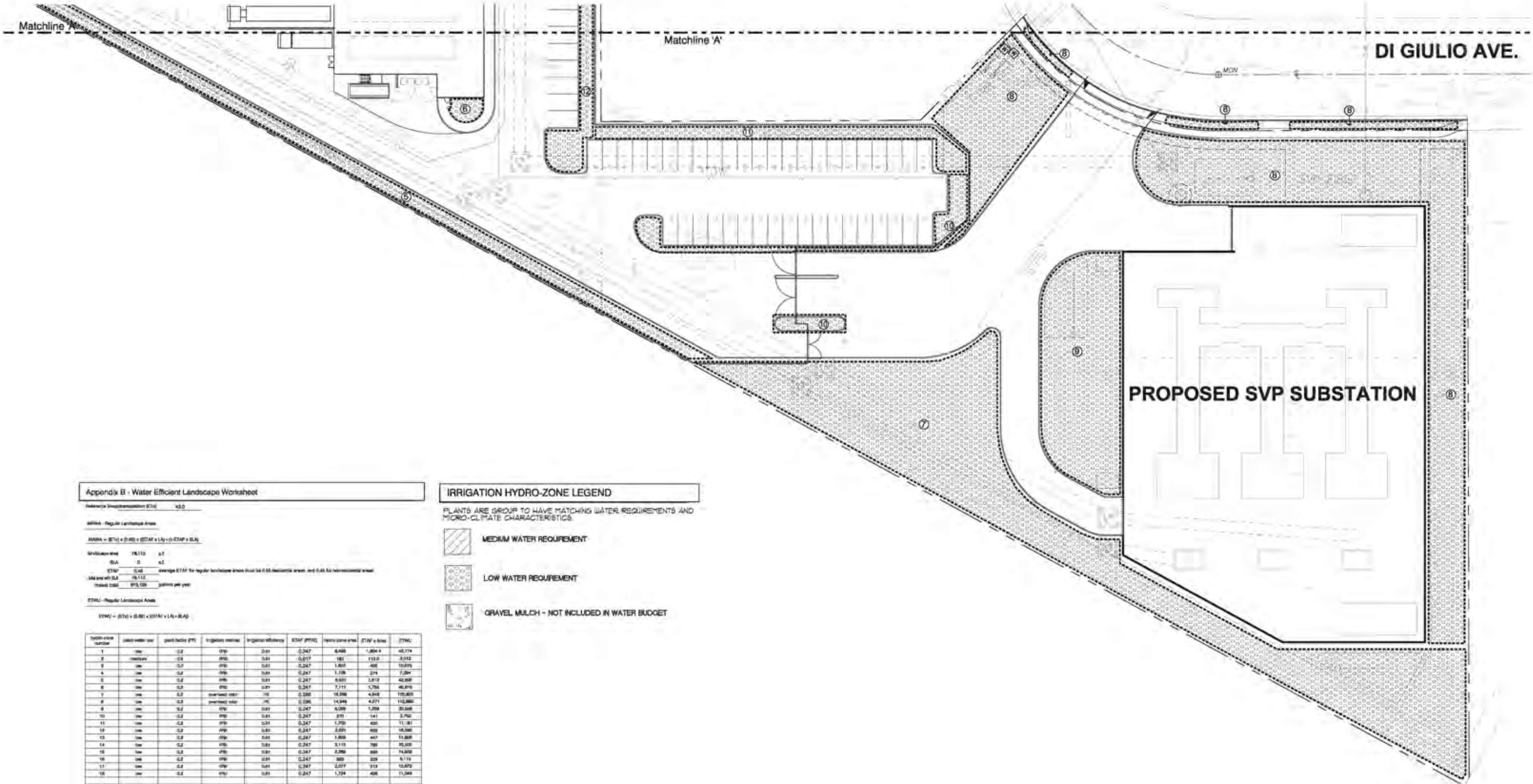
LANDSCAPE HYDROZONE PLAN

04-09-2020

REGISTERED LANDSCAPE ARCHITECT — PAUL WM REED — NO. 2002 — EXP. 9/30/2021 — STATE OF CALIFORNIA

DATA HALL / OFFICE

L-103



Appendix B - Water Efficient Landscape Worksheet

Reference Evapotranspiration (ETo) 43.0

MAWA - Regular Landscape Areas

MAWA = (ETo) x (0.62) x [(ETAF x LA) + (1-ETAF x SLA)]

landscape area	78,113	s.f.
SLA	0	s.f.
ETAF	0.45	average ETAF for regular landscape areas must be 0.55 residential areas, and 0.45 for non-residential areas
total area with SLA	78,113	
MAWA (total)	973,129	gallons per year

ETWU - Regular Landscape Areas

ETWU = (ETo) x (0.62) x [(ETAF x LA) + SLA]

hydro-zone number	plant water use	plant factor (PF)	irrigation method	irrigation efficiency	ETAF (PF/IE)	hydro-zone area	ETAF x Area	ETWU
1	low	0.2	drip	0.81	0.247	6,490	1,604.4	42,774
2	medium	0.5	drip	0.81	0.617	183	113.0	3,012
3	low	0.2	drip	0.81	0.247	1,607	400	10,675
4	low	0.2	drip	0.81	0.247	1,109	274	7,294
5	low	0.2	drip	0.81	0.247	6,531	1,612	42,897
6	low	0.2	drip	0.81	0.247	7,111	1,756	46,815
7	low	0.2	overhead rotor	.75	0.266	18,298	4,848	128,605
8	low	0.2	overhead rotor	.75	0.266	14,948	4,271	112,880
9	low	0.2	drip	0.81	0.247	5,099	1,259	33,508
10	low	0.2	drip	0.81	0.247	570	141	3,752
11	low	0.2	drip	0.81	0.247	1,700	430	11,181
12	low	0.2	drip	0.81	0.247	2,521	622	16,588
13	low	0.2	drip	0.81	0.247	1,809	447	11,889
14	low	0.2	drip	0.81	0.247	3,115	769	20,500
15	low	0.2	drip	0.81	0.247	2,259	560	14,850
16	low	0.2	drip	0.81	0.247	920	229	6,115
17	low	0.2	drip	0.81	0.247	2,077	513	13,672
18	low	0.2	drip	0.81	0.247	1,724	426	11,349
SLA	—	1.0	—	1.00	1.000	0	0	0
A	rock mulch	0.0	—	1.00		3,584		

ETWU total (with SLA)	78,113	20072.39	536,130
Total with all zones and SLA	79,447		

ETAF calculations

total ETAF x area	20072.39	
total area	78,113	s.f.
average ETAF	0.254	Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas

TOTALS

MAWA total	973,129	gallons per year
ETWU total	536,130	gallons per year
41.4		Percentage reduction of Potable Irrigation Water

Note: Zone 'A' not included in water calculations

IRRIGATION HYDRO-ZONE LEGEND

PLANTS ARE GROUP TO HAVE MATCHING WATER REQUIREMENTS AND MICRO-CLIMATE CHARACTERISTICS.

- MEDIUM WATER REQUIREMENT
- LOW WATER REQUIREMENT
- GRAVEL MULCH - NOT INCLUDED IN WATER BUDGET

Scale 1" = 20 ft

Project Number: 19110.0000

LANDSCAPE HYDROZONE PLAN

04-09-2020

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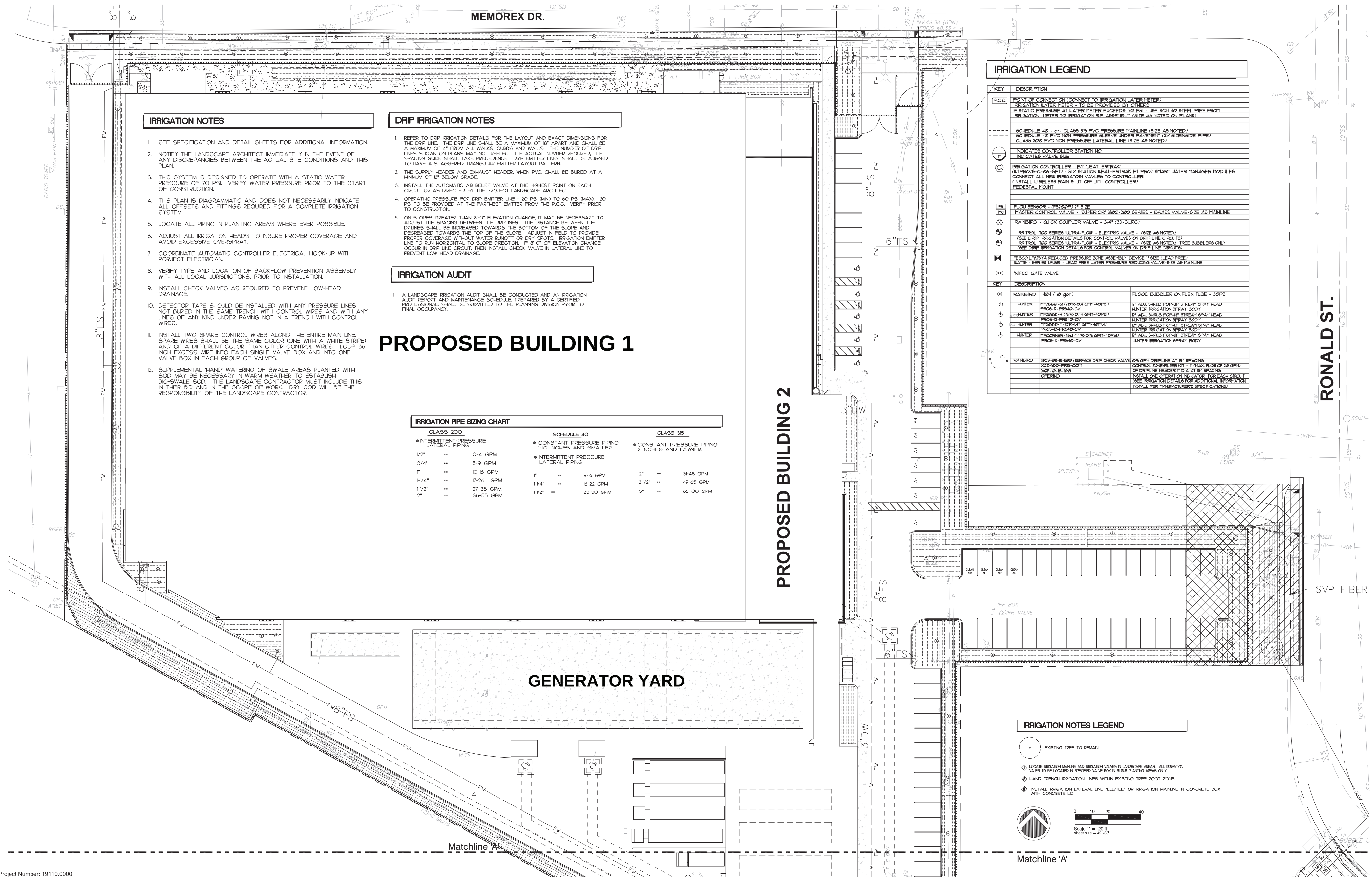

IRRIGATION NOTES

1. SEE SPECIFICATION AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.
2. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES BETWEEN THE ACTUAL SITE CONDITIONS AND THIS PLAN.
3. THIS SYSTEM IS DESIGNED TO OPERATE WITH A STATIC WATER PRESSURE OF 70 PSI. VERIFY WATER PRESSURE PRIOR TO THE START OF CONSTRUCTION.
4. THIS PLAN IS DIAGRAMMATIC AND DOES NOT NECESSARILY INDICATE ALL OFFSETS AND FITTINGS REQUIRED FOR A COMPLETE IRRIGATION SYSTEM.
5. LOCATE ALL PIPING IN PLANTING AREAS WHERE EVER POSSIBLE.
6. ADJUST ALL IRRIGATION HEADS TO INSURE PROPER COVERAGE AND AVOID EXCESSIVE OVERSPRAY.
7. COORDINATE AUTOMATIC CONTROLLER ELECTRICAL HOOK-UP WITH PORJECT ELECTRICIAN.
8. VERIFY TYPE AND LOCATION OF BACKFLOW PREVENTION ASSEMBLY WITH ALL LOCAL JURISDICTIONS, PRIOR TO INSTALLATION.
9. INSTALL CHECK VALVES AS REQUIRED TO PREVENT LOW-HEAD DRAINAGE.
10. DETECTOR TAPE SHOULD BE INSTALLED WITH ANY PRESSURE LINES NOT BURIED IN THE SAME TRENCH WITH CONTROL WIRES AND WITH ANY LINES OF ANY KIND UNDER PAVING NOT IN A TRENCH WITH CONTROL WIRES.
11. INSTALL TWO SPARE CONTROL WIRES ALONG THE ENTIRE MAIN LINE. SPARE WIRES SHALL BE THE SAME COLOR (ONE WITH A WHITE STRIPE) AND OF A DIFFERENT COLOR THAN OTHER CONTROL WIRES. LOOP 36 INCH EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.
12. SUPPLEMENTAL 'HAND' WATERING OF SWALE AREAS PLANTED WITH SOD MAY BE NECESSARY IN WARM WEATHER TO ESTABLISH BIO-SWALE SOD. THE LANDSCAPE CONTRACTOR MUST INCLUDE THIS IN THEIR BID AND IN THE SCOPE OF WORK. DRY SOD WILL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

DRIP IRRIGATION NOTES

1. REFER TO DRIP IRRIGATION DETAILS FOR THE LAYOUT AND EXACT DIMENSIONS FOR THE DRIP LINE. THE DRIP LINE SHALL BE A MAXIMUM OF 18" APART AND SHALL BE A MAXIMUM OF 4" FROM ALL WALKS, CURBS AND WALLS. THE NUMBER OF DRIP LINES SHOWN ON PLANS MAY NOT REFLECT THE ACTUAL NUMBER REQUIRED, THE SPACING GUIDE SHALL TAKE PRECEDENCE. DRIP EMITTER LINES SHALL BE ALIGNED TO HAVE A STAGGERED TRIANGULAR EMITTER LAYOUT PATTERN.
2. THE SUPPLY HEADER AND EXHAUST HEADER, WHEN PVC, SHALL BE BURIED AT A MINIMUM OF 12" BELOW GRADE.
3. INSTALL THE AUTOMATIC AIR RELIEF VALVE AT THE HIGHEST POINT ON EACH CIRCUIT OR AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
4. OPERATING PRESSURE FOR DRIP EMITTER LINE - 20 PSI (MIN.) TO 60 PSI (MAX). 20 PSI TO BE PROVIDED AT THE FARTHEST EMITTER FROM THE P.O.C. VERIFY PRIOR TO CONSTRUCTION.
5. ON SLOPES GREATER THAN 8'-0" ELEVATION CHANGE, IT MAY BE NECESSARY TO ADJUST THE SPACING BETWEEN THE DRIPLINES. THE DISTANCE BETWEEN THE DRILINES SHALL BE INCREASED TOWARDS THE BOTTOM OF THE SLOPE AND DECREASED TOWARDS THE TOP OF THE SLOPE. ADJUST IN FIELD TO PROVIDE PROPER COVERAGE WITHOUT WATER RUNOFF OR DRY SPOTS. IRRIGATION EMITTER LINE TO RUN HORIZONTAL TO SLOPE DIRECTION. IF 8'-0" OF ELEVATION CHANGE OCCUR IN DRIP LINE CIRCUIT, THEN INSTALL CHECK VALVE IN LATERAL LINE TO PREVENT LOW HEAD DRAINAGE.

IRRIGATION AUDIT

1. A LANDSCAPE IRRIGATION AUDIT SHALL BE CONDUCTED AND AN IRRIGATION AUDIT REPORT AND MAINTENANCE SCHEDULE, PREPARED BY A CERTIFIED PROFESSIONAL, SHALL BE SUBMITTED TO THE PLANNING DIVISION PRIOR TO FINAL OCCUPANCY.

IRRIGATION PIPE SIZING CHART

CLASS 200

- INTERMITTENT-PRESSURE LATERAL PIPING

1/2"	==	0-4 GPM
3/4'	==	5-9 GPM
1"	==	10-16 GPM
1-1/4"	==	17-26 GPM
1-1/2"	==	27-35 GPM
2"	==	36-55 GPM

SCHEDULE 40

- CONSTANT PRESSURE PIPING 1-1/2 INCHES AND SMALLER.
- INTERMITTENT-PRESSURE LATERAL PIPING

1"	==	9-16 GPM
1-1/4"	==	16-22 GPM
1-1/2"	==	23-30 GPM

CLASS 315

- CONSTANT PRESSURE PIPING 2 INCHES AND LARGER.

2"	==	31-48 GPM
2-1/2"	==	49-65 GPM
3"	==	66-100 GPM

IRRIGATION LEGEND

KEY	DESCRIPTION
P.O.C.	POINT OF CONNECTION (CONNECT TO IRRIGATION WATER METER) IRRIGATION WATER METER - TO BE PROVIDED BY OTHERS IF STATIC PRESSURE AT WATER METER EXCEEDS 120 PSI - USE SCH 40 STEEL PIPE FROM IRRIGATION METER TO IRRIGATION R.P. ASSEMBLY (SIZE AS NOTED ON PLANS)
	SCHEDULE 40 - or- CLASS 315 PVC PRESSURE MAINLINE (SIZE AS NOTED) SCHEDULE 40 PVC NON-PRESSURE SLEEVE UNDER PAVEMENT (2X SIZEINSIDE PIPE) CLASS 200 PVC NON-PRESSURE LATERAL LINE (SIZE AS NOTED)
1 / 1"	INDICATES CONTROLLER STATION NO. INDICATES VALVE SIZE
C	IRRIGATION CONTROLLER - BY 'WEATHERTRAK' (WTPRO2S-C-06-SPT) - SIX STATION WEATHERTRAK ET PRO2 SMART WATER MANAGER MODULES. CONNECT ALL NEW IRRIGATOIN VAVLES TO CONTROLLER. (INSTALL WIRELESS RAIN SHUT-OFF WITH CONTROLLER) PEDESTAL MOUNT
FS MC	FLOW SENSOR - (FS200P) 2" SIZE MASTER CONTROL VALVE - 'SUPERIOR' 3100-200 SERIES - BRASS VALVE-SIZE AS MAINLINE
	RAINBIRD - QUICK COUPLER VALVE - 3/4" (33-DLRC)
	'IRRITROL' 700 SERIES "ULTRA-FLOW" - ELECTRIC VALVE - (SIZE AS NOTED). (SEE DRIP IRRIGATION DETAILS FOR CONTROL VALVES ON DRIP LINE CIRCUITS)
	'IRRITROL' 700 SERIES "ULTRA-FLOW" - ELECTRIC VALVE - (SIZE AS NOTED). TREE BUBBLERS ONLY (SEE DRIP IRRIGATION DETAILS FOR CONTROL VALVES ON DRIP LINE CIRCUITS)
	FEBCO LF825YA REDUCED PRESSURE ZONE ASSEMBLY DEVICE 1" SIZE (LEAD FREE) WATTS - SERIES LFU5B - LEAD FREE WATER PRESSURE REDUCING VALVE-SIZE AS MAINLINE.
	'NIPCO' GATE VALVE

KEY	DESCRIPTION		
	RAINBIRD	1404 (1.0 gpm)	FLOOD BUBBLER ON FLEX TUBE - 30PSI
	HUNTER	MP2000-Q (20'R-0.4 GPM-40PSI) PROS-12-PRS40-CV	12" ADJ. SHRUB POP-UP STREAM SPAY HEAD HUNTER IRRIGATION SPRAY BODY
	HUNTER	MP2000-H (19'R-0.74 GPM-40PSI) PROS-12-PRS40-CV	12" ADJ. SHRUB POP-UP STREAM SPAY HEAD HUNTER IRRIGATION SPRAY BODY
	HUNTER	MP2000-F (19'R-1.47 GPM-40PSI) PROS-12-PRS40-CV	12" ADJ. SHRUB POP-UP STREAM SPAY HEAD HUNTER IRRIGATION SPRAY BODY
	HUNTER	MPCORNER-45d (14'R-0.19 GPM-40PSI) PROS-12-PRS40-CV	12" ADJ. SHRUB POP-UP STREAM SPAY HEAD HUNTER IRRIGATION SPRAY BODY
	RAINBIRD	XFCV-09-18-500 (SURFACE DRIP CHECK VALVE) XCZ-100-PRB-COM XQF-10-18-100 OPERIND	0.9 GPH DRIPLINE AT 18" SPACING CONTROL ZONE/FILTER KIT - 1" (MAX. FLOW OF 20 GPM) QF DRIPLINE HEADER 1" DIA. AT 18" SPACING INSTALL ONE OPERATION INDICATOR FOR EACH CIRCUIT (SEE IRRIGATION DETAILS FOR ADDITIONAL INFORMATION INSTALL PER MANUFACTURER'S SPECIFICATIONS)

IRRIGATION NOTES LEGEND

EXISTING TREE TO REMAIN

1. LOCATE IRRIGATION MAINLINE AND IRRIGATION VALVES IN LANDSCAPE AREAS. ALL IRRIGATION VALES TO BE LOCATED IN SPECIFIED VALVE BOX IN SHRUB PLANTING AREAS ONLY.
2. HAND TRENCH IRRIGATION LINES WITHIN EXISTING TREE ROOT ZONE.
3. INSTALL IRRIGATION LATERAL LINE "ELL/TEE" OR IRRIGATION MAINLINE IN CONCRETE BOX WITH CONCRETE LID.

0 10 20 40
Scale 1" = 20 ft
sheet size = 42"x30"

Matchline 'A'

Project Number: 19110.0000

SKYBOX · CORGAN · R+G RUTH AND GOING, INC. · CRITICAL PROJECT SERVICES, LLC · kW mission critical engineering · REED ASSOCIATES LANDSCAPE ARCHITECTURE 477 SOUTH TAAFFE STREET SUNNYVALE, CALIFORNIA 94086

PRELIMINARY IRRIGATION PLAN

04-09-2020

REGISTERED LANDSCAPE ARCHITECT · PAUL JAY REED · No. 2002 · EXP. 9/30/2021 · STATE OF CALIFORNIA

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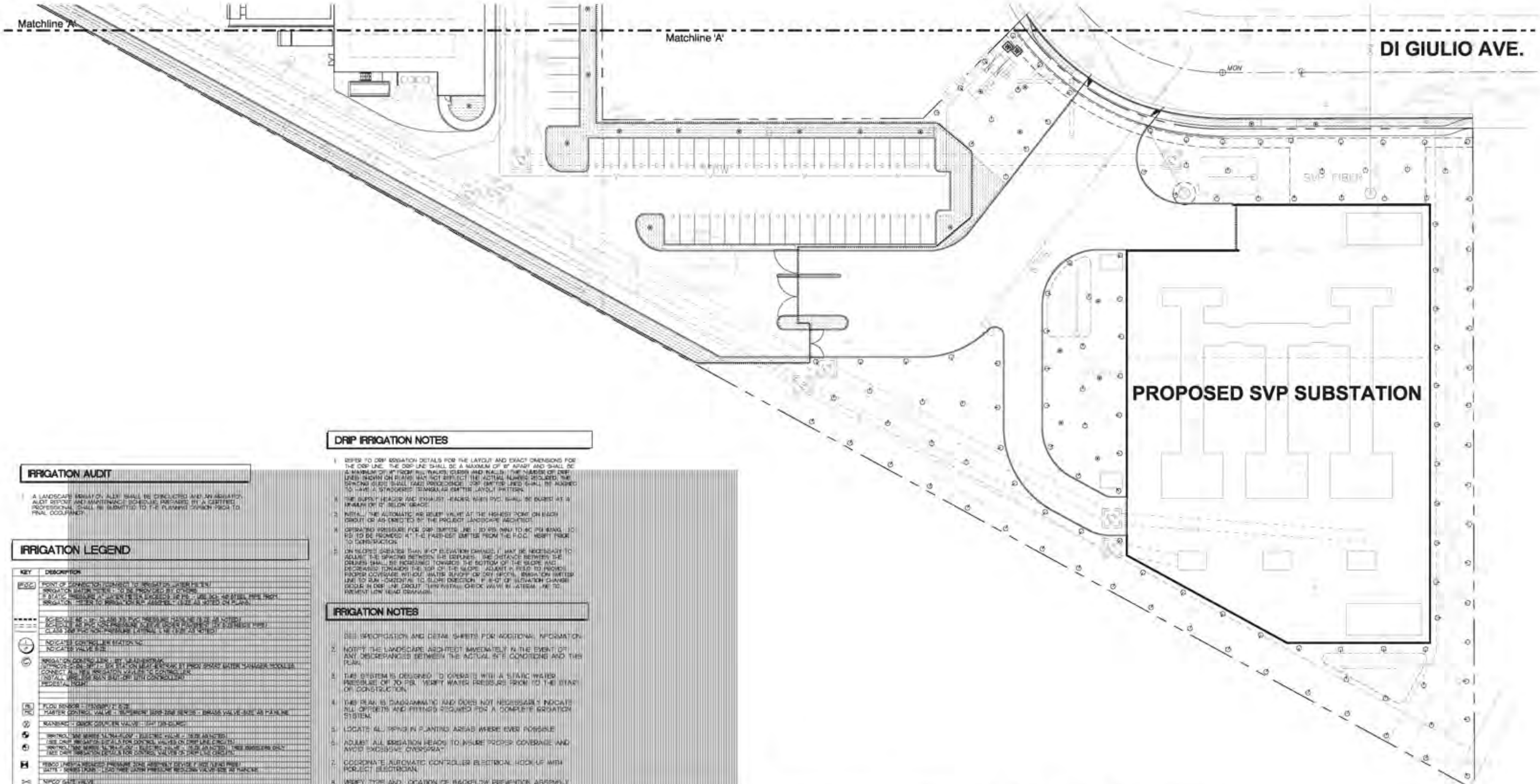
L-105



IRRIGATION AUDIT

1. A LANDSCAPE IRRIGATION AUDIT SHALL BE CONDUCTED AND AN IRRIGATION AUDIT REPORT AND MAINTENANCE SCHEDULE, PREPARED BY A CERTIFIED PROFESSIONAL, SHALL BE SUBMITTED TO THE PLANNING DIVISION PRIOR TO FINAL OCCUPANCY.

IRRIGATION LEGEND

[illegible]

DRIP IRRIGATION NOTES

1. REFER TO DRIP IRRIGATION DETAILS FOR THE LAYOUT AND EXACT DIMENSIONS FOR THE DRIP LINE. THE DRIP LINE SHALL BE A MAXIMUM OF 18" APART AND SHALL BE A MAXIMUM OF 4" FROM ALL WALKS, CURBS AND WALLS. THE NUMBER OF DRIP LINES SHOWN ON PLANS MAY NOT REFLECT THE ACTUAL NUMBER REQUIRED. THE SPACING GUIDE SHALL TAKE PRECEDENCE. DRIP EMITTER LINES SHALL BE ALIGNED TO HAVE A STAGGERED TRIANGULAR EMITTER LAYOUT PATTERN.
2. THE SUPPLY HEADER AND EXHAUST HEADER, WHEN PVC, SHALL BE BURIED AT A MINIMUM OF 12" BELOW GRADE.
3. INSTALL THE AUTOMATIC AIR RELIEF VALVE AT THE HIGHEST POINT ON EACH CIRCUIT OR AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
4. OPERATING PRESSURE FOR DRIP EMITTER LINE - 20 PSI (MIN) TO 40 PSI (MAX). 20 PSI TO BE PROVIDED AT THE FARTHEST EMITTER FROM THE P.O.C. VERIFY PRIOR TO CONSTRUCTION.
5. ON SLOPES GREATER THAN 8'-0" ELEVATION CHANGE, IT MAY BE NECESSARY TO ADJUST THE SPACING BETWEEN THE DRIPLINES. THE DISTANCE BETWEEN THE DRIPLINES SHALL BE INCREASED TOWARDS THE BOTTOM OF THE SLOPE AND DECREASED TOWARDS THE TOP OF THE SLOPE. ADJUST IN FIELD TO PROVIDE PROPER COVERAGE WITHOUT WATER RUNOFF OR DRY SPOTS. IRRIGATION EMITTER LINE TO RUN HORIZONTAL TO SLOPE DIRECTION. IF 8'-0" OF ELEVATION CHANGE OCCUR IN DRIP LINE CIRCUIT, THEN INSTALL CHECK VALVE IN LATERAL LINE TO PREVENT LOW HEAD DRAINAGE.

IRRIGATION NOTES

1. SEE SPECIFICATION AND DETAIL SHEETS FOR ADDITIONAL INFORMATION.
2. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY IN THE EVENT OF ANY DISCREPANCIES BETWEEN THE ACTUAL SITE CONDITIONS AND THIS PLAN.
3. THIS SYSTEM IS DESIGNED TO OPERATE WITH A STATIC WATER PRESSURE OF 70 PSI. VERIFY WATER PRESSURE PRIOR TO THE START OF CONSTRUCTION.
4. THIS PLAN IS DIAGRAMMATIC AND DOES NOT NECESSARILY INDICATE ALL OFFSETS AND FITTINGS REQUIRED FOR A COMPLETE IRRIGATION SYSTEM.
5. LOCATE ALL PIPING IN PLANTING AREAS WHERE EVER POSSIBLE.
6. ADJUST ALL IRRIGATION HEADS TO INSURE PROPER COVERAGE AND AVOID EXCESSIVE OVERSPRAY.
7. COORDINATE AUTOMATIC CONTROLLER ELECTRICAL HOOK-UP WITH PROJECT ELECTRICIAN.
8. VERIFY TYPE AND LOCATION OF BACKFLOW PREVENTION ASSEMBLY WITH ALL LOCAL JURISDICTIONS, PRIOR TO INSTALLATION.
9. INSTALL CHECK VALVES AS REQUIRED TO PREVENT LOW-HEAD DRAINAGE.
10. DETECTOR TAPE SHOULD BE INSTALLED WITH ANY PRESSURE LINES NOT BURIED IN THE SAME TRENCH WITH CONTROL WIRES AND WITH ANY LINES OF ANY KIND UNDER PAVING NOT IN A TRENCH WITH CONTROL WIRES.
11. INSTALL TWO SPARE CONTROL WIRES ALONG THE ENTIRE MAIN LINE. SPARE WIRES SHALL BE THE SAME COLOR (ONE WITH A WHITE STRIPE) AND OF A DIFFERENT COLOR THAN OTHER CONTROL WIRES. LOOP 36 INCH EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.
12. SUPPLEMENTAL HAND WATERING OF SWALE AREAS PLANTED WITH SOD MAY BE NECESSARY IN WARM WEATHER TO ESTABLISH BIO-SWALE SOD. THE LANDSCAPE CONTRACTOR MUST INCLUDE THIS IN THEIR BID AND IN THE SCOPE OF WORK. DRY SOD WILL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

IRRIGATION PIPE SIZING CHART

CLASS 200

- INTERMITTENT-PRESSURE LATERAL PIPING

1/2"	--	0-4 GPM
3/4"	--	5-9 GPM
1"	--	10-16 GPM
1-1/4"	--	17-26 GPM
1-1/2"	--	27-35 GPM
2"	--	36-55 GPM

SCHEDULE 40

- CONSTANT PRESSURE PIPING 1-1/2 INCHES AND SMALLER.
- INTERMITTENT-PRESSURE LATERAL PIPING

1"	--	9-16 GPM
1-1/4"	--	16-22 GPM
1-1/2"	--	23-30 GPM

CLASS 315

- CONSTANT PRESSURE PIPING 2 INCHES AND LARGER.

2"	--	31-48 GPM
2-1/2"	--	49-65 GPM
3"	--	66-100 GPM

IRRIGATION NOTES LEGEND

- EXISTING TREE TO REMAIN
1. LOCATE IRRIGATION MAINLINE AND IRRIGATION VALVES IN LANDSCAPE AREAS. ALL IRRIGATION VALVES TO BE LOCATED IN SPECIFIED VALVE BOX IN SHRUB PLANTING AREAS ONLY.
2. HAND TRENCH IRRIGATION LINES WITHIN EXISTING TREE ROOT ZONE.
3. INSTALL IRRIGATION LATERAL LINE "ELL/TEE" OR IRRIGATION MAINLINE IN CONCRETE BOX WITH CONCRETE LID.

Scale 1" = 20 ft

Project Number: 19110.0000

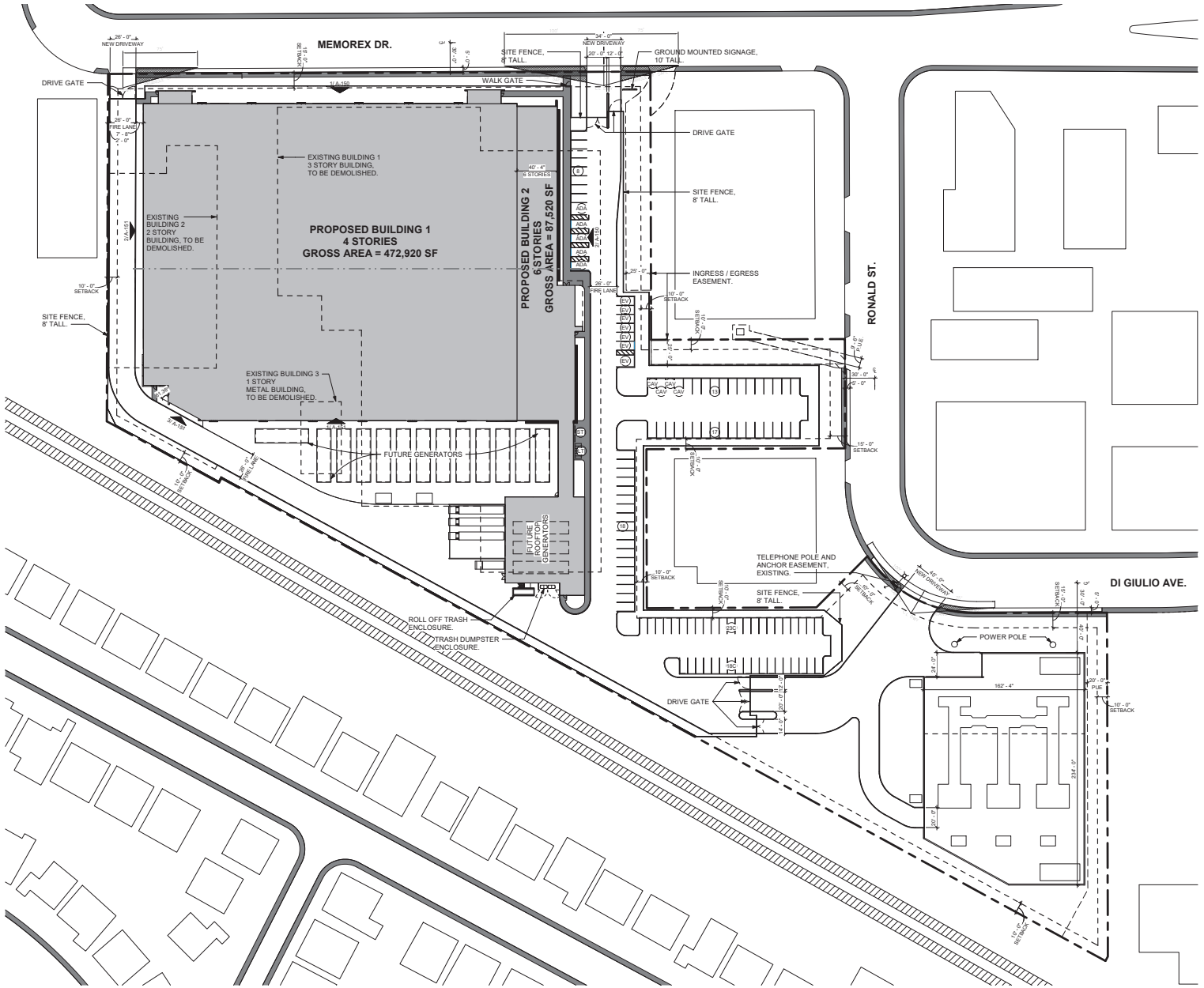
SKYBOX
CORGAN
R G RUTH AND GOING, INC.
CRITICAL
kW
REED ASSOCIATES

PRELIMINARY IRRIGATION PLAN

04-09-2020

DATA HALL
OFFICE
LD

L-106



EXISTING

LOT SIZE - 400,038± SF - 9.18 ACRES

3 EXISTING BUILDINGS - TO BE DEMOLISHED

BUILDING 1 - FACTORY - 3 STORIES @ 116,679± SF BUILDING FOOTPRINT
BUILDING 2 - FACTORY - 2 STORIES @ 22,996± SF BUILDING FOOTPRINT
BUILDING 3 - STORAGE - 1 STORY @ 2,944± SF BUILDING FOOTPRINT

LOT COVERAGE - 142,619± SF - 36%

PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

2 PROPOSED BUILDINGS - TYPE IIA
BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
PARAPET - 87' 0" MID SLOPE OF ROOF - 83' 6"
BUILDING 2 - STORAGE II - 6 STORIES @ 14,585± SF GROSS - 87,520 SF±
PARPAET - 87'0" MID SLOPE OF ROOF - 83' 6"

FAR - 1.40
LOT COVERAGE - 143,300± SF - 36%
OUTDOOR EQUIP STORAGE - 22,300± SF - 6%

GROSS BUILDING - 560,440± SF
PROD. DATA HALL - 6 @ 19,780 SF = 118,680SF
DEV. DATA HALL - 6 @ 19,780 SF = 118,680 SF
MECH GALLERY - 24 @ 3,536 SF = 84,860 SF
UPS - 30 @ 2,275 SF =68,250 SF
OPEN OFFICE - 5,100 SF + 8,220 SF + 4 @ 9420 SF = 51,000 SF
MISC. -118,970 SF

* PRODUCTION AND DEVELOPMENT DATA HALLS ARE IDENTIFIABLE BY THEIR BACKUP POWER GENERATION.
- PRODUCTION DATA HALL - BACKUP POWER GENERATION PROVIDED FOR 100% OF LOAD
- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

PARKING

112 REQUIRED SPACES @ 1 PER 5,000 SF
113 PARKING SPACES PROVIDED
56 PARKING SPACES
41 COMPACT PARKING SPACES (C)
11 CLEAN AIR VEHICLE PARKING SPACES (CAV)
7 FUTURE EV CHARGING SPACES (EV)
5 ADA ACCESSIBLE SPACES (ADA)

BICYCLE PARKING - 5% SHORT & LONG TERM
6 SHORT TERM SPACES (ST)
6 LONG TERM SPACES (LT)

Project Number: 19110.0000

SKYBOX | CORGAN | RUTH AND GOBU, INC. | CRITICAL | kw | REED ASSOCIATES

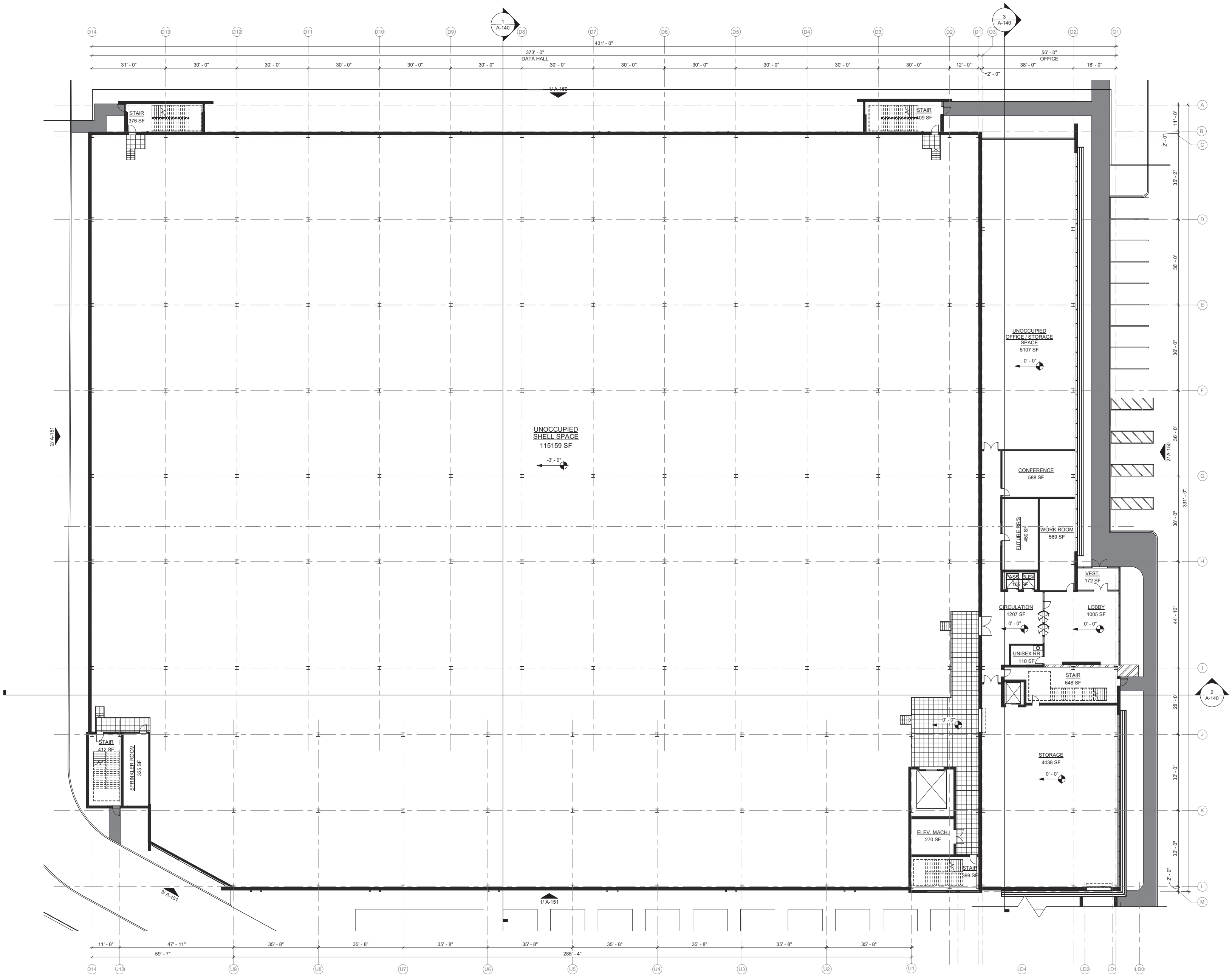
SITE PLAN

1" = 40'-0"
04.09.2020

JEFFREY H. GYZEN No. C-013099 REGISTERED DATE 4/9/2020

DATA HALL | OFFICE

A-110



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

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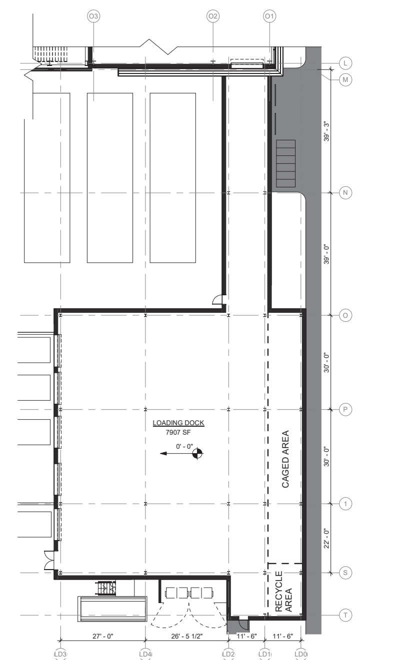


Project Number: 19110.0000

SKYBOX CORGAN R·G CRITICAL kW REED ASSOCIATES

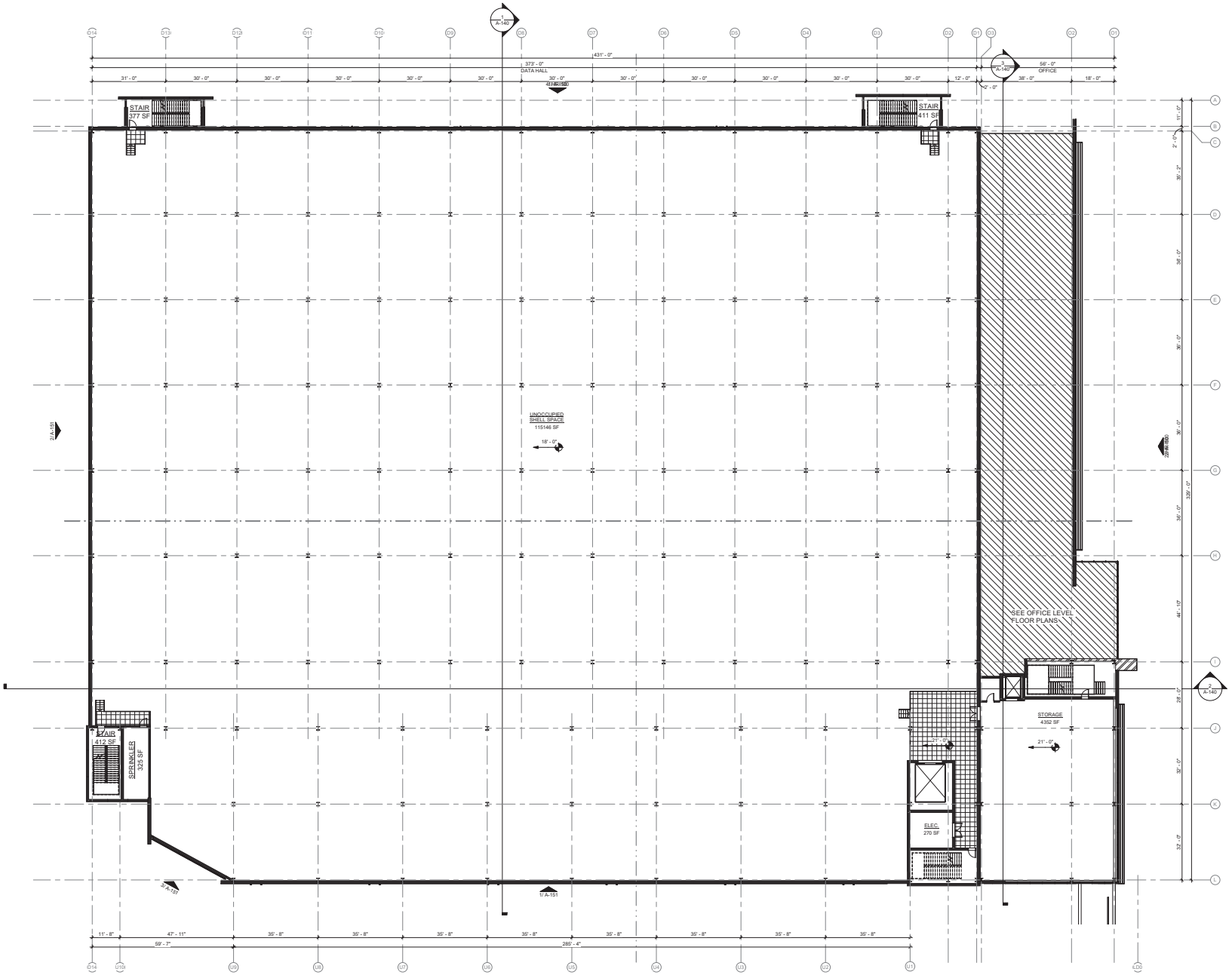
LEVEL 1 FLOOR PLAN

1/16" = 1'-0"

04.09.2020

DATA HALL OFFICE LD

A-121



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

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- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBUZ, INC. CRITICAL kw REED ASSOCIATES

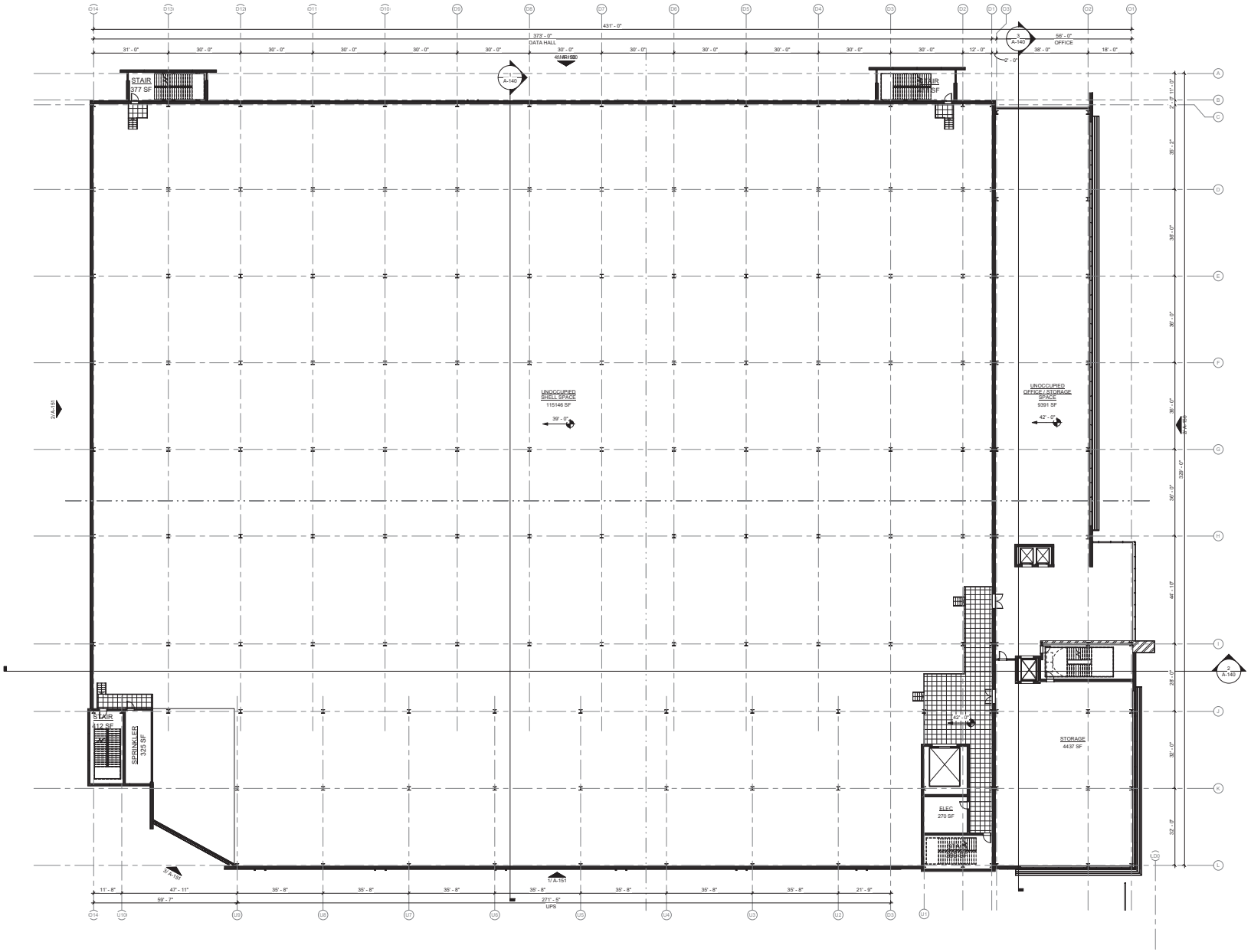
LEVEL 2 FLOOR PLAN

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No.C-013099 REGISTERED STATE OF FLORIDA 4/9/2020

DATA HALL OFFICE LD

A-122



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

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BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
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PARPAET - 87'0" MID SLOPE OF ROOF - 83' 6"

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GROSS BUILDING - 560,440± SF

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MISC.	-118,970 SF

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Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBUZ, INC. CRITICAL kW REED ASSOCIATES

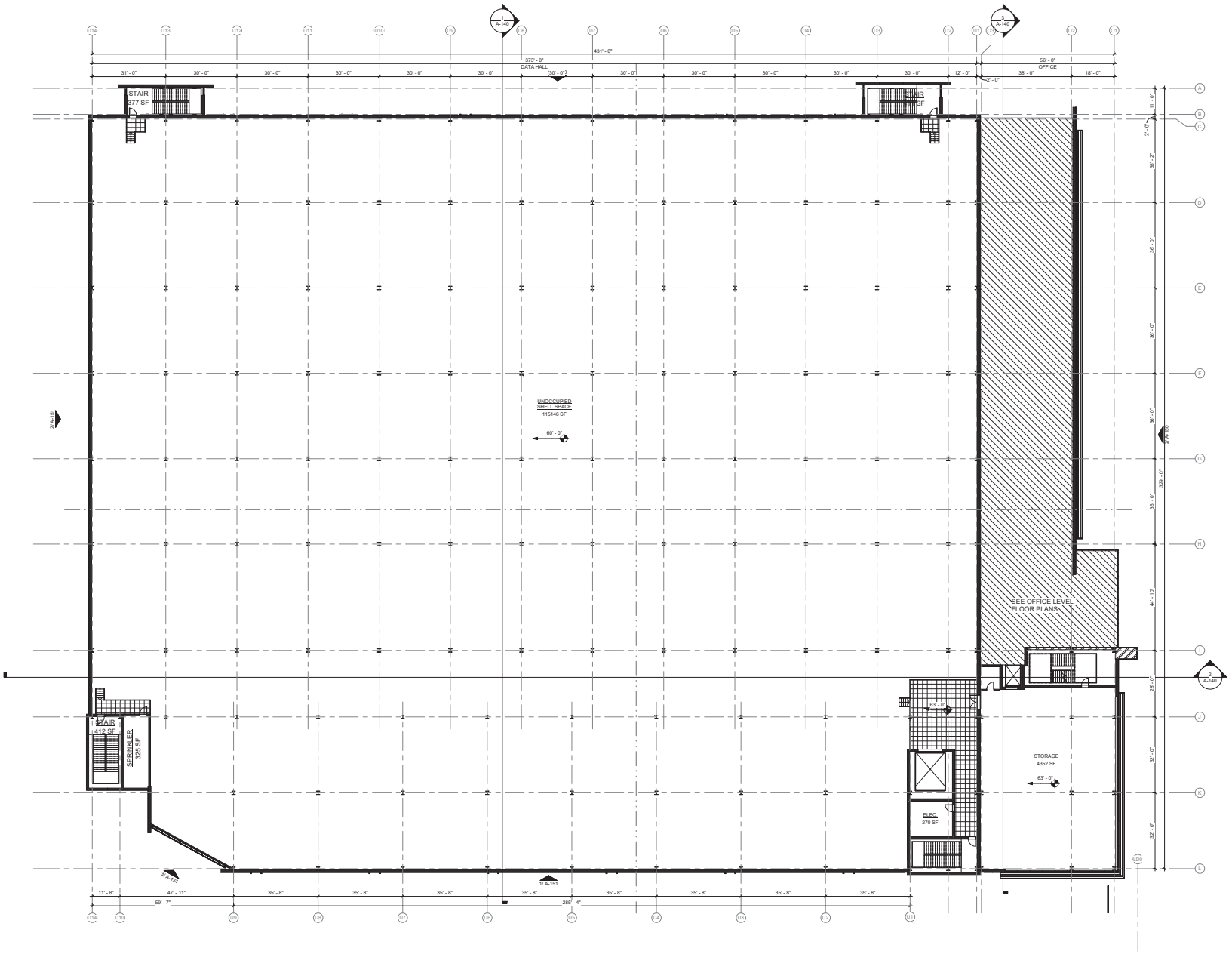
LEVEL 3 FLOOR PLAN

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No. C-013099 REGISTERED STATE OF FLORIDA 4/9/2020

DATA HALL OFFICE LD

A-123



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

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Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBUZ, INC. CRITICAL kw REED ASSOCIATES

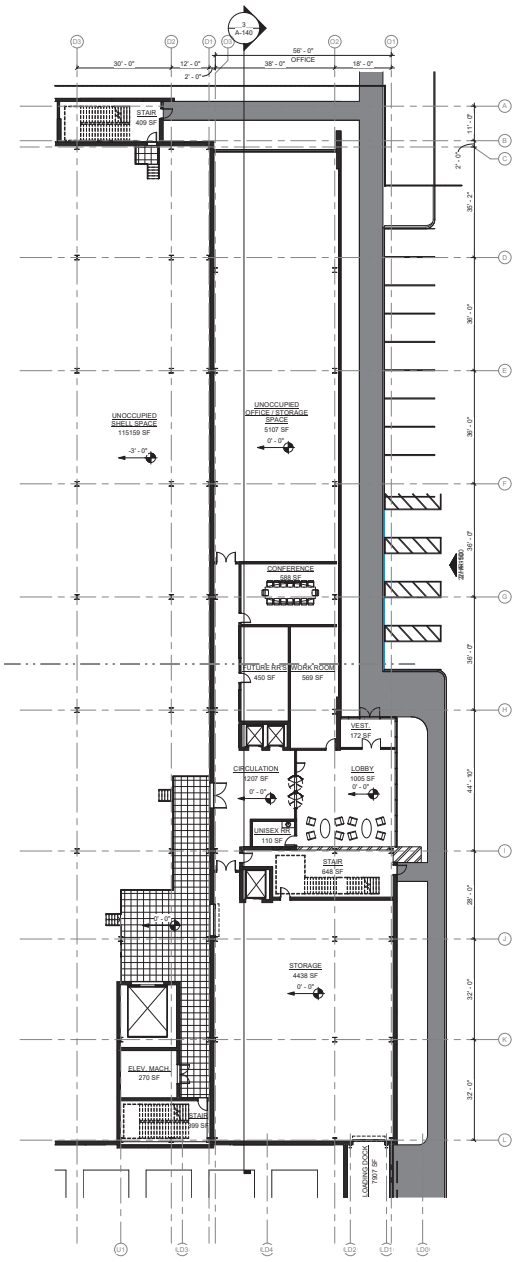
LEVEL 4 FLOOR PLAN

1/16" = 1'-0"
04.09.2020

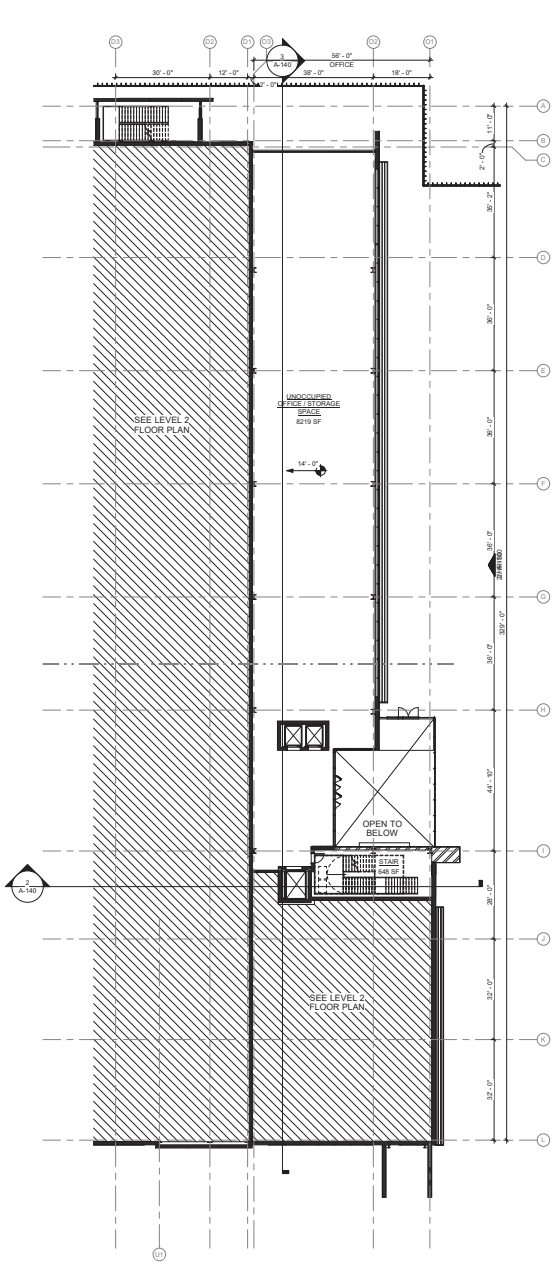
JEFFREY H. GYZEN No.C-013099 REGISTERED ARCHITECT STATE OF FLORIDA 4/9/2020

DATA HALL OFFICE LD

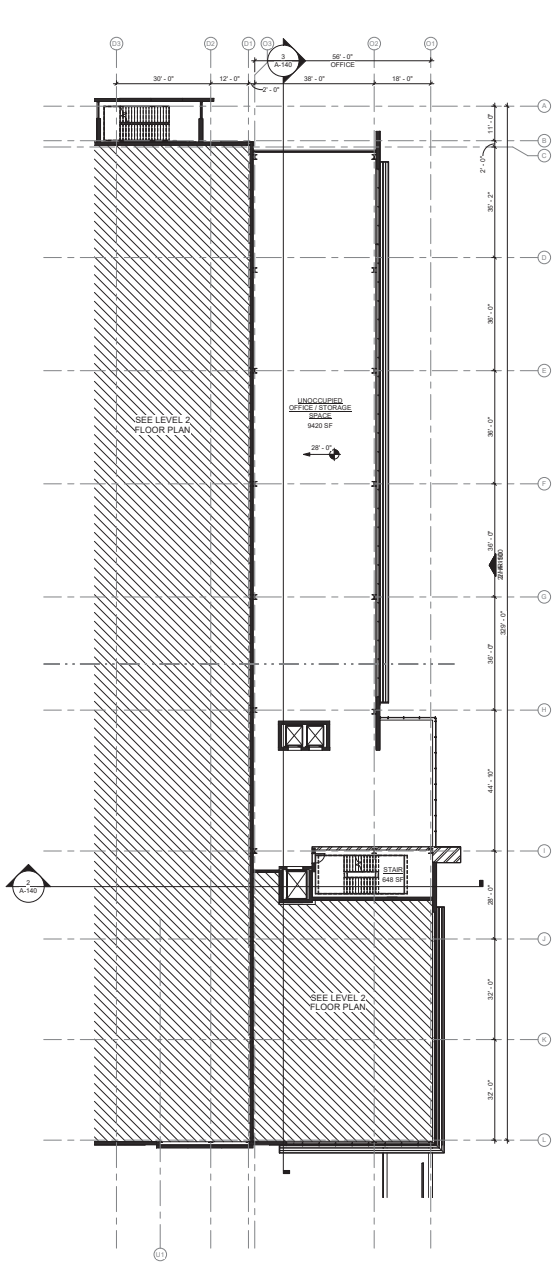
A-124



1 LEVEL 1 FLOOR PLAN - OFFICE
1/16" = 1'-0"



2 LEVEL 1.5 FLOOR PLAN - OFFICE
1/16" = 1'-0"



3 LEVEL 2.5 FLOOR PLAN - OFFICE
1/16" = 1'-0"

Project Number: 19110.0000

SKYBOX | CORGAN | RUTH AND GOBU, INC. | CRITICAL | kW | REED ASSOCIATES

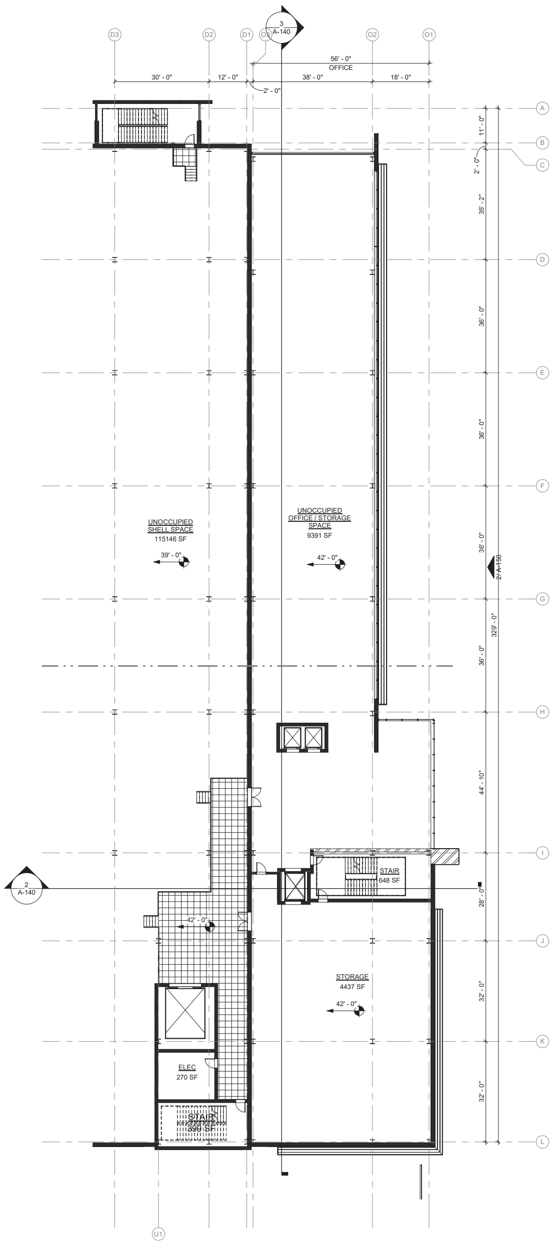
OFFICE LEVEL - FLOOR PLANS

1/16" = 1'-0"
04.09.2020

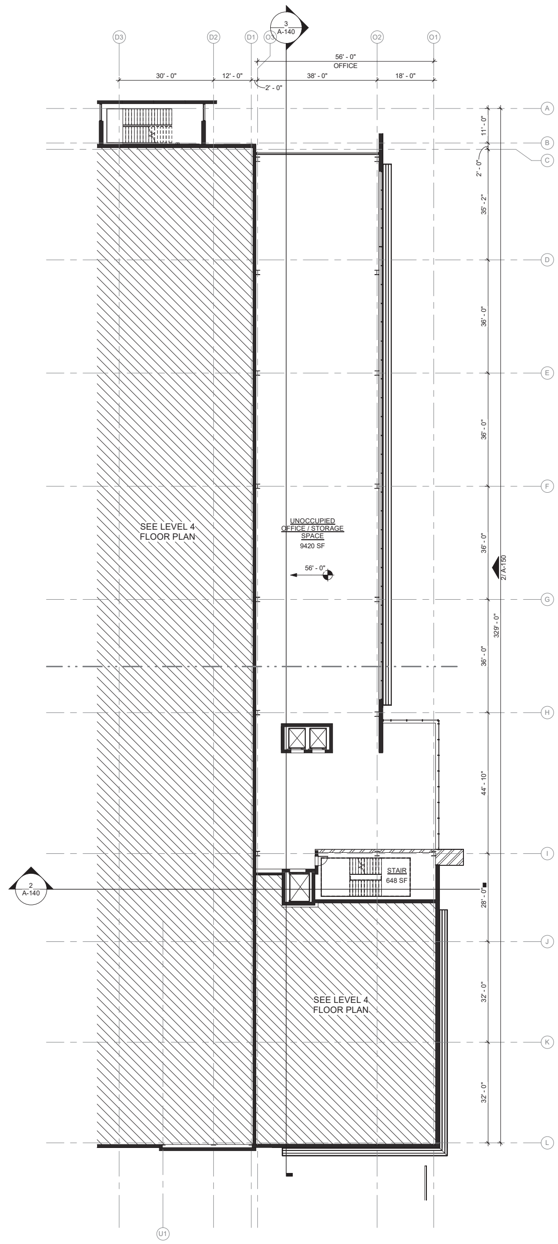
JEFFREY H. GYZEN
No. C-013099
REGISTERED ARCHITECT
STATE OF FLORIDA
4/9/2020

DATA HALL
CORRIDOR
LD

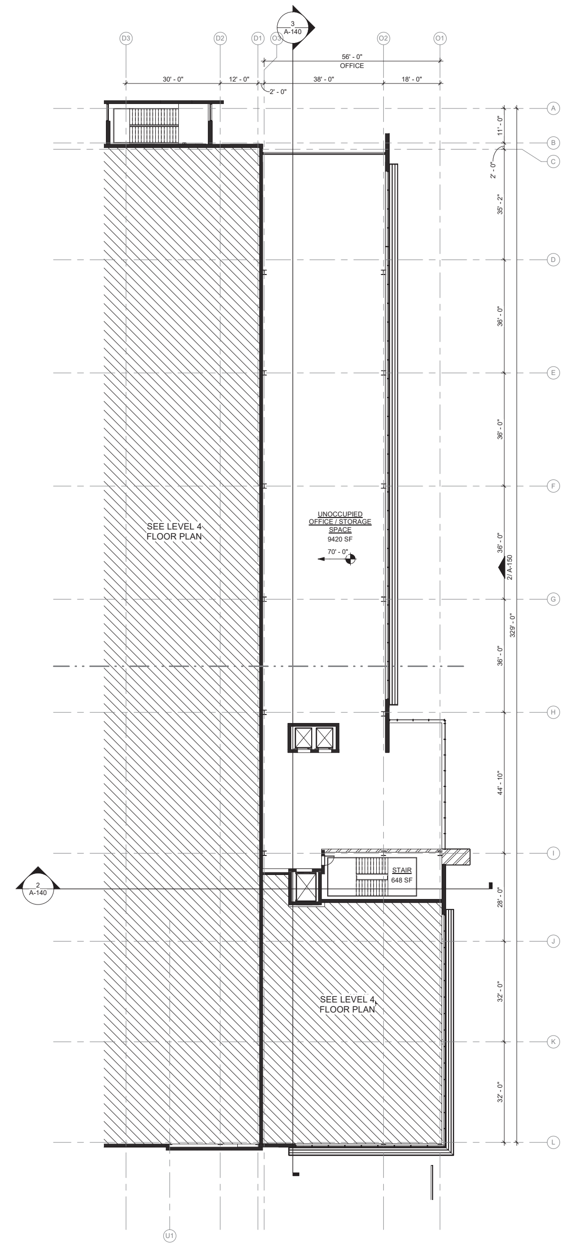
A-125



1 LEVEL 3 FLOOR PLAN - OFFICE
1/16" = 1'-0"



2 LEVEL 3.5 FLOOR PLAN - OFFICE
1/16" = 1'-0"



3 LEVEL 4.5 - FLOOR PLAN OFFICE
1/16" = 1'-0"

Project Number: 19110.0000

NORTH

SKYBOX
CORGAN
CRITICAL

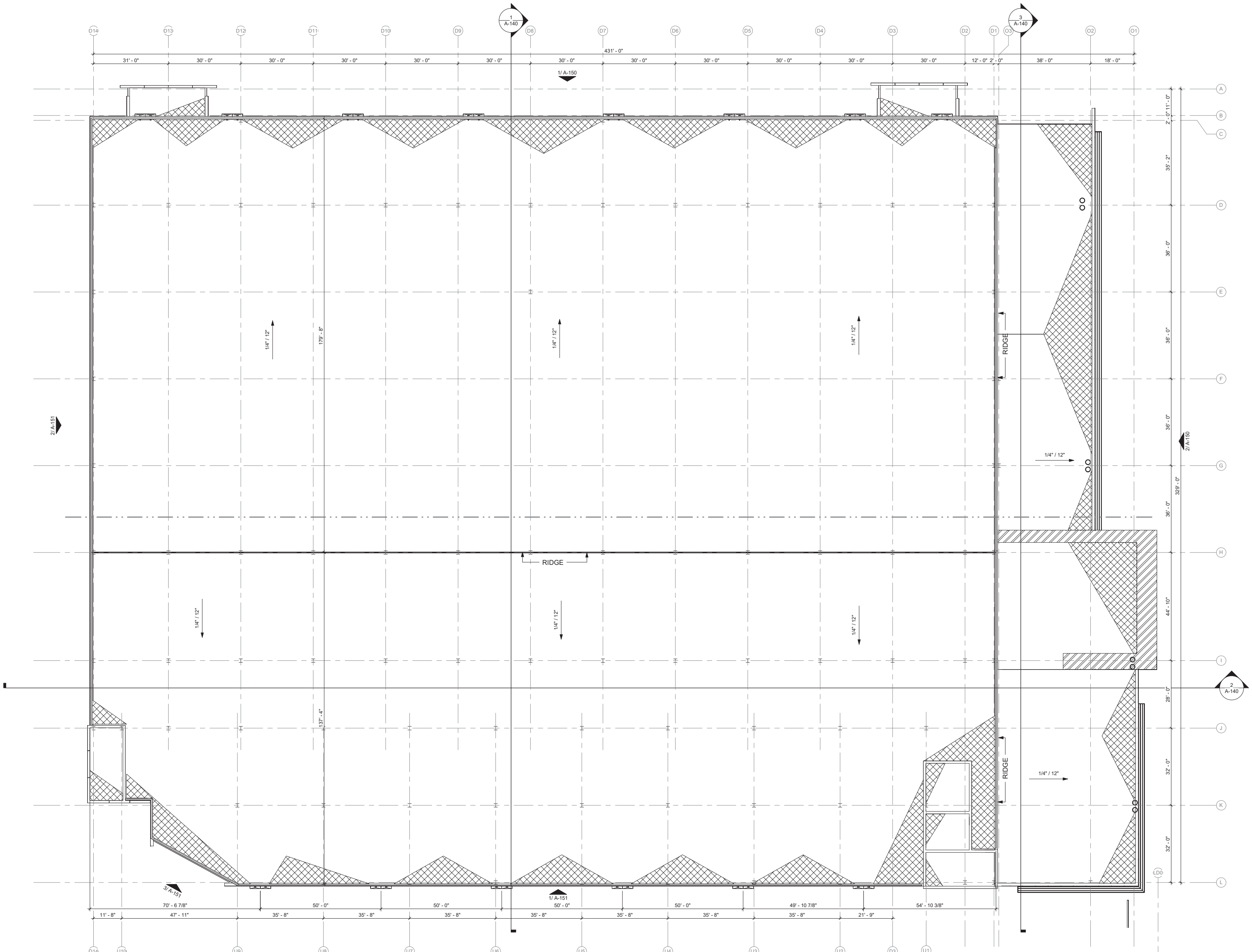
OFFICE LEVEL - FLOOR PLANS

1/16" = 1'-0"

04.09.2020

DATA HALL
OFFICE
LD

A-126



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

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BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
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Project Number: 19110.0000

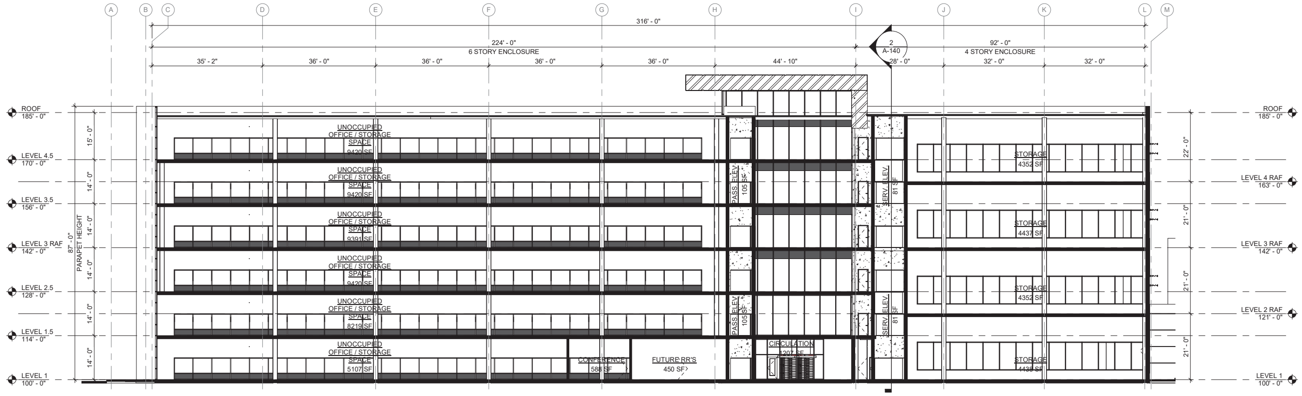
SKYBOX CORGAN R-G CRITICAL kW REED ASSOCIATES

ROOF PLAN

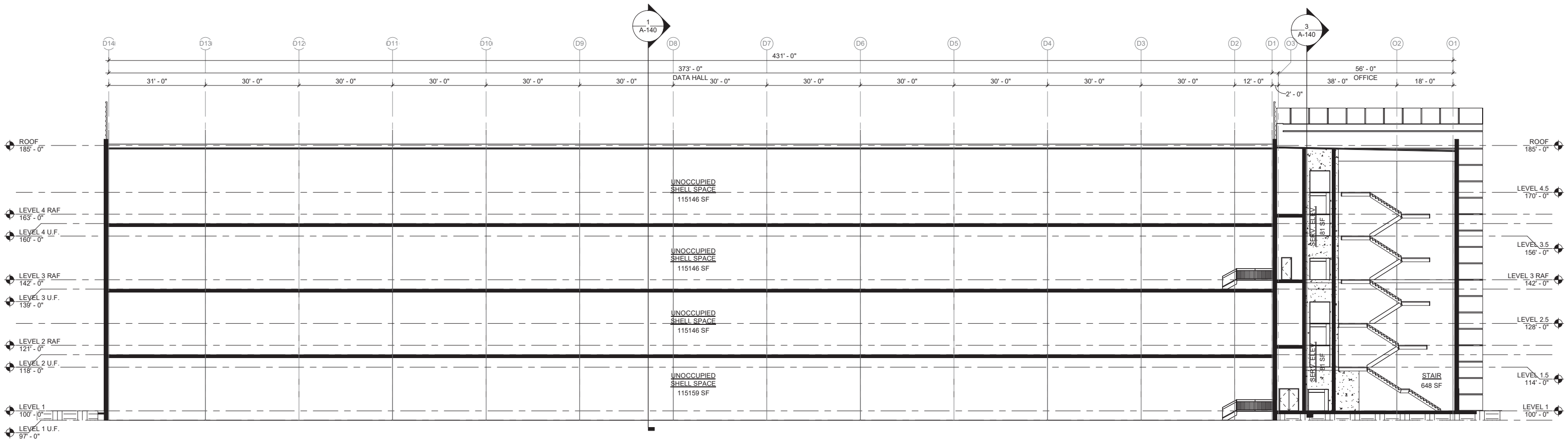
1/16" = 1'-0"
04.09.2020

DATA HALL OFFICE LD

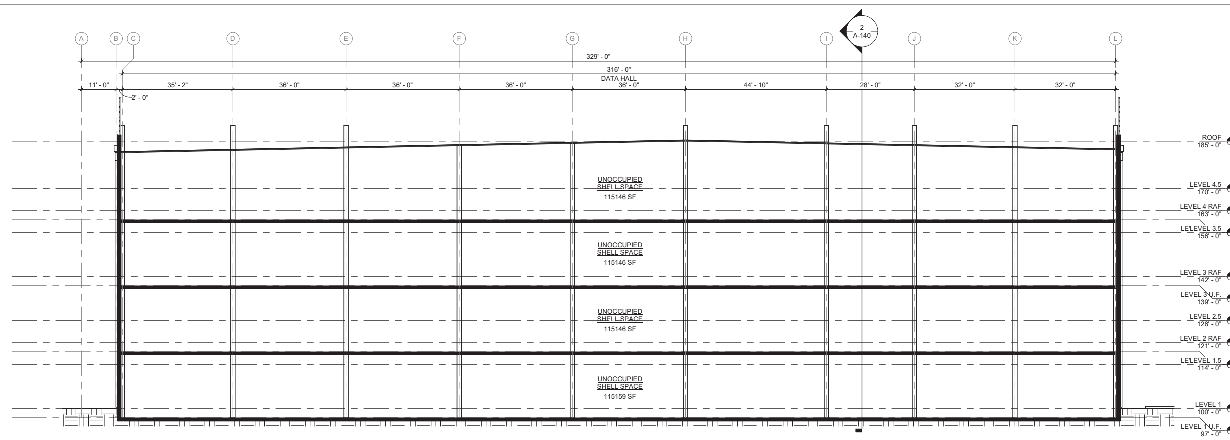
A-130



3 OFFICE SECTION - N-S
1/16" = 1'-0"



2 BUILDING SECTION E-W
1/16" = 1'-0"



Project Number: 19110.0000

1 DATA HALL SECTION N-S
N.T.S.

SKYBOX

CORGAN

RUTH AND GOING, INC.

CRITICAL

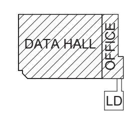
kW mission critical engineering

REED ASSOCIATES

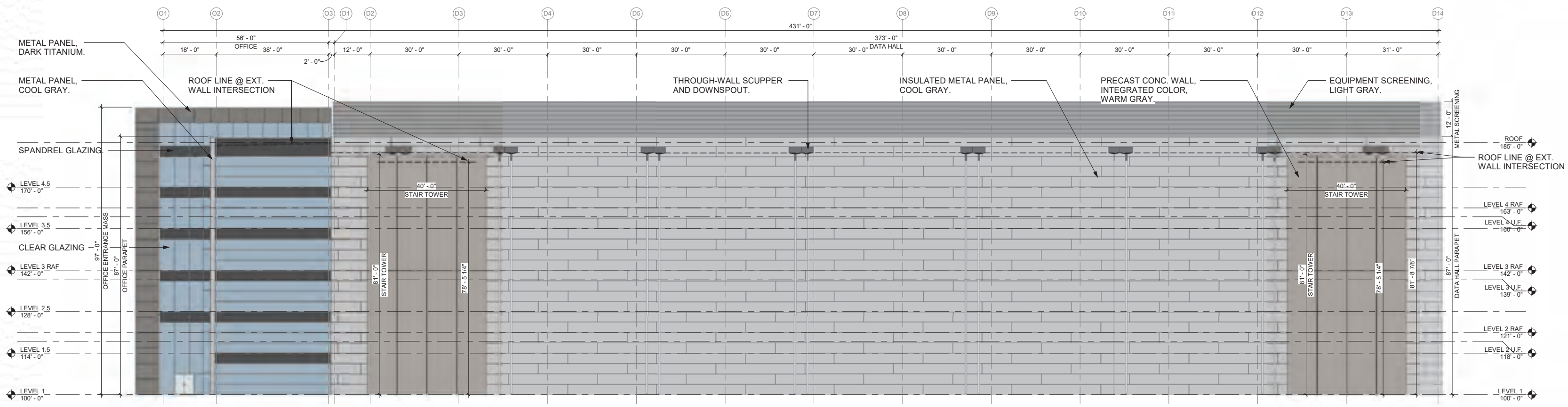
BUILDING SECTION

1/16" = 1'-0"

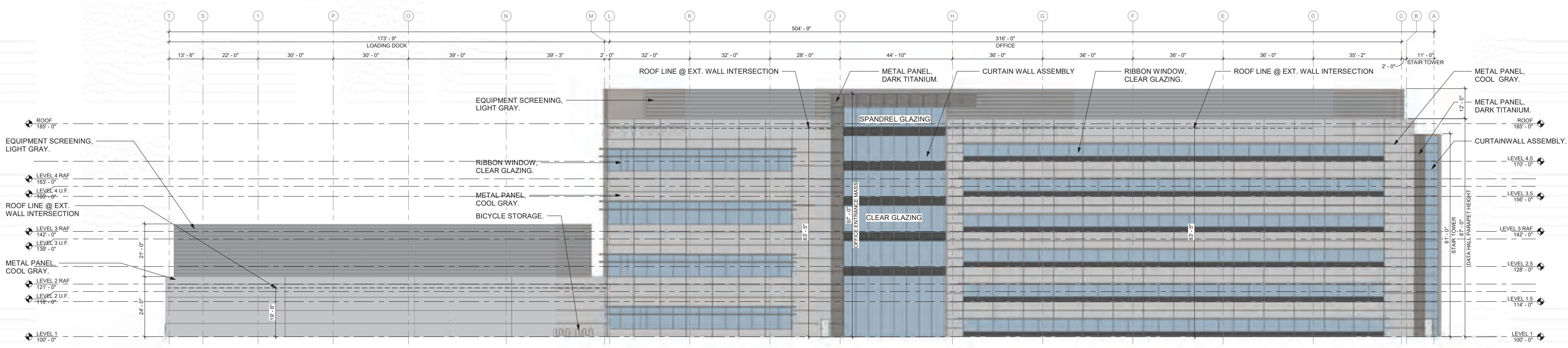
04.09.2020



A-140



1 NORTH
1/16" = 1'-0"



2 EAST
1/16" = 1'-0"

Project Number: 19110.0000

SKYBOX
CORGAN
RUTH AND GOING, INC.
CRITICAL
kW
REED ASSOCIATES

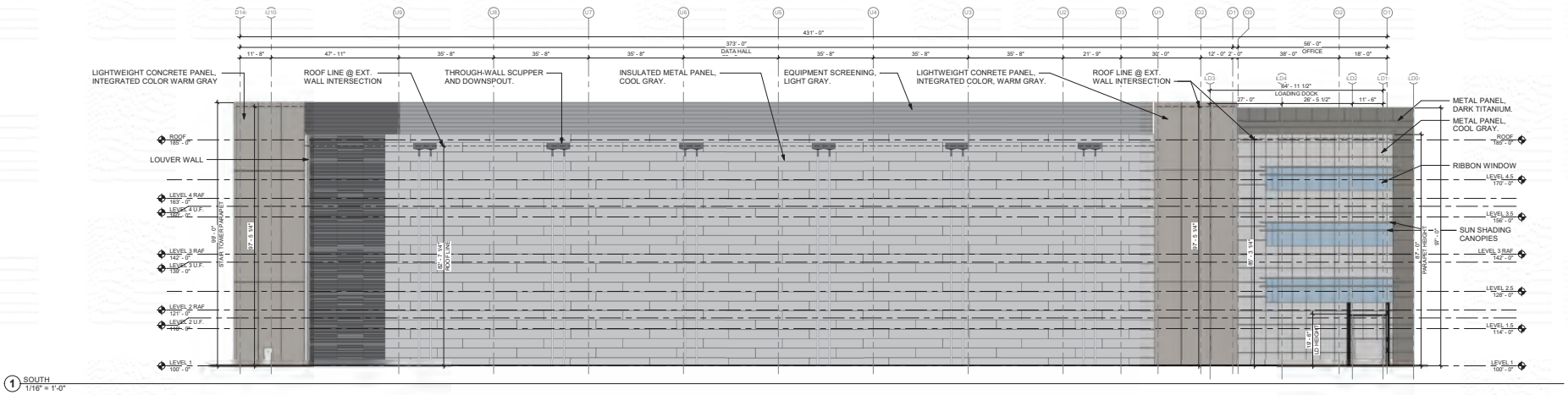
ELEVATIONS

1/16" = 1'-0"

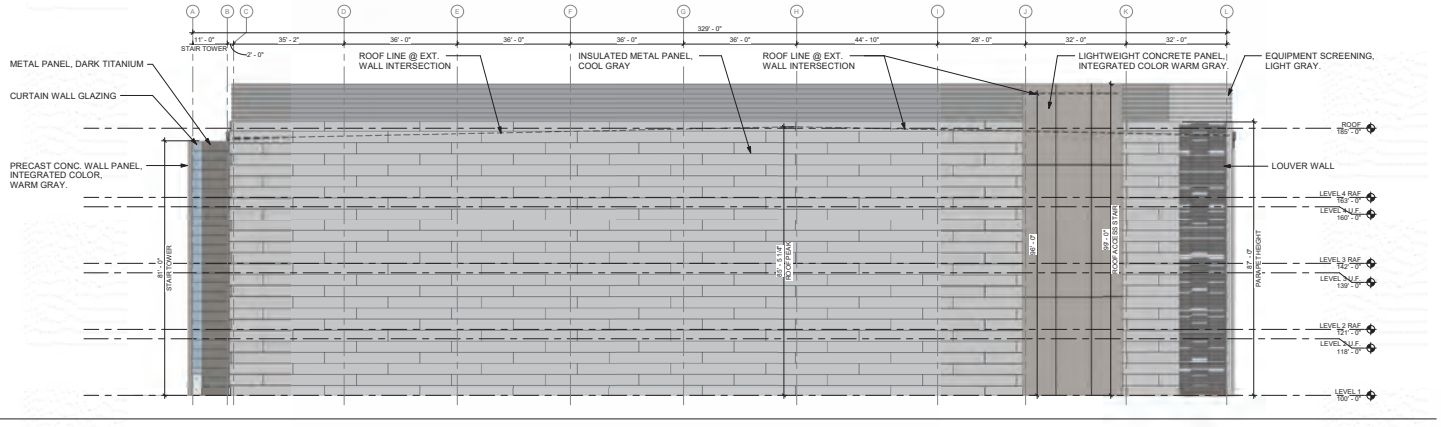
04.09.2020

DATA HALL
OFFICE
LD

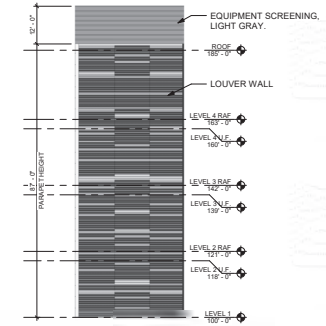
A-150



1 SOUTH
1/16" = 1'-0"



2 WEST
1/16" = 1'-0"



3 ELEVATION - SW CORNER
1/16" = 1'-0"

Project Number: 19110.0000

SKYBOX | CORGAN | RG RUTH AND GORKI, INC. | CRITICAL | kW | REED ASSOCIATES

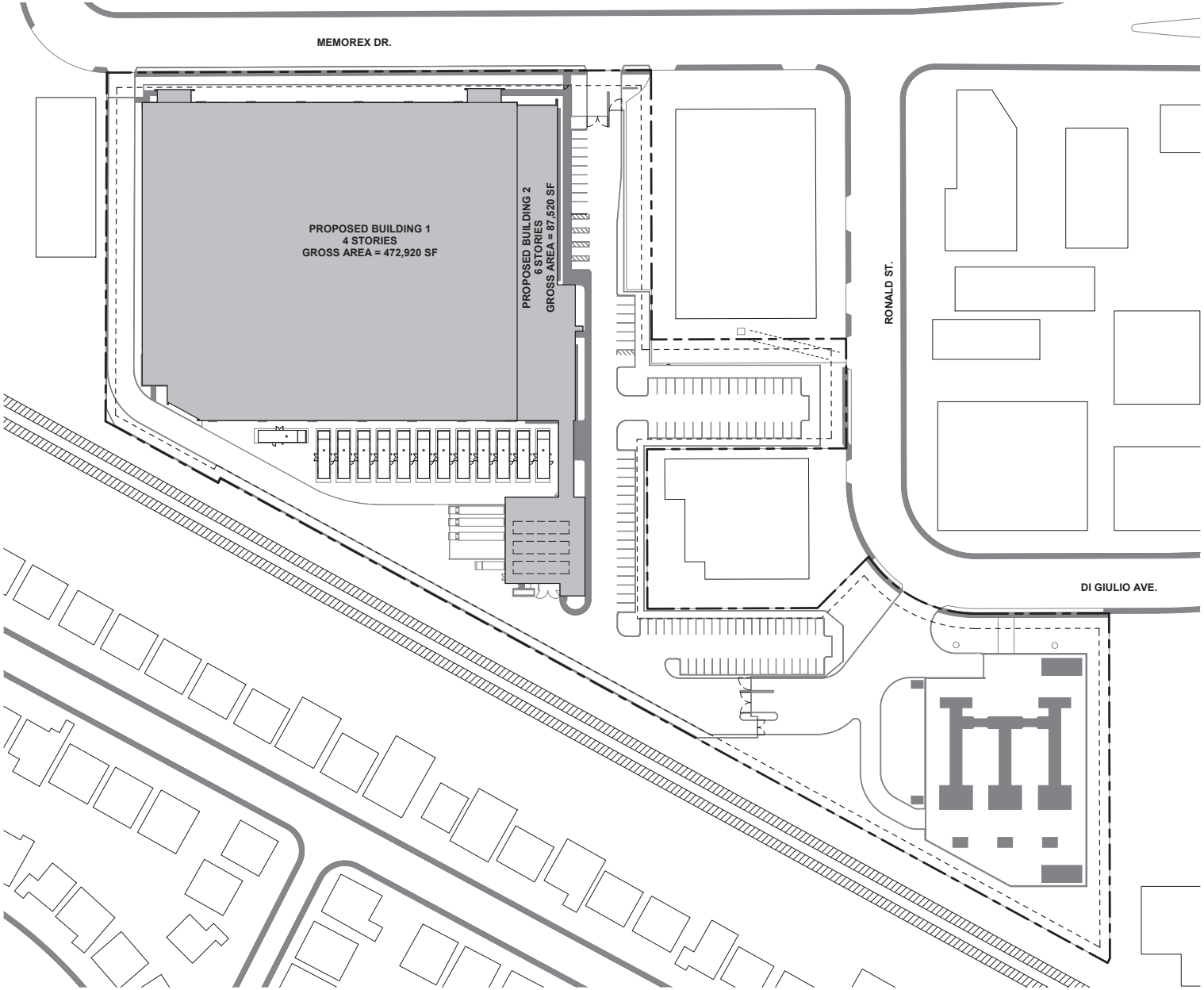
ELEVATIONS

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN
No. C-013099
REGISTERED
STATE OF FLORIDA
ARCHITECT
4/9/2020

DATA HALL | OFFICE | LD

A-151



EXISTING

LOT SIZE - 400,038± SF - 9.18 ACRES

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PROPOSED

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56 PARKING SPACES
41 COMPACT PARKING SPACES (C)
11 CLEAN AIR VEHICLE PARKING SPACES (CAV)
7 FUTURE EV CHARGING SPACES (EV)
5 ADA ACCESSIBLE SPACES (ADA)

BICYCLE PARKING - 5% SHORT & LONG TERM
6 SHORT TERM SPACES (ST)
6 LONG TERM SPACES (LT)

Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBUZ, INC. CRITICAL kw REED ASSOCIATES

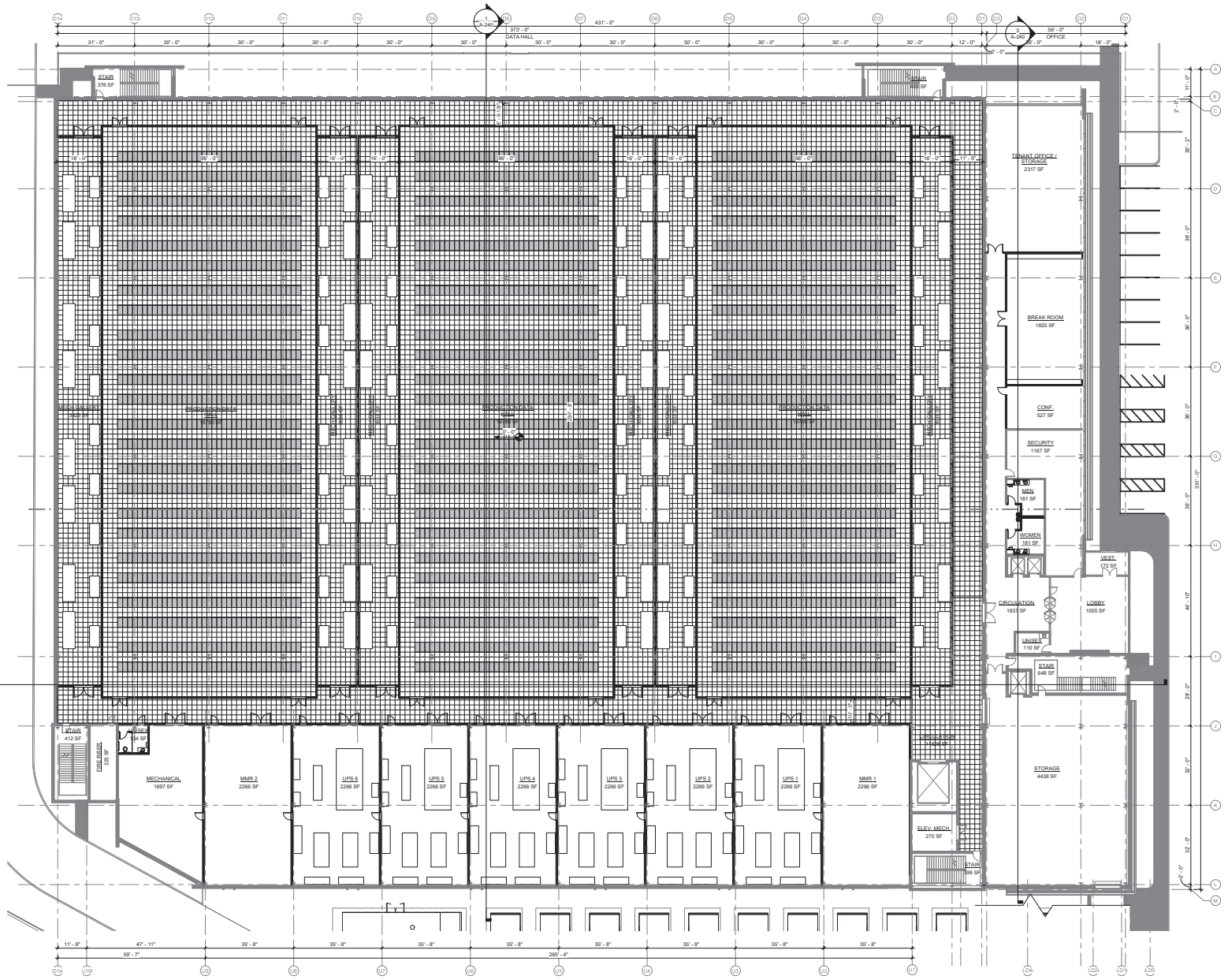
SITE PLAN - MP

1" = 40'-0"
04.09.2020

JEFFREY H. GYZEN No.C-013099 REGISTERED STATE OF CALIFORNIA 4/9/2020

DATA HALL OFFICE

A-210



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

2 PROPOSED BUILDINGS - TYPE IIA
BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
PARAPET - 87'-0" MID SLOPE OF ROOF - 83'-6"
BUILDING 2 - STORAGE II - 6 STORIES @ 14,585± SF GROSS - 87,520 SF±
PARAPET - 87'-0" MID SLOPE OF ROOF - 83'-6"

FAR - 1.40
LOT COVERAGE - 143,300± SF - 36%
OUTDOOR EQUIP STORAGE - 22,300± SF - 6%

GROSS BUILDING - 560,440± SF
PROD. DATA HALL - 6 @ 19,780 SF = 118,680SF
DEV. DATA HALL - 6 @ 19,780 SF = 118,680 SF
MECH GALLERY - 24 @ 3,536 SF = 84,860 SF
UPS - 30 @ 2,275 SF =68,250 SF
OPEN OFFICE - 5,100 SF + 8,220 SF + 4 @ 9420 SF = 51,000 SF
MISC. - 118,970 SF

* PRODUCTION AND DEVELOPMENT DATA HALLS ARE IDENTIFIABLE BY THEIR BACKUP POWER GENERATION.
- PRODUCTION DATA HALL - BACKUP POWER GENERATION PROVIDED FOR 100% OF LOAD
- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBU, INC. CRITICAL kw REED ASSOCIATES

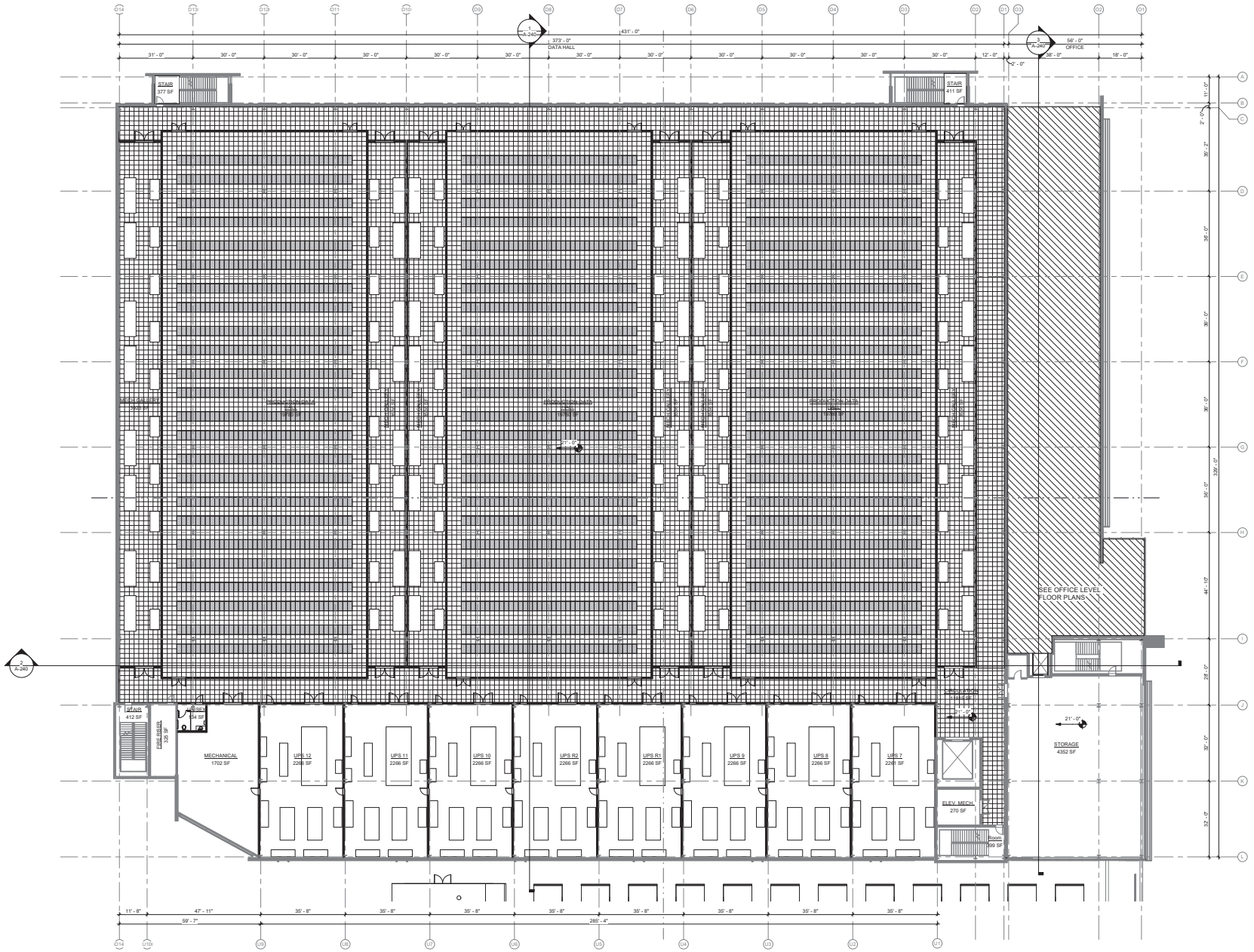
LEVEL 1 FLOOR PLAN - MP

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No.C-013099 REGISTERED ARCHITECT STATE OF FLORIDA 4/9/2020

DATA HALL OFFICE L01

A-221



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

2 PROPOSED BUILDINGS - TYPE IIA
BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
PARAPET - 87' 0" MID SLOPE OF ROOF - 83' 6"
BUILDING 2 - STORAGE II - 6 STORIES @ 14,585± SF GROSS - 87,520 SF±
PARPAET - 87'0" MID SLOPE OF ROOF - 83' 6"

FAR - 1.40
LOT COVERAGE - 143,300± SF - 36%
OUTDOOR EQUIP STORAGE - 22,300± SF - 6%

GROSS BUILDING - 560,440± SF
PROD. DATA HALL - 6 @ 19,780 SF = 118,680SF
DEV. DATA HALL - 6 @ 19,780 SF = 118,680 SF
MECH GALLERY - 24 @ 3,536 SF = 84,860 SF
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OPEN OFFICE - 5,100 SF + 8,220 SF + 4 @ 9420 SF = 51,000 SF
MISC. -118,970 SF

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- PRODUCTION DATA HALL - BACKUP POWER GENERATION PROVIDED FOR 100% OF LOAD
- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

Project Number: 19110.0000

SKYBOX CORGAN RG RUTH AND GOBU, INC. CRITICAL kw REED ASSOCIATES

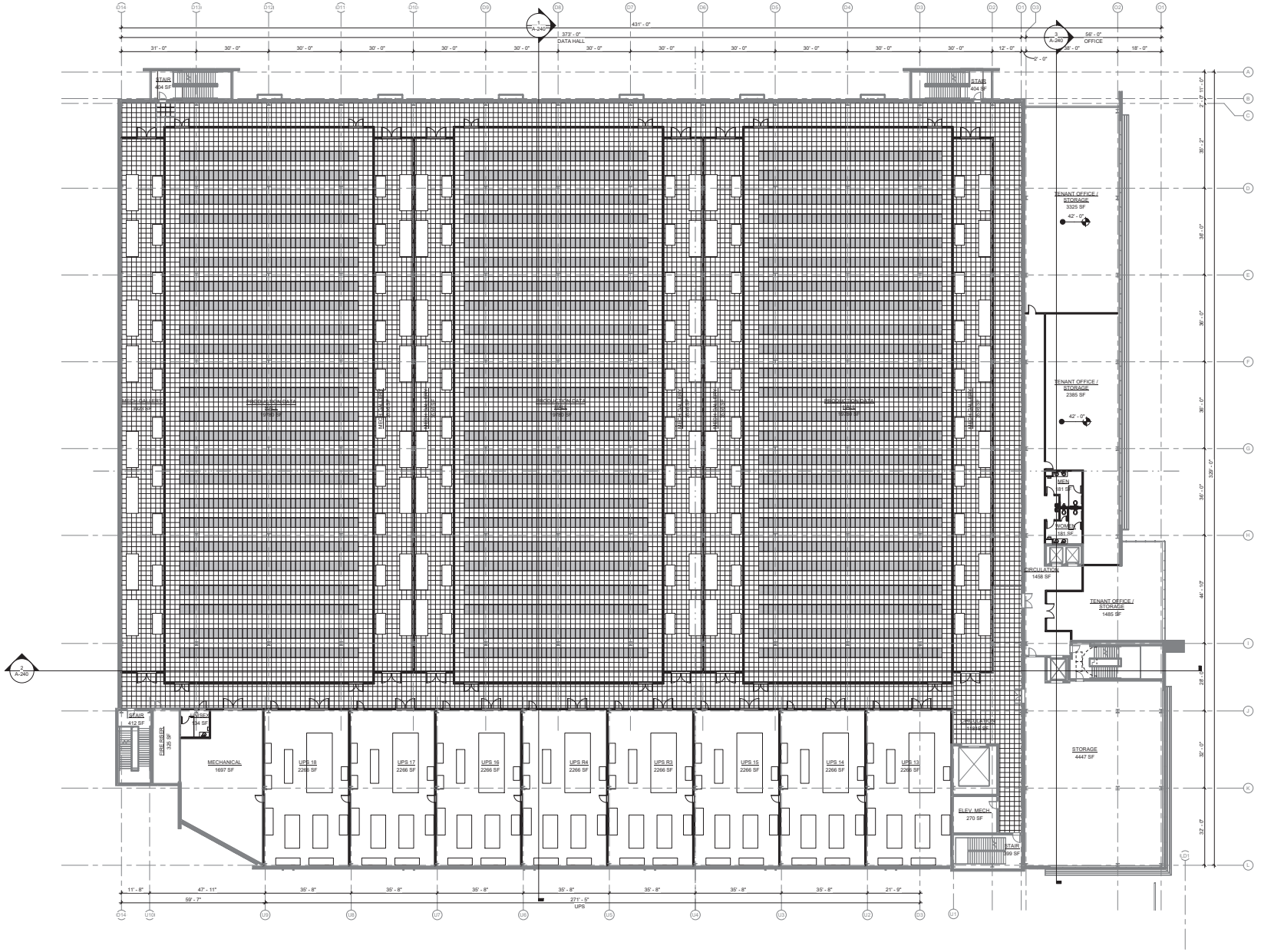
LEVEL 2 FLOOR PLAN - MP

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No.C-013099 REGISTERED ARCHITECT STATE OF FLORIDA 4/9/2020

DATA HALL OFFICE LD

A-222



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

2 PROPOSED BUILDINGS - TYPE IIA
BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
PARAPET - 87' 0" MID SLOPE OF ROOF - 83' 6"
BUILDING 2 - STORAGE II - 6 STORIES @ 14,585± SF GROSS - 87,520 SF±
PARPAET - 870" MID SLOPE OF ROOF - 83' 6"

FAR - 1.40
LOT COVERAGE - 143,300± SF - 36%
OUTDOOR EQUIP STORAGE - 22,300± SF - 6%

GROSS BUILDING - 560,440± SF
PROD. DATA HALL - 6 @ 19,780 SF = 118,680SF
DEV. DATA HALL - 6 @ 19,780 SF = 118,680 SF
MECH GALLERY - 24 @ 3,536 SF = 84,860 SF
UPS - 30 @ 2,275 SF =68,250 SF
OPEN OFFICE - 5,100 SF + 8,220 SF + 4 @ 9420 SF = 51,000 SF
MISC. -118,970 SF

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- PRODUCTION DATA HALL - BACKUP POWER GENERATION PROVIDED FOR 100% OF LOAD
- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

Project Number: 19110.0000

SKYBOX CORGAN RUTH AND GOING, INC. CRITICAL kw REED ASSOCIATES LANDSCAPE ARCHITECTURE

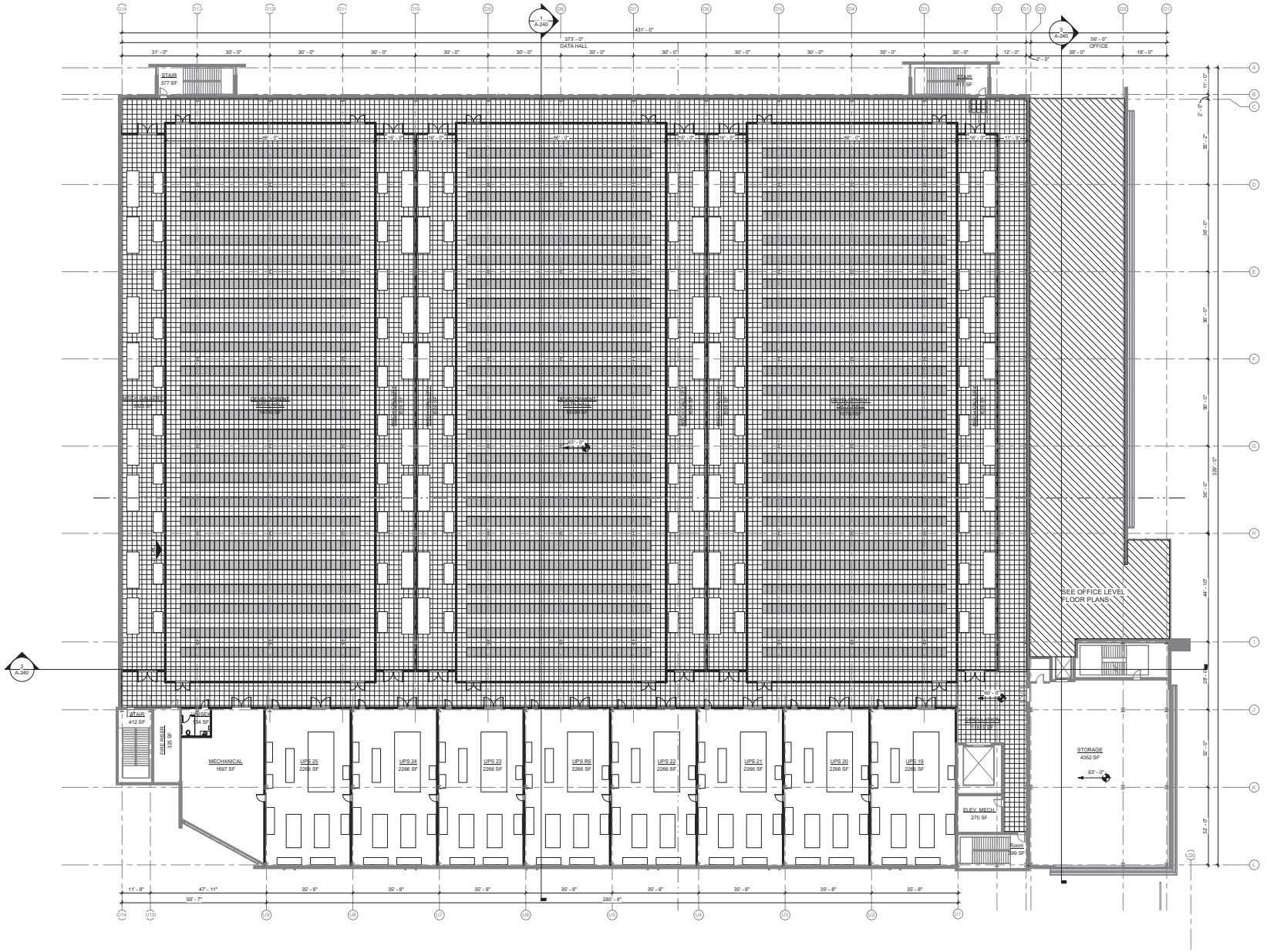
LEVEL 3 FLOOR PLAN - MP

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No.C-013099 REGISTERED CIVIL ENGINEER STATE OF CALIFORNIA 4/9/2020

DATA HALL OFFICE LD

A-223



PROPOSED

LOT SIZE - 400,038± SF - 9.18 ACRES

2 PROPOSED BUILDINGS - TYPE IIA
BUILDING 1 - STORAGE II - 4 STORIES @ 118,230± SF GROSS - 472,920 SF±
PARAPET - 87'0" MID SLOPE OF ROOF - 83' 6"
BUILDING 2 - STORAGE II - 6 STORIES @ 14,585± SF GROSS - 87,520 SF±
PARPAET - 870" MID SLOPE OF ROOF - 83' 6"

FAR - 1.40
LOT COVERAGE - 143,300± SF - 36%
OUTDOOR EQUIP STORAGE - 22,300± SF - 6%

GROSS BUILDING - 560,440± SF
PROD. DATA HALL - 6 @ 19,780 SF = 118,680SF
DEV. DATA HALL - 6 @ 19,780 SF = 118,680 SF
MECH GALLERY - 24 @ 3,536 SF = 84,860 SF
UPS - 30 @ 2,275 SF =68,250 SF
OPEN OFFICE - 5,100 SF + 8,220 SF + 4 @ 9420 SF = 51,000 SF
MISC. -118,970 SF

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- PRODUCTION DATA HALL - BACKUP POWER GENERATION PROVIDED FOR 100% OF LOAD
- DEVELOPMENT DATA HALL - NO BACKUP POWER GENERATION PROVIDED.

Project Number: 19110.0000

SKYBOX · CORGAN · RUTH AND GOBU, INC. · CRITICAL · kW · REED ASSOCIATES

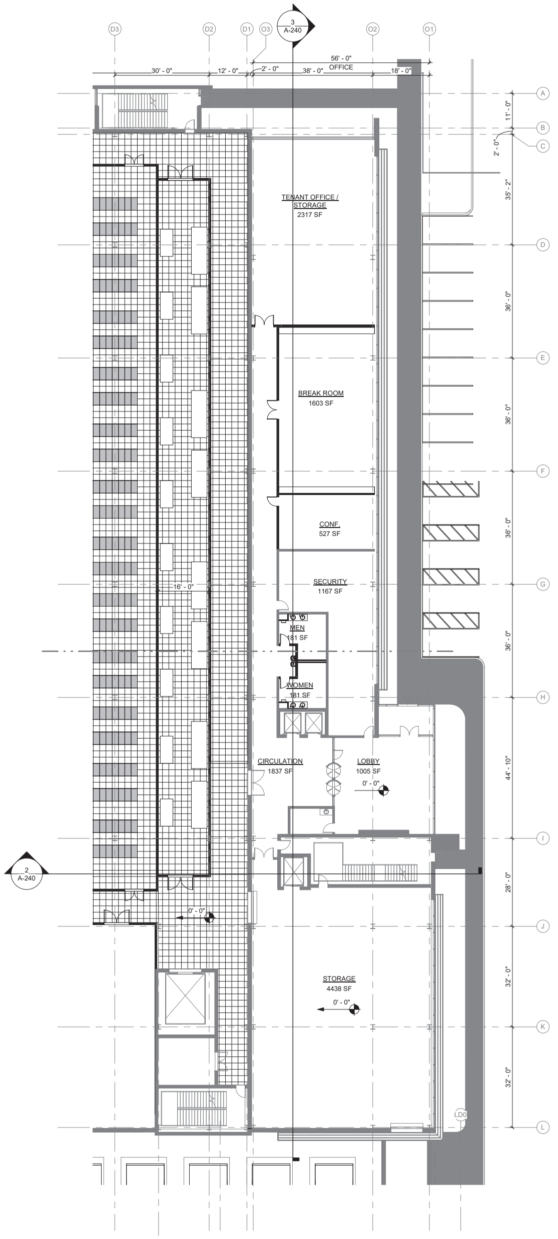
LEVEL 4 FLOOR PLAN - MP

1/16" = 1'-0"
04.09.2020

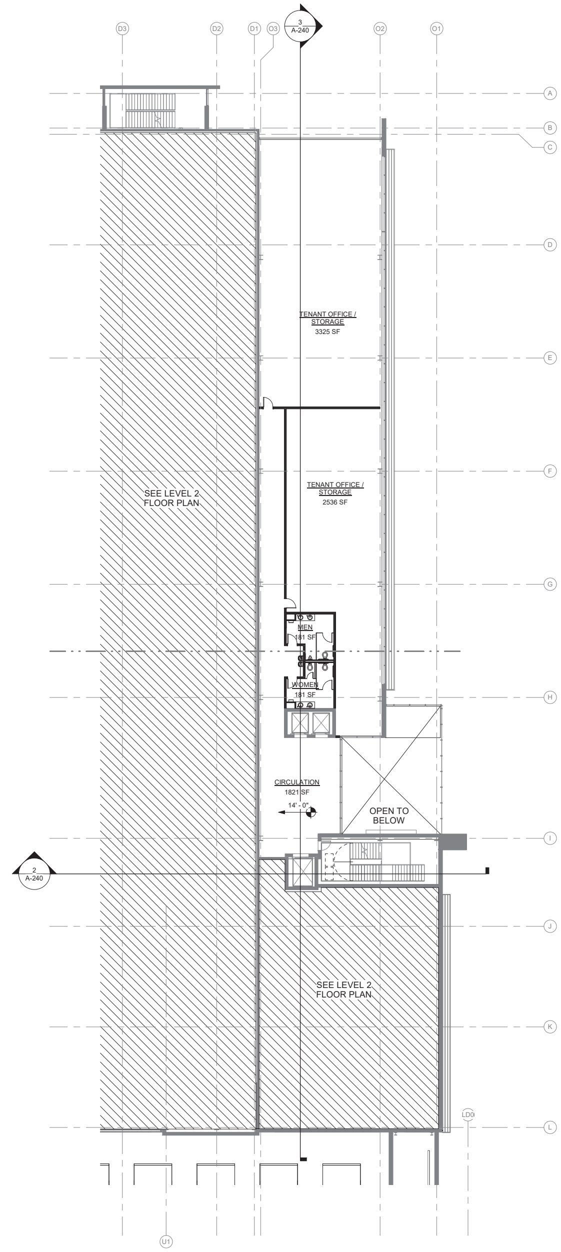
JEFFREY H. GYZEN No.C-013099 REGISTERED ARCHITECT STATE OF FLORIDA 4/9/2020

DATA HALL · OFFICE · LD

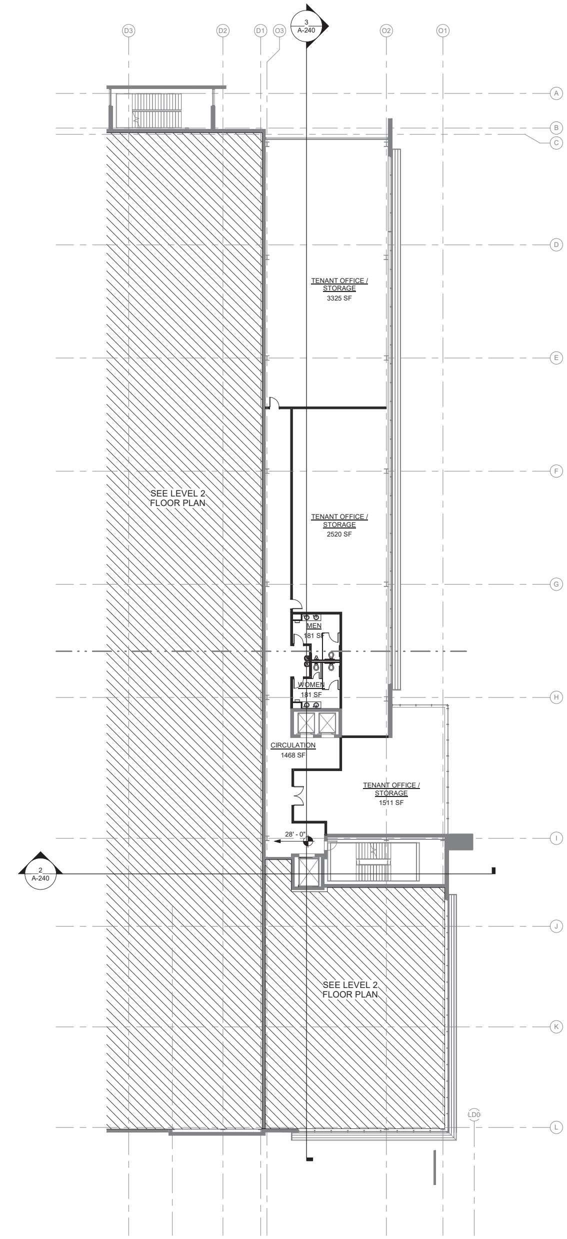
A-224



1 LEVEL 1 FLOOR PLAN - OFFICE - MP
1/16" = 1'-0"



2 LEVEL 1.5 FLOOR PLAN - OFFICE - MP
1/16" = 1'-0"



3 LEVEL 2.5 FLOOR PLAN - OFFICE - MP
1/16" = 1'-0"

Project Number: 19110.0000

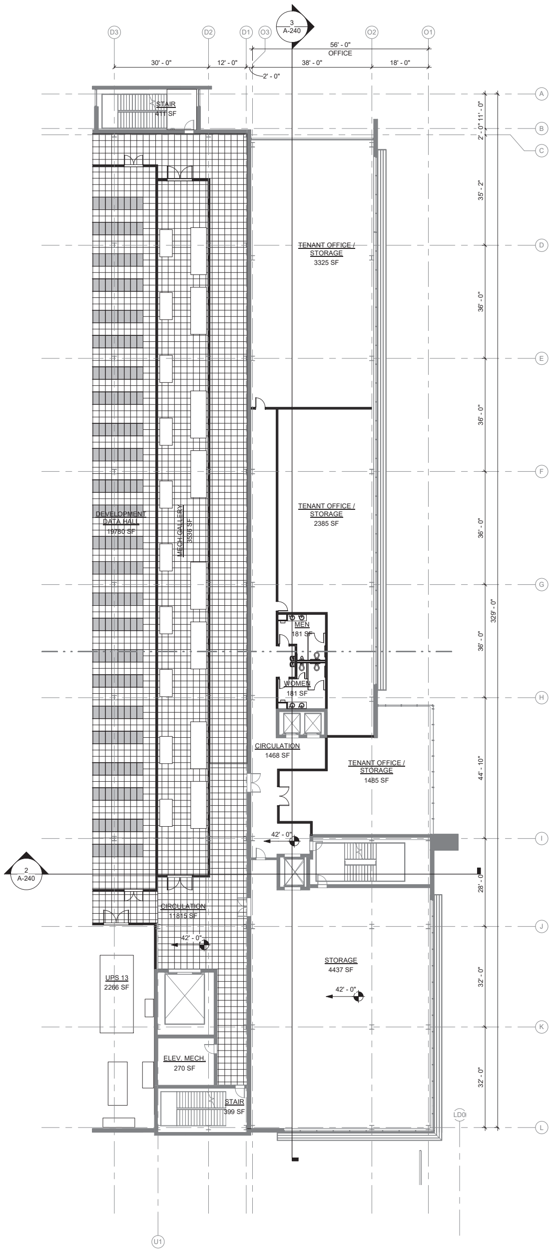
SKYBOX CORGAN RG CRITICAL kW REED ASSOCIATES

OFFICE LEVEL - FLOOR PLANS - MP

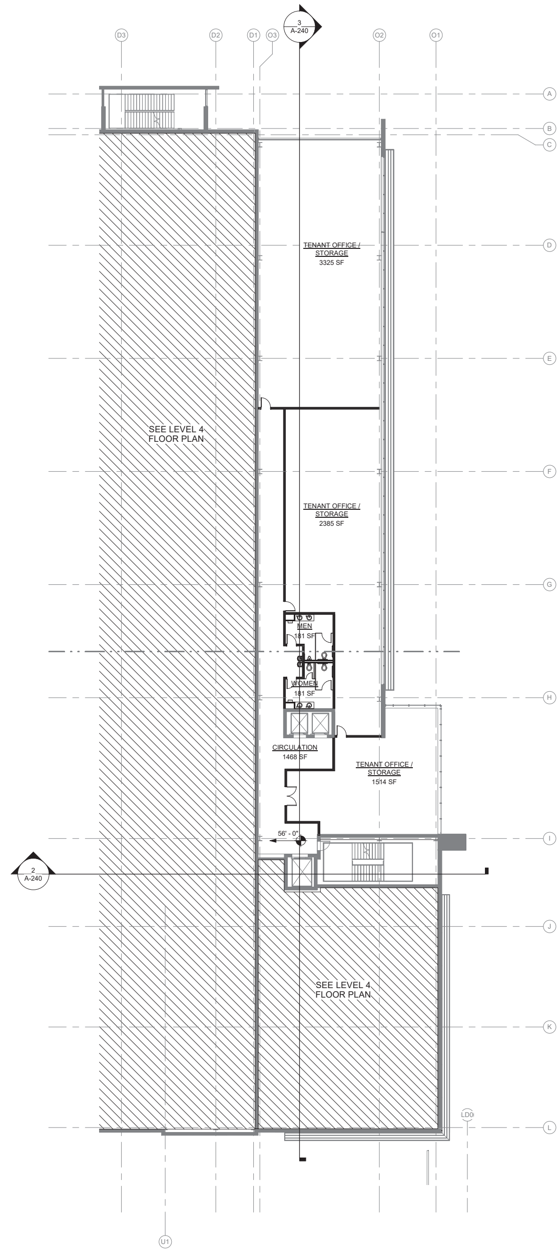
1/16" = 1'-0"
04.09.2020

DATA HALL | OFFICE | LD

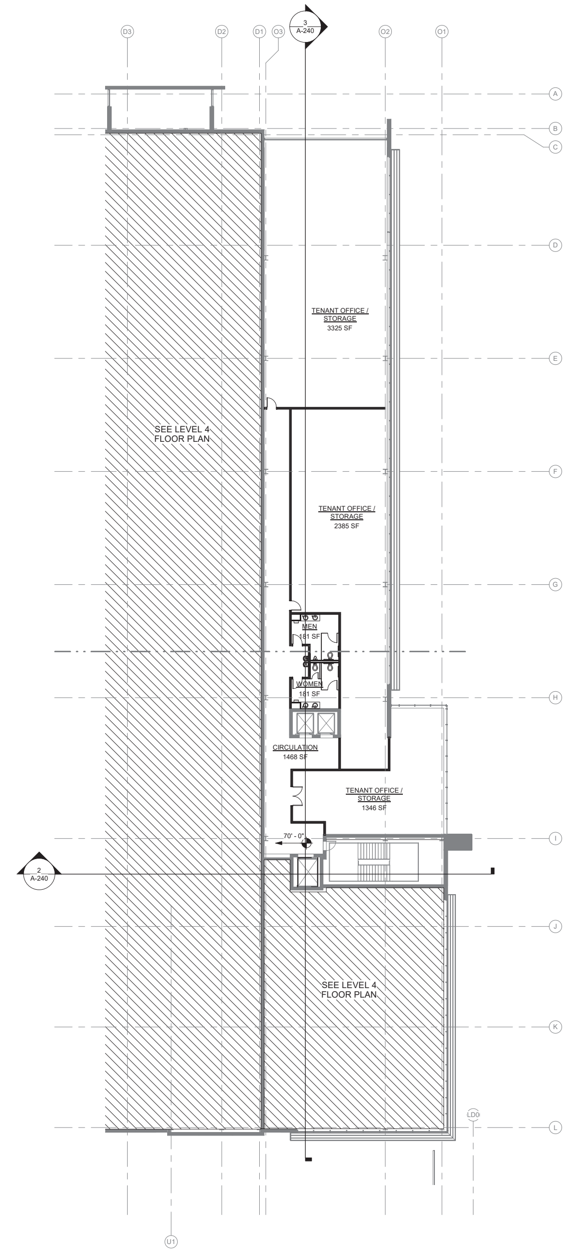
A-225



1 LEVEL 3 FLOOR PLAN - OFFICE - MP
1/16" = 1'-0"



2 LEVEL 3.5 FLOOR PLAN - OFFICE - MP
1/16" = 1'-0"



3 LEVEL 4.5 - FLOOR PLAN OFFICE - MP
1/16" = 1'-0"

Project Number: 19110.0000

SKYBOX CORGAN R·G CRITICAL kW REED ASSOCIATES

OFFICE LEVEL - FLOOR PLANS - MP

1/16" = 1'-0"

04.09.2020

DATA HALL | OFFICE | LD

A-226

Project Number: 19110.0000

SKYBOX

CORGAN

RG RUTH AND GORAL, INC.

CRITICAL

kW

REED ASSOCIATES

ROOFTOP EQUIPMENT PLAN - MP

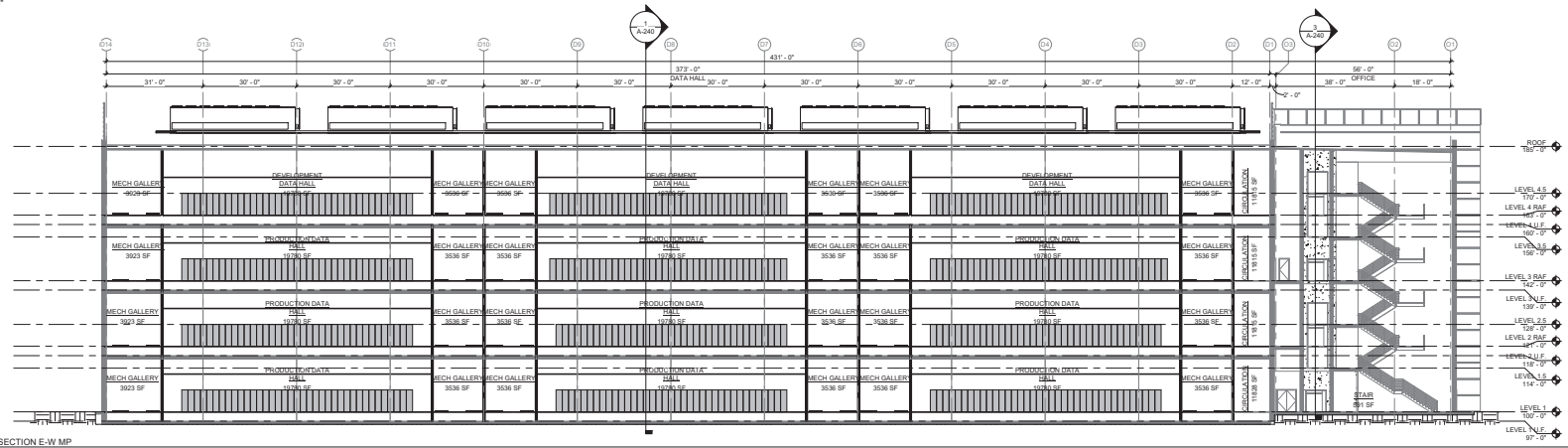
1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN
No.C-013099
REGISTERED
ARCHITECT
STATE OF FLORIDA
4/9/2020

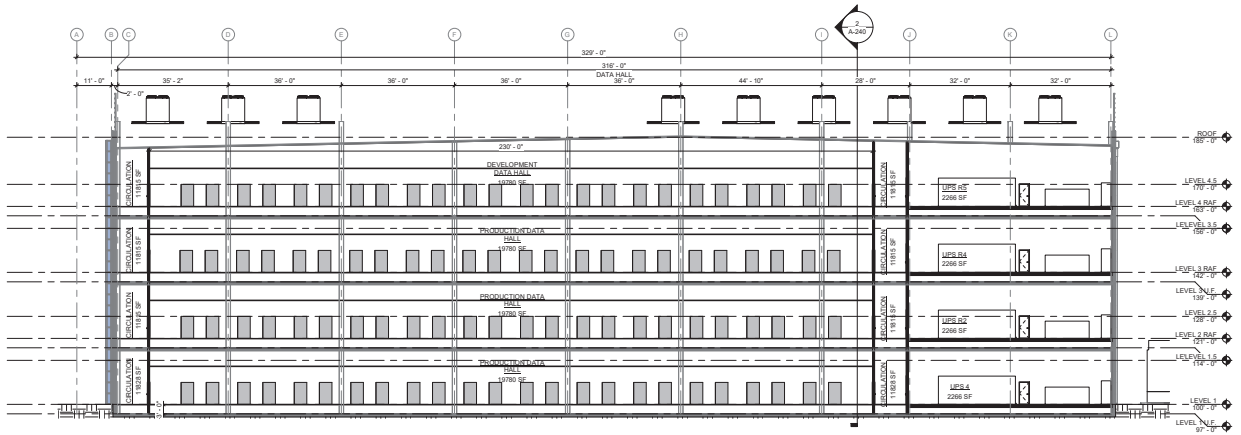
DATA HALL
OFFICE
LD

A-230

3 OFFICE SECTION - N-S MP
1/16" = 1'-0"



2 BUILDING SECTION E-W MP
1/16" = 1'-0"



1 BUILDING SECTION N-S MP
1/16" = 1'-0"

Project Number: 19110.0000

SKYBOX
CORGAN
RUTH AND GOING, INC.
CRITICAL
kW
REED ASSOCIATES LANDSCAPE ARCHITECTURE

BUILDING SECTION - MP

1/16" = 1'-0"
04.09.2020

JEFFREY H. GYZEN No. C-013099 REGISTERED ARCHITECT STATE OF CALIFORNIA
4/9/2020

DATA HALL
OFFICE

A-240

ONE LINE

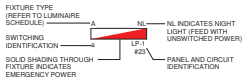
- CIRCUIT BREAKER 3 POLE OR AS NOTED
- DRAW OUT CIRCUIT BREAKER 3 POLE OR AS NOTED
- MEDIUM VOLTAGE LOAD INTERRUPTER
- MEDIUM VOLTAGE FAULT INTERRUPTER
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH 3 POLE OR AS NOTED
- SURGE PROTECTIVE DEVICE
- AC-DC INVERTER / RECTIFIER
- DC-AC INVERTER
- 5000-3-CU — FEEDER TAG - REFER TO SCHEDULES
- GROUND
- FUSE - SIZE IN AMPERES
- DIESEL GENERATOR
- C41 — MOTOR OR OTHER EQUIPMENT ## INDICATES HORSEPOWER UON
- 3 PHASE TRANSFORMER DELTA PRIMARY Δ GROUNDED WYE SECONDARY
- CURRENT TRANSFORMERS
- POTENTIAL TRANSFORMER
- POM — POWER QUALITY METER
- PM — POWER METER
- SURGE ARRESTER
- TRANSFER SWITCH AUTOMATIC OR MANUAL AS INDICATED
- PANEL BOARD - NAME, VOLTAGE, AND MCB CONFIGURATION AS NOTED
- DISTRIBUTION PANEL, NAME AND RATINGS AS INDICATED
- DC BATTERY
- STATIC TRANSFER SWITCH
- K1 — BREAKER ABLE TO CLOSE AND KEY WILL BE HELD CAPTIVE
- K1 — BREAKER LOCKED OPEN AND KEY ABLE TO BE REMOVED
- K1 / K1 / K1 — KEY TRANSFER BLOCK
- TAP BOX
- K1 — ADJUSTABLE SPEED DRIVE
- CONTINUATION
- # — KEYED NOTE CALLOUT

LIGHTING

- $x — SINGLE POLE SWITCH; WALL MTD. 48" AFF TO CL UON LOWER CASE LETTER INDICATES SWITCHING ZONE
- $3 — SWITCH-THREE WAY; WALL MTD. 48" AFF TO CL UON
- $4 — SWITCH- FOUR WAY; WALL MTD. 48" AFF TO CL UON
- $D — DIMMING LIGHT SWITCH; WALL MTD. 48" AFF TO CL
- $LS — SINGLE POLE SWITCH FOR CONTROL OF LIFE SAFETY LIGHTS; WALL MTD. 48" AFF TO CL
- $OS — OCCUPANCY SENSOR WALL SWITCH; WALL MTD. 48" AFF TO CL "x,s" INDICATES DUAL-SWITCH, DUAL-RELAY STYLE
- OCCUPANCY SENSOR; CEILING MTD. UON
- R EM — EMERGENCY SHUNT RELAY

NOTE: IN CORRIDORS, WHERE SWITCHES ARE INSTALLED ON DRYWALL WITH REVEALS, LOWER SWITCH MOUNTING HEIGHT TO 42" TO COORDINATE WITH REVEAL.

TYPICAL FIXTURE TAGS



POWER

- RECEPTACLE - SIMPLEX, 18" AFF TO CL UON
- RECEPTACLE - DUPLEX, 18" AFF TO CL UON
- RECEPTACLE - DUPLEX, 6" TO CL ABOVE COUNTER UON
- GFI — RECEPTACLE - DUPLEX, GFI, 18" AFF TO CL UON
- RECEPTACLE - DOUBLE DUPLEX, 18" AFF TO CL UON
- RECEPTACLE - DOUBLE DUPLEX, 6" TO CL ABOVE COUNTER UON
- GFI — RECEPTACLE - DOUBLE DUPLEX, GFI, 18" AFF TO CL UON
- SPECIALTY RECEPTACLE - TYPE AS NOTED.
- FLUSH FLOOR BOX, ADDITIONAL REQUIREMENTS AS INDICATED
- E — EQUIPMENT CONNECTION, REFER TO ELEC. EQUIP. AND CONTROL SCHEDULE
- J — JUNCTION BOX / MISC. EQUIPMENT CONNECTION
- DISCONNECT SWITCH (SAFETY SWITCH); X/X/X = AMP RATING/PHASE/FUSE SIZE NF = NOT FUSED
- F C — DRY TYPE TRANSFORMER F = FLOOR MOUNTED C = CEILING MOUNTED (OVERHEAD)

FIRE ALARM

- F — FIRE ALARM MANUAL PULL STATION - MOUNTED AT 48" AFF TO CENTER OF BOX
- FIRE ALARM HORN/STROBE UNIT*
- FA HX cd — CEILING MOUNTED FIRE ALARM HORN/STROBE UNIT*
- FIRE ALARM STROBE UNIT - MOUNTED AT 80" AFF TO THE BOTTOM OF THE LENS, OR CEILING MOUNTED WHERE INDICATED
- S — SMOKE DETECTOR - PHOTOELECTRIC UON. MOUNTED TO CEILING OR STRUCTURAL DECK UON.
- HEAT DETECTOR, COMBINATION RATE-OF-RISE / 135 DEG F UON
- S D — DUCT TYPE SMOKE DETECTOR WITH HOUSING**
- MM — ADDRESSABLE MONITORING MODULE***
- CM — ADDRESSABLE CONTROL MODULE
- ASSD SAMPLING POINT
- BF — SUBSCRIPT TYPE BF - BELOW RAISED FLOOR
- AC — SUBSCRIPT TYPE AC - ABOVE SUSPENDED CEILING, OR AT STRUCTURE WHERE NO CEILING PROVIDED
- FACP — FIRE ALARM CONTROL PANEL; MOUNTED AT 60" AFF TO CENTER OF BOX
- FRA — FIRE ALARM REMOTE ANNUNCIATOR CABINET; MOUNTED AT 60" AFF TO CENTER OF BOX
- NAC — NOTIFICATION APPLIANCE CIRCUIT PANEL
- ASSC — AIR SAMPLING SMOKE DETECTOR CONTROL PANEL; MOUNTED AT 60" AFF TO CENTER OF BOX UNLESS OTHERWISE NOTED
- RTS — REMOTE LED / TEST STATION FOR DUCT DETECTOR
- * — ALL AUDIBLE DEVICES SHALL BE MUTLI-TAP dB; LEVEL SHALL BE HIGHEST TAP UON.
- ** — DUCT DETECTORS ARE FURNISHED BY MECHANICAL CONTRACTOR, MOUNTED BY MECHANICAL CONTRACTOR, AND WIRED BY ELECTRICAL CONTRACTOR
- *** — FLOW, TAMPER AND PRESSURE SWITCHES ARE PROVIDED BY SPRINKLER CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR
- S AS — AIR SAMPLING SMOKE DETECTOR
- S BR — BEAM TYPE SMOKE DETECTOR - RECEIVER
- S BT — BEAM TYPE SMOKE DETECTOR - TRANSMITTER
- AUDIBLE NOTIFICATION FOR FIRE ALARM
- HEAT DETECTOR - RATE OF RISE
- HEAT DETECTOR - LINE TYPE
- F — HEAT DETECTOR - FIXED TEMPERATURE

GROUNDING

- GROUND BAR
- EQUIPMENT GROUND CONNECTION
- FUTURE EQUIPMENT GROUND CONNECTION
- GROUND ROD
- GROUND TEST WELL
- UNDERGROUND EXOTHERMIC WELD
- PEDESTAL BOND
- GROUND LOOP
- EQUIPMENT GROUNDING OVERHEAD
- EQUIPMENT GROUNDING UNDER SLAB

LIGHTNING PROTECTION

- CLASS 1 AIR TERMINAL, 1/2" DIA. SOLID ALUMINUM WITH SAFETY TIP.
  TYPE "A" UNLESS OTHERWISE NOTED:
  - TYPE "A": 18"L, ADHERED TO INNER SIDE OF PARAPET
  - TYPE "B": 24"L, ADHERED DIRECTLY TO ROOF
- CLASS 1 ALUMINUM LIGHTNING CONDUCTOR, MAIN SIZE EXCEPT WHERE BONDING CONDUCTORS ARE EXPLICITLY ALLOWED BY CODE :
  - MAIN CONDUCTOR: MINIMUM 102 LB PER 1000', 26 STRANDS #14 AWG
  - BONDING CONDUCTOR: MINIMUM 40 LB PER 1000', 10 STRANDS #14 AWG
- COPPER DOWN CONDUCTOR TO BURIED GROUND RING, CONCEALED IN SEAM OF PRE-CAST BUILDING PANELS

ABBREVIATIONS

A	AMPERES
A	ALTERNATE
AB	ABOVE
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AIC	AMPERE INTERRUPTING CAPACITY
ANN	ANNUNCIATOR
ASSD	AIR SAMPLING SMOKE DETECTION
AT	AMPERE TRIP
ASTS	AUTOMATIC STATIC TRANSFER SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BC/BF	DEVICES MOUNTED BELOW SUSPENDED CEILING AND BELOW RAISED FLOOR
BATT	BATTERY
BF	BELOW RAISED FLOOR
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CB	CIRCUIT BREAKER
C-BUS	CABLE BUS
CKT	CIRCUIT
CL	CENTER LINE
CLG	CEILING
CO	COMPANY
COL	COLUMN
COMM	COMMUNICATIONS
CONC	CONCRETE
CONN	CONNECTION, CONNECT
COORD	COORDINATE
CRAH	COMPUTER ROOM AIR HANDLER
CUH	CABINET UNIT HEATER
CT	CURRENT TRANSFORMER
CU	COPPER
Δ	DELTA CONNECTION
DB	DECIBEL
DC	DIRECT CURRENT
DET	DETECTOR
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DIV	DIVISION
DN	DOWN
DP	DISTRIBUTION PANEL
DWG	DRAWING
EA	EACH
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EL	ELEVATION
ELEC	ELECTRICAL)
ELU	EMERGENCY LIGHT UNIT
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EMH	ELECTRICAL MANHOLE
ENCL	ENCLOSURE
E.O.	ELECTRONICALLY OPERATED
EPMS	ELECTRICAL POWER MONITORING SYSTEM
EPO	EMERGENCY POWER OFF
EPR	ETHYLENE PROPYLENE RUBBER INSULATION
EQUIP	EQUIPMENT
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WALL HEATER
EXIST	EXISTING
EXT	EXTERIOR
F	FUSE(D)
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLA	FULL LOAD AMPERES
FLR	FLOOR
FLEX	FLEXIBLE
FLUOR	FLUORESCENT
FO	FIBER OPTIC
FTR	FUTURE
FURN	FURNISH
G, GND	GROUND
GALV	GALVANIZE(D)
GEN	GENERATOR
GFEP	GROUND FAULT EQUIPMENT PROTECTION (30MA)
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GPS	GLOBAL POSITIONING SYSTEM
HD	HEAVY DUTY
HGT	HEIGHT
HH	HAND HOLE
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
IC	INTERCOMMUNICATION
ID	IDENTIFY, IDENTIFICATION
IMC	INTERMEDIATE METAL CONDUIT
INCAN	INCANDESCENT
INSUL	INSULATION
IPS	INTERRUPTIBLE POWER SUPPLY
IR	PASSIVE INFRARED
JB	JUNCTION BOX
JCT	JUNCTION
KILO	THOUSAND
KA	KILO AMPERES
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERES
KVAR	KILOVARS
KV	KILOVOLTS
KW	KILOWATTS
LHD	LINEAR HEAT DETECTOR
LI	LONG TIME INSTANTANEOUS
LTG	LIGHTING
LT(S)	LIGHTS
MA	MILLIAMPERE
MAINT	MAINTAINED
MAN	MANUAL
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCS	MOLDED CASE SWITCH
MCCB	MOLDED CASE CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MEGA	MILLION
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MO	MANUALLY OPERATED
MTD	MOUNT(IED)
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
MW	MEGA WATTS
N	NORTH
NAC	NOTIFICATION APPLIANCE CIRCUIT
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NTF	NEUTRAL TIME PROTOCOL
NTS	NOT TO SCALE
OCPD	OVERCURRENT PROTECTIVE DEVICE
OH	OVERHEAD
OHD	OVERHEAD DOOR
OL	OVERLOAD
OS	OCCUPANCY SENSOR
P	POLE(S)
P	PREFERRED
PC	PHOTOCELL
PB	PUSHBUTTON
PDU	POWER DISTRIBUTION UNIT
PF	POWER FACTOR
PFR	PREFERRED
PL	PILOT LIGHT
PNL	PANEL
PQM	POWER QUALITY METER
PM	POWER METER
PR	PAIR
PREP	PREPARED
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE
PWR	POWER
ΔPH	PHASE
QTY	QUANTITY
RECEPT	RECEPTACLE
RECT	RECTIFIER
REFR	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL CONDUIT
RHW	EPR INSULATED WIRE
RM	ROOM
RMC	RIGID METALLIC CONDUIT
RPP	REMOTE POWER PANEL
SCH	SCHEDULE
SEC	SECONDARY
SFL	SUB-FEED LUGS
SKRU	SOLENOID KEY RELEASE UNIT
SHT	SHEET
ST	SHUNT TRIP
SPC	SPACE
SPKR	SPEAKER
SPR	SPARE
SQ	SQUARE
SS	STAINLESS STEEL
STP	SHIELDED TWISTED PAIR
SUSP	SUSPEND(ED)
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
T	TRAY
TYP	TYPICAL
U	ULTRASONIC
UC	UNDER COUNTER
UG	UNDERGROUND
UGC	UNDERGROUND COMMUNICATION
UGP	UNDERGROUND POWER
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT(S)
VA	VOLT-AMPERES
VAR	REACTIVE VOLT-AMPERES
VAV	VARIABLE AIR VOLUME
VRLA	VALVE REGULATED LEAD ACID
W	WIRE
W	WATTS
W/	WITH
WG	WIRE GUARD
WP	WEATHERPROOF
WT	WATERTIGHT
XP	EXPLOSION PROOF
XHHW	CROSS LINKED POLYETHYLENE INSULATED WIRE
XFMR	TRANSFORMER
Y	WYE CONNECTION

FEEDER NAMING SCHEME

MATERIAL LEGEND:

AL	ALUMINUM
CU	COPPER

CONVEYANCE LEGEND:

C-AG	ABOVE GRADE CONDUIT
C-BG	BELOW GRADE CONDUIT
C-BUS	CABLEBUS
MC	METAL CLAD CABLE
T	CABLE TRAY

LINE TYPE LEGEND

- NEW WORK
- FUTURE WORK
- EXISTING WORK

Project Number: 19.161

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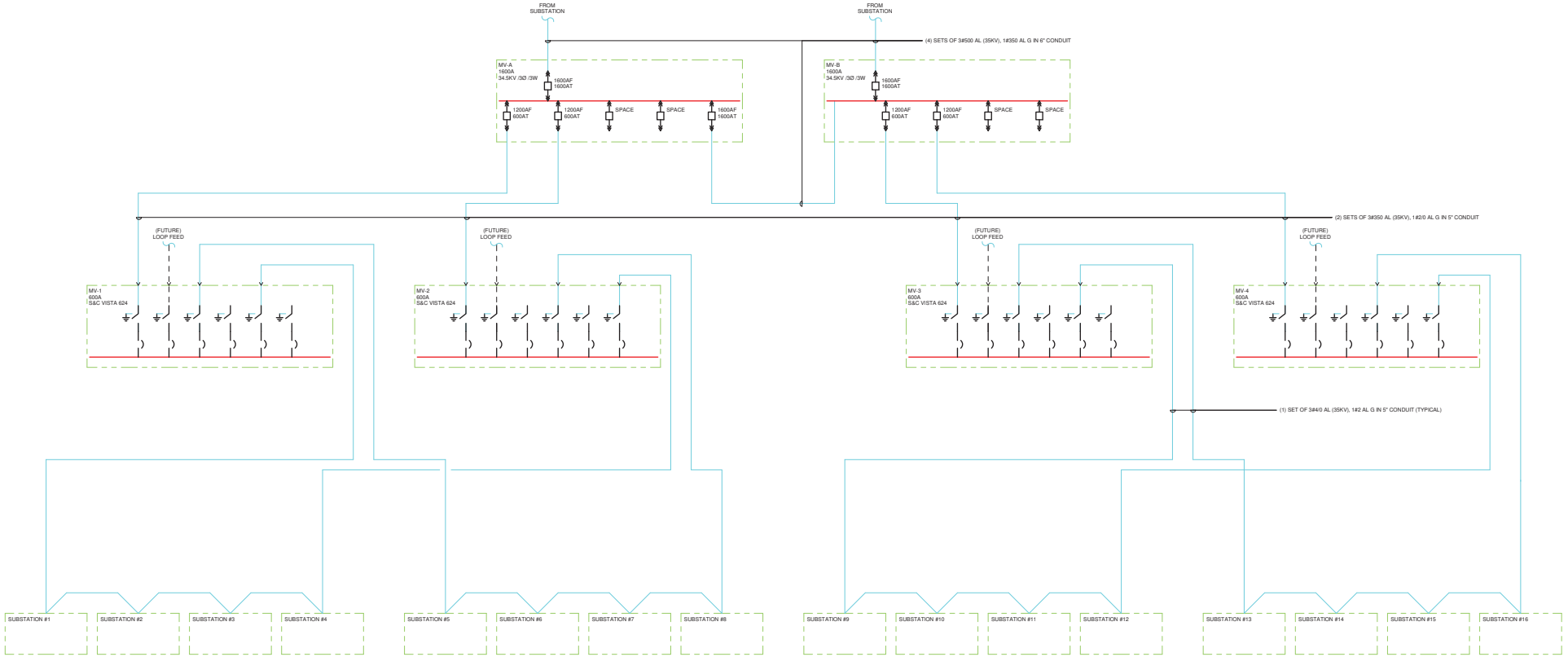
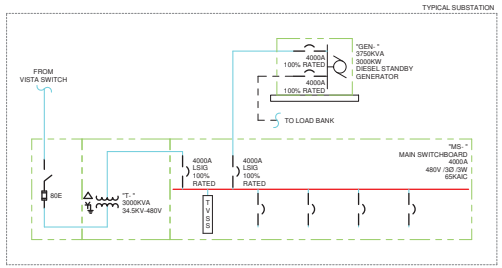
LEGEND AND ABBREVIATIONS

As indicated
04.09.2020

04/09/2020

E-100





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MV ONELINE

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03.17.2020

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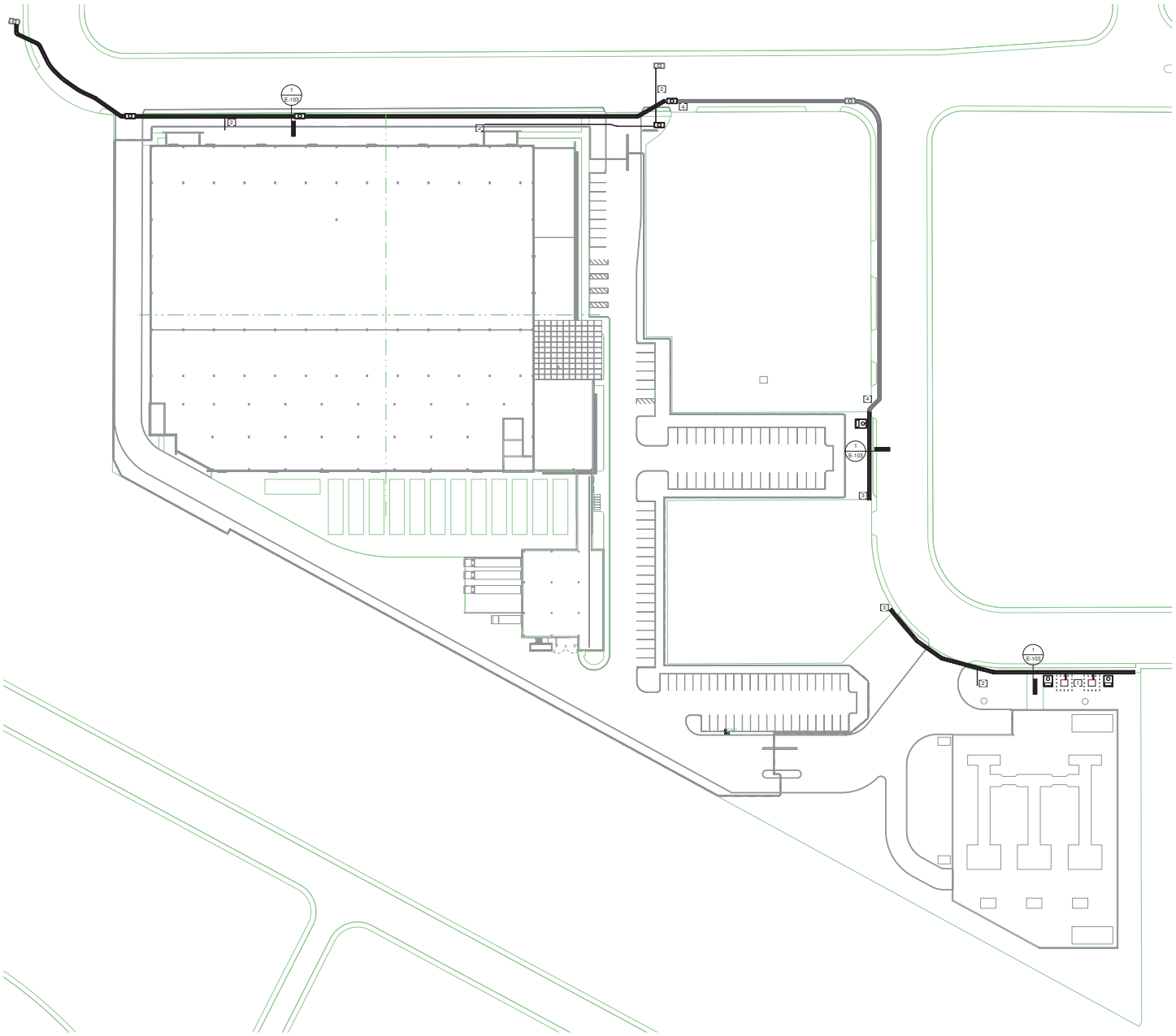
KEYED NOTES

1. PROVIDE TWO (2) SVP PM TRANSFORMER PADS IN VICINITY FOR SVP CONTROL ROOM POWER. DIVERSE 12KV SOURCES REQUIRED. REFERENCE SVP 'UG1000' FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE (1) 4"C FOR SVP FIBER OPTIC CONNECTION.
3. TIE INTO EXISTING DUCTBANK AT INDICATED LOCATION.
4. SCOPE OF WORK BY OTHERS.



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ELECTRICAL SITE ROUTING PLAN

1" = 40'-0"
03.17.2020

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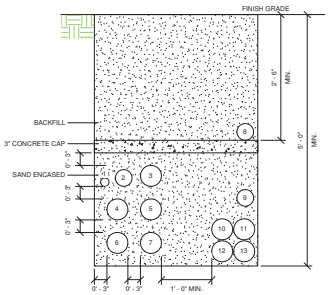

1. 2" STREET LIGHT CONDUIT
2. 4" UTILITY ELECTRIC CONDUIT
3. 5" SECONDARY CONDUIT
4. 5" PRIMARY CONDUIT
5. 5" PRIMARY CONDUIT
6. 5" PRIMARY CONDUIT
7. 5" PRIMARY CONDUIT
8. PG&E GAS
9. CATV
10. TELEPHONE CONDUITS
11. TELEPHONE CONDUITS
12. TELEPHONE CONDUITS
13. TELEPHONE CONDUITS

1 UTILITY DUCTBANK - SVP UG1000 - JOINT TRENCH
N.T.S.

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ELECTRICAL SITE DETAILS

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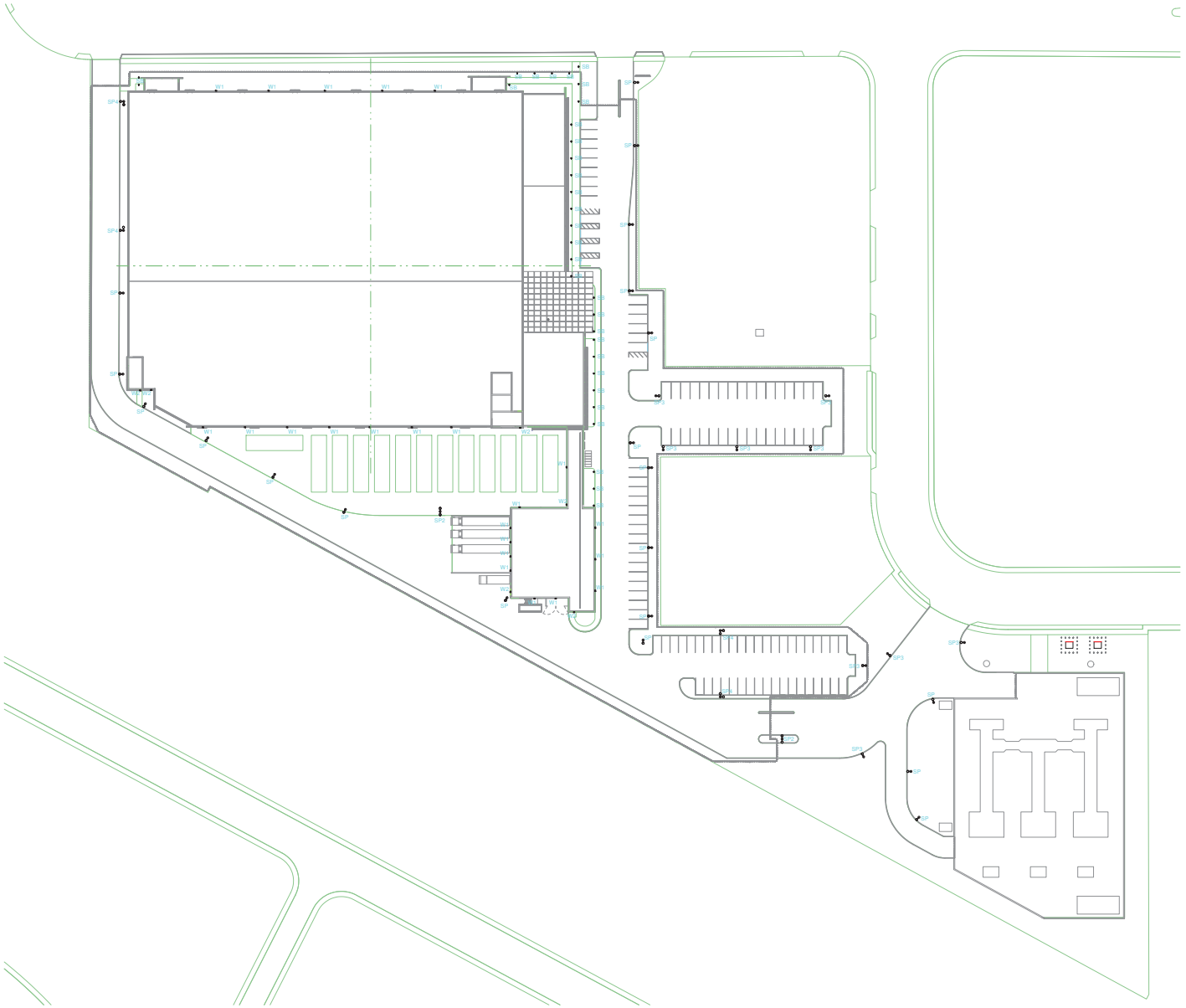

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ELECTRICAL SITE LIGHTING PLAN

1" = 40'-0"
03.17.2020

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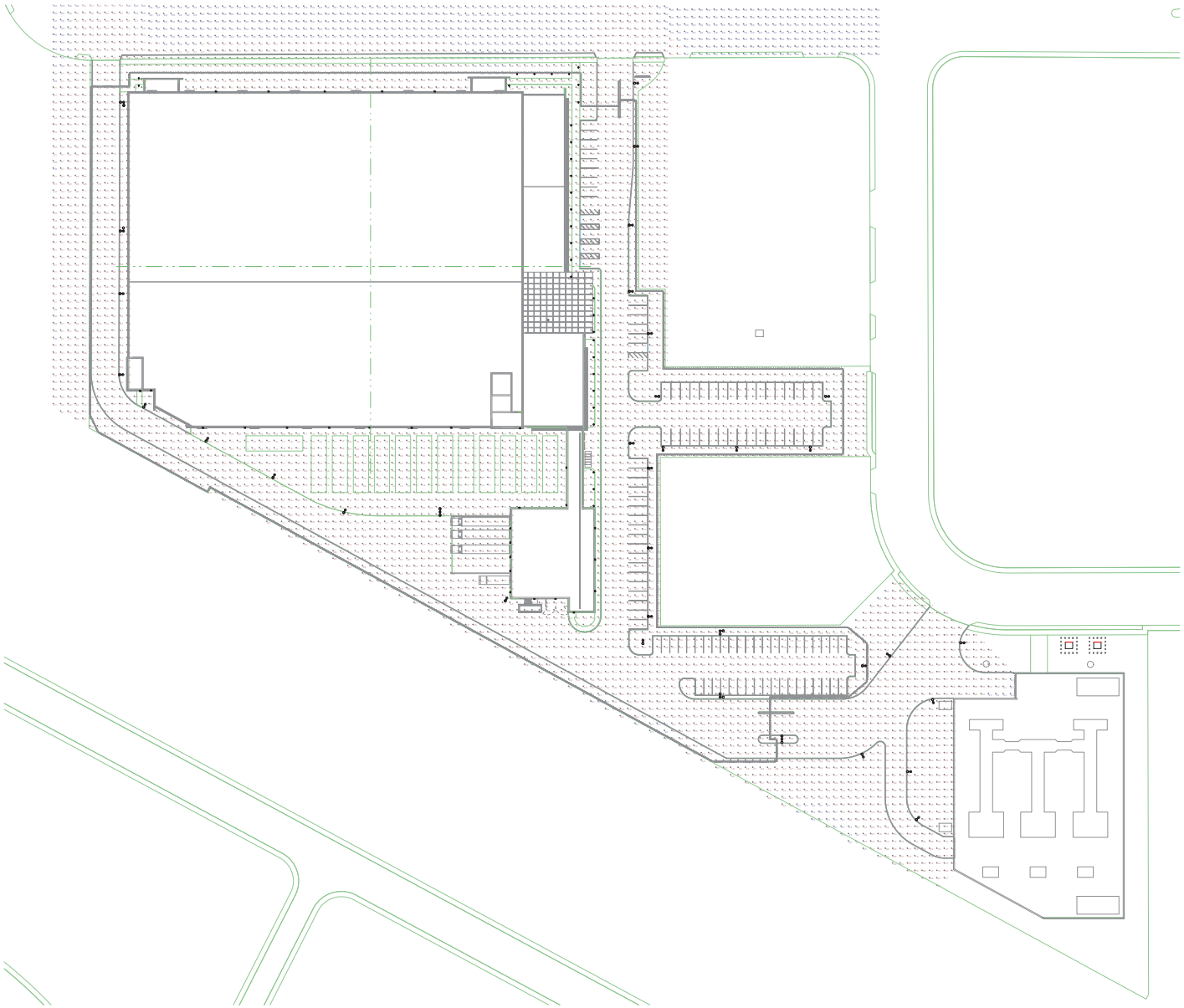
DATA HALL

OFFICE

E-104



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SITE LIGHTING PHOTOMETRICS

1" = 40'-0"

03.17.2020

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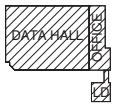

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LUMINAIRE SCHEDULE

FIXTURE TYPE	Manufacturer	Cat. No.	Description	Lamp Count	Lamp Type	Input Voltage	Wattage	Mounting
SB	LITHONIA	KBR8 LED 16C 530 40K SYM MVOLT	SPECIFICATION LED BOLLARD WITH SYMMETRIC DISTRIBUTION, 8" DIAMETER, 40" HEIGHT	1	4000K LED MODULE, 1598 LUMEN OUTPUT	MVOLT	28W	MOUNTED 3'-6" ABOVE FINISHED GRADE U.O.N.
SP	SIGNIFY GARDCO	H14L-48L-700-NW-G2-2	FORM TEN SQUARE AREA LED, 48 LED's, 4000K CCT, TYPE II OPTIC, GLASS LENS	1	4000K LED MODULE, 8476 LUMEN OUTPUT	277V	110W	POLE MOUNTED 25'-0" ABOVE FINISHED GRADE U.O.N.
SP2	SIGNIFY GARDCO	H14L-48L-700-NW-G2-2	FORM TEN SQUARE AREA LED, 48 LED's, 4000K CCT, TYPE II OPTIC, GLASS LENS TWO HEAD OPTION 180 DEGREE ORIENTATION	2	4000K LED MODULE, 8476 LUMEN OUTPUT	277V	110W	POLE MOUNTED 25'-0" ABOVE FINISHED GRADE U.O.N.
SP3	SIGNIFY GARDCO	H14L-48L-700-NW-G2-3	FORM TEN SQUARE AREA LED, 48 LED's, 4000K CCT, TYPE III OPTIC, GLASS LENS	1	4000K LED MODULE, 11446 LUMEN OUTPUT	277V	110W	POLE MOUNTED 25'-0" ABOVE FINISHED GRADE U.O.N.
SP4	SIGNIFY GARDCO	H14L-48L-700-NW-G2-2	FORM TEN SQUARE AREA LED, 48 LED's, 4000K CCT, TYPE II OPTIC, GLASS LENS TWO HEAD OPTION 90 DEGREE ORIENTATION	2	4000K LED MODULE, 8476 LUMEN OUTPUT	277V	110W	POLE MOUNTED 25'-0" ABOVE FINISHED GRADE U.O.N.
W1	LITHONIA	WST LED P1 40K VF MVOLT	EXTERIOR LED WALL MOUNT, VISUAL COMFORT, FORWARD THROW	1	4000K LED MODULE, 1500 LUMEN OUTPUT	MVOLT	12W	MOUNTED 16'-0" ABOVE FINISHED FLOOR U.O.N.
W2	LITHONIA	WST LED P1 40K VF MVOLT	EXTERIOR LED DOOR PACK, VISUAL COMFORT, FORWARD THROW	1	4000K LED MODULE, 1500 LUMEN OUTPUT	MVOLT	12W	MOUNTED 1'-0" OVER DOOR U.O.N.

Project Number: 19.161

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LUMINAIRE SCHEDULE

03.17.2020

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