UNIVERSITY OF COLORADO
1135 BROADWAY
RENOVATION

BOULDER, COLORADO | 5.22.2020 | DESIGN REVIEW BOARD | POST SCHEMATIC DESIGN CHECK-IN

SD COMMENTS

SITE

- REMOVE TREE BLOCKING BUILDING SIGN - *COMPLETED*
- DOCUMENT EXTENT OF EXTERIOR SITE IMPROVEMENTS - *SEE BACK ALLEY VIEWS OF BASE SCOPE*
- CONSIDER SIGNAGE TO DIRECT VISITORS TO ENTRY - *ONGOING WORK WITH BUILDING USERS FOR ADDITIONAL DIECUT VINYL DOOR SIGNAGE*
- CONSIDER BOLLARDS ALONG COVERED SIDEWALK TO PROTECT DOOR SWINGS - *ONGOING WORK WITH BUILDING USERS TO ADDRESS SAFETY*

BUILDING

- IDENTIFY COLOR FOR BUILDING, ADDRESS MATERIALS AND CONSIDER ILLUMINATING VERTICAL WALL AT ENTRY TO ASSIST WITH WAYFINDING - *SEE EXTERIOR COLOR STUDIES AND MATERIAL IMAGES*
- WINDOWS - IDENTIFY STRATEGY FOR CONSISTENCY OF APPEARANCE OF WINDOWS - *WILL SUBMIT SAMPLES AND PHOTOS OF EXISTING GLASS AND PROPOSED GLASS WITH PROPOSED FILM IN DD PACKAGE*
- WINDOWS - CONSIDER OPERABLE WINDOWS - *A CHALLENGE TO OUR CAMPUS OPERATIONS AND NOT RECOMMENDED*

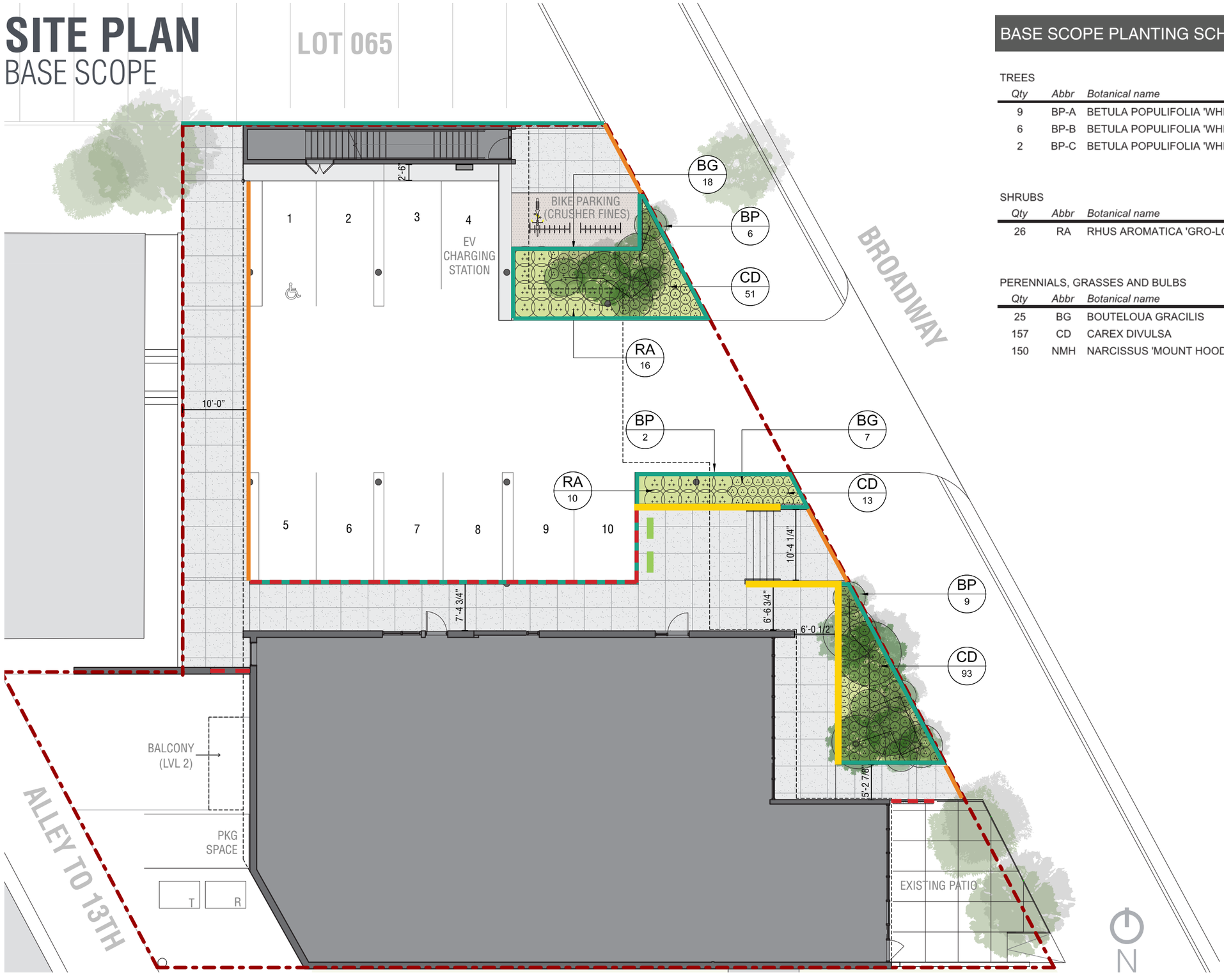
SUSTAINABILITY

- IDENTIFY ENERGY EFFICIENCY MEASURES SELECTED FOR INCLUSION - *SEE UPDATED MATRIX AND INFORMATION ON PROPOSED VRF ELECTRIC MECHANICAL SYSTEM, ENERGY MODEL UPDATE, AND EUI ANTICIPATED*
- WALL INSULATION DETAILS AND MITIGATION STRATEGY FOR AREAS OF GREATEST HEAT LOSS AND GAIN - *SEE CONSTRUCTION DETAIL PAGE IN PROGRESS*
- ENSURE DAYLIGHT HARVESTING STRATEGY AND LPD TARGET - *SEE REFLECTED CEILING PLAN AND DETAILS*
- SHOW PROPOSED MECHANICAL UNIT LOCATIONS ON THE ROOF AND POTENTIAL STRATEGY FOR ROOF PV'S - *SEE UPDATED ROOF PLAN*

MICRO-MASTERPLAN

BUS STOP
PROPERTY LINE
PEDESTRIAN CIRCULATION
VEHICULAR APPROACH

SITE PLAN
BASE SCOPE



BASE SCOPE PLANTING SCHEDULE

TREES

Qty	Abbr	Botanical name	Common name	Size
9	BP-A	BETULA POPULIFOLIA 'WHITESPIRE'	WHITESPIRE GREY BIRCH	10' - 12' Ht
6	BP-B	BETULA POPULIFOLIA 'WHITESPIRE'	WHITESPIRE GREY BIRCH	12' - 15' Ht
2	BP-C	BETULA POPULIFOLIA 'WHITESPIRE'	WHITESPIRE GREY BIRCH	15' - 20' Ht

SHRUBS

Qty	Abbr	Botanical name	Common name	Size
26	RA	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	15"- 18" Ht

PERENNIALS, GRASSES AND BULBS

Qty	Abbr	Botanical name	Common name	Size
25	BG	BOUTELOUA GRACILIS	BLUE GRAMA	1 gal
157	CD	CAREX DIVULSA	GRASSLAND SEDGE	1 gal
150	NMH	NARCISSUS 'MOUNT HOOD'	MOUNT HOOD NARCISSUS	8/+ cm

SITE ELEMENTS KEY

- HANDRAIL (34"- 42" VARIES)
- BOARD FORM CONCRETE WALL WITH RAILING
- BOARD FORM CONCRETE BENCH
- 6" CONCRETE CURB
- FLUSH CURB

ALLEY
BASE SCOPE

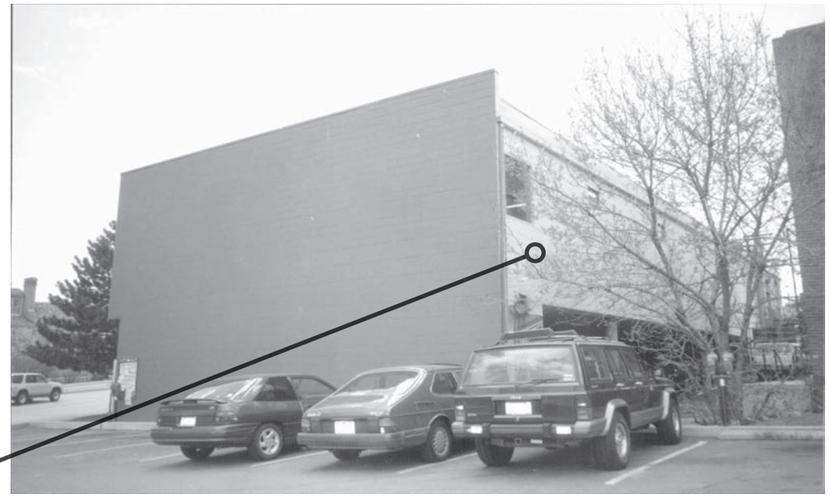
EXISTING PHOTOS

BUILDING EXTERIOR
HISTORIC PHOTOS

WHITE WEST FACADE

WHITE COLUMNS AND CEILING

GRAY MASONRY
AND PLENUM BAND WITH
SIGNAGE ON THE BAND



BUILDING EXTERIOR
COLOR STUDIES

1 ALL WHITE

2 ALL DIOR GRAY WITH WHITE CEILING IN COVERED PARKING

3 ALL DIOR GRAY WITH WHITE CEILING & WHITE ENTRY WALL

4 ALL DAYS END WITH WHITE CEILING & WHITE ENTRY WALL

COLORS

MOUNTAIN PEAK WHITE

DIOR GRAY

DAYS END

BUILDING EXTERIOR
OPTION 1

^ VIEW FROM BROADWAY
ALL WHITE

MATERIALS

MOUNTAIN PEAK WHITE

BUILDING EXTERIOR
OPTION 2

^ VIEW FROM BROADWAY

ALL DIOR GRAY WITH WHITE CEILING IN COVERED PARKING

MATERIALS

DIOR GRAY

MOUNTAIN PEAK WHITE

EXISTING BRONZE STOREFRONT

BUILDING EXTERIOR
OPTION 3

^ VIEW FROM BROADWAY

ALL DIOR GRAY WITH
WHITE CEILING & WHITE
ENTRY WALL

MATERIALS

BUILDING EXTERIOR
OPTION 4

^ VIEW FROM BROADWAY

ALL DAYS END WITH WHITE CEILING & WHITE ENTRY WALL

MATERIALS

SUSTAINABILITY
ENERGY CONSERVATION MEASURES

WINDOWS
REPLACE EAST WINDOWS WITH FAILED SEALS (APPROX 30%) WITH PPG SOLARBAN 70XL GLAZING
U=.27, SHGC=.3
ADD 3M NEUTRAL 35 FILM TO ALL WINDOWS ALONG BROADWAY
56% SOLAR ENERGY REJECTION

EXTERIOR CMU WALLS
SEAL EXTERIOR CRACKS AND ADD PERIMETER WALL FURRING WITH A THERMAL GAP AND 2" HEATLOK CI SPRAY FOAM INSULATION, R20 ASSEMBLY
AIR CHANGES PER HOUR (ACH) IMPROVEMENT OF .05

ENVELOPE INFILTRATION
SEAL EXTERIOR PENETRATIONS, ELIMINATE VOID AT PLENUM TRANSFER TO SPACE ABOVE PARKING, CAULK WINDOW SYSTEM, INSULATE PERIMETER OF ROOF WELL
AIR CHANGES PER HOUR (ACH) IMPROVEMENT OF .1

MECHANICAL SYSTEM
VARIABLE REFRIGERANT FLOW SYSTEM
TWO BANKS OF TWO CONDENSING UNITS EACH TO SERVE THE BUILDING
SINGLE, ALL-ELECTRIC DEDICATED OUTSIDE AIR SYSTEM WITH HEAT RECOVERY FOR MAKEUP AIR
ANNUAL MAINTENANCE BUDGET: APPROX $10,000
CONDENSING UNIT LIFESPAN: APPROX 15-20 YEAR

SUSTAINABILITY
ENERGY CONSERVATION RESULTS

ENERGY USE INTENSITY (TO BE MODELED FOR DD SUBMITTAL)

CURRENT:	67.2 KBTU/SF/YR
TARGETED:	60 KBTU/SF/YR
MODELED:	XXX KBTU/SF/YR

CARBON EMISSIONS (TO BE MODELED FOR DD SUBMITTAL)

CURRENT:	XXX TONS/YEAR
MODELED:	XXX TONS/YEAR
AFTER OFFSET BY ON SITE PV:	XXX TONS/YEAR

TOTAL ANNUAL ENERGY USAGE (TO BE MODELED FOR DD SUBMITTAL)

CURRENT:	XXX KWH/YR
MODELED:	XXX KWH/YR
CAPACITY OF ONSITE PV:	XXX KWH/YR

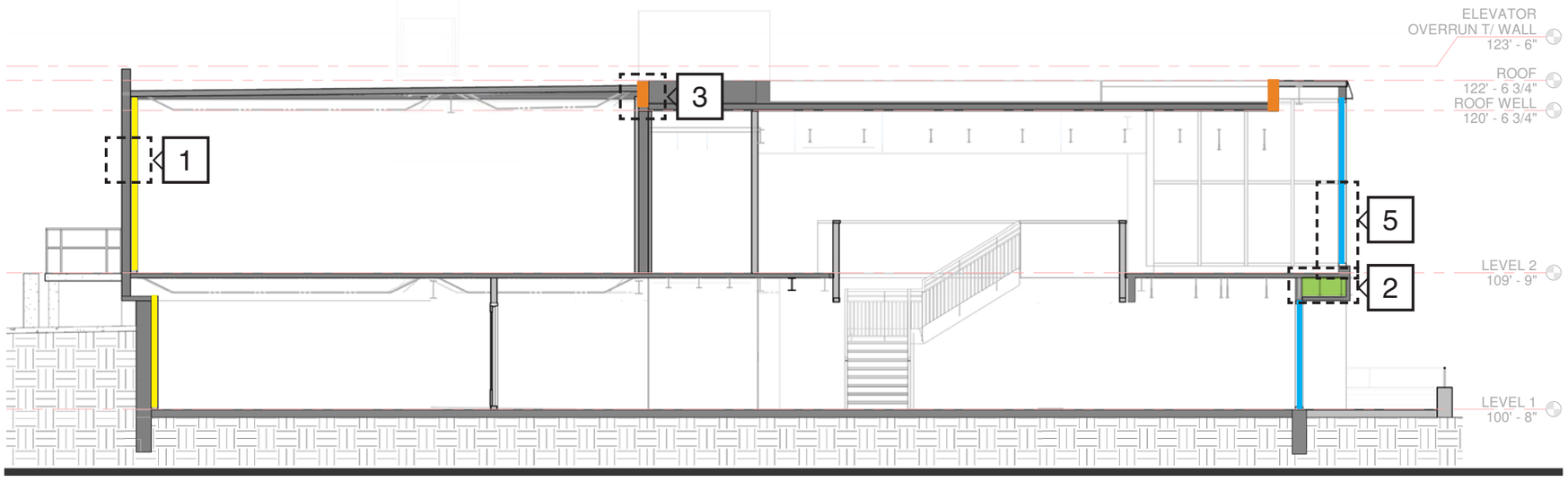
LIGHTING POWER DENSITY

CURRENT:	1.0 WATT/SF (ASSUMING T8 LIGHTING)
TARGETED:	.64 WATT/SF (ASHRAE 90.1 2019 BASELINE)
MODELED:	.49 WATT/SF (BASED ON TOTAL INTERIOR LIGHTING WATTAGE OF 60234 AS DESIGNED)

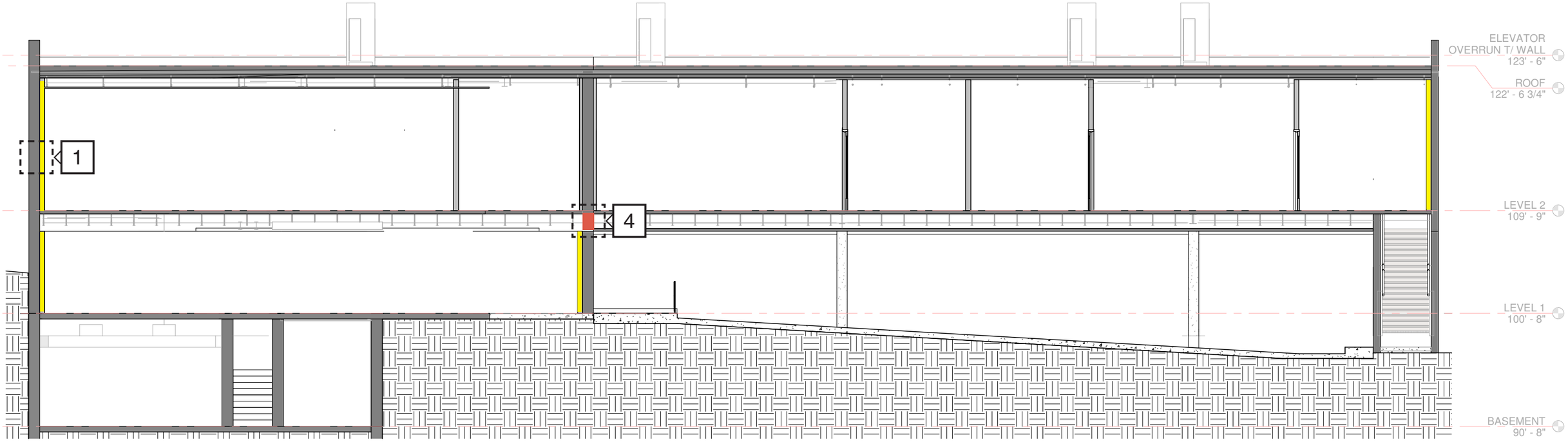
TOTAL ANNUAL ENERGY COST (TO BE MODELED FOR DD SUBMITTAL)

CURRENT:	$17,239
MODELED:	$XXX

SUSTAINABILITY
ENVELOPE IMPROVEMENTS



EAST - WEST BUILDING SECTION

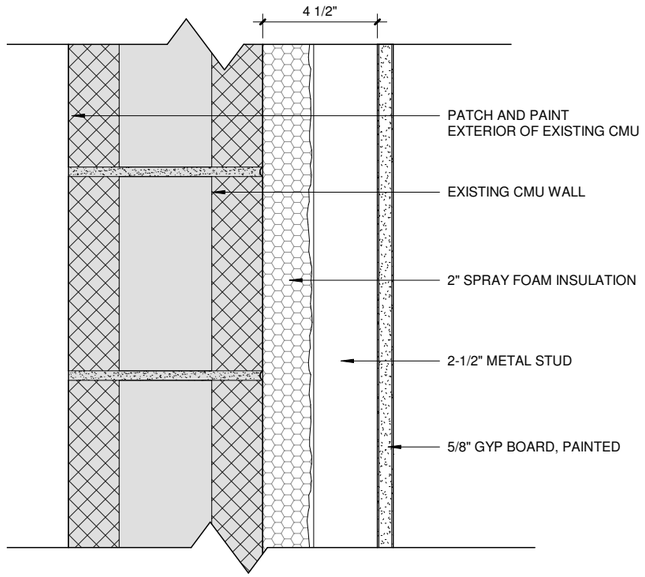


NORTH - SOUTH BUILDING SECTION

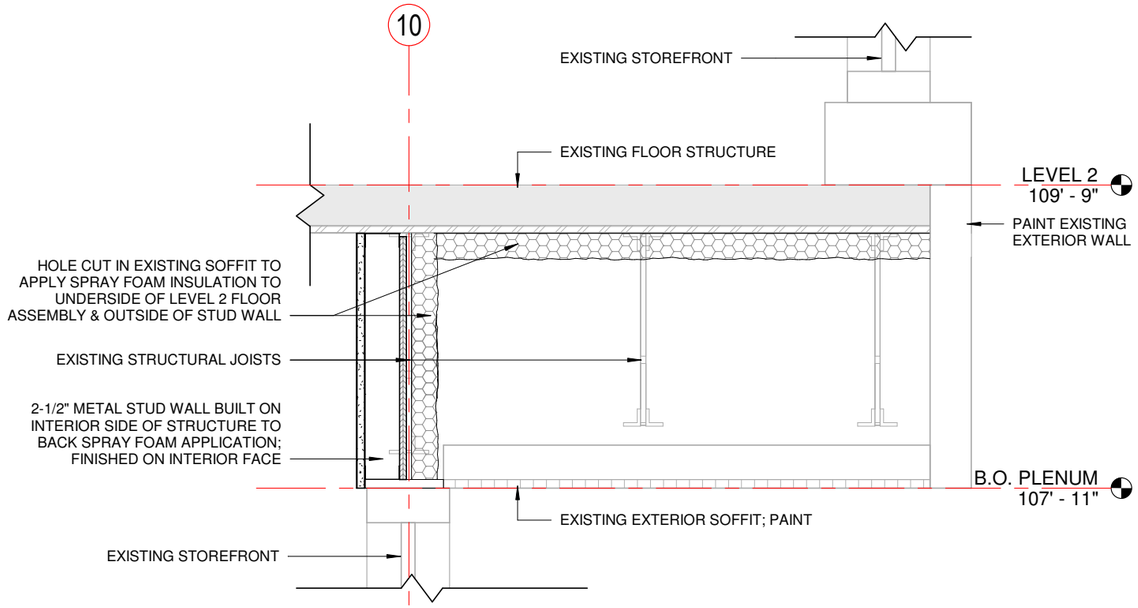
ENVELOPE IMPROVEMENTS KEY	DETAIL
SEAL, INSULATE & FUR CMU WALLS	1
INSULATE CANTILEVER	2
REPLACE BATT INSULATION	3
SEAL & WEATHERPROOF EXTERIOR PENETRATIONS	4
CAULK GAPS IN STOREFRONT & ADD FILM	5

SUSTAINABILITY
ENVELOPE IMPROVEMENT DETAILS

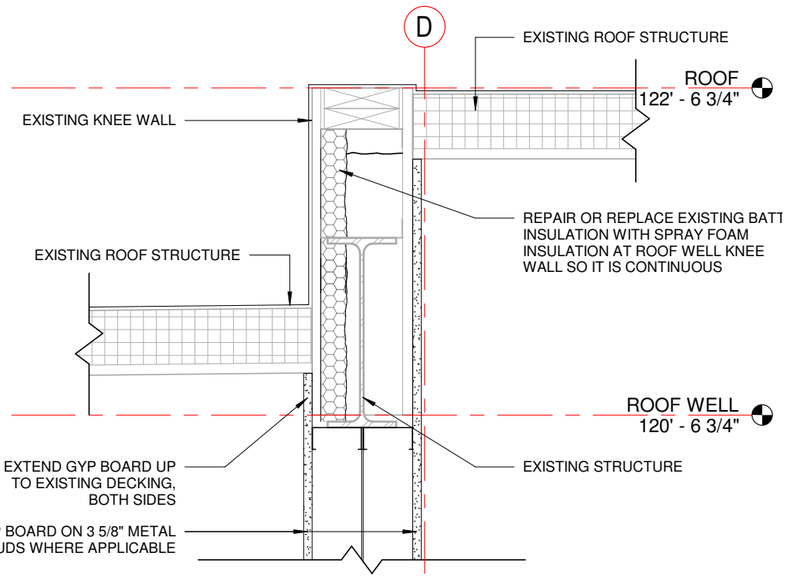
PLEASE NOTE: DETAILS ARE IN PROGRESS TO ADDRESS THERMAL BRIDGING



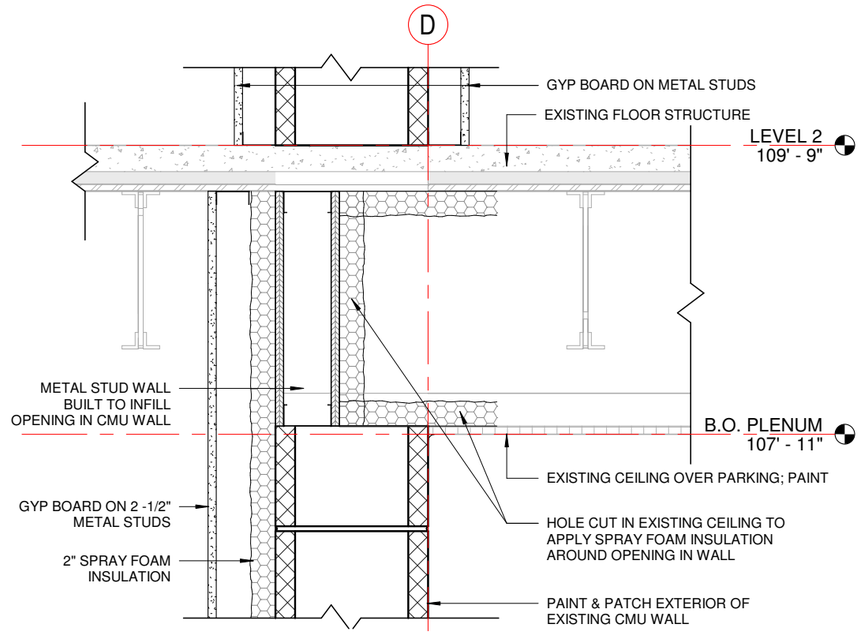
1 FURRING AT EXISTING CMU WALLS



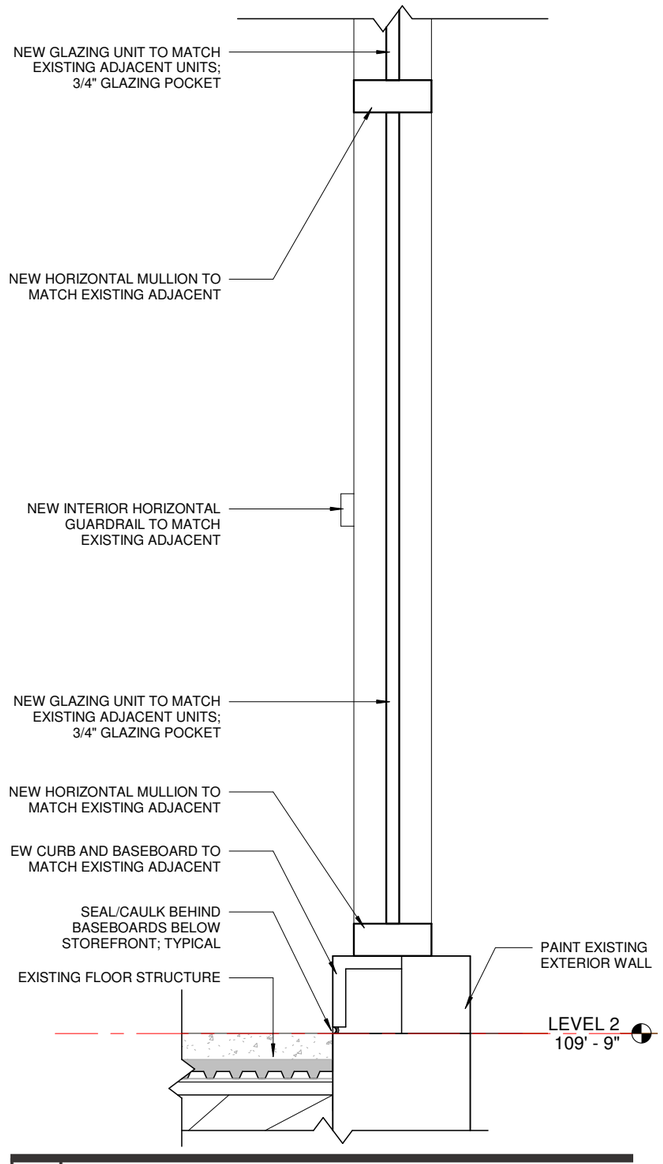
2 EXTERIOR SOFFIT



3 ROOF WELL KNEE WALL

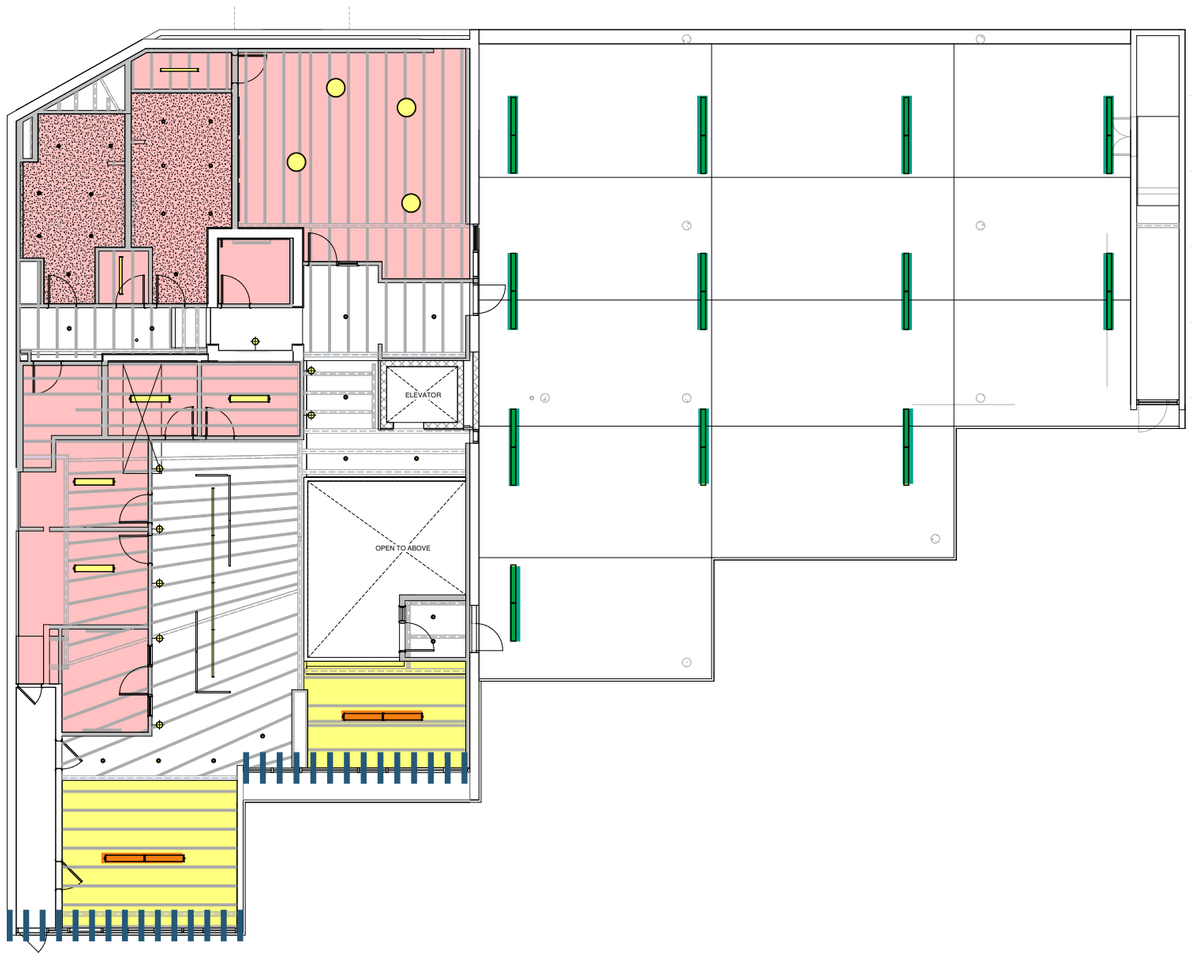


4 EXISTING EXTERIOR PENETRATION



5 SILL @ EXISTING STOREFRONT

SUSTAINABILITY
LIGHTING STRATEGY



LEVEL 1 REFLECTED CEILING PLAN

N

LEVEL 2 REFLECTED CEILING PLAN

N

LIGHTING POWER DENSITY:

CURRENT: 1.0 W/SF (ASSUMING MOSTLY T8 LIGHTING)

TARGET: .64 W/SF (ASHRAE 90.1 2019 BASELINE IS 0.64W/SF)

ACTUAL: .49 W/SF (BASED ON TOTAL INTERIOR LIGHTING WATTAGE OF 6034 AS DESIGNED)

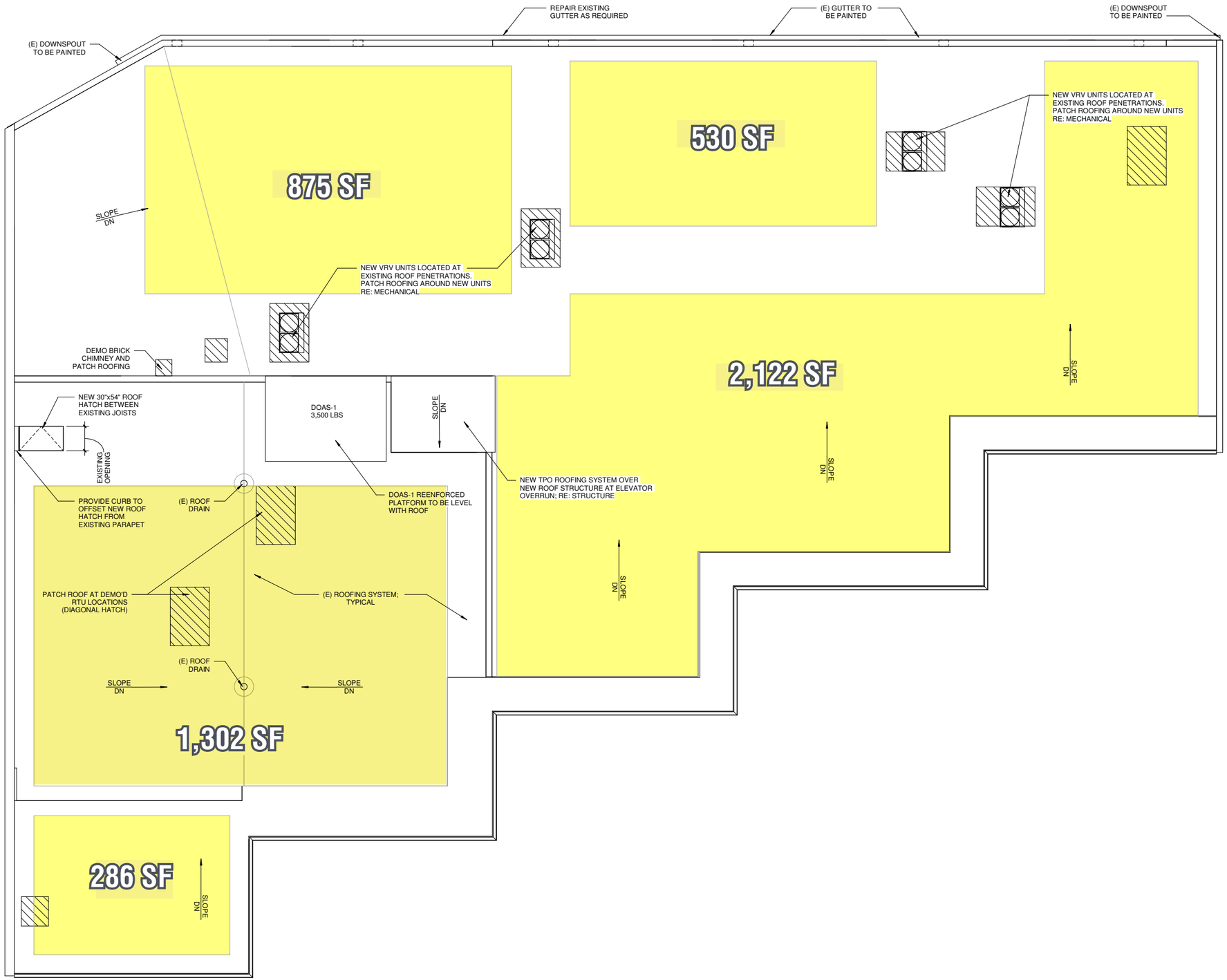
LIGHTING STRATEGY KEY

- DAYLIGHT HARVESTING ZONE
- DAYLIGHT SENSOR DIMMED FIXTURES
- ENCLOSED ROOMS / OCCUPANCY ZONE
- OCCUPANCY DIMMED SENSOR
- OCCUPANCY SENSOR CONTROLLED FIXTURES
- DAYLIGHT + OCCUPANCY SENSOR CONTROLLED
- FILM APPLIED TO EXISTING WINDOWS

SUSTAINABILITY
HIGH PERFORMANCE SYSTEMS

PV POTENTIAL

- 5,115 SF POTENTIAL PV AREA
- APPROXIMATELY 95,000 KWH/YR
- XXX% OF BUILDING LOAD
- STRUCTURAL LIMITATIONS WILL ALLOW UP TO 5% (2 LB/SF) ADDITIONAL ROOF LOADING WITHOUT TRIGGERING FURTHER ANALYSIS AND UPGRADES. BALLASTED SYSTEMS EXCEED THIS LOAD, SO A PV SYSTEM WOULD HAVE TO BE MOUNTED TO A SUPPORT STRUCTURE THAT IS ATTACHED DIRECT TO THE BUILDING STRUCTURE



ROOF PLAN

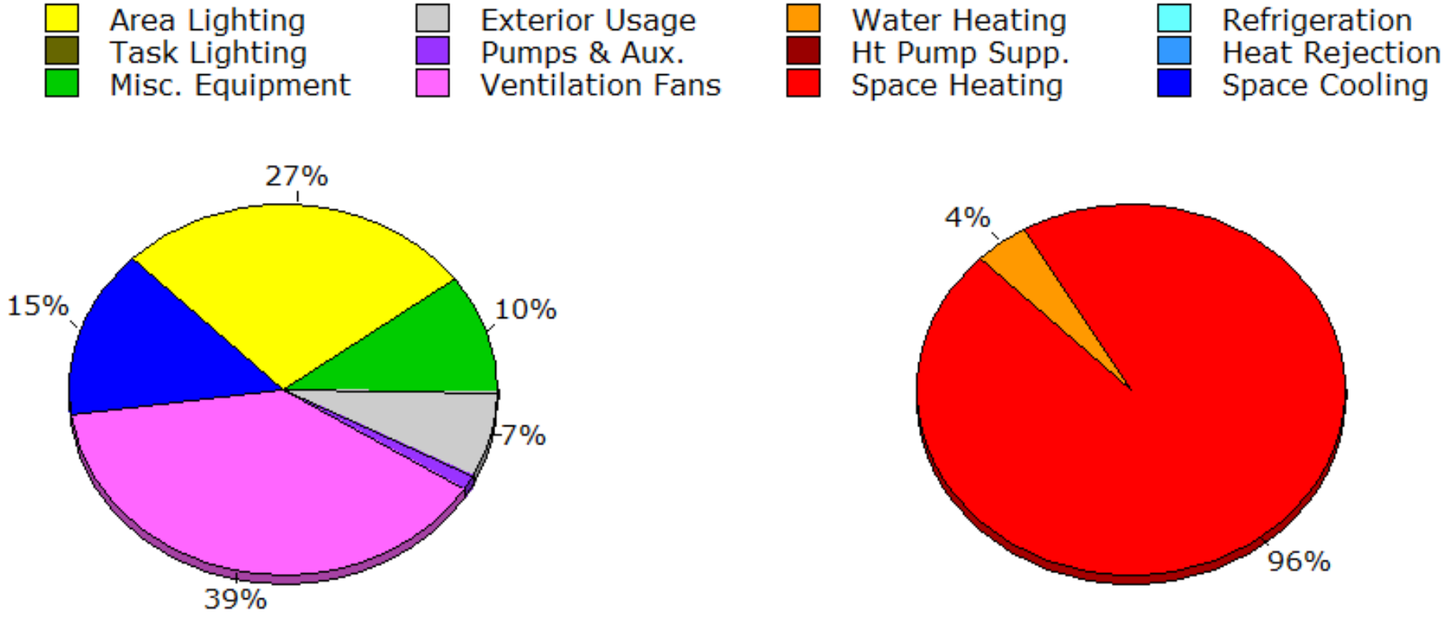
SUSTAINABILITY
BASELINE ENERGY USE

CURRENT BUILDING ENERGY USE:
67.2 KBTU/SF/YR
X TONS OF CARBON EMISSIONS

ASSUMING TENANT MOVES INTO BUILDING WITH NO IMPROVEMENTS

Annual Energy Consumption by Enduse

	Electricity kWh (x000)	Natural Gas MBtu	Steam Btu	Chilled Water Btu
Space Cool	17.46	-	-	-
Heat Reject.	-	-	-	-
Refrigeration	-	-	-	-
Space Heat	-	447.47	-	-
HP Supp.	-	-	-	-
Hot Water	-	19.95	-	-
Vent. Fans	45.86	-	-	-
Pumps & Aux.	1.57	-	-	-
Ext. Usage	8.76	-	-	-
Misc. Equip.	12.31	-	-	-
Task Lights	-	-	-	-
Area Lights	32.48	-	-	-
Total	118.43	467.42	-	-

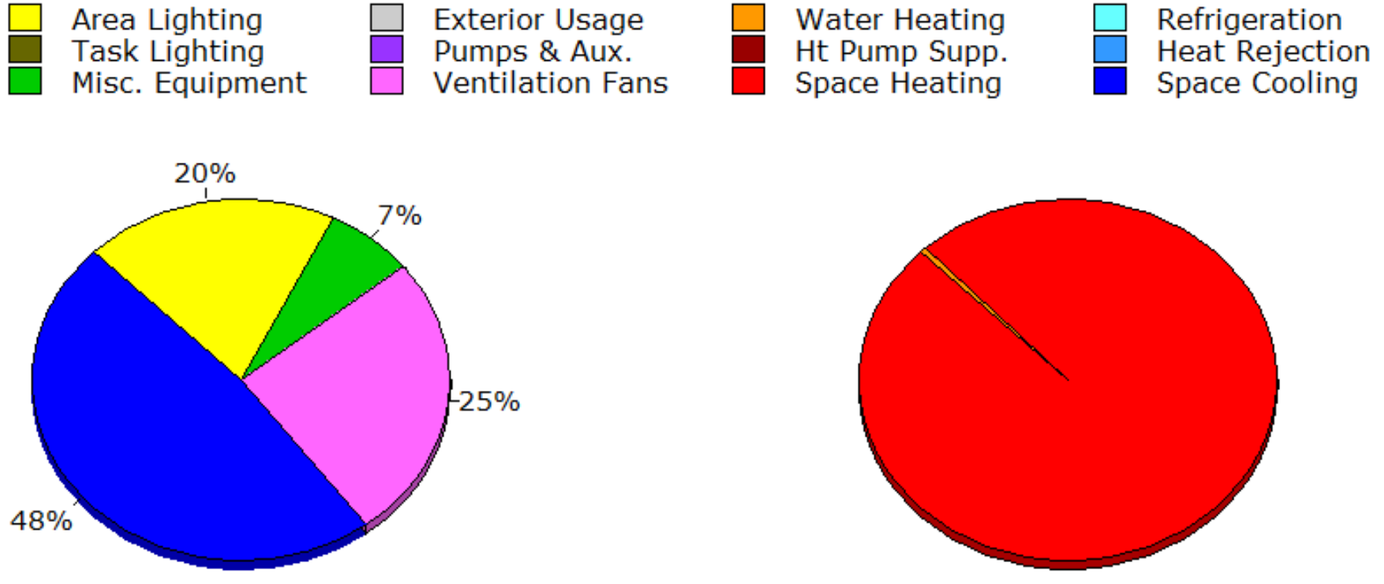


SUSTAINABILITY
BASELINE ENERGY PEAK DEMAND

ASSUMING TENANT MOVES INTO BUILDING WITH NO IMPROVEMENTS

Annual Peak Demand by Enduse

	Electricity kW	Natural Gas Btu/h (x000)	Steam Btu/h	Chilled Water Btu/h
Space Cool	23.62	-	-	-
Heat Reject.	-	-	-	-
Refrigeration	-	-	-	-
Space Heat	-	806.77	-	-
HP Supp.	-	-	-	-
Hot Water	-	4.28	-	-
Vent. Fans	12.62	-	-	-
Pumps & Aux.	-	-	-	-
Ext. Usage	-	-	-	-
Misc. Equip.	3.41	-	-	-
Task Lights	-	-	-	-
Area Lights	9.87	-	-	-
Total	49.51	811.05	-	-



Electricity **Natural Gas**