

557 Highland Ave
Needham, MA 02494

Needham Special Permit Package R1

08/15/2022 (FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Bulfinch

Stantec



Proposed

Site Plan



Aerial – Looking North



Aerial – Looking West



Aerial – Looking South



Aerial – West Entry Drive

Site Aerial - Proposed



557 Parking – Looking North-East



Gould Street – Looking North-East



Fitness Loop – Looking South



Gould Street – Looking North-East

Street View - Proposed

Bulfinch

HIGHLAND INNOVATION CENTER

557 Highland Ave
Needham, MA 02494





PROJECT TEAM

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TOTAL: 47			

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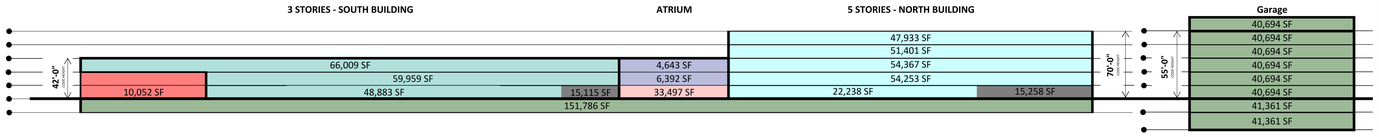
218421343

SPECIAL PERMIT PACKAGE R1 - 08/15/2022

(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

© 2023 Stantec
<Pick Location> | Project Information>
<Author> | <Date>
DESIGNATE SHEET - ARCH 01

Project Stats: Highland Ave
Date: 9/7/2022
Stantec **DRAFT**



Garage
40,694 SF
40,694 SF
40,694 SF
40,694 SF
40,694 SF
40,694 SF
41,361 SF
41,361 SF

GROUND FLOOR	
Program	SF
A1 Retail	10,052 SF
A2 Amenity	33,497 SF
A3 Office/Lab	405,043 SF
A4 Tenant Bridge	11,035 SF
A5 BOH	30,373 SF
A6 PARKING & GARAGE (TOTAL)	478,672 SF
A7 **Total FAR SF (A1 + A2 + A3 + A4 + A5)**	**490,000 SF**

Garage	
Program	SF
Garage	**326,886 SF**

Parking Space Totals

Building Parking Count (Below Grade)					
Level	**Standard**	**Parallel**	**Compact**	**ADA - VAN**	**ADA**
Level G1	182	3	169	2	6
Total by Type	**182**	**3**	**169**	**2**	6
Total Parking			**362**		

Garage Parking Count					
Level	**Standard**	**Compact**	**ADA - VAN**	**ADA**	TOTAL BY LEVEL
Level B2	61	52	0	3	116
Level B1	60	56	0	3	119
Level 1	55	67	3	1	126
Level 2	52	76	0	3	131
Level 3	51	79	0	2	132
Level 4	51	79	0	2	132
Level 5	51	79	0	2	132
Roof	67	41	0	2	110
Total by Type	**448**	**529**	**3**	**18**	
Total Parking		**998**			

EV SPACES:

Site Totals

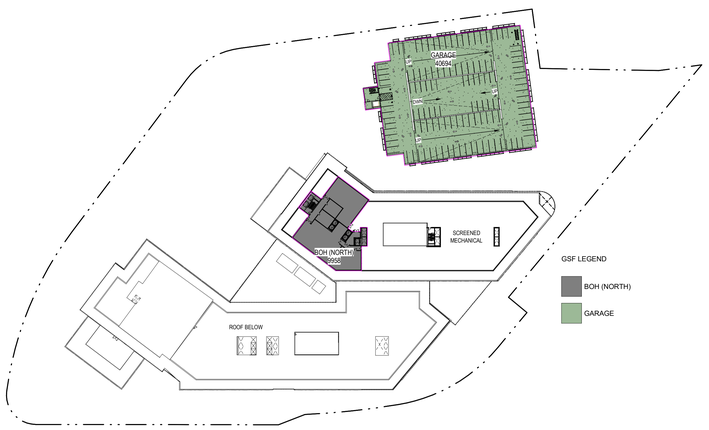
Program		
		Proposed
Total FAR SF (Office + Garage)		**490,000 SF**
TOTAL SITE SF		**391,846 SF**
SITE FAR		**1.25**

Site Parking Totals	
	Proposed
SP1 Surface Parking	30
SP2 Office/Lab Building	362
SP3 Garage	998
SP4 **Total Parking** (SP1 + S	**1390**
Total Compact Spaces (Office/Lab & Garage)	**698**
SP5 **Total % Compact On-Site**	**50%**

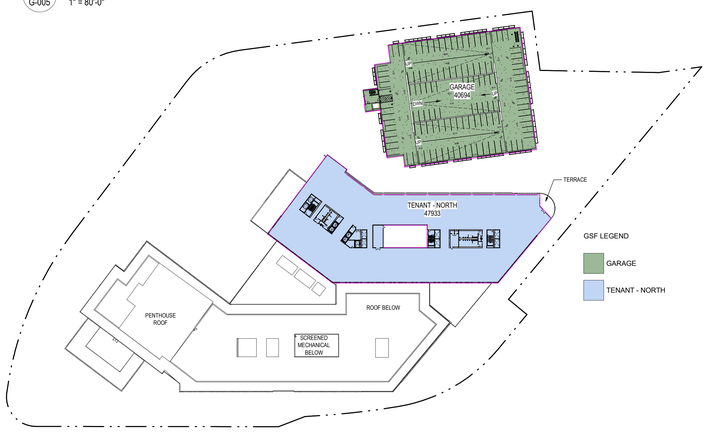
AREAS - LAB (GROSS - OFFICE ONLY)			
BUILDING	GSF (SF)	Comments
LEVEL G1			
PARKING	151786	EXCLUDED
	151786	
LEVEL 1			
ATRIUM	33497	
BOH (NORTH)	15258	
BOH (SOUTH)	15115	
RETAIL	10052	
TENANT - NORTH	22238	
TENANT - SOUTH	48883	
	145043	
LEVEL 2			
TENANT - BRIDGE	6392	
TENANT - NORTH	54253	
TENANT - SOUTH	59959	
	120604	
LEVEL 3			
TENANT - BRIDGE	4643	
TENANT - NORTH	54367	
TENANT - SOUTH	66009	
	125019	
LEVEL 4			
BOH (SOUTH)	11160	EXCLUDED
TENANT - NORTH	51401	
	62561	
LEVEL 5			
TENANT - NORTH	47933	
	47933	
PENTHOUSE - NORTH			
BOH (NORTH)	9958	EXCLUDED
	9958	

AREAS - GARAGE (GROSS - GARAGE ONLY)		
BUILDING	GSF (SF)	Comments
GARAGE - LEVEL B2		
GARAGE	41361	
	41361	
LEVEL G1		
GARAGE	41361	EXCLUDED
	41361	
LEVEL 1		
GARAGE	40694	
	40694	
LEVEL 2		
GARAGE	40694	
	40694	
LEVEL 3		
GARAGE	40694	
	40694	
LEVEL 4		
GARAGE	40694	
	40694	
LEVEL 5		
GARAGE	40694	
	40694	
PENTHOUSE - NORTH		
GARAGE	40694	
	40694	
TOTAL	326884	

GENERAL NOTE: ALL AREAS ARE IN PROGRESS AND SHOULD NOT BE CONSIDERED FINAL.



6 G-005 **FLOOR AREA - ROOF**
1" = 80'-0"



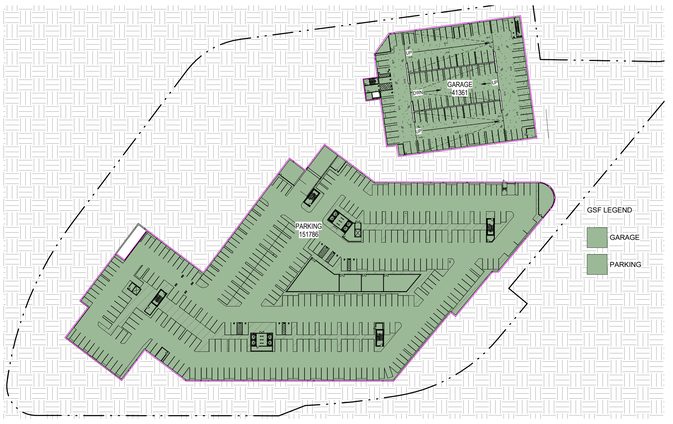
5 G-005 **FLOOR AREA - LEVEL 5**
1" = 80'-0"



4 G-005 **FLOOR AREA - LEVEL 4**
1" = 80'-0"



2 G-005 **FLOOR AREA - LEVEL 2**
1" = 80'-0"



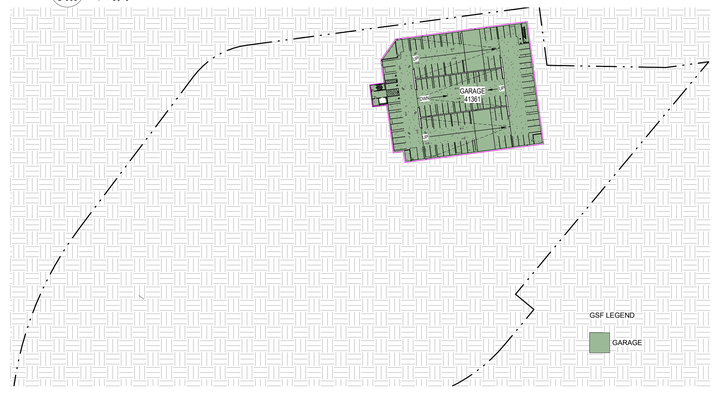
G1 G-005 **FLOOR AREA - LEVEL G1**
1" = 80'-0"



3 G-005 **FLOOR AREA - LEVEL 3**
1" = 80'-0"



1 G-005 **FLOOR AREA - LEVEL 1**
1" = 80'-0"



7 G-005 **GARAGE - LEVEL B2**
1" = 80'-0"

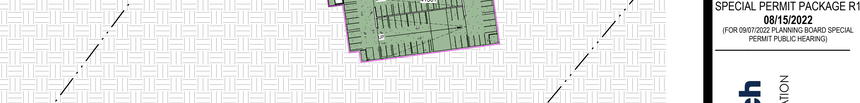
Stantec
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40 Wantor Street - 3rd Floor
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Tel: (617) 234-3100 • www.stantec.com

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Consultant

No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1		2022.08.15	
2	30% DESIGN SUBMISSION		2022.03.25	

Permit/Seal



SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1" = 80'-0"

Author	Designer	Checker	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
ZONING AREA PLANS

Revision:
Drawing No.
G-005

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ORIGINAL SHEET - ARCH E

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Legend

Exist.	Prop.	
		PROPERTY LINE
		PROJECT LIMIT LINE
		RIGHT-OF-WAY/PROPERTY LINE
		EASEMENT
		BUILDING SETBACK
		PARKING SETBACK
10+00	10+00	BASELINE
		CONSTRUCTION LAYOUT
		ZONING LINE
		TOWN LINE
		LIMIT OF DISTURBANCE
		WETLAND LINE WITH FLAG
		FLOODPLAIN
BLSF		BORDERING LAND SUBJECT TO FLOODING
BZ		WETLAND BUFFER ZONE
NDZ		NO DISTURB ZONE
200'RA		200' RIVERFRONT AREA
		GRAVEL ROAD
EOP	EOP	EDGE OF PAVEMENT
BB	BB	BITUMINOUS BERM
BC	BC	BITUMINOUS CURB
CC	CC	CONCRETE CURB
	CG	CURB AND GUTTER
CC	ECC	EXTRUDED CONCRETE CURB
CC	MCC	MONOLITHIC CONCRETE CURB
CC	PCC	PRECAST CONC. CURB
SGE	SGE	SLOPED GRAN. EDGING
VGC	VGC	VERT. GRAN. CURB
		LIMIT OF CURB TYPE
		SAWCUT
		BUILDING
	EN	BUILDING ENTRANCE
	LD	LOADING DOCK
		BOLLARD
D	D	DUMPSTER PAD
		SIGN
		DOUBLE SIGN
		STEEL GUARDRAIL
		WOOD GUARDRAIL
		PATH
		TREE LINE
		WIRE FENCE
		FENCE
		STOCKADE FENCE
		STONE WALL
		RETAINING WALL
		STREAM / POND / WATER COURSE
		DETENTION BASIN
		HAY BALES
		SILT FENCE
		SILT SOCK / STRAW WATTLE
4	4	MINOR CONTOUR
20	20	MAJOR CONTOUR
10	10	PARKING COUNT
	C10	COMPACT PARKING STALLS
DYL	DYL	DOUBLE YELLOW LINE
SL	SL	STOP LINE
		CROSSWALK
		ACCESSIBLE CURB RAMP
		ACCESSIBLE PARKING
VAN	VAN	VAN-ACCESSIBLE PARKING

Exist.	Prop.	
		CONCRETE
		HEAVY DUTY PAVEMENT
		BUILDINGS
		RIPRAP
		CONSTRUCTION EXIT
27.35 TC×	27.35 TC×	TOP OF CURB ELEVATION
26.85 BC×	26.85 BC×	BOTTOM OF CURB ELEVATION
132.75×	132.75×	SPOT ELEVATION
45.0 TW× 38.5 BW	45.0 TW× 38.5 BW	TOP & BOTTOM OF WALL ELEVATION
		BORING LOCATION
		TEST PIT LOCATION
MW	MW	MONITORING WELL
UD	UD	UNDERDRAIN
12"D	12"D	DRAIN
6"RD	6"RD	ROOF DRAIN
12"S	12"S	SEWER
FM	FM	FORCE MAIN
OHW	OHW	OVERHEAD WIRE
6"W	6"W	WATER
4"FP	4"FP	FIRE PROTECTION
	2"DW	DOMESTIC WATER
3"G	G	GAS
E	E	ELECTRIC
STM	STM	STEAM
T	T	TELEPHONE
FA	FA	FIRE ALARM
CATV	CATV	CABLE TV
		CATCH BASIN CONCENTRIC
		CATCH BASIN ECCENTRIC
		DOUBLE CATCH BASIN CONCENTRIC
		DOUBLE CATCH BASIN ECCENTRIC
		GUTTER INLET
		DRAIN MANHOLE CONCENTRIC
		DRAIN MANHOLE ECCENTRIC
TD		TRENCH DRAIN
		PLUG OR CAP
CO	CO	CLEANOUT
		FLARED END SECTION
		HEADWALL
		SEWER MANHOLE CONCENTRIC
		SEWER MANHOLE ECCENTRIC
CS	CS	CURB STOP & BOX
WV	WV	WATER VALVE & BOX
TSV	TSV	TAPPING SLEEVE, VALVE & BOX
		FIRE DEPARTMENT CONNECTION
HYD	HYD	FIRE HYDRANT
WM	WM	WATER METER
PIV	PIV	POST INDICATOR VALVE
W	W	WATER WELL
GG	GG	GAS GATE
GM	GM	GAS METER
E	EMH	ELECTRIC MANHOLE
EM	EM	ELECTRIC METER
		LIGHT POLE
T	TMH	TELEPHONE MANHOLE
T	T	TRANSFORMER PAD
		UTILITY POLE
		GUY POLE
		GUY WIRE & ANCHOR
HH	HH	HAND HOLE
PB	PB	PULL BOX
		MATCHLINE

Abbreviations

General

ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EX	EXISTING
FDN	FOUNDATION
FFE	FIRST FLOOR ELEVATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL

Utility

CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
CIP	CAST IRON PIPE
COND	CONDUIT
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
FM	FORCE MAIN
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
GI	GUTTER INLET
GT	GREASE TRAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	HANDHOLE
HW	HEADWALL
HYD	HYDRANT
INV	INVERT ELEVATION
I=	INVERT ELEVATION
LP	LIGHT POLE
MES	METAL END SECTION
PIV	POST INDICATOR VALVE
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
RIM=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UG	UNDERGROUND
UP	UTILITY POLE

Notes

General

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO FILE A CGP NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH THE NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE OWNER HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.

Utilities

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
   A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
   B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
   C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
   A. WATER PIPES SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON (CLDI).
   B. SANITARY SEWER PIPES SHALL BE SDR 35 POLYVINYL CHLORIDE (PVC).
   C. STORM DRAINAGE PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HDPE).
   D. PIPE INSTALLATION AND MATERIALS SHALL COMPLY WITH THE STATE PLUMBING CODE WHERE APPLICABLE. CONTRACTOR SHALL COORDINATE WITH LOCAL PLUMBING INSPECTOR PRIOR TO BEGINNING WORK.
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
10. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

Layout and Materials

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURB RADII ARE 3 FEET UNLESS OTHERWISE NOTED.
3. CURBING SHALL BE VERTICAL GRANITE WITHIN THE SITE UNLESS OTHERWISE INDICATED ON THE PLANS.
4. SEE ARCHITECTURAL DRAWINGS FOR EXACT BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
5. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LAND SURVEYOR.
6. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.

Demolition

1. PROJECT PRESENTED HEREIN IS THE ADAPTIVE REUSE OF AN EXISTING SITE. TO THE EXTENT REQUIRED TO BUILD THE PROJECT, CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS, AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF TEN (10) FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
4 THE DEMOLITION LIMITS DEPICTED IN THE PLANS IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION BEFORE SUBMITTING ITS BID/PROPOSAL TO PERFORM THE WORK AND SHALL MAKE NO CLAIMS AND SEEK NO ADDITIONAL COMPENSATION FOR CHANGED CONDITIONS OR UNFORESEEN OR LATENT SITE CONDITIONS RELATED TO ANY CONDITIONS DISCOVERED DURING EXECUTION OF THE WORK.
5. UNLESS OTHERWISE SPECIFICALLY PROVIDED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER HAS NOT PREPARED DESIGNS FOR AND SHALL HAVE NO RESPONSIBILITY FOR THE PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF HAZARDOUS MATERIALS, TOXIC WASTES OR POLLUTANTS AT THE PROJECT SITE. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY CLAIMS OF LOSS, DAMAGE, EXPENSE, DELAY, INJURY OR DEATH ARISING FROM THE PRESENCE OF HAZARDOUS MATERIAL AND CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE ENGINEER FROM ANY CLAIMS MADE IN CONNECTION THEREWITH. MOREOVER, THE ENGINEER SHALL HAVE NO ADMINISTRATIVE OBLIGATIONS OF ANY TYPE WITH REGARD TO ANY CONTRACTOR AMENDMENT INVOLVING THE ISSUES OF PRESENCE, DISCOVERY, REMOVAL, ABATEMENT OR DISPOSAL OF ASBESTOS OR OTHER HAZARDOUS MATERIALS.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES ON A WEEKLY BASIS (MINIMUM) OR AS REQUIRED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL ADDRESS DEFICIENCIES AND MAINTENANCE ITEMS WITHIN TWENTY-FOUR HOURS OF INSPECTION. CONTRACTOR SHALL PROPERLY DISPOSE OF SEDIMENT SUCH THAT IT DOES NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Existing Conditions Information

1. BASE PLAN: THE PROPERTY LINES AND EXISTING CONDITIONS ARE SHOWN BASED ON "ALTA/NSPS LAND TITLE SURVEY 557 HIGHLAND AVENUE", PREPARED BY FELDMAN LAND SURVEYORS, DATED 12/09/2021.
2. TOPOGRAPHY: ELEVATIONS ARE BASED ON NAVD88.
3. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM A MEMO ENTITLED "PRELIMINARY EVALUATION OF SOIL HYDRAULIC CONDUCTIVITY", PREPARED BY MCPHAIL ASSOCIATES, DATED MARCH 18, 2022.

Document Use

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2. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.
3. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.

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By	Appvd	YYYY.MM.DD	Issued/Revision
		2022.08.15	SPECIAL PERMIT PACKAGE R1
		2022.09.07	PLANNING BOARD PACKAGE

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
NICHOLAS J. SKOLY
CIVIL
No. 52677
PROFESSIONAL ENGINEER

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
NEEDHAM, MA 02494

Project No.: 15306.00
Title Name: N/A
Scale:

Author	Designer	Checker	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
LEGEND AND GENERAL NOTES

Revision:
Drawing No.
C-01

Saved Friday, August 12, 2022 9:33:41 AM SDIAMOND Plotted Tuesday, August 16, 2022 9:15:56 AM Sean Diamond
ORIGINAL SHEET - ARCH E

Parking Summary Chart

Description	Size Required	Size Provided	Spaces Required	Spaces Provided
STANDARD SPACES	9 x 18.5	9 x 18.5		661[1]
COMPACT SPACES (50% ALLOWED)	8 x 16	8 x 16	-	698[2]
STANDARD ACCESSIBLE SPACES	8 x 18.5	8 x 18.5	20[3]	24[4]
VAN ACCESSIBLE SPACES	8 x 18.5	8 x 18.5	4[3]	7[5]
TOTAL SPACES			1,678	1,390[6]
LOADING BAYS			**	2

1. REQUIRED ACCESSIBLE SPACES BASED ON TOTAL PROVIDED SPACES PER ADA/MAAB REQUIREMENTS.
2. INCLUDES 633 GARAGE/BUILDING SPACES.
3. INCLUDES 698 GARAGE/BUILDING SPACES.
4. INCLUDES 24 GARAGE/BUILDING SPACES.
5. INCLUDES 5 GARAGE/BUILDING SPACES.
6. APPLICANT IS REQUESTING A SPECIAL PERMIT FOR DEVIATION FROM THE REQUIRED NUMBER OF PARKING SPACES.

** ADEQUATE OFF-STREET LOADING FACILITIES SHALL BE PROVIDED.

Parking Requirements:

OFFICE	239,974 SF	x	1 SPACES	/ 300	=	800 SPACES
R&D	239,974 SF	x	1 SPACES	/ 300	=	800 SPACES
RETAIL	10,052 SF	x	1 SPACES	/ 300	=	34 SPACES
RESTAURANT	100 SEATS	x	1 SPACES	/ 3 SEAT	=	34 SPACES
	1 TAKEOUT STATION	x	10 SPACES	/ 1 TAKEOUT STATION	=	10 SPACES
				TOTAL PARKING REQUIRED	=	1,678 SPACES

Zoning Summary Chart

Zoning District(s): Highway Commercial 1

Overlay District(s):

Zoning Regulation Requirements	Required*	Provided
MINIMUM LOT AREA	0.5 Acres	391,846 SF
FRONTAGE	100 Feet	> 100 Feet
FRONT YARD SETBACK	See Plan	> 50 Feet
SIDE YARD SETBACK	See Plan	> 10 Feet
REAR YARD SETBACK	See Plan	> 20 Feet
MINIMUM LOT WIDTH	100 Feet	> 100 Feet
MAXIMUM FLOOR AREA RATIO	0.70 [1]	1.25
MAXIMUM BUILDING HEIGHT	56 Feet [2,3,4]	42 / 70 Feet
MAXIMUM LOT COVERAGE	65.0 %	47.9 %
MINIMUM OPEN SPACE	25.0 %	> 25.0%
INTERIOR PARKING LANDSCAPING PERCENTAGE	10.0 %	> 10%

* Zoning regulation requirements as specified in Zoning By-Law of the Town of Needham dated June, 2020, and amended through August 21, 2021.

1. Floor area ratio of up to 1.35 may be allowed by a Special Permit from the Planning Board per §4.11.1(5).
2. Buildings within 200 feet of Highland Avenue or the extension of the right-of-way line or within 200 feet of Gould Street shall be limited to a height of 35 feet and 2.5 stories as-of-right. The maximum height may be increased to 42 feet and 3 stories by Special Permit from the Planning Board per §4.11.1(1)(a,b).
3. The maximum building height may be increased to 70 feet and 5 stories by Special Permit from the Planning Board, provided the building is not located within 200 feet of Highland Avenue or the extension of the right-of-way line or within 200 feet of Gould Street per §4.11.1(1)(b).
4. The height of a parking garage may not exceed 44 feet. The maximum height may be increased to 55 feet by Special Permit from the Planning Board per §4.11.2(1).

Notes

1. REFER TO LANDSCAPE PLANS FOR DETAILED SITE LAYOUT AND MATERIALS INFORMATION.
2. REFER TO ARCHITECTURAL PLANS FOR PROPOSED GARAGE PARKING SPACES.

0 15 30 60 Feet

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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE			2022.08.15

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
NICHOLAS J. SKOLY
CIVIL
No. 52677
REGISTERED PROFESSIONAL ENGINEER

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
NEEDHAM, MA 02494

Project No.: 15306.00
File Name: N/A
Scale: 1" = 30'-0"

Author	Designer	Checker	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
OVERALL SITE PLAN-REVISION

Revision:

Drawing No.
C-02

Saved Tuesday, August 16, 2022 9:25:38 AM SSNAMOND Plotted Tuesday, August 16, 2022 9:26:05 AM Sean Diamond
ORIGINAL SHEET - ARCH E

Parking Summary Chart

Description	Size Required	Size Provided	Spaces Required	Spaces Provided
STANDARD SPACES	9 x 18.5	9 x 18.5		661[1]
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2. REFER TO ARCHITECTURAL PLANS FOR PROPOSED GARAGE PARKING SPACES.

0 15 30 60 Feet

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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1		TYP/MAU	2022.08.15

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
NICHOLAS J. SKOLY
CIVIL
No. 52677
PROFESSIONAL ENGINEER

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

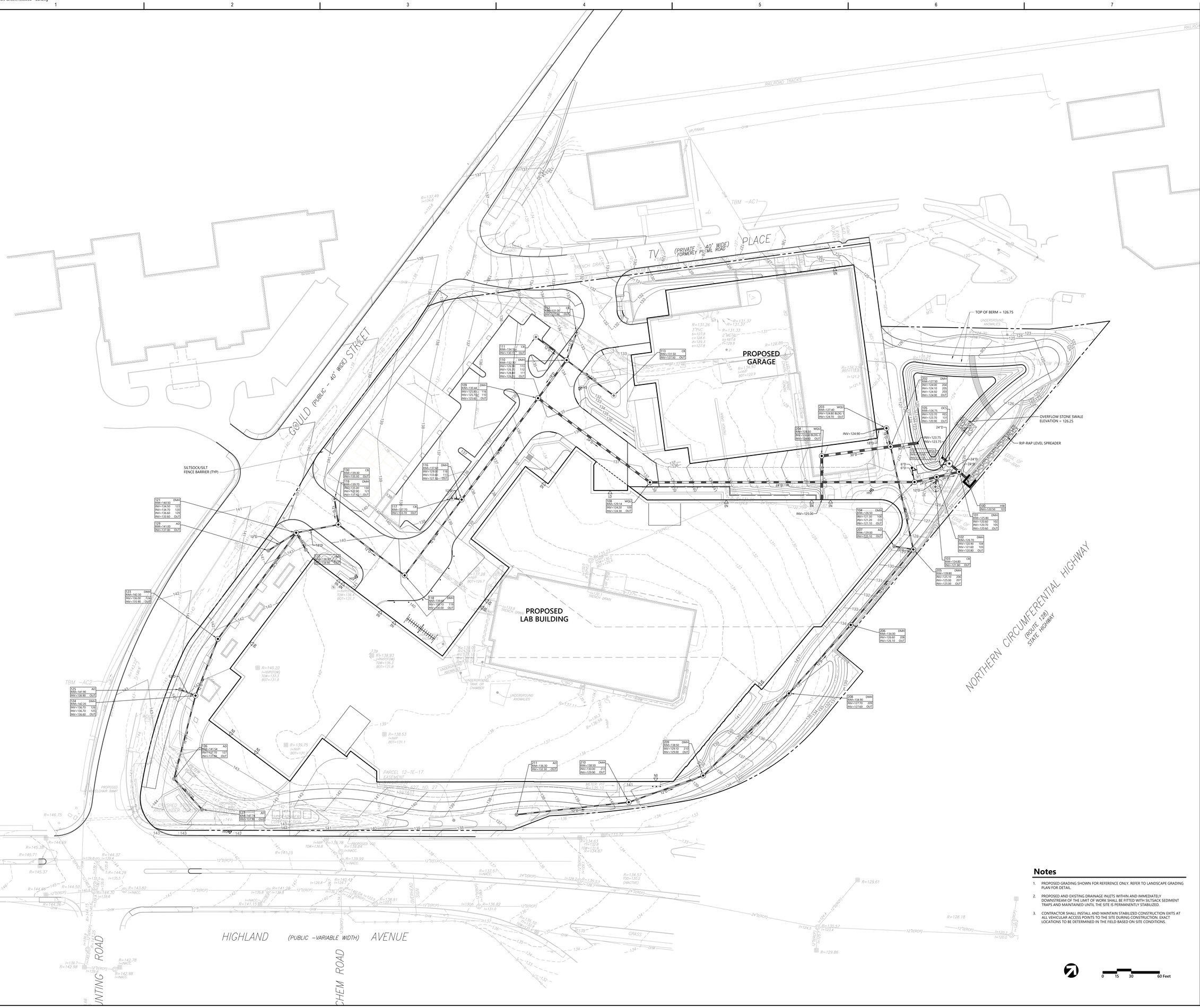
Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
NEEDHAM, MA 02494

Project No.: 15306.00
File Name: N/A
Scale: 1" = 30'-0"

Author	Designer	Checker	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
OVERALL SITE PLAN

Revision:
Drawing No.
C-02B



Notes

1. PROPOSED GRADING SHOWN FOR REFERENCE ONLY. REFER TO LANDSCAPE GRADING PLAN FOR DETAIL.
2. PROPOSED AND EXISTING DRAINAGE INLETS WITHIN AND IMMEDIATELY DOWNSTREAM OF THE LIMIT OF WORK SHALL BE FITTED WITH SILTSACK SEDIMENT TRAPS AND MAINTAINED UNTIL THE SITE IS PERMANENTLY STABILIZED.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN STABILIZED CONSTRUCTION EXITS AT ALL VEHICULAR ACCESS POINTS TO THE SITE DURING CONSTRUCTION. EXACT LOCATIONS TO BE DETERMINED IN THE FIELD BASED ON SITE CONDITIONS.

0 15 30 60 Feet

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Issued/Revision	By	Appd	YYYY.MM.DD
25% DESIGN DEVELOPMENT			2022.03.18
100% DESIGN DEVELOPMENT			2022.05.06

Permit/Seal

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SPECIAL PERMIT PACKAGE R1
08/15/2022
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Client/Project
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HIGHLAND INNOVATION CENTER
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Project No.: 15306.00
File Name: N/A
Scale: 1" = 30'-0"

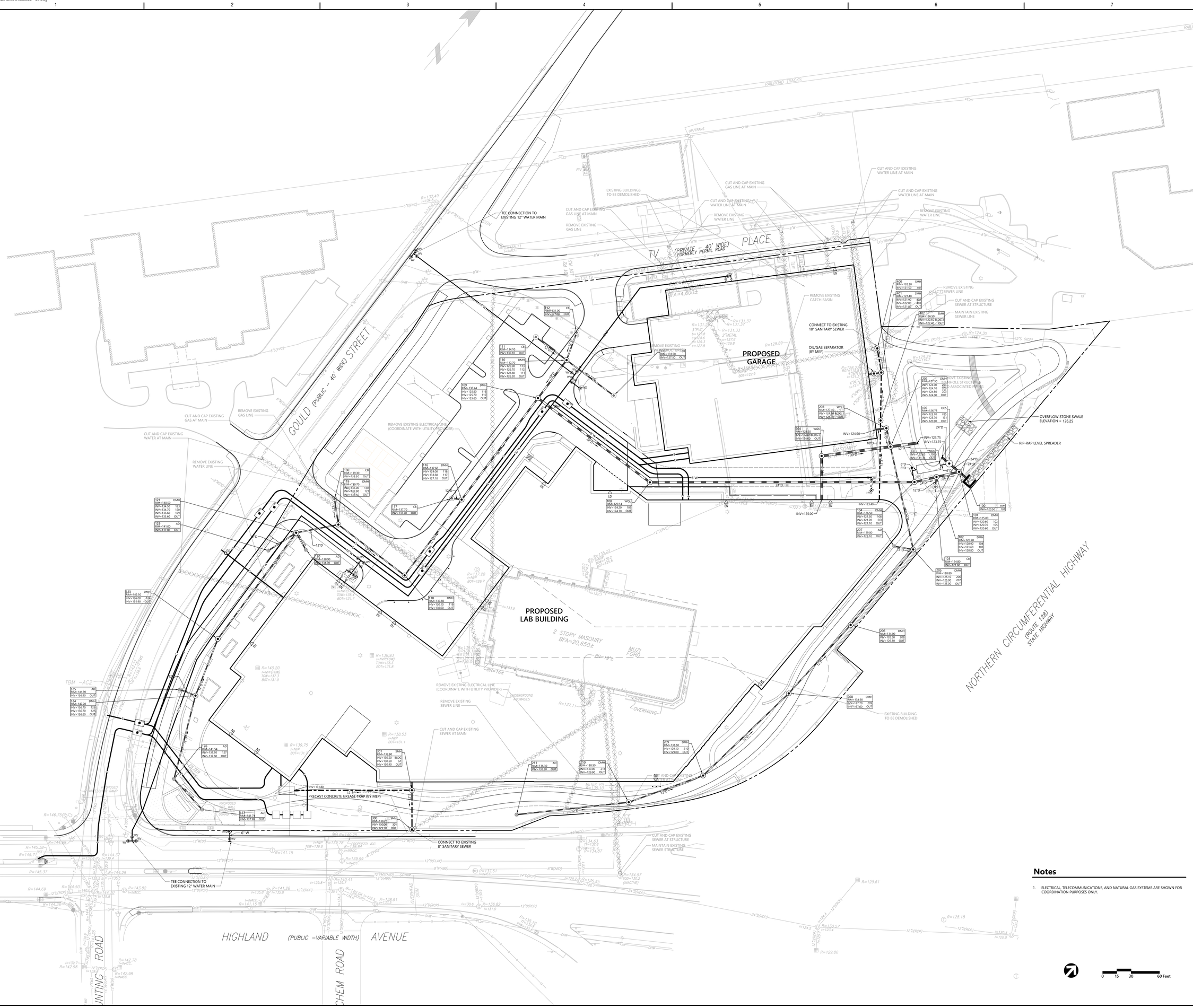
Author	Designer	Checker	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

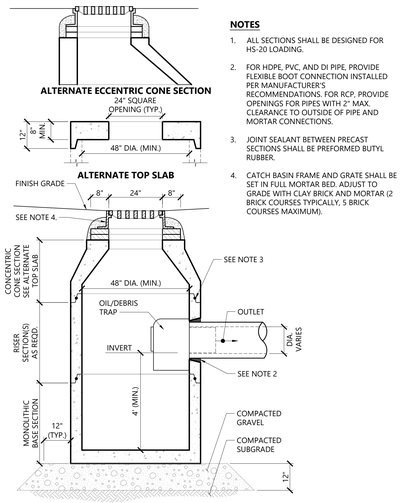
Title
DRAINAGE AND EROSION CONTROL PLAN

Revision:

Drawing No.
C-03

Saved Friday, August 12, 2022 10:27:57 AM SDIAMOND Plotted Tuesday, August 16, 2022 9:19:26 AM Sean Diamond
ORIGINAL SHEET - ARCH E


GOULD (PUBLIC – 40' WIDE) STREET
HIGHLAND (PUBLIC –VARIABLE WIDTH) AVENUE
TV PLACE (PRIVATE – 40' WIDE) FORMERLY PERMIL ROAD
NORTHERN CIRCUMFERENTIAL HIGHWAY (ROUTE 128) STATE HIGHWAY
PROPOSED GARAGE
PROPOSED LAB BUILDING
2 STORY MASONRY BFA=20,650±
MASONRY
MUZI FORD
SHED
EXISTING BUILDINGS TO BE DEMOLISHED
EXISTING BUILDING TO BE DEMOLISHED
TEE CONNECTION TO EXISTING 12" WATER MAIN
TEE CONNECTION TO EXISTING 12" WATER MAIN
CONNECT TO EXISTING 10" SANITARY SEWER
CONNECT TO EXISTING 8" SANITARY SEWER
OIL/GAS SEPARATOR (BY MEP)
PRECAST CONCRETE GREASE TRAP (BY MEP)
OVERFLOW STONE SWALE ELEVATION = 126.25
RIP-RAP LEVEL SPREADER
REMOVE EXISTING CATCH BASIN
REMOVE EXISTING SEWER LINE
CUT AND CAP EXISTING SEWER AT MAIN
CUT AND CAP EXISTING SEWER AT STRUCTURE
MAINTAIN EXISTING SEWER STRUCTURE
MAINTAIN EXISTING SEWER LINE
REMOVE EXISTING SEWER STRUCTURE (WHOLE STRUCTURE AND ASSOCIATED PIPING)
CUT AND CAP EXISTING GAS AT MAIN
REMOVE EXISTING GAS LINE
CUT AND CAP EXISTING GAS LINE AT MAIN
REMOVE EXISTING GAS LINE
CUT AND CAP EXISTING WATER AT MAIN
REMOVE EXISTING WATER LINE
CUT AND CAP EXISTING WATER LINE AT MAIN
REMOVE EXISTING WATER LINE
CUT AND CAP EXISTING WATER LINE AT MAIN
REMOVE EXISTING ELECTRICAL LINE (COORDINATE WITH UTILITY PROVIDER)
UNDERGROUND ANOMALIES
OVERHEAD SIGN
OVERHANG
METER PIT
TBM –AC2
TBM –AC1
RAILROAD TRACKS
GAS
OHW
UP/TRANS
6"W
8"W
12"W(DI)
12"D
24"D
18"D
6"D
8"D
12"D(CLAY)
12"D(RCP)
24"D(RCP)
12"D(ABD)
8"W(ABD)
12"D(CMP)
12"D(PVC)
12"D(RCP)
24"D(RCP)
12"D(RCP)
12"D(RCP)
12



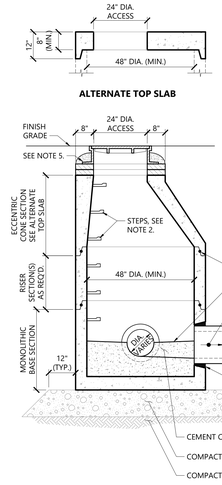
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
2. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

Catch Basin (CB) With Oil/Debris Trap

3/21

N.T.S. Source: VHB LD_101



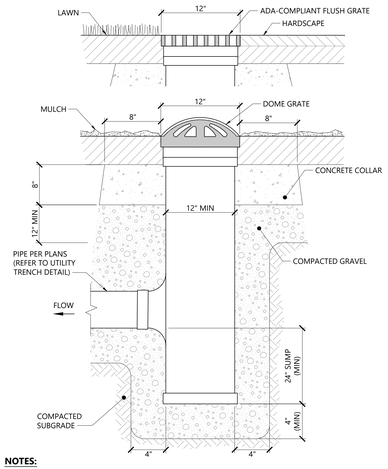
NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Drain Manhole (DMH)

11/19

N.T.S. Source: VHB LD_115



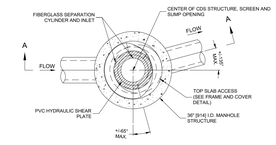
NOTES:

1. AREA DRAINS SHALL BE NYLOPLAST 12" DIAMETER DRAIN BASIN, OR APPROVED EQUAL.
2. GRATES SHALL BE NYLOPLAST 12" PEDESTRIAN MODEL 1299CGP OR 12" DOME GRATE MODEL 1299CGD (OR APPROVED EQUAL).

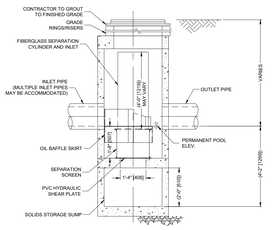
Area Drain (AD) Type 1

12/19

N.T.S. Source: VHB LD_193



PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.

CDS1515-3-C DESIGN NOTES
CDS1515-3-C RATED TREATMENT CAPACITY IS 1.0 CFS, OR PER LOCAL REGULATIONS.
THE STANDARD CDS1515-3-C CONFIGURATION IS SHOWN.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
4. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

WQU-203 (CDS1515-3)

N.T.S. Source: Contech

PLAN VIEW B-B
N.T.S.

ELEVATION A-A
N.T.S.

CDS2020-5-C DESIGN NOTES
CDS2020-5-C RATED TREATMENT CAPACITY IS 2.2 CFS, OR PER LOCAL REGULATIONS.
THE STANDARD CDS2020-5-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.
CONFIGURATION DESCRIPTION
GRATED INLET ONLY (NO INLET PIPE)
GRATED INLET WITH INLET PIPE OR PIPES
CURB INLET ONLY (NO INLET PIPE)
CURB INLET WITH INLET PIPE OR PIPES

FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO H520 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.
6. CDS STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE.
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT INLET AND OUTLET PIPE(S). MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

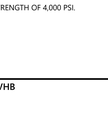
WQU-204 (CD2020-5)

N.T.S. Source: Contech

PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)

ELEVATION VIEW

JELLYFISH DESIGN NOTES				
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD				
CARTRIDGE SELECTION				
CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	5'-4"	5'-4"	4'-3"	3'-3"
PEAK RATE HI-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	1.96	1.47	0.98	0.54
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

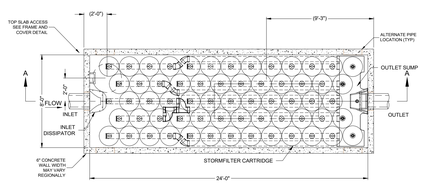
24"
TRENCH COVER
(LENGTH VARIES)
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-858, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

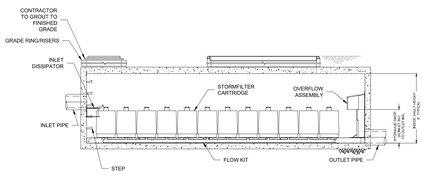
INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

WQU-108 (Jellyfish JFPD0806-8-2)

N.T.S. Source: Contech

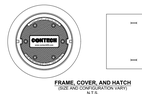


PLAN VIEW
VAULT STYLE: OUTLET SUMP (NB)



SECTION A-A

STORMFILTER DESIGN NOTES										
STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD VAULT STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (81). VAULT STYLE OPTIONS INCLUDE INLET BAY (56), INLET BAY/OUTLET BAY (51), OUTLET BAY (59), INLET BAY/FULL HEIGHT BAFFLE WALL (45), FULL HEIGHT BAFFLE WALL (54). STORMFILTER 8X24 PEAK HYDRAULIC CAPACITY IS 1.8 CFS. IF THE SITE CONDITIONS EXCEED 1.8 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.										
CARTRIDGE SELECTION										
CARTRIDGE HEIGHT	27"			18"			LOW DROP			
RECOMMENDED HYDRAULIC DROP (H)	3.05'			2.3'			1.8'			
SPECIFIC FLOW RATE (gpm/sf)	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	2 gpm/sf	1.67* gpm/sf	1 gpm/sf	
CARTRIDGE FLOW RATE (gpm)	22.5	18.79	11.25	15	12.53	7.5	10	8.35	5	
* 1.67 gpm/sf SPECIFIC FLOW RATE IS APPROVED WITH PHOSPHOSORB® (PSORB) MEDIA ONLY										



FRAME, COVER, AND HATCH
(SIZE AND CONFIGURATION VARY)
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO H520 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
6. FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 38 SECONDS.
7. SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).
8. STORMFILTER STRUCTURE SHALL BE PRECAST CONFORMING TO ASTM C-857 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER VAULT (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT SECTIONS AND ASSEMBLE VAULT.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

WQU-131 (StormFilter SF0824 with 57-18" Cartridges)

N.T.S. Source: Contech

Overflow Stone Swale

1/16

N.T.S. Source: VHB REV LD_161

PLAN VIEW

SECTION A-A

NOTES

1. SHOP DRAWINGS FOR PLACEMENT OF REINFORCING SHALL BE SUBMITTED TO THE ENGINEER BY THE CONTRACTOR.
2. CONCRETE SHALL BE 6% ±1.5% AIR ENTRAINED TYPE II CEMENT WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
3. SAFETY BARS TO BE OMITTED WHERE INDICATED ON PLANS.
4. SAFETY BARS SHALL BE SET TO CREATE EQUAL OPENING DIMENSIONS.

Directional Headwall

10/20

N.T.S. Source: VHB LD_135

Stantec
Stantec Architecture and Engineering P.C.
40 Wantz Street, 3rd Floor
Allendale, NJ 07401
Tel: (617) 234-3100 • www.stantec.com

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing. Any errors or omissions shall be reported to Stantec without delay. Reproduction or publication of this drawing, in whole or in part, and the information contained thereon without the written permission of Stantec is prohibited.

Consultant

vhb
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	PLANNING BOARD PACKAGE			2022.08.15
2	SPECIAL PERMIT PACKAGE			2022.09.07

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
NICHOLAS J. SKOLY
CIVIL
No. 52677
REGISTERED PROFESSIONAL ENGINEER

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
MEDFIELD, MA 02494

Project No.: 15306.00
File Name: N/A
Scale:

Author	Designer	Checker	2022.09.07
Dsn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
Site Details

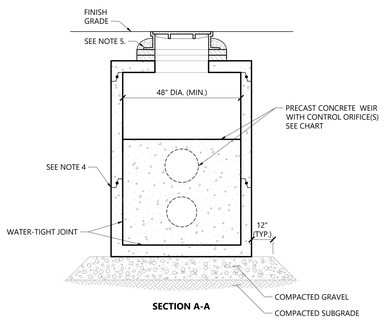
Revision:
Drawing No.
C-05

Outlet Control Structure with Weir (OCS)

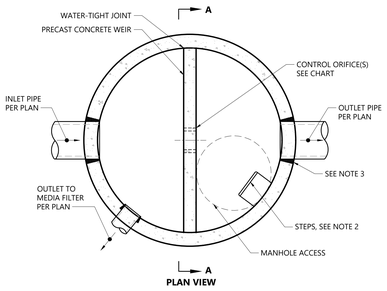
N.T.S. Source: VHB REV LD_162A 3/20

OUTLET STRUCTURE CHART

DETENTION BASIN	STRUCTURE NUMBER	TOP OF WEIR ELEVATION	DIMENSIONS ORIFICE A	INVERT ORIFICE A	DIMENSIONS ORIFICE B	INVERT ORIFICE B
P1	105	125.0	N/A	N/A	N/A	N/A



SECTION A-A



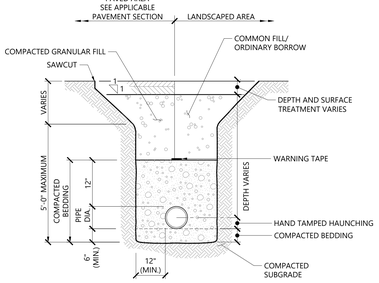
PLAN VIEW

NOTES

1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING. DIAMETER OF STRUCTURES SHALL BE COORDINATED WITH PIPE CONFIGURATIONS.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. FOR HDPE, PVC, AND DI PIPE, PROVIDE FLEXIBLE BOOT CONNECTION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. FOR RCP, PROVIDE OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE AND MORTAR CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. DRAIN MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Utility Trench

N.T.S. Source: VHB LD_300 11/19

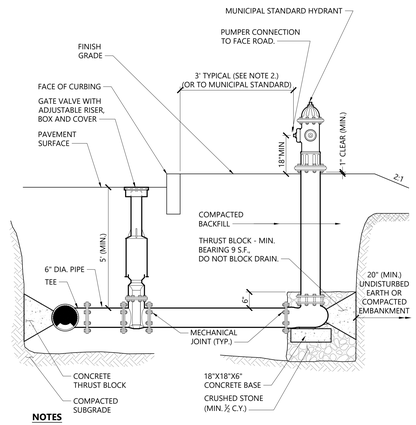


NOTES

1. WHERE UTILITY TRENCHES ARE CONSTRUCTED THROUGH DETENTION BASIN BERMS OR OTHER SUCH SPECIAL SECTIONS, PLACE TRENCH BACKFILL WITH MATERIALS SIMILAR TO THE SPECIAL SECTION REQUIREMENTS.
2. USE METALLIC TRACING/WARNING TAPE OVER ALL PIPES.
3. COMPACTED GRANULAR FILL MAY CONSIST OF GRAVEL, CRUSHED STONE, SAND, OR OTHER MATERIAL AS APPROVED BY ENGINEER.

Hydrant Construction

N.T.S. Source: VHB LD_250 12/19



NOTES

1. CONCRETE THRUST BLOCKS TO BE USED ONLY WHERE THEY CAN BEAR ON UNDISTURBED EARTH AS SHOWN. USE CLAMPS AND TIE RODS OR OTHER ACCEPTABLE METHOD OF JOINT RESTRAINT WHERE SOIL CONDITIONS PROHIBIT THE USE OF THRUST BLOCKS.
2. HYDRANT IN SIDEWALK AREAS TO BE LOCATED TO PROVIDE MINIMUM CLEAR SIDEWALK PASSAGE WIDTH OF 3 FEET AT HYDRANT.
3. A 36-INCH CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT UNLESS OTHERWISE APPROVED BY AUTHORITY HAVING JURISDICTION.

Restrained Joints for Water Pipe

N.T.S. Source: VHB LD_261 3/20

RESTRAINED JOINTS

FITTINGS	NUMBER OF JOINTS TO RESTRAIN ON EITHER SIDE OF FITTING (BASED ON 18-FOOT PIPE LENGTH)
90 DEGREE BEND	3
45 DEGREE BEND	2
22-1/2 DEGREE BEND	2
TEE:	
BRANCH	3
RUN	2

NOTES

1. PIPE WITH RESTRAINED JOINTS SHALL BE INSTALLED IN ALL AREAS WHERE THE PIPE IS WITHIN FILL MATERIALS AND ALSO AT LOCATIONS SHOWN ON THE DRAWINGS. RESTRAINED JOINTS SHALL BE INSTALLED AT BENDS, REDUCERS, TEES, VALVES, DEAD ENDS, AND HYDRANTS. THE MINIMUM LENGTH OF PIPE TO BE RESTRAINED ON EITHER SIDE OF THE JOINT SHALL BE AS SHOWN ON THE TABLE ABOVE THE FITTINGS OF THE NEW PIPING SHALL BE FOR RESTRAINED JOINTS, AS MARKED ON THE DRAWINGS.
2. NO RESTRAINING IS REQUIRED IN THE DIRECTION OF THE EXISTING PIPE IF ONLY A SHORT LENGTH OF IT IS EXPOSED IN THE TRENCH FOR MAKING A CONNECTION.
3. RESTRAINED JOINT ASSEMBLIES FOR PUSH-ON PIPE AND FITTINGS SHALL BE MADE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES.

Level Spreader Section

N.T.S. Source: VHB

Precast Concrete Grease Trap (GT)

N.T.S. Source: VHB LD_211 12/19

PLAN VIEW

SECTION

NOTES

1. STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
2. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
3. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
4. STANDARD 30-INCH SEWER MANHOLE FRAME AND COVER SHALL BE LOCATED OVER CROSSES AND SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)
5. PIPING SHALL BE SCH 40 PVC WITH SOLVENT WELDED JOINTS. INTERNAL PIPE DIAMETER SHALL BE SAME SIZE AS OUTLET PIPE.
6. FINAL DESIGN OF GREASE TRAP TO BE BY PLUMBING ENGINEER.
7. THE INSTALLATION OF GREASE TRAP, THE PIPING TO AND 10 FEET BEYOND IS BY PLUMBER.

GREASE TRAP

SIZE (GAL.)	LIQUID DEPTH
4,000	4'-0"
5,000	5'-0"
6,000	6'-0"
7,000	7'-0"
8,000	8'-0"
9,000	9'-0"
10,000	10'-0"

Sanitary Sewer Manhole (SMH)

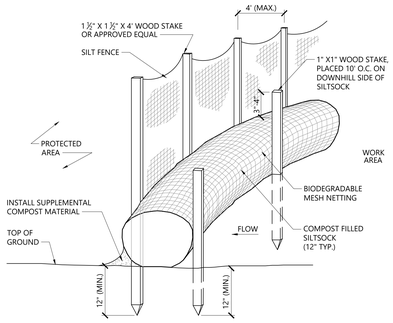
N.T.S. Source: VHB LD_200 1/16

NOTES

1. STRUCTURES SHALL BE PRECAST CONCRETE, DESIGNED FOR HS-20 LOADING.
2. COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
3. EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATER-PROOFING MATERIAL.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH SEWER BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM)

Siltsock / Silt Fence Barrier

N.T.S. Source: VHB LD_658-A 10/20

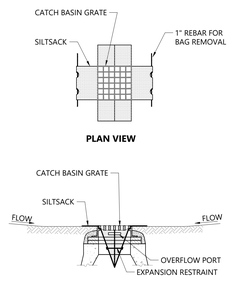


NOTES

1. SILTSOCK SHALL BE FILTREXX SILTSOXX, OR APPROVED EQUAL.
2. SILTSOCKS SHALL OVERLAP A MINIMUM OF 12 INCHES.
3. SILTSOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
4. UPON SITE STABILIZATION, COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
5. IF NON BIODEGRADABLE NETTING IS USED THE NETTING SHALL BE COLLECTED AND DISPOSED OF OFFSITE.

Siltsack Sediment Trap

N.T.S. Source: VHB LD_674 1/20



PLAN VIEW

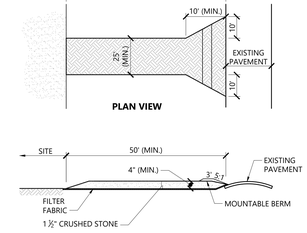
SECTION VIEW

NOTES

1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND HAY BALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED

Stabilized Construction Exit

N.T.S. Source: VHB LD_682 1/16



CROSS-SECTION

NOTES

1. EXIT WIDTH SHALL BE A TWENTY-FIVE (25) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
2. THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.
3. STABILIZED CONSTRUCTION EXIT SHALL BE REMOVED PRIOR TO FINAL FINISH MATERIALS BEING INSTALLED.

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Providence RI 02903
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Consultant
vhb
101 Walnut Street
PO Box 9151
Watertown, MA 02471
617.924.1770

Issued/Revision	By	Appvd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE			2022.08.15
DESIGN REVIEW PACKAGE			2022.06.24

Permit/Seal



SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
537 Highland Ave.
NEEDHAM, MA 02494

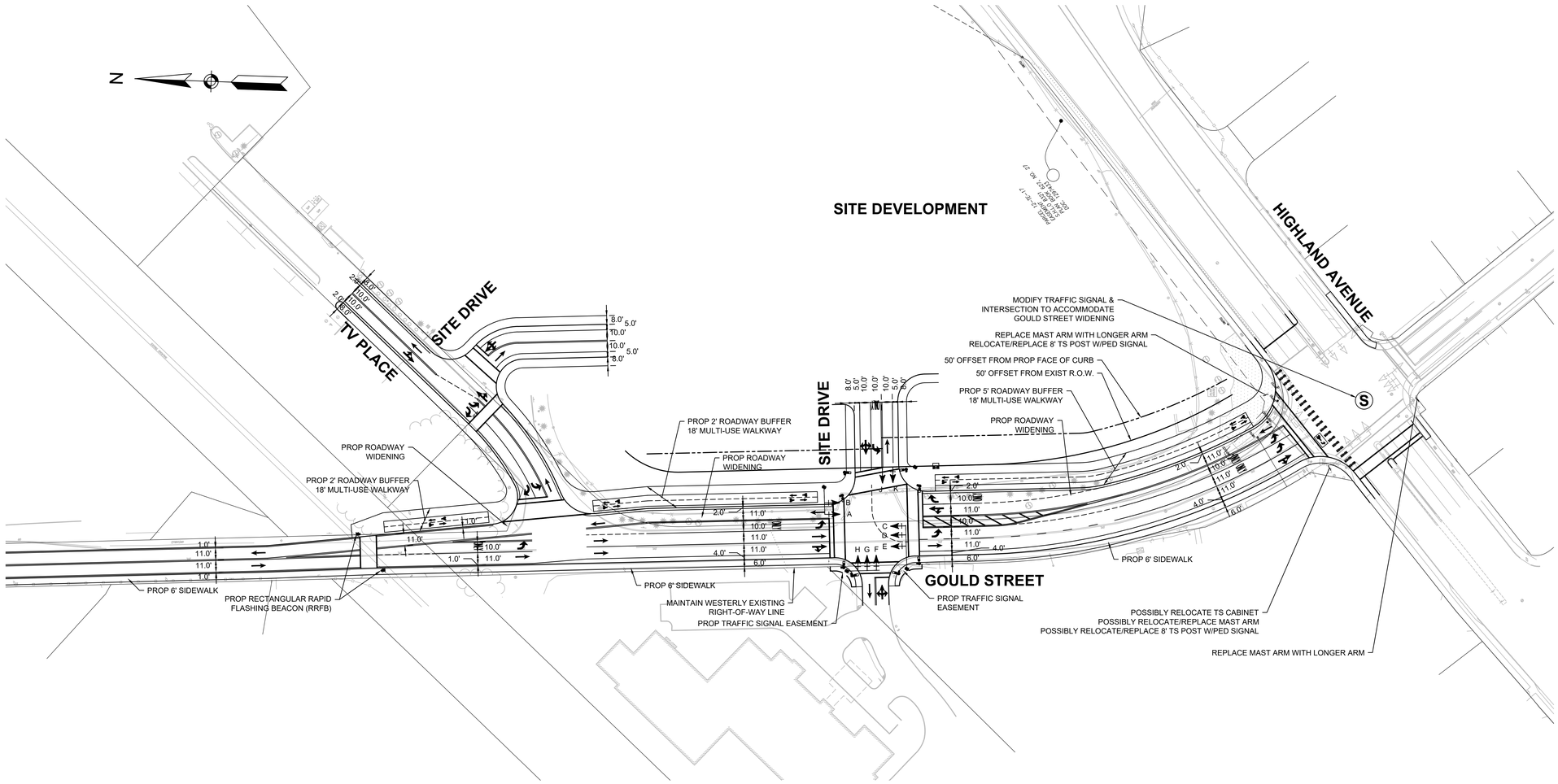
Project No.: 15306.00
File Name: N/A
Scale:

Author	Designer	Checker	2022.09.07
Dwn.	Dsgn.	Chkr.	YYYY.MM.DD

Title
Site Details

Revision:
Drawing No.
C-06

GOULD STREET BETWEEN HIGHLAND AVENUE
AND FORMER RAILROAD ROW
OFFSITE ROADWAY IMPROVEMENT PLAN



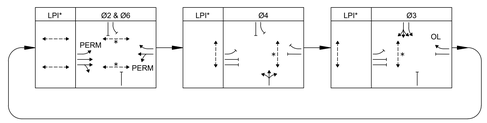
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SCALE: 1" = 40'

SIGNAL HEAD DATA

A,D,E,H,K	B	C	F	G,J	ALL
R Y G	R Y G Y G	R Y FY	R Y G	R Y G G	W/COUNTDOWN TIMER
ALL 12" LENS					

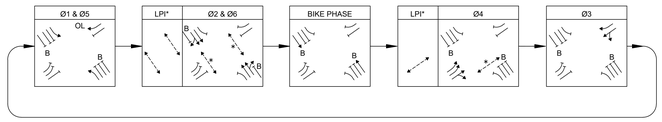
NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
2. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"x NON- LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
3. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
4. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

SITE DRIVEWAY
PREFERENTIAL PHASE SEQUENCE



* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
PERM = PERMISSIVE
LPI = LEADING PEDESTRIAN INTERVAL

HIGHLAND AVENUE
PREFERENTIAL PHASE SEQUENCE



* NORMALLY DW, W/FDW UPON PEDESTRIAN PUSH BUTTON ACTUATION
OL = OVERLAP
LPI = LEADING PEDESTRIAN INTERVAL
B = HIGHLAND AVENUE SEPARATED BIKE LANE

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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	90% SUBMISSION			2022.07.29
3	SPECIAL PERMIT PACKAGE			2022.06.17

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
KYLE J. LANGLOIS
CIVIL
No. 52648
REGISTERED PROFESSIONAL ENGINEER

8/15/2022



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

Project No.: 218421343
File Name: N/A
Scale: As indicated

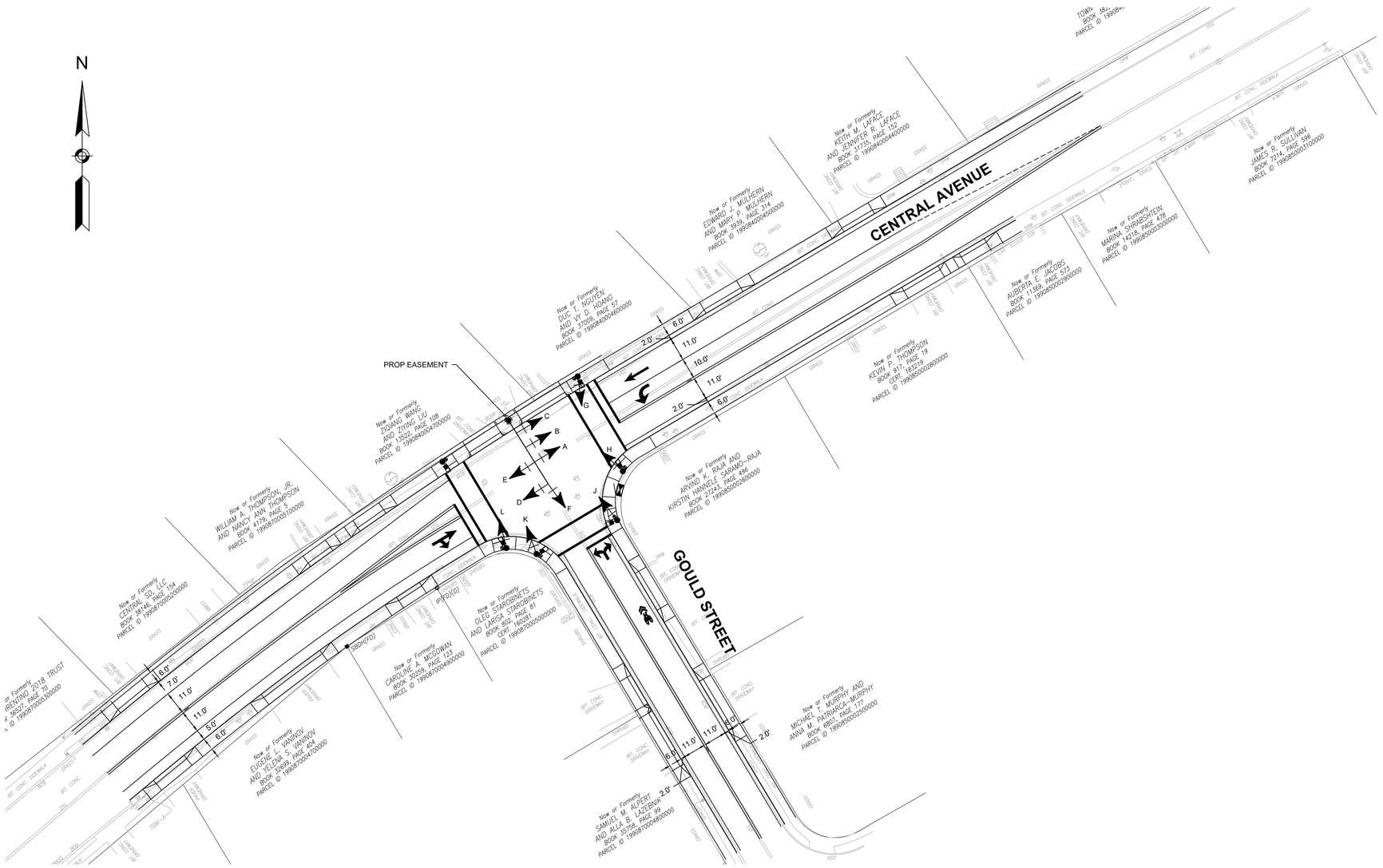
KL	KL	TM	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
OFF-SITE ROADWAY IMPROVEMENTS #1

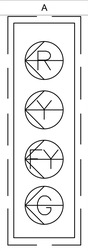
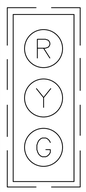
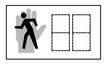
Revision:
Drawing No.
TR-001

ORIGINAL SHEET - ARCH E

GOULD STREET AT CENTRAL AVENUE
OFFSITE ROADWAY IMPROVEMENT PLAN

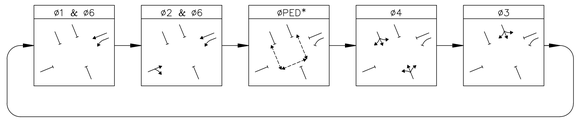


SIGNAL HEAD DATA

A	B,C,D,E,F,G,H,J,K,L	ALL
		 W/COUNTDOWN TIMER
ALL 12" LENS		

NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
2. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± NON- LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
3. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
4. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

PREFERENTIAL PHASE SEQUENCE



* UPON PEDESTRIAN PUSH BUTTON ACTUATION

0 20 50 100
SCALE: 1" = 20'

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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	PEER REVIEW PACKAGE R1			2022.08.02
1	90% SUBMISSION			2022.06.17
0	SPECIAL PERMIT PACKAGE			2022.05.13

Permit/Seal



8/2/2022

KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: As indicated

KL	KL	TM	2022.09.07
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

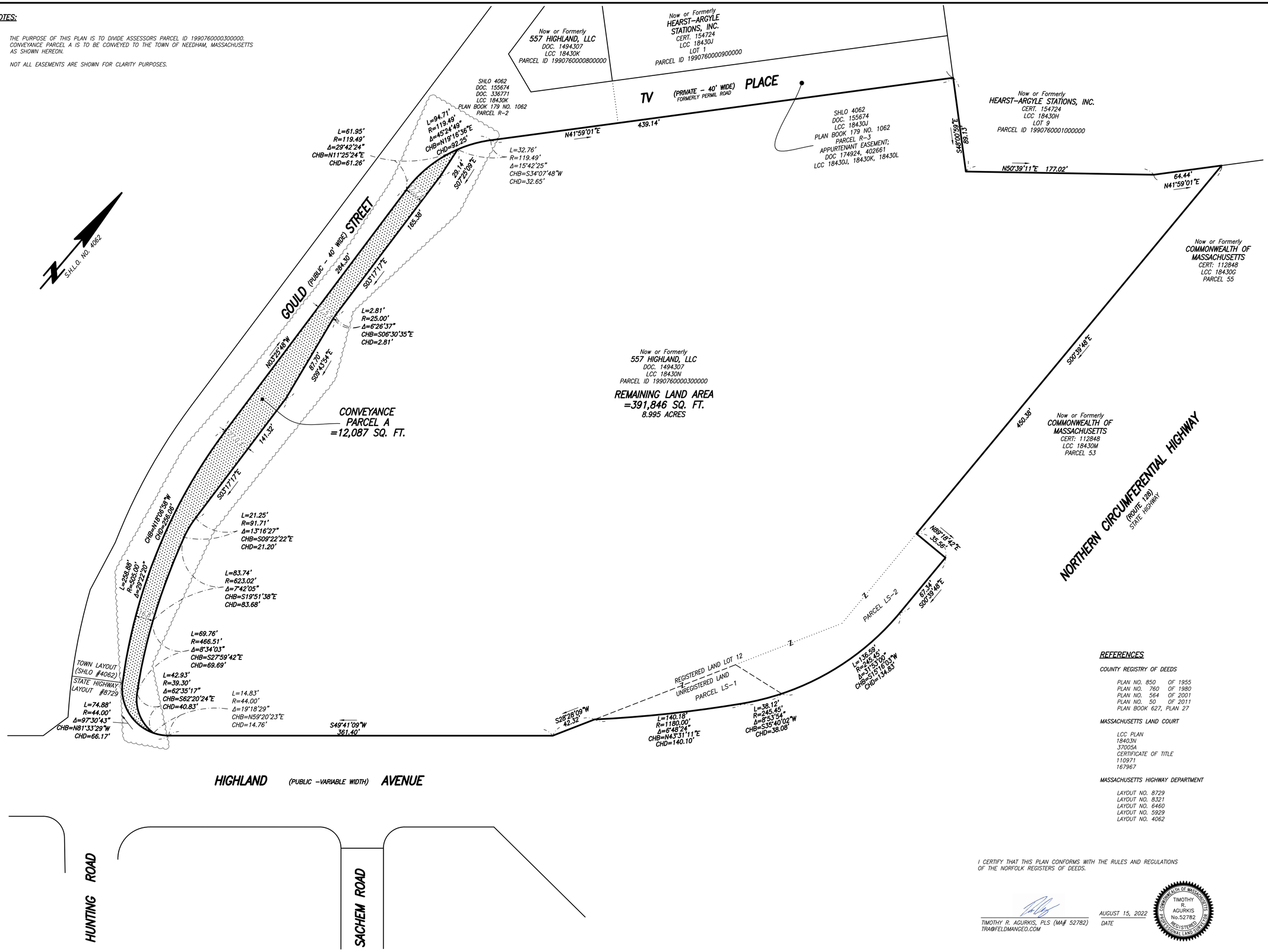
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OFF-SITE ROADWAY IMPROVEMENTS #2

Revision:
Drawing No.
TR-002

File Location: Project Information\...
8/5/2022 3:33:13 PM
ORIGINAL SHEET - ARCH E

NOTES:

1. THE PURPOSE OF THIS PLAN IS TO DIVIDE ASSESSORS PARCEL ID 1990760000300000. CONVEYANCE PARCEL A IS TO BE CONVEYED TO THE TOWN OF NEEDHAM, MASSACHUSETTS AS SHOWN HEREON.
2. NOT ALL EASEMENTS ARE SHOWN FOR CLARITY PURPOSES.



REFERENCES

COUNTY REGISTRY OF DEEDS

PLAN NO. 850 OF 1955
PLAN NO. 760 OF 1980
PLAN NO. 564 OF 2001
PLAN NO. 50 OF 2011
PLAN BOOK 627, PLAN 27

MASSACHUSETTS LAND COURT

LCC PLAN
18403N
37005A
CERTIFICATE OF TITLE
110971
167967

MASSACHUSETTS HIGHWAY DEPARTMENT

LAYOUT NO. 8729
LAYOUT NO. 8321
LAYOUT NO. 6460
LAYOUT NO. 5929
LAYOUT NO. 4062

I CERTIFY THAT THIS PLAN CONFORMS WITH THE RULES AND REGULATIONS OF THE NORFOLK REGISTERS OF DEEDS.

TIMOTHY R. AGURKIS, PLS (M#) 52782
TRA@FELDMANGEO.COM

AUGUST 15, 2022
DATE

COMMONWEALTH OF MASSACHUSETTS
TIMOTHY R. AGURKIS
No. 52782
REGISTERED PROFESSIONAL LAND SURVEYOR

FELDMAN GEOSPATIAL

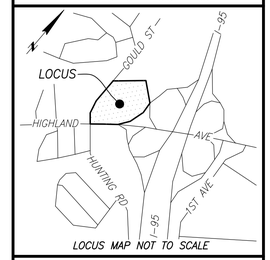
BOSTON HEADQUARTERS
152 HAMPDEN STREET
BOSTON, MA 02119

WORCESTER OFFICE
27 MECHANIC STREET
WORCESTER, MA 01608

(617)357–9740
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LOCUS MAP NOT TO SCALE

ADDRESS:

557 HIGHLAND AVENUE
NEEDHAM, MASS.

RESEARCH: MDH	FIELD CHIEF:
PROJ MGR: TRA	APPROVED:
CALC: MDH	CADD: MDH
FIELD CHK:	CRD FILE:

REVISIONS:

DRAWING NAME:

CONVEYANCE PLAN

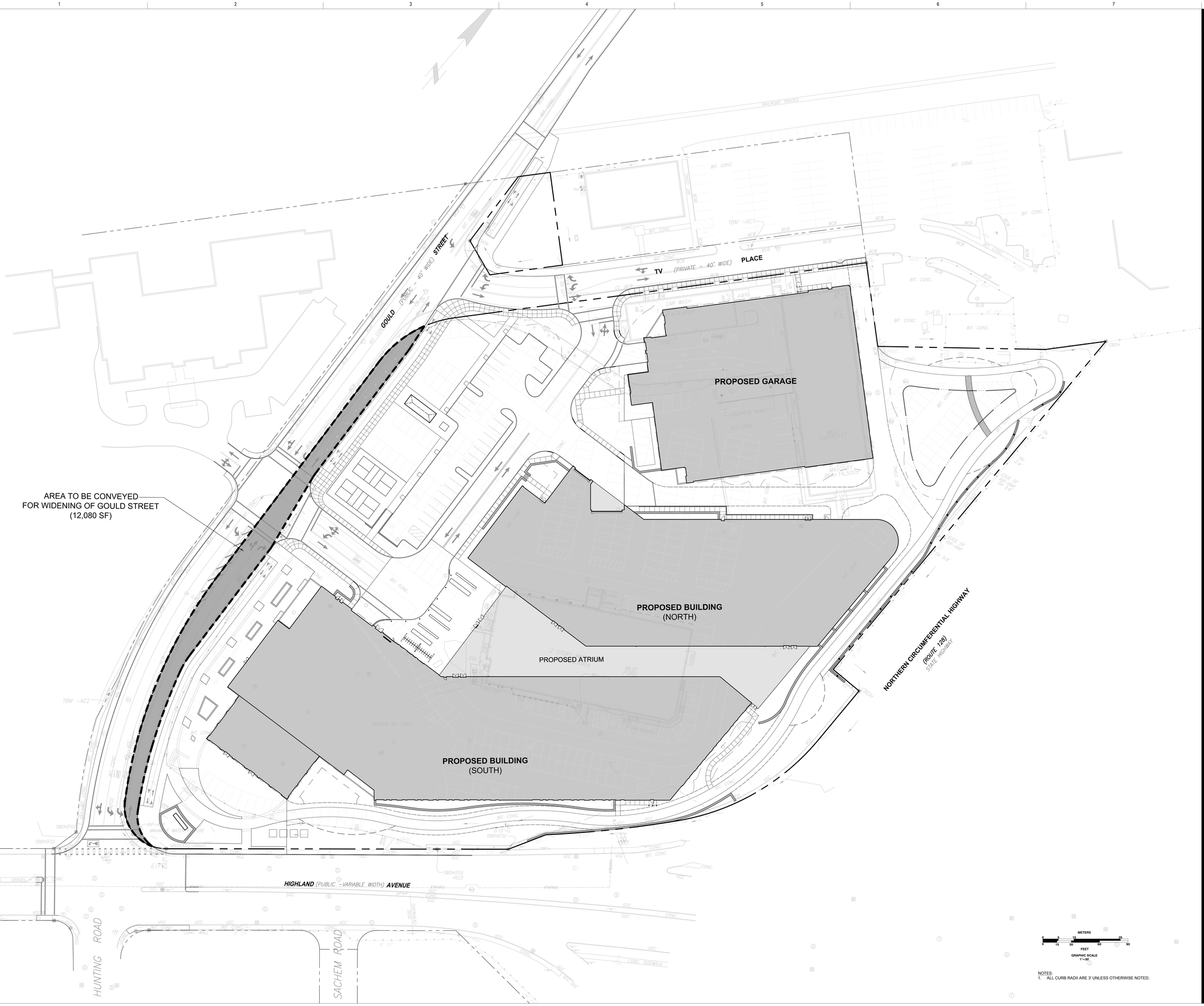
SPECIAL PERMIT PACKAGE R1
8/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

DATE: AUGUST 15, 2022

40 0 20 40 80

SCALE: 1"=40'

SHEET NO. 1 OF 1



ORIGINAL SHEET - ARCH E

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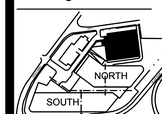
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Consultant

pfa
Landscape Architects + Planners
Civil Engineers + Land Surveyors
PAUL FINGER ASSOCIATES
14 Mount Vernon Street
Milford, Massachusetts 01757-4029
(508) 482-0030

Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1	DBF	SWM	2022.08.15
PEER REVIEW COMMENTS	DBF	SWM	2022.07.13
SPECIAL PERMIT PACKAGE	DBF	SWM	2022.03.30

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.: 218421343
File Name:
Scale: 1" = 30'-0"

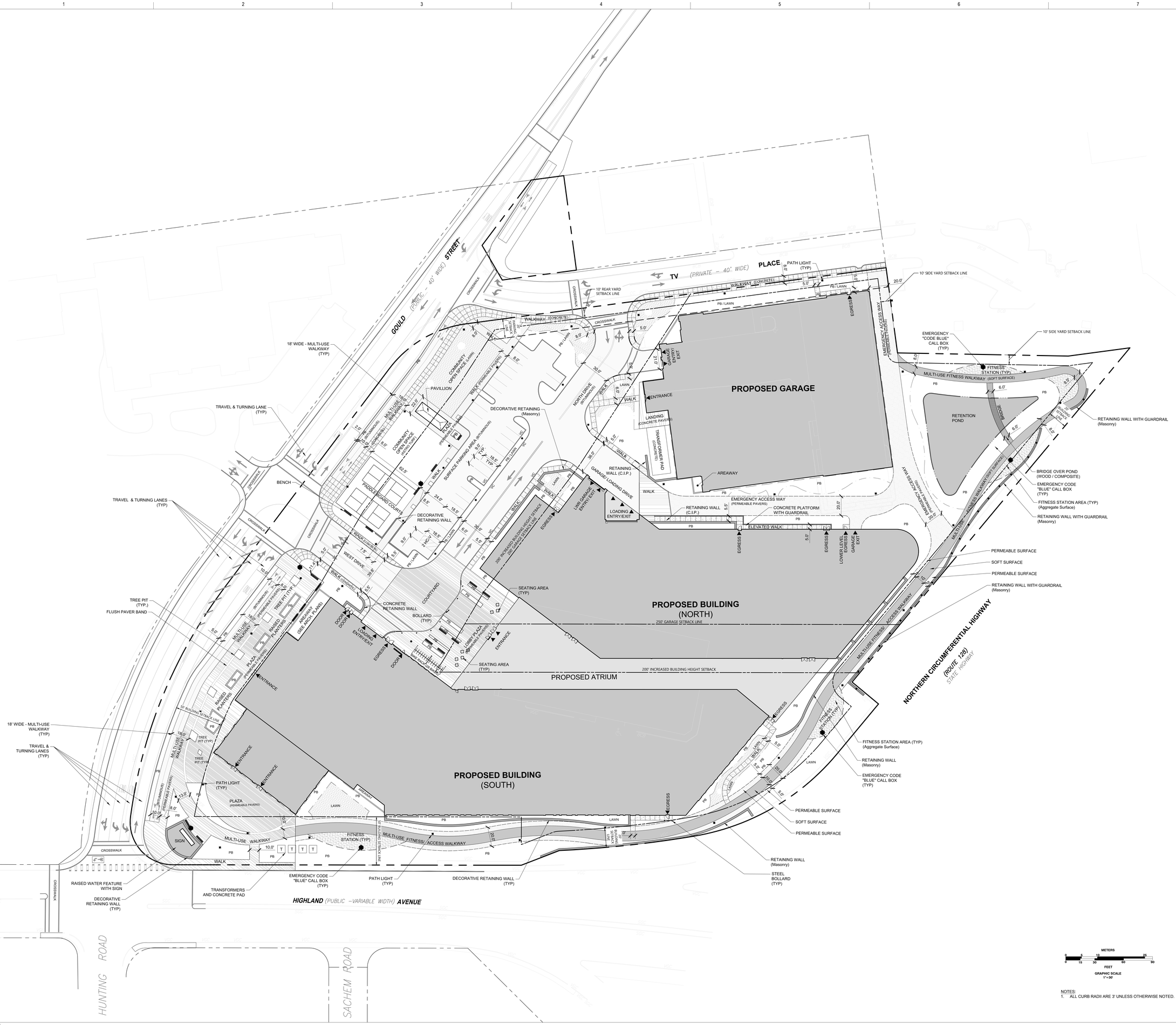
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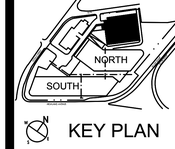
Title
CONVEYANCE

Revision:
Drawing No.
EX-1.0

METERS
0 5 10 20
0 15 30 60 90
FEET
GRAPHIC SCALE
1" = 30'

NOTES:
1. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.





KEY PLAN

NOTES:
1. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.

METERS 0 5 10 25 / 0 15 30 60 90 FEET
GRAPHIC SCALE 1" = 30'

Stantec
Stantec Architecture and Engineering P.C.
40 Wantor Street, 3rd Floor
Boston, MA 02135
Tel: (617) 234-3100 • www.stantec.com

Consultant
pfa Landscape Architects + Planners
Urban Design + Historic Preservation
PAUL FINGER ASSOCIATES
14 Story Street
Boston, Massachusetts 02444-4429
617 227 4900

No.	By	Appd	YYYY.MM.DD
1			2022.08.15
2			2022.07.13
3			2022.07.12
4			2022.03.30

Issued/Revision
SPECIAL PERMIT PACKAGE R1
DRB SUBMISSION
SPECIAL PERMIT PACKAGE
SPECIAL PERMIT PACKAGE R1

Permit/Seal
COMMONWEALTH OF MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

Project No.: 218421343
File Name:
Scale: 1" = 30'-0"
Dwn. Dsgn. Chkd. YYYY.MM.DD

Title
SITE PLAN

Revision:
Drawing No.
L-1.0

ORIGINAL SHEET - ARCH E



KEY PLAN

NOTES:
1. ALL CURB RADII ARE 3' UNLESS OTHERWISE NOTED.

METERS 0 5 10 25 / FEET 0 15 30 60 90
GRAPHIC SCALE 1"=30'

Stantec

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Boston MA 02135
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Consultant

pfa
Landscape Architects – Planners
Urban Designers – Preservationists
PAUL FINGER ASSOCIATES
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Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1	DSF	SMM	2022.08.15
DSF SUBMISSION	DSF	SMM	2022.07.15
SPECIAL PERMIT PACKAGE	DSF	SMM	2022.07.12
SPECIAL PERMIT PACKAGE	DSF	SMM	2022.03.30

Permit/Seal

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.: 218421343
File Name:
Scale: 1" = 30'-0"

Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GRADING PLAN

Revision:
Drawing No.
L-2.0

ORIGINAL SHEET - ARCH E



NO MOW LAWN MIX
HARD FESCUE (Festuca brevipila), SHEEP FESCUE (Festuca ovina), CHEWING FESCUE (Festuca rubra subs. fallax), RED FESCUE (Festuca rubra), CREEPING RED FESCUE(Festuca rubra var. rubra)

NEW ENGLAND CONSERVATION MIX (MEADOW MIX)
Virginia Wild Rye (Elymus virginicus), Little Bluestem (Schizachyrium scoparium), Big Bluestem (Andropogon gerardii). Red Fescue (Festuca rubra), Switch Grass (Panicum virgatum), Partridge Pea (Chamaecrista fasciculata), Panicledleaf Tick Trefoil (Desmodium paniculatum), Indian Grass (Sorghastrum nutans), Blue Vervain (Verbena hastata), Butterfly Milkweed (Asclepias tuberosa), Black Eyed Susan (Rudbeckia hirta), Common Sneezeweed (Helenium autunale), Heath Aster (AsterpiosusSymphyotrichum pilosum). Early Goldenrod (Solidago juncea), Upland Bentgrass (Agrostis perennans).

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT	ITEM		
	360	ASCLEPIAS INCARNATA SWAMP MILKWEED	FLAT 20 MIN.			18" o.c.
	858	ASTER NOVAE-ANGLIAE NEW ENGLAND ASTER	FLAT 20 MIN.			18" o.c.
	444	CAREX X 'SILVER SCEPTRE' SILVER SCEPTRE SEDGE	1 GAL			8" o.c.
	354	EUPATORIUM FISTOLOSUM JOE PYE WEED	1 GAL			18" o.c.
	283	GAULTHERIA PROCUMBENS WINTERGREEN	FLAT 20 MIN.			12" o.c.
	36	LIATRIS PYCNOSTACHYA GAYFEATHER	FLAT 20 MIN.			18" o.c.
	138	OSMUNDA CINNAMOMEA CINNAMON FERN	1 GAL			18" o.c.
	647	RHUS AROMATICA 'GRO-LOW' GRO-LOW FRAGRANT SUMAC	3 GAL			24" o.c.
	397	VERNONIA NOVEBORACENSIS COMON IRONWEED	FLAT 20 MIN.			18" o.c.
	714	WALDSTEINIA FRAGARIOIDES APPALACHIAN BARREN STRAWBERRY	FLAT 20 MIN.			12" o.c.

EVERGREEN	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NATIVE	
PG	34	PICEA GLAUCA WHITE SPRUCE	B & B	5-6' HT		
TS	45	THUJA OCCIDENTALIS 'SMARAGD' EMERALD GREEN ARBORVITAE	B & B	6-7' HT		
TM	71	TAXUS X MEDÍA 'HICKSII' HICKS YEW	B & B	4' - 5' HT		
ORNAMENTAL	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NATIVE	
CK	8	CORNUS KOUSA KOUSA DOGWOOD	B & B	3"CAL		
MS	16	MALUS X 'SPRING SNOW' SPRING SNOW CRABAPPLE	B & B	3"CAL		
SHADE TOLERANT	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NATIVE	
AC	21	AMELANCHIER CANADENSIS CANADIAN SERVICEBERRY	B & B	7-8' HT.	MULTI-STEM	
HV	40	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	B & B	6-7' HT		
SHADE TREES	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NATIVE	
AA2	3	ACER X FREEMANII 'ARMSTRONG' ARMSTRONG FREEMAN MAPLE COLUMNAR	B & B	3-4" CAL.		
BN	13	BETULA NIGRA `HERITAGE` HERITAGE RIVER BIRCH	B & B	3-4" CAL.		
BP	5	BETULA POPULIFOLIA GRAY BIRCH	B & B	3-3.5" CAL		
GI	12	GLEDITSIA TRIACANTHOS INERMIS THORNLESS HONEY LOCUST	B & B	3-4" CAL.		
LS	10	LIQUIDAMBAR STYRACIFLUA SWEET GUM	B & B	3-4" CAL.		
NS	12	NYSSA SYLVATICA TUPELO	B & B	3-4" CAL.		
QB	4	QUERCUS BICOLOR SWAMP WHITE OAK	15 GAL	3-4" CAL.		
QP	11	QUERCUS PALUSTRIS PIN OAK	B & B	3-4" CAL.		
TA	4	TILIA AMERICANA AMERICAN LINDEN	B & B	3-4" CAL.		
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NOTES	
CO	65	CORNUS SERICEA 'VARIEGATA' VARIEGATED RED TWIG DOGWOOD	5 GAL	24"-36"		
HI	86	HYDRANGEA PANICULATA 'LIMELIGHT' LIMELIGHT PANICLE HYDRANGEA	5 GAL	24"-36"		
Iv	185	ILEX VERTICILLATA 'JIM DANDY' JIM DANDY WINTERBERRY	3 GAL	18"-24"		
Ir	17	ILEX VERTICILLATA 'RED SPRITE' RED SPRITE WINTERBERRY	5 GAL	24"-36"		
Jc	112	JUNIPERUS CONFERTA SHORE JUNIPER	3 GAL	12"		
Va	27	VACCINIUM ANGUSTIFOLIUM LOWBUSH BLUEBERRY	2 GAL	12"		
EVERGREEN	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NOTES	
Ig	150	ILEX GLABRA INKBERRY HOLLY	5 GAL	24"-36"		
Kl	110	KALMIA LATIFOLIA MOUNTAIN LAUREL	5 GAL	24"-36"		
Pg2	17	PICEA PUNGENS 'GLAUCA GLOBOSA' BLUE GLOBE COLORADO SPRUCE	5 GAL	24"-36"		
Rc	81	RHODODENDRON X 'CUNNINGHAM'S WHITE' CUNNINGHAM'S WHITE RHODODENDRON	5 GAL	24"-36"		
GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NOTES	
Ce	347	CALAMAGROSTIS X ACUTIFLORA 'EL DORADO' EL DORADO FEATHER REED GRASS	3 GAL			
Pn	177	PANICUM VIRGATUM 'NORTHWIND' NORTHWIND SWITCH GRASS	2 GAL			
Ps	33	PANICUM VIRGATUM 'SHENANDOAH' SHENANDOAH SWITCH GRASS	2 GAL			
PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE	SIZE	NOTES	
Rk	106	ROSA SHRUB 'KNOCK OUT' KNOCK OUT ROSE	5 GAL			
Rh	141	RUDBECKIA HIRTA BLACK-EYED SUSAN	2 GAL			

Stantec
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Landscape Architects + Planners
Urban Designers + Preservationists
PAUL FINGER ASSOCIATES
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Boston, Massachusetts 02441-4429
(617) 492-4600

Issued/Revision	By	Appvd
SPECIAL PERMIT PACKAGE R1	TYP	TYP
DRB SUBMISSION	MJS	MJS
SPECIAL PERMIT PACKAGE	MJS	MJS
SPECIAL PERMIT PACKAGE	MJS	MJS

2022.08.15
2022.07.19
2022.06.21
2022.03.30

Permit/Seal

COMMONWEALTH OF MASSACHUSETTS
MICHAEL J. SCHMITT
No. 3 FINGER
REGISTERED LANDSCAPE ARCHITECT

KEY PLAN
NORTH
SOUTH

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

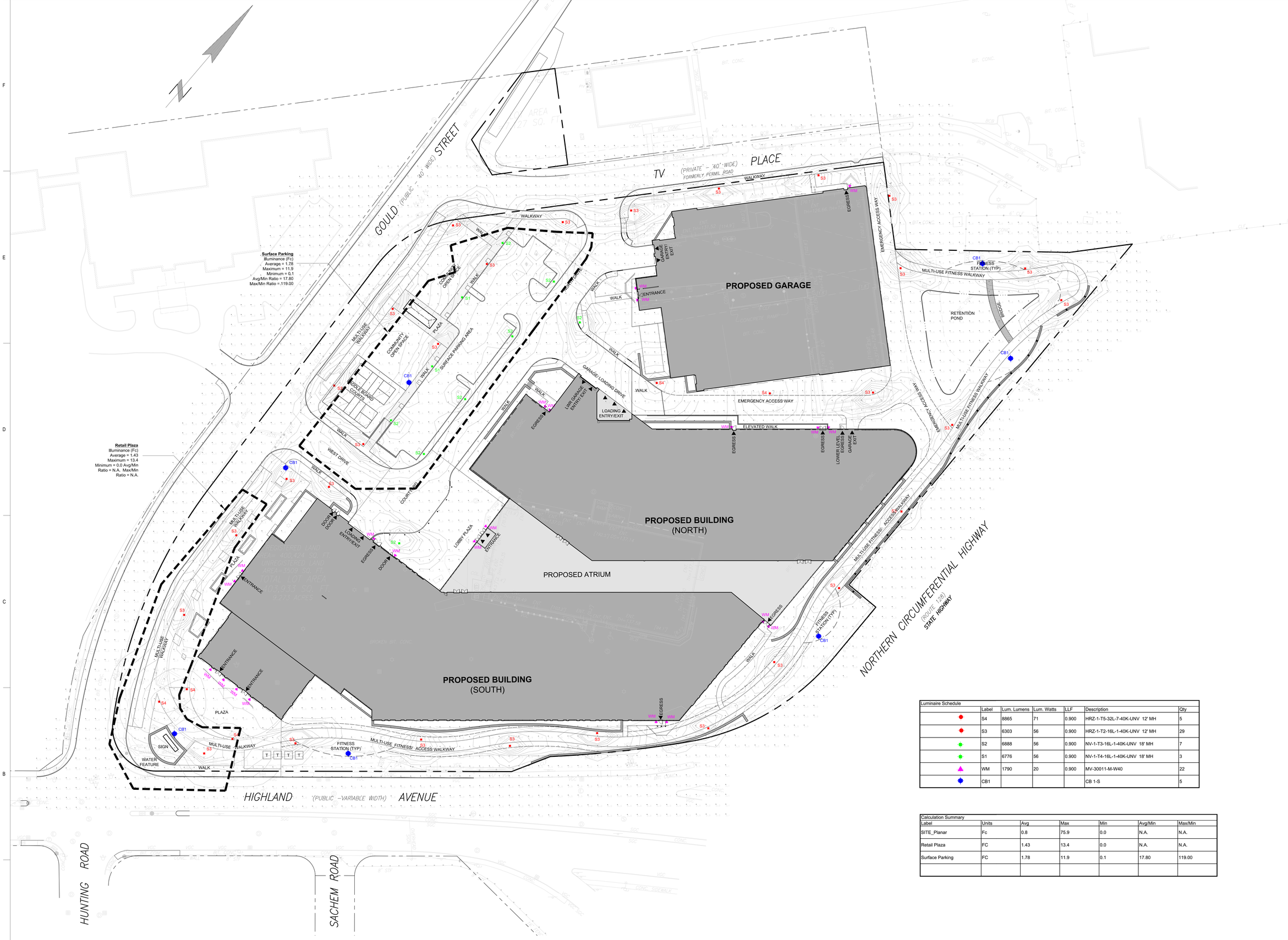
Project No.: 218421343
File Name: SPLANTING PLAN.DWG
Scale: 1" = 30'-0"

Dwn. | Dsgn. | Chkd. | YYYY.MM.DD

Title
SITE PLANTING PLAN

Revision:
Drawing No.
L-3.0

ORIGINAL SHEET - ARCH E



Luminaire Schedule						
	Label	Lum. Lumens	Lum. Watts	LLF	Description	Qty
	S4	8865	71	0.900	HRZ-1-T5-32L-7-40K-UNV 12' MH	5
	S3	6303	56	0.900	HRZ-1-T2-16L-1-40K-UNV 12' MH	29
	S2	6888	56	0.900	NV-1-T3-16L-1-40K-UNV 18' MH	7
	S1	6776	56	0.900	NV-1-T4-16L-1-40K-UNV 18' MH	3
	WM	1790	20	0.900	MV-30011-M-W40	22
	CB1				CB 1-S	5

Calculation Summary						
Label	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE_Planar	Fc	0.8	75.9	0.0	N.A.	N.A.
Retail Plaza	FC	1.43	13.4	0.0	N.A.	N.A.
Surface Parking	FC	1.78	11.9	0.1	17.80	119.00

METERS 0 5 10 20
FEET 0 15 30 60 90
GRAPHIC SCALE 1"=30'

Stantec
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40 Wantz Street, 3rd Floor
Danvers, MA 01923
Tel: (617) 234-3100 • www.stantec.com

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Issued/Revision	By	Appvd
SPECIAL PERMIT PACKAGE R1	EFJ	TYP.MM.DD
DRB SUBMISSION	EFJ	2022.08.15
SPECIAL PERMIT PACKAGE R1	EFJ	2022.07.13
SPECIAL PERMIT PACKAGE	EFJ	2022.03.30

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

Project No.: 218421343
File Name: SLT-LIGHTING PLAN.DWG
Scale: 1" = 30'-0"

Dwn.	Dsgn.	Chkd.
EFJ	LH	EFJ
		2022.03.30
		YYYY.MM.DD

Title
SITE LIGHTING PLAN

Revision:
Drawing No.
L-4.0

ORIGINAL SHEET - ARCH E

CB 1-S SIGNATURE HELP POINT®

Code Blue



Product Description

The CB 1-s is our most-popular pedestal Help Point. Highlighted by a high intensity area light that provides added visibility, this blue light emergency tower provides direct contact with first responders and is an excellent choice for walkways, parking lots, open campus areas and more.

Standard Features

- Durable quarter-inch steel construction
- Trademarked cylindrical design
- 9 feet tall
- 12.75" diameter
- LED faceplate light

Popular Applications

Open Spaces, Entry Points, Infrastructure

Popular Upgrades

Public Address, Overhead Camera Mount, Dual Faceplates, Mounting Rings, AED Housing



Get It Customized

We know your installation is unique. From paint and graphics to height and mountings, if you dream it, we can make it. Contact Customer Service at customerservice@codeblue.com or 800-205-7186 to learn more.

Technical Features

Code Blue

Specifications
- **Height:** 9' (274.32 cm)
- **Weight:** 330 lbs. (149.69 kg)
- **Diameter:** 12.75" (32.38 cm)
- **Material & thickness:** 0.25" steel
- **Access doors:** 15.88" x 9.64" (40.34 x 24.49 cm)

Power
- **Standard:** 12-24V AC/DC
- **Optional:** 120, 240, 277V AC
  - Hardwire
  - NightCharge®
  - PoE

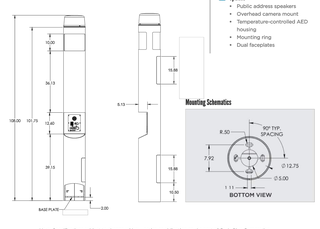
Communication
- **Speakerphone Options**
  - **IPS500:** Full duplex, SIP compatible VoIP phone.
  - **IA4100:** Analog full duplex phone.
- Hardwire
- Cellular
- IP wireless

Lighting
- LED faceplate light
- Beacon/strobe
- Area light

Style
- **Standard wet coat colors:** Dark Bronze, Gloss White, Gloss Black, Safety Blue, Safety Red, Safety Yellow, Bright Silver
- **Graphics text:** Assistance, Emergency
- **Graphics colors:** Black, Blue, White

Compliance
- UL 2017
- UL 60950-1
- NEMA 3S
- ADA

Options
- Public address speakers
- Overhead camera mount
- Temperature-controlled AED housing
- Mounting ring
- Dual faceplates



Note: Specifications subject to change without notice or obligation on the part of Code Blue Corporation.

CODE BLUE LIGHTS (CB1)
NOT TO SCALE

NV-1
NLS LIGHTING — AREA LIGHTING



FORM AND FUNCTION
- Sleek, low profile housing
- Spec grade performance
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for:
  - Parking Lots
  - Auto Dealerships
  - General Area Lighting

CONSTRUCTION
- Die Cast Aluminum
- External cooling fins
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- One-piece Optics Plate® mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate® standard

FINISH
- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY
Five-year limited warranty for drivers and LEDs.

LISTINGS
- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- DesignLights Consortium® (DLC)
- DesignLights Consortium Premium® (DLCP)
- IP65/ IP67 Rated
- 3G Vibration Rated per ANSI C136.31-2010

LED WATTAGE CHART

	16L	32L	48L	64L
350 milliamps	11w	-	-	-
530 milliamps	20w	-	-	-
700 milliamps	26w	51w	104w	136w
1050 milliamps	38w	108w	156w	205w

Project Name: Type:

Cat#	Light Dist.	# of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
NV-1 (NV-1)	Type 2 (T2) / Type 2 Short (T2S)● / Type 3 (T3) / Type 4 (T4) / Type 5 (T5)● / Nema 2 24" Narrow Beam (N2) / Nema 3 30" Narrow Beam (N3)	16 (16L) / 32 (32L) / 48 (48L) / 64 (64L)	350 (350) / 530 (530) / 700 (700) / 1050 (1050)●	2700K, 80 CRI (2700K)● / 3000K, 70 CRI (300K) / 3500K, 80 CRI (3500K)● / 4000K, 70 CRI (400K7) / 4000K, 80 CRI (4000K)● / 5000K, 70 CRI (500K7) / 5000K, 80 CRI (5000K)●	120-277V (UNV) / 347-480 (HV)	Direct Pole 3" Arm Single (SP3) / Direct Pole 3" Arm 0180, 090, 270, 2-Tenon, Quad (SP3T)● / Direct Pole 7" Arm (SP7) / Knuckle Mount (NM) / Wall Mount (WM) / Trunnion Mount (TM)● / Tenon Arm (TA) / Mast Arm (MA)	Bronze Textured (BRZ) / White Textured (WHT) / Smooth White Gloss (SWT) / Silver (SVR) / Black Textured (BLK) / Smooth Black Gloss (SBK) / Graphite Textured (GPH) / Grey Textured (GRY) / Custom (CS)	Bird Spikes (BS) / Marine Grade Finish (MGF) / Optic Plate Painted to Match Fixture (OPP) / Photocell Receptacle (PCR) / Photocell + Receptacle (PCR) / Receptacle + Shorting Cap (PER) / FSP-211 with Motion Sensor (Universal Voltage) (FSP-40)● / 40' Height Limit (FSP-40)● / 50' Height Limit (Quick Mount Bracket (QMB) / Retrofit Mount Bracket (RQMB) / Receptacle Only (Shorting Cap Not Included) (RSN) / Round Pole Adapter 5"-6" Pole (RPA5) / Rotated Optic Left (ROL) / Rotated Optic Right (ROR) / Automotive House Side Shield (AHS) / House Side Shield (HSS)●

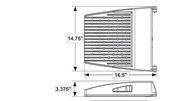
Notes:
- Consult Factory for Lead Time. Consult Factory for fill ON Requests.
- Not available in 64L and 700mA
- Standard finish is stainless steel. Can be painted to match fixture
- Not available above 120-277
- HSS not applicable with Nema 2 and Nema 3 Optics

ELECTRICAL
- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver by Philips Advance
- Driver power factor at maximum load is ≥ 95, THD maximum load is 15%
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- Lumileds Luxeon MX LED's
- CRI 70, 80 or 90
- Color temperatures: 2700K, 3000K, 3500K, 4000K, 5000K
- Surge Protection: 20KVA supplies as standard.

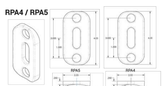
OPTIONS
- **BIRD SPIKES (BS)**—Offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
  - Chemically washed in a 5 stage cleaning system.
  - Pre-baked
  - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
  - 1-2 feet inside pole coverage top and bottom.
  - Oven Baked.
  - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **SHIELDS (HSS, AHS)**—House Side Shield (HSS) is designed for full property line cut off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.
- **ROUND POLE ADAPTER (RPA)**— When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.

CONTROLS
- **FSP-211 (FSP-X)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5-dimming event cycles, 0-10V dimming with motion sensing, reprogrammable in the field.
- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

OPTICS
Silicone optics high photothermal stability and light output provides higher powered LEDs with maximized lumen designation LED life. UV and thermal stability with scratch resistance increases exterior application durability.
- IES Types



RPA4 / RPA5



HOUSE SIDE SHIELD — AUTOMOTIVE HOUSE SIDE SHIELD

FSP-211

TYPE II (T2) TYPE III (T3) TYPE IV (T4) TYPE V (T5) NEMA 3 (N3)

NLS LIGHTING — 701 Kingshill Place, Carson, CA 90746 — Call Us Today (310) 341-2037 — nlslighting.com

LUMENS

PART NUMBER	N3	LM/W	T2	LM/W	DLC	T3	LM/W	DLC	T3 HSS	LM/W	T4	LM/W	DLC	T4 AHS	LM/W	T4 HSS	LM/W	T5	LM/W	DLC	W
NV1-16L-35-30K	2016	113	2106	117	P	2106	117	P	1134	63	2337	116	P	1206	67	1116	62	2221	118	P	18
NV1-16L-35-40K	2068	115	2268	126	P	2286	127	P	1295	67	2250	125	P	1368	76	1188	66	2304	128	P	18
NV1-16L-35-50K	2184	120	2376	132	P	2394	133	P	1278	71	2358	131	P	1440	80	1260	70	2412	134	P	18
NV1-16L-53-30K	3136	112	3192	114	P	3220	115	P	1764	63	3119	113	P	2016	72	1736	62	3248	116	P	28
NV1-16L-53-40K	3248	116	3472	124	P	3472	124	P	1876	67	3444	123	P	2128	76	1848	66	3500	125	P	28
NV1-16L-53-50K	3360	120	3612	129	P	3640	130	P	1988	71	3584	128	P	2240	80	1960	70	3668	131	P	28
NV1-16L-7-30K	4033	113	3960	110	P	3960	110	P	2268	63	3973	109	P	2592	72	2232	62	3906	111	P	36
NV1-16L-7-40K	4176	116	4428	123	P	4284	119	P	2412	67	4212	117	P	2736	76	2376	66	4320	120	P	36
NV1-16L-7-50K	4320	120	4644	129	P	4500	125	P	2556	71	4428	123	P	2880	80	2520	70	4500	125	P	36
NV1-16L-10-30K	5272	112	5160	110	S	5384	114	P	3528	63	5232	112	P	4032	72	3472	62	5440	115	P	56
NV1-16L-10-40K	5499	116	5922	125	S	5688	120	P	3752	67	5616	119	P	4256	76	3696	66	5600	118	P	56
NV1-16L-10-50K	5656	119	6027	127	S	5874	124	P	3976	71	5774	122	P	4480	80	3920	70	5824	123	P	56
NV1-32L-7-30K	7992	112	7810	110	S	7810	110	S	4473	63	7715	109	S	5112	72	4402	62	7881	111	S	71
NV1-32L-7-40K	8226	116	8617	122	P	8449	119	P	4757	67	8307	117	P	5396	76	4686	66	8529	120	P	71
NV1-32L-7-50K	8520	120	9159	129	P	8875	125	P	5041	71	8733	123	P	5680	80	4970	70	8945	126	P	71
NV1-32L-10-30K	11872	112	11660	110	S	12084	114	S	6678	63	11600	112	S	7632	72	6572	62	11760	113	S	106
NV1-32L-10-40K	12296	116	12932	122	P	13038	123	P	7102	67	12926	121	P	8056	76	6996	66	13144	124	P	106
NV1-32L-10-50K	12720	120	13668	129	P	13674	129	P	7526	71	13462	127	P	8480	80	7420	70	13780	130	P	106
NV1-48L-7-30K	11648	112	11440	110	S	11440	110	S	6552	63	11336	109	S	7488	72	6448	62	11544	111	S	104
NV1-48L-7-40K	12064	116	13208	127	P	12376	119	P	6968	67	13168	127	P	7904	76	6864	66	13480	130	P	104
NV1-48L-7-50K	12480	120	13520	130	P	13000	125	P	7384	71	12792	123	P	8320	80	7280	70	13104	126	P	104
NV1-48L-10-30K	17472	112	17160	110	S	17784	114	S	9828	63	17472	112	S	11232	72	9672	62	17640	113	S	156
NV1-48L-10-40K	18096	116	19032	122	P	19188	123	P	10452	67	19876	121	P	11856	76	10296	66	19344	124	P	156
NV1-48L-10-50K	18720	120	19968	128	P	20124	129	P	11076	71	19812	127	P	12480	80	10920	70	20286	130	P	156
NV1-64L-7-30K	15232	112	14960	110	S	14960	110	S	8568	63	14824	109	S	9792	72	8432	62	15096	111	S	136
NV1-64L-7-40K	15776	116	17272	127	P	16184	119	P	9112	67	17238	127	P	10336	76	8976	66	17544	129	P	136
NV1-64L-7-50K	16320	120	17680	130	P	17000	125	P	9656	71	16728	123	P	10880	80	9520	70	17136	126	P	136
NV1-64L-10-30K	22960	112	22550	110	S	23370	114	S	12916	63	22960	112	S	14760	72	12716	62	23576	115	S	205
NV1-64L-10-40K	23760	116	25010	122	P	25176	123	P	13716	67	24804	121	P	15560	76	13516	66	25420	124	P	205
NV1-64L-10-50K	24600	120	26240	128	P	26440	129	P	14556	71	26035	127	P	16400	80	14350	70	26650	130	P	205

*DLC S= Standard P= Premium

BUG RATINGS

PART NUMBER	T2	T3	T3 HSS	T4	T4 HSS	T5
NV1-16L-35-30K	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV1-16L-35-40K	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV1-16L-35-50K	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV1-16L-53-30K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-53-40K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-53-50K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-7-30K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-7-40K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-7-50K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV1-16L-10-30K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B4-U0-G2
NV1-16L-10-40K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B4-U0-G2
NV1-16L-10-50K	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B4-U0-G2
NV1-32L-7-30K	B2-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B4-U0-G2
NV1-32L-7-40K	B2-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B4-U0-G2
NV1-32L-7-50K	B2-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B4-U0-G2
NV1-32L-10-30K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-32L-10-40K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-32L-10-50K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-48L-7-30K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-48L-7-40K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-48L-7-50K	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV1-48L-10-30K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV1-48L-10-40K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV1-48L-10-50K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV1-64L-7-30K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV1-64L-7-40K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV1-64L-7-50K	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV1-64L-10-30K	B3-U0-G3	B3-U0-G3	B2-U0-G3	B3-U0-G3	B2-U0-G3	B5-U0-G3
NV1-64L-10-40K	B3-U0-G3	B3-U0-G3	B2-U0-G3	B3-U0-G3	B2-U0-G3	B5-U0-G3
NV1-64L-10-50K	B3-U0-G3	B3-U0-G3	B2-U0-G3	B3-U0-G3	B2-U0-G3	B5-U0-G3

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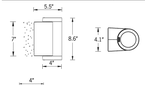
PARKING AREA LIGHTS (S1 - * & S2 - ** : MOUNTING HEIGHT 18' POLE MOUNTED)
NOT TO SCALE

UMV-30041
Marvik 5 Surface Up/Downlight

LIGMAN LIGHTING USA



2x15W COB 2x1245 Lumens
IP65 - Suitable For Wet Locations
IK08 - Impact Resistant (Vandal Resistant)
Weight 6 lbs





Mounting Detail

Construction

Aluminum
Less than 0.1% copper content - Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent heat dissipation properties, clean detailed products lines and excellent heat dissipation.

Pre-paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive Silicon Gasket
Precision engineered, computer modeled "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management
Engineered for maximum to excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures, The superior thermal heat sink design by Lignan utilizes maximum surface area to dissipate heat and keep the critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

BUG Rating
B1 - U0 - G2

Finishing
All Lignan products go through an extensive finishing process that includes Nothing to improve paint adherence.

Paint
UV Stabilized 4.5Mil thick powder coat paint and baked at 200 Deg. C. This process ensures that Lignan products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
The Lignan Nature Finishing Technology is a unique system of decorative powder coating. Our metal decoration process can easily transforms the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, stone and exotic granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire surface of the product, so that the wood grain finish will not be removed by normal rubbing, chipping, or scratching.

The Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder coating is then cured in an oven to provide a durable finish of corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a period of time sufficient to allow the pattern to be completely heat-seen. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a wood timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products that are the ideal way to use wood resources that are currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. Lignan's wood grain finish is environmentally standard of performance excellence and design innovation.

Added Benefits:
- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Resistant to UV, Scratch Resistant, Anti-Scratch
- Super durable (UV resistant)
- TIGC free (non-toxic)

Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound that prevents the threads from corroding together due to the electrolytes from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and maximum efficiency of light.
LED CRI > 80

Lumen - Maintenance Life
L80: 50k at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Cylindrical, single or double-sided wall family. Compact and decorative appearance belies powerful outputs and technical optics for perfect task illumination

A stunning new waterproof & dust proof wall cylinder range, designed with no visible fasteners, a one-piece body and integrated driver housing.
This smart mechanical modern designed luminaire with cylindrical body provides a stylish solution to wall mounted cylinders.

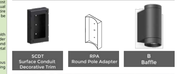
This innovative design houses a variety of COB wattages to suit designer's specific requirements as well as a selection of field interchangeable reflector optics, that include narrow, medium, wide and very wide distributions. This series is available in 3 different diameters, namely 3", 4" & 6" to suit lighting design requirements.

These luminaires are suitable for various facade lighting requirements along with accent lighting, building columns and architectural highlighting etc. The Marvik 1 protrudes 4" from the wall, making this product suitable for ADA applications.

This luminaire range can be provided with a bayonet lock baffle to reduce glare, as well as a frosted lens option. The SCE surface conduit entry box option can be provided as an option for an attractive solution to surface conduit entry.

Ligman can also provide custom made boxes to fit on a pole, bollard, pillar or pole.

Additional Options (Consult Factory For Pricing)





Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

HORIZON PT
NLS LIGHTING — ARCHITECTURAL LIGHTING

Horizon Post Top luminaire is a blend of beautiful luminaire design which is a compliment to commerical or recreational pathways. It is named the Horizon because the luminaire is intended to be a vehicle of which the horizon can be viewed through the inside and around the luminaire without obstruction.

This Dark Sky Friendly Full Cutoff luminaire utilizes silicone Micro Optics to distribute light uniformly as its LEDs are recessed and hidden. Its performance exceeds IES minimum foot candle levels at lower wattage and extends maintenance cycles throughout its lifetime. Horizon MA is available in (warm) 3000, (neutral) 4000 and (cool) 5000 Kelvin temperatures and a range of 18 to 205 watts.

Built to conform to the strictest Made in America standards. Designed, tooled, fabricated and assembled in the USA.



MICRO OPTIC SYSTEM

Our new cell-inclosed, micro optic silicone modules produce high clarity and outstanding performance.

LED WATTAGE CHART

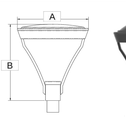
	16L	32L	48L	64L
350 millamps	11w	-	-	-
530 millamps	20w	50w	-	-
700 millamps	26w	71w	104w	136w
1050 millamps	38w	108w	156w	205w

Project Name: Type:

Cat #	Light Dist.	No. of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
Horizon 1 (HRZ-1)	Type 2● (T2) / Type 3 (T3) / Type 4 (T4) / Type 5●● (T5)	16 (16L)● / 32 (32L)●● / 48 (48L) / 64 (64L)	350 (35) / *Std. Only / 530 (53) / 700●● (7) / 1050● (1)	3000 (30K) / 4000●● (40K) / 5000 (50K)	120-277●● (UNV) / 347-480 (HV)	Post Top Over 3" OD (PT2) / Post Top●● Over 3" OD (PT3) *Standard / Post Top Over 3-1/2" OD (PT312)	Bronze (BRZ) / White (WHT) / Silver (SVR) / Hunter Green (HGN) / Black (BLK) / Graphite (GPH) / Grey (GRY) / Custom (CS)	Dome Top (DT) / Marine Grade Finish (MGF) / House Side Shield (HSS) / Nema 7-Pin Receptacle (PE7) / Receptacle + Short Cap (PER) / Photocell (10K) *Universal Voltage 120-277 / Surge Protector (T10K) / FSP-211 with Motion Sensor (Universal Voltage) (FSP-9)*For 9' + Below (FSP-20)*For 9'-20' (FSP-40)*For 21' to 40'

DIMENSION	HRZ-1
A	24.00 in
B	25.75 in

EPA	STD TOP	DOME TOP
HRZ-1	1.15	1.40



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PRODUCT SPECIFICATIONS

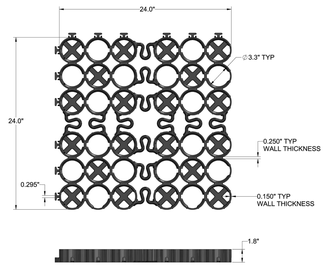
Housing: Low Profile Cast, Spun Aluminum Housing + Frame
LED: Lumileds Luxeon MX, CRI 70
Optics: Micro Optics; T2, T3, T4 and T5
Watts: 18-205
L70 Depreciation: 483,000 Hours (@77°F/ 25°C)
LSG: 70,000
Listings: Conforms to UL 1598 Standards

Driver: 0-10V Dimming driver as standard by Philips Advance
THD @ Max Load < 15%
Power Factor @ Max Load < 0.95
Kelvin: 3000, 4000, or 5000
Finish: 3-5 mils Powder Coat
Warranty: Standard Warranty is 5 years for Driver and LEDs

PRODUCT DIMENSIONS

LUMEN DATA CHART

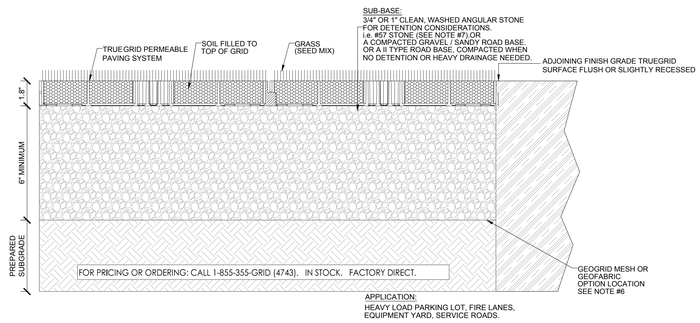
PART NUMBER	T2 LUMENS	T2 LM/W	T3 LUMENS	T3 LM/W	T3-HSS LUMENS	T3-HSS LM/W	T4 LUMENS	T4 LM/W	T4-HSS LUMENS	T4-HSS LM/W	T5 LUMENS	T5 LM/W	Watts
HRZ-1-16L-35-30K	2142	119	2088	116	1044	58	2070	115	1026	57	2160	120	18
HRZ-1-16L-35-40K	2304	128	2247	125	1116	62	2227	124	1098	61	2322	129	18
HRZ-1-16L-35-50K	2356	131	2297	128	1188	66	2277	127	1170	65	2376	132	18
HRZ-1-16L-53-30K	3276	117	3192	114	1624	58	3185	113	1596	57	3304	118	28
HRZ-1-16L-53-40K	3524	126	3435	123	1736	62	3405	122	1708	61	3556	127	28
HRZ-1-16L-53-50K	3920	129	3511	125	1848	66	3482	124	1820	65	3640	130	28
HRZ-1-16L-7-30K	4100	114	4115	111	2080	58	4003	111	2002	57	4176	116	36
HRZ-1-16L-7-40K	4411	123	4305	119	2232	62	4308	120	2196	61	4500	125	36
HRZ-1-16L-7-50K	4510	125	4396	122	2376	66	4404	122	2340	65	4608	128	36
HRZ-1-16L-10-30K	5995	105	5712	102	3248	58	5661	101	3192	57	5880	105	56
HRZ-1-16L-10-40K	6303	113	6146	110	3472	62	6091	109	3416	61	6328	113	56
HRZ-1-16L-10-50K	6441	115	6283	112	3696	66	6227	111	3640	65	6496	116	56
HRZ-1-32L-53-30K	5858	105	6712	102	3248	58	5661	101	3192	57	5880	105	56
HRZ-1-32L-53-40K	6303	113	6146	110	3472	62	6091	109	3416	61	6328	113	56
HRZ-1-32L-53-50K	6443	115	6283	112	3696	66	6227	111	3640	65	6496	116	56
HRZ-1-32L-7-30K	7427	105	7881	111	4118	58	7896	111	4547	57	8295	116	71
HRZ-1-32L-7-40K	7991	113	8490	119	4432	62	8496	120	4331	61	8875	125	71
HRZ-1-32L-7-50K	8186	115	8689	122	4686	66	8685	122	4615	65	9082	128	71
HRZ-1-32L-10-30K	11069	106	10812	102	6148	58	10715	101	6042	57	11130	105	106
HRZ-1-32L-10-40K	11628	113	11834	110	6872	62	11829	109	6466	61	11978	113	106
VSH-1-32L-1-50K	12195	115	11993	112	6996	66	11787	111	6890	65	12296	116	106
HRZ-1-48L-7-30K	11844	106	11544	111	6032	58	11448	112	5928	57	12068	116	104
HRZ-1-48L-7-40K	12744	123	12421	119	6488	62	12444	120	6344	61	12985	125	104
HRZ-1-48L-7-50K	13028	125	12696	122	6944	66	12760	123	6756	65	13275	128



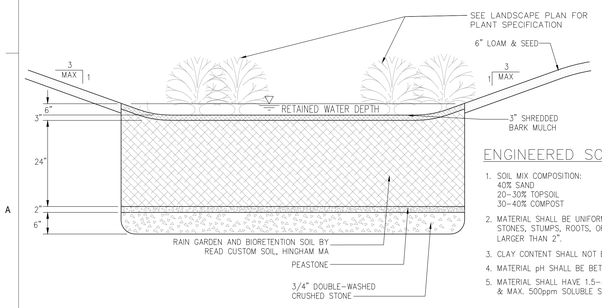
NOTES:

1. SUB-BASE DEPTH AND PREPARATION IS DEPENDENT ON SITE CONDITIONS PLUS LOADING REQUIREMENTS.
2. TRUEGRID PRO PLUS PRODUCTS ARE SUFFICIENTLY RATED FOR H-20 /HS-20 LOADING AND GREATER.
3. TYPICAL SEEDING OR HYDROSEEDING METHODS FOR GRASS GROWTH ARE ACCEPTABLE WITH TRUEGRID.
4. SOD CAN BE LAID ON SOIL FILLED GRID FOR IMMEDIATE GRASS (TYPICAL FOR FIRE LANES)
5. FOR HIGHER TRAFFIC SOD INSTALLATIONS, RECESS SOIL LEVEL WITHIN TRUEGRID AND PRESS IN SOD SO THAT TOP OF GRID IS AT SOIL LEVEL.
6. GEOGRID MESH OR GEOFABRIC MAY BE REQUIRED BETWEEN SUBGRADE & SUBBASE FOR CERTAIN SOILS AND SITE SPECIFIC REQUIREMENTS.
7. FILTER FABRIC MAY BE REQUIRED BETWEEN TRUEGRID AND SUB-BASE MATERIAL IF HIGH VOID RATIO IN SUB-BASE MATERIAL.
8. NO STAKING NECESSARY WITH TRUEGRID PRO PLUS WHEN SLOPE IS BELOW 10 DEGREES. ASSESS PROJECT, AS NEEDED.
9. FINAL ENGINEERED CROSS SECTION AGGREGATES AND DEPTH SHOULD ALLOW FOR EXPECTED INFILTRATION RATES,STORAGE CAPACITIES, OUTLET FLOW RATES, AND OTHER SITE SPECIFIC CONDITIONS AND LOAD REQUIREMENTS.
10. THIS CROSS SECTION IS FOR INFORMATION ONLY.

REINFORCED LAWN - PLAN VIEW



REINFORCED LAWN
NOT TO SCALE



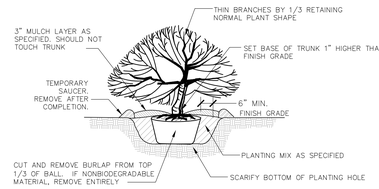
ENGINEERED SOIL MIX SPECIFICATIONS

1. SOIL MIX COMPOSITION:
   40% SAND
   20-30% TOPSOIL
   30-40% COMPOST
2. MATERIAL SHALL BE UNIFORM, FREE FROM STONES, STUMPS, ROOTS, OR OBJECTS LARGER THAN 2".
3. CLAY CONTENT SHALL NOT EXCEED 5%
4. MATERIAL pH SHALL BE BETWEEN 5.5-6.5.
5. MATERIAL SHALL HAVE 1.5-3% ORGANIC CONTENT & MAX. 500ppm SOLUBLE SALT.
6. SAND COMPONENT SHALL MEET ASTM D 422 AND THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING
2-INCH	100
3/4 INCH	70-100
1/4 INCH	50-80
No. 4	15-40
No. 200	0-3

7. TOPSOIL SHALL BE A SANDY LOAM, LOAMY SAND, OR LOAM.
8. COMPOST SHALL BE PROCESSED FROM YARD WASTE IN ACCORDANCE WITH DEP GUIDELINES AND SHALL NOT CONTAIN BIO-SOLIDS.

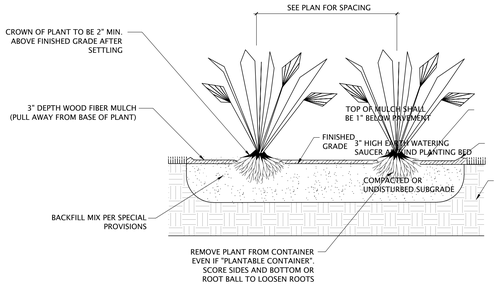
RAIN GARDEN
NOT TO SCALE



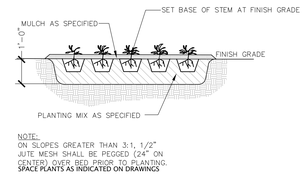
SHRUB PLANTING
NOT TO SCALE



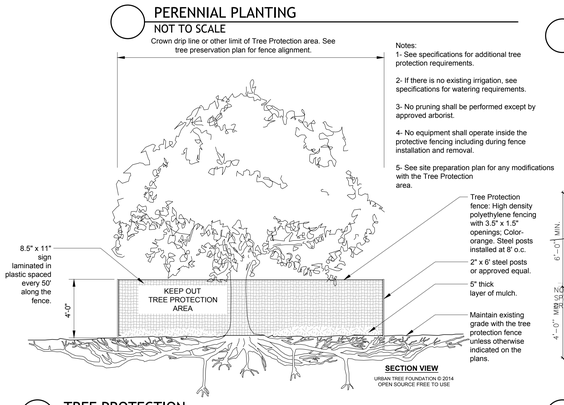
TYPICAL SEEDED NO-MOW LAWN
NOT TO SCALE



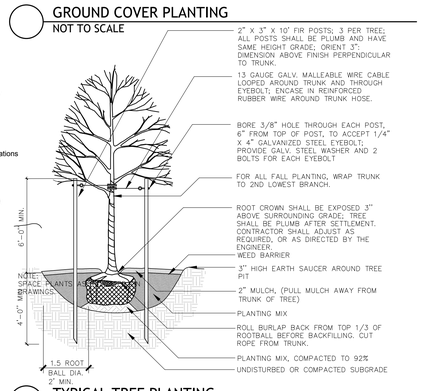
PERENNIAL PLANTING
NOT TO SCALE



GROUND COVER PLANTING
NOT TO SCALE



TREE PROTECTION
NOT TO SCALE



TYPICAL TREE PLANTING
NOT TO SCALE

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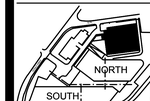
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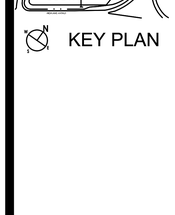
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Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
DRB SUBMISSION			2022.07.13
SPECIAL PERMIT PACKAGE R1			2022.06.17
SPECIAL PERMIT PACKAGE			2022.03.30

Permit/Seal





KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.: 218421343
File Name: SPK-L0-0-SITE DETAILS.dwg
Scale: As Specified

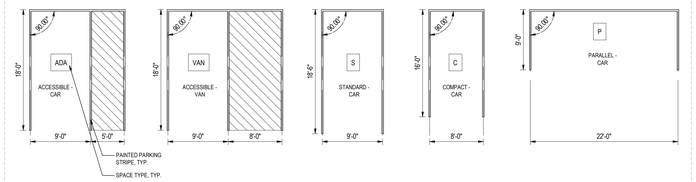
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
SITE
DETAILS #2

Revision:
Drawing No.
L-5.1

ORIGINAL SHEET - ARCH E

PARKING LEGEND



STRUCTURED GARAGE - SEE AG SERIES DWGS

GARAGE LEVEL G1 PLAN
1" = 20'-0"

Stantec

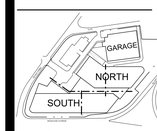
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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	DEP SUBMISSION			2022.07.15
3	30% CONCEPT SUBMISSION			2022.03.30
4	30% CONCEPT SUBMISSION - R1			2022.04.29

Permit/Seal



KEY PLAN

PARKING COUNT	
Type Comments	Count

LEVEL G1	
ACCESSIBLE	4
ACCESSIBLE - EV SPACE	2
ACCESSIBLE VAN	1
ACCESSIBLE VAN - EV SPACE	1
COMPACT	151
COMPACT - EV SPACE	18
PARALLEL	3
STANDARD	112
STANTARD - EV SPACE	70
LEVEL G1: 362	362
GRAND TOTAL: 362	362

PARKING SYMBOLS

ADA =	ACCESSIBLE
ADA-EV =	ACCESSIBLE ELECTRIC VEHICLE
VAN =	ACCESSIBLE VAN
B =	BOLLARD - EMBEDDED IN SLAB
EV =	ELECTRIC VEHICLE
P=	PARALLEL
S =	STANDARD
WF =	WHEELED FIRE EXTINGUISHER

STALL STRIPING

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: As indicated

Author	Designer	Checker	2022.04.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

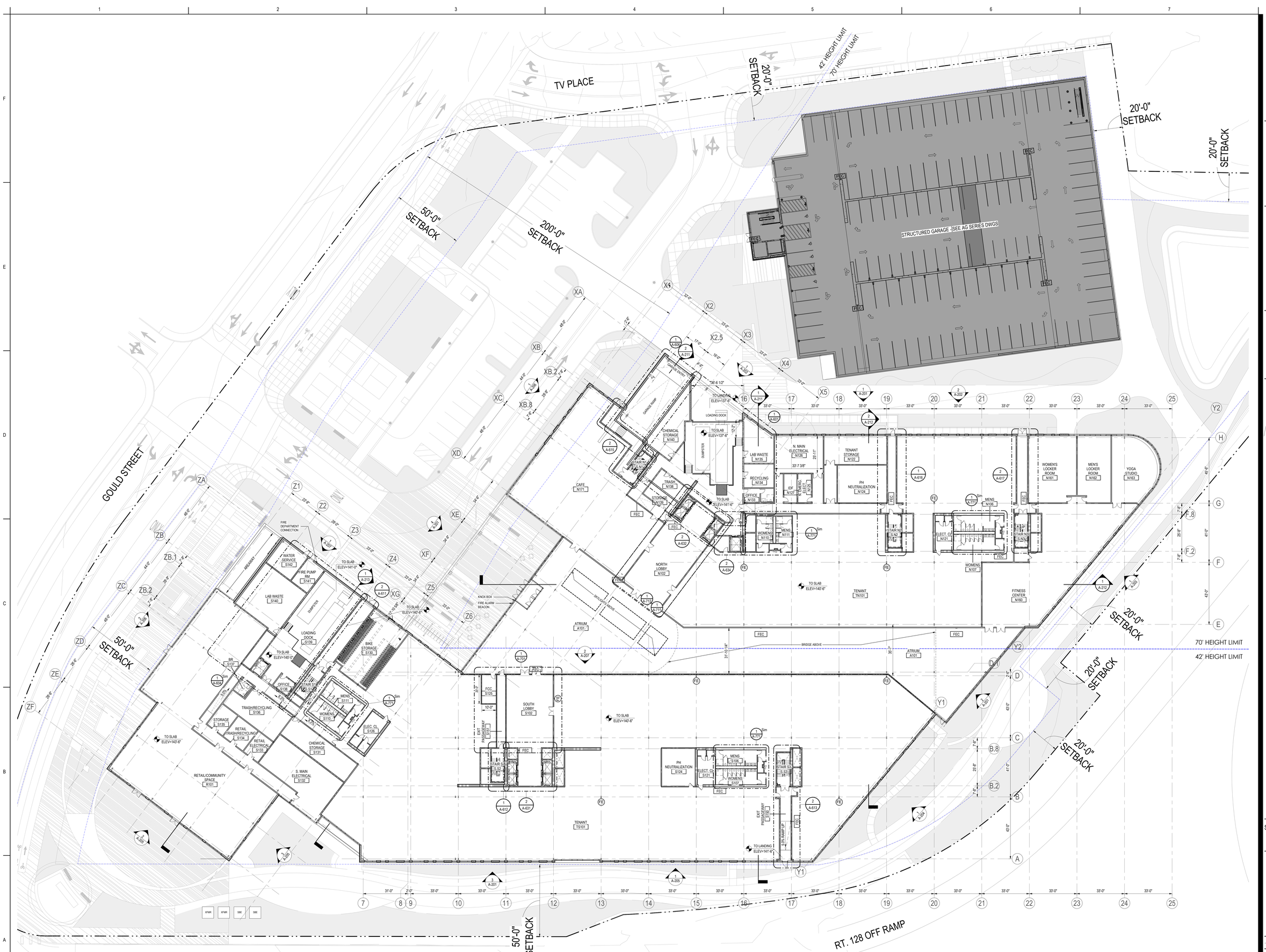
Title
GARAGE LEVEL G1 - OVERALL PLAN & PARKING LEGEND

Revision:

Drawing No.
A-100G1

*Pro Bulfinch Project Information
6/30/2022 3:23:14 PM

ORIGINAL SHEET - ARCH E



1 A-101 **LEVEL 1 - OVERALL PLAN**
1" = 20'-0"

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Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
DEP SUBMISSION			2022.07.15
30% DESIGN SUBMITTAL			2022.03.30
100% CD SUBMITTAL			2022.03.30

Permit/Seal



KEY PLAN

LEGEND

- WF — WHEELED FIRE EXTINGUISHER
- FE — FIRE EXTINGUISHER BRACKET WALL MTD
- FEC — FIRE EXTINGUISHER CABINET WALL MTD

75'-0" MAX. DISTANCE PER CODE, TYP.

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

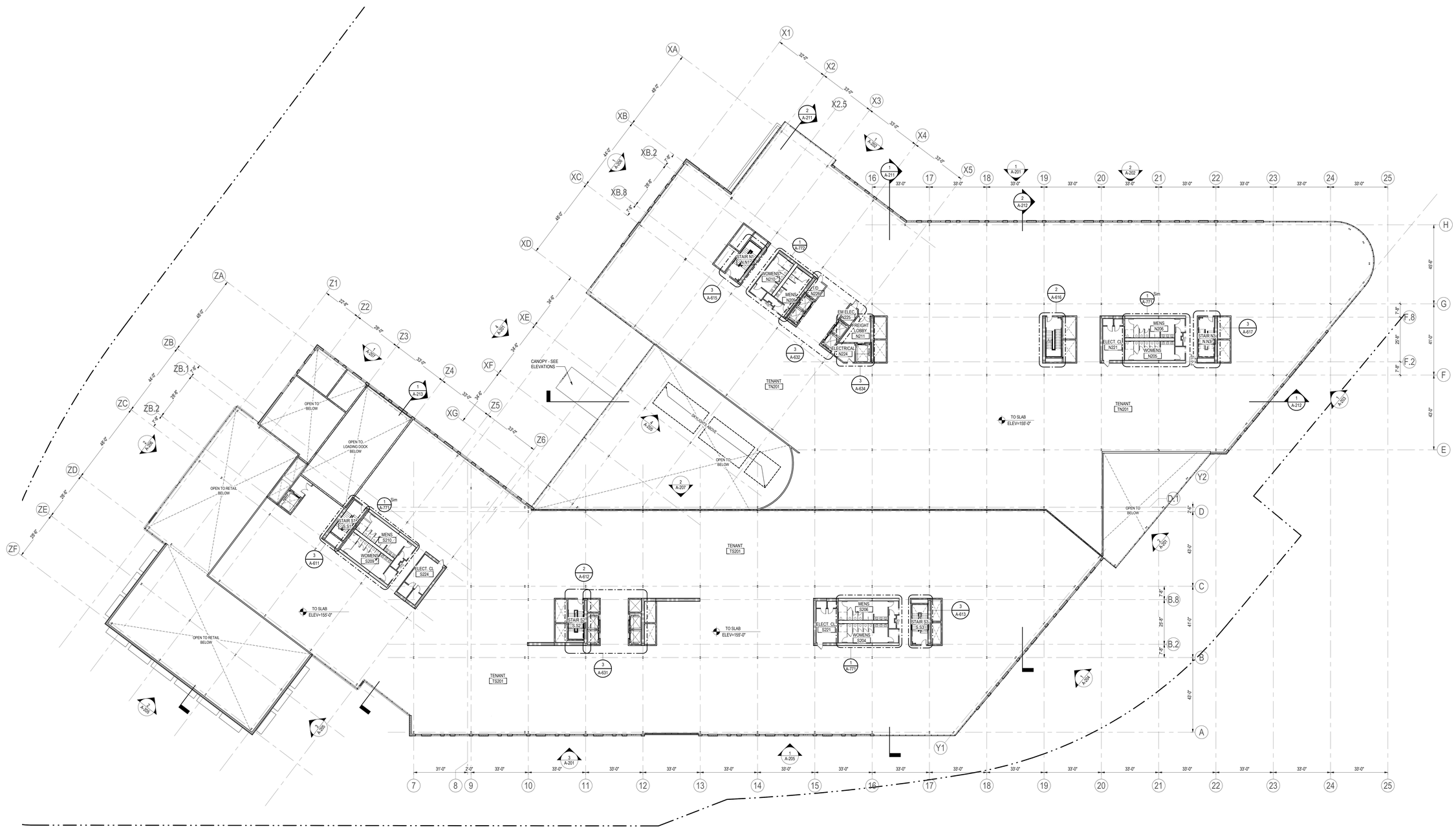
Project No.:218421343
File Name: N/A
Scale: As indicated

Author	Designer	Checker	2022.04.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
LEVEL 1 - OVERALL PLAN

Revision:
Drawing No.
A-101

<Title Number or Project Information>
5/20/2022 3:33:41 PM
ORIGINAL SHEET - ARCH E



1 A-102 **LEVEL 2 PLAN - OVERALL PLAN**
1" = 20'-0"

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No.	Issued/Revision	By	Appd	YYYY.MM.DD
1	3RD PLANNING BOARD SUBMISSION			2022.08.15
2	2ND PLANNING BOARD SUBMISSION			2022.07.15
3	1ST PLANNING BOARD SUBMISSION			2022.03.30
4	DEP SUBMISSION			2021.12.17
5	3RD CITY PEER REVIEW PACKAGE R1			2021.11.22

Permit/Seal

THOMAS M. LOMBARDO No. 30500 REGISTERED ARCHITECT COMMONWEALTH OF MASSACHUSETTS

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: As indicated

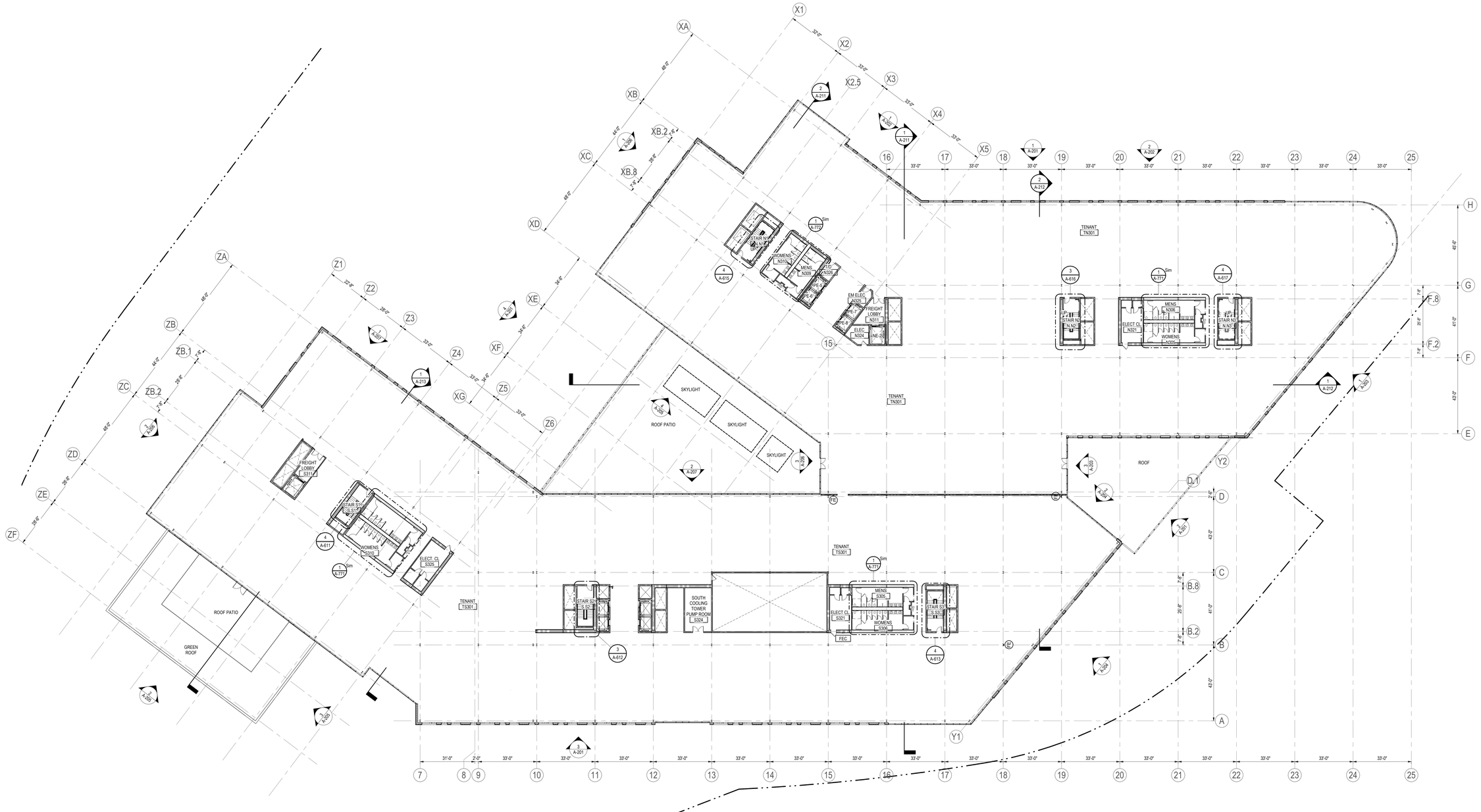
Author	Designer	Checker	2022.04.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
LEVEL 2 - OVERALL PLAN

Revision:
Drawing No.
A-102

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ORIGINAL SHEET - ARCH E



1 LEVEL 3 - OVERALL PLAN
A-103 1" = 20'-0"

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No.	By	Appd	YYYY.MM.DD
1			2022.08.15
2			2022.07.13
3			2022.03.30
4			2022.06.24

1ST FULL REMEDIATION
DEB SUBMISSION
30% DESIGN DEVELOPMENT
SPECIAL PERMIT PACKAGE R1

Permit/Seal



KEY PLAN

LEGEND

- WHEELED FIRE EXTINGUISHER
- FIRE EXTINGUISHER BRACKET WALL MTD
- FEC FIRE EXTINGUISHER CABINET WALL MTD

75'-0" MAX. DISTANCE PER CODE, TYP.

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

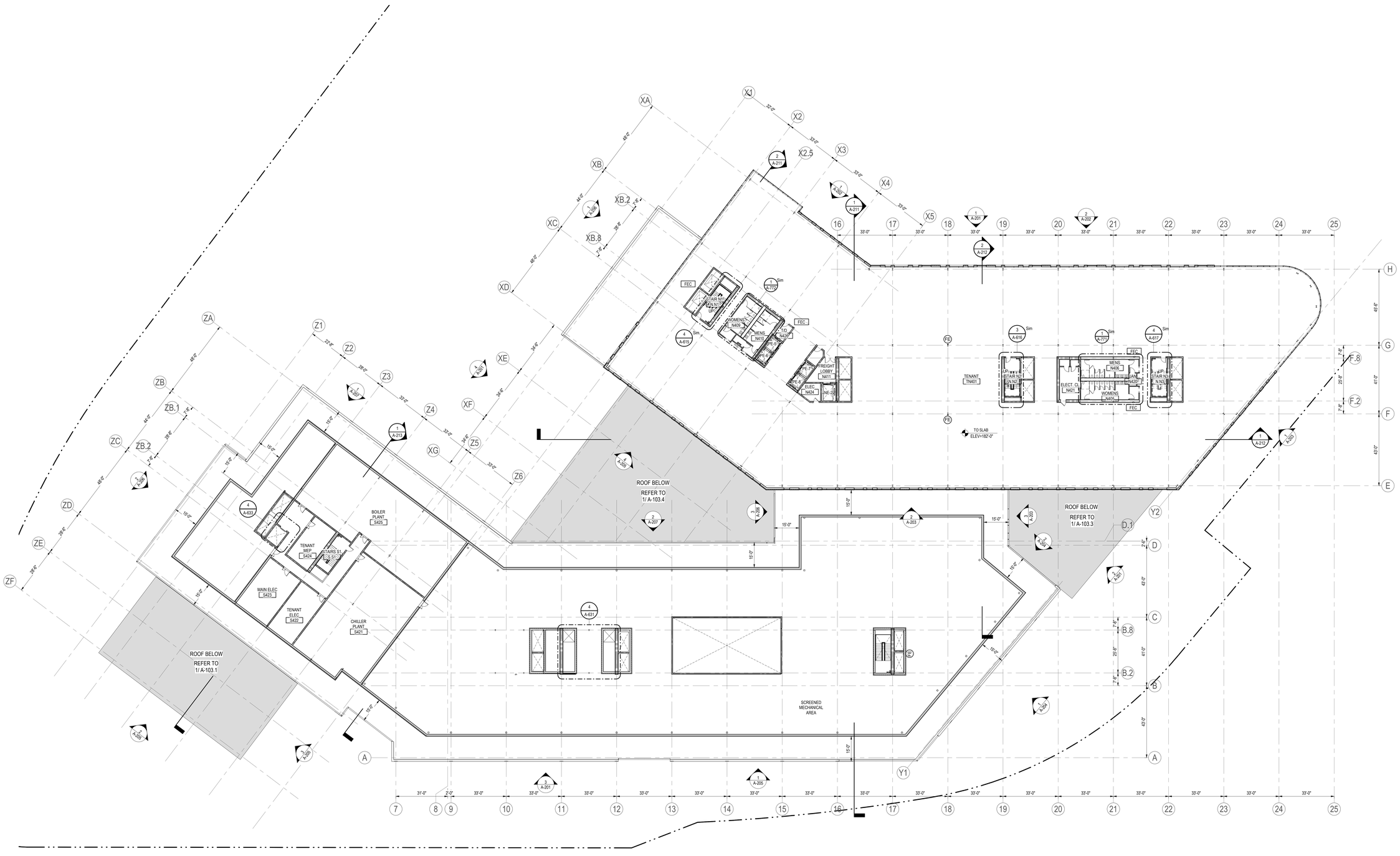
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Scale:As indicated

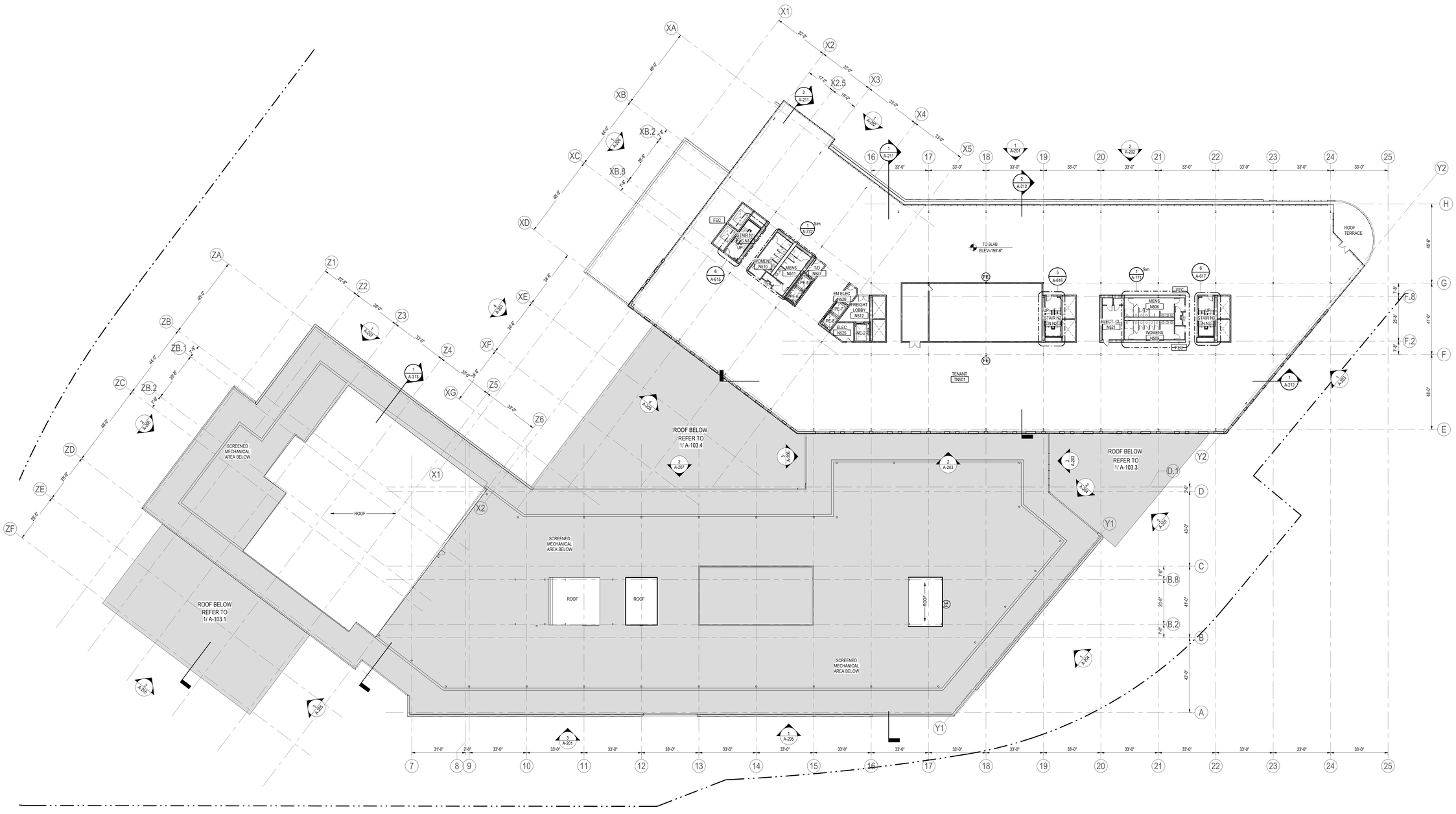
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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
LEVEL 3 - OVERALL PLAN

Revision:
Drawing No.
A-103

<Fit To Width in Plan> / <Information>
5/10/2022 3:53:04 PM
ORIGINAL SHEET - ARCH E


ROOF BELOW
REFER TO
1/ A-103.4
ROOF BELOW
REFER TO
1/ A-103.3
ROOF BELOW
REFER TO
1/ A-103.1
SCREENED
MECHANICAL
AREA
TENANT
TN401
TO SLAB
ELEV=182'-0"
BOILER
PLANT
S425
TENANT
MEP
S424
STAIRS S1
S.N.S1
MAIN ELEC
S423
TENANT
ELEC.
S422
CHILLER
PLANT
S421
FREIGHT
LOBBY
N411
ELEC.
N424
MENS
N410
WOMENS
N409
MENS
N406
WOMENS
N405
ELECT. CL
N421
STAIR N1
S.N.N1
STAIR N2
S.N.N2
STAIR N3
S.N.N3
FEC
TO
TO
TO



1 A-105 **LEVEL 5 / SOUTH BUILDING UPPER ROOF - OVERALL PLAN**
1" = 20'-0"

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Issued/Revision	By	Appd	YYYY.MM.DD
3RD PKG. REMIX PACKAGE #1			2022.08.15
DSR SUBMISSION			2022.07.13
30% DESIGN DEVELOPMENT SET			2022.03.30
60% CONSTRUCTION DOCUMENT SET			2022.05.27

Permit/Seal

KEY PLAN

LEGEND
- WHEELED FIRE EXTINGUISHER
- FIRE EXTINGUISHER BRACKET WALL MTD
- FEC — FIRE EXTINGUISHER CABINET WALL MTD

75'-0" MAX. DISTANCE PER CODE, TYP.

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: As indicated

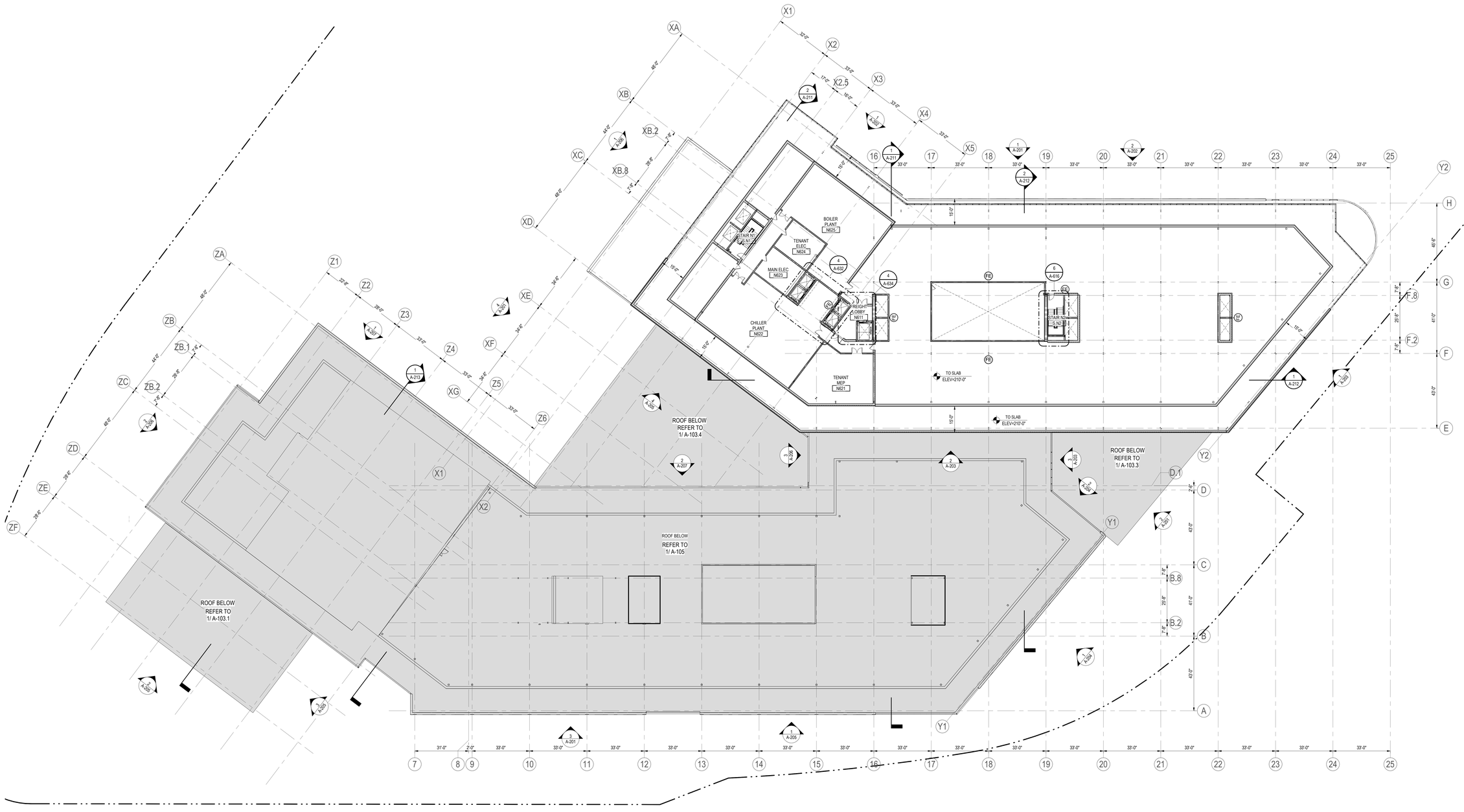
Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
LEVEL 5 / SOUTH BUILDING UPPER ROOF - OVERALL PLAN

Revision:

Drawing No.
A-105

*Plot Number in Project Information
8/15/2022 3:53:38 PM
ORIGINAL SHEET - ARCH E



1 NORTH BUILDING PENTHOUSE - OVERALL PLAN

A-106 1" = 20'-0"

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No.	Issued/Revision	By	Appvd
1	2ND PLANNING BOARD SUBMISSION		2022.08.15
2	DEP SUBMISSION		2022.07.15
3	30% CHECK SET/SCHEME B		2022.03.30
4	30% CHECK SET/SCHEME A		2022.03.21

Permit/Seal



KEY PLAN

LEGEND

WF	WHEELED FIRE EXTINGUISHER
FE	FIRE EXTINGUISHER BRACKET WALL MTD
FEC	FIRE EXTINGUISHER CABINET WALL MTD

75'-0" MAX. DISTANCE PER CODE, TYP.

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:21842343
File Name: N/A
Scale: As indicated

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

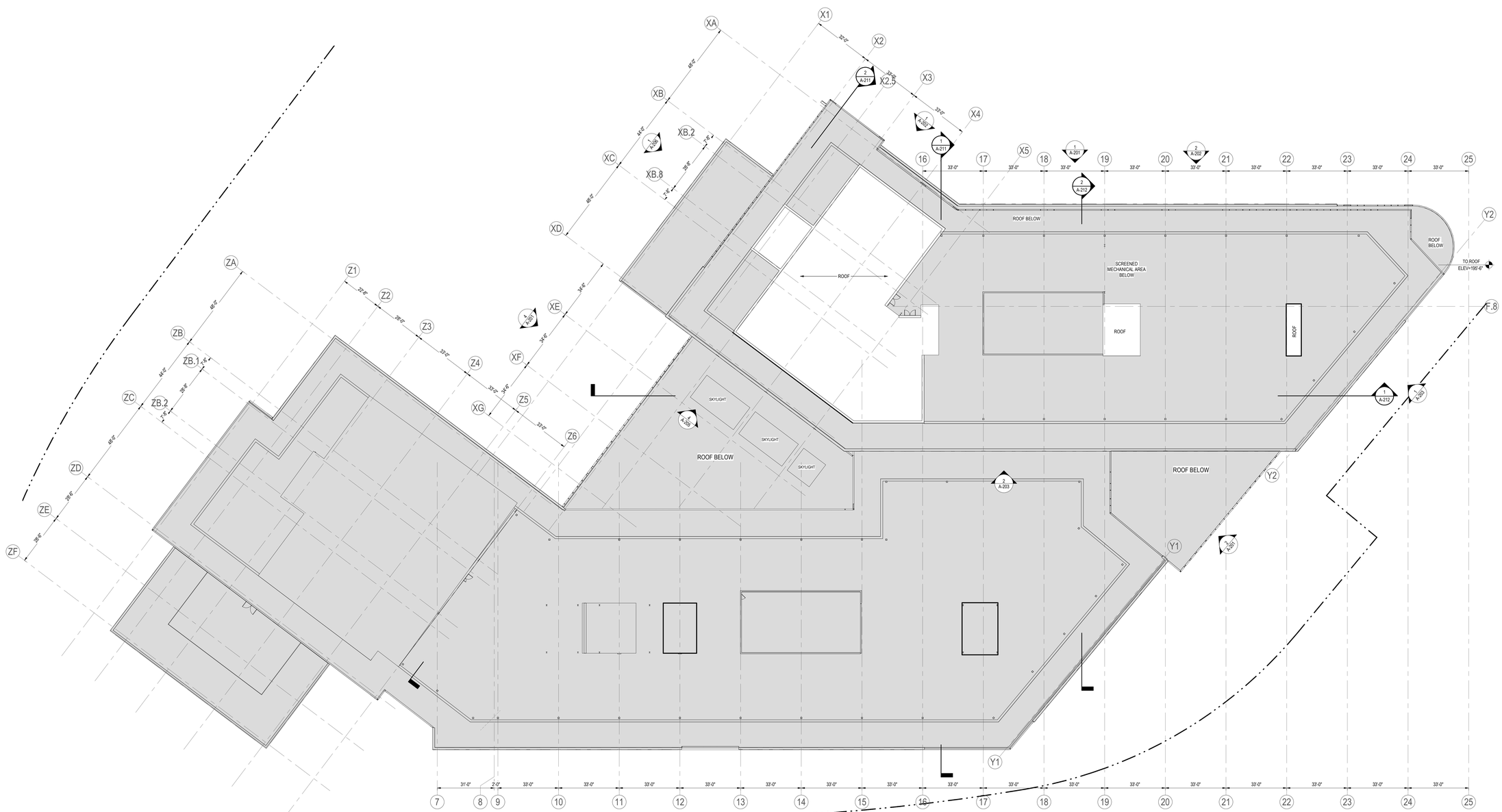
Title
NORTH BUILDING PENTHOUSE - OVERALL PLAN

Revision:

Drawing No.
A-106

File Location & Project Information
8/15/2022 3:53:47 PM

ORIGINAL SHEET - ARCH E



1 ROOF PLAN
A-107 1" = 20'-0"

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Issued/Revision

	By	Appd	YYYY.MM.DD
2ND PH. REMEETING/PLAN			2022.08.15
DEIR SUBMISSION			2022.07.15
30% DESIGN DEVELOPMENT			2022.03.30
30% DESIGN DEVELOPMENT			2022.03.30

Permit/Seal



KEY PLAN

LEGEND

- WF — WHEELED FIRE EXTINGUISHER
- FE — FIRE EXTINGUISHER BRACKET WALL MTD
- FEC — FIRE EXTINGUISHER CABINET WALL MTD

75'-0" MAX. DISTANCE PER CODE, TYP.

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave.
Needham, MA 02494

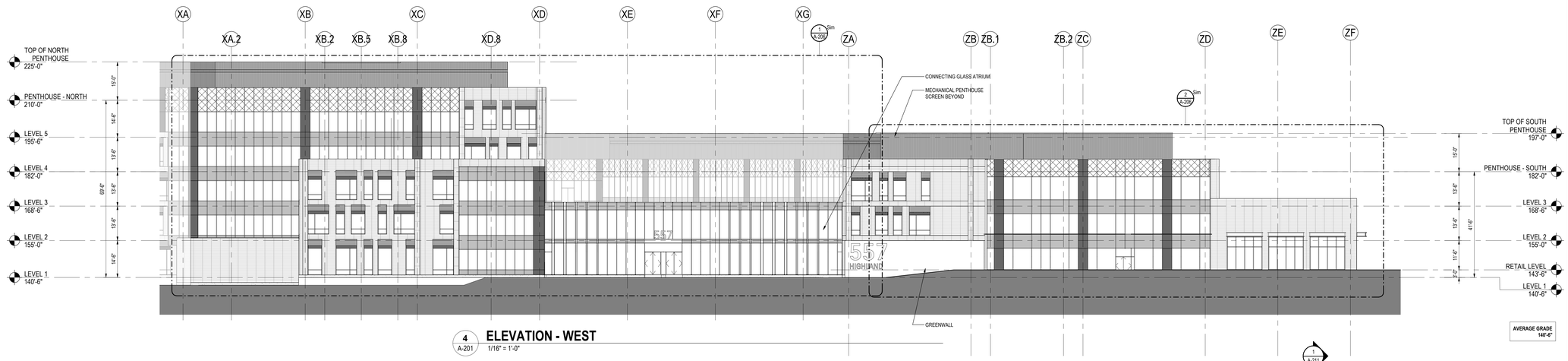
Project No.:218421343
File Name: N/A
Scale: As indicated

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
FULL ROOF PLAN

Revision:
Drawing No.
A-107

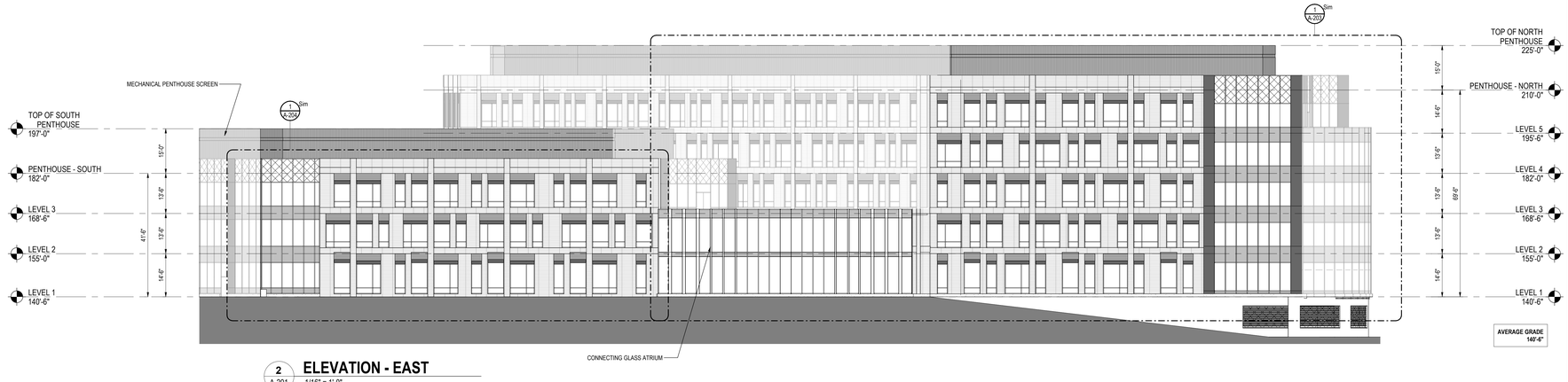
ORIGINAL SHEET - ARCH E



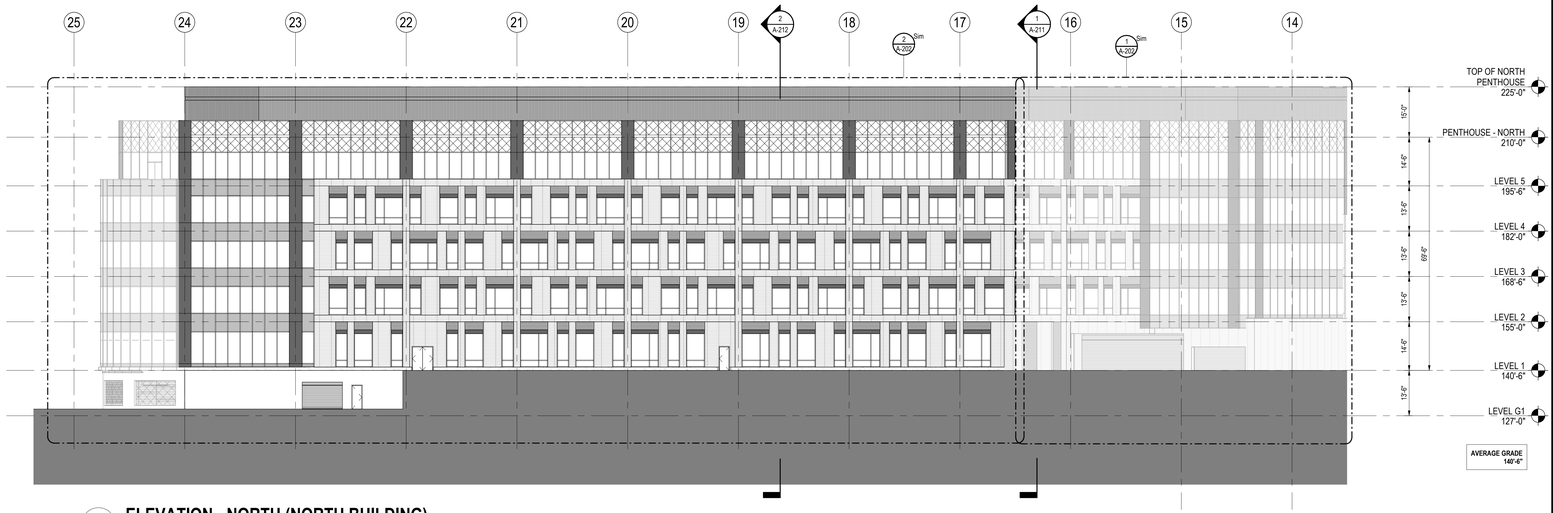
4 A-201 ELEVATION - WEST
1/16" = 1'-0"



3 A-201 ELEVATION - SOUTH (SOUTH BUILDING)
1/16" = 1'-0"



2 A-201 ELEVATION - EAST
1/16" = 1'-0"



1 A-201 ELEVATION - NORTH (NORTH BUILDING)
1/16" = 1'-0"

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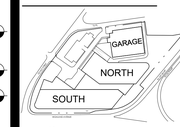
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No.	Issued/Revision	By	Appvd	YYYY.MM.DD
1	ZBA INITIAL RESUBMISSION		ZBA	2022.06.15
2	ZBA SUPPLEMENTAL INFO		ZBA	2022.07.15
3	ZBA SUPPLEMENTAL INFO #2		ZBA	2022.08.01
4	SPECIAL PERMIT PACKAGE R1		ZBA	2022.08.15

Permit/Seal

REGISTERED ARCHITECT
No. 30550
THOMAS M. LISTER
COMMONWEALTH OF MASSACHUSETTS



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/16" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING ELEV - LOCATOR ELEVATIONS

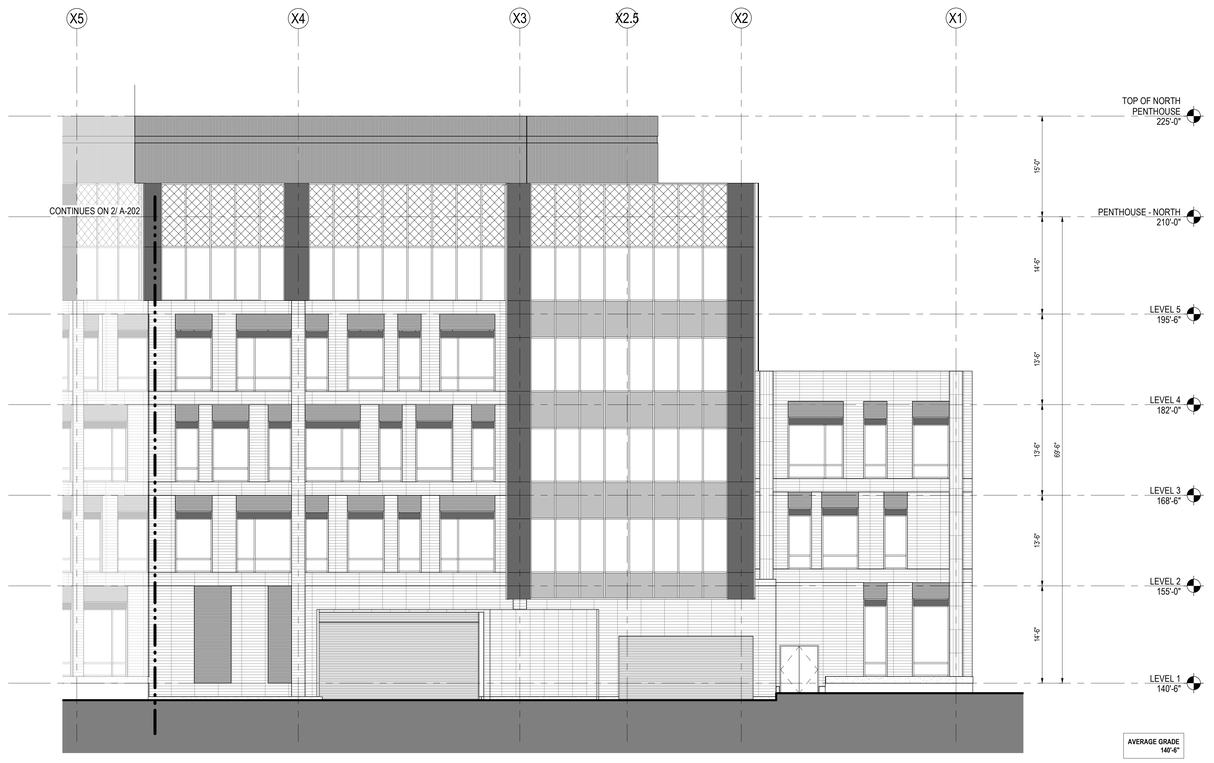
Revision:
Drawing No.
A-201

<Pro Builder Project Name>
1/10/2022 3:44:11 PM

ORIGINAL SHEET - ARCH E



2 A-202 **ENLARGED ELEVATION - NORTH BUILDING - NORTH**
1/8" = 1'-0"



1 A-202 **ENLARGED ELEVATION - NORTH BUILDING - NORTH (ANGLED WALL)**
1/8" = 1'-0"

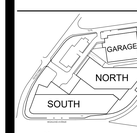
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Issued/Revision	By	Appd	YYYY.MM.DD
30% SCHEMATIC DESIGN			2022.01.31
DEP SUBMISSION			2022.02.25
30% DESIGN DEVELOPMENT			2022.03.31
SPECIAL PERMIT PACKAGE R1			2022.06.15

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

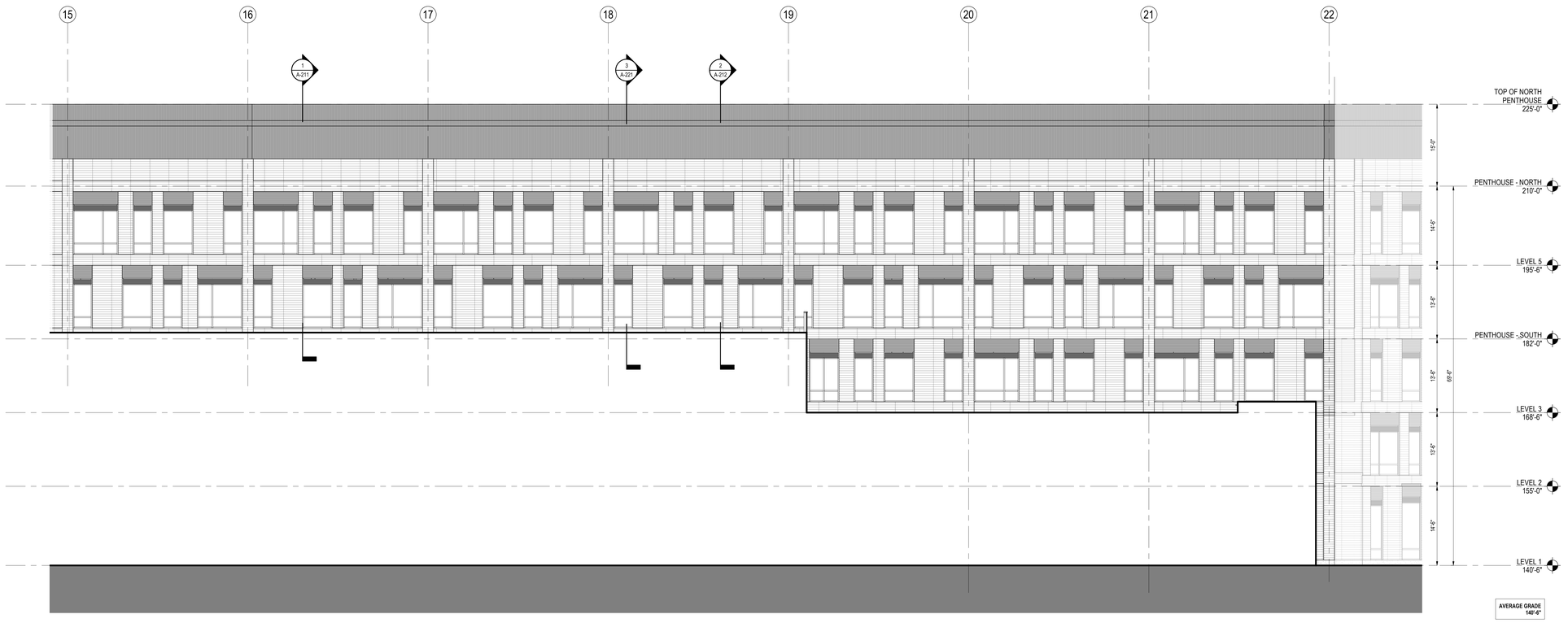
Title
BUILDING ELEV - NORTH BLDG - NORTH

Revision:

Drawing No.
A-202

<PELOTON>\<Plan Information>
8/10/2022 3:54:23 PM

ORIGINAL SHEET - ARCH E



2 A-203 **ENLARGED ELEVATION - NORTH BUILDING - SOUTH**
1/8" = 1'-0"



3 A-203 **ENLARGED ELEVATION - ATRIUM - EAST (HIDDEN) AT GRID 19**
1/8" = 1'-0"

1 A-203 **ENLARGED ELEVATION - NORTH BUILDING & ATRIUM - EAST**
1/8" = 1'-0"

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1		2ND PLANNING BOARD SUBMISSION	2022.08.15
2		3RD PLANNING BOARD SUBMISSION	2022.09.27
3		SPECIAL PERMIT PACKAGE R1	2022.10.31

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KEY PLAN

SPECIAL PERMIT PACKAGE R1
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Client/Project
Bulfinch
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557 Highland Ave
Needham, MA 02494

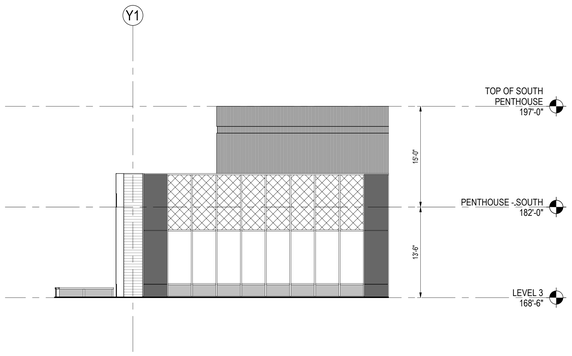
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Author	Designer	Checker	2022.04.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

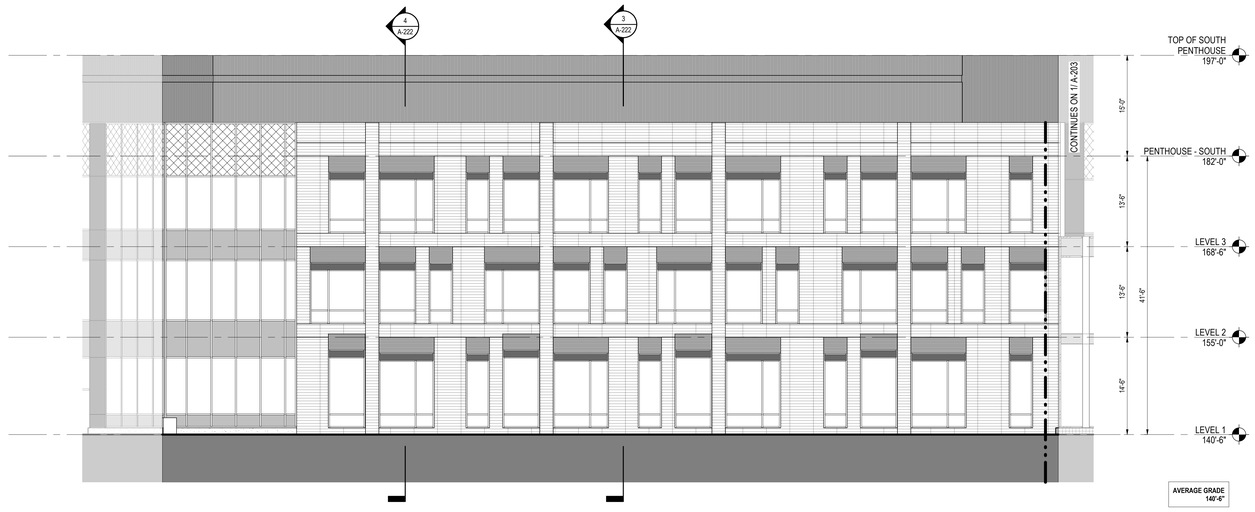
Title
BUILDING ELEV - NORTH BLDG - SOUTH & EAST

Revision:
Drawing No.
A-203

<Work Location & Project Information>
8/10/2022 3:34:52 PM
ORIGINAL SHEET - ARCH E



2 / A-204 **ENLARGED ELEVATION - SOUTH BUILDING - NORTH CORNER**
1/8" = 1'-0"



1 / A-204 **ENLARGED ELEVATION - SOUTH BUILDING - EAST**
1/8" = 1'-0"

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1	SPECIAL PERMIT PACKAGE R1			2022.08.15
0	SPECIAL PERMIT PACKAGE			2022.07.13

Permit/Seal

REGISTERED ARCHITECT — THOMAS M. LISTA — No. 30550 — COMMONWEALTH OF MASSACHUSETTS



KEY PLAN

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08/15/2022
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Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER
557 Highland Ave
Needham, MA 02494

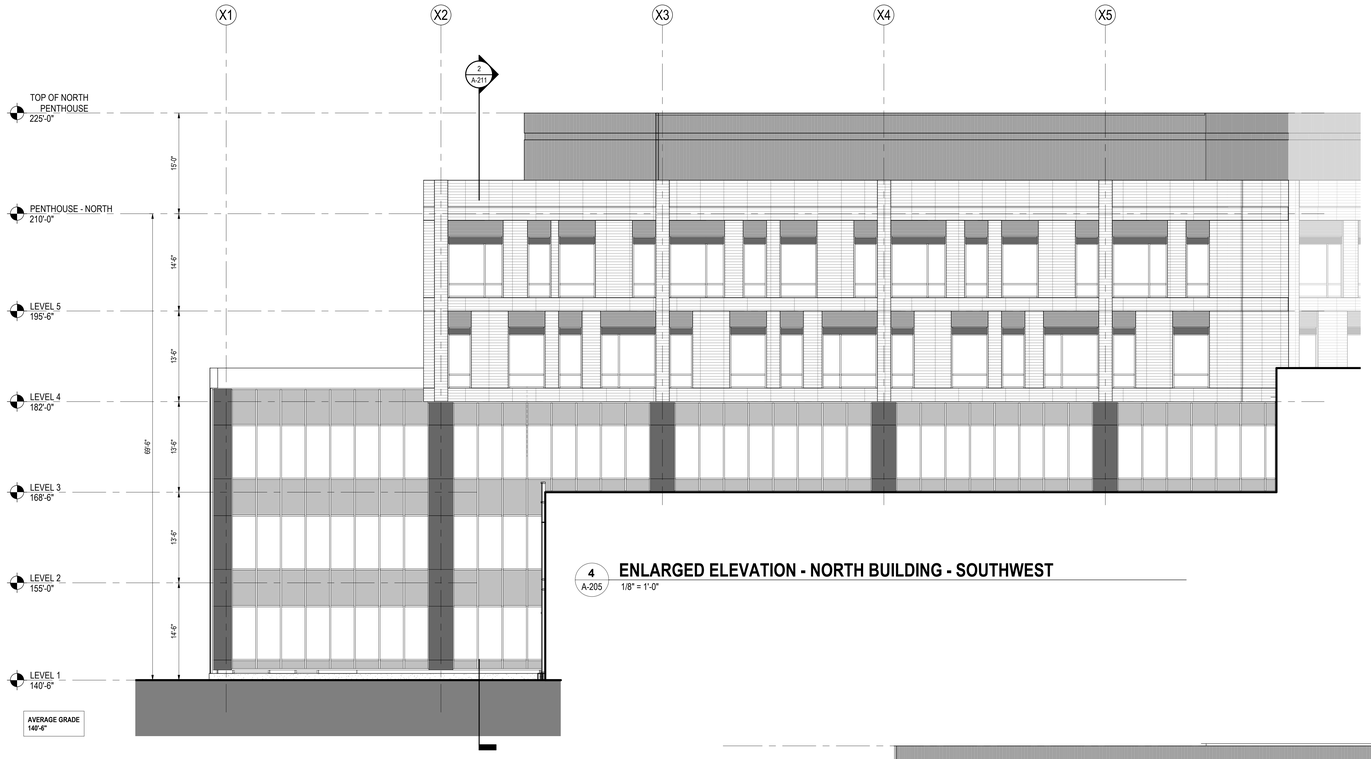
Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

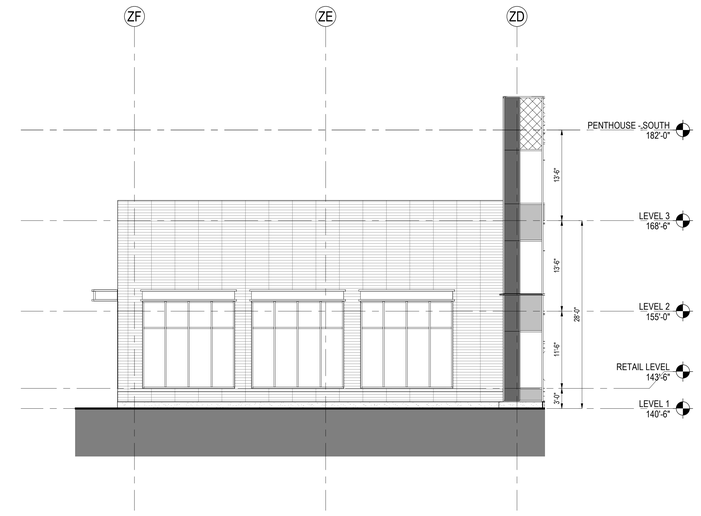
Title
BUILDING ELEV - SOUTH BLDG - SOUTH EAST

Revision:
Drawing No.
A-204

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ORIGINAL SHEET - ARCH E



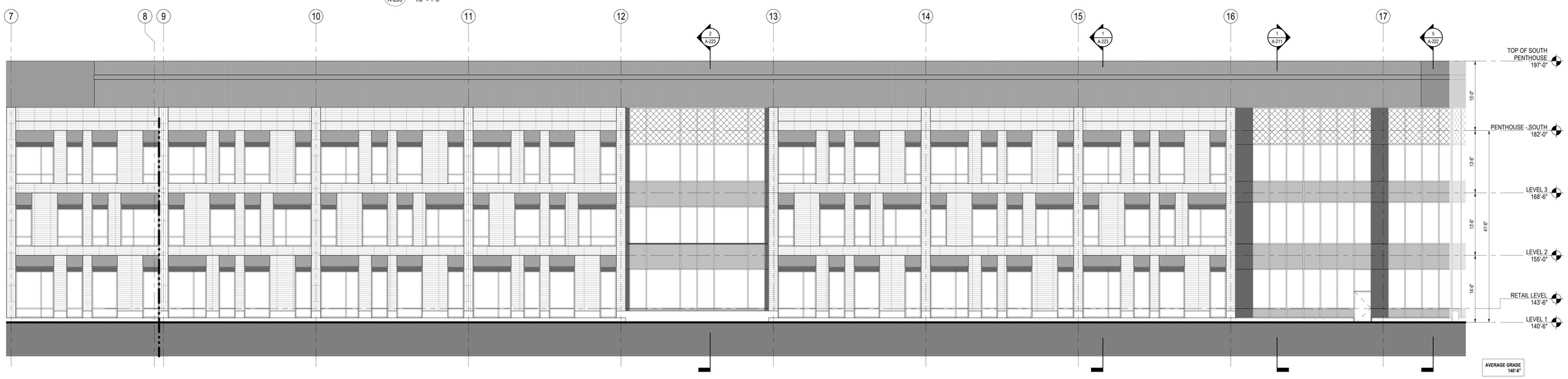
4 A-205 ENLARGED ELEVATION - NORTH BUILDING - SOUTHWEST
1/8" = 1'-0"



3 A-205 ENLARGED ELEVATION - SOUTH BUILDING - RETAIL SOUTHEAST
1/8" = 1'-0"



2 A-205 ENLARGED ELEVATION - SOUTH BUILDING - RETAIL SOUTHWEST
1/8" = 1'-0"



1 A-205 ENLARGED ELEVATION - SOUTH BUILDING - SOUTHEAST
1/8" = 1'-0"

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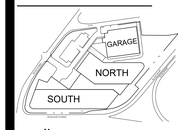
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1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	DEIR SUBMISSION			2022.07.15
3	30% CONCEPT DESIGN SET			2022.03.30
4	30% CONCEPT DESIGN SET			2022.03.30

Permit/Seal





KEY PLAN

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08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

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Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

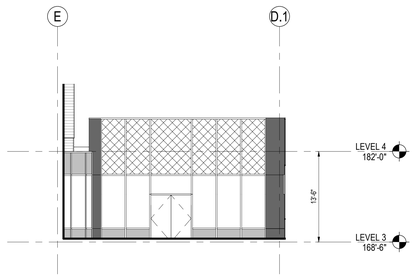
Author	Designer	Checker	2022.04.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING ELEV - NORTH BLDG (SOUTHWEST) & SOUTH BLDG (SOUTH)

Revision:
Drawing No.
A-205

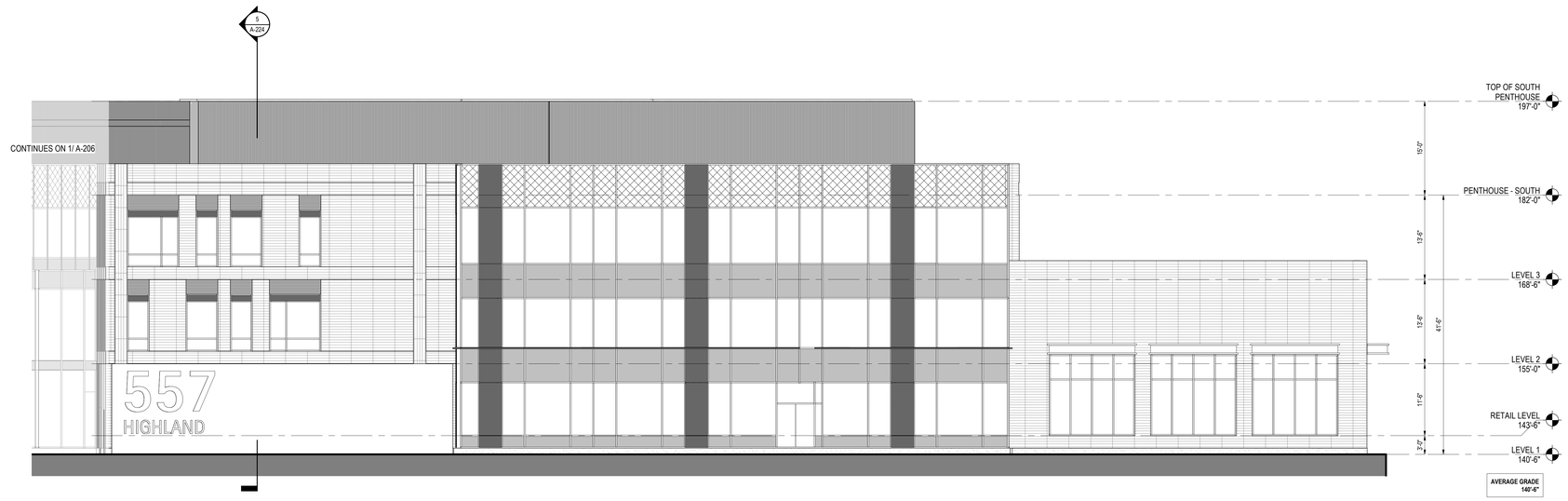
<File location>\Project Information>
1/7/2022 3:55:15 PM

ORIGINAL SHEET - ARCH E



ENLARGED ELEVATION - ATRIUM - EAST (HIDDEN) AT GRID 15

3 A-206 1/8" = 1'-0"



SOUTH BLGD - ELEVATION - GREENWALL

2 A-206 1/8" = 1'-0"



ENLARGED ELEVATION - NORTH BUILDING - WEST

1 A-206 1/8" = 1'-0"

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2022.07.15		
2022.03.30		
2022.03.07		

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Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING ELEV - NORTH BLDG (WEST) & SOUTH BLDG (NORTH & WEST)

Revision:

Drawing No.
A-206

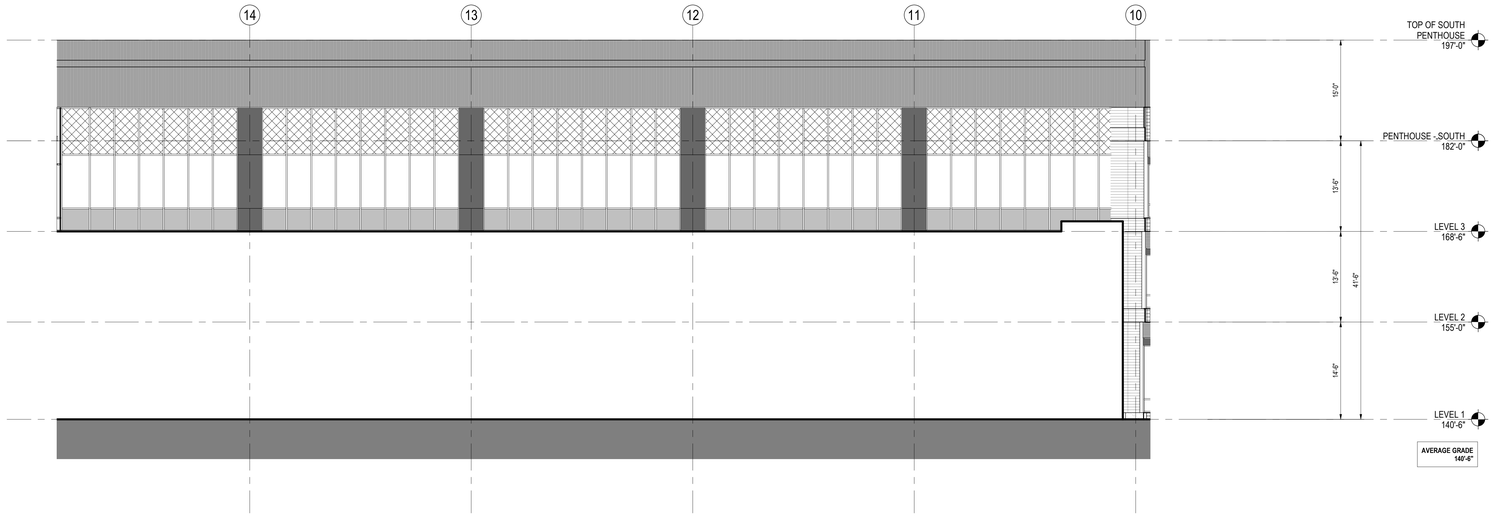
<Pro Location or Project Information>
8/10/2022 3:53:24 PM

ORIGINAL SHEET - ARCH E



1 A-207 **SOUTH BLDG - SOUTH ELEVATION LEVEL 1 - LOADING DOCK**

1/8" = 1'-0"



2 A-207 **ENLARGED ELEVATION - SOUTH BUILDING - NORTHWEST**

1/8" = 1'-0"

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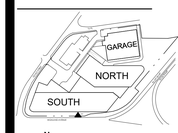
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SPECIAL PERMIT PACKAGE R1			2022.08.15
100% SPECIAL PERMIT PACKAGE			2022.07.13

Permit/Seal

REGISTERED ARCHITECT
No. 30550
THOMAS M. LISS
COMMONWEALTH OF MASSACHUSETTS



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
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Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

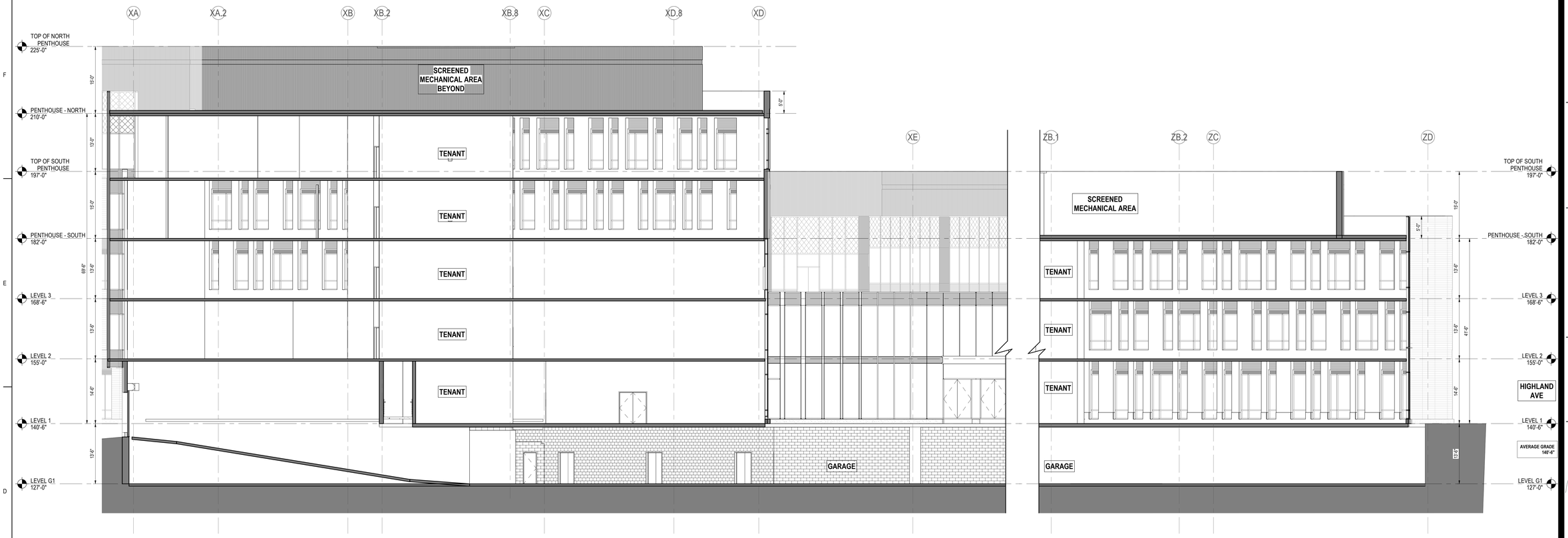
Title
BUILDING ELEV - SOUTH BLDG - NORTH & EAST

Revision:

Drawing No.
A-207

•Plot Scaled to Paper Information•
8/1/2022 3:34:54 PM

ORIGINAL SHEET - ARCH E



2 A-211 **SECTION - N-S NEAR GRID 12**

1/8" = 1'-0"



1 A-211 **SECTION - N-S NEAR GRID 16**

1/8" = 1'-0"

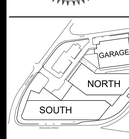
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30% DESIGN DEVELOPMENT			2022.03.25
30% DESIGN DEVELOPMENT #2			2022.05.27
SPECIAL PERMIT PACKAGE R1			2022.08.15

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Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING SECTIONS - OVERALL

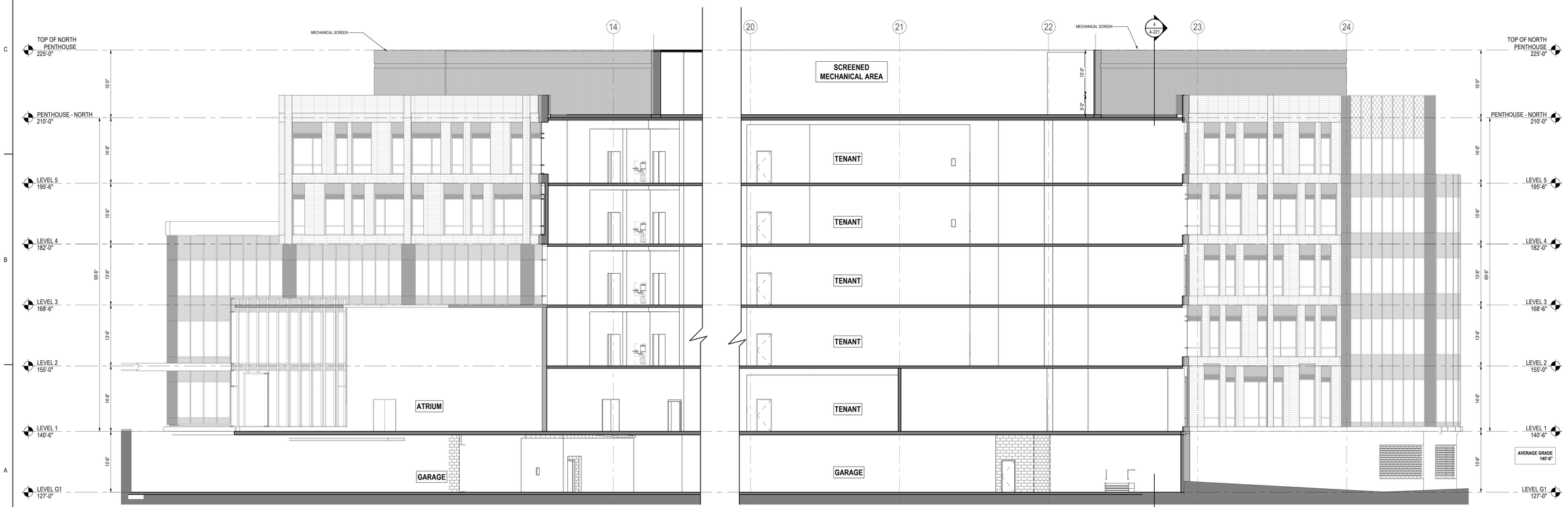
Revision:
Drawing No.
A-211

ORIGINAL SHEET - ARCH E



2 A-212 **SECTION - NORTH BUILDING - SECTION N-S NEAR GRID 20**

1/8" = 1'-0"



1 A-212 **SECTION - NORTH BUILDING - SECTION E-W NEAR GRID F**

1/8" = 1'-0"

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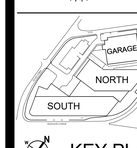
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1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	DEIR SUBMISSION			2022.07.15
3	SPECIAL PERMIT PACKAGE			2022.03.30
4	30% DESIGN SUBMISSION			2021.12.17

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KEY PLAN

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Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

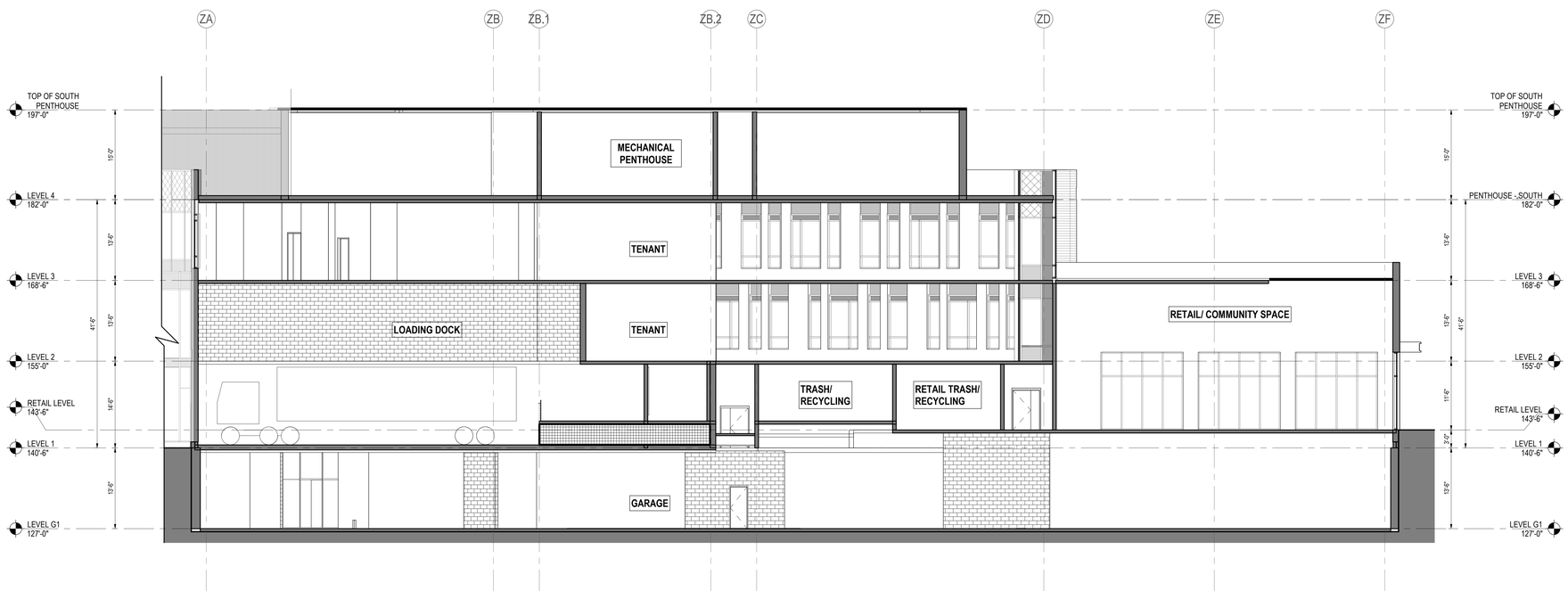
Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING SECTIONS - NORTH BLDG

Revision:

Drawing No.
A-212

<Pc3.ctb>,<Plan>,<Information>
8/30/2022 3:34:18 PM
ORIGINAL SHEET - ARCH E



1 A-213 **SECTION - SOUTH BUILDING - SECTION N-S NEAR GRID 5**

1/8" = 1'-0"

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SPECIAL PERMIT PACKAGE R1			2022.08.15
30% SPECIAL PERMIT SUBMISSION			2022.07.13
30% DESIGN DEVELOPMENT			2022.06.24

Permit/Seal

REGISTERED ARCHITECT THOMAS M. LISTA No. 30550 COMMONWEALTH OF MASSACHUSETTS



KEY PLAN

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08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
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Needham, MA 02494

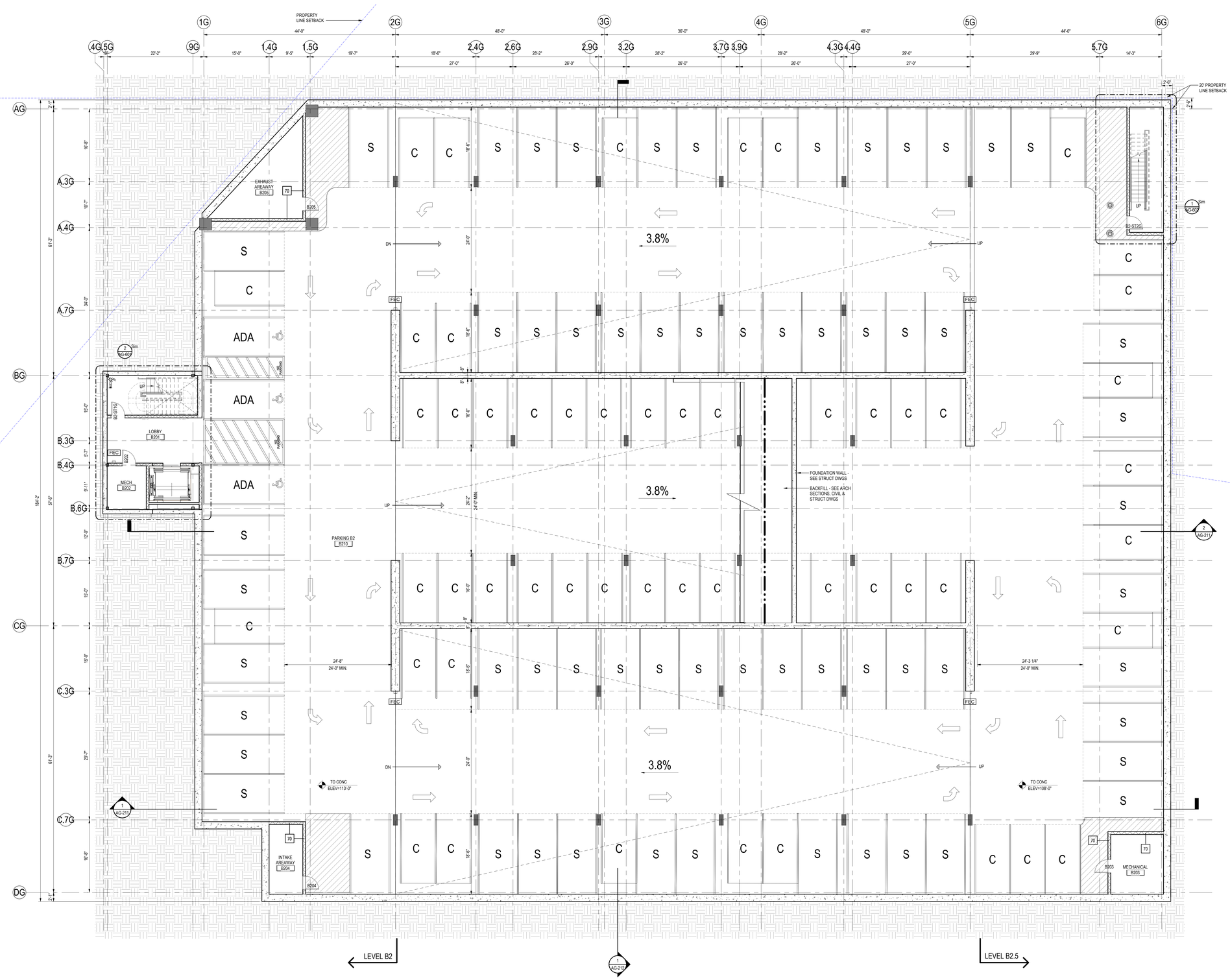
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File Name: N/A
Scale: 1/8" = 1'-0"

Author	Designer	Checker	2022.06.24
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
BUILDING SECTIONS - SOUTH BLDG

Revision:
Drawing No.
A-213

ORIGINAL SHEET - ARCH E



1 GARAGE - LEVEL B2
AG-100B2 1/8" = 1'-0"

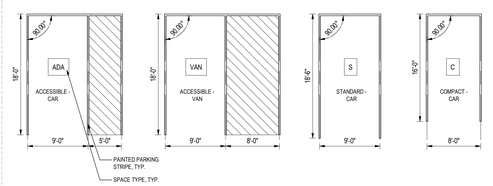
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PARKING TYPE	COUNT
GARAGE - LEVEL B2	
ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116
GARAGE - LEVEL B1	
ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119
GARAGE - LEVEL 1	
ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126
GARAGE - LEVEL 2	
ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131
GARAGE - LEVEL 3	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 4	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 5	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 6	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110
TOTAL: 998	998

LEGEND

FEC — SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



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Issued/Revision	By	Appvd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
30% DESIGN SUBMITTAL			2022.05.27
100% DESIGN SUBMITTAL			2022.03.25

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave
Needham, MA 02494

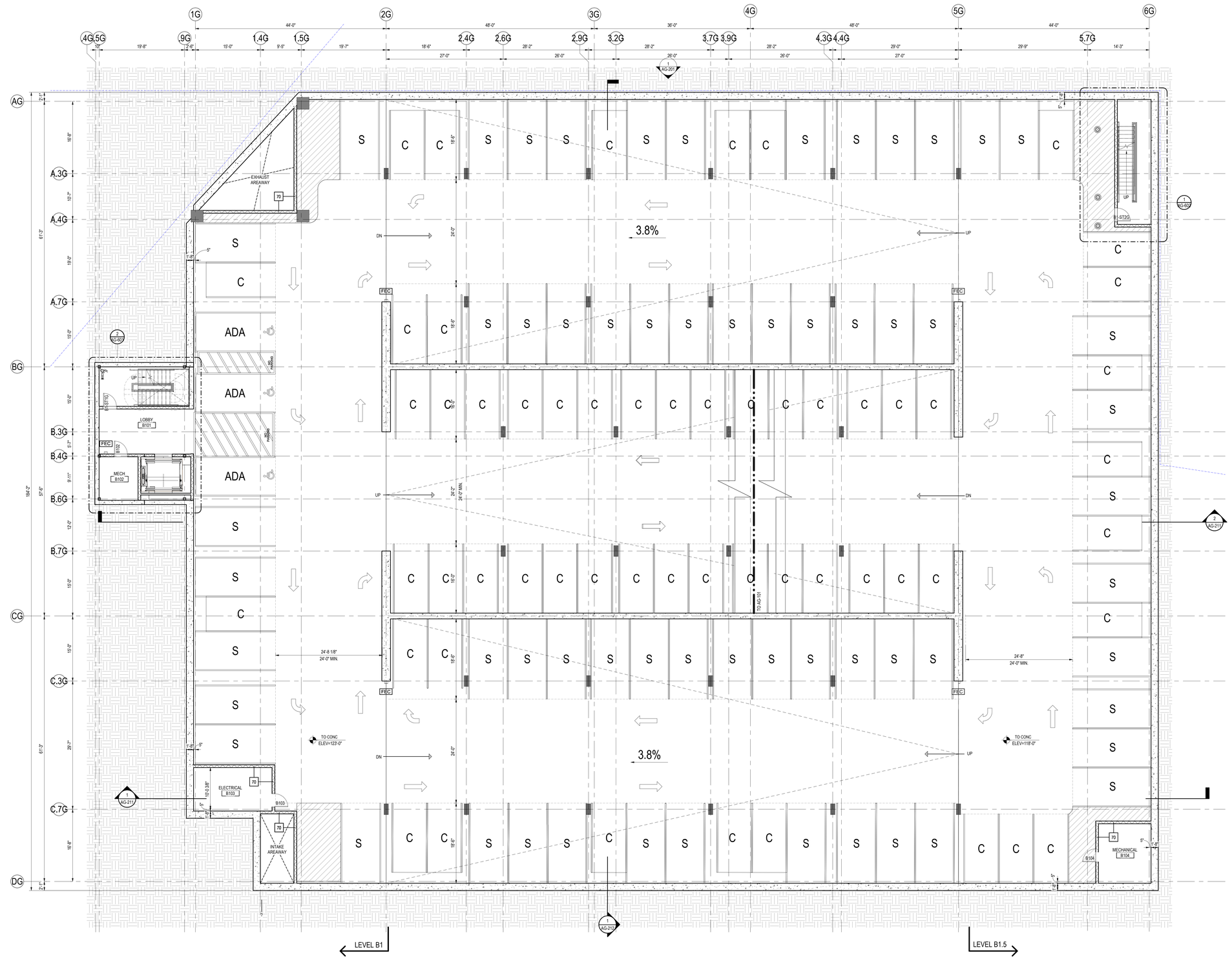
Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL B2

Revision:
Drawing No.
AG-100B2
GARAGE

ORIGINAL SHEET - ARCH E



1 GARAGE - LEVEL B1
AG-100B1 1/8" = 1'-0"

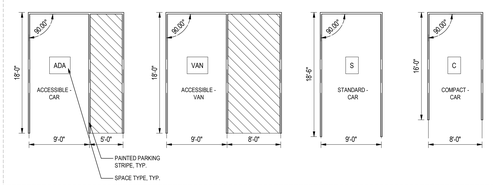
GARAGE PARKING COUNT	
PARKING TYPE	COUNT
GARAGE - LEVEL B2	
ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116
GARAGE - LEVEL B1	
ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119
GARAGE - LEVEL 1	
ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126
GARAGE - LEVEL 2	
ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131
GARAGE - LEVEL 3	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 4	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 5	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 6	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110
TOTAL: 998	998

LEGEND

FEC — SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



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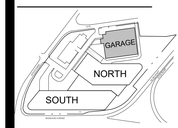
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Issued/Revision	By	Appvd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
30% DESIGN SUBMITTAL			2022.03.31
60% DESIGN SUBMITTAL			2022.05.27

Permit/Seal





KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

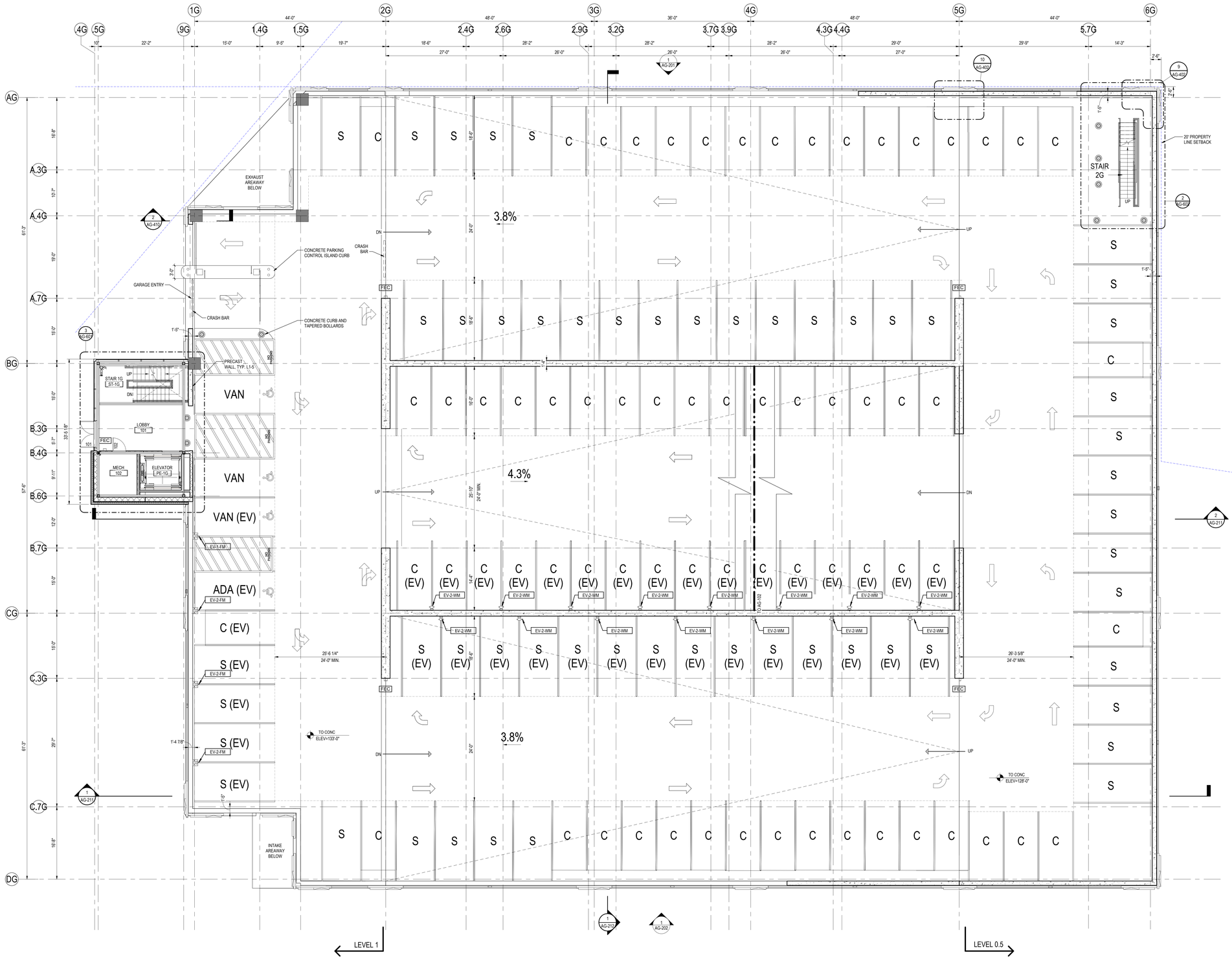
RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL B1

Revision:
Drawing No.
AG-100B1
GARAGE

"P:\Active Projects\Bulfinch\218421343\Revit\Models\218421343_Highland_Garage_Central_R21_Detached_wip_TMU.rvt"
5/25/2022 3:55:12 PM

ORIGINAL SHEET - ARCH E



1 AG-101 GARAGE - LEVEL 1-

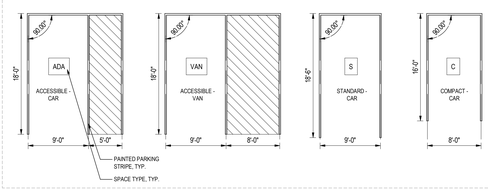
1/8" = 1'-0"

LEGEND

FEC — SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



GARAGE PARKING COUNT	
PARKING TYPE	COUNT

GARAGE - LEVEL B2

ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116

GARAGE - LEVEL B1

ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119

GARAGE - LEVEL 1

ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126

GARAGE - LEVEL 2

ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131

GARAGE - LEVEL 3

ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132

GARAGE - LEVEL 4

ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132

GARAGE - LEVEL 5

ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132

GARAGE - LEVEL 6

ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110

TOTAL: 998 998

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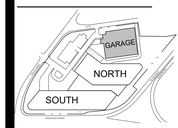
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Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
SITE PLAN SUBMITTAL			2022.03.31
SPECIAL PERMIT PACKAGE R1			2022.08.15

Permit/Seal





KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave
Needham, MA 02494

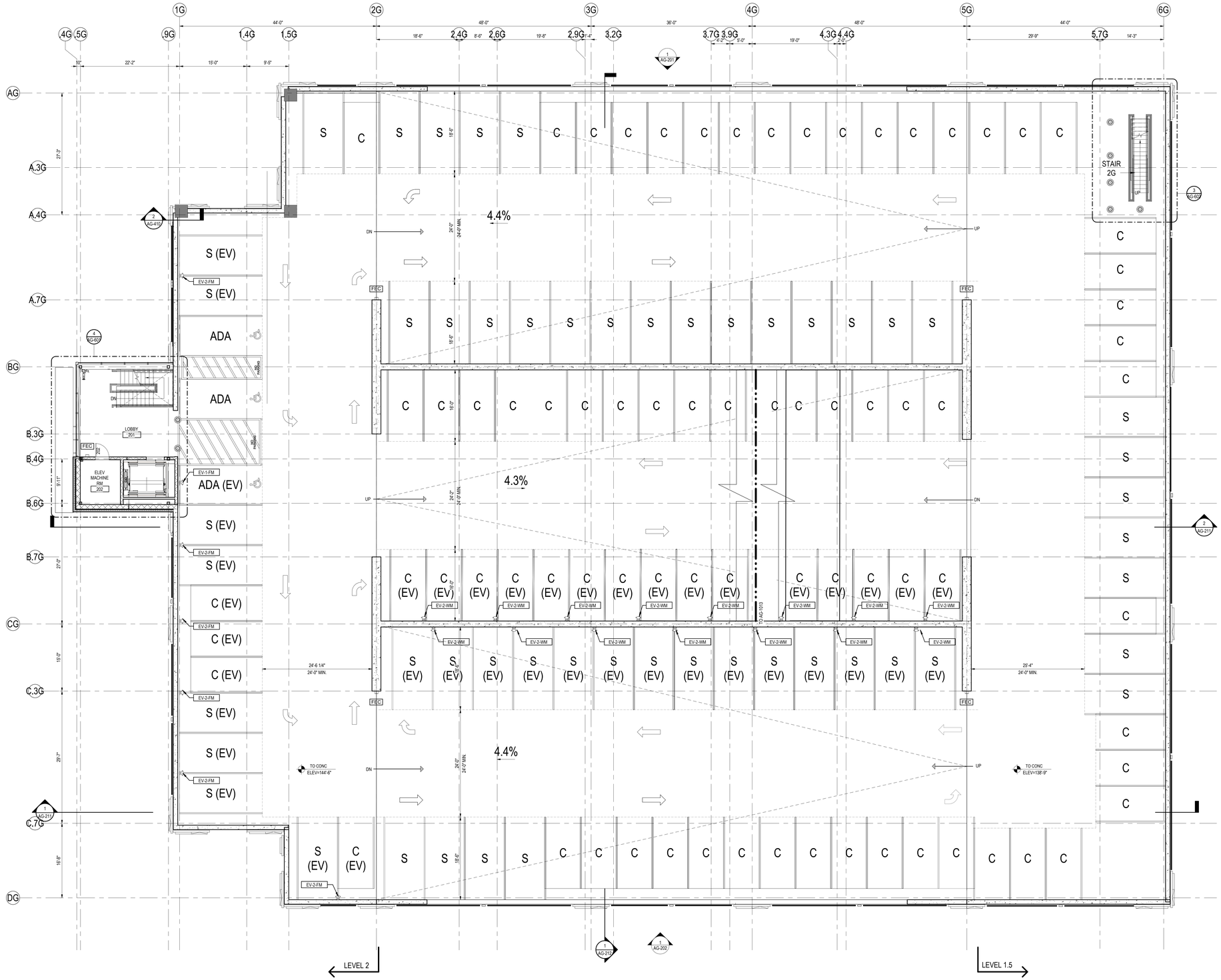
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File Name: N/A
Scale: 1/8" = 1'-0"

RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL 1

Revision:
Drawing No.
AG-101
GARAGE

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ORIGINAL SHEET - ARCH E



1 AG-102 GARAGE - LEVEL 2

1/8" = 1'-0"

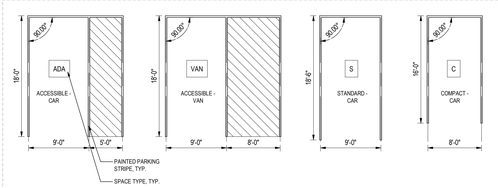
GARAGE PARKING COUNT	
PARKING TYPE	COUNT
GARAGE - LEVEL B2	
ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116
GARAGE - LEVEL B1	
ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119
GARAGE - LEVEL 1	
ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126
GARAGE - LEVEL 2	
ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131
GARAGE - LEVEL 3	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 4	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 5	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 6	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110
TOTAL: 998	998

LEGEND

FEC — SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



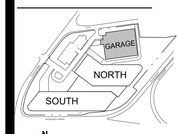
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Issued/Revision	By	Appvd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
30% DESIGN SUBMITTAL			2022.03.30
100% DESIGN SUBMITTAL			2021.12.17

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave.
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

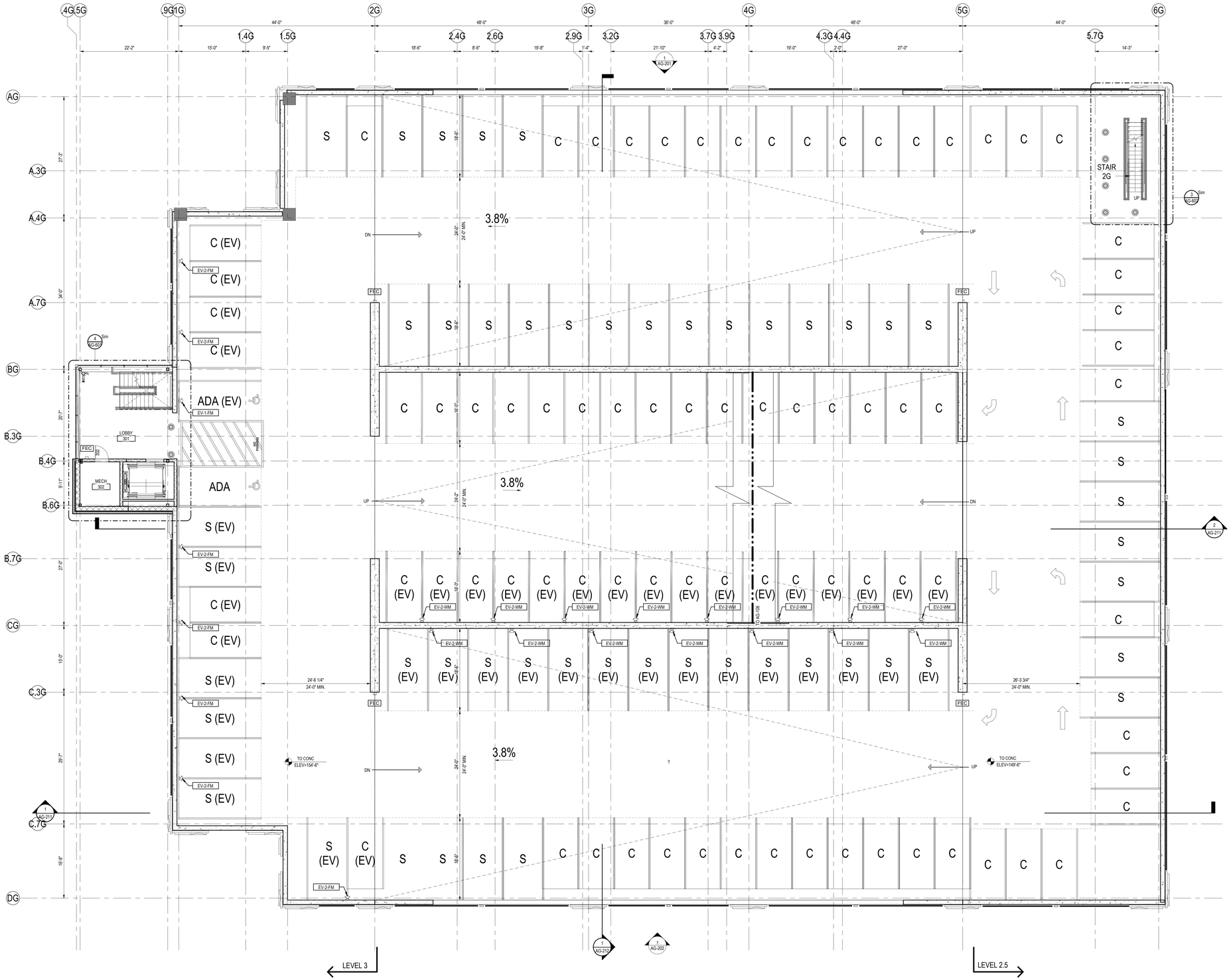
RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL 2

Revision:
Drawing No.
AG-102
GARAGE

<File location>\Project Information>
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ORIGINAL SHEET - ARCH E



1 GARAGE - LEVEL 3 (LEVEL 4-5 SIM.)
AG-103 1/8" = 1'-0"

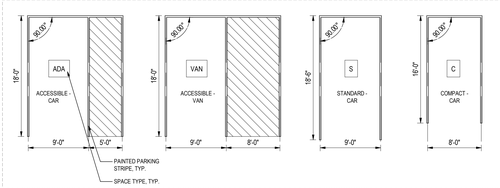
GARAGE PARKING COUNT	
PARKING TYPE	COUNT
GARAGE - LEVEL B2	
ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116
GARAGE - LEVEL B1	
ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119
GARAGE - LEVEL 1	
ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126
GARAGE - LEVEL 2	
ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131
GARAGE - LEVEL 3	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 4	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 5	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 6	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110
TOTAL: 998	998

LEGEND

FEC — SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



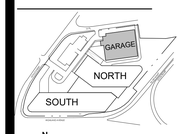
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Issued/Revision	By	Appd	YYYY.MM.DD
SPECIAL PERMIT PACKAGE R1			2022.08.15
30% DESIGN DEVELOPMENT			2022.03.30
100% DESIGN DEVELOPMENT			2022.01.27

Permit/Seal



KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave.
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

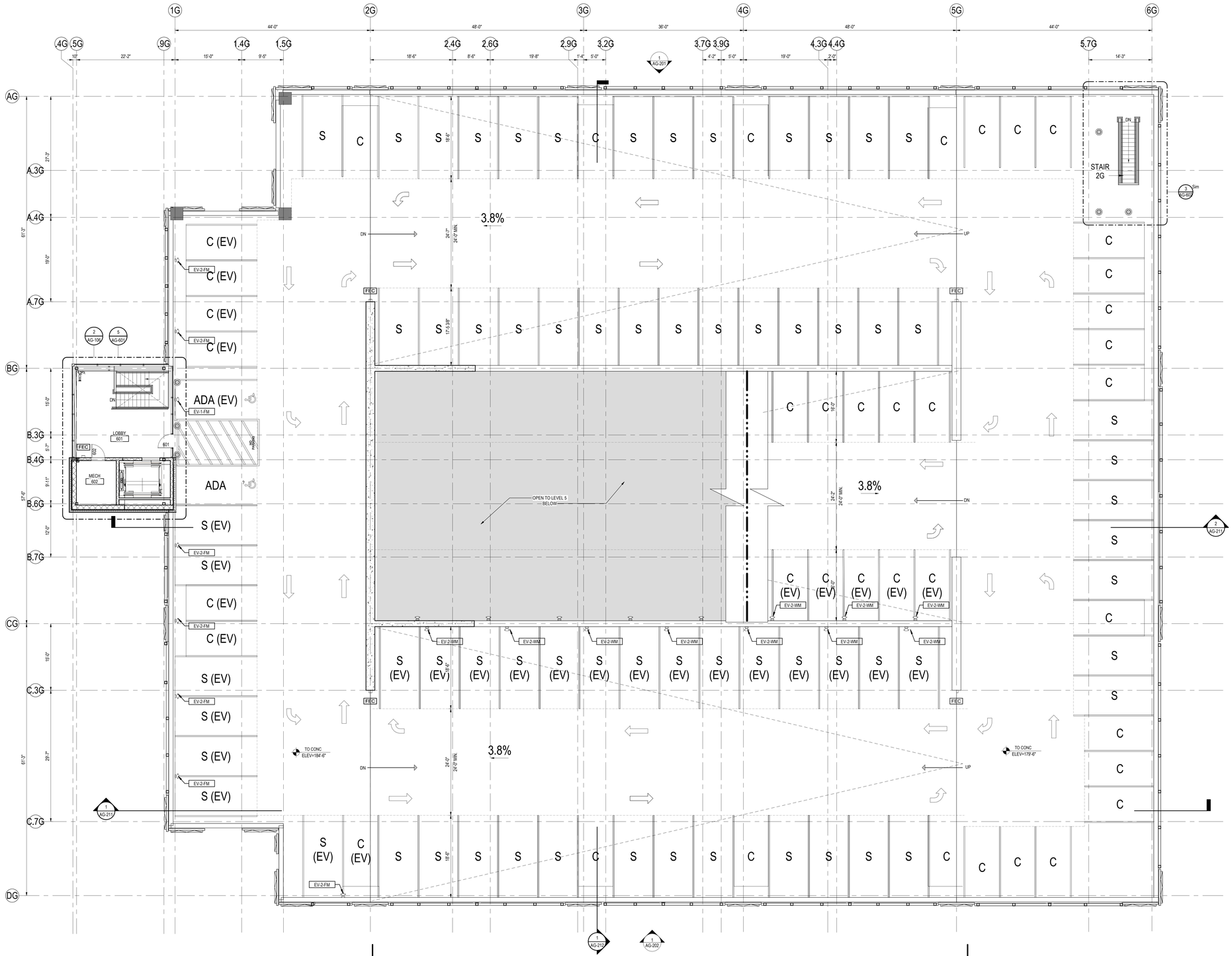
RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL 3 (LEVEL 4-5 SIM.)

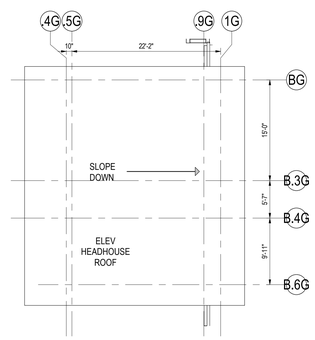
Revision:
Drawing No.
AG-103
GARAGE

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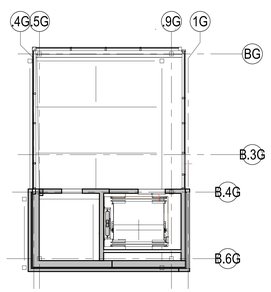
ORIGINAL SHEET - ARCH E



1 AG-106 **GARAGE - LEVEL 6**
1/8" = 1'-0"



2 AG-106 **GARAGE - MAIN ENTRY ROOF**
1/8" = 1'-0"



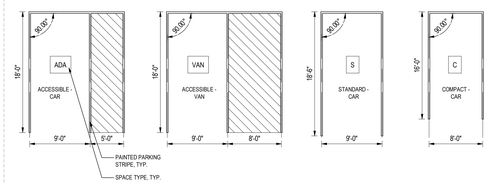
3 AG-106 **GARAGE - LEVEL 6 - RCP**
1/8" = 1'-0"

LEGEND

FEC: SURFACE MOUNTED FIRE EXTINGUISHER CABINET W/ 10lb "ABC" TYPE EXTINGUISHER

75'-0" MAX. DISTANCE PER CODE, TYP.

PARKING LEGEND



GARAGE PARKING COUNT

PARKING TYPE	COUNT
GARAGE - LEVEL B2	
ACCESSIBLE	3
COMPACT	52
STANDARD	61
	116
GARAGE - LEVEL B1	
ACCESSIBLE	3
COMPACT	56
STANDARD	60
	119
GARAGE - LEVEL 1	
ACCESSIBLE - EV SPACE	1
ACCESSIBLE VAN	2
ACCESSIBLE VAN - EV SPACE	1
COMPACT	50
COMPACT - EV SPACE	17
STANDARD	37
STANDARD - EV SPACE	18
	126
GARAGE - LEVEL 2	
ACCESSIBLE	2
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	20
STANDARD	30
STANDARD - EV SPACE	22
	131
GARAGE - LEVEL 3	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 4	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 5	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	56
COMPACT - EV SPACE	23
STANDARD	30
STANDARD - EV SPACE	21
	132
GARAGE - LEVEL 6	
ACCESSIBLE	1
ACCESSIBLE - EV SPACE	1
COMPACT	28
COMPACT - EV SPACE	13
STANDARD	46
STANDARD - EV SPACE	21
	110
TOTAL: 998	998

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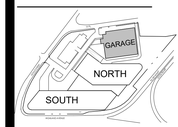
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Consultant

No.	Issued/Revision	By	Appd.	YYYY.MM.DD
1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	SPR SPECIAL PERMIT PACKAGE R2			2022.09.27
3	SPR SPECIAL PERMIT PACKAGE R3			2022.11.17

Permit/Seal





KEY PLAN

SPECIAL PERMIT PACKAGE R1
08/15/2022
(FOR 09/07/2022 PLANNING BOARD SPECIAL PERMIT PUBLIC HEARING)

Client/Project
Bulfinch
HIGHLAND INNOVATION CENTER - GARAGE
557 Highland Ave
Needham, MA 02494

Project No.:218421343
File Name: N/A
Scale: 1/8" = 1'-0"

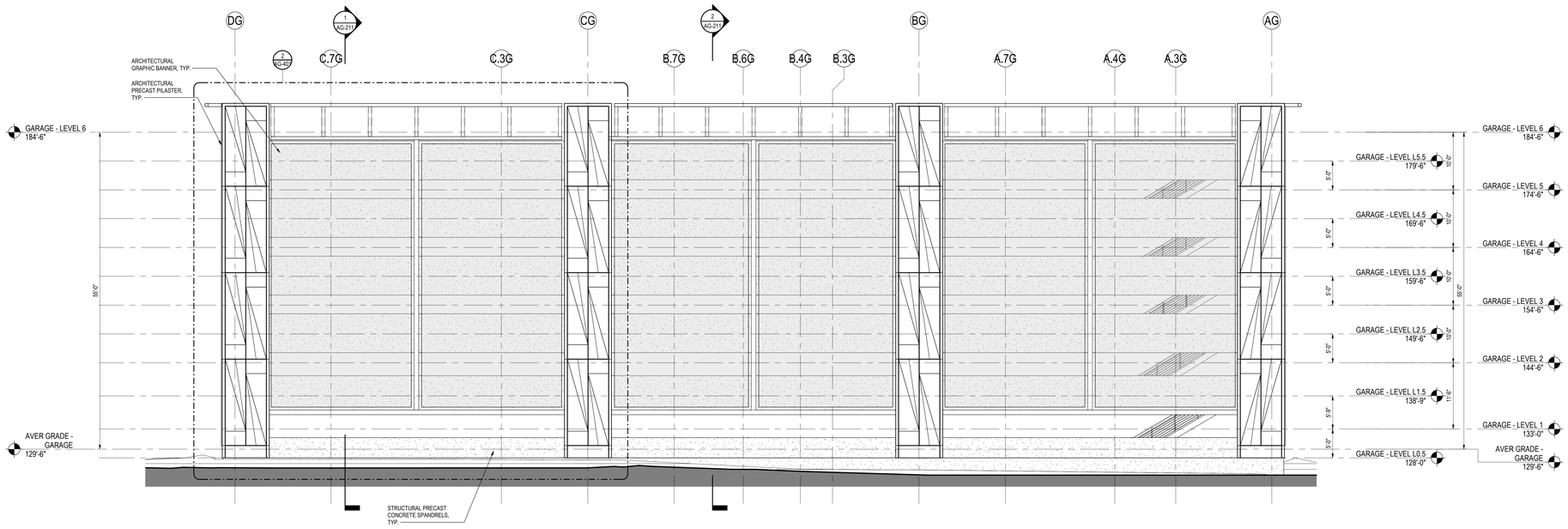
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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE LEVEL 6

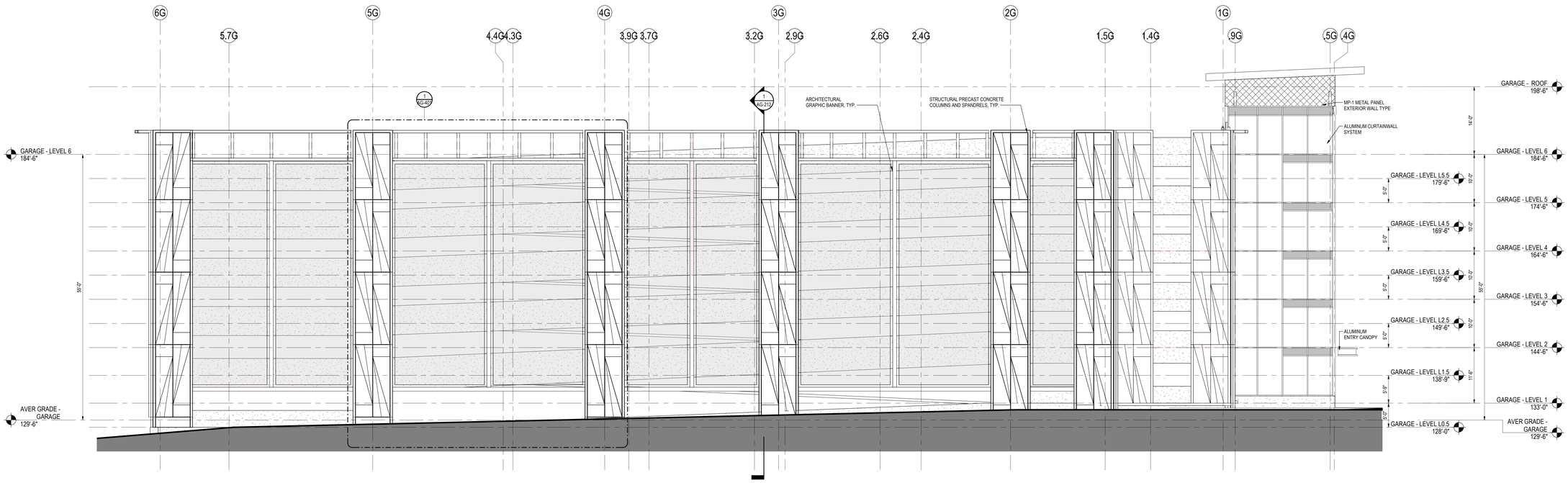
Revision:
Drawing No.
AG-106
GARAGE

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8/15/2022 3:24:11 PM

ORIGINAL SHEET - ARCH E



2 AG-201 EAST ELEVATION
1/8" = 1'-0"



1 AG-201 NORTH ELEVATION
1/8" = 1'-0"

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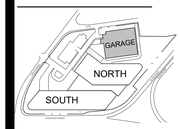
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1	SPECIAL PERMIT PACKAGE R1			2022.08.15
2	SPECIAL PERMIT PACKAGE R2			2022.09.27
3	SPECIAL PERMIT PACKAGE R3			2022.10.27

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KEY PLAN

Client/Project
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557 Highland Ave
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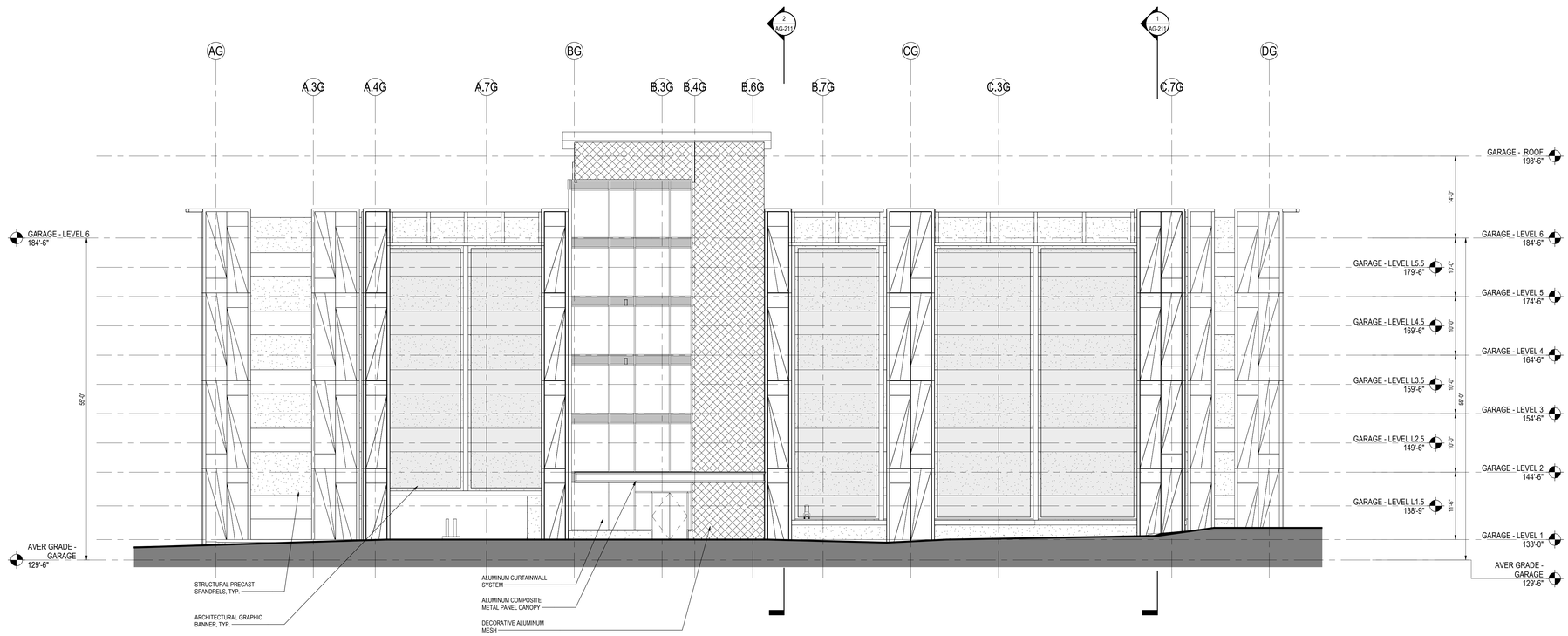
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BS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

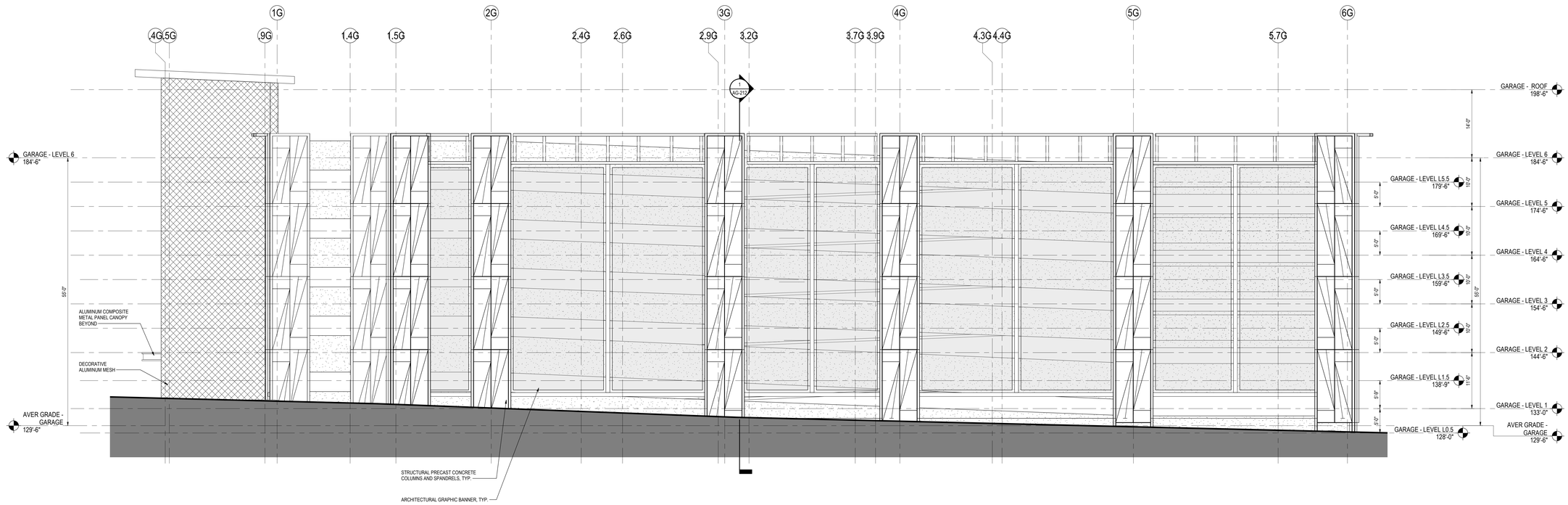
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ELEVATIONS - NORTH & EAST

Revision:
Drawing No.
AG-201
GARAGE

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ORIGINAL SHEET - ARCH E



2 AG-202 WEST ELEVATION
1/8" = 1'-0"



1 AG-202 SOUTH ELEVATION
1/8" = 1'-0"

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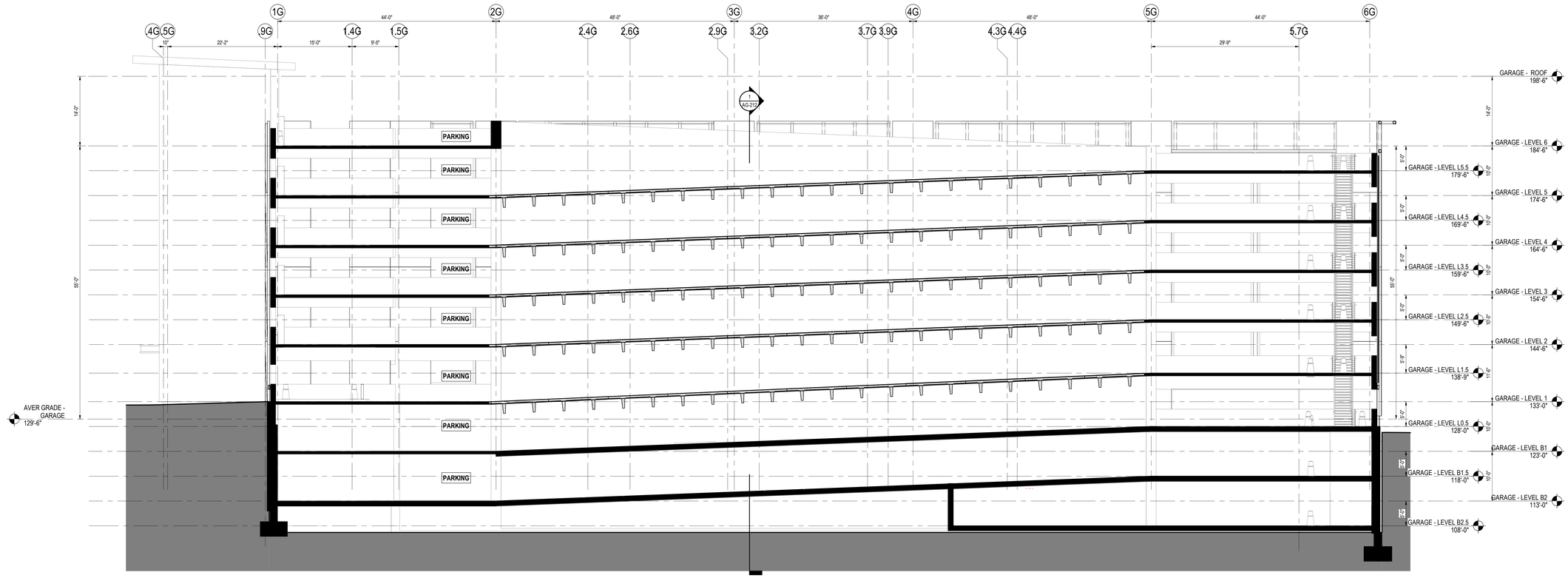
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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
ELEVATIONS - SOUTH & WEST

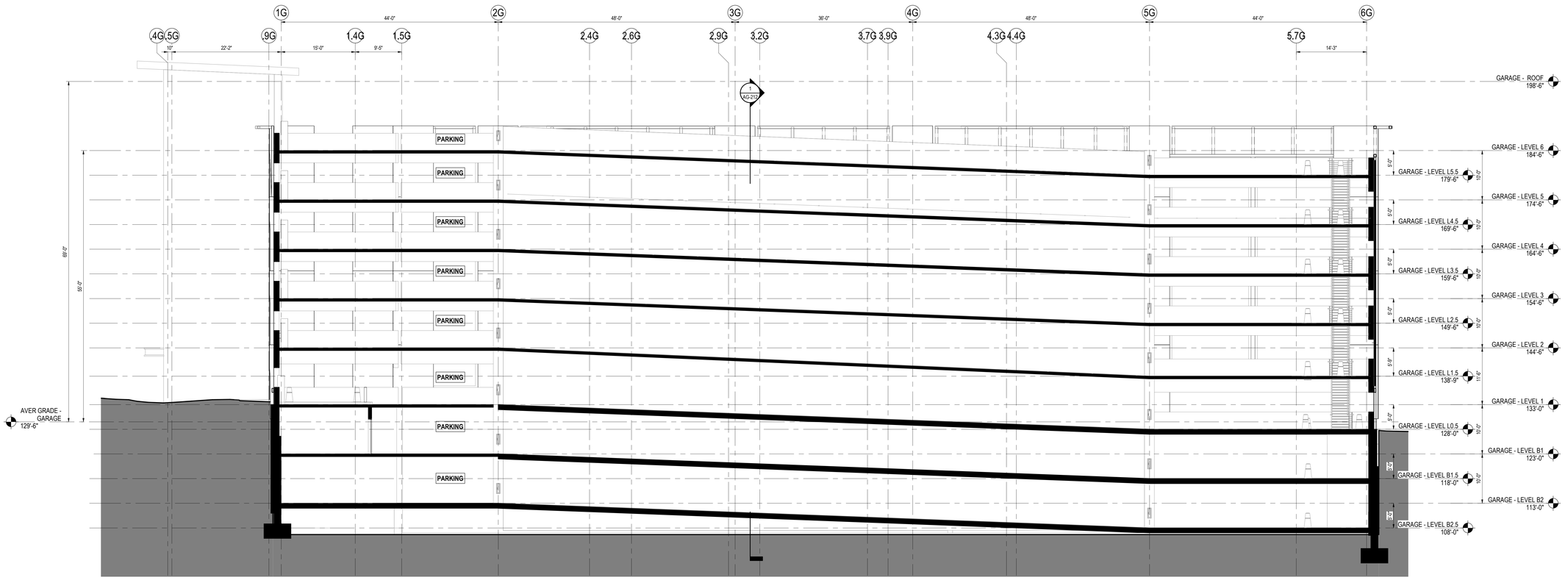
Revision:
Drawing No.
AG-202
GARAGE

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ORIGINAL SHEET - ARCH E



2 AG-211 **GARAGE SECTION BB - CENTRAL RAMP**

1/8" = 1'-0"



1 AG-211 **GARAGE SECTION AA - OUTER RAMP**

1/8" = 1'-0"

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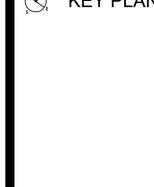
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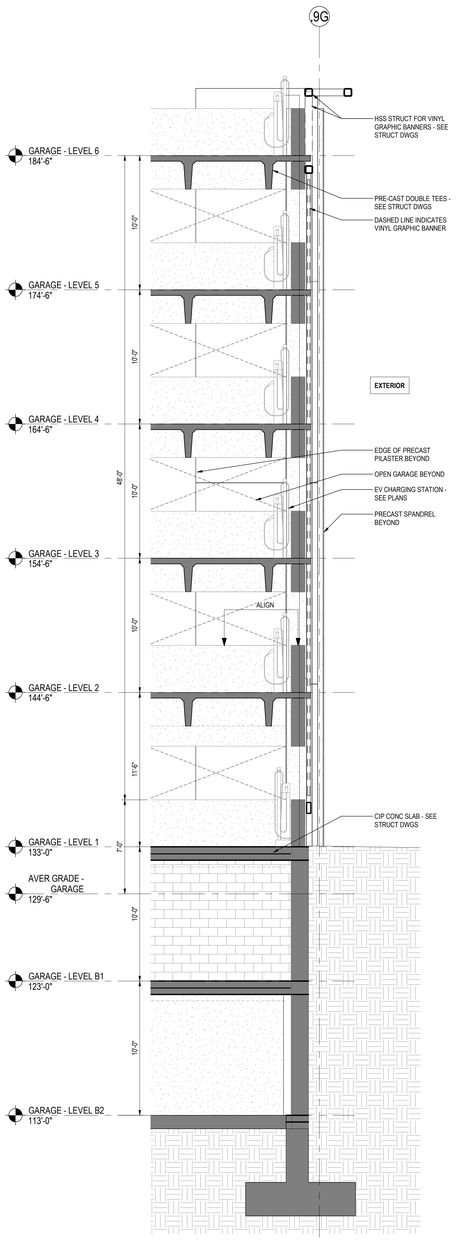
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Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

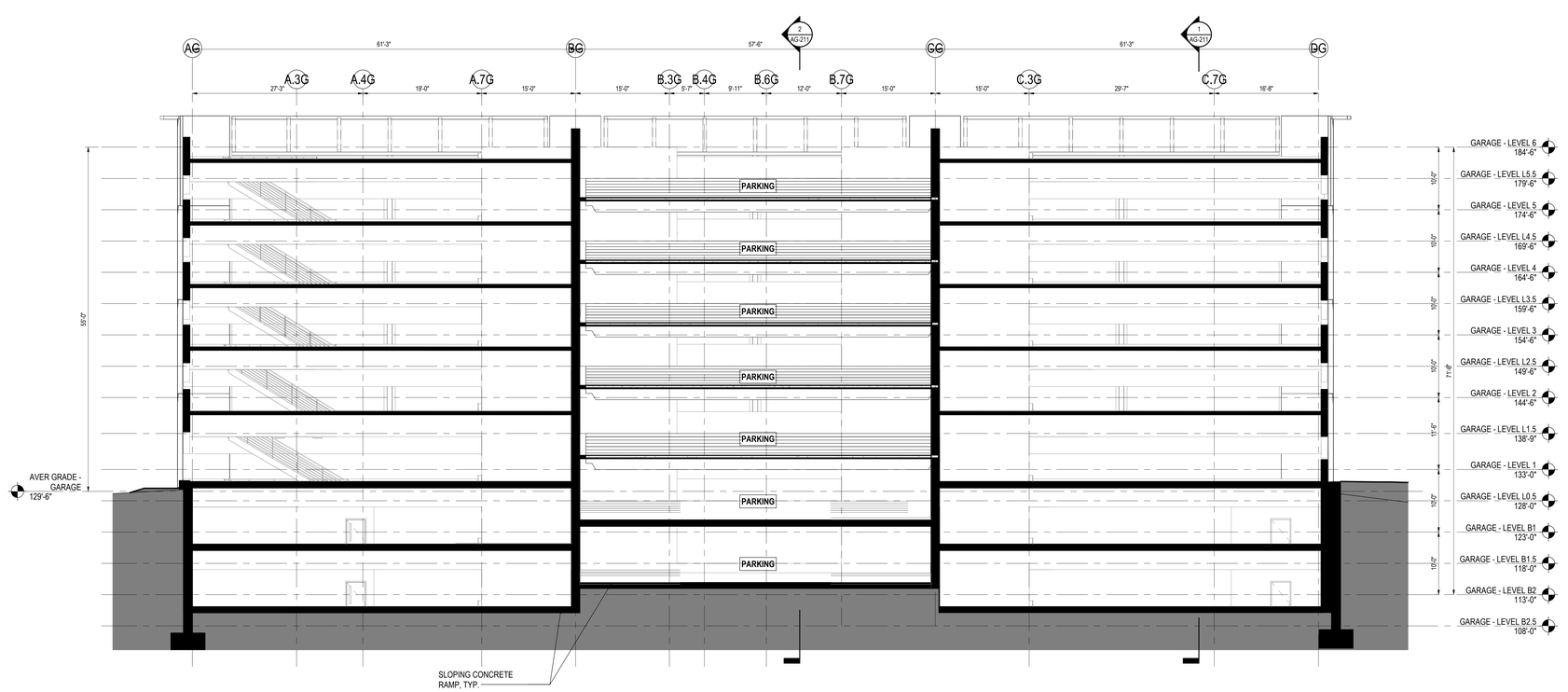
Title
GARAGE SECTIONS

Revision:
Drawing No.
AG-211
GARAGE

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ORIGINAL SHEET - ARCH E



2 AG-212 **TYP. BAY SECTION - FOUNDATION OUTBOARD**
1/4" = 1'-0"



1 AG-212 **GARAGE SECTION CC - Transverse**
1/8" = 1'-0"

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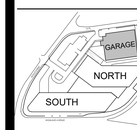
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File Name: N/A
Scale: As indicated

RS	Designer	TMU	2022.05.27
Dwn.	Dsgn.	Chkd.	YYYY.MM.DD

Title
GARAGE SECTIONS

Revision:
Drawing No.
AG-212
GARAGE

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