



# SOUTH COMMON PHASE III

## LOWELL, MASSACHUSETTS

### BID DOCUMENTS

02-09-24

#### PREPARED FOR:

CITY MANAGER

**THOMAS A. GOLDEN, JR.**

DIRECTOR OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT & ASSISTANT CITY MANAGER

**YOVANI BAEZ-ROSE, AICP**

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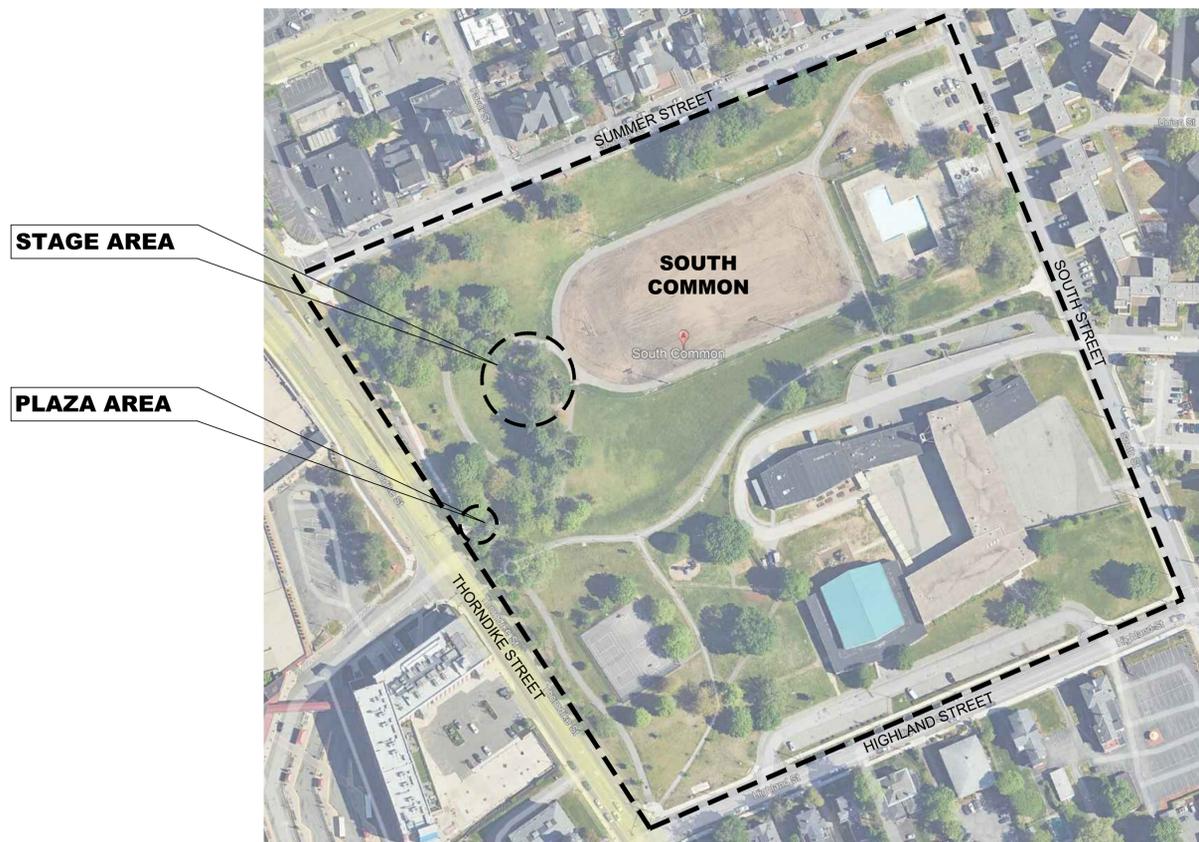
ELECTRICAL ENGINEER



**JOHN MURPHY, JR.**

**ELECTRICAL CONSTRUCTION & ENGINEERING, INC.**

379 LIBERTY STREET, SUITE 204  
ROCKLAND, MA 02370  
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**LOCATION MAP**  
200 SOUTH ST  
LOWELL, MA 01852

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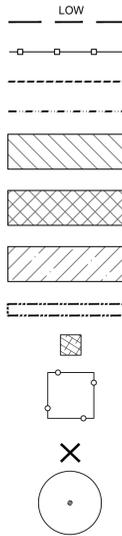
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Contract No.:	
Date:	02.09.2024
Scale:	N/A
Drawn:	MS
Checked:	RD
Project Name:	<b>SOUTH COMMON PHASE III LOWELL, MA</b>

LIST OF ABBREVIATIONS

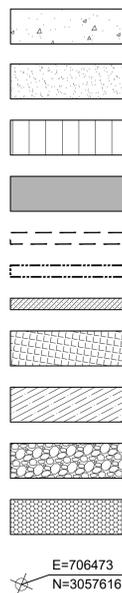
@	.....	AT
&	.....	AND
∠	.....	ANGLE
∩10'	.....	ARC LENGTH
APPROX	.....	APPROXIMATE
B&B	.....	BALLED AND BURLAPPED
BC	.....	BOTTOM OF CURB
BLDG.	.....	BUILDING
BOT	.....	BOTTOM
BF	.....	BOTTOM OF FOOTING
BW	.....	BOTTOM OF WALL
B/S	.....	BOTH SIDES
B/W	.....	BOTH WAYS
BIT. CONC.	.....	BITUMINOUS CONCRETE
CAL.	.....	CALIPER
C.I.P.	.....	CAST IN PLACE
CB	.....	CATCH BASIN
℄	.....	CENTERLINE
CLF	.....	CHAIN LINK FENCE
CIR.	.....	CIRCLE
CLR.	.....	CLEAR
CNTL.	.....	CONTROL
COMP.	.....	COMPACTED
CONC.	.....	CONCRETE
CONT.	.....	CONTINUOUS
CW	.....	COLD WATER
Ø DIA.	.....	DIAMETER
DIM.	.....	DIMENSION
DIMEN.	.....	DIMENSION
DB	.....	DRAINAGE BASIN
E.F.	.....	EACH FACE
EJ	.....	EXPANSION JOINT
EA.	.....	EACH
EL.	.....	ELEVATION
ELEC.	.....	ELECTRICAL LINE
ELEV.	.....	ELEVATION
EQ.	.....	EQUAL
EX	.....	EXISTING
FDN.	.....	FOUNDATION
FG	.....	FINISH GRADE
FIN. GR.	.....	FINISH GRADE
FTG.	.....	FOOTING
FTN.	.....	FOUNTAIN
H.D. GALV.	.....	HOT DIP GALVANIZED
HDPE	.....	HIGH DENSITY POLYETHYLENE PIPE
H/H	.....	HANDHOLE
HP	.....	HIGH POINT
HORIZ.	.....	HORIZONTAL
HR	.....	HANDRAIL
HT.	.....	HEIGHT
I.D.	.....	INSIDE DIAMETER
INV.	.....	INVERT ELEVATION
JT.	.....	JOINT
L	.....	LENGTH
L.P.	.....	LIGHT POLE
LOW	.....	APPROXIMATE LIMIT OF WORK
LP	.....	LOW POINT
MAX.	.....	MAXIMUM
MEG	.....	MEET EX. GRADE
MH	.....	MANHOLE
MIN	.....	MINIMUM
NIC	.....	NOT IN CONTRACT
NO.	.....	NUMBER
NTS	.....	NOT TO SCALE
O.C.	.....	ON CENTER
O.D.	.....	OUTSIDE DIAMETER
OS	.....	OVERFLOW STRUCTURE
OWH	.....	OVERHEAD WIRES
OPP.	.....	OPPOSITE
%	.....	PERCENT
PC	.....	POINT OF CURVATURE
PERF.	.....	PERFORATED
PLTG.	.....	PLANTING
P.O.B.	.....	POINT OF BEGINNING
PT	.....	POINT OF TANGENCY
PVG.	.....	PAVING
PVMT.	.....	PAVEMENT
R	.....	RADIUS
RIM	.....	RIM ELEVATION
RP	.....	RADIUS POINT
REINF.	.....	REINFORCEMENT
REQ.	.....	REQUIRED
S	.....	SLOPE
SC	.....	SAWCUT
SIM.	.....	SIMILAR
SPRD.	.....	SPREAD
S.S.	.....	STAINLESS STEEL
T	.....	TANGENT
TC	.....	TOP OF CURB
TH	.....	THRESHOLD
T.O.B.	.....	TOP OF BENCH
TS	.....	TOP OF SHELF
TW	.....	TOP OF WALL
TYP.	.....	TYPICAL
UP	.....	UTILITY POLE
VERT.	.....	VERTICAL
V.	.....	VERIFY
W	.....	WATER LINE
WITH	.....	WITH
WIG	.....	WATER GATE

DRAWING LEGENDS

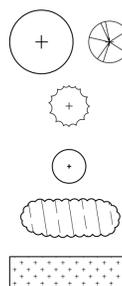
SITE PREPARATION



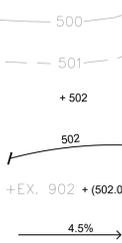
LAYOUT & MATERIALS



PLANTING



GRADING



GENERAL NOTES

- THE CONTRACTOR SHALL BECOME FAMILIAR WITH DRAWINGS AND SPECIFICATIONS BEFORE BIDDING.
- THE CONTRACTOR SHALL CONFORM TO ALL FEDERAL, STATE AND LOCAL CODES.
- THE CONTRACTOR SHALL SECURE ALL PERMITS THAT MAY BE REQUIRED FROM ALL JURISDICTIONS AFFECTED BY THIS WORK.
- PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE "DIG SAFE" NOTIFICATION PROCEDURES PROMOTED BY RESPECTIVE UTILITY COMPANIES. THE DIG SAFE TELEPHONE NUMBER FOR MASSACHUSETTS IS 811.
- ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS. ANY MUD ON PUBLIC WAYS ORIGINATING FROM THE JOB SITE SHALL BE CLEANED BY THE CONTRACTOR DAILY.
- THE CONTRACTOR'S EQUIPMENT AND VEHICLES SHALL BE PARKED ON PAVED SURFACES ONLY. NO PARKING ON TURF OR SAND AREAS.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
- APPROXIMATE LIMIT OF WORK IS SHOWN ON THE DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE DUE TO OPERATIONS INSIDE AND OUTSIDE OF THE CONTRACT LIMIT LINE. ANY AREA OUTSIDE THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR THE WORK SITE TO BE SECURE DURING CONSTRUCTION.

TREE PROTECTION NOTES:

- THE PURPOSE OF TREE PROTECTION IS TO PROTECT THE ROOTS OF TREES ON THIS PROPERTY AND NEIGHBORING PROPERTIES. TREE ROOTS ARE EASILY DAMAGED BY SOIL COMPACTON, PROLONGED COVERING BY SOIL, AND EXPOSURE TO WASTE MATERIALS.
- IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT EACH SUBCONTRACTOR WORKING AT THE SITE UNDERSTANDS AND COMPLIES WITH THE TREE PROTECTION DRAWINGS AND SPECIFICATIONS.
- SET UP TREE PROTECTION FENCE PRIOR TO THE START OF OPERATIONS AND MAINTAIN IN GOOD CONDITION UNTIL WORK IS COMPLETE. BUILD FENCE TO WITHSTAND WEATHER, NORMAL WEAR AND TEAR AND TO PROVIDE A SUBSTANTIAL AND VISIBLE BARRIER TO INTRUSION BY PEOPLE AND VEHICLES. CHECK AND REPAIR FENCE AT THE START AND END OF EACH WORK DAY.
- LAYOUT TREE PROTECTION FENCE AS SHOWN IN THE DRAWINGS. WHERE TREE PROTECTION FOLLOWS EDGE OF PAVEMENT, INSTALL AT THE EDGE OF PAVEMENT.
- ARBORISTS AND LANDSCAPE CONTRACTORS MAY ENTER TREE PROTECTION ZONES ONLY TO PERFORM TREE WORK AND ROUTINE LANDSCAPE MAINTENANCE.
- DURING EXCAVATION, CUT ROOTS AT EDGE OF EXCAVATION USING SHARP HAND TOOLS FOR A CLEAN CUT.
- ONCE ERECTED, DO NOT MOVE TREE PROTECTION FENCING.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES AND PLANTS DESIGNATED TO REMAIN FOR THE LENGTH OF THE CONSTRUCTION PERIOD. PROTECTION TO INCLUDE TRUNK, ROOTS, AND OVERHEAD BRANCHES. THE PLACEMENT OF PROTECTION DEVICES ADDITIONAL TO THOSE NOTED SHALL, HOWEVER, BE AT THE CONTRACTOR'S DISCRETION.
- NO PLANTS TO BE SAVED SHALL BE USED FOR CRANE STAYS, GUYS OR OTHER FASTENINGS. VEHICLES SHALL NOT BE PARKED WITHIN THE DRIP LINE OR WHERE DAMAGE MAY RESULT TO TREES TO BE SAVED. CONSTRUCTION MATERIALS SHALL NOT BE STORED BENEATH TREES TO BE SAVED.
- THE CONTRACTOR SHALL IDENTIFY ALL TREE LIMBS LOWER THAN 10' ABOVE THE GROUND SURFACE THAT MAY BE VULNERABLE TO EQUIPMENT DAMAGE. NOTIFY THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK BENEATH ANY OF THESE LIMBS. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO TREE LIMBS THAT ARE DUE TO CONTRACTOR OPERATIONS.

SITE PREPARATION NOTES:

- ALL ITEMS REQUIRING REMOVAL SHALL BE REMOVED TO FULL DEPTH TO INCLUDE BASE MATERIAL AND FOOTINGS OR FOUNDATIONS AS APPLICABLE, AND REUSED AS DIRECTED BY THE OWNER'S REPRESENTATIVE OR LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL STRIP AND STOCKPILE EXISTING TOPSOIL TO FULL DEPTH WITHIN LIMIT OF GRADING BEFORE COMMENCING EXCAVATION AND GRADING OPERATIONS. TOPSOIL SHALL NOT BE REMOVED FROM THE SITE, UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
- AT ALL LOCATIONS WHERE CONCRETE OR BITUMINOUS CONCRETE PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING PAVEMENT SHALL BE SAWCUT TO A CLEAN, SMOOTH EDGE.
- BEFORE ANY TREE REMOVAL OR PRUNING IS DONE, THE CONTRACTOR SHALL ARRANGE A CONFERENCE ON THE SITE WITH THE OWNER'S REPRESENTATIVE TO IDENTIFY TREES WHICH ARE TO BE PRUNED, PROTECTED, OR REMOVED. DO NOT REMOVE OR PRUNE TREES WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS THAT ARE DUE TO CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL SALVAGE ALL ITEMS SHOWN IN DRAWINGS OR REQUESTED BY OWNER'S REPRESENTATIVE.
- LOCATION OF UNDERGROUND UTILITIES ARE DIAGRAMMATIC ONLY.
- THE CONTRACTOR SHALL PROVIDE 6' CHAIN LINK TEMP. CONSTRUCTION FENCE AROUND LIMIT OF WORK BOUNDARY AND SECURE THE SITE THROUGHOUT CONSTRUCTION.

LAYOUT AND MATERIALS NOTES:

- ALL NEW SITE IMPROVEMENTS SHALL BE LAID OUT BY A REGISTERED CIVIL ENGINEER OR SURVEYOR ENGAGED BY THE CONTRACTOR.
- ALL LINES AND DIMENSIONS ARE PARALLEL OR PERPENDICULAR TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
- ALL LAYOUTS FOR WALKS AND PATHS SHALL BE ADEQUATELY STAKED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL ESTABLISH PERMANENT CONSTRUCTION BENCHMARKS. MAINTAIN ALL ESTABLISHED BOUNDS AND BENCHMARKS AND REPLACE AS DIRECTED ANY WHICH ARE DESTROYED OR DISTURBED.
- ALL SITE AMENITIES, PAVEMENT MARKINGS, AND SIGNS TO BE FIELD LOCATED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

GRADING NOTES:

- THE CONTRACTOR SHALL VERIFY ALL EXISTING GRADES IN THE FIELD AND SHALL REPORT ANY DISCREPANCIES BETWEEN EXISTING AND PROPOSED CONDITIONS TO THE OWNER'S REPRESENTATIVE.
- PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF ONE-EIGHTH INCH (1/8") PER FOOT. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
- THE CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDINGS AT ALL TOP AND BOTTOM OF SLOPES.
- EXCAVATION REQUIRED WITHIN DRIP LINE OF TREES DESIGNATED TO REMAIN SHALL BE DONE BY HAND. PLANT MATERIALS DAMAGED BY CONTRACTOR SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS.
- MAXIMUM CROSS PITCH OF ALL SIDEWALKS IS 2%. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
- ALL GRADING SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AND THE AMERICANS WITH DISABILITIES ACT STANDARDS FOR BUILDINGS AND FACILITIES, LATEST EDITIONS. IN CASE OF CONFLICT BETWEEN REGULATIONS, THE GUIDELINE PROVIDING GREATER ACCESS SHALL APPLY.
- THE CONTRACTOR SHALL MAINTAIN OR ADJUST TO PROPOSED FINISH GRADE AS NECESSARY ALL UTILITY AND SITE STRUCTURES SUCH AS LIGHT POLES, SIGN POSTS, MANHOLES, CATCH BASINS, HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC., FROM MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTED ON UTILITY DRAWINGS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
- MAINTAIN AND PROTECT THE INTEGRITY OF THE EXISTING DRAINAGE SYSTEM AT ALL TIMES, UNLESS OTHERWISE NOTED ON DRAWINGS.
- ANY IDENTIFIED DEPRESSION SHALL BE FILLED WITH LOAM, SUFFICIENT TO ENSURE THAT SOIL IS LEVEL WITH SURROUNDING GRADE AFTER SETTLEMENT.
- ALL CUT AND FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
- EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
- PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.
- ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- PROPOSED ELEVATIONS ARE SHOWN TO FINISH PAVEMENT OR GRADE UNLESS NOTED OTHERWISE.
- ALL DRAINAGE STRUCTURES AND PIPES MUST BE CONNECTED TO THE DRAINAGE SYSTEM PRIOR TO THE INSTALLATION OF ANY PAVEMENT. PAVING WILL NOT BE ALLOWED IF THE DRAINAGE SYSTEM FOR THE PROPOSED PAVED AREA IS NOT COMPLETELY AND PROPERLY INSTALLED. THIS INCLUDES THE STABILIZATION OF ALL DISTURBED AREAS CONTRIBUTING TO THE DRAINAGE SYSTEMS AND ANY STORMWATER BASIN FLOORS AND SIDE SLOPES.

PLANTING NOTES:

- PROVIDE 6" DEPTH OF NEW OR EXISTING TOPSOIL AT ALL LAWN AREAS.
- SEED ALL DISTURBED AREAS THAT ARE NOT OTHERWISE SHOWN AS HARDSCAPE OR PLANT BEDS.
- IF DISCREPANCIES EXIST BETWEEN THE NUMBER OF PLANTS DRAWN ON THE PLANTING PLAN AND THE NUMBER OF PLANTS IN THE PLANT SCHEDULE, THE PLANTING PLAN SHALL GOVERN.
- ALL NEW PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
- ALL NEW PLANTS TO BE BALLED AND BURLAPPED OR CONTAINER-GROWN, UNLESS OTHERWISE NOTED ON THE PLANT SCHEDULE.
- ANY PROPOSED SUBSTITUTIONS OF PLANT SPECIES SHALL BE MADE WITH PLANTS OF EQUIVALENT OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE. ALL SUBSTITUTIONS SHALL REQUIRE WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE OWNER'S REPRESENTATIVE AT THE NURSERY PRIOR TO DIGGING OR DELIVERY TO THE SITE.
- CONTRACTOR SHALL LOCATE AND VERIFY ALL EXISTING UTILITY LINES PRIOR TO PLANTING AND SHALL REPORT ANY CONFLICTS TO THE OWNERS REPRESENTATIVE.
- CONTRACTOR SHALL STAKE LOCATION OF ALL PROPOSED PLANTING FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO THE COMMENCEMENT OF PLANTING.
- NEW TREES SHALL BE SET 3" HIGHER THAN PREVIOUS GRADE. NO TREE, SHALL BE PLANTED BEFORE ACCEPTANCE OF ROUGH GRADING.
- CONTRACTOR SHALL PROVIDE FULL DEPTHS OF LOAM AS NOTED ON DETAILS AND AS SPECIFIED, FOR ALL PLANTING.
- IN AREAS WHERE EXISTING PAVEMENTS ARE REMOVED AND ARE PROPOSED AS TURF, THE CONTRACTOR SHALL REMOVE THE PAVEMENT AND BASE, PROVIDE FILL AND 6" TOPSOIL PRIOR TO SEEDING.
- CONTRACTOR SHALL PROVIDE PRUNING BY CERTIFIED ARBORIST. PRUNING SHALL BE REVIEWED WITH OWNER'S REPRESENTATIVE PRIOR TO WORK.

STORMWATER FACILITY OPERATION & MAINTENANCE:

- THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER INSPECTION AND MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES AS OUTLINED BELOW DURING CONSTRUCTION AND UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED BY THE OWNER AND THE ENGINEER.
- INSPECT AND RESTORE/CLEAN ALL FACILITIES (INLETS, MANHOLES, STORMWATER MANAGEMENT AREAS) AS DESCRIBED BELOW OF SEDIMENT AND DEBRIS PRIOR TO THE OWNER'S ACCEPTANCE.
  - REMOVE AND DISPOSE ALL SEDIMENT AND DEBRIS TO A PRE-APPROVED LOCATION.
  - AT A MINIMUM INSPECT MONTHLY AND AFTER STORM EVENTS GREATER THAN OR EQUAL TO 1" OF RAINFALL AS NECESSARY FOR THE ENTIRE DURATION OF THE CONSTRUCTION PROJECT AND THE FIRST 3 MONTHS AFTER CONSTRUCTION TO ENSURE PROPER STABILIZATION.
  - SPECIFIC MAINTENANCE REQUIRED DURING CONSTRUCTION:
    - DRAINAGE STRUCTURES (MANHOLES, CATCHBASINS, OVERFLOW STRUCTURES): MONITOR AND REGULARLY INSPECT ALL EXISTING AND PROPOSED DRAINAGE STRUCTURES FOR PROPER OPERATION. COLLECTION OF LITTER OR TRASH, AND STRUCTURAL DETERIORATION. CLEAN AND REMOVE SEDIMENT FROM THE STRUCTURES (INCLUDING SUMPS) AS NECESSARY, AND REPAIR WHEN REQUIRED.
    - RIP-RAP SLOPE PROTECTION: MONITOR, REGULARLY INSPECT AND REPAIR AS NECESSARY.
    - SEDIMENT FOREBAY: REGULARLY INSPECT TO ENSURE PROPER FUNCTION. REMOVE SEDIMENT BUILD-UP ON THE FLOOR OF THE FOREBAY AND PROPERLY DISPOSE, AS NECESSARY, TO LIMIT CLOGGING. CLEAN SEDIMENT FOREBAYS PRIOR TO COMPLETION OF CONSTRUCTION.
    - BIORETENTION SYSTEMS: REGULARLY INSPECT TO ENSURE PROPER FUNCTION. MONITOR AND INSPECT STRUCTURAL COMPONENTS, INCLUDING WEIR WALLS, DRAINAGE INLETS, UNDERDRAINS, OUTLET STRUCTURES AND SPILLWAYS, FOR PROPER FUNCTION. CLEAN AND REPAIR ANY CLOGGED STRUCTURES DURING INSPECTIONS. PRIOR TO THE COMPLETION OF CONSTRUCTION, REMOVE AND REPLACE ILL-ESTABLISHED, DEAD OR SEVERELY DISEASED PLANTS. REMOVE SEDIMENT BUILD-UP AS NEEDED, AND REPLACE SOIL WHEN NECESSARY. IF SEDIMENT OR ORGANIC DEBRIS BUILD-UP LIMITS THE INFILTRATION CAPABILITIES, REMOVE THE TOP 6" OR GREATER AND SURFACE ROTO-TILLED TO A DEPTH OF 12".
    - GRASS SWALES: PERFORM A GENERAL INSPECTION OF THE SWALE AFTER STORM EVENTS GREATER THAN OR EQUAL TO 1" OF RAINFALL OR MORE FREQUENTLY, AS NEEDED. MAINTENANCE CONSISTS OF REMOVAL OF ANY TRASH AND/OR DEBRIS FROM THE BOTTOM OF THE SWALE, REMOVAL OF SEDIMENT BUILDUP WITHIN THE SWALE, CORRECTING ANY EROSION GULLYING, AND RE-SEEDING, AS NECESSARY.
    - ROUTINE MAINTENANCE: OTHER ROUTINE MAINTENANCE INCLUDES THE REMOVAL OF TRASH AND LITTER FROM PAVED AND PERIMETER AREAS, AND PATH SWEEPING UPON COMPLETION OF CONSTRUCTION TO AVOID EXCESSIVE ACCUMULATION OF SEDIMENT IN THE DRAINAGE SYSTEM. INSPECT THE PIPES AND STRUCTURES FOR SEDIMENT ACCUMULATION AND PROPER FLOW.

ALTERNATE:

- INSTALL A NEW FIELDSTONE SEAT WALL WITH STONE CAP. THIS ALTERNATE INCLUDES ALL GRADING, PROVIDING AND SPREADING TOPSOIL AND SEEDING WHICH IS PART OF THIS WORK.



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02.01.24 BID DOCUMENTS

DATE REVISION

REVISIONS

NORTH

STAMP



SOUTH COMMON  
PHASE III  
LOWELL, MA

PROJECT

NOTES, LEGENDS, AND ABBREVIATIONS

DRAWING TITLE

CONTRACT NO.

DATE 02.09.24

DRAWN MS, PZ

CKD RD

SCALE AS SHOWN

SHEET NO.

L-1

325 WOOD ROAD  
SUITE 105  
BRAintree MA 02184  
(781)380-7766  
FAX (781)380-7757

**SMC**  
**TOPOGRAPHIC SURVEY**  
**SOUTH COMMON**  
**THORNDIKE STREET**  
**LOWELL, MA**  
**(MIDDLESEX COUNTY)**

PREPARED FOR: FAY, SPOFFORD & THORNDIKE, LLC  
SCALE: 1"=40' DATE: FEBRUARY 14, 2011

**NOTES:**

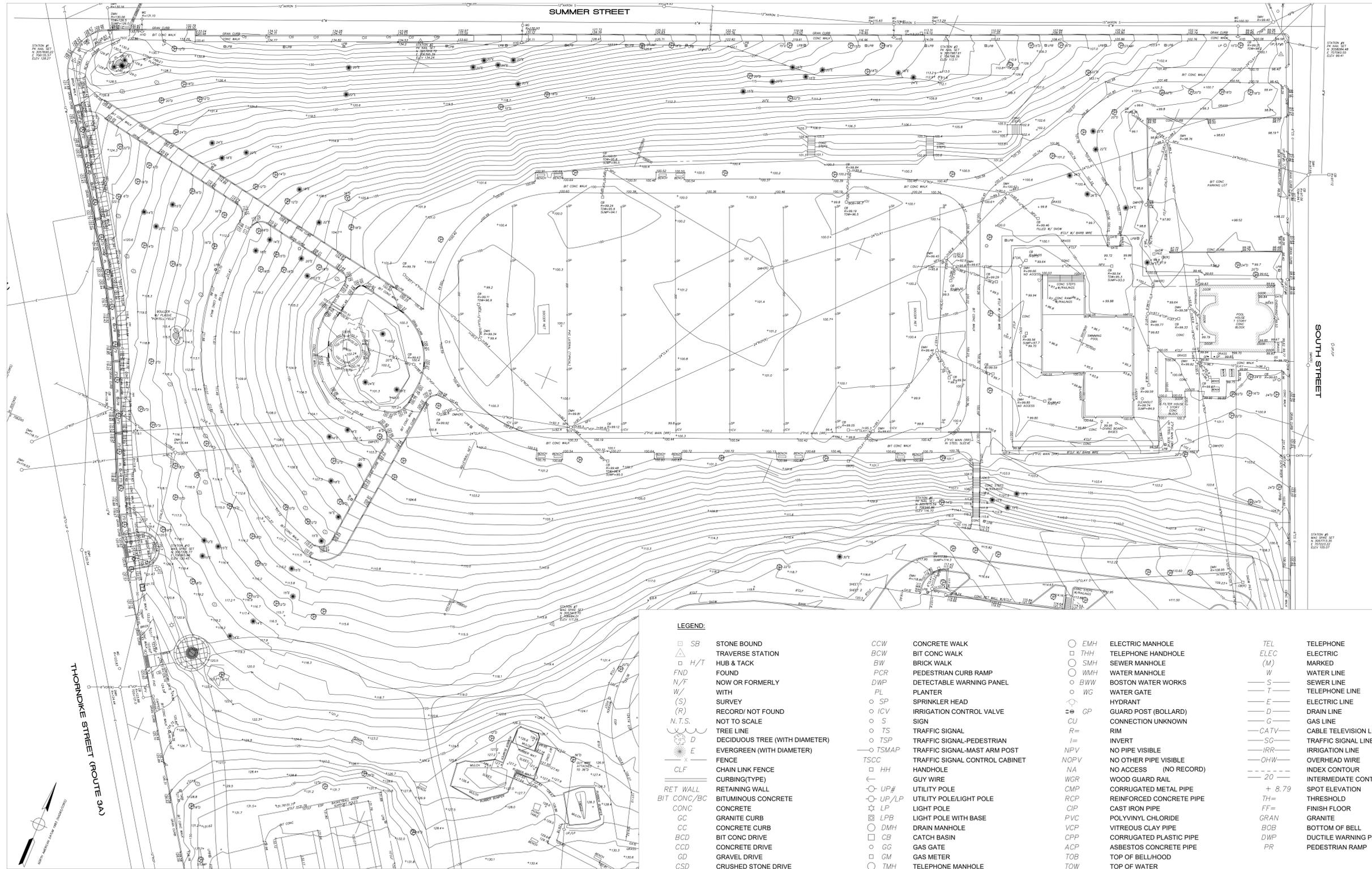
- SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.
- EXISTING CONDITIONS PLAN COMPILED FROM "TOPOGRAPHIC SURVEY SOUTH COMMON THORNDIKE STREET LOWELL, MA" BY SMC, SURVEY AND MAPPING CONSULTANTS, DATED FEBRUARY 14, 2011, AS WELL AS FIELD OBSERVATIONS.
- COORDINATES, IN U.S. SURVEY FEET, ARE REFERENCED TO THE MASSACHUSETTS COORDINATE SYSTEM, MAINLAND ZONE, REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD83/CORS), AS DETERMINED BY KeyWIGPS VIRTUAL REFERENCE SYSTEM (VRS), OBSERVED JANUARY 10, 2011, USING SMC'S TRIMBLE R8 GNSS RECEIVERS.

- ELEVATIONS, IN U.S. SURVEY FEET, ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), AS DETERMINED BY SMC'S TOTAL STATIONING TRAVERSING AND DIFFERENTIAL LEVELING, BASED ON THE MASSACHUSETTS GEODETIC SURVEY STATION 7913, A BRONZE DISK RECOVERED ON THE SOUTHERLY SIDE OF THE CHELMSFORD STREET BRIDGE OVER ROUTE 3A.
- SUBSURFACE UTILITY LINES AND FEATURES, AS SHOWN HEREON, WERE COMPILED FROM FIELD EVIDENCE AND/OR AVAILABLE RECORD INFORMATION FROM PUBLIC AND PRIVATE UTILITY PROVIDERS, AND THEIR LOCATIONS ARE ONLY

APPROXIMATE. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD. SMC ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN.

BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE MUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" 1 (888) 344-7233 HTTP://WWW.DIGSAFE.COM.

PORTIONS OF THE SITE WERE COVERED WITH SNOW BANKS AT THE TIME OF FIELD SURVEY, AND SOME FEATURES MIGHT NOT HAVE BEEN LOCATED.



**1** **EXISTING CONDITIONS PLAN**

SCALE: 1" = 40'-0"



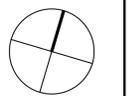
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STAMP

**SOUTH COMMON**  
**PHASE III**  
**LOWELL, MA**

PROJECT

**EXISTING CONDITIONS PLAN**

DRAWING TITLE  
CONTRACT NO.

DATE 02.09.24

DRAWN MS, PZ

CKD RD

SCALE AS SHOWN SHEET NO.

**L-2**

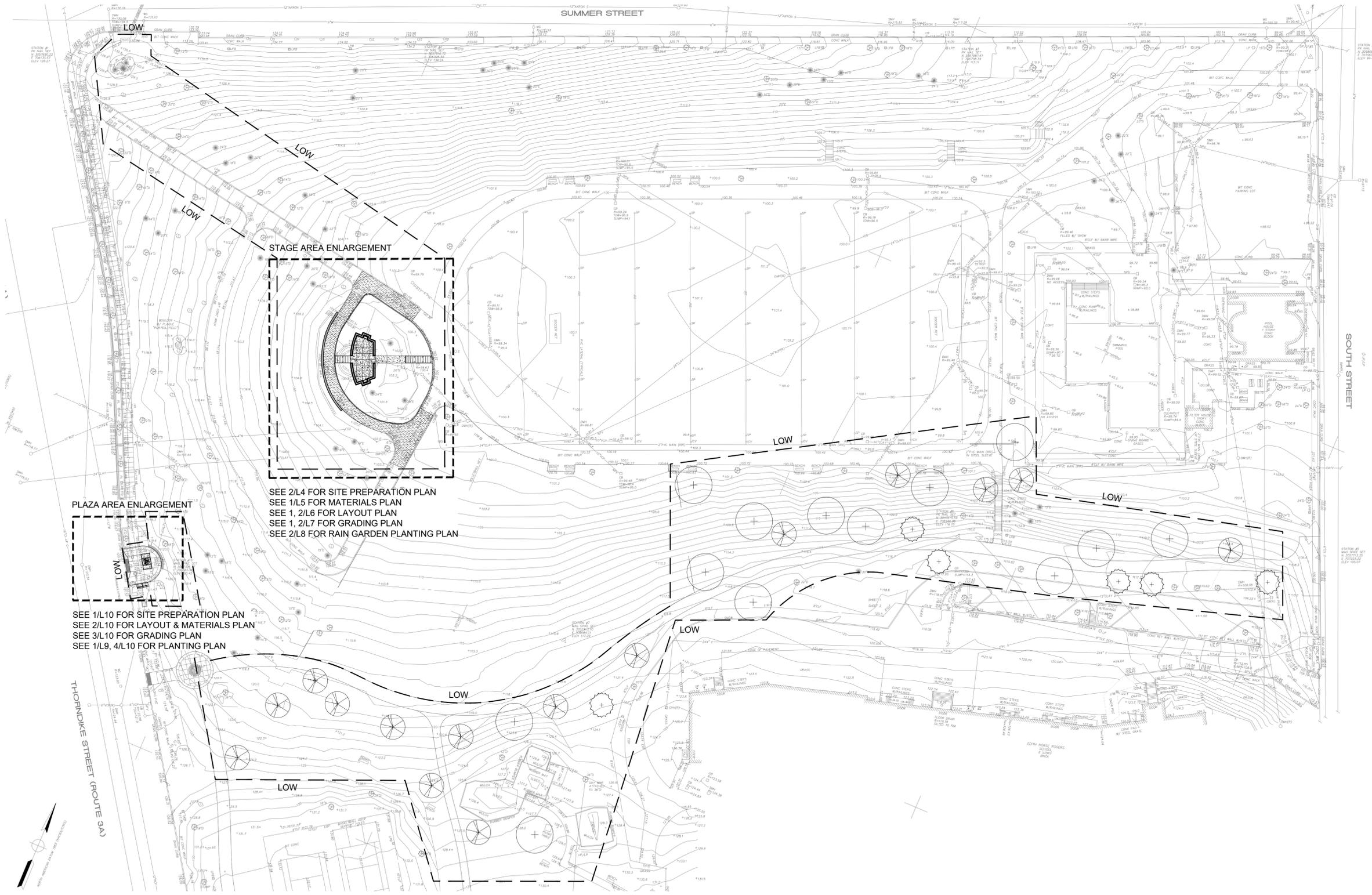
NOTES:  
 1. SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.



**rdla** RAY DUNETZ LANDSCAPE ARCHITECTURE, INC.  
 179 GREEN STREET  
 BOSTON, MA 02130  
 T:617-524-6265

**HWS** HORSLEY WITTEN GROUP  
 90 ROUTE 6A  
 SANDWICH, MA 02563  
 T:508-833-6600

**JME** JOHN MURPHY, JR.  
 ELECTRICAL CONSTRUCTION & ENGINEERING, INC.  
 379 LIBERTY ST. SUITE 204  
 ROCKLAND, MA 02370  
 T:781-792-0059



SEE 2/L4 FOR SITE PREPARATION PLAN  
 SEE 1/L5 FOR MATERIALS PLAN  
 SEE 1, 2/L6 FOR LAYOUT PLAN  
 SEE 1, 2/L7 FOR GRADING PLAN  
 SEE 2/L8 FOR RAIN GARDEN PLANTING PLAN

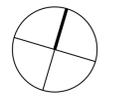
SEE 1/L10 FOR SITE PREPARATION PLAN  
 SEE 2/L10 FOR LAYOUT & MATERIALS PLAN  
 SEE 3/L10 FOR GRADING PLAN  
 SEE 1/L9, 4/L10 FOR PLANTING PLAN

**1** LANDSCAPE SITE PLAN  
 SCALE: 1" = 40'-0"



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**SOUTH COMMON  
 PHASE III  
 LOWELL, MA**

PROJECT

**SITE PLAN**

DRAWING TITLE  
 CONTRACT NO.

DATE 02.09.24

DRAWN MS, PZ

CKD RD

SCALE AS SHOWN SHEET NO.

**L-3**

- NOTES:  
 1. SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.  
 2. SEE SHEET L-3 FOR LIMIT OF WORK.



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**SOUTH COMMON  
 PHASE III  
 LOWELL, MA**

PROJECT

**SITE PREPARATION PLAN**

DRAWING TITLE

CONTRACT NO.

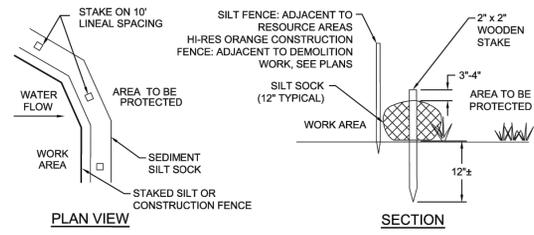
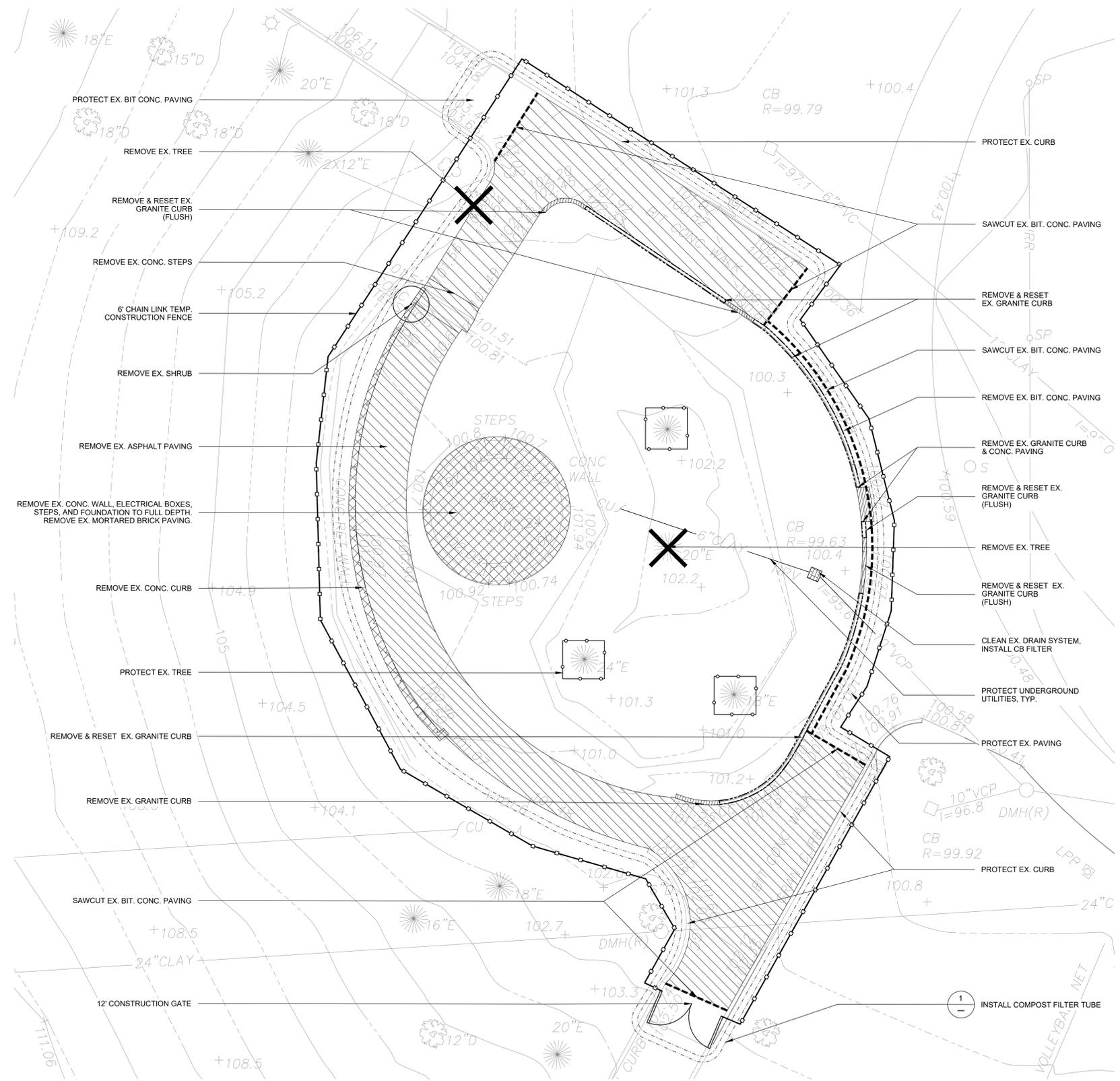
DATE 02.09.24

DRAWN MS, PZ

CKD RD

SCALE AS SHOWN SHEET NO.

**L-4**



- NOTES:  
 1. SILT SOCK MANUFACTURER TO BE SILT SOXX OR ENGINEER APPROVED EQUAL.  
 2. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATIONS.  
 3. SEDIMENT SILT SOCK TO BE FILLED WITH LEAF COMPOST AND/OR WOODY MULCH PER MANUFACTURER'S REQUIREMENTS.  
 4. FOLLOWING CONSTRUCTION AND SITE STABILIZATION, COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE, AS APPROVED BY THE ENGINEER.

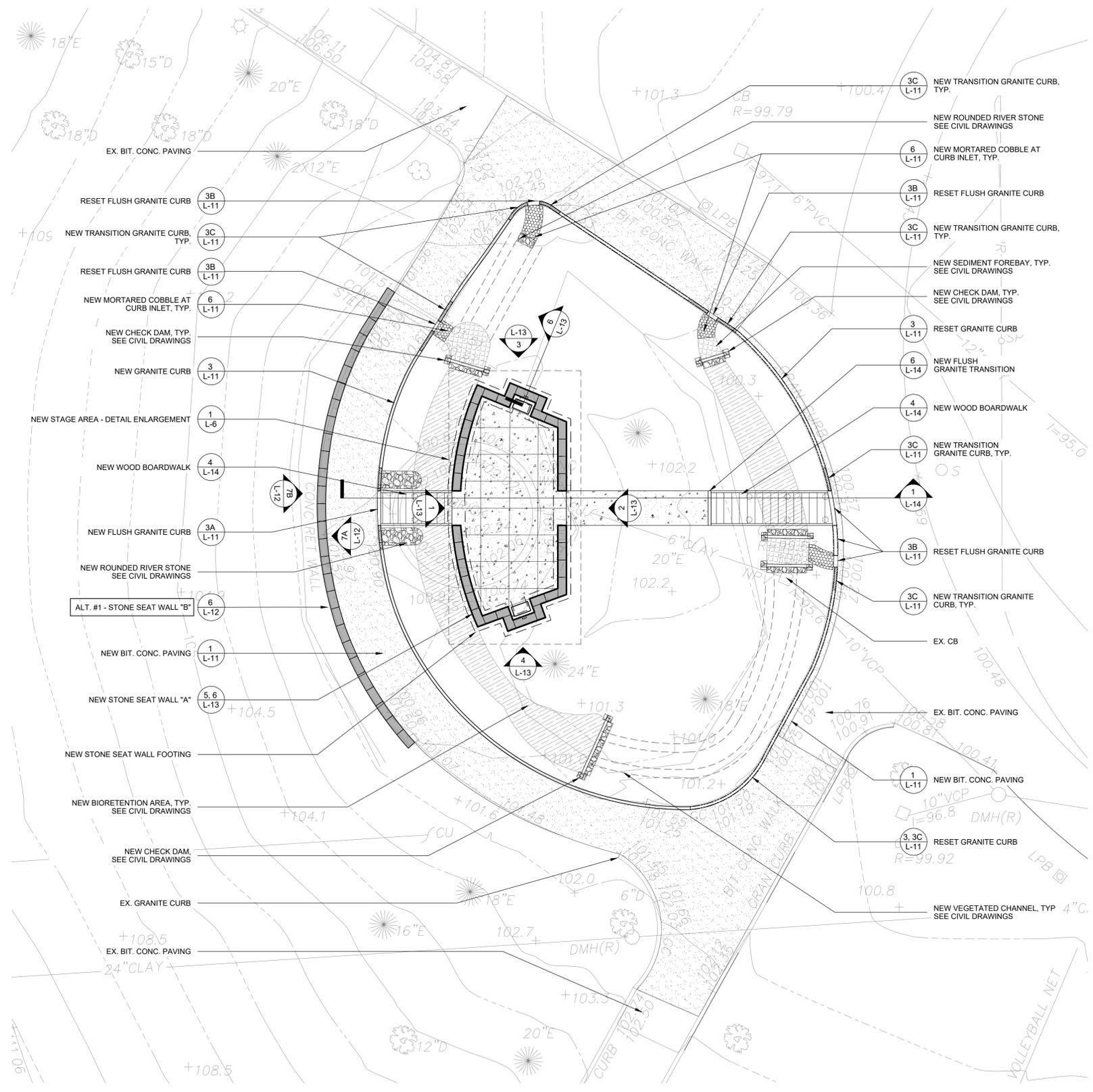
**SEDIMENT SILT SOCK**  
 NOT TO SCALE

**1 COMPOST FILTER TUBE**  
 NOT TO SCALE

**2 SITE PREPARATION PLAN - STAGE AREA**  
 SCALE: 1" = 10'-0"



- NOTES:  
 1. SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.  
 2. SEE SHEET L-3 FOR LIMIT OF WORK.



**1** MATERIALS PLAN - STAGE AREA  
 SCALE: 1" = 10'-0"



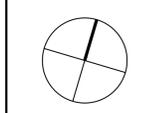
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**SOUTH COMMON  
 PHASE III  
 LOWELL, MA**

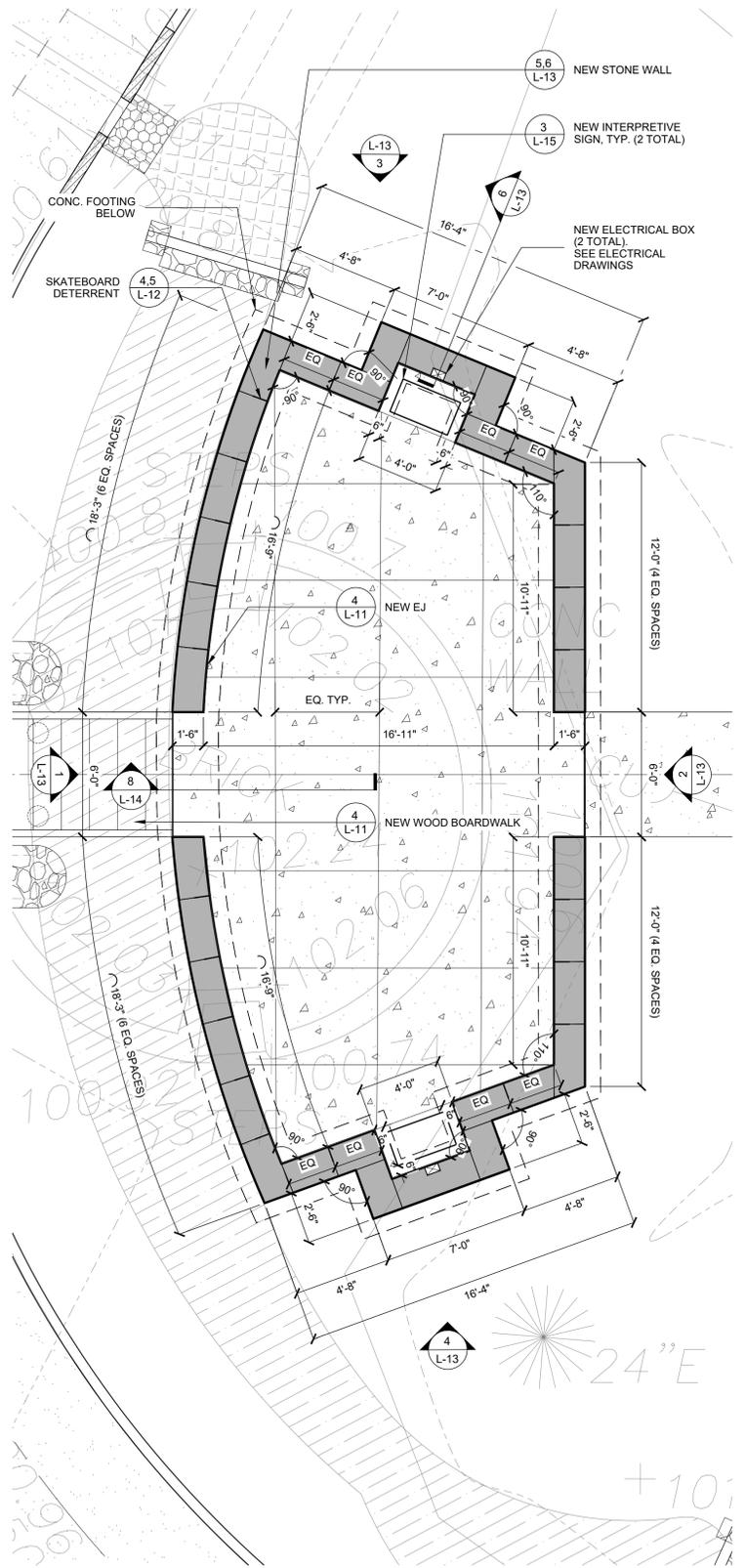
PROJECT  
**MATERIALS PLAN**

DRAWING TITLE	
CONTRACT NO.	
DATE	02.09.24
DRAWN	MS, PZ
CKD	RD
SCALE	AS SHOWN

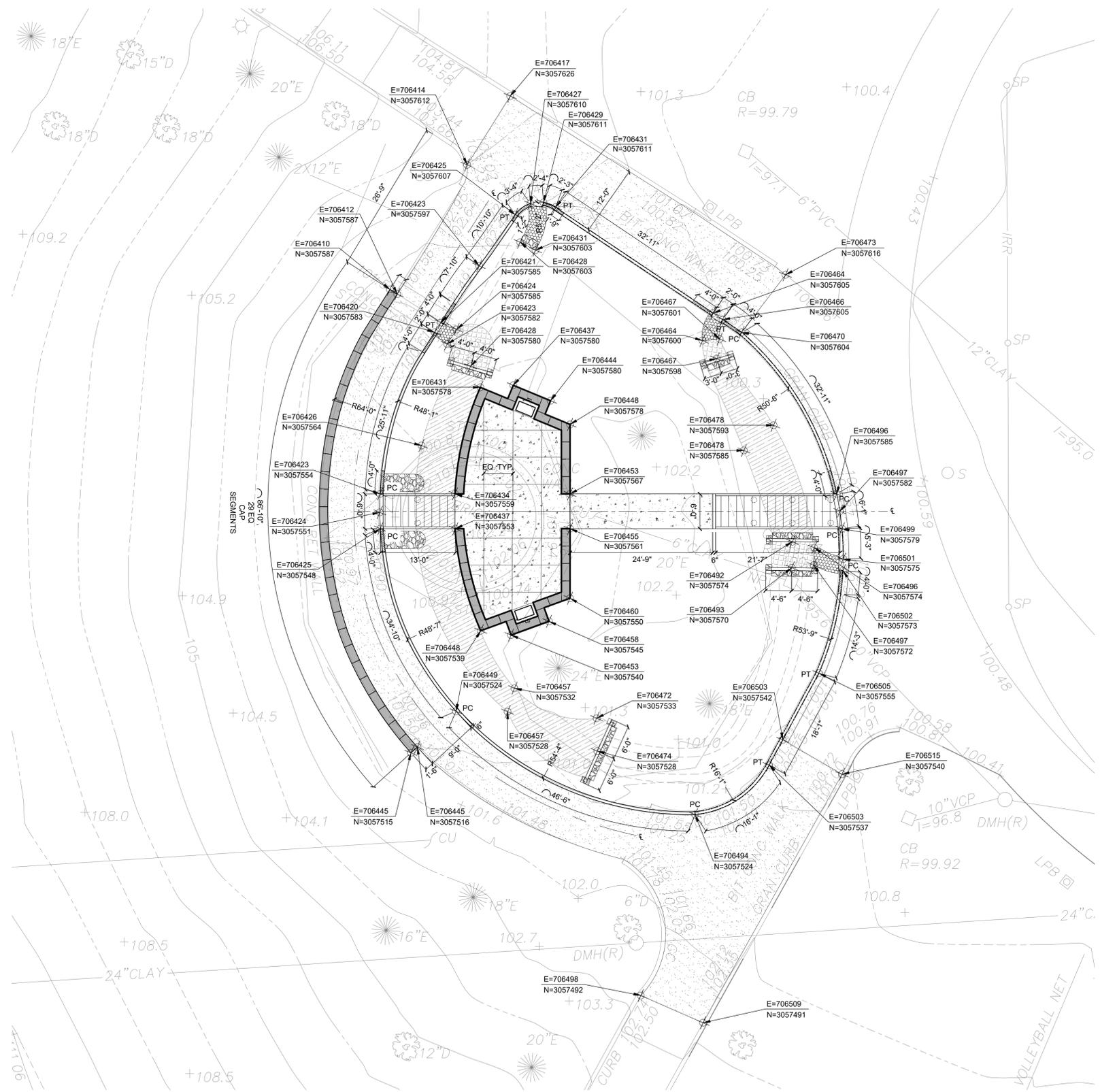
**L-5**

SHEET NO.

- NOTES:  
 1. SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.  
 2. SEE SHEET L-3 FOR LIMIT OF WORK.



**1** DETAIL ENLARGEMENT - STAGE AREA  
 SCALE: 1/4" = 1'-0"  
 GRAPHIC SCALE IN FEET  
 0 5' 10' 20'



**2** LAYOUT PLAN - STAGE AREA  
 SCALE: 1" = 10'-0"  
 GRAPHIC SCALE IN FEET  
 0 10' 20' 40'



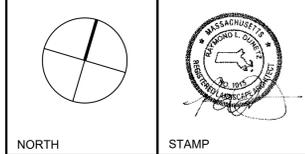
**rdla** RAY DUNETZ LANDSCAPE ARCHITECTURE, INC.  
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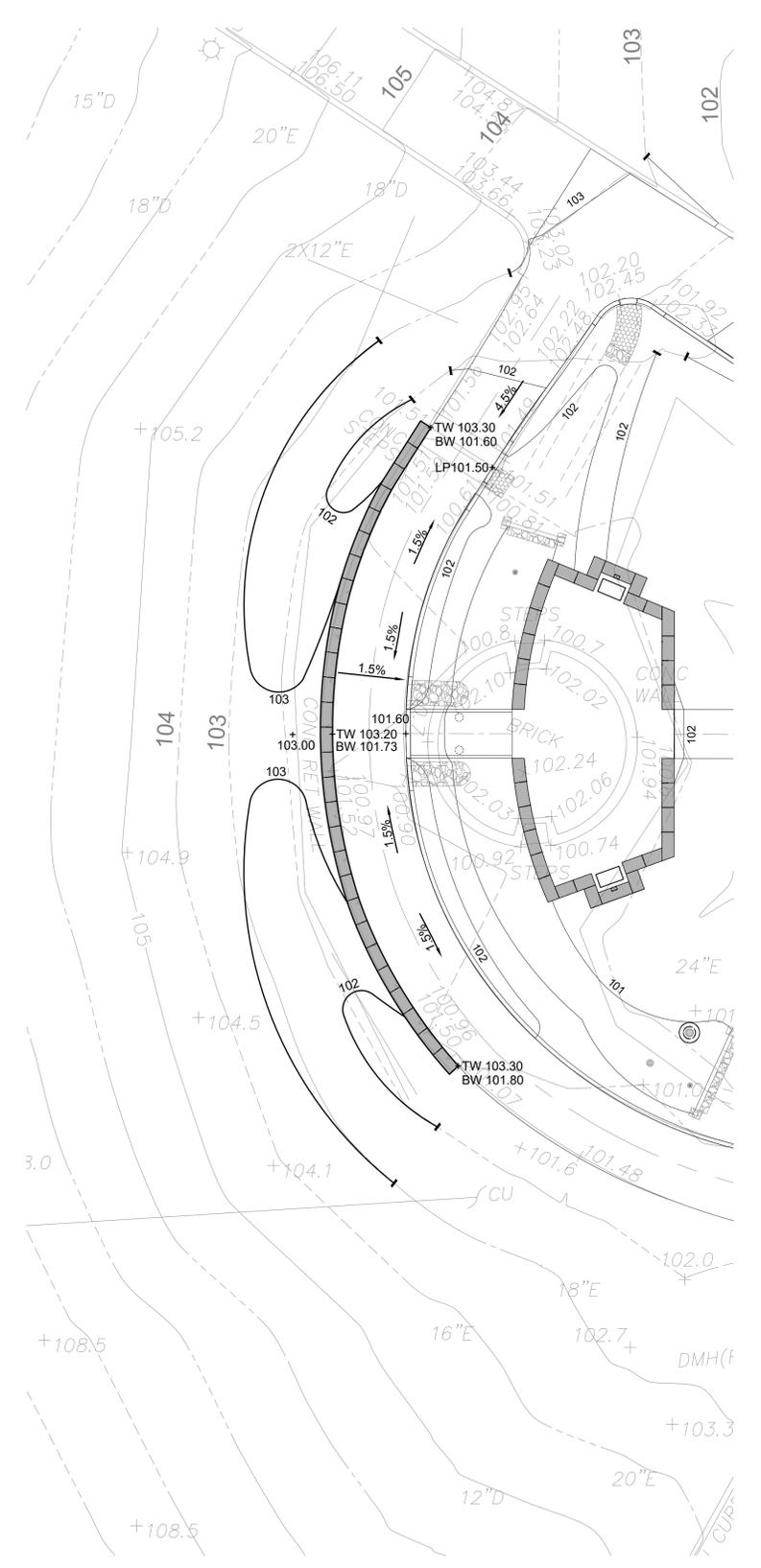


**SOUTH COMMON  
 PHASE III  
 LOWELL, MA**

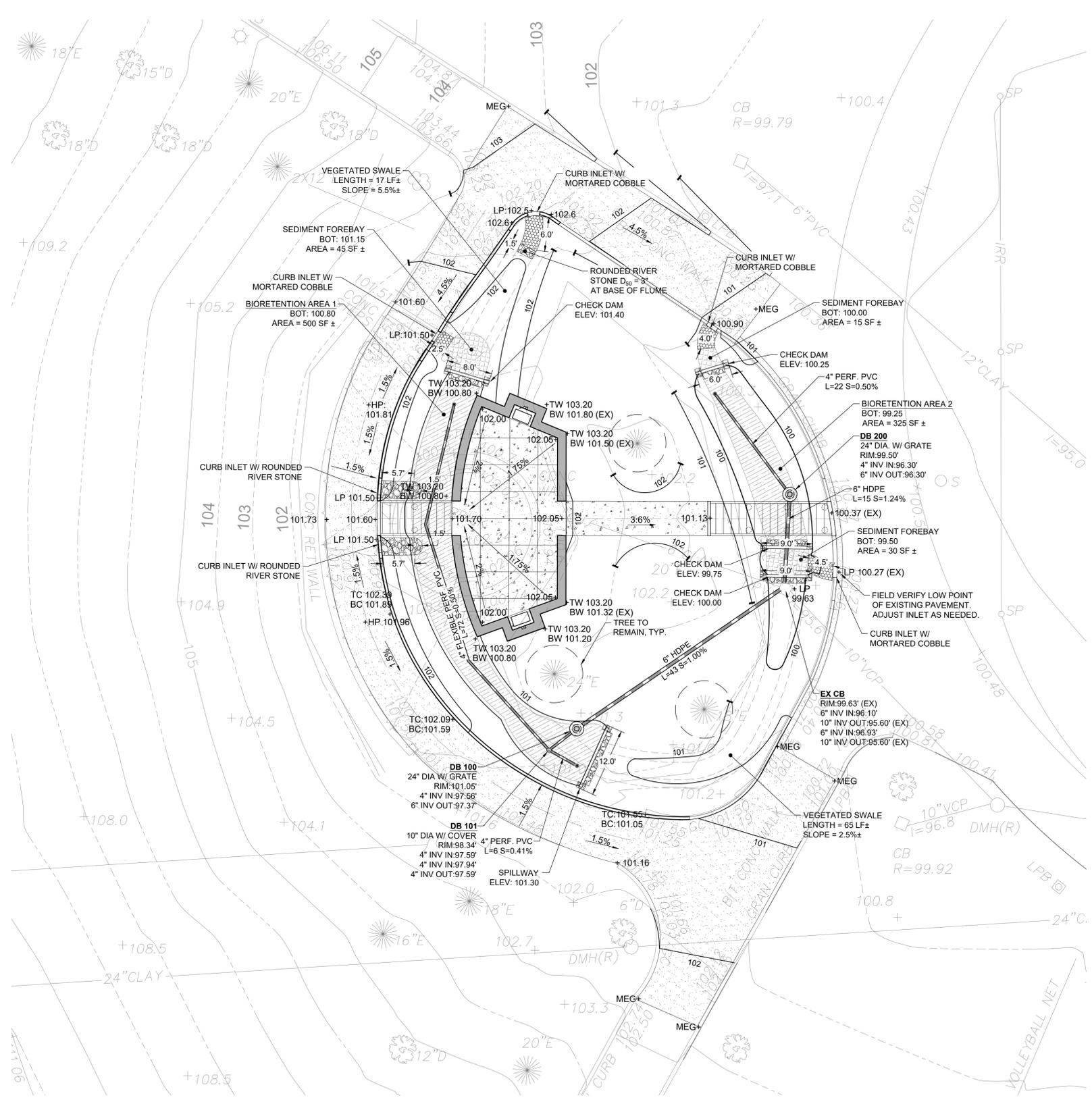
PROJECT  
**LAYOUT PLAN**

DRAWING TITLE	
CONTRACT NO.	<b>L-6</b>
DATE	
DRAWN	
CKD	
SCALE	AS SHOWN SHEET NO.

- NOTES:
- SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.
  - SEE SHEET L-3 FOR LIMIT OF WORK.



**1 ALT. #1 - STONE SEAT WALL - GRADING & DRAINAGE PLAN**  
SCALE: 1" = 10'-0"



**2 GRADING & DRAINAGE PLAN - STAGE AREA**  
SCALE: 1" = 10'-0"



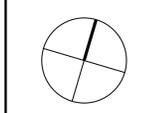
**rdla** RAY DUNETZ LANDSCAPE ARCHITECTURE, INC.  
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**SOUTH COMMON  
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LOWELL, MA**

PROJECT  
**GRADING & DRAINAGE PLAN**

DRAWING TITLE	
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DATE	02.09.24
DRAWN	MS, PZ
CKD	RD
SCALE	AS SHOWN
SHEET NO.	<b>L-7</b>

KEY	QTY	BOTANICAL NAME	COMMON NAME	MIN SIZE	REMARKS
AG	121	ANDROPOGON VIRGINICUS	LITTLE BLUESTEM	5" PLUG	12" OC
AI	173	ASCLEPIAS INCARNATA	SWAMP MILKWEED	5" PLUG	12" OC
CA	9	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SUMMERSWEET	#2 POT	
EM	100	EUTROCHIAM MACULATUM	JOE PYE WEED	5" PLUG	12" OC
IV	21	ILEX VERTICILLATA 'RED SPRITE'	WINTERBERRY	#3 POT	
IVM	1	ILEX VERTICILLATA 'JIM DANDY'	MALE WINTERBERRY	#3 POT	
JT	209	JUNCUS TENUIS	PATH RUSH	5" PLUG	12" OC
MF	222	MONARDA FISTULOSA	WILD BERGAMOT	5" PLUG	12" OC
PV	118	PANICUM VIRGATUM 'SHENANDOAH'	SWITCHGRASS	5" PLUG	12" OC
SG	136	SOLIDAGO GRAMINIFOLIA	GRASS-LEAVED GOLDENROD	5" PLUG	12" OC
ZA	214	ZIZIA AUREA	GOLDEN ALEXANDER	5" PLUG	12" OC

- NOTES:
- SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.
  - SEE SHEET L-3 FOR LIMIT OF WORK.
  - CONTRACTOR TO FURNISH AND PLANT ALL RAIN GARDEN PLANTS SHOWN ON THIS SHEET.



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**RAIN GARDEN**

A rain garden is designed to help rain water runoff from impervious surfaces like roads, parking lots, and buildings soak into the ground slowly which naturally replenishes the ground water beneath the surface. The hardy plants in this garden help remove toxins from the water through their roots. Scan the QR code with a smart phone to learn more!

Un jardín de lluvia está diseñado para ayudar a escurrimiento del agua de lluvia proveniente de superficies impermeables como carreteras, estacionamientos y edificios, permitiendo que se filtre lentamente en el suelo y recargue naturalmente el agua subterránea. Las plantas resistentes en este jardín ayudan a eliminar toxinas del agua a través de sus raíces. Escanea el código QR con su teléfono inteligente para obtener más información!

Um jardim de chuva é projetado para auxiliar o escoamento da água da chuva proveniente de superfícies impermeáveis, como estradas, estacionamentos e edifícios, permitindo que ela se infiltre lentamente no solo, recarregando naturalmente o lençol freático. As plantas robustas deste jardim ajudam a remover toxinas da água por meio de suas raízes. Escaneie o código QR com seu smartphone para obter mais informações!

ព្រៃទឹកភ្លៀងគឺជាដំណើរការដែលបានរៀបចំឡើងដើម្បីជួយដល់ការដកស្រោចទឹកភ្លៀង ដែលបណ្តាលមកពីផ្ទៃដីប្រកបដោយលក្ខណៈមិនអាចទទួលយកទឹកភ្លៀងបាន។ រុក្ខជាតិក្នុងព្រៃទឹកភ្លៀងជួយដល់ការដកស្រោចទឹកភ្លៀងឱ្យយឺតយ៉ាវ ដែលជួយឱ្យទឹកភ្លៀងជ្រកចូលទៅក្នុងដី និងបំពេញទឹកដីធម្មជាតិ។ រុក្ខជាតិក្នុងព្រៃទឹកភ្លៀងជួយដល់ការដកស្រោចទឹកភ្លៀងឱ្យយឺតយ៉ាវ ដែលជួយឱ្យទឹកភ្លៀងជ្រកចូលទៅក្នុងដី និងបំពេញទឹកដីធម្មជាតិ។

**URBAN FOREST**

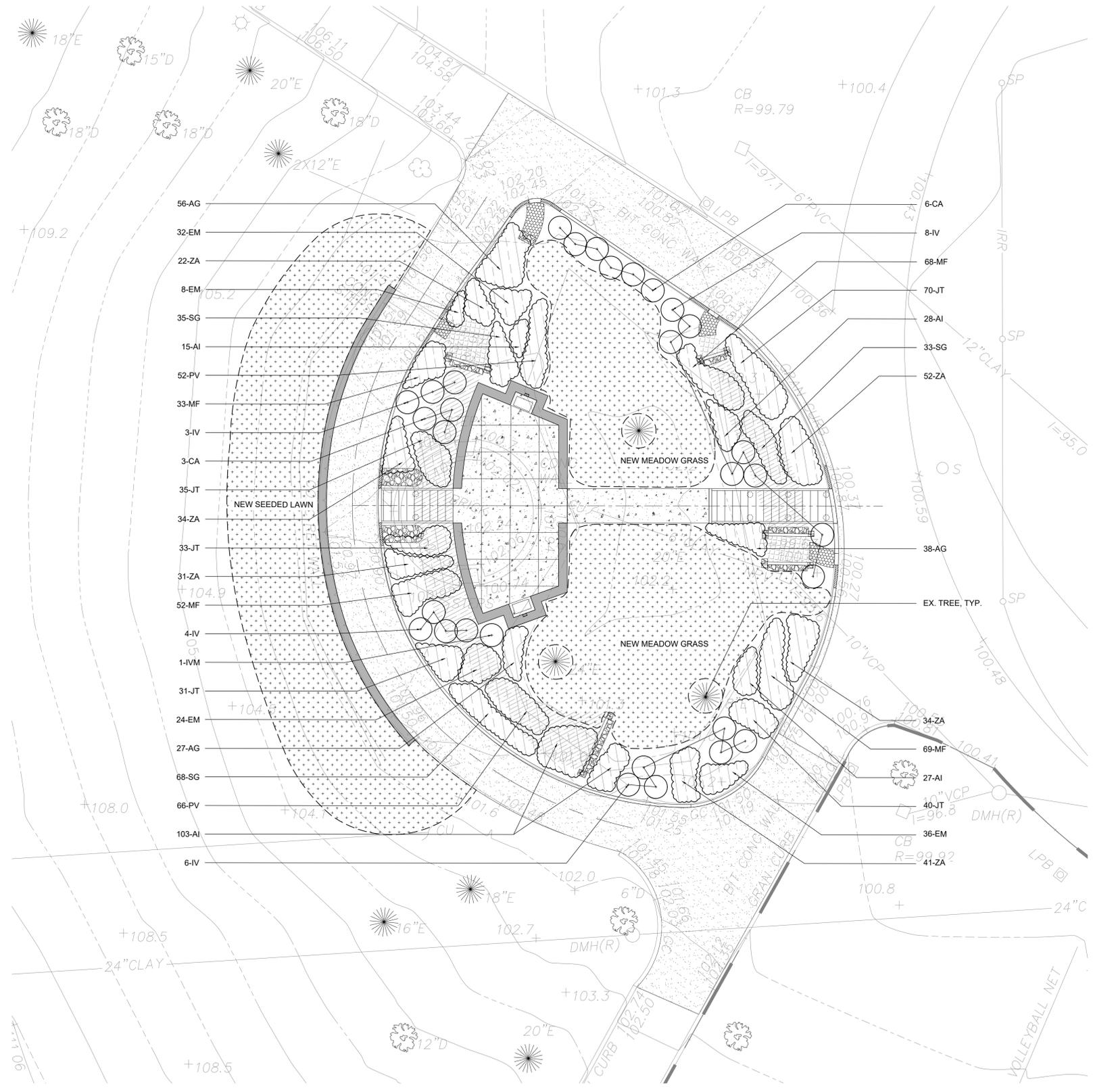
Urban Forest refers to all of the trees in the City. Trees are an important tool in combating climate change because they remove carbon from the atmosphere and produce oxygen. They also provide shade which helps make the City cooler and reduces the need for air conditioning. The City of Lowell is committed to expanding its urban forest. Scan the QR code with a smart phone to learn more!

Bosque Urbano se refiere a todos los árboles en la ciudad. Los árboles son una herramienta importante para combatir el cambio climático, ya que eliminan carbono de la atmósfera y producen oxígeno. También proporcionan sombra, lo que ayuda a refrescar la ciudad y reduce la necesidad de aire acondicionado. La ciudad de Lowell está comprometida en expandir su bosque urbano. Escanea el código QR con su teléfono inteligente para obtener más información!

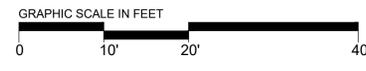
Floresta Urbana refere-se a todas as árvores na cidade. As árvores são uma ferramenta importante no combate às mudanças climáticas, pois removem carbono da atmosfera e produzem oxigênio. Elas também proporcionam sombra, o que ajuda a tornar a cidade mais fresca e reduzir a necessidade de ar-condicionado. A cidade de Lowell está comprometida em expandir sua Floresta Urbana. Escaneie o código QR com seu smartphone para obter mais informações!

ព្រៃទឹកភ្លៀងសំដៅទៅលើព្រៃទាំងអស់នៅក្នុងទីក្រុង។ ដើមឈើគឺជាឧបករណ៍សំខាន់ក្នុងការប្រយុទ្ធនឹងការប្រែប្រួលអាកាសធាតុ ព្រោះវាដកកាបូនចេញពីបរិយាកាសដោយផ្ទាល់ និងផ្តល់អុកស៊ីសែន។ វាផ្តល់ផ្លែឈើផងដែរ ដែលជួយបន្ថយសីតុណ្ហភាព និងជួយកាត់បន្ថយការប្រើប្រាស់ប្រព័ន្ធគ្រប់គ្រងសីតុណ្ហភាពបន្ទប់។ ទីក្រុងលូអែលមានបំណងពង្រឹងព្រៃទឹកភ្លៀងរបស់ខ្លួន។ ស្រាវជ្រាវកូដ QR ជាមួយទូរស័ព្ទដៃ ដើម្បីរៀនចំនេះបន្ថែមទៀត!

1 INTERPRETIVE SIGN BOARDS  
NOT TO SCALE



2 RAIN GARDEN PLANTING PLAN - STAGE AREA  
SCALE: 1" = 10'-0"



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DRAWING TITLE	
CONTRACT NO.	
DATE	02.09.24
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SCALE	AS SHOWN
SHEET NO.	<b>L-8</b>

TREE PLANTING SCHEDULE				
KEY	QTY	BOTANICAL NAME	COMMON NAME	REMARKS
<b>EVERGREEN TREES</b>				
JV	1	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	6-7' HT B&B
PB	1	PINUS BUNGEANA	LACEBARK PINE	6-7' HT B&B
PP	1	PICEA PUNGENS	COLORADO SPRUCE	6-7' HT B&B
PS	1	PINUS STROBUS	EASTERN WHITE PINE	6-7' HT B&B
<b>DECIDUOUS TREES</b>				
AL	1	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY	7-8' CLUMP B&B
AS	1	ACER SACCHARUM 'GREEN MOUNTAIN'	SUGAR MAPLE	2.5' CAL B&B

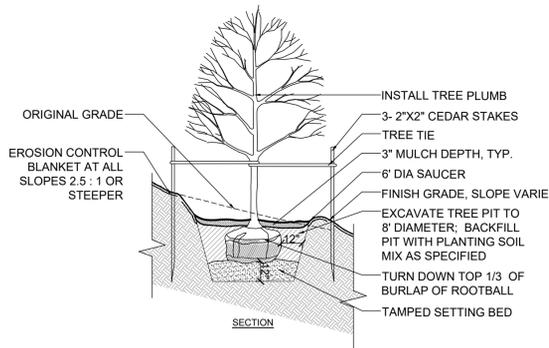
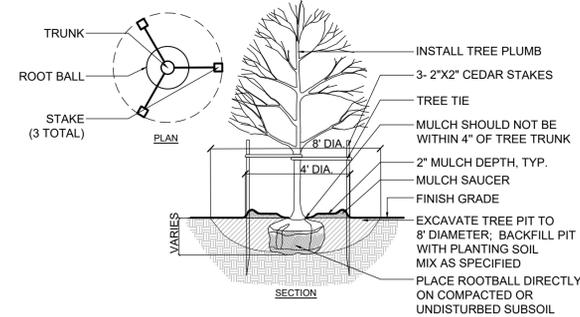
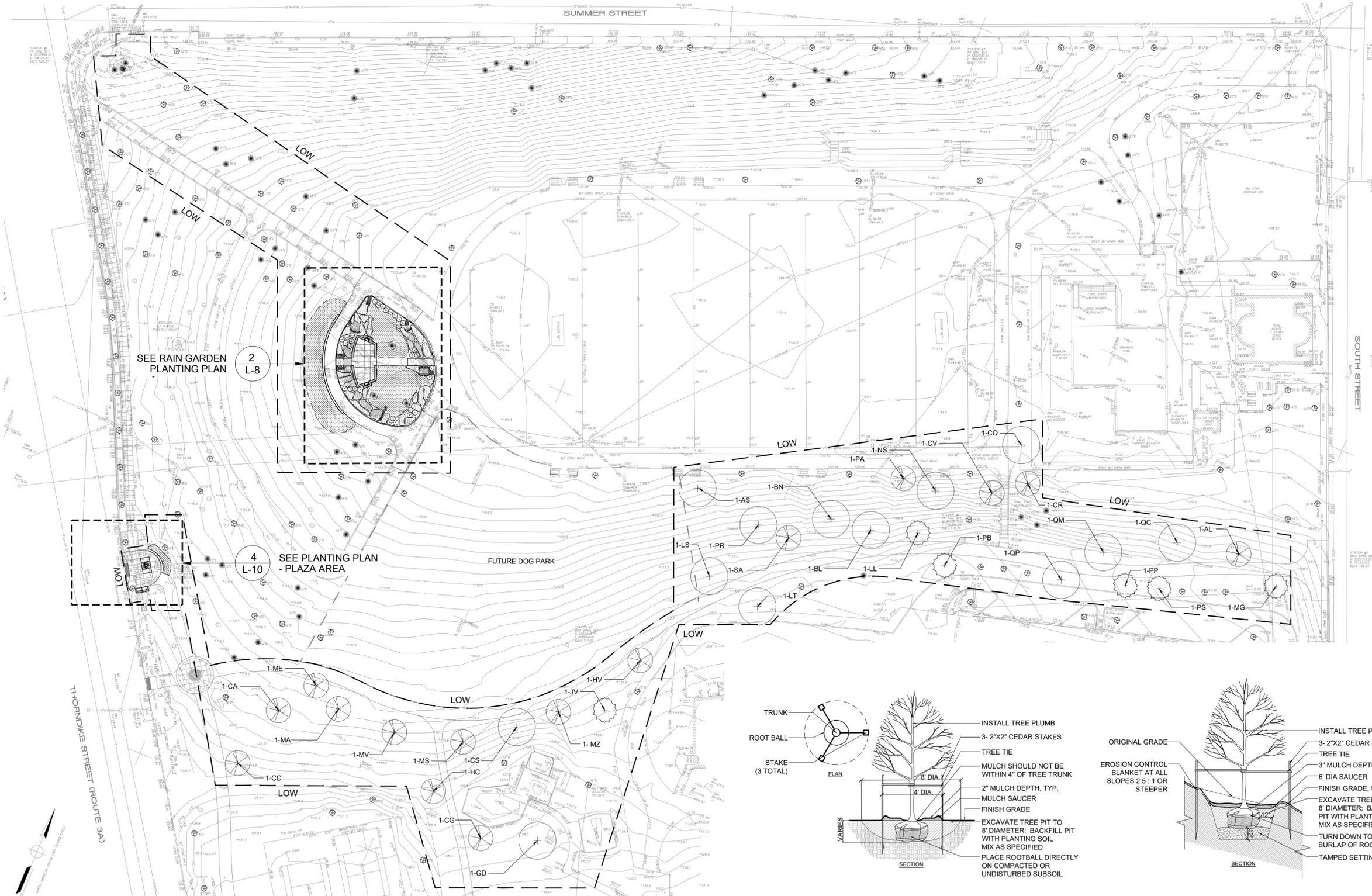
BL	1	BETULA LENTA	SWEET BIRCH	2.5' CAL	B&B
BN	1	BETULA NIGRA 'DURA HEAT'	RIVER BIRCH	8-10' CLUMP	B&B
CA	1	CERCIS CANADENSIS 'ALBA'	WHITE FLOWERED EASTERN REDBUD	2.5' CAL	B&B
CC	1	CERCIS CANADENSIS	PINK FLOWERED EASTERN REDBUD	2.5' CAL	B&B
CG	1	CRATAEGUS CRUS-GALLI INERMIS	COCKSPUR HAWTHORN THORNLESS	2.5' CAL	B&B
CO	1	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	COMMON HACKBERRY	2.5' CAL	B&B
CR	1	CARPINUS CAROLINIANA	AMERICAN HORNBEEAM	2.5' CAL	B&B
CS	1	CATALPA SPECIOSA	NORTHERN CATALPA	2.5' CAL	B&B
CV	1	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	2.5' CAL	B&B
GD	1	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	2.5' CAL	B&B
HC	1	HALESIA CAROLINA 'ARNOLD PINK'	CAROLINA SILVERBELL	2.5' CAL	B&B

HV	1	HAMAMELIS VIRGINIANA	COMMON WITCH HAZEL	5' HT	B&B
LL	1	LARIX LARICINA	TAMARACK	10-12'	B&B
LS	1	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2.5' CAL	B&B
LT	1	LIRIODENDRON TULIPIFERA	TULIP TREE	2.5' CAL	B&B
MA	1	MAGNOLIA ACUMINATA	CUCUMBER MAGNOLIA	2.5' CAL	B&B
ME	1	MAGNOLIA 'ELIZABETH'	ELIZABETH MAGNOLIA	2.5' CAL	B&B
MG	1	METASEQUOIA GLYPTOSTROBOIDES	DAWN REDWOOD	7' HT	B&B
MS	1	MAGNOLIA SOULANGEANA 'LENNEF'	SAUCER MAGNOLIA	2.5' CAL	B&B
MV	1	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	2.5' CAL	B&B
MZ	1	MALUS ZUMI CALOCARPA	ZUMI CALOCARPA CRABAPPLE	2.5' CAL	B&B
NS	1	NYSSA SYLVATICA	BLACK TUPELO	2.5' CAL	B&B

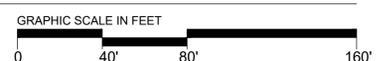
PA	1	PRUNUS SARGENTII	SARGENT CHERRY	2.5' CAL	B&B
PR	1	PRUNUS SEROTINA	BLACK CHERRY	2.5' CAL	B&B
QC	1	QUERCUS COCCINEA	SCARLET OAK	2.5' CAL	B&B
QM	1	QUERCUS MACROCARPA	BUR OAK	2.5' CAL	B&B
QP	1	QUERCUS PALUSTRIS	PIN OAK	2.5' CAL	B&B
SA	1	SASSAFRAS ALBIDUM	COMMON SASSAFRAS	2.5' CAL	B&B

**NOTES:**

- SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.



**1 TREE PLANTING PLAN**  
SCALE: 1" = 40'-0"



**2 TREE PLANTING**  
NOT TO SCALE

**3 TREE PLANTING ON SLOPE**  
NOT TO SCALE



**rdla** RAY DUNETZ LANDSCAPE ARCHITECTURE, INC.  
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**HWS** HORSLEY WITTEN GROUP  
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SANDWICH, MA 02563  
T:508-833-6600

**JME** JOHN MURPHY, JR.  
ELECTRICAL CONSTRUCTION & ENGINEERING, INC.  
379 LIBERTY ST. SUITE 204  
ROCKLAND, MA 02370  
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PHASE III  
LOWELL, MA**

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**PARK PLANTING PLAN**

DRAWING TITLE  
CONTRACT NO.

DATE 02.09.24

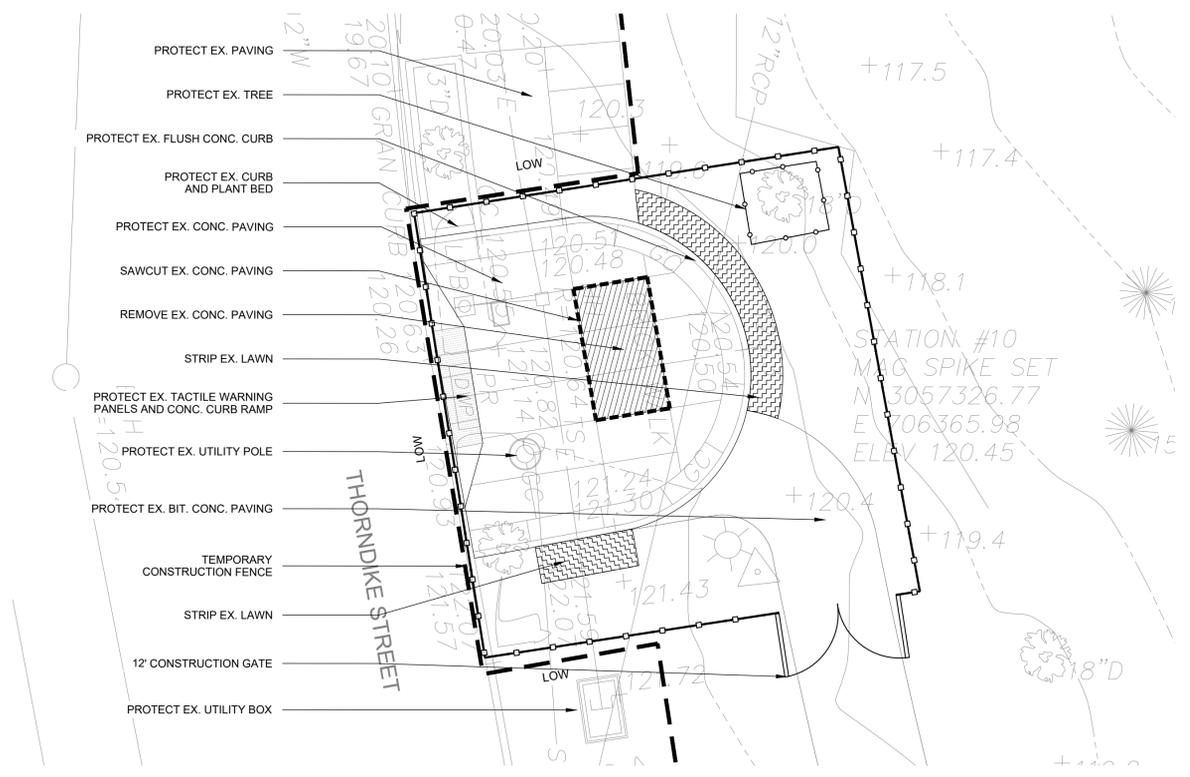
DRAWN MS, PZ

CKD RD

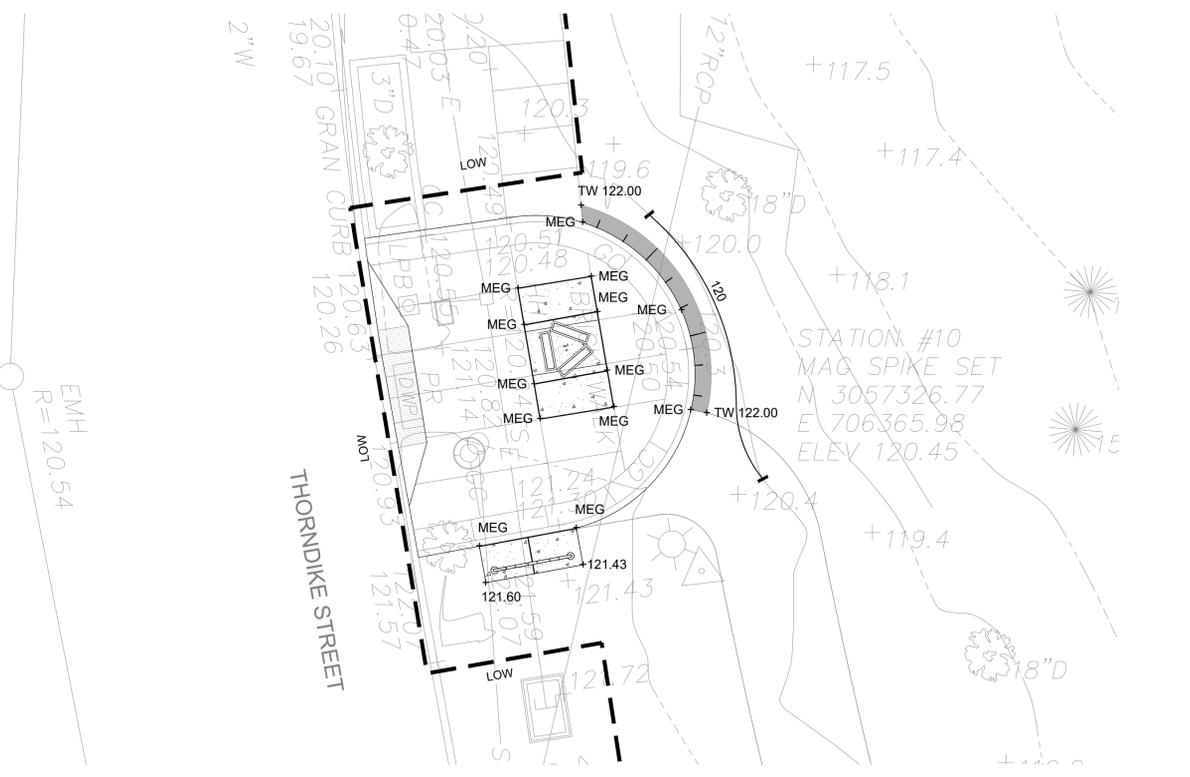
SCALE AS SHOWN SHEET NO.

**L-9**

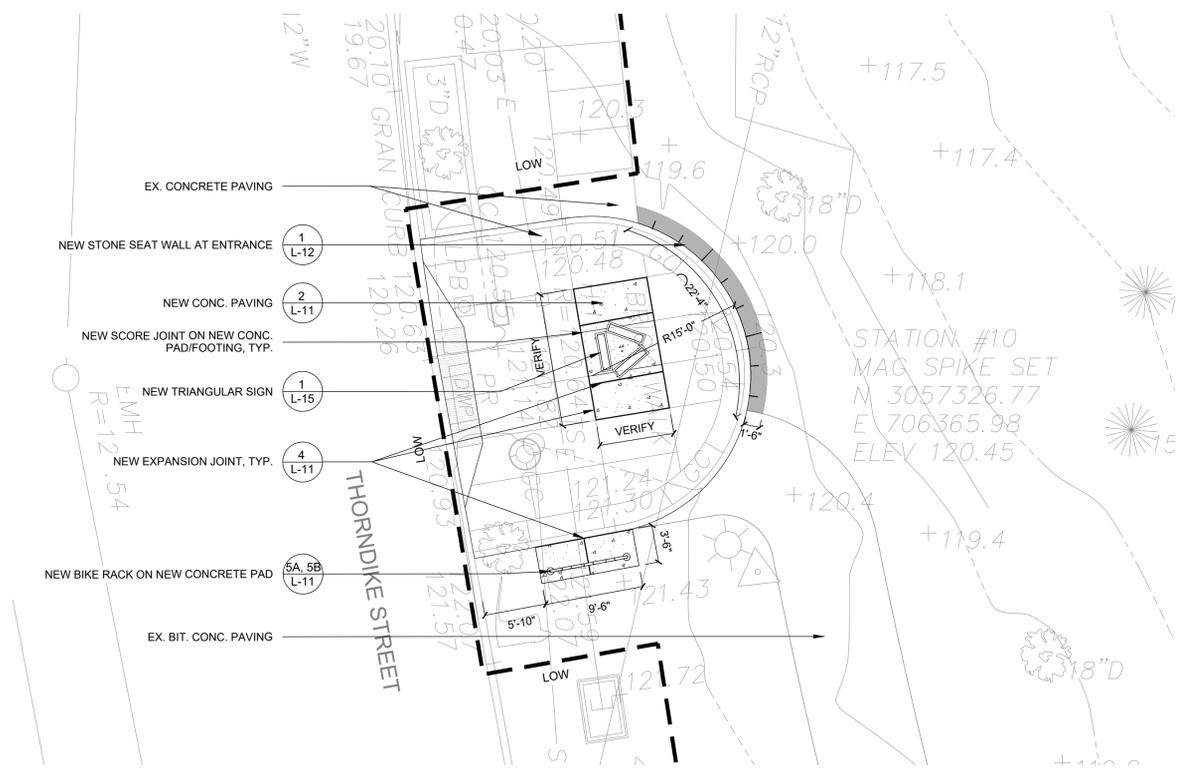
NOTES:  
1. SEE SHEET L-1 FOR NOTES, LEGENDS AND ABBREVIATIONS.



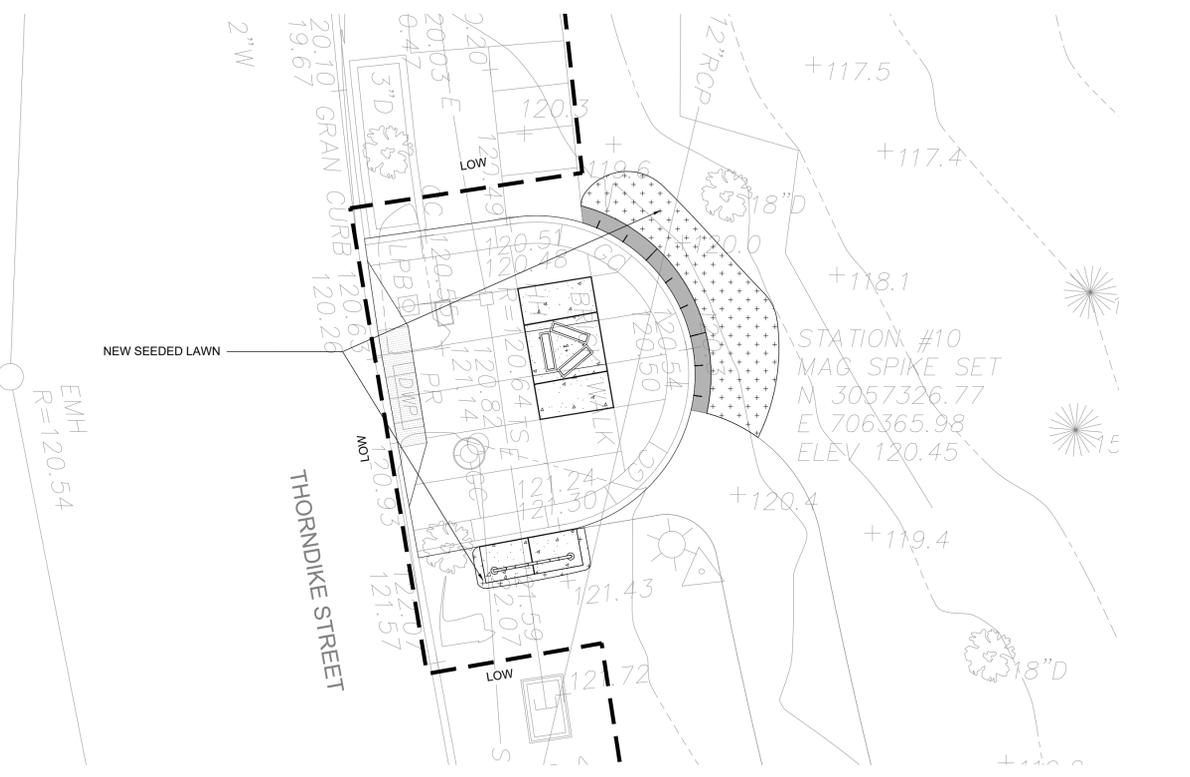
1 SITE PREPARATION PLAN - PLAZA AREA  
SCALE: 1/8" = 1'-0"



3 GRADING & DRAINAGE PLAN - PLAZA AREA  
SCALE: 1/8" = 1'-0"



2 LAYOUT AND MATERIALS PLAN - PLAZA AREA  
SCALE: 1/8" = 1'-0"



4 PLANTING PLAN - PLAZA AREA  
SCALE: 1/8" = 1'-0"

NOTES:  
1. SEED ALL DISTURBED AREAS.



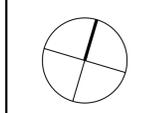
RAY DUNETZ LANDSCAPE ARCHITECTURE, INC.  
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HORSLEY WITTEN GROUP  
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CKD RD

SCALE AS SHOWN

L-10

SHEET NO.



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**SITE DETAILS**

DRAWING TITLE  
CONTRACT NO.

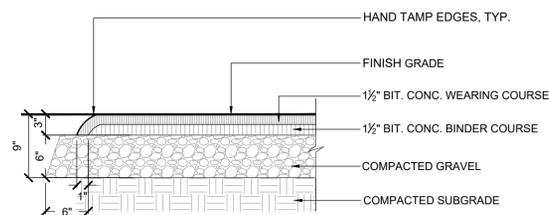
DATE 02.09.24

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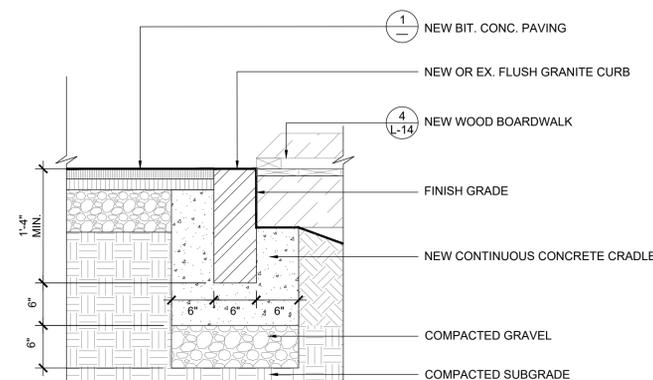
CKD RD

SCALE AS SHOWN SHEET NO.

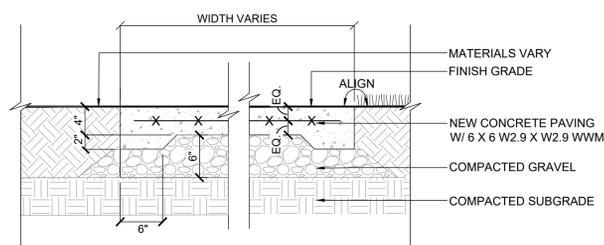
**L-11**



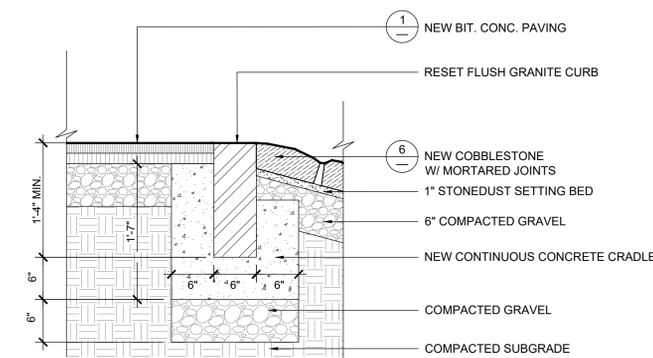
**1 BITUMINOUS CONCRETE PAVING - SECTION**  
SCALE: 1" = 1'-0"



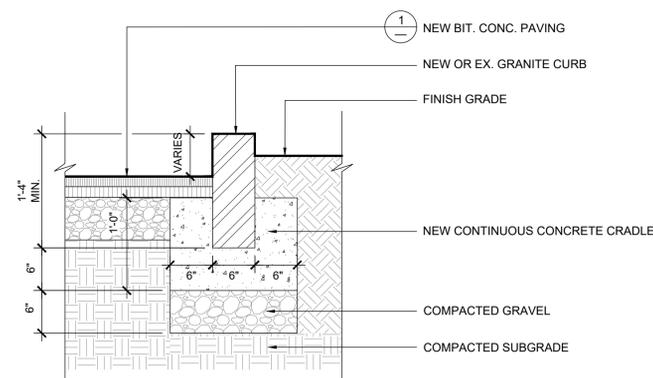
**3A FLUSH GRANITE CURB @ BOARDWALK - SECTION**  
SCALE: 1" = 1'-0"



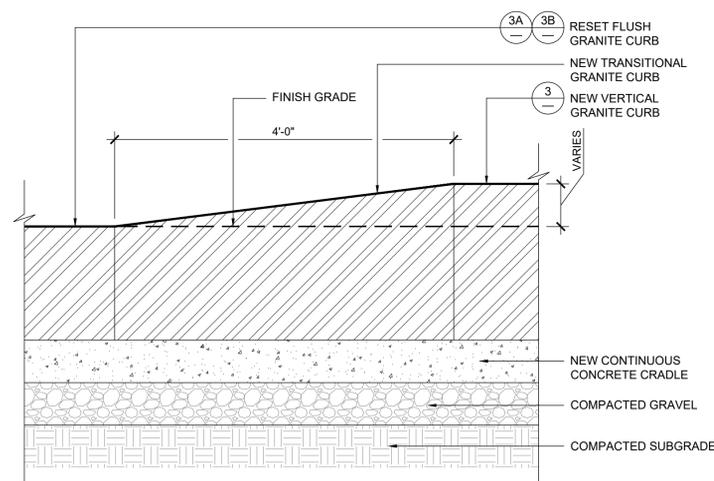
**2 CONCRETE PAVING - SECTION**  
SCALE: 1" = 1'-0"



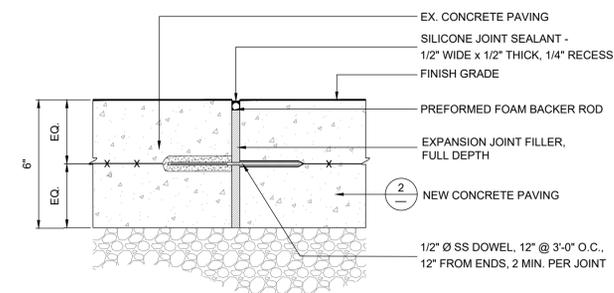
**3B FLUSH GRANITE CURB @ PAVED FLUME - SECTION**  
SCALE: 1" = 1'-0"



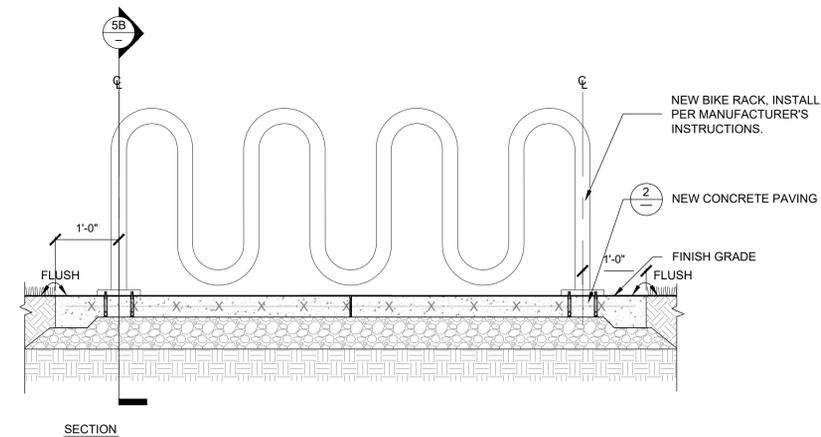
**3 VERTICAL GRANITE CURB - SECTION**  
SCALE: 1" = 1'-0"



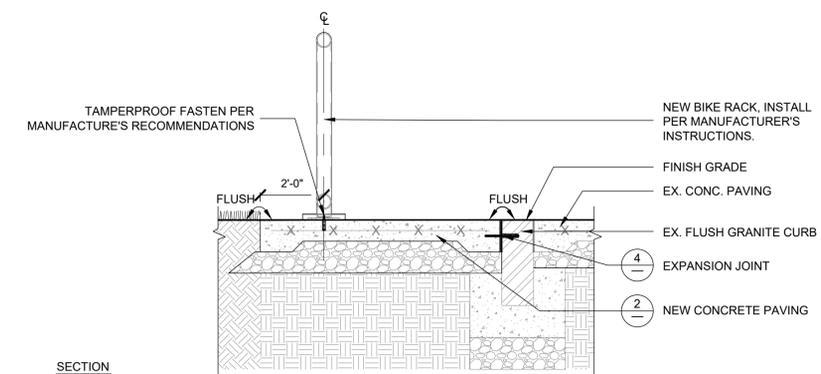
**3C TRANSITIONAL CURB - ELEVATION**  
SCALE: 1" = 1'-0"



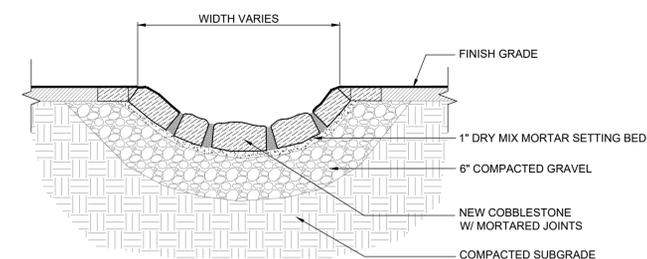
**4 EXPANSION JOINT - SECTION**  
SCALE: 3" = 1'-0"



**5A BIKE RACK ON CONCRETE PAD - SECTION**  
SCALE: 3/4" = 1'-0"

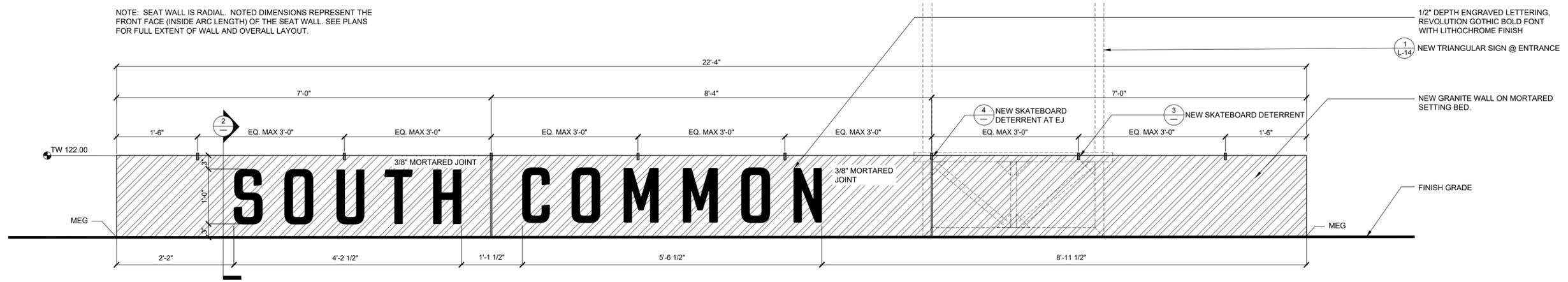


**5B BIKE RACK ON CONCRETE PAD - SECTION**  
SCALE: 3/4" = 1'-0"

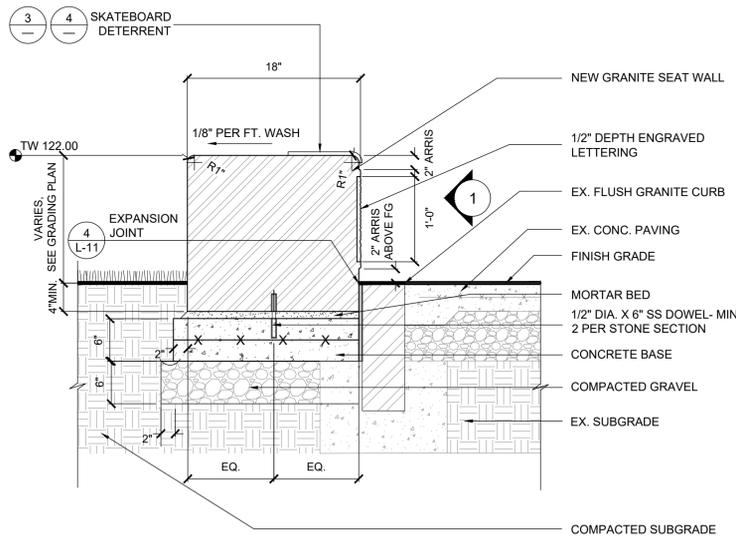


**6 MORTARED COBBLE @ CURB INLET - SECTION**  
SCALE: 1" = 1'-0"

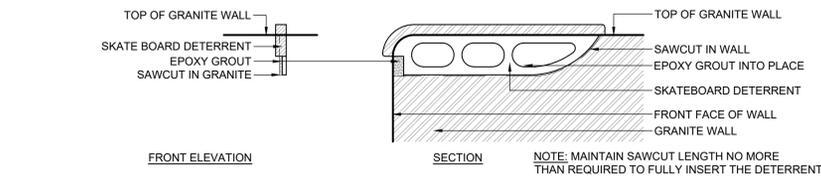
NOTE: SEAT WALL IS RADIAL. NOTED DIMENSIONS REPRESENT THE FRONT FACE (INSIDE ARC LENGTH) OF THE SEAT WALL. SEE PLANS FOR FULL EXTENT OF WALL AND OVERALL LAYOUT.



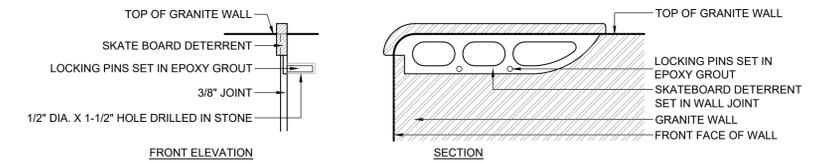
**1 GRANITE SEAT WALL @ ENTRANCE - ELEVATION**  
SCALE: 1" = 1'-0"



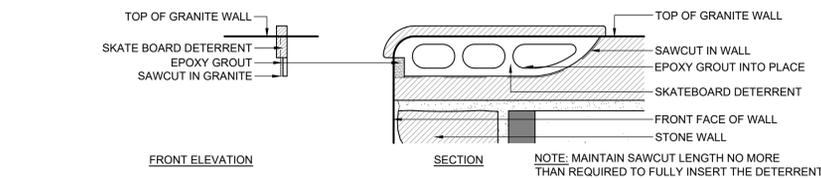
**2 GRANITE SEAT WALL - SECTION**  
SCALE: 1" = 1'-0"



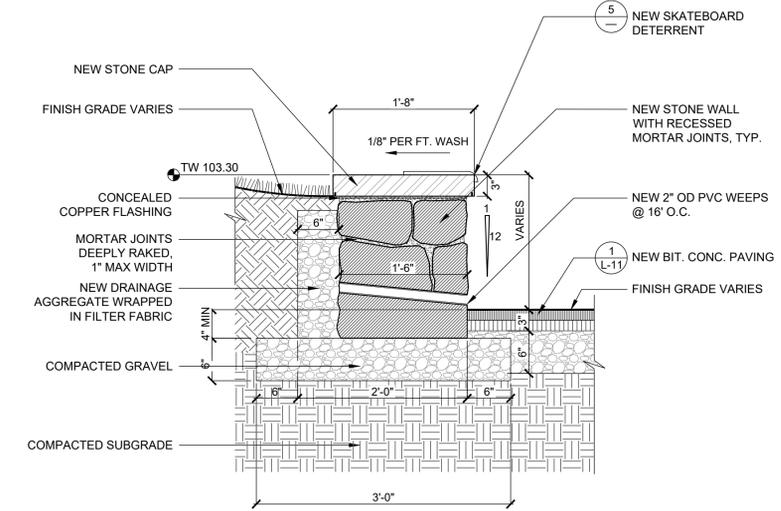
**3 SKATEBOARD DETERRENT SAWCUT INTO WALL - SECTION**  
SCALE: 1" = 1'-0"



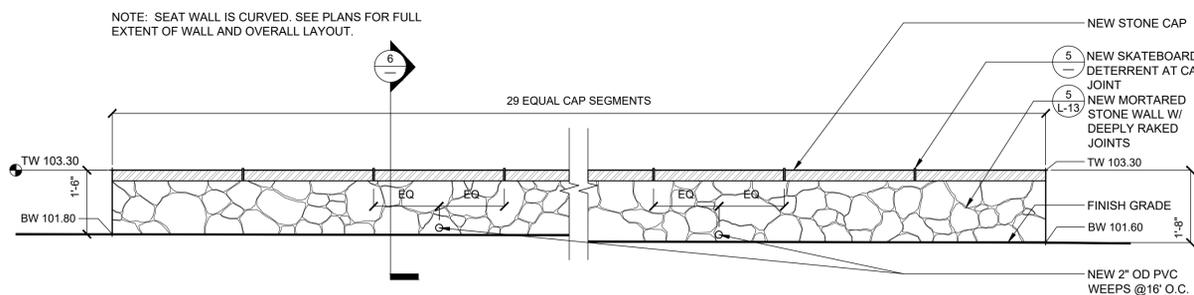
**4 SKATEBOARD DETERRENT @ EJ - SECTION**  
SCALE: 1" = 1'-0"



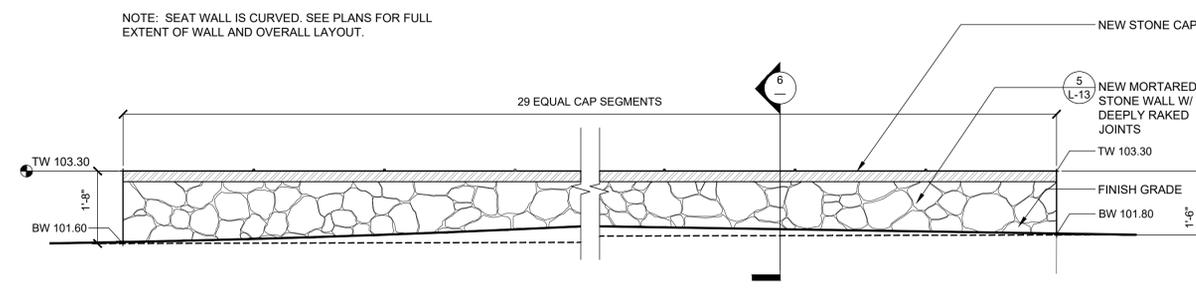
**5 SKATEBOARD DETERRENT @ STONE SEAT WALL - SECTION**  
SCALE: 1" = 1'-0"



**6 ALT #1 STONE SEAT WALL "B" - SECTION**  
SCALE: 1" = 1'-0"



**7A ALT #1 STONE SEAT WALL "B" - EAST ELEVATION**  
SCALE: 1/2" = 1'-0"



**7B ALT #1 STONE SEAT WALL "B" - WEST ELEVATION**  
SCALE: 1/2" = 1'-0"



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PHASE III  
LOWELL, MA**

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**SITE DETAILS**

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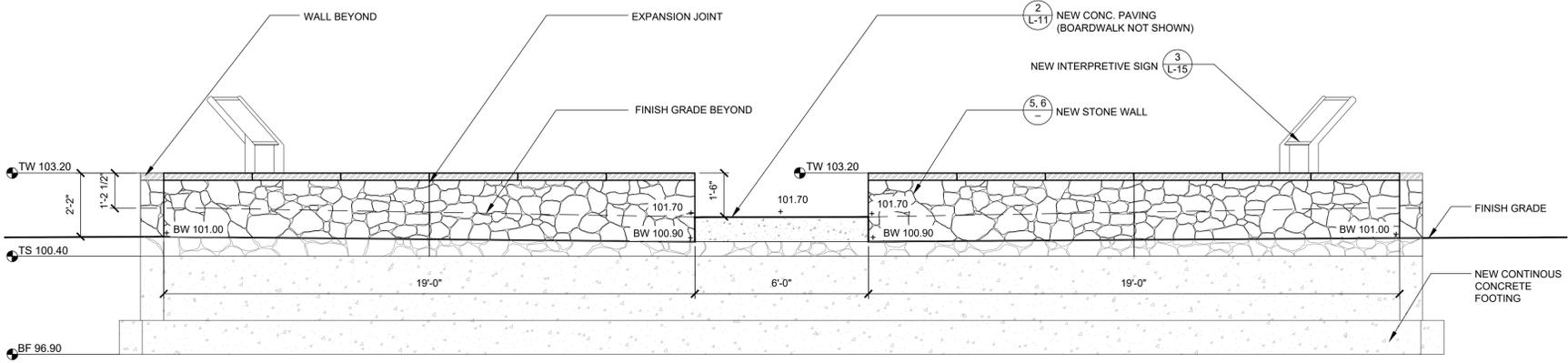
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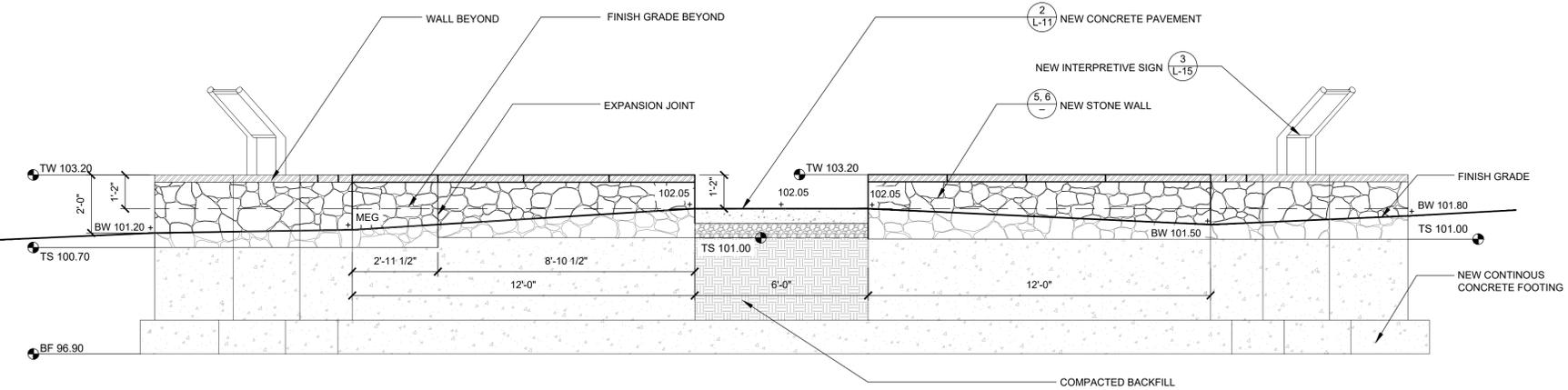
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SCALE AS SHOWN SHEET NO.

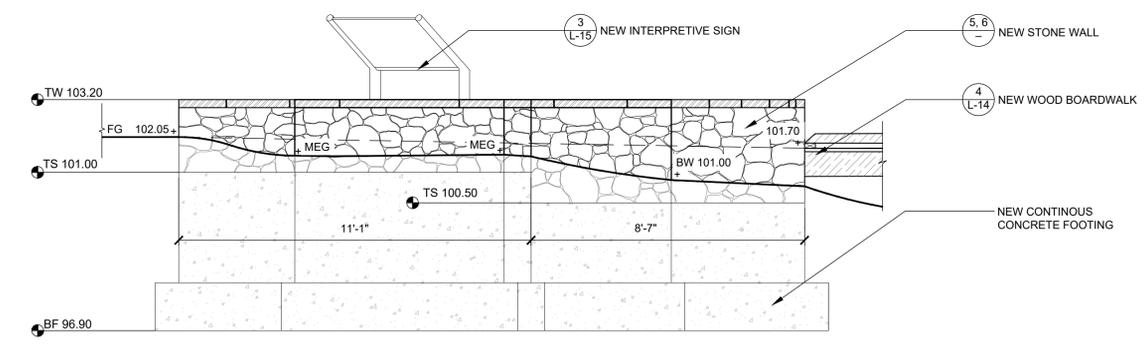
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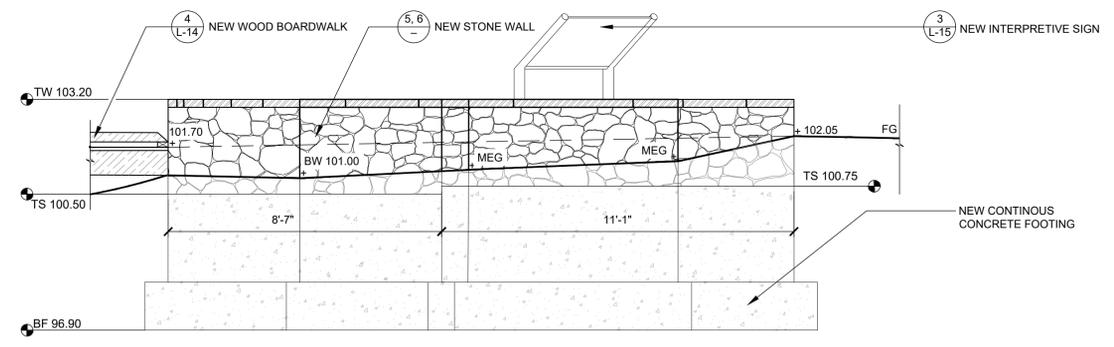
1 STAGE - ELEVATION A  
SCALE: 3/8" = 1'-0"



2 STAGE - ELEVATION B  
SCALE: 3/8" = 1'-0"



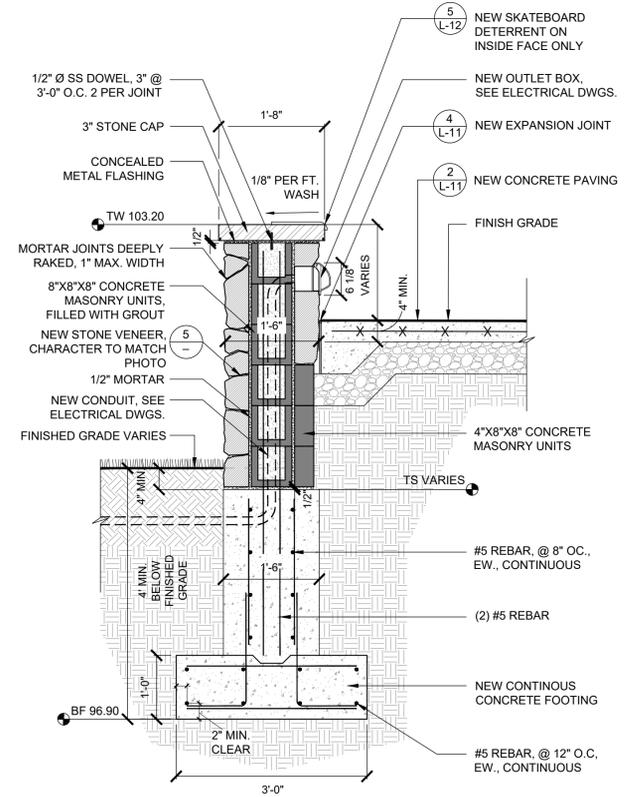
3 STAGE - ELEVATION C  
SCALE: 3/8" = 1'-0"



4 STAGE - ELEVATION D  
SCALE: 3/8" = 1'-0"



5 STONE CHARACTER  
NOT TO SCALE



6 STONE SEAT WALL "A" - SECTION  
SCALE: 3/4" = 1'-0"



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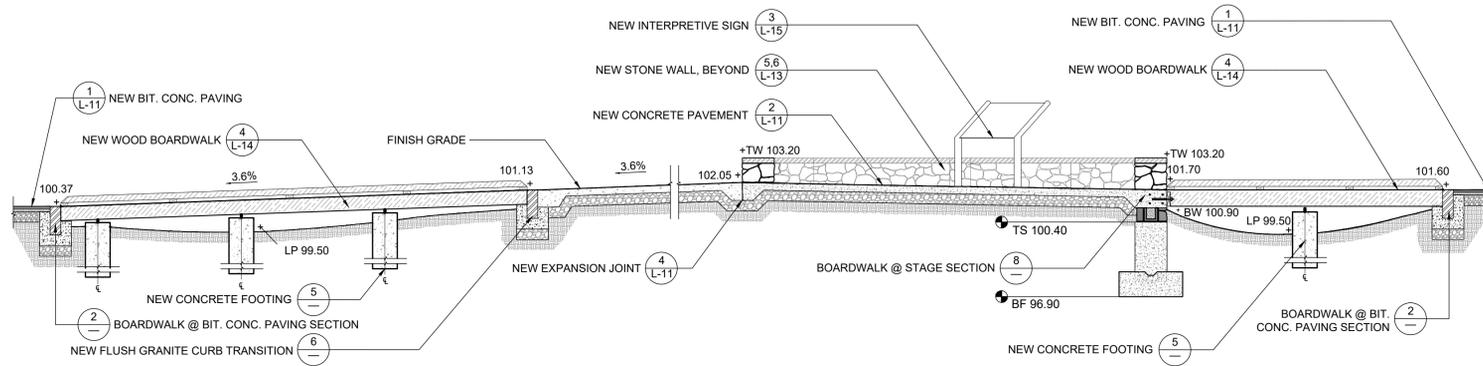
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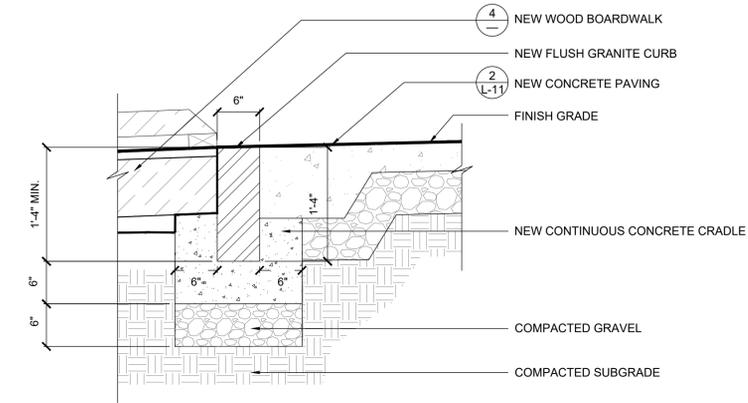
SCALE AS SHOWN

L-13

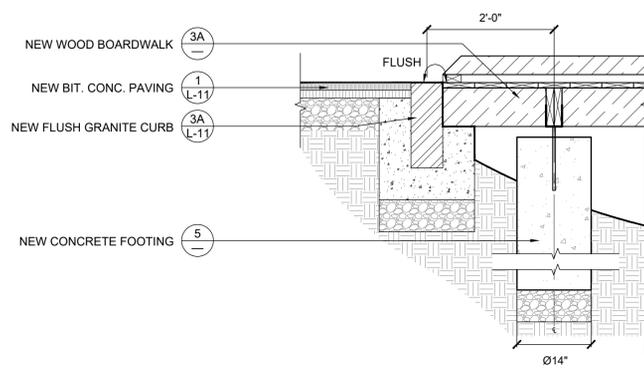
SHEET NO.



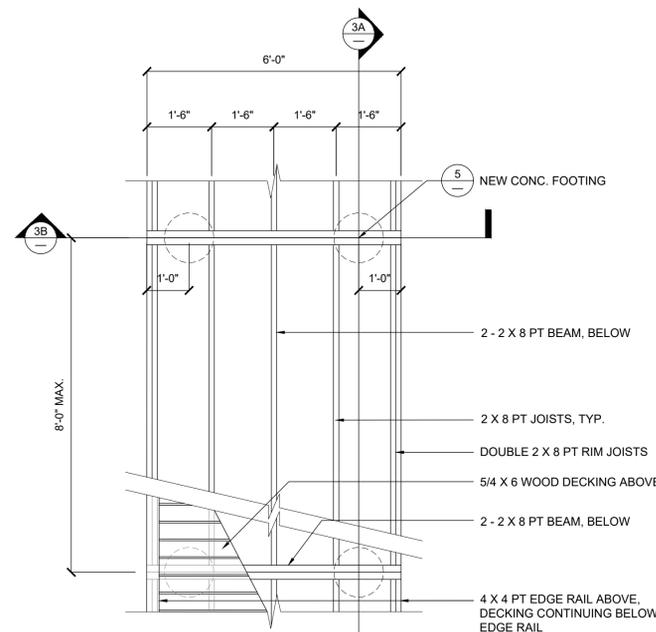
**1 BOARDWALK @ STAGE - ELEVATION**  
SCALE: 1/4" = 1'-0"



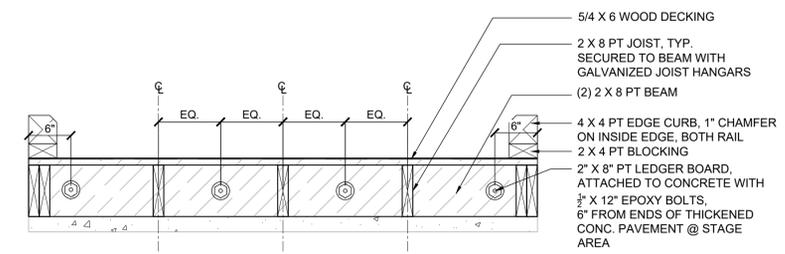
**6 FLUSH GRANITE CURB TRANSITION - SECTION**  
SCALE: 1" = 1'-0"



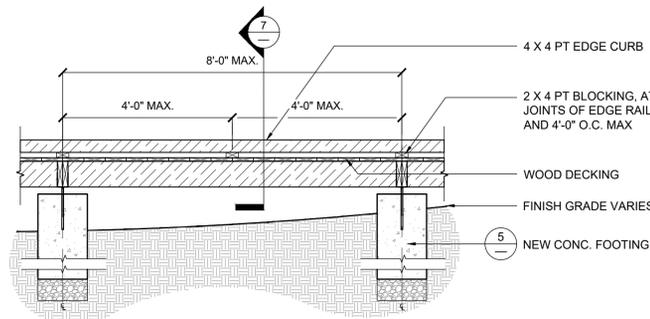
**2 BOARDWALK @ BIT. CONC. PAVING - SECTION**  
SCALE: 3/4" = 1'-0"



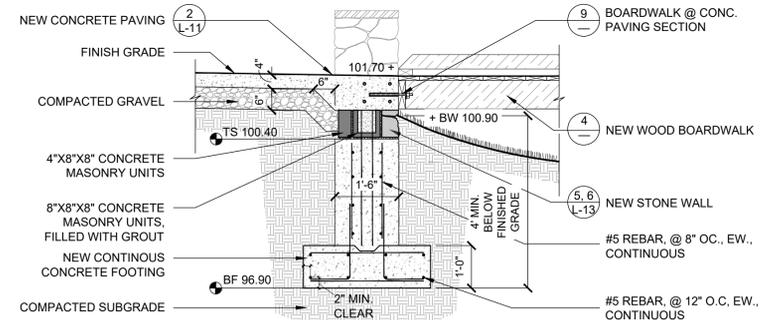
**4 WOOD BOARDWALK FRAMING - PLAN**  
SCALE: 1/2" = 1'-0"



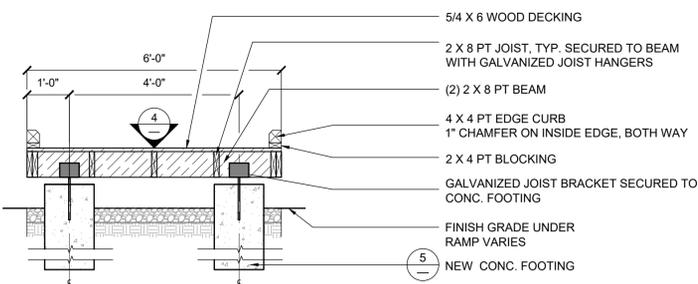
**7 WOOD BOARDWALK - SECTION**  
SCALE: 1" = 1'-0"



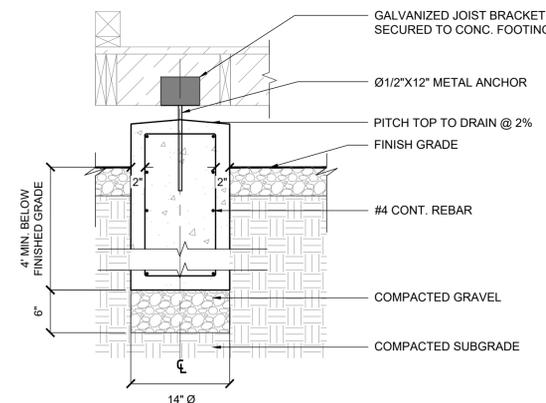
**3A WOOD BOARDWALK - SECTION**  
SCALE: 1/2" = 1'-0"



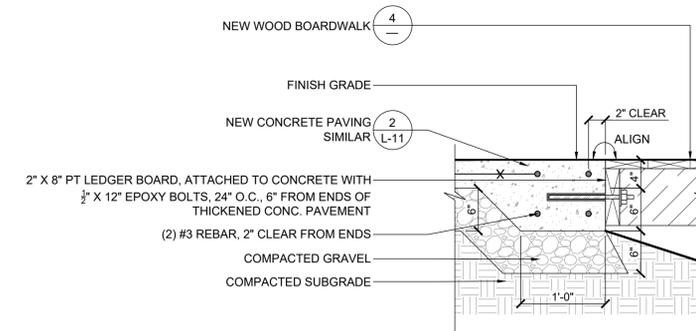
**8 BOARDWALK @ STAGE - SECTION**  
SCALE: 1/2" = 1'-0"



**3B WOOD BOARDWALK - SECTION**  
SCALE: 1/2" = 1'-0"



**5 CONCRETE FOOTING - SECTION**  
SCALE: 1" = 1'-0"



**9 BOARDWALK @ CONC. PAVING - SECTION**  
SCALE: 1" = 1'-0"



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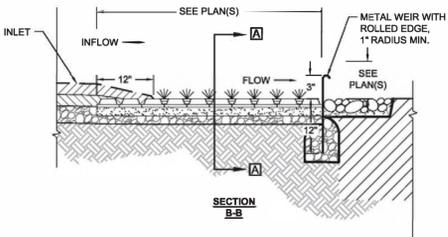
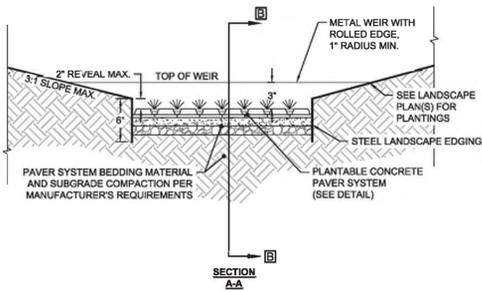
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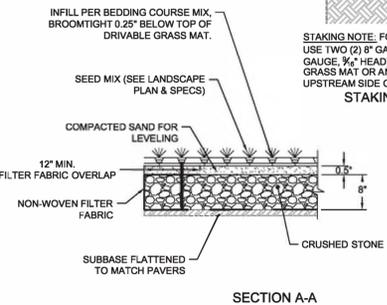
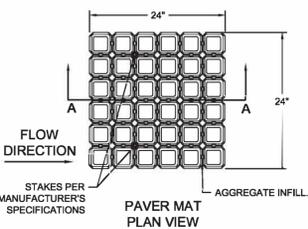
**L-14**





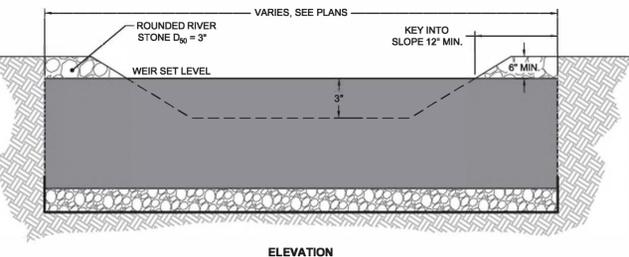
- NOTES:
- SEE PLANTABLE PAVER DETAIL AND SPECIFICATIONS FOR PLANTABLE PAVER REQUIREMENTS.
  - INSTALL PLANTABLE/PERMEABLE PAVER SYSTEM PER MANUFACTURER'S REQUIREMENTS.
  - SHAPE FOREBAY AS REQUIRED WITH MIN. 6" SIDE SLOPE DEPTH. DO NOT EXCEED 3:1 SIDE SLOPES.
  - STEEL LANDSCAPE EDGING TO BE 1/2" THICKNESS HEAVY-DUTY STEEL WITH NATURAL FINISH.

**FOREBAY**  
NOT TO SCALE



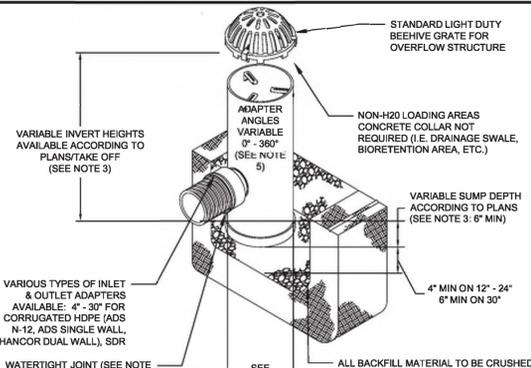
- NOTES:
- SEE SPECIFICATIONS FOR PLANTABLE CONCRETE PAVER REQUIREMENTS.
  - REFER TO MANUFACTURER'S REQUIREMENTS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
  - FILTER FABRIC AROUND PERIMETER AND BOTTOM OF STONE BASE. KEY IN MINIMUM 6".

**PLANTABLE CONCRETE PAVERS**  
NOT TO SCALE



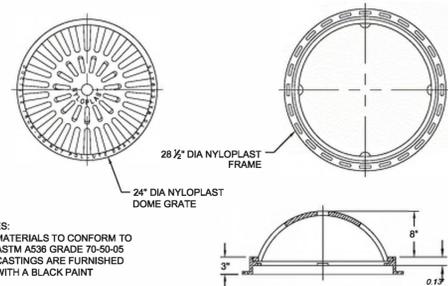
- NOTES:
- STEEL LANDSCAPE EDGING TO BE 1/2" THICKNESS HEAVY-DUTY STEEL WITH NATURAL FINISH BY DURAEDGE OR APPROVED EQUIVALENT.
  - KEY CHECK DAM INTO FOREBAY SIDE SLOPES A MINIMUM OF 12" TO PREVENT FLOW FROM DIVERTING THE CHECK DAM.
  - SEE PLAN(S) FOR CHECK DAM DIMENSIONS AND LAYOUT.

**CHECK DAM**  
NOT TO SCALE



- NOTES:
- GRATE TO BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
  - FRAMES TO BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
  - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS RISERS ARE NEEDED FOR BASINS OVER 64" DUE TO SHIPPING RESTRICTIONS SEE DRAWING NO. 7001-110-065.
  - DRAINAGE CONNECTION STUB JOINT TIGHTNESS TO CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANGOR DUAL WALL) & SDR 35 PVC.
  - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012, 7001-110-013, & 7001-110-014.

**DRAIN BASIN (DB)**  
NOT TO SCALE

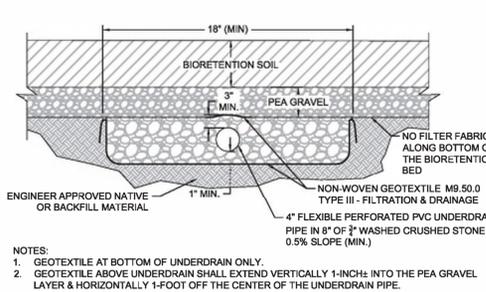
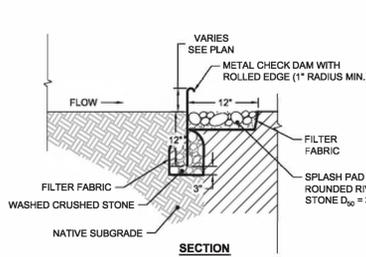


- NOTES:
- MATERIALS TO CONFORM TO ASTM A536 GRADE 70-50-05.
  - CASTINGS ARE FURNISHED WITH A BLACK PAINT.

**DOME FRAME AND GRATE**  
NOT TO SCALE

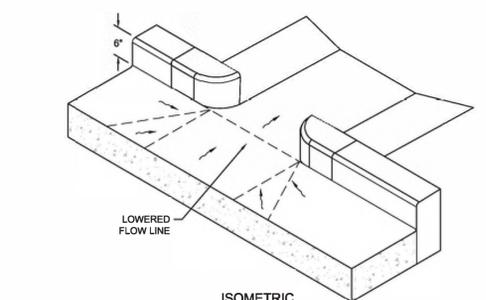
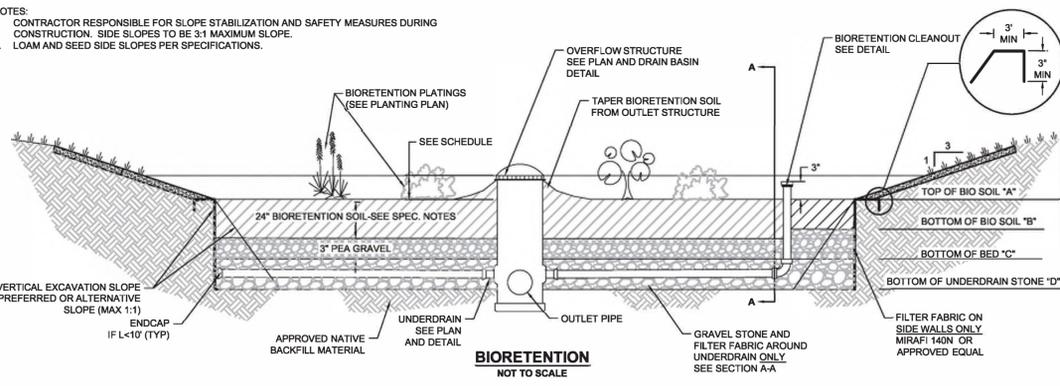
- NOTE:
- CONTRACTOR TO SHAPE CHANNEL IN A PARABOLIC MANNER.

**VEGETATED SWALE**  
NOT TO SCALE

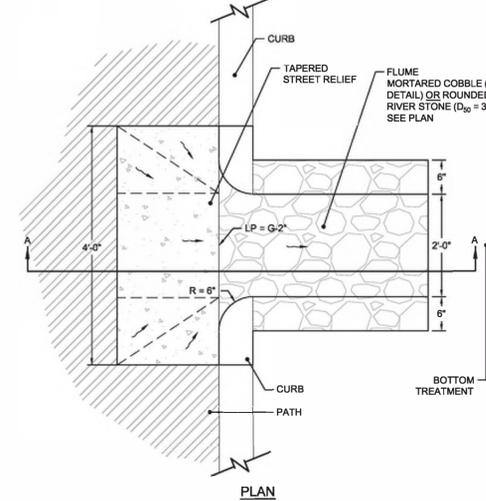


- NOTES:
- GEOTEXTILE AT BOTTOM OF UNDERDRAIN ONLY.
  - GEOTEXTILE ABOVE UNDERDRAIN SHALL EXTEND VERTICALLY 1-INCH INTO THE PEA GRAVEL LAYER & HORIZONTALLY 1-FOOT OFF THE CENTER OF THE UNDERDRAIN PIPE.

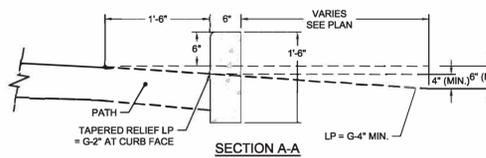
**SECTION A-A (UNDERDRAIN)**  
NOT TO SCALE



**ISOMETRIC**



**PLAN**



- NOTES:
- PROVIDE MORTARED COBBLE FLUME AS SHOWN.
  - INSTALL ROUNDED RIVER ROCK TO TRANSITION FROM FLUME TO VEGETATION/SOIL. SEE PLAN.
  - LP = LOW POINT & G = GUTTER

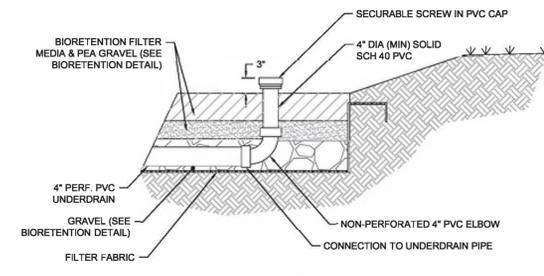
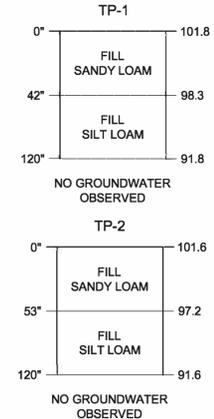
**CURB INLET**  
NOT TO SCALE

**BIORETENTION SCHEDULE:**

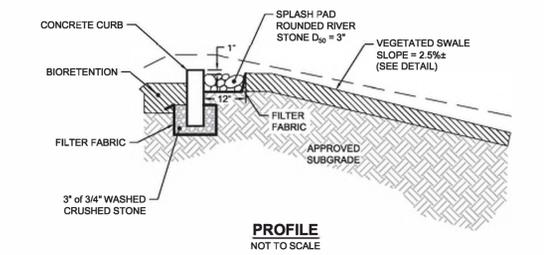
No.	Design Freeboard (ft)	Ponding Depth (ft)	Bottom of Bio Area (ft) <sup>1</sup>	Bio Soil Depth (ft)	Bottom Bio Soil (ft)	Depth Pea Gravel (ft)	Bottom of Bed (ft)	Bottom of Underdrain (ft)
1	0.25	0.25	100.80	2.00	98.80	0.25	98.55	97.28
2	0.50	0.25	99.25	2.00	97.25	0.25	97.00	96.02

**SOIL TEST PIT DATA**

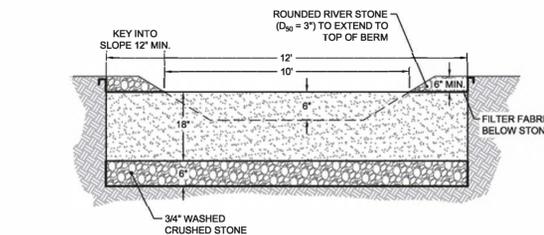
PERFORMED BY: E. GUERZON HORSLEY  
WITTEN GROUP, INC  
DATE: NOVEMBER 13, 2023



**CLEANOUT (CO)**  
NOT TO SCALE

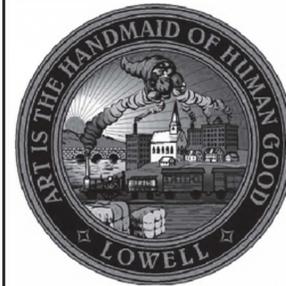


**PROFILE**  
NOT TO SCALE



- NOTES:
- KEY CURB A MINIMUM OF 12" (MIN.) INTO COMPACTED BERM TO PREVENT FLOW DIVERSION.
  - SUBGRADE TO BE UNIFORM AND SMOOTH. REMOVE ALL ROCKS, CLDS, VEGETATION OR OTHER OBJECTS.
  - SEED PER SPECIFICATIONS.

**SPILLWAY**  
NOT TO SCALE



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02.01.24 BID DOCUMENTS  
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REVISIONS



NORTH

STAMP

**SOUTH COMMON  
PHASE III  
LOWELL, MA**

PROJECT

**STORMWATER DETAILS**

DRAWING TITLE  
CONTRACT NO.

DATE 02.01.24

DRAWN JV

CKD BK

SCALE AS SHOWN

**C-1**

SHEET NO.

**WIRE AND RACEWAYS**

- WIRING AND RACEWAY - NO. OF DIAGONAL LINES INDICATES NO. #12 AWG. ABSENCE OF LINES INDICATES #12 AWG - UNLESS NOTED OTHERWISE, 'G' INDICATES INSULATED GROUND WIRE.
- HOMERUN TO PANEL - NO. OF ARROWS INDICATES NO. OF 20AMP/ 1 POLE CIRCUITS TO PANEL - UNLESS NOTED OTHERWISE.
- EMERGENCY ONLY WIRING - MIN #10 AWG HOMERUN TO EMERG. BATTERY IN SEPARATE 1/2" CONDUIT
- UNDERGROUND PRIMARY ELECTRIC SERVICE
- UNDERGROUND SECONDARY ELECTRIC SERVICE
- UNDERGROUND TELEPHONE SERVICE
- UNDERGROUND FIRE ALARM SERVICE

**MECHANICAL EQUIPMENT**

- JUNCTION BOX - SIZE AS REQUIRED.
- JUNCTION BOX - WITH FLEXIBLE CONNECTION TO EQUIPMENT.

**POWER**

- 120/208 VOLT, 3 PHASE, 4 WIRE PANELBOARD. (SURFACE MOUNTED)

**ABBREVIATIONS**

- |       |  |             |                           |
|-------|--|-------------|---------------------------|
| AHJ   | AUTHORITY HAVING JURISDICTION                | ASSOCIATION |                           |
| AWG   | AMERICAN WIRE GAUGE                          | NIC         | NOT IN CONTRACT           |
| BLDG  | BUILDING                                     | NTS         | NOT TO SCALE              |
| C     | CONDUIT                                      | PW          | POWER                     |
| CAT   | CATALOG                                      | R           | RECESSED                  |
| CB    | CIRCUIT BREAKER                              | REQ'D       | REQUIRED                  |
| CU    | COPPER                                       | RMC         | RIGID METAL CONDUIT       |
| DN    | DOWN   | S           | SURFACE                   |
| DWG   | DRAWING                                      | SPD         | SURGE PROTECTION DEVICE   |
| E.C.  | ELECTRICAL CONTRACTOR                        | STR         | STRANDED                  |
| FT    | FEET   | SW          | SWITCH                    |
| GND,G | GROUND OR GROUNDING                          | UG          | UNDERGROUND               |
| IMC   | INTERMEDIATE METAL CONDUIT                   | UL          | UNDERWRITERS LABORATORIES |
| Isc   | SHORT CIRCUIT CURRENT                        | V           | VOLT                      |
| KAIC  | THOUSAND AMPERE INTERRUPTING CAPACITY        | VD          | VOLTAGE DROP              |
| KCMIL | THOUSAND CIRCULAR MILS                       | V           | WIRE OR WALL              |
| MLO   | MAIN LUGS ONLY                               | W/          | WITH                      |
| NEC   | NATIONAL ELECTRIC CODE                       | WP          | WEATHER PROOF             |
| NEMA  | NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION | XFMR        | TRANSFORMER               |
| NFPA  | NATIONAL FIRE PROTECTION                     | Δ           | DELTA                     |
|       |  | φ           | PHASE                     |

**RECEPTACLES** (MOUNTED 18" A.F.F. TO  $\phi$  - UNLD)

- 20AMP, 120VOLT SINGLE RECEPTACLE
- 20AMP, 120VOLT DUPLEX OUTLET; 'C' INDICATES MTD. @ 42" A.F.F. OR ABOVE COUNTER.
- 20AMP, 120VOLT DOUBLE DUPLEX OUTLET. 'C' INDICATES MTD. 42" A.F.F. OR ABOVE COUNTER.
- 20AMP, 120VOLT DUPLEX OUTLET; 'TR' INDICATES TAMPER RESISTANT
- 20AMP, 120VOLT DUPLEX - GROUND FAULT INTERRUPTER TYPE MTD. 42" UP OR ABOVE COUNTER, 'WP' INDICATES GFCI WITH WEATHER PROOF COVER MTD. 18" UP.

**EXISTING EQUIPMENT**

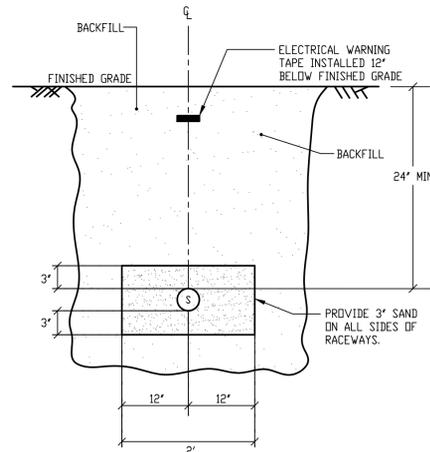
- DOTTED DENOTES EXISTING EQUIPMENT.
- EXISTING EQUIPMENT TO BE REMOVED AND CIRCUIT PULLED BACK TO NEXT ACTIVE OUTLET/BACK TO PANEL.
- EXISTING EQUIPMENT TO REMAIN.
- EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED.
- NEW LOCATION OF RELOCATED EXISTING EQUIPMENT.
- EXISTING EQUIPMENT TO BE REMOVED AND NEW EQUIPMENT TO BE INSTALLED IN SAME LOCATION.

**SITE SYMBOLS**

- HAND HOLE

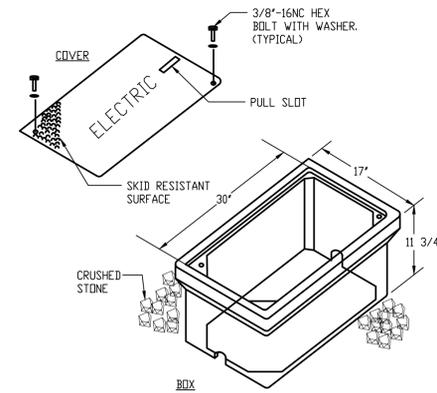
120/208V, 3 $\phi$ , 4W		PANEL SCHEDULE																				TOTAL POLES	OTHERS			
PANEL NO.	LOCATION	MTG	MAIN BUS AMPS	MAIN CB	KAIC RATING	BRANCH CKT BREAKER (AMPS). KAIC RATING OF THE BRANCH C.B.'S WILL MATCH KAIC RATING OF PANEL																				
						1 POLE						2 POLE						3 POLE								
PP	ELECTRICAL PEDESTAL	S	100	X	10	15	20	30	40	50	60	15	20	30	40	50	60	15	20	30	40	50	60	100	18	①②

- NOTES:**
- ① BRANCH CIRCUIT BREAKERS KAIC SHALL MATCH THE KAIC RATING OF THE PANEL BOARD.
  - ② DENOTES EXISTING PANELBOARD. (FEDERAL PACIFIC) PROVIDE CIRCUIT BREAKER WITHIN PANEL SCHEDULE.



① DUCT BANK SECTION "B-B"  
SCALE: NTS

② 2" SCHEDULE 40 PVC CONDUIT FOR POWER

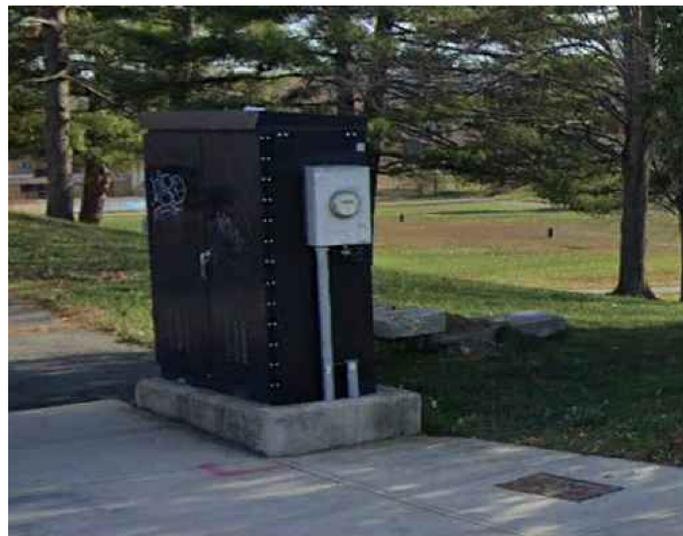


② TYPICAL HANDHOLE PULLBOX DETAIL  
SCALE: NTS

- NOTES:**
1. QUAZITE CAT. #PCI730DA12 WITH HEAVY DUTY COVER CAT.#PCI730CA00-17 OR APPROVED EQUAL.
  2. HANDHOLE BOX AND COVER SHALL BE FLUSH WITH SURROUNDING GRADE.
  3. ENCLOSURES AND COVERS SHALL BE CONCRETE GRAY COLOR AND RATED FOR NO LESS THAN 8000 LBS. OVER A 10"x10" AREA AND BE DESIGNED AND TESTED TO TEMPERATURES OF -50° F.
  4. MATERIAL COMPRESSIVE STRENGTH SHOULD BE NO LESS THAN 11,000 P.S.I.
  5. COVERS SHALL HAVE A MINIMUM COEFFICIENT OF FRICTION OF 0.5.



③ EXISTING CONDITIONS PHOTO  
SCALE: NTS



④ EXISTING CONDITIONS PHOTO  
SCALE: NTS



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PROJECT

**ELECTRICAL LEGEND**

DRAWING TITLE

CONTRACT NO.

DATE 02.01.24

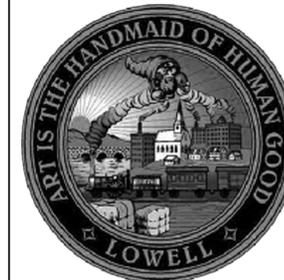
DRAWN MS.PZ

CKD RD

SCALE AS SHOWN

**E-1**

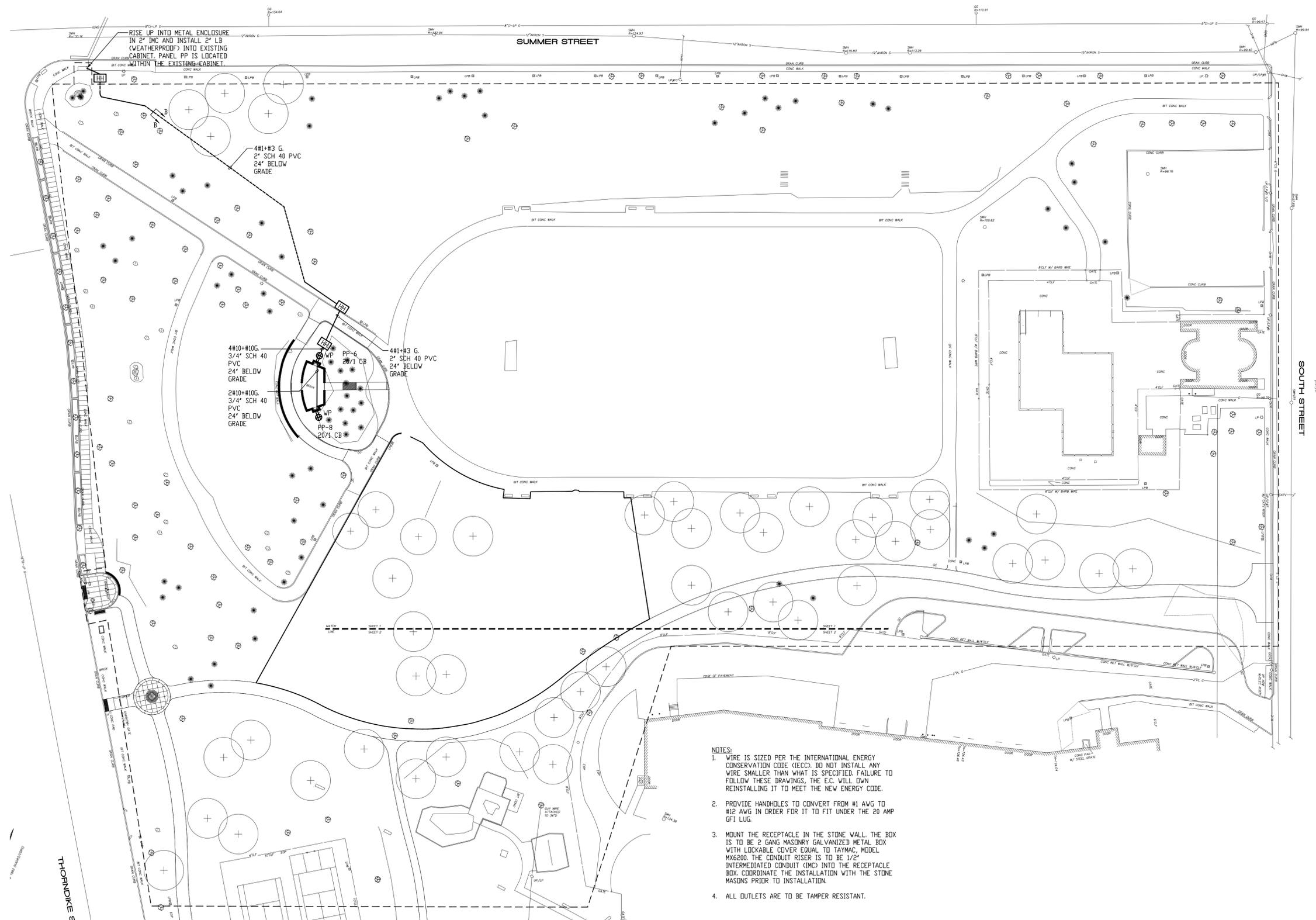
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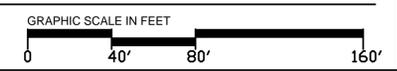
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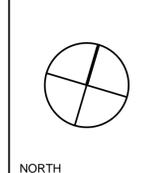
- NOTES:**
1. WIRE IS SIZED PER THE INTERNATIONAL ENERGY CONSERVATION CODE (IECC). DO NOT INSTALL ANY WIRE SMALLER THAN WHAT IS SPECIFIED. FAILURE TO FOLLOW THESE DRAWINGS, THE E.C. WILL OWN REINSTALLING IT TO MEET THE NEW ENERGY CODE.
  2. PROVIDE HANDLES TO CONVERT FROM #1 AWG TO #12 AWG IN ORDER FOR IT TO FIT UNDER THE 20 AMP GFT LUG.
  3. MOUNT THE RECEPTACLE IN THE STONE WALL. THE BOX IS TO BE 2 GANG MASONRY GALVANIZED METAL BOX WITH LOCKABLE COVER EQUAL TO TAYMAC, MODEL MK6200. THE CONDUIT RISER IS TO BE 1/2" INTERMEDIATE CONDUIT (IMC) INTO THE RECEPTACLE BOX. COORDINATE THE INSTALLATION WITH THE STONE MASONS PRIOR TO INSTALLATION.
  4. ALL OUTLETS ARE TO BE TAMPER RESISTANT.

**1** ELECTRICAL SITE PLAN  
SCALE: 1" = 40'-0"



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**SOUTH COMMON  
PHASE III  
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PROJECT  
**ELECTRICAL SITE PLAN**

DRAWING TITLE	
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DRAWN	MS.PZ
CKD	RD
SCALE	AS SHOWN

SHEET NO.  
**E-2**