

# TOWN OF BOXFORD

# BOXFORD PUBLIC SCHOOLS SITE RENOVATION PROJECT HARRY LEE COLE SCHOOL



STEVE CLIFFORD, DIRECTOR OF FACILITIES BOXFORD PUBLIC SCHOOLS 28 MIDDLETON ROAD BOXFORD, MA 01921 978-887-0771 ext. 225



JAMES PEARSON, PE, TECHNICAL SPECIALIST 55 WALKERS BROOK DRIVE READING, MA 01867 978-532-1900



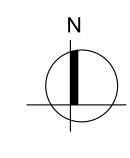


- RENDERING FOR ILLUSTRATIVE PURPOSES ONLY -

## **PERMITTING SET**

## Locus Map





HARRY LEE COLE SCHOOL

26 MIDDLETON ROAD, BOXFORD, MA 01921

MAY 6, 2022 REVISED OCTOBER 6, 2022

LANDSCAPE ARCHITECTURAL, CIVIL, ENVIRONMENTAL, ELECTRICAL AND UTILITY DESIGN: 55 Walkers Brook Drive, Suite 100 Reading, MA 018667 (978) 532 1900 www.westonandsampson.com

## **ZONING**

SCHOOL: HARRY LEE COLE SCHOOL
SITE ADDRESS: 26 and 28 MIDDLETON ROAD
PARCEL MAP/LOT 32-1-21

ZONING DISTRICT O - OFFICIAL OR OPEN SPACE DISTRICT

OVERLY DISTRICT NONE

Description **Proposed** Required **Minimum Lot Dimensions** Area (Acres) Frontage on street N/A Minimum Required Yard Dimensions/Setbacks N/A Front Yard (1) N/A Rear Yard Max. Bldg. Height Stories 35 N/A N/A Coverage (2) Building Coverage % of lot area 25% N/A **Accessory Buildings or Structures** Min. Bldg. Separation 20 N/A 20 Side/rear setbacks

## **WAIVER REQUESTS**

1. 196-29. **NEW DRIVEWAYS** 

**B**(2). **DRIVEWAYS:** The first 25 feet in from the paved portion of the public way shall have a max slope of 3%; the max driveway slope along the centerline shall be 12%; any slopes over 8% shall be paved. To preserve the stability of the ex natural topography, no cut or fill in excess or 8 feet of the natural topography shall be allowed within the limits of the driveway cross section.

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## **GENERAL NOTES**

- 1. TOPOGRAPHIC AND EXISTING CONDITIONS INFORMATION COMPILED BY WESTON & SAMPSON, OCTOBER 2020.
- 2. REFER TO EXISTING CONDITIONS LEGEND. ANY QUANTITIES SHOWN ON THE PLANS ARE FOR BIDDING PURPOSES ONLY. ALL BIDDERS ARE REQUIRED TO INSPECT THE PROJECT SITE IN ITS ENTIRETY PRIOR TO SUBMITTING THEIR BID, AND BECOME FAMILIAR WITH ALL CONDITIONS AS THEY MAY AFFECT THEIR BID. CONTRACTOR AND SUB-CONTRACTOR SHALL BE FAMILIAR WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO COMMENCING THE CONSTRUCTION.
- 3. LOCATIONS OF ANY UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF SUCH UTILITIES, PROTECTING ALL EXISTING UTILITIES AND REPAIRING ANY DAMAGE DONE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ON-SITE COORDINATION WITH UTILITY COMPANIES AND PUBLIC AGENCIES AND FOR OBTAINING ALL REQUIRED PERMITS AND PAYING ALL REQUIRED FEES. IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, CONTRACTORS SHALL NOTIFY ALL UTILITY COMPANIES AND GOVERNMENT AGENCIES IN WRITING PRIOR TO EXCAVATION. CONTRACTOR SHALL ALSO CALL "DIG SAFE" AT (888) 344-7233 NO LESS THAN 72 HOURS, (EXCLUSIVE OF WEEKENDS AND HOLIDAYS), PRIOR TO SUCH EXCAVATION. DOCUMENTATION OF REQUESTS SHALL BE PROVIDED TO PROJECT REPRESENTATIVE PRIOR TO EXCAVATION WORK.
- ANY DISCREPANCIES OR CONFLICTS BETWEEN THE DRAWINGS AND EXISTING CONDITIONS, EXISTING CONDITIONS TO REMAIN, TEMPORARY CONSTRUCTION, PERMANENT CONSTRUCTION AND WORK OF ADJACENT CONTRACTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING. ITEMS ENCOUNTERED IN AREAS OF EXCAVATION THAT ARE NOT INDICATED ON THE DRAWINGS, BUT ARE VISIBLE ON SURFACE, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REMOVED AT NO ADDITIONAL COST TO
- 5. ANY ALTERATIONS TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE GENERAL CONTRACTOR ON "AS-BUILT" DRAWINGS.
- 6. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS OUTSIDE THE PROJECT LIMITS, SHALL BE RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST AND TO THE SATISFACTION OF THE
- 7. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS NEEDED TO PROTECT HIS EMPLOYEES, AS WELL AS PUBLIC USERS FROM INJURY DURING THE ENTIRE CONSTRUCTION PERIOD AT NO EXPENSE TO THE OWNER USING ALL NECESSARY SAFEGUARDS, INCLUDING BUT NOT LIMITED TO, THE ERECTION OF TEMPORARY WALKS, STRUCTURES, PROTECTIVE BARRIERS, COVERING, OR FENCES AS NEEDED.
- 8. THE CONTRACTOR SHALL SUPPLY THE OWNER WITH THE NAME OF THE OSHA "COMPETENT PERSON" PRIOR TO
- 9. FILLING OF EXCAVATED AREAS SHALL NOT TAKE PLACE WITHOUT THE PRESENCE OR PERMISSION OF THE OWNER'S REPRESENTATIVE.
- 10. ALL EXISTING DRAINAGE FACILITIES TO REMAIN SHALL BE MAINTAINED FREE OF DEBRIS, SOIL, SEDIMENT, AND FOREIGN MATERIAL AND OPERATIONAL THROUGHOUT THE LIFE OF THE CONTRACT. REMOVE ALL SOIL, SEDIMENT, DEBRIS AND FOREIGN MATERIAL FROM ALL DRAINAGE STRUCTURES.
- 11. CONTRACTOR'S STAGING AREA MUST BE WITHIN THE CONTRACT LIMIT LINE AND/OR IN AREAS APPROVED BY OWNER. ANY OTHER AREAS THAT THE CONTRACTOR MAY WISH TO USE FOR STAGING MUST BE COORDINATED WITH THE OWNER.
- 12. THE CONTRACTOR SHALL KEEP ALL STREETS AND WALKS THAT ARE NOT RESTRICTED FROM PUBLIC USE DURING CONSTRUCTION BROOM CLEAN AT ALL TIMES. THE CONTRACTOR SHALL USE ACCEPTABLE METHODS AND MATERIALS TO MAINTAIN ADEQUATE DUST CONTROL THROUGHOUT CONSTRUCTION.
- 13. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH TOWN OF BOXFORD ORDINANCES.

## **EROSION AND SEDIMENT CONTROL NOTES**

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE PUT INTO PLACE PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION. INCLUDING BUT NOT LIMITED TO, DRAINAGE INLETS, MANHOLES AND CATCH BASINS WITHIN THE LIMIT OF WORK AND DRAINAGE STRUCTURES OUTSIDE THE LIMIT OF WORK THAT ARE IMPACTED BY THE WORK FOR THE ENTIRE DURATION OF CONSTRUCTION. REFER TO SPECIFICATIONS AND DETAILS FOR TYPE OF EROSION AND SEDIMENT CONTROL.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUAL MAINTENANCE OF ALL CONTROL DEVICES THROUGHOUT THE DURATION OF THE PROJECT.
- 3. CONTRACTOR SHALL MEET ALL OF THE STATE OF MASSACHUSETTS D.E.P. REGULATIONS FOR SEDIMENT AND EROSION CONTROL AT NO ADDITIONAL COST TO THE OWNER.
- 4. EXCAVATED MATERIAL STOCKPILED ON THE SITE SHALL BE SURROUNDED BY A RING OF UNBROKEN SEDIMENT AND EROSION CONTROL FENCE. THE LIMITS OF ALL GRADING AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE APPROVED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THE LIMIT OF CONTRACT SHALL REMAIN TOTALLY UNDISTURBED UNLESS OTHERWISE APPROVED BY OWNER'S REPRESENTATIVE.
- 5. EROSION CONTROL BARRIERS TO BE INSTALLED AT THE TOE OF SLOPES, SEE SITE PLAN, NOTES, DETAILS AND SPECIFICATIONS.

## **DEMOLITION & SITE PREPARATION NOTES**

- 1. THE CONTRACTOR SHALL INCLUDE IN THE BID THE COST OF REMOVING ANY EXISTING SITE FEATURES AND APPURTENANCES NECESSARY TO ACCOMPLISH THE CONSTRUCTION OF THE PROPOSED SITE IMPROVEMENTS. THE CONTRACTOR SHALL ALSO INCLUDE IN THE BID THE COST NECESSARY TO RESTORE SUCH ITEMS IF THEY ARE SCHEDULED TO REMAIN AS PART OF THE FINAL SITE IMPROVEMENTS. REFER TO PLANS TO DETERMINE EXCAVATION, DEMOLITION AND TO DETERMINE THE LOCATION OF THE PROPOSED SITE IMPROVEMENTS.
- 2. THE OWNER RESERVES THE RIGHT TO REVIEW ALL MATERIALS DESIGNATED FOR REMOVAL AND TO RETAIN OWNERSHIP OF SUCH MATERIALS.
- UNLESS SPECIFICALLY NOTED TO BE REMOVED AND STOCKPILED (R&S) OR REUSED AND RELOCATED (R&R), ALL SITE FEATURES CALLED TO BE REMOVED AND DEMOLISHED (R&D) SHALL BE REMOVED WITH THEIR FOOTINGS, ATTACHMENTS, BASE MATERIAL, ETC. TRANSPORTED FROM THE SITE TO BE DISPOSED OF IN A LAWFUL MANNER AT AN ACCEPTABLE DISPOSAL SITE AND AT NO ADDITIONAL COST TO THE OWNER.
- ALL EXISTING SITE FEATURES TO REMAIN SHALL BE PROTECTED THROUGHOUT THE CONSTRUCTION PERIOD. ANY FEATURES DAMAGED DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE OWNER.
- 5. DURING EARTHWORK OPERATIONS, CONTRACTOR SHALL TAKE CARE TO NOT DISTURB EXISTING MATERIALS TO REMAIN, OUTSIDE THE LIMITS OF EXCAVATION AND BACKFILL AND SHALL TAKE WHATEVER MEASURES NECESSARY, AT THE CONTRACTOR'S EXPENSE, TO PREVENT ANY EXCAVATED MATERIAL FROM COLLAPSING. ALL BACKFILL MATERIALS SHALL BE PLACED AND COMPACTED AS SPECIFIED TO THE SUBGRADE REQUIRED FOR THE INSTALLATION OF THE REMAINDER OF THE CONTRACT WORK.
- 6. IT SHALL BE THE CONTRACTOR'S OPTION, WITH CONCURRENCE OF THE OWNER'S REPRESENTATIVE, TO REUSE EXISTING GRAVEL PAVEMENT BASE COURSE IF IT MEETS THE REQUIREMENTS OF THE SPECIFICATIONS FOR

## LAYOUT & MATERIALS NOTES

- 1. COORDINATE ALL LAYOUT ACTIVITIES WITH THE SCOPE OF WORK CALLED FOR BY DEMOLITION, MATERIALS, GRADING AND UTILITIES OPERATIONS ENCOMPASSED BY THIS CONTRACT. SET, PROTECT AND REPLACE REFERENCE STAKES AS NECESSARY OR AS REQUIRED BY THE OWNER'S REPRESENTATIVE.
- 2. THE LAYOUT OF SITE AMENITIES MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- 3. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF INSTALLATION. ANY REQUIRED ADJUSTMENTS TO THE LAYOUT SHALL BE UNDERTAKEN AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER.
- 4. ALL PROPOSED PAVEMENTS SHALL MEET THE LINE AND GRADE OF EXISTING ADJACENT PAVEMENT SURFACES AND SHALL BE TREATED WITH AN RS-1 TACK COAT AT POINT OF CONNECTION. ALL PATHWAY WIDTHS SHALL BE AS NOTED ON THE LAYOUT AND MATERIALS PLAN.
- 5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD MEASUREMENTS OF ALL PROPOSED GATES.
- ALL LAYOUT LINES, OFFSETS, OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
- 8. REFER TO DETAIL DRAWINGS FOR CONSTRUCTION DETAILS.
- 9. ONLY CLEAN FILL SHALL BE USED, CLEAN FILL SHALL BE CLEAR FROM TRASH, DEBRIS, ASPHALT, BRICK, CONCRETE, METAL, WOOD, RECYCLED CONSTRUCTION MATERIALS, OR OTHER DELETERIOUS MATERIALS.
- 10. TO FACILITATE LAYOUT OF PROPOSED SITE FEATURES AND FACILITIES, LAYOUT INFORMATION FOR CERTAIN FUTURE WORK, WHICH IS NOT INCLUDED WITHIN THE SCOPE OF THIS CONTRACT HAS BEEN PROVIDED ON THE LAYOUT AND MATERIALS PLAN FOR INFORMATION ONLY.

## **GRADING & DRAINAGE NOTES**

- 1. ALL WORK RELATING TO INSTALLATION, RENOVATION OR MODIFICATION OF WATER, UTILITY STORMWATER DRAINAGE AND/OR SEPTIC UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS OF THE TOWN, AND STATE OF MASSACHUSETTS.
- 2. THE CONTRACTOR SHALL VERIFY ALL GRADES ON THE GROUND AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S REPRESENTATIVE.
- 3. ALL GRADING IS TO BE SMOOTH AND CONTINUOUS WHERE PROPOSED SURFACE MEETS EXISTING SURFACE, BLEND THE TWO PAVEMENTS AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES AND MEET LINE AND GRADE OF EXISTING CONDITIONS WITH NEW IMPROVEMENTS.
- 4. CONTRACTOR SHALL ENSURE ALL AREAS ARE PROPERLY PITCH TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING.
- 5. ALL NEW WALKWAYS MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA), AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE PRIOR TO CONTINUING WORK.
- 6. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
- THE CONTRACTOR SHALL CONFIRM AND/OR SET SUBGRADE ELEVATIONS TO ALLOW FOR POSITIVE DRAINAGE AND PROVIDE EROSION CONTROL DEVICES, STRUCTURES, MATERIALS AND CONSTRUCTION METHODS TO DIRECT SILT MIGRATION AWAY FROM DRAINAGE AND OTHER UTILITY SYSTEMS, PUBLIC/PRIVATE STREETS AND WORK AREAS. CLEAN BASINS REGULARLY AND AT THE END OF THE PROJECT.
- 8. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
- 9. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES.
- 10. WHERE A SPECIFIC LIMIT OF WORK LINE IS NOT OBVIOUS OR IMPLIED, BLEND GRADES TO EXISTING CONDITIONS WITHIN 5 FEET OF PROPOSED CONTOURS.
- 11. RESTORE ALL DISTURBED AREAS AND LIMITS OF ALL REMOVALS TO LOAM AND SEED (L&S) UNLESS OTHERWISE
- 12. SEE EARTHWORK SECTION OF SPECIFICATIONS FOR EXCAVATION AND FILLING PROCEDURES.

## PLANTING NOTES

- 1. THE DEPTH OF THE TOPSOIL LOAM FOR ALL PROPOSED LAWN AREAS SHALL BE 6" MINIMUM. ALL DISTURBED AREAS SHALL BE RESTORED WITH LOAM AND SEED UNLESS OTHERWISE NOTED.
- 2. ALL REFERENCES TO LOAM AND SEED REFER TO HYDROMULCH SEEDED LAWN.
- 3. ANY DISCREPANCIES BETWEEN THE PLANS AND THE PLANTING SCHEDULE, CONTRACTOR SHALL OWN THE LARGER QUANTITY AND SIZE AT NO ADDITIONAL COST TO THE OWNER.

### **ABBREVIATIONS**

**PROPOSED** 

## **GENERAL**

PROP

ADJUST ADJ BIT. CONC. BITUMINOUS CONCRETE CEM. CONC. CEMENT CONCRETE BASELINE N.T.S. NOT TO SCALE B.M. BENCH MARK ABAN ABANDON GRAN. CURB **GRANITE CURB** EXIST. (OR EX.) EXISTING FDN FOUNDATION F.L. (OR F) FLOW LINE PROPERTY LINE **PVMT** PAVEMENT REINFORCED CONCRETE REM REMOVE RET RETAIN R.O.W RIGHT-OF-WAY R&R REMOVE AND RELOCATE R.R&R REMOVE, RELOCATED AND RESET R&S REMOVE AND SALVAGE R&D REMOVE AND DISPOSE PRESERVE AND PROTECT STONE BOUND NOT IN CONTRACT HANDICAP WCR WHEELCHAIR RAMP HMA HOT MIX ASPHALT **GENERAL CONTRACTOR ELECTRICAL CONTRACTOR** PLUMBING CONTRACTOR

## UTILITIES

**GUTTER INLET W/ CURB INLET** CBCI CATCH BASIN W/ CURB INLET CB CATCH BASIN C.I.T. CHANGE IN TYPE FRAME AND GRATE FRAME AND COVER CURB INLET CAST IRON PIPE CORRUGATED METAL PIPE **DUCTILE IRON PIPE GUTTER INLET** HYDRANT INVERT ELEVATION UTILITY POLE SMH SEWER MANHOLE WATER GATE DOWN SPOUT **HDPE** HIGH DENSITY POLYETHYLENE PIPE POLYVINYL CHLORIDE **RCP** REINFORCED CONCRETE PIPE DRAIN MANHOLE LEACHING BASIN CAST IRON **OUTLET CONTROL STRUCTURE** OIL AND GRIT TRAP VITRIFIED CLAY PIPE LIGHT POLE STORM WATER TREATMENT UNIT

HANDHOLE

## ALIGNMENT/GRADING

BOTTOM OF WALL BOTTOM OF CURB POINT OF INTERSECTION POINT OF CURVATURE POINT OF TANGENCY PRC POINT OF REVERSE CURVATURE PCC POINT OF COMPOUND CURVATURE PVI POINT OF VERTICAL INTERSECTION PVC POINT OF VERTICAL CURVATURE PVT POINT OF VERTICAL TANGENCY ELEV ELEVATION CC CENTER OF CURVE HIGH POINT LOW POINT RADIUS OF CURVATURE STA STATION S.S.D. STOPPING SIGHT DISTANCE TOP OF CURB TOP OF WALL

CENTER LINE

#### Weston & Sampson Engineers, Inc 55 Walkers Brook Drive, Suite 100 Reading, MA 01867 978.532.1900

HARRY LEE COLE SCHOOL

26 AND 28 MIDDLETON ROAD

BOXFORD, MA 01921

**BOXFORD PUBLIC** SCHOOLS SITE RENOVATION PROJECT

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Consultants:

# No. Date Description No. 50675

## **PERMITTING**

Issued For:

AS SHOWN MAY 6, 2022

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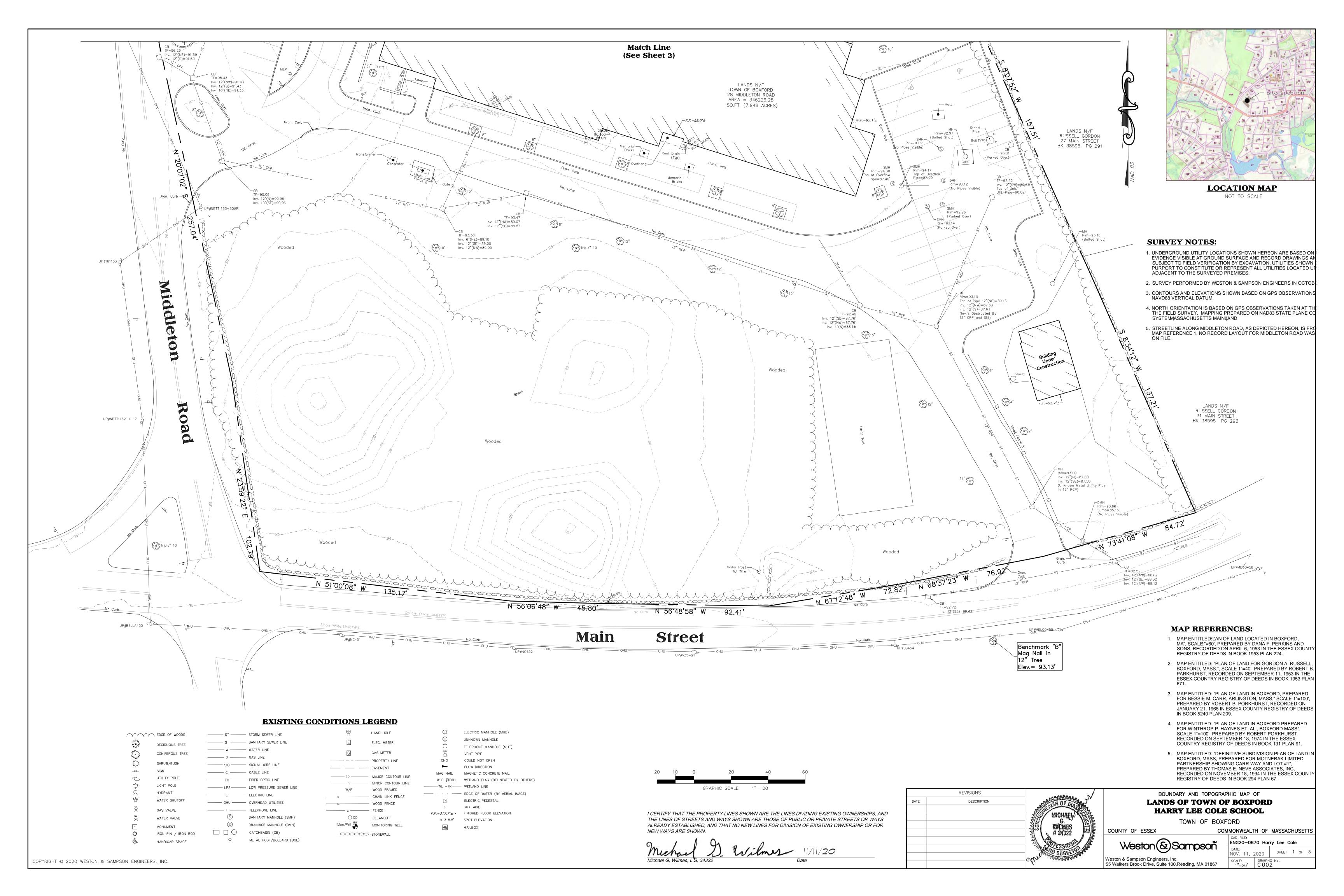
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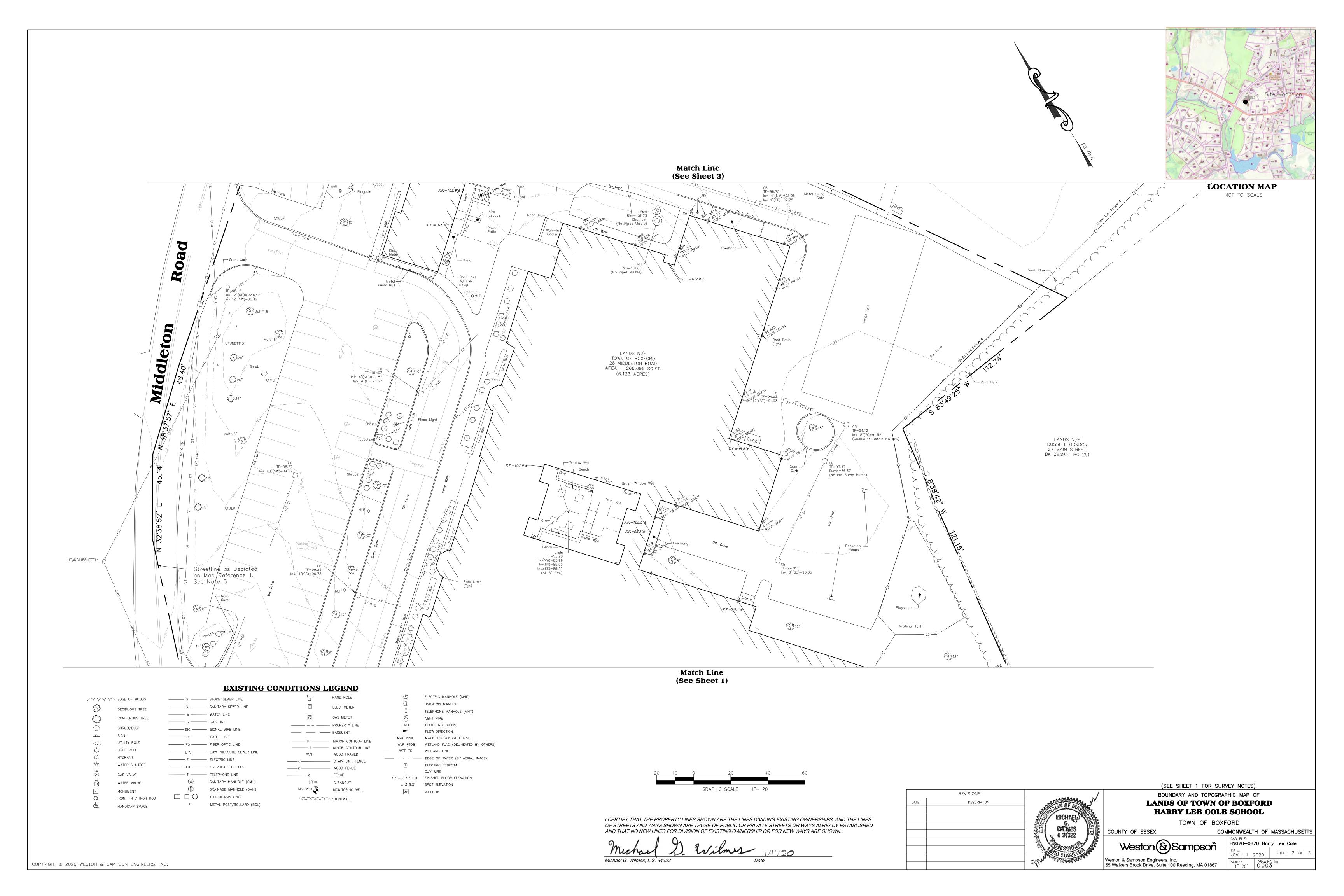
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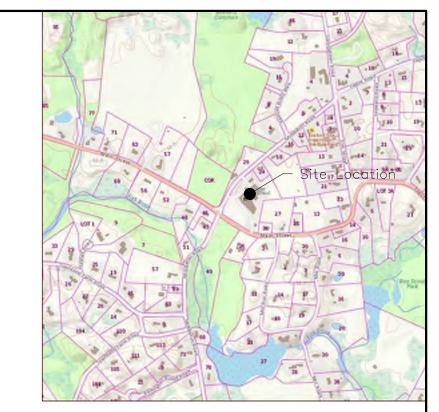
LEGEND, **GENERAL NOTES** & SYMBOLS

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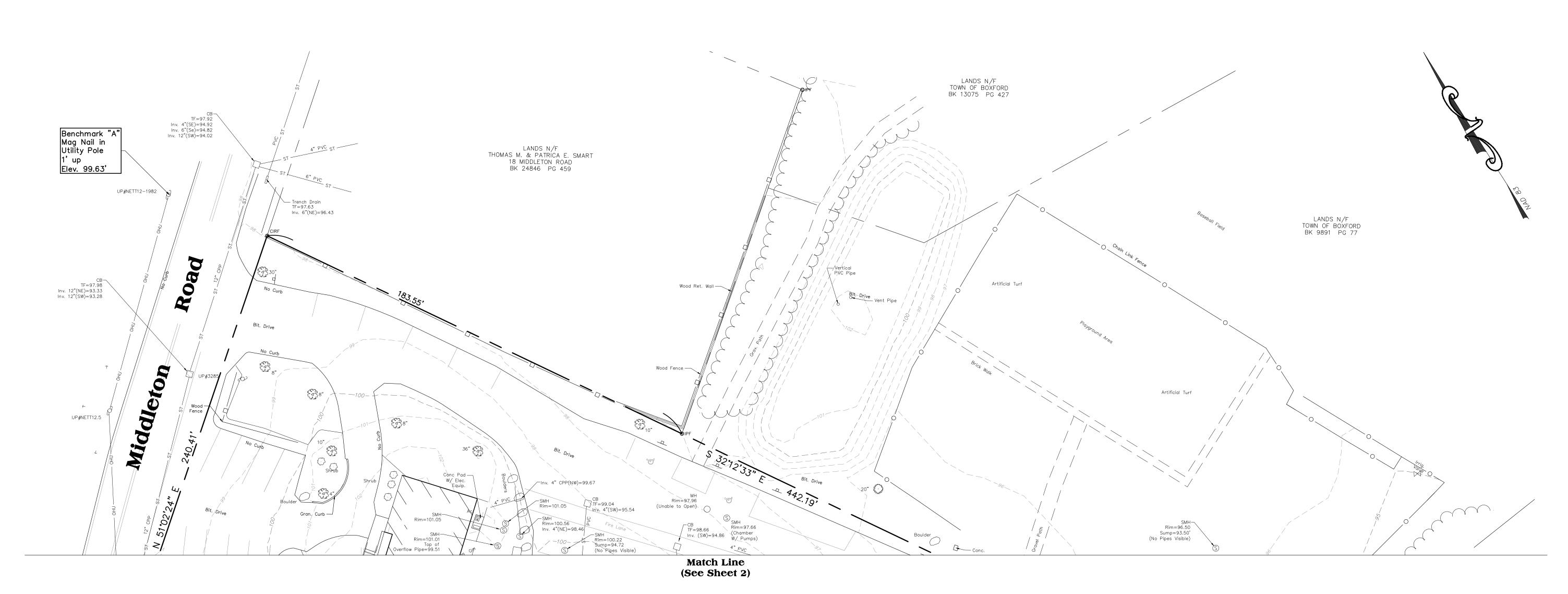


#### **EXISTING CONDITIONS LEGEND** EDGE OF WOODS ----- ST ----- STORM SEWER LINE DECIDUOUS TREE ----- W ----- WATER LINE ---- G ---- GAS LINE SHRUB/BUSH SIGN ----- C ----- CABLE LINE UTILITY POLE ----- FO ------ FIBER OPTIC LINE LIGHT POLE ------ LPS------ LOW PRESSURE SEWER LINE HYDRANT ----- E ----- ELECTRIC LINE WATER SHUTOFF ----- OHU ----- OVERHEAD UTILITIES T TELEPHONE LINE GAS VALVE S SANITARY MANHOLE (SMH) WATER VALVE D DRAINAGE MANHOLE (DMH) ☐ ☐ CATCHBASIN (CB) IRON PIN / IRON ROD 0 O METAL POST/BOLLARD (BOL) HANDICAP SPACE ELECTRIC MANHOLE (MHE) HAND HOLE UNKNOWN MANHOLE TELEPHONE MANHOLE (MHT) GAS METER VENT PIPE CNO COULD NOT OPEN ------ PROPERTY LINE FLOW DIRECTION ---- EASEMENT MAG NAIL MAGNETIC CONCRETE NAIL WLF #TOB1 WETLAND FLAG (DELINEATED BY OTHERS) ——— 9 —— MINOR CONTOUR LINE W/F WOOD FRAMED · · — EDGE OF WATER (BY AERIAL IMAGE) ----- CHAIN LINK FENCE ELECTRIC PEDESTAL ----- WOOD FENCE ← GUY WIRE \_\_\_\_\_ x \_\_\_\_ FENCE $F.F.=317.7'\pm \times$ FINISHED FLOOR ELEVATION OCO CLEANOUT x 318.5' SPOT ELEVATION Mon.Well MW MONITORING WELL MB MAILBOX · STONEWALL



LOCATION MAP

NOT TO SCALE



O 20 40 60

GRAPHIC SCALE 1"= 20

REVISIONS

DESCRIPTION

SICHAEL

SALVES

1322

(SEE SHEET 1 FOR SURVEY NOTES)
BOUNDARY AND TOPOGRAPHIC MAP OF

LANDS OF TOWN OF BOXFORD
HARRY LEE COLE SCHOOL

TOWN OF BOXFORD

Weston & Sampson Engineers, Inc.
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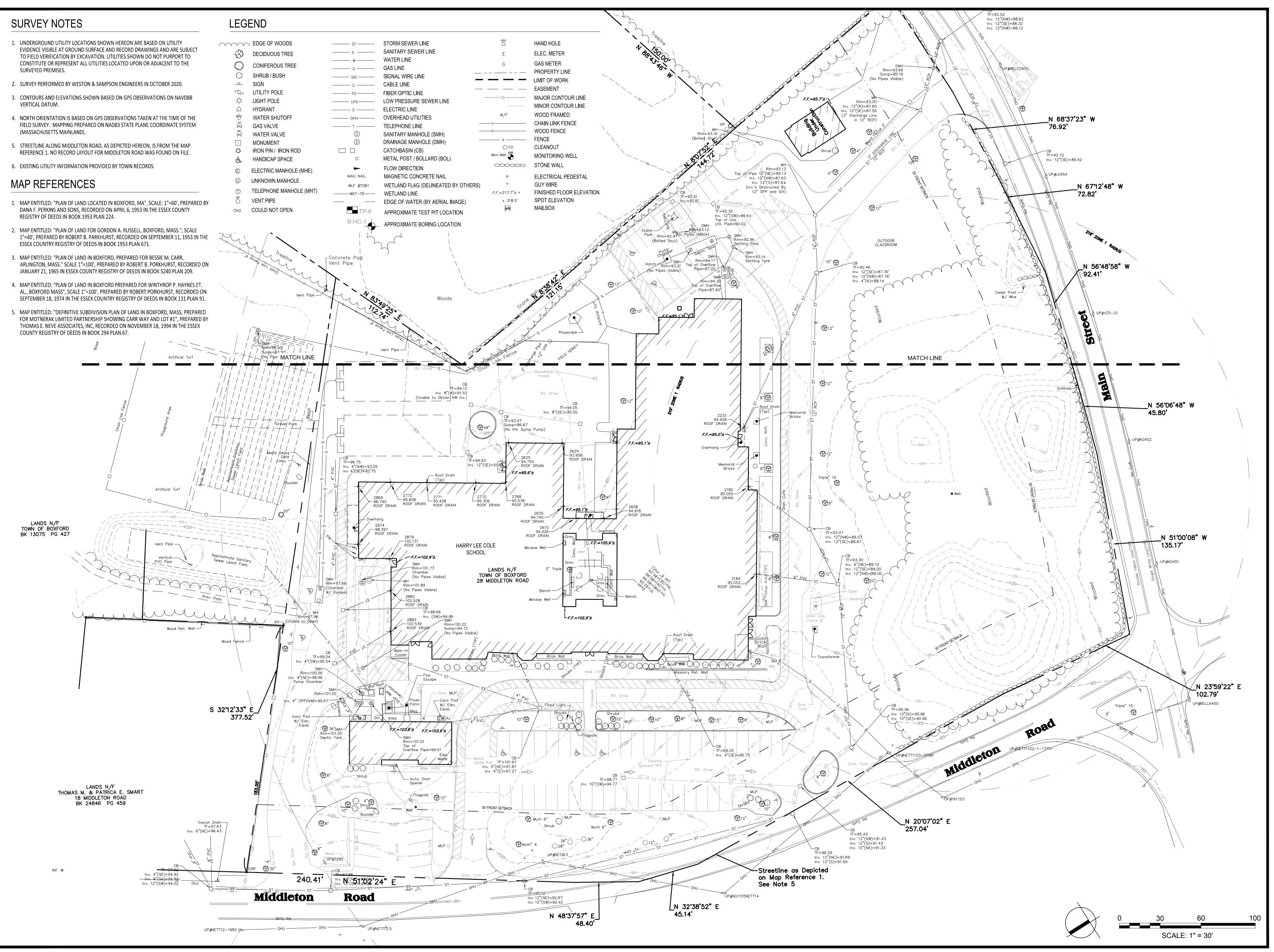
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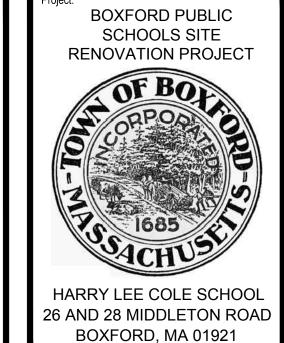
COMMONWEALTH OF MASSACHUSETTS

CAD FILE:
ENG20—0870 Harry Lee Cole

DATE:
NOV. 11, 2020 SHEET 3 OF 3

SCALE: DRAWING No.





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Revisions:

No. Date Description

1 10/06/22 REV PER CLIENT

Seal:

Seal:

JAMES I.
PEARSON
CIVIL
No. 50675

SONAL ENGINEER
10/06/2022

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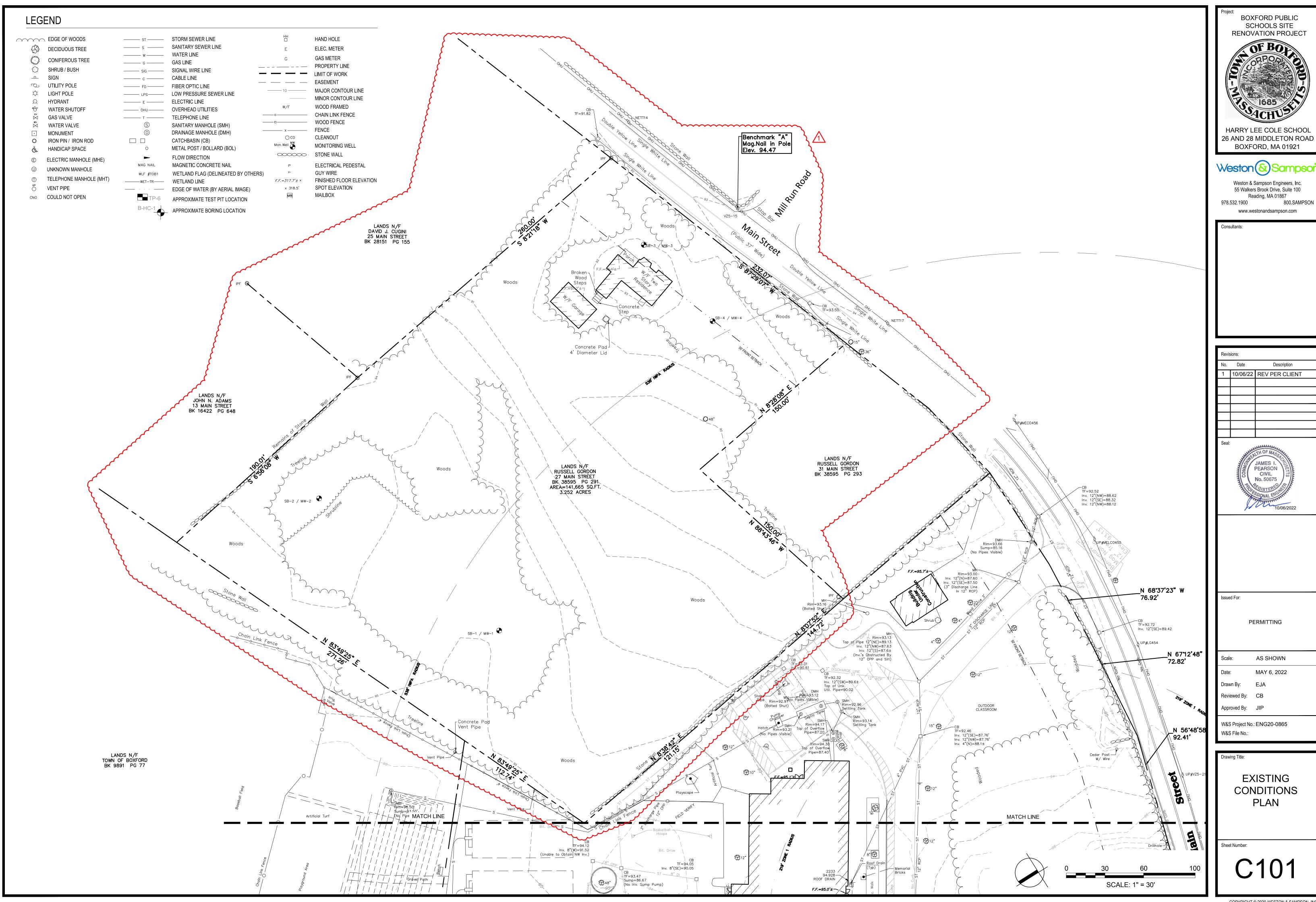
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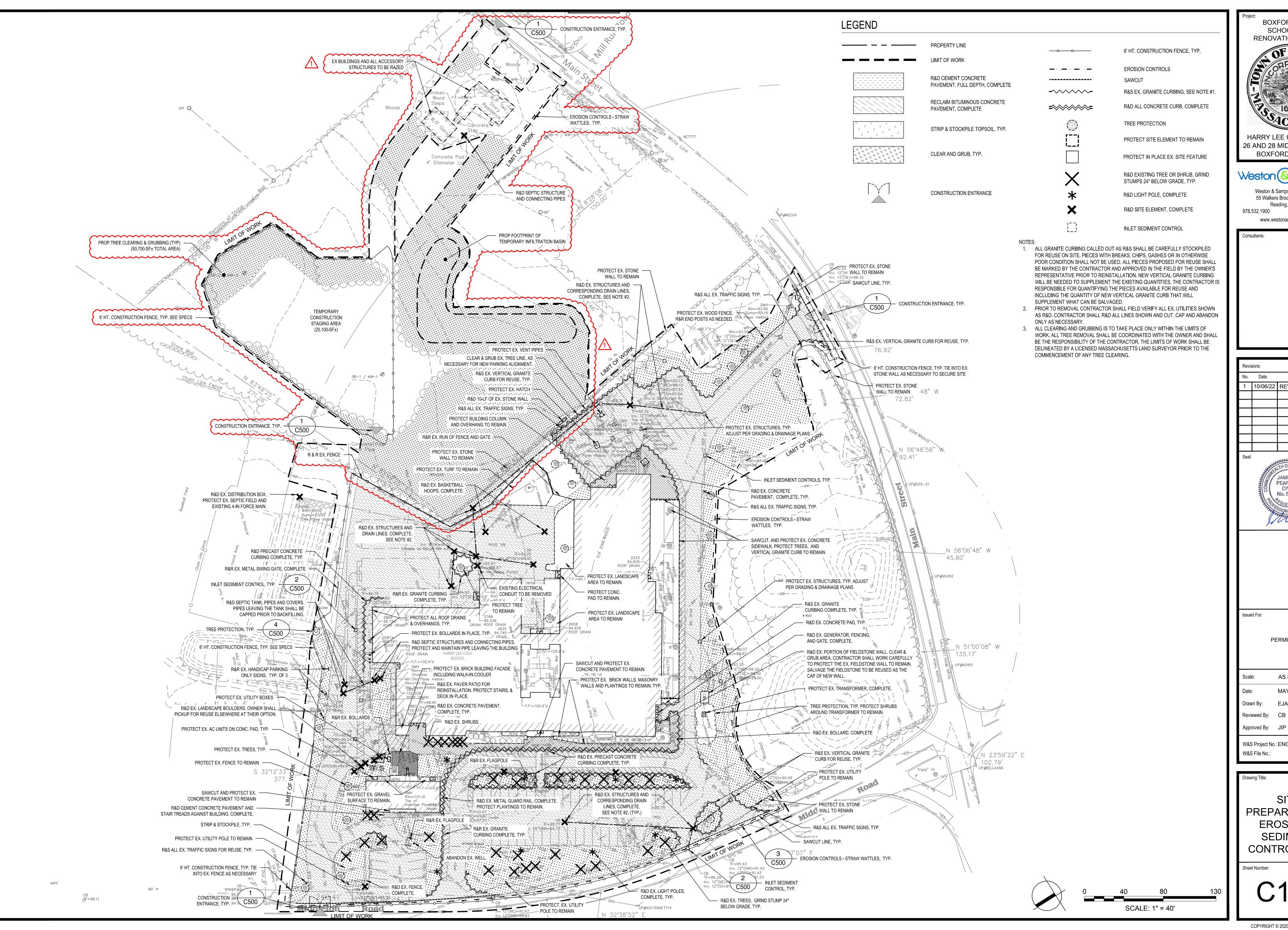
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EXISTING
CONDITIONS
PLAN

Sheet Number:





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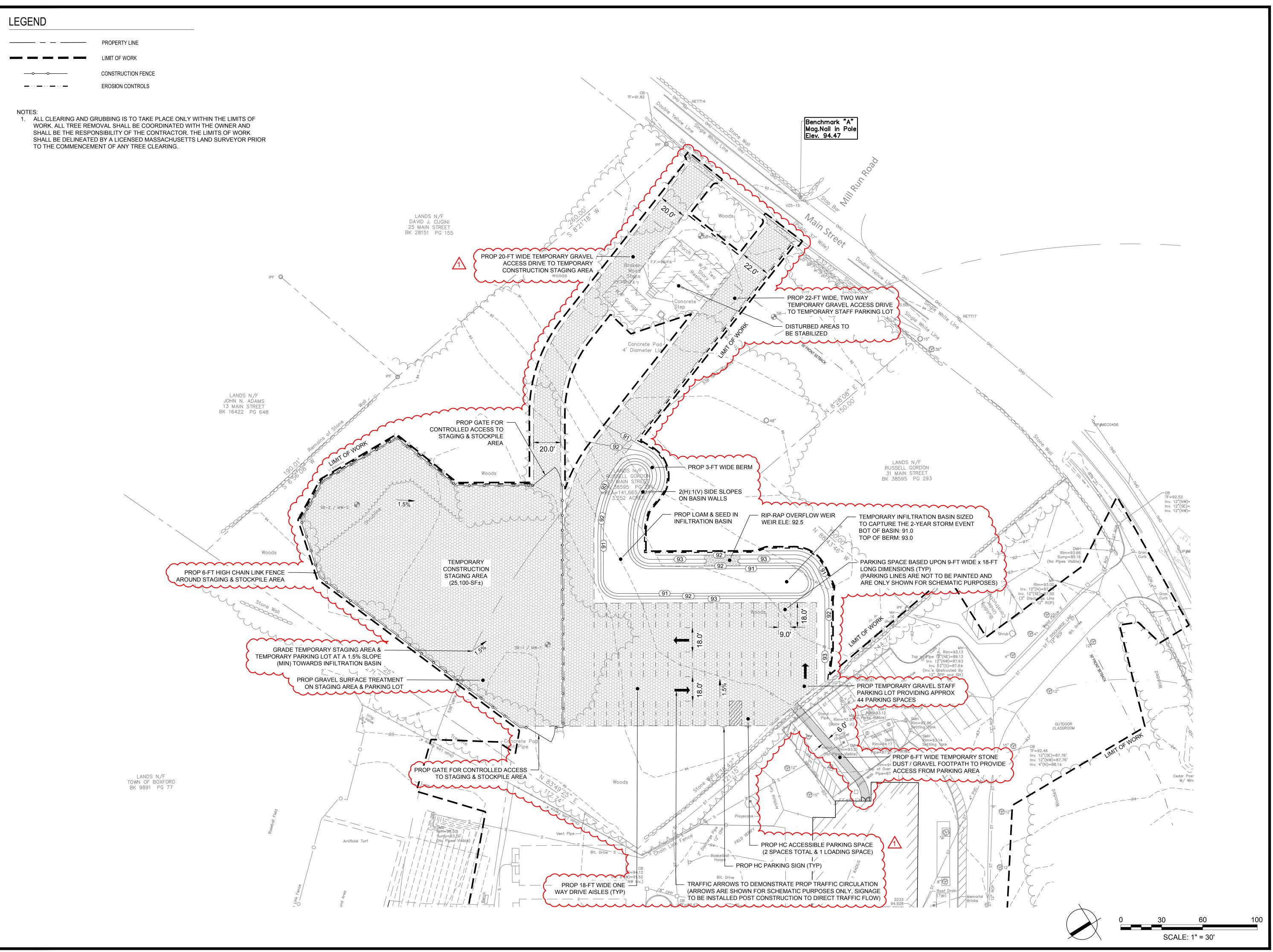
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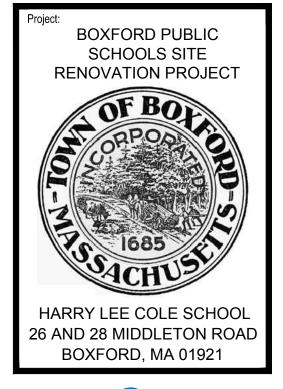
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Drawing Title:

SITE PREPARATION & **EROSION &** SEDIMENT **CONTROL PLAN** 





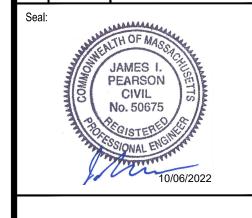
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AS SHOWN

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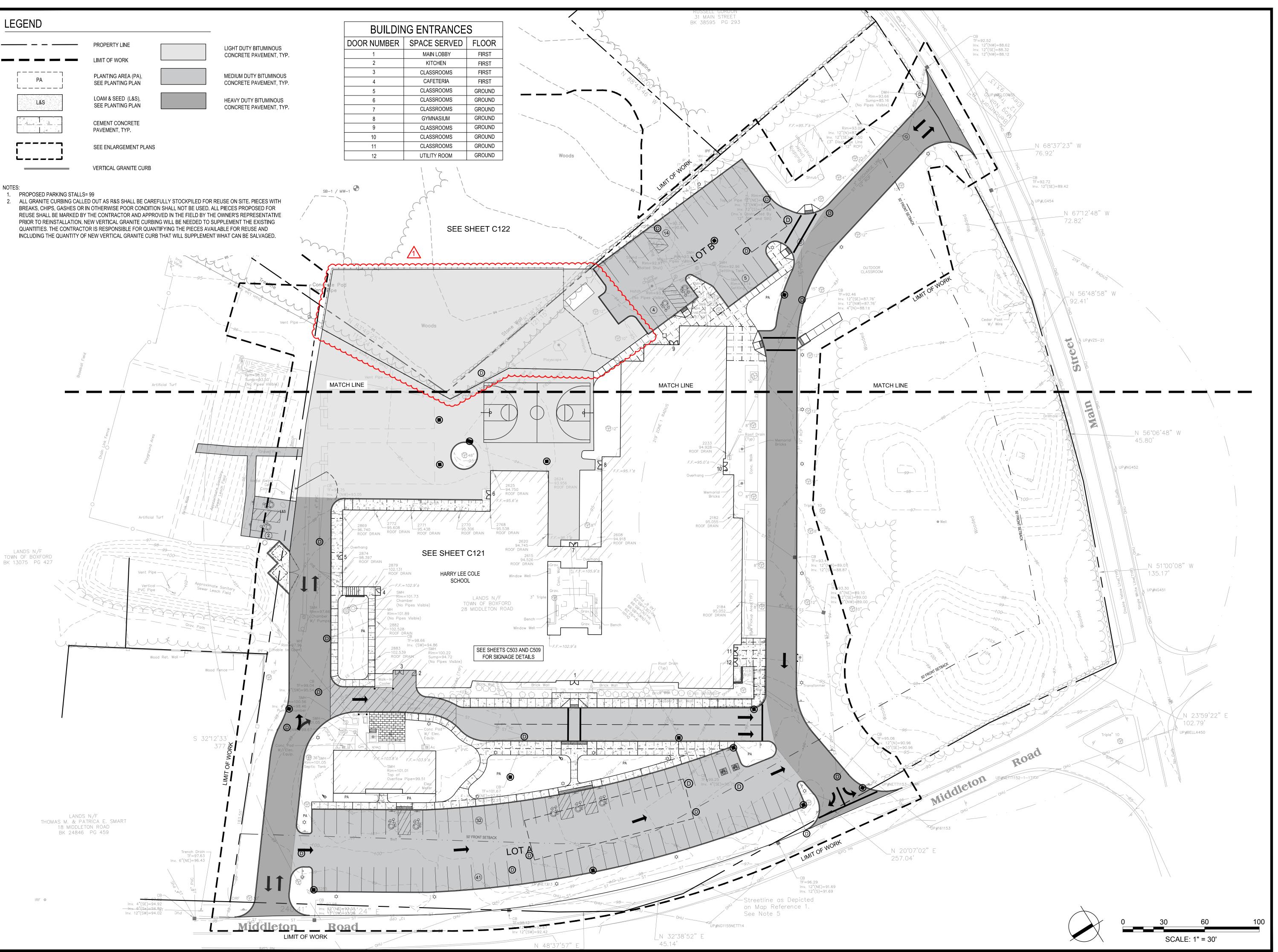
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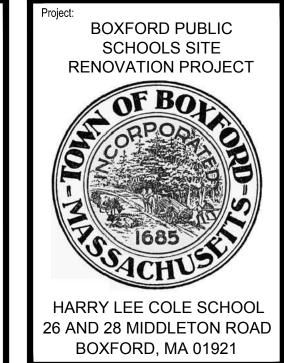
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TEMPORARY
CONSTRUCTION
STAGING &
PARKING PLAN

Sheet Number:





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Seal:

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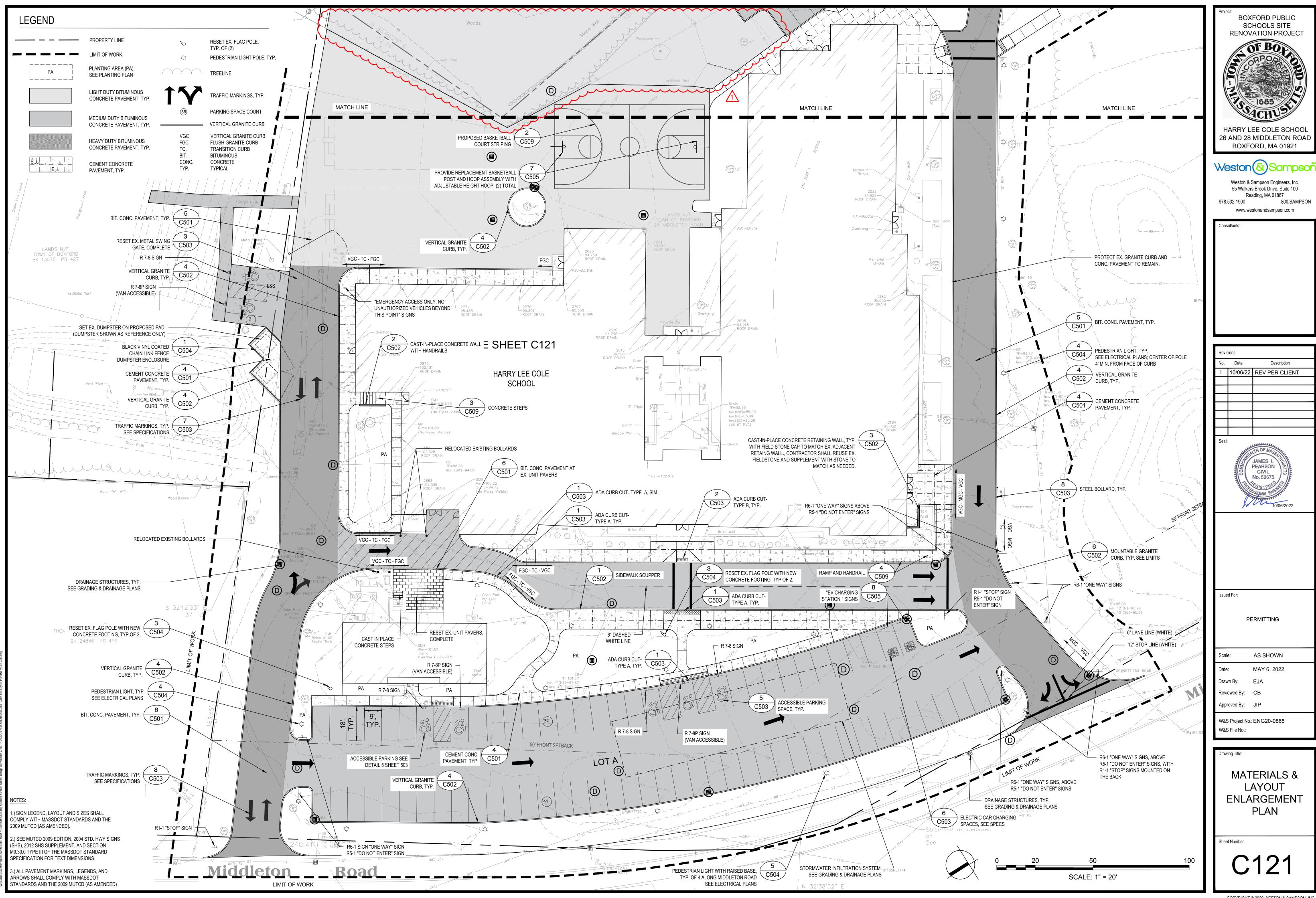
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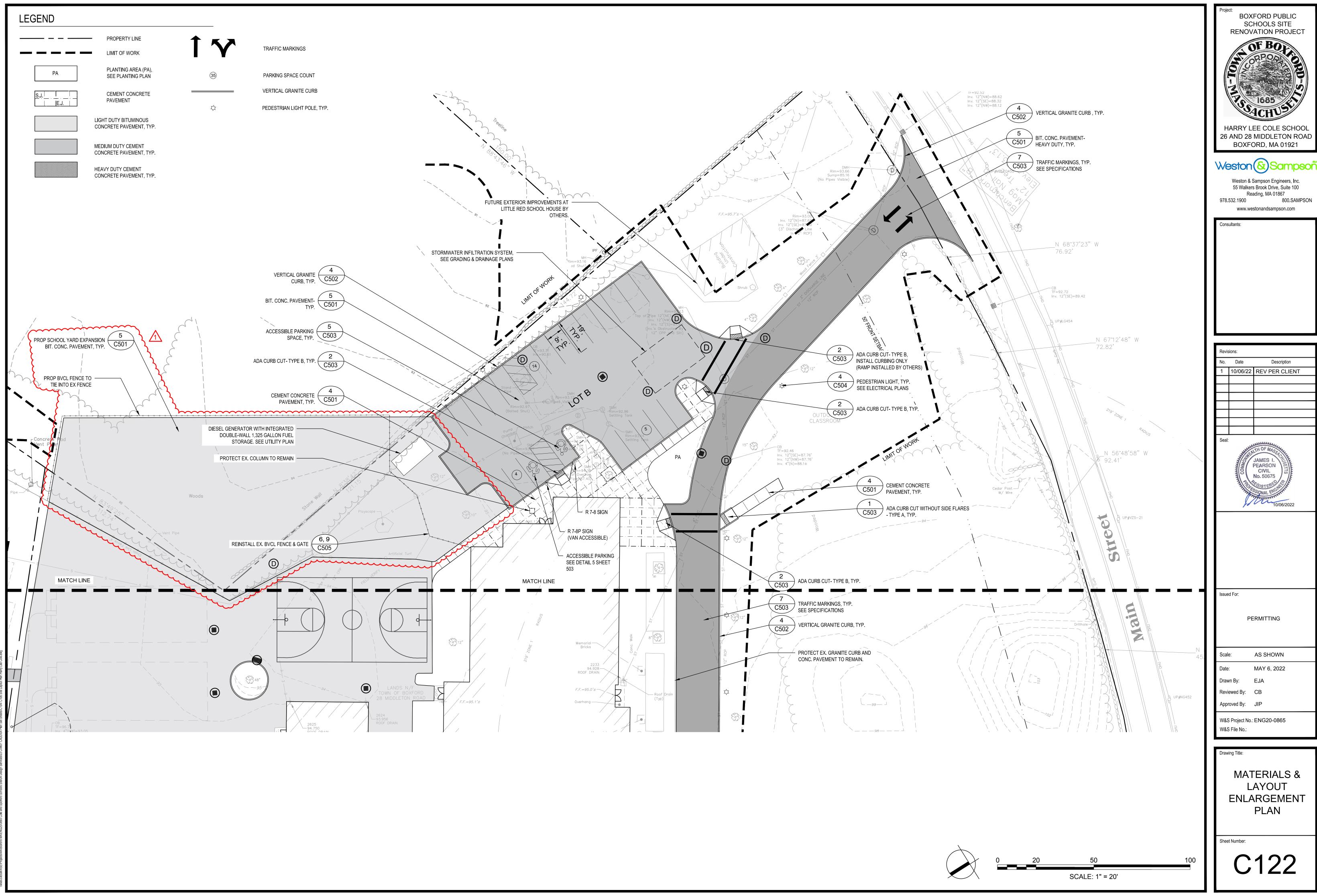
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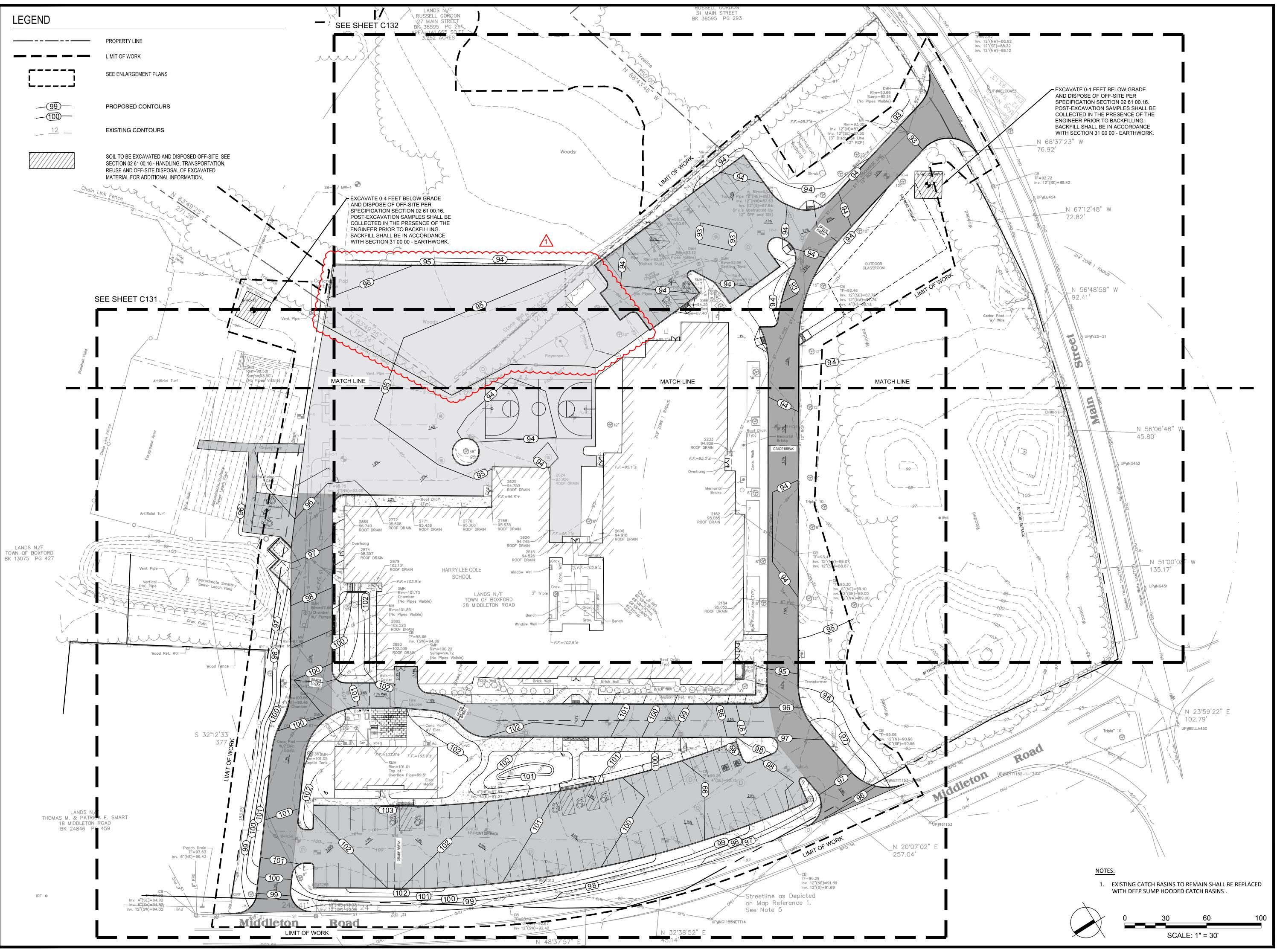
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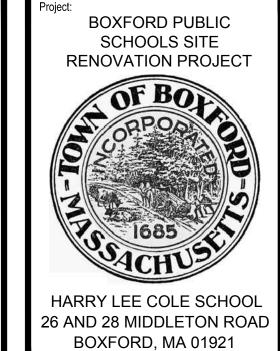
LAYOUT PLAN

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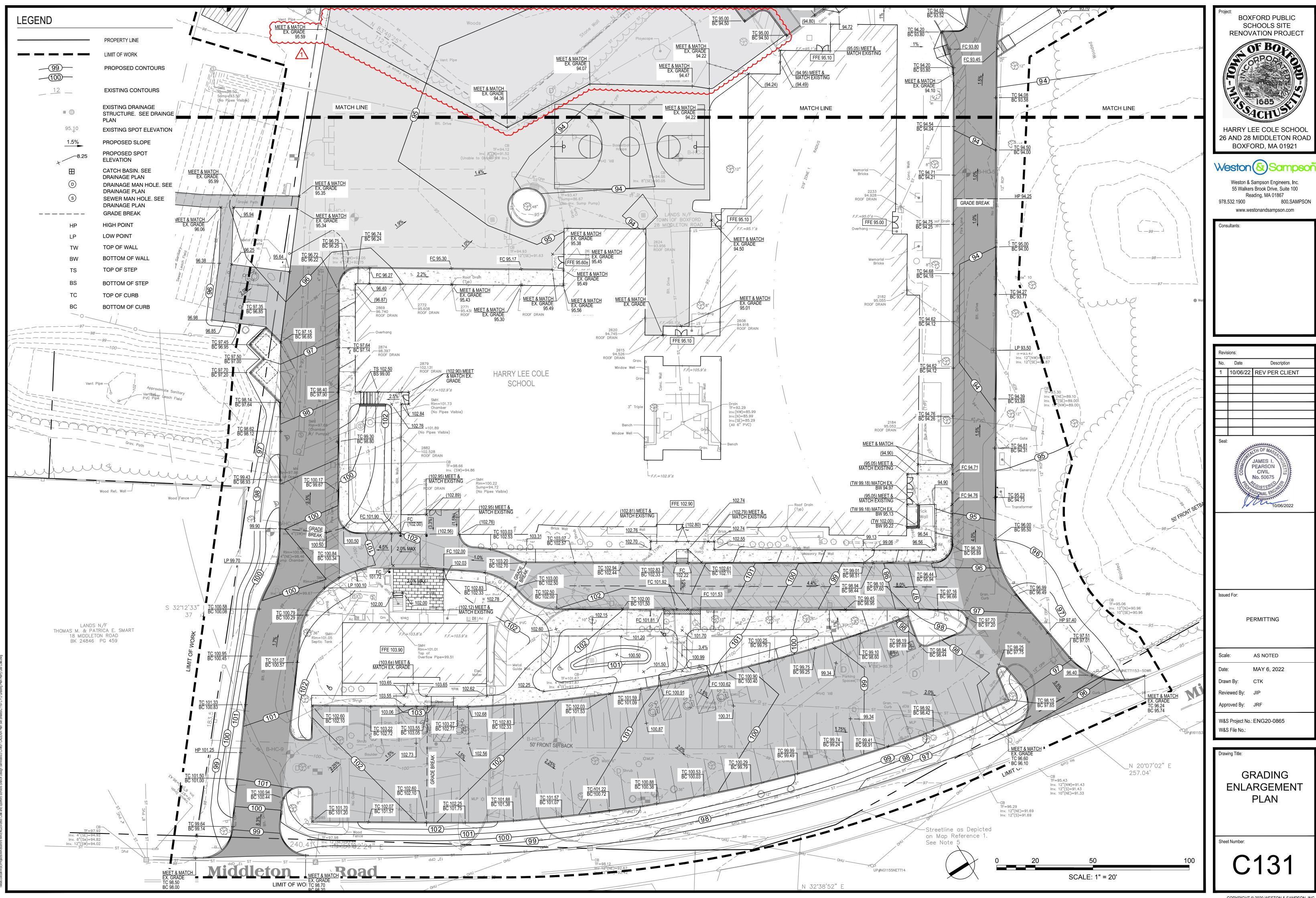
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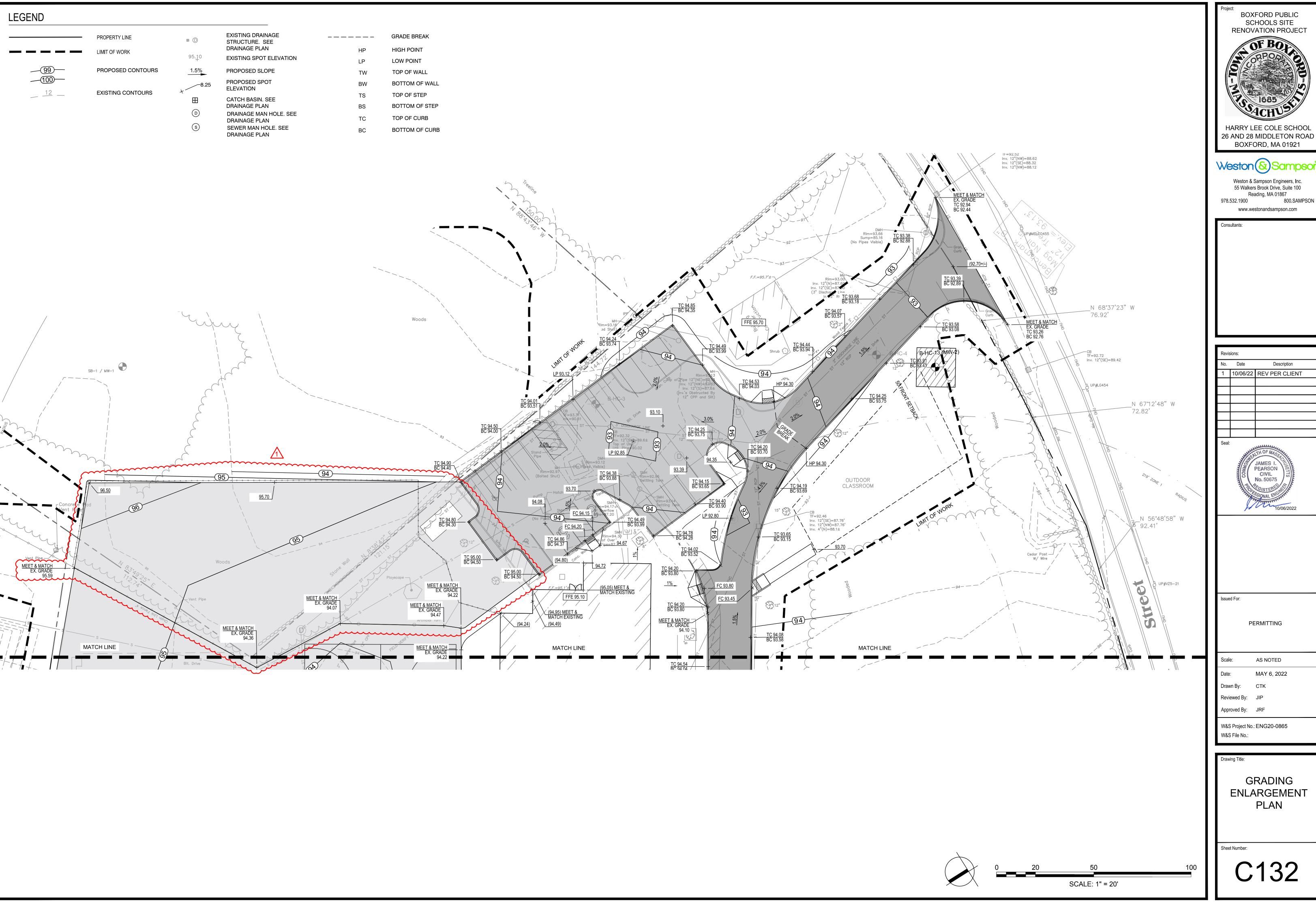
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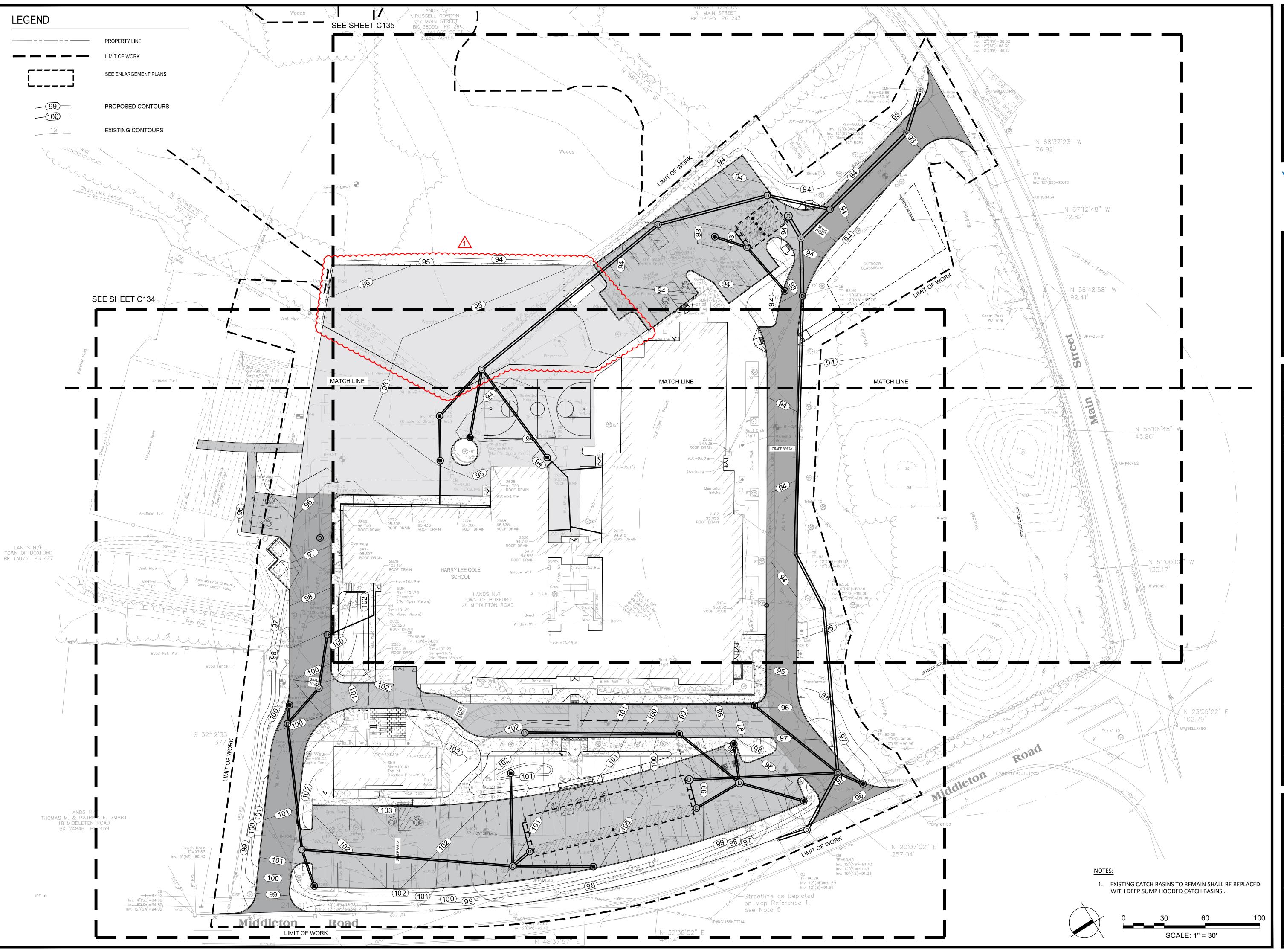
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BOXFORD PUBLIC SCHOOLS SITE RENOVATION PROJECT

HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD BOXFORD, MA 01921

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No. Date

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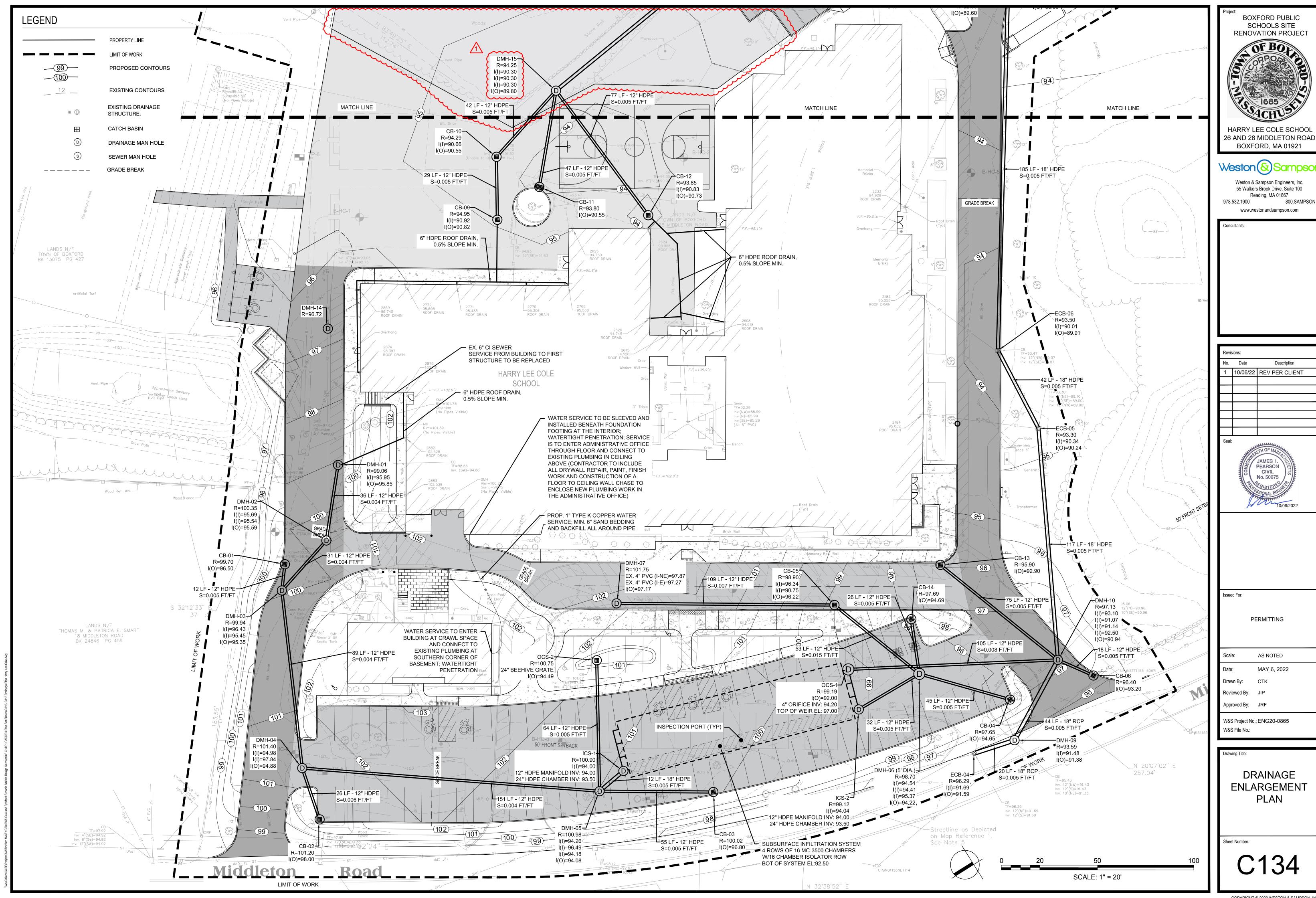
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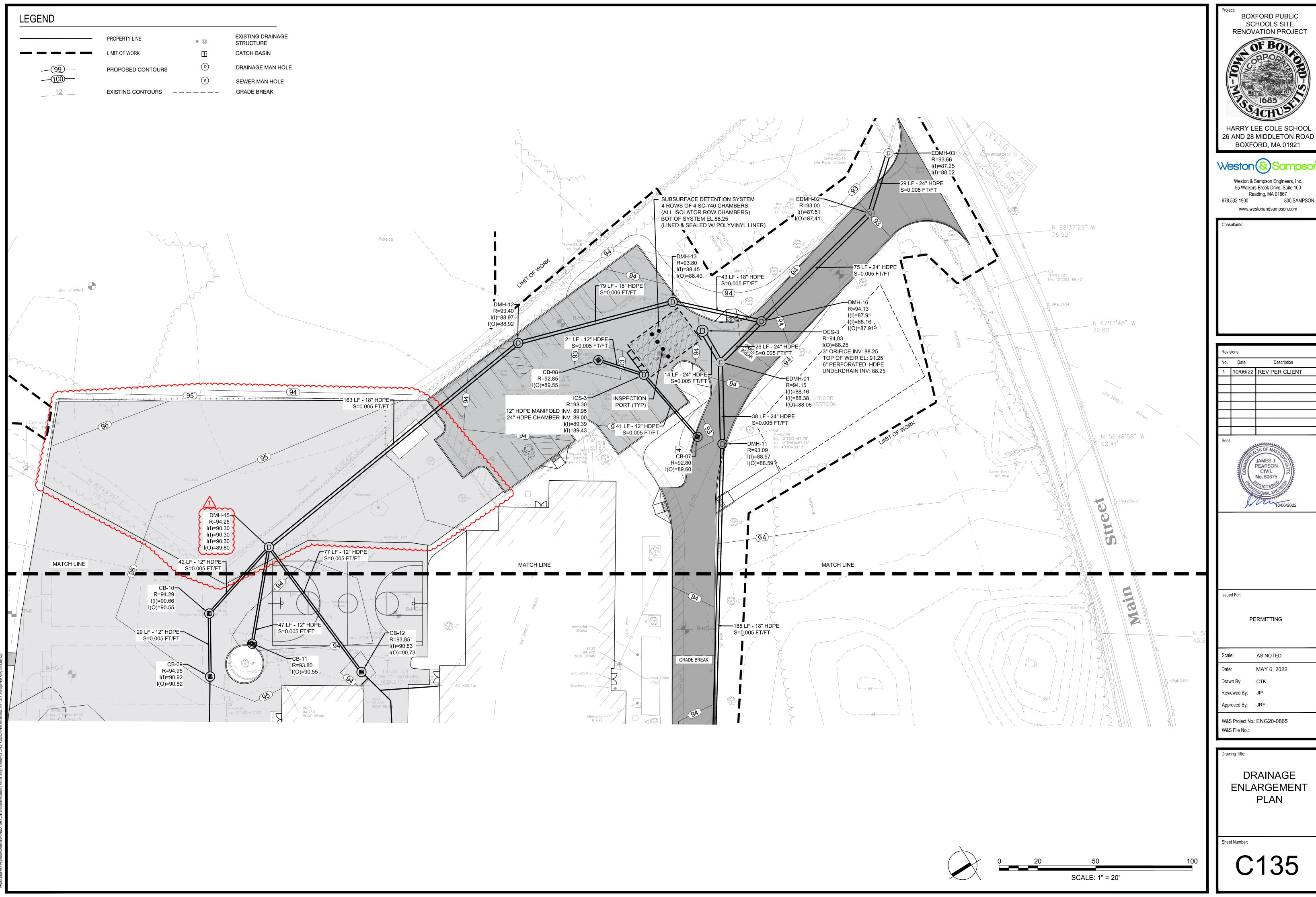
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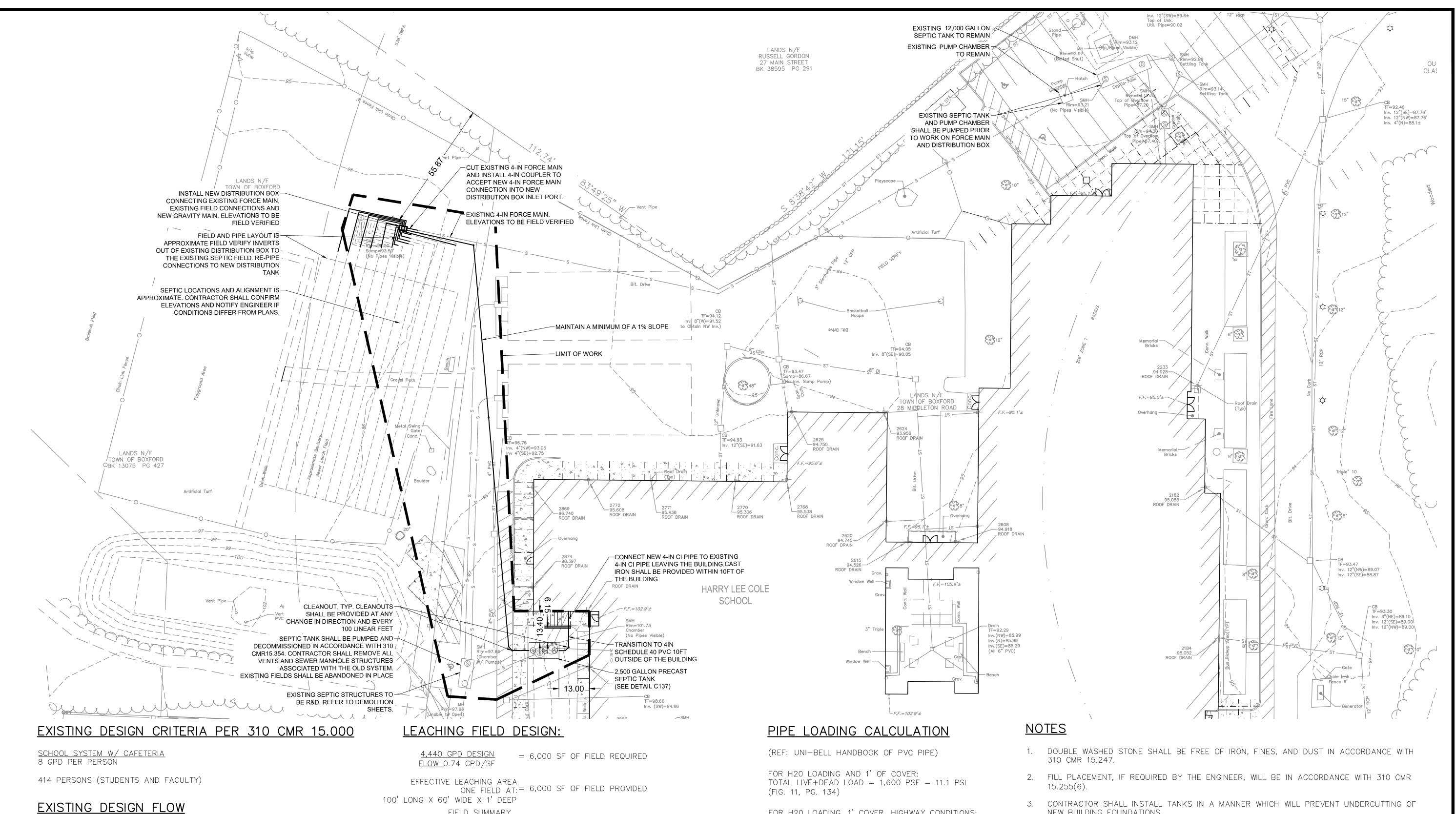
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DRAINAGE PLAN

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DESIGN FLOW

8 GPD/PERSON X 555 PERSONS = 4,440 GPD

EXISTING SYSTEM DESIGNED FOR 4,440 GPD

LOADING RATE 0.74 GALLONS/SF USED

EXISTING LEACHING AREA: 60FT X 100FT = 6,000SQFT

MAXIMUM TITLE V HYDRAULIC LOADING: 6,000SQF X 0.74GALLONS/SF = 4,440 GALLONS

CURRENT HYDRAULIC LOADING: 8 GPD/PERSON X 414 PERSONS = 3,312 GPD

SURPLUS OF 1,128 GPD

FIELD SUMMARY

	AREA (SF)	GPD
REQUIRED	6,000	3,312
PROVIDED	6,000	4,440

## EXISTING SEPTIC TANK DESIGN

DESIGN FLOW: 4,400 GPD

TANK PROVIDED = 12,000 GALLONS

TWO COMPARTMENT TANK (310 CMR 15.224) 1ST COMPARTMENT REQUIRES 48 HOUR DETENTION TIME VOLUME = 2 DAYS X DESIGN FLOW = 2 DAYS X 4,440 GPD = 8,880 GAL

2ND COMPARTMENT REQUIRES 24 HOUR DETENTION TIME VOLUME = 1 DAY X DESIGN FLOW = 1 DAY X 4,440 GPD = 4,440 GAL

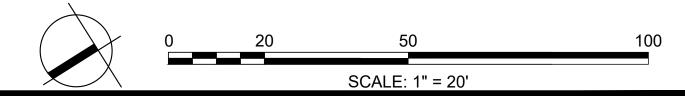
SECONDARY TANK VOLUME HAS CAPACITY TO HANDLE ADDITIONAL FLOW OF 1,320 GAL

FOR H20 LOADING, 1' COVER, HIGHWAY CONDITIONS: IMPACT FACTOR = 1.5(TABLE 21)

SAFETY FACTOR = 1.5PIPE STRESS = (11.1 PSI)(1.5)(1.5) = 25.0 PSI

ALLOWABLE PIPE STRESS: SDR 35 = 46 PSI > 25.0 PSI => OK(TABLE 24)

- NEW BUILDING FOUNDATIONS.
- 4. THE SEPTIC SYSTEM INSTALLER SHALL HAVE A CURRENT DISPOSAL WORKS INSTALLERS PERMIT WITH THE TOWN OF BOXFORD. INSTALLERS SHALL OBTAIN A DISPOSAL WORKS CONSTRUCTION PERMIT PRIOR TO CONSTRUCTION.
- 5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND BOARD OF HEALTH A MINIMUM OF 48 HOURS AHEAD OF EXCAVATION.
- 6. PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING SANITARY PIPE TO A LIMIT OF 10'-0" FROM THE BUILDING. GENERAL CONTRACTOR IS RESPONSIBLE FOR EXTENDING SERVICES FROM LIMIT OF THE PLUMBERS WORK TO THE SEPTIC TANK, DISTRIBUTION BOX, AND UP TO AND INCLUDING THE LEACHING TRENCHES AND VENTS ACCORDINGLY.
- 7. GENERAL CONTRACTOR SHALL EXCAVATE AND BACKFILL FOR ALL EXTERIOR PLUMBING WORK.
- 8. CONTRACTOR SHALL VERIFY ALL CONFLICTS WITH OTHER UTILITIES AND MAKE ADJUSTMENTS AS NEEDED AT NO ADDITIONAL COST TO THE OWNER.
- 9. AN ENGINEERED AS-BUILT SHALL BE PREPARED AND SUBMITTED TO THE BOXFORD BOARD OF
- 10. CONTRACTOR IS REQUIRED TO OBTAIN A TOWN SEPTIC INSTALLERS LICENSE TO WORK ON A SEPTIC SYSTEM WITHIN THE TOWN OF BOXFORD.
- 11. SEPTIC SYSTEM UPGRADE DESIGN IS PENDING A PASSING TITLE V EVALUATION.

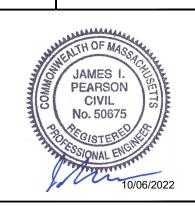


**BOXFORD PUBLIC** SCHOOLS SITE RENOVATION PROJECT HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD

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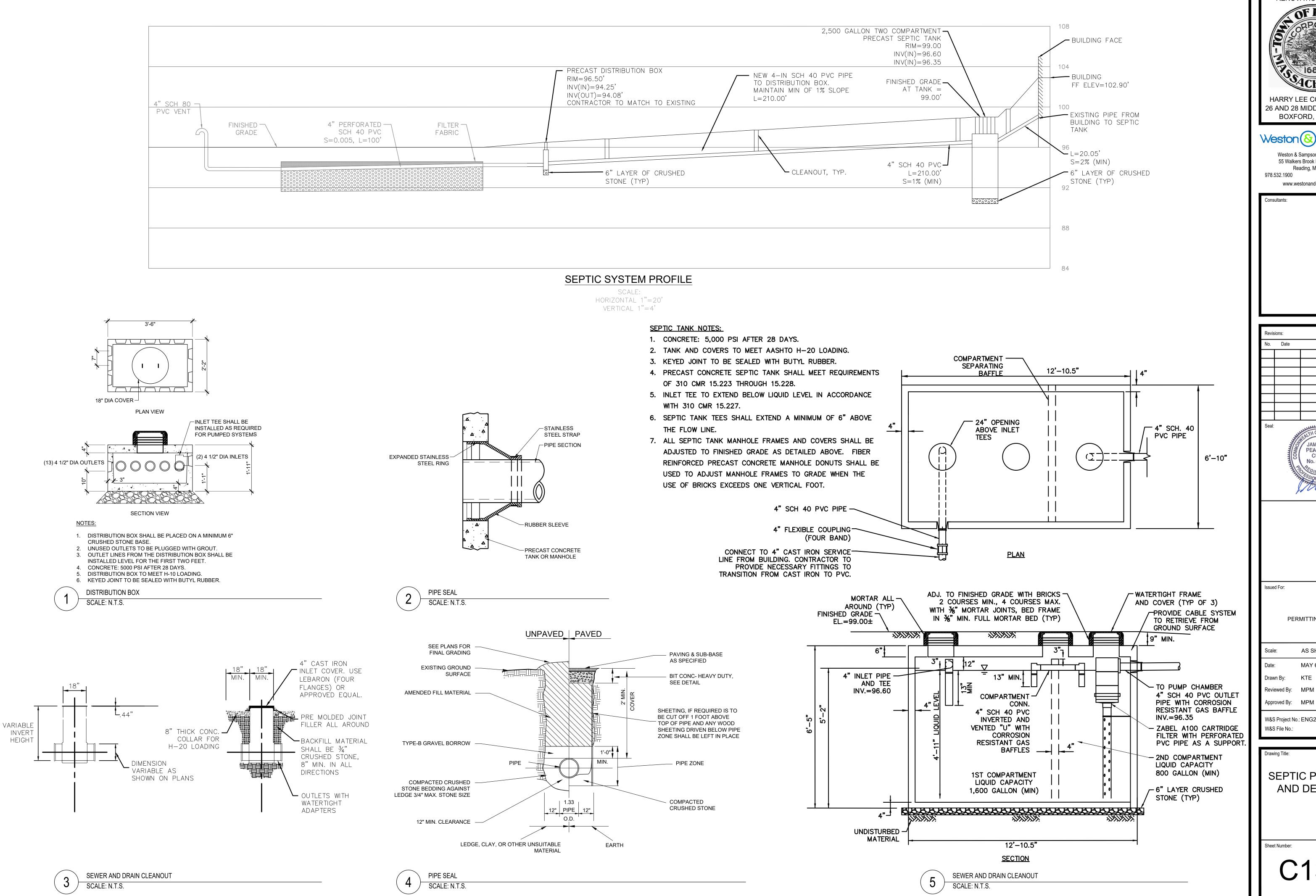
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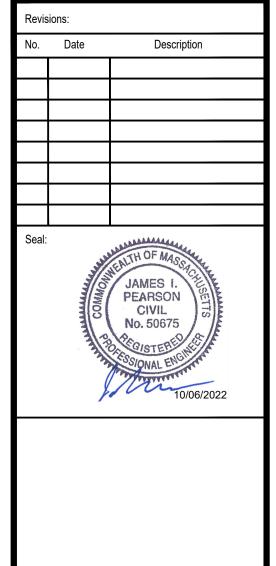
SEPTIC PLAN AND NOTES



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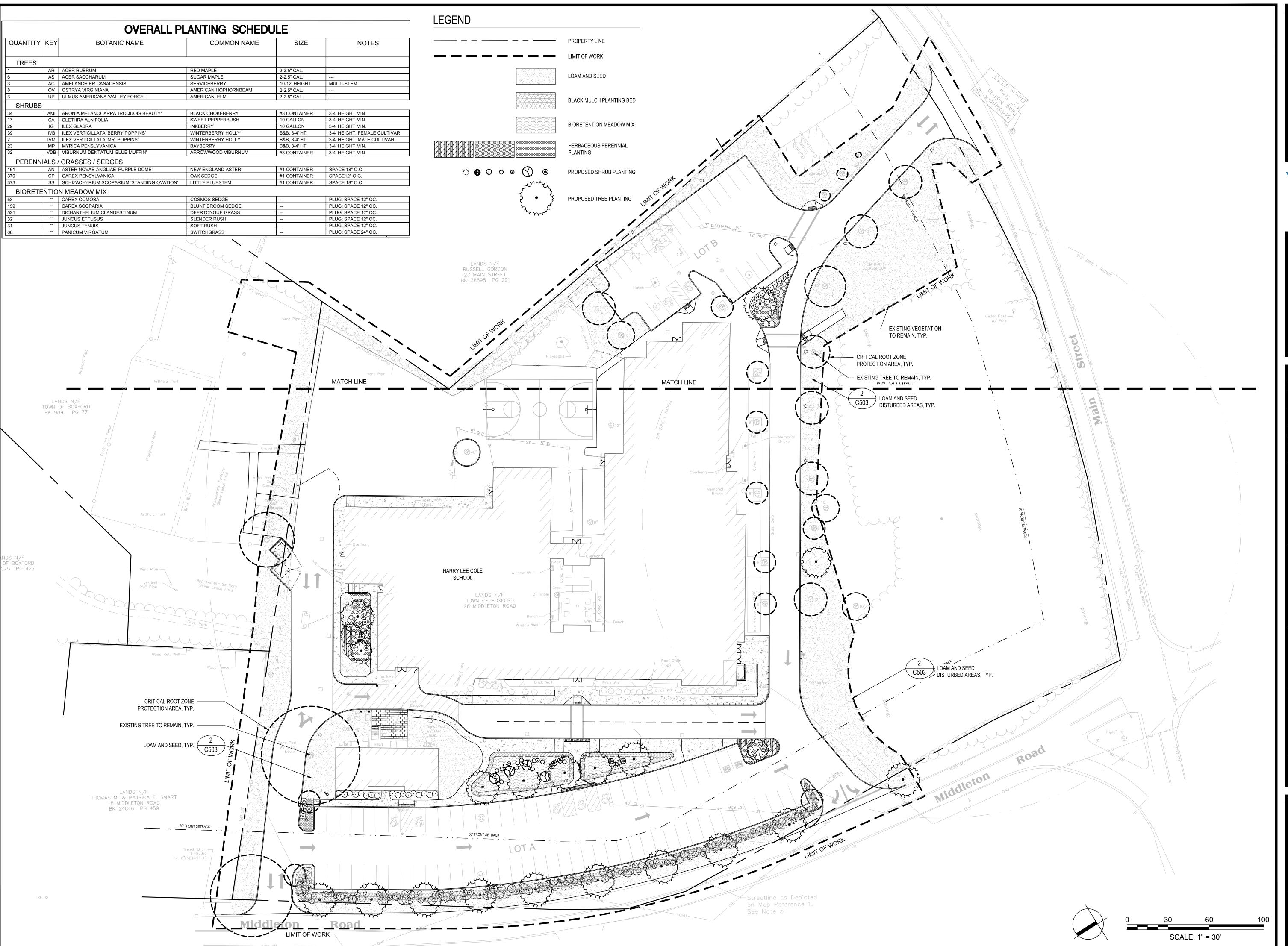


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Drawing Title: SEPTIC PROFILE AND DETAILS



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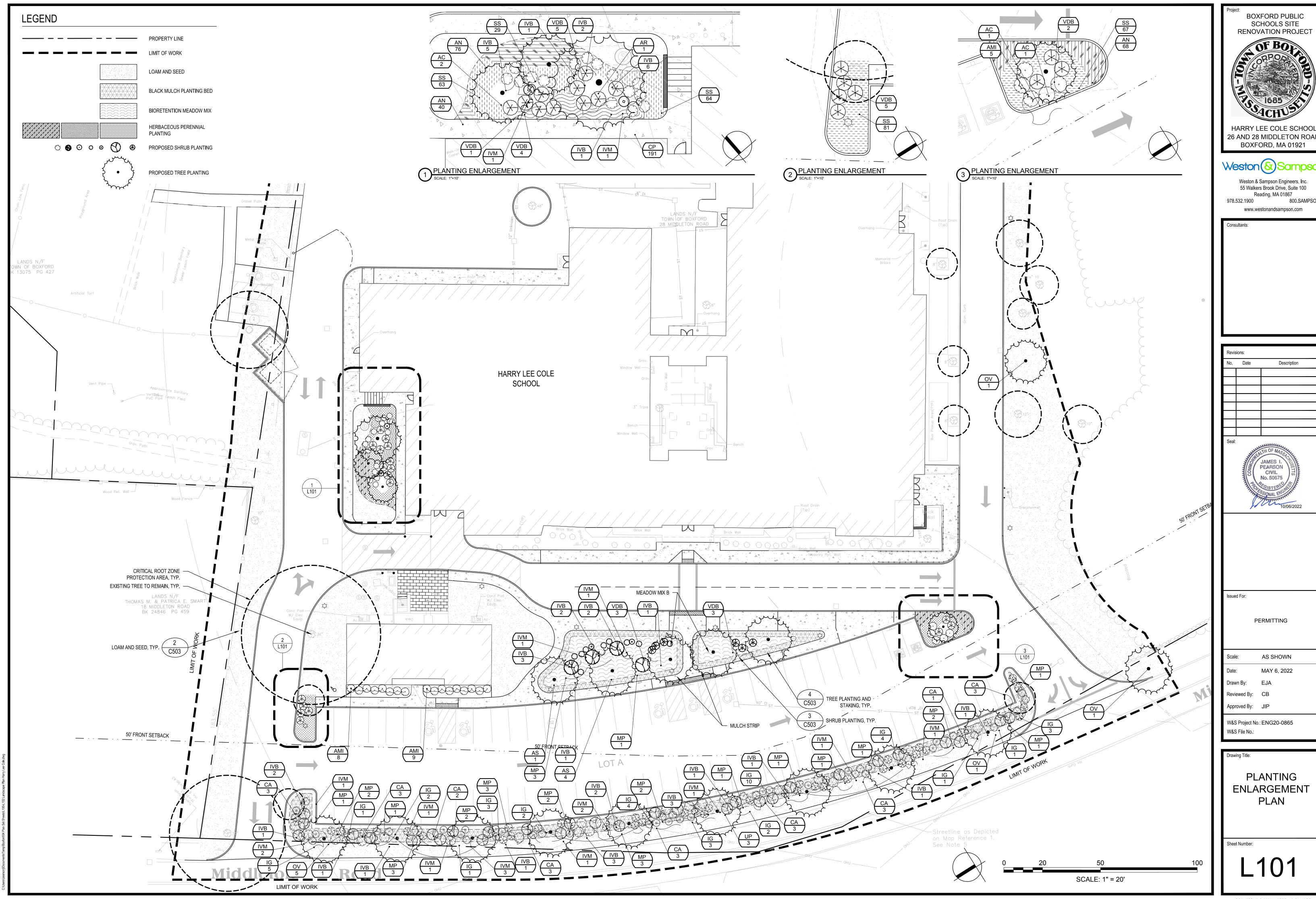
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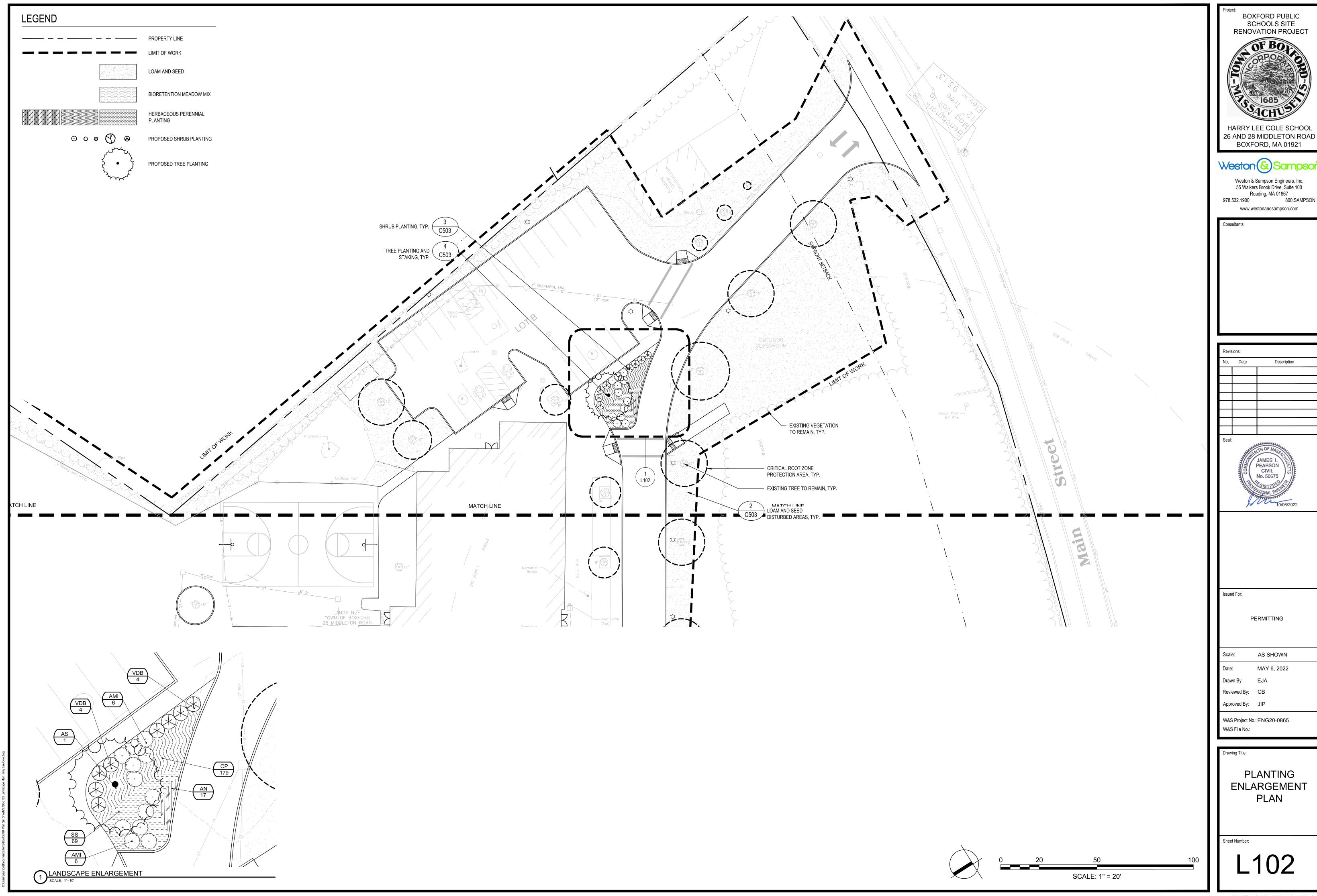
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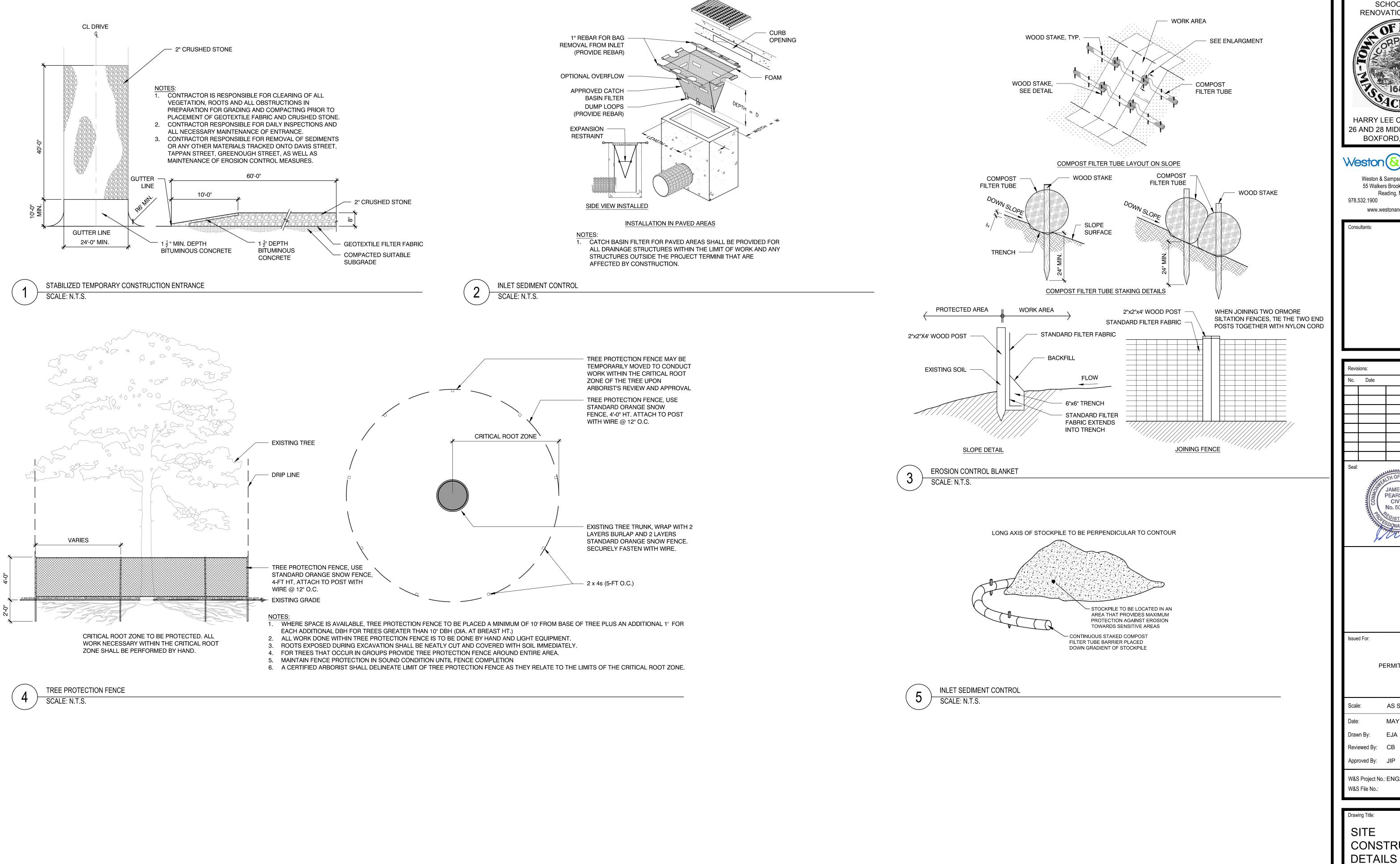
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HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD





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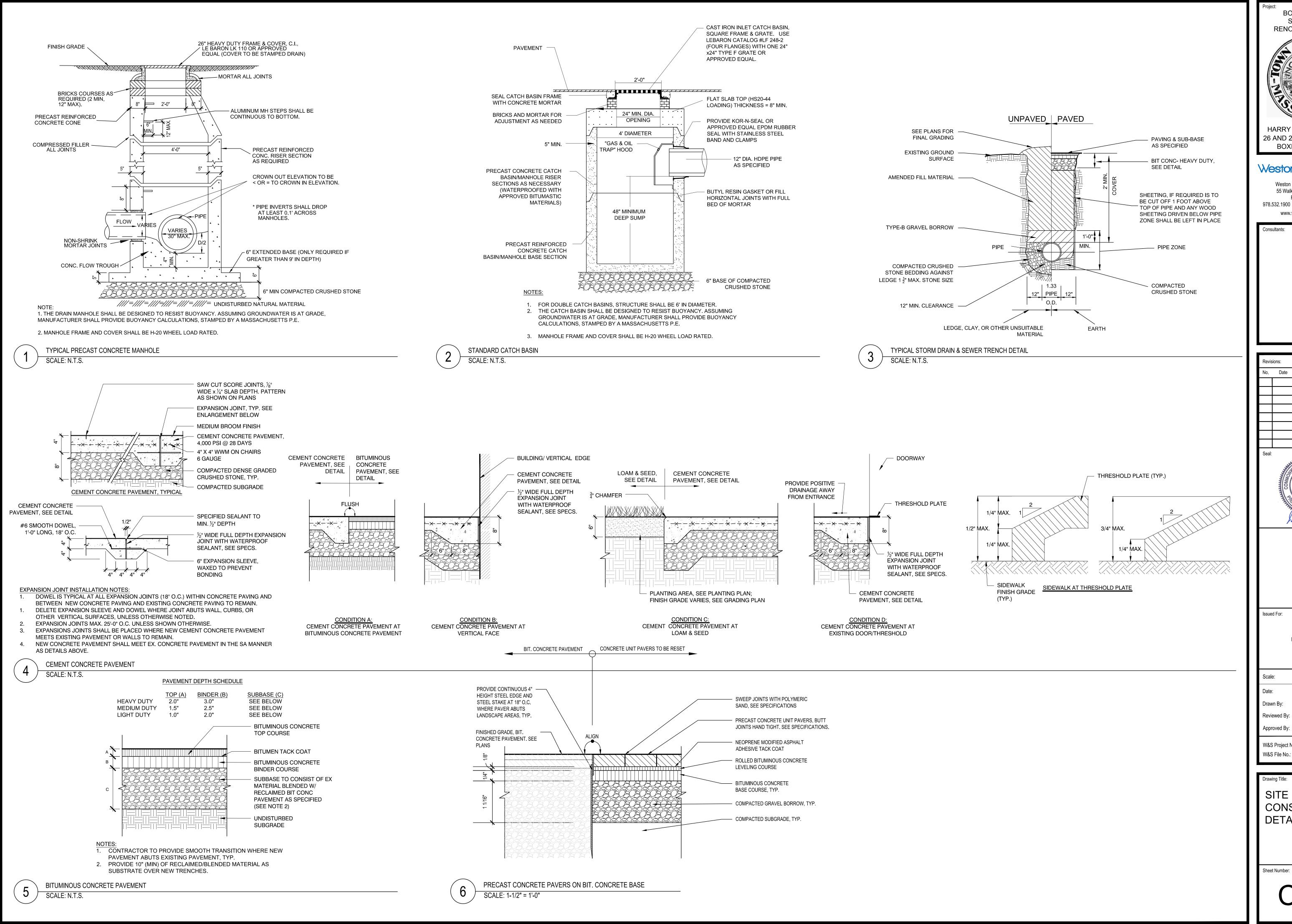
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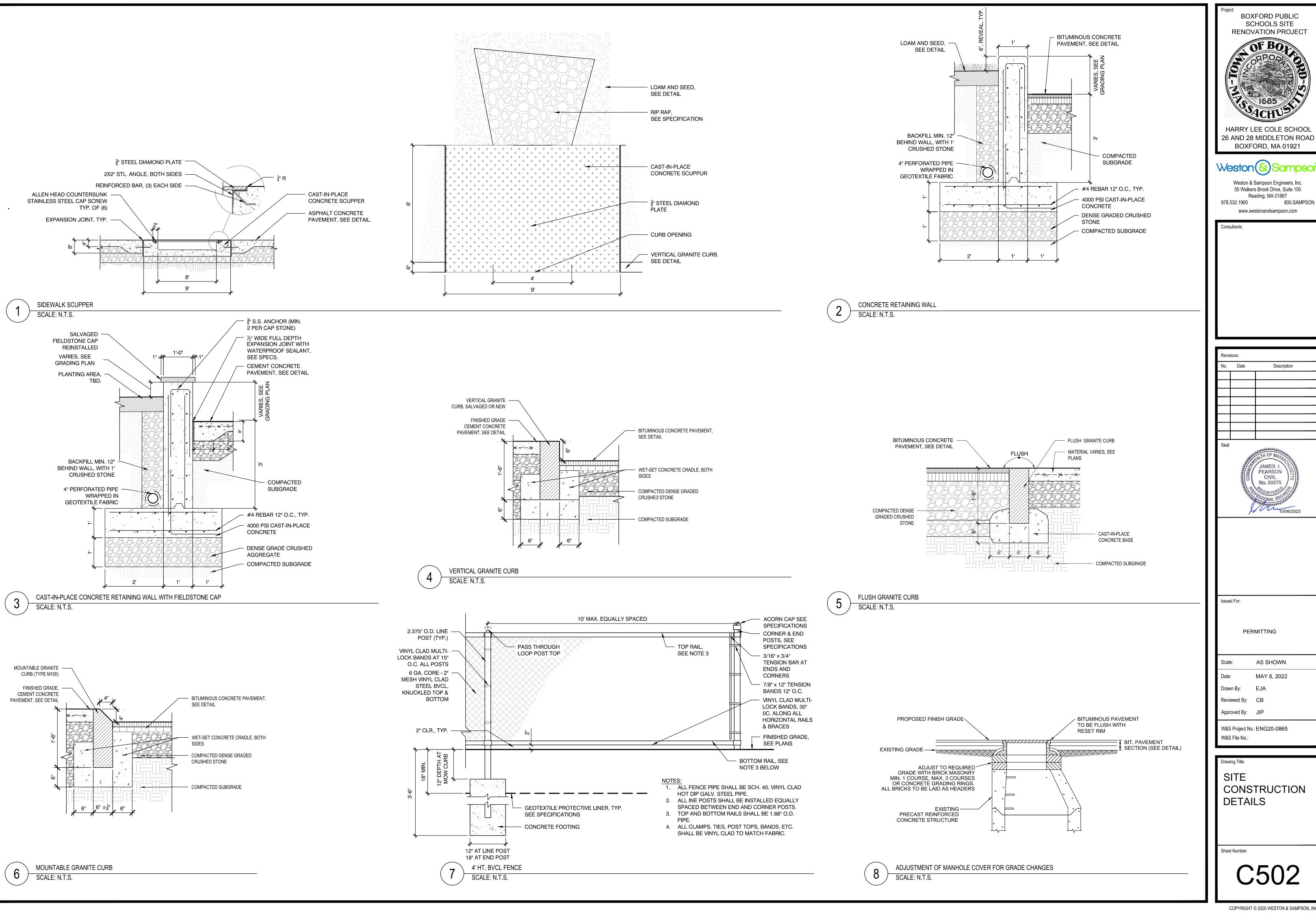
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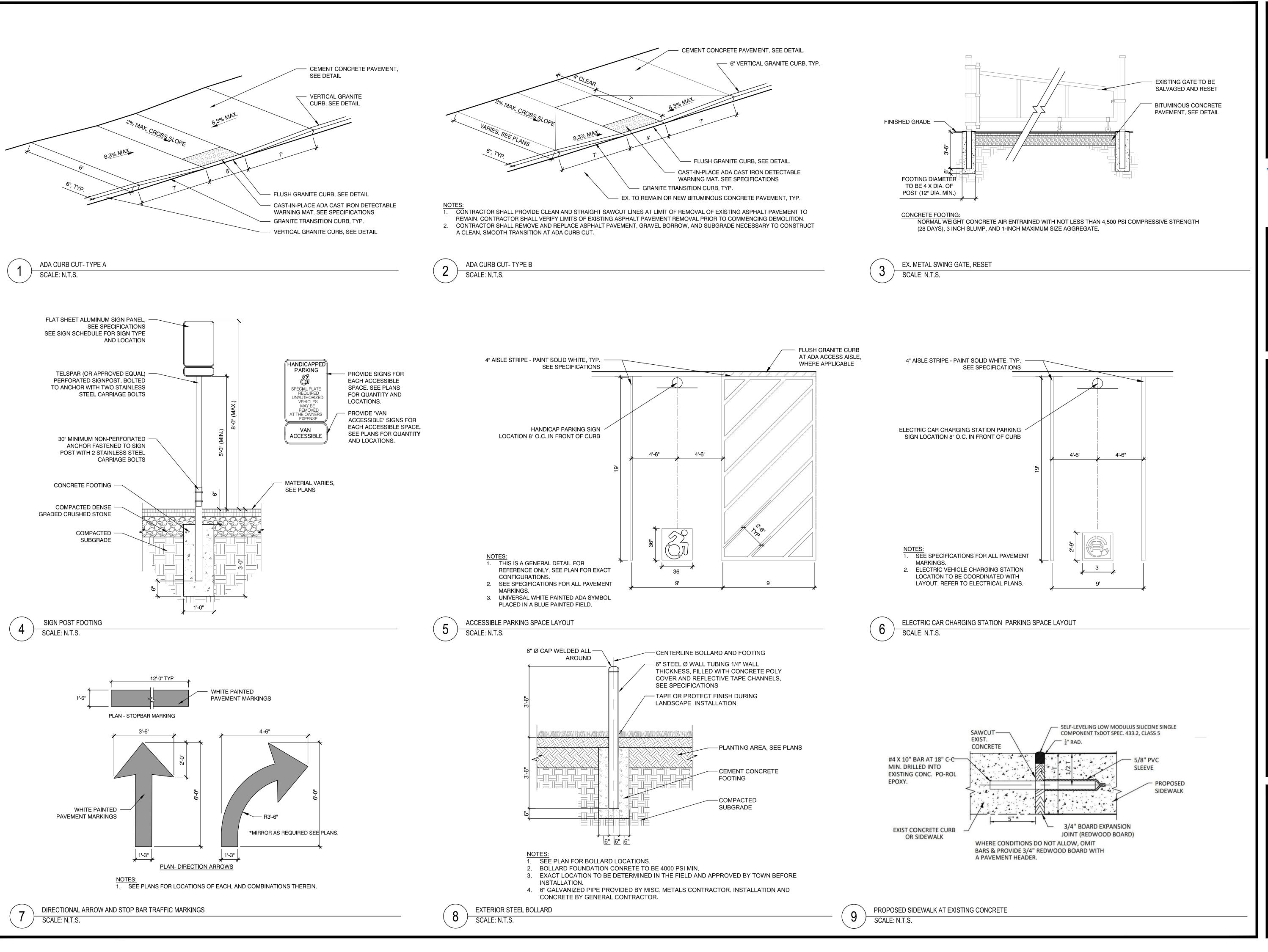
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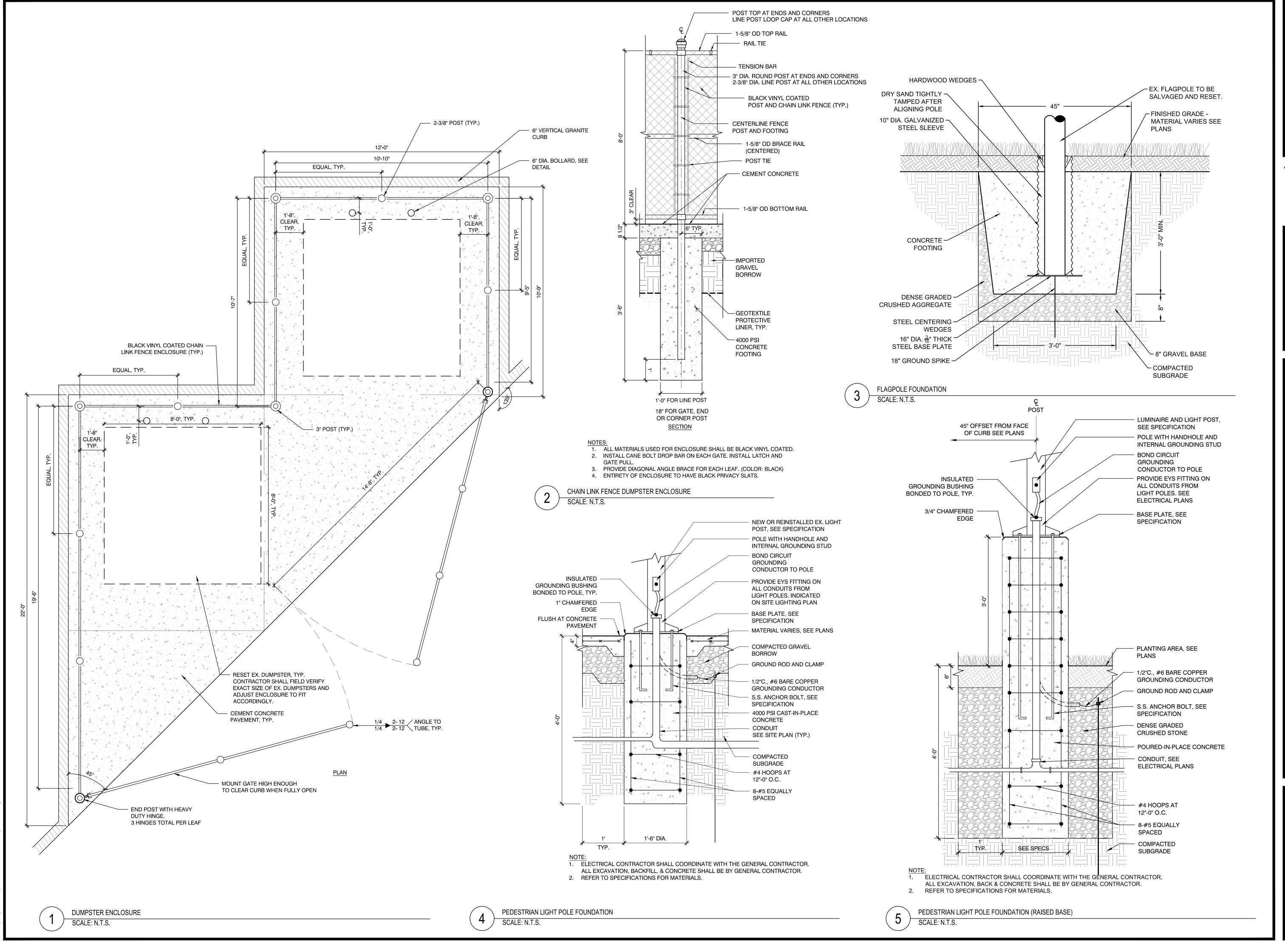
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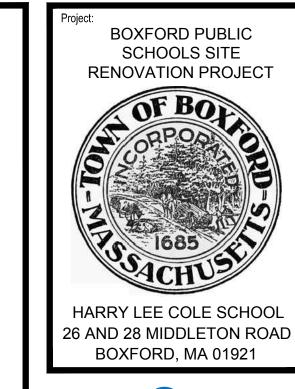
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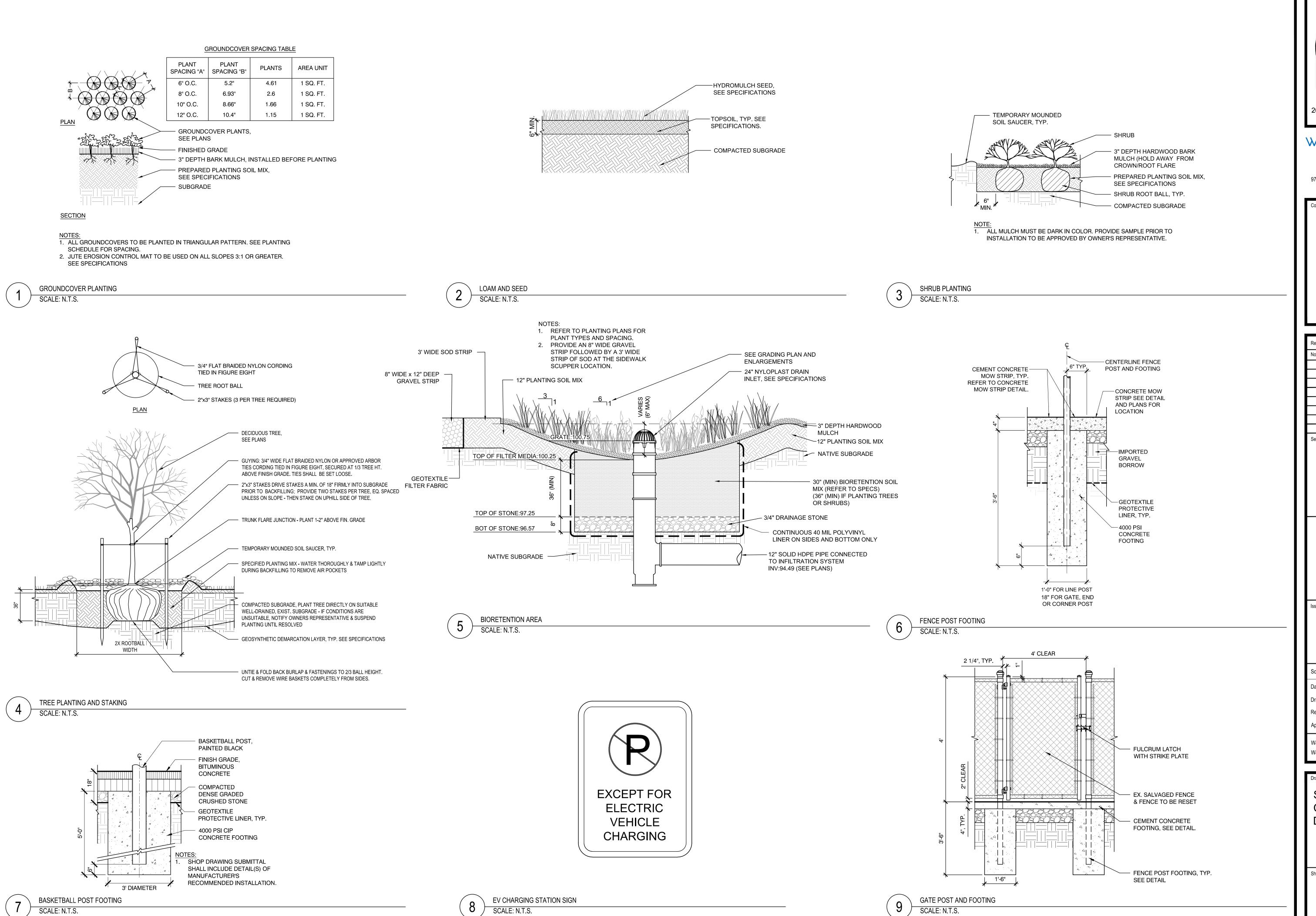
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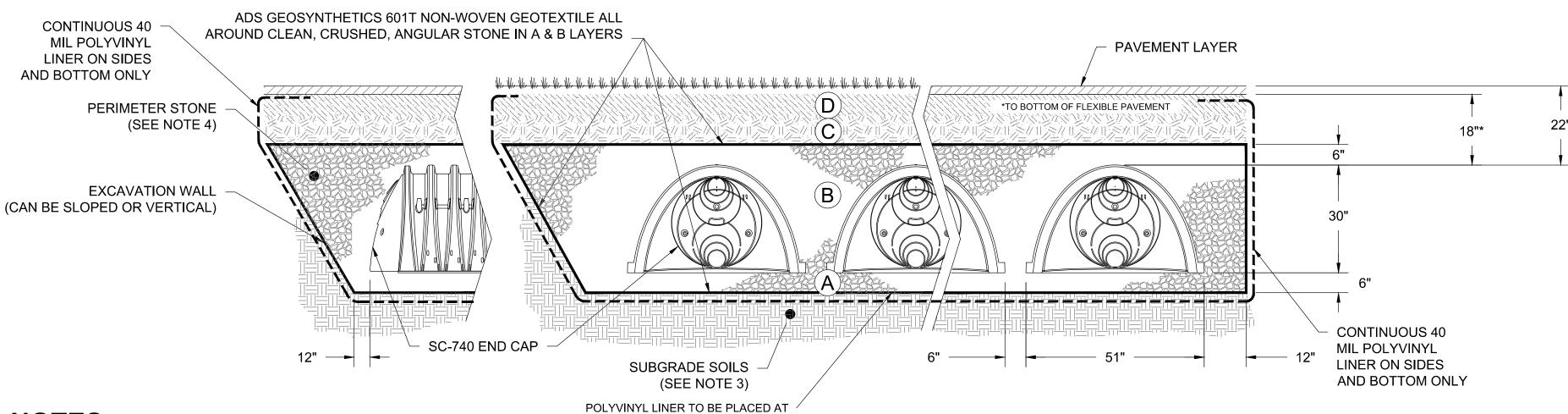
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## ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145 <sup>1</sup> A-1, A-2-4, A-3  OR  AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
А	<b>FOUNDATION STONE</b> : FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

#### PLEASE NOTE:

- 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE"
- 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- . ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

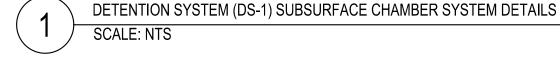


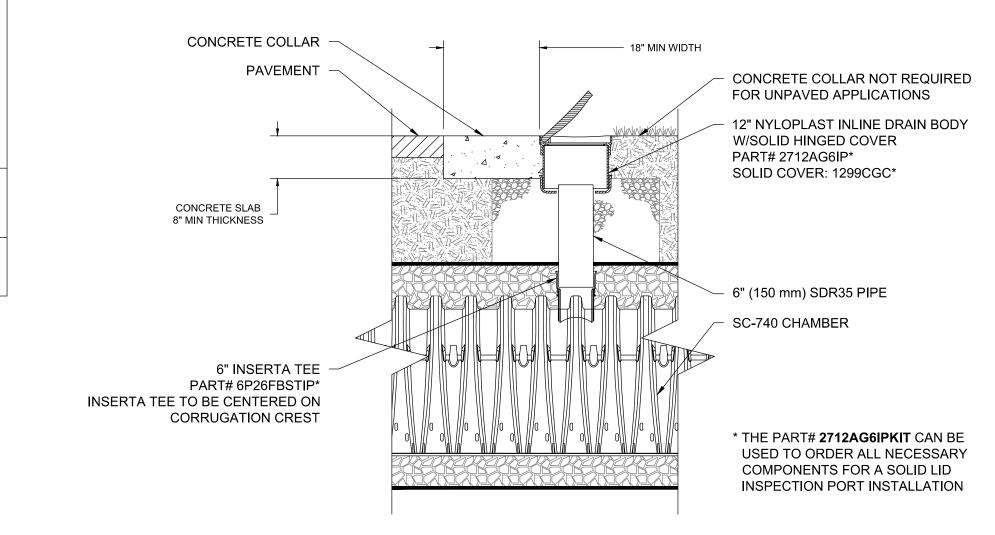
## **NOTES:**

. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".

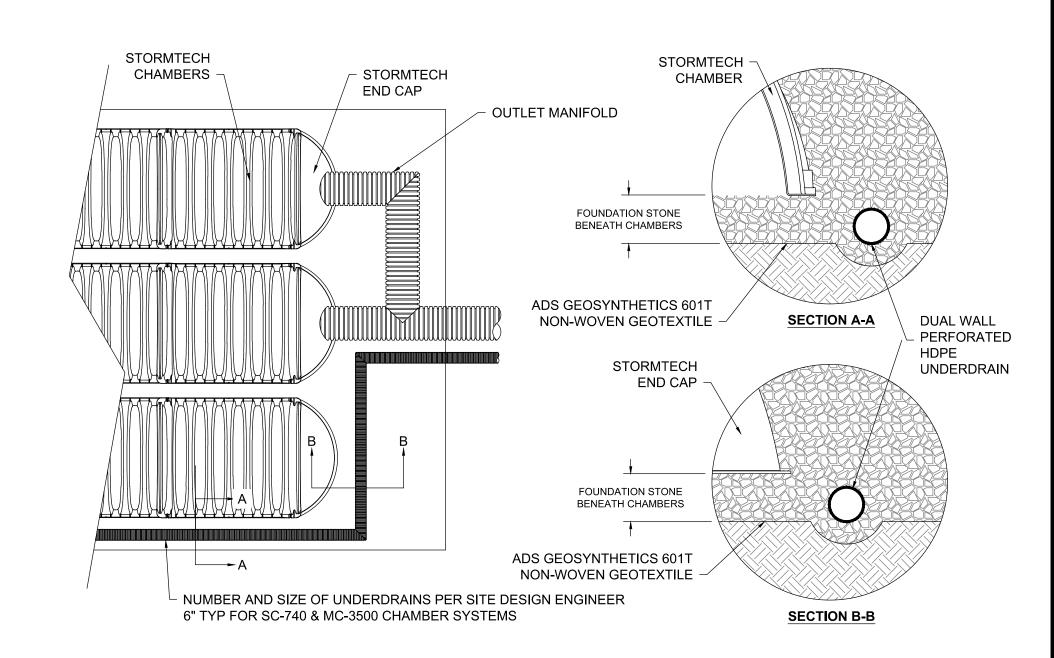
BOTTOM AND AROUND SIDES OF SYSTEM

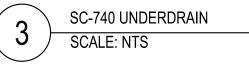
- 2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- 6. DETENTION SYSTEM IS TO BE SEALED AND LINED WITH A POLYVINYL LINER ALONG THE SIDES AND THE BOTTOM OF THE SYSTEM.

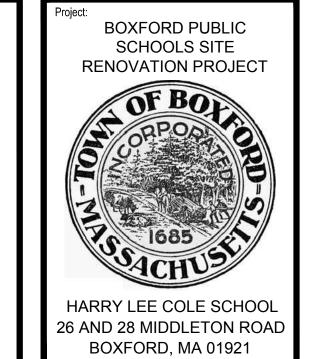




STORMWATER CHAMBER INSPECTION PORT





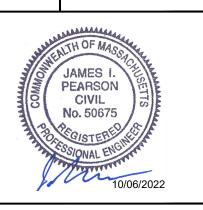


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W&S Project No.: ENG20-0865 W&S File No.:

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CONSTRUCTION **DETAILS** 

## ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

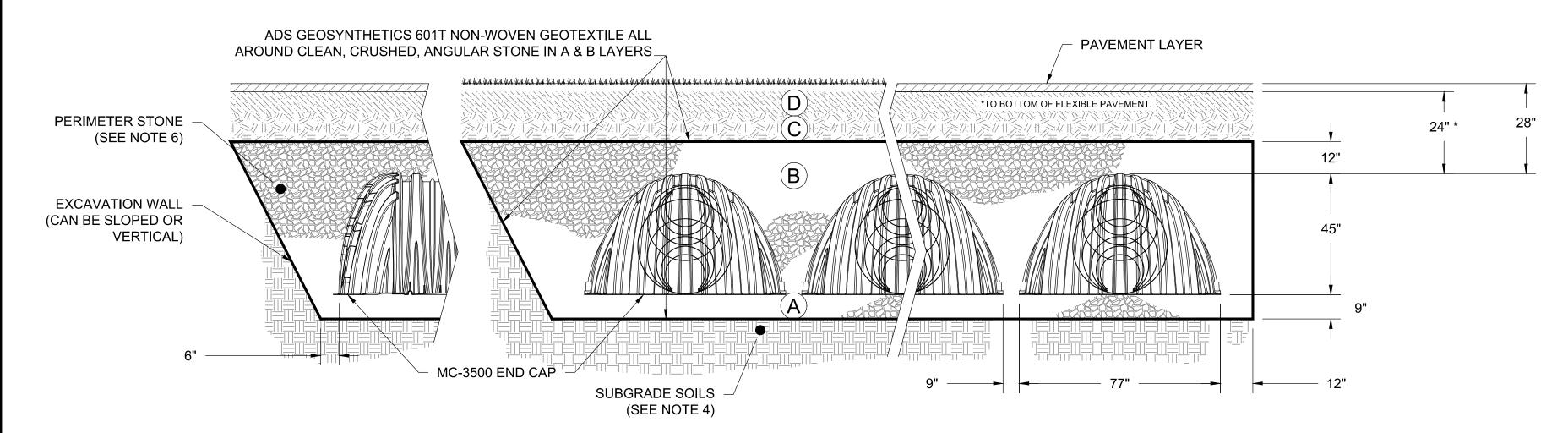
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
С	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE.  MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	OR	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
В	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	NO COMPACTION REQUIRED.
А	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43 <sup>1</sup> 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

#### PLEASE NOTE:

1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".

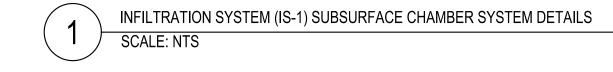
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.

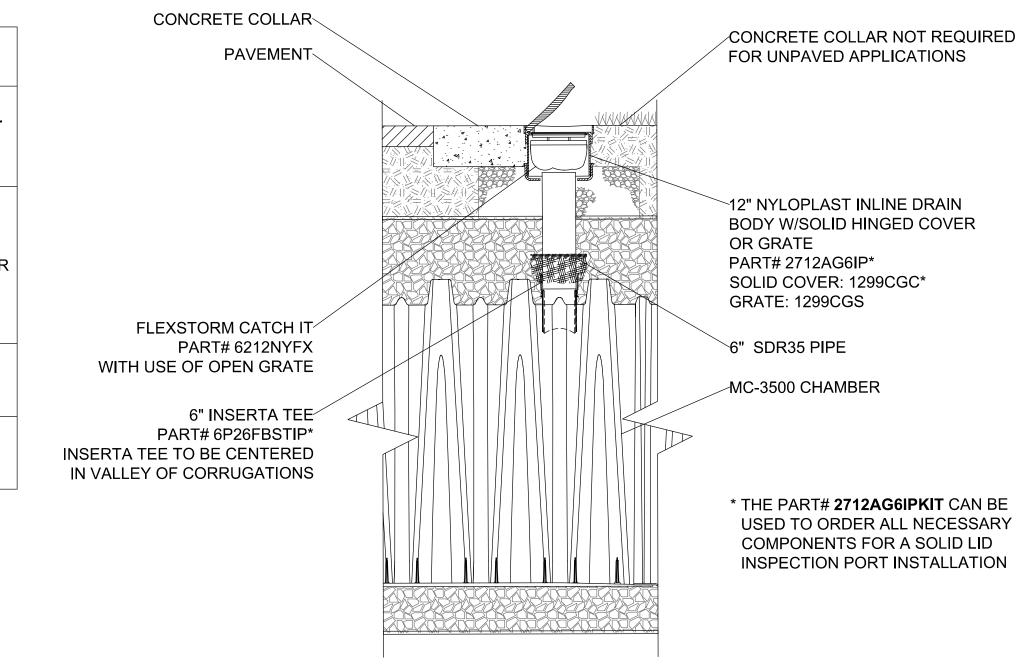
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.

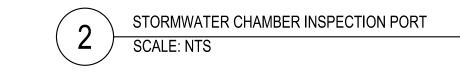


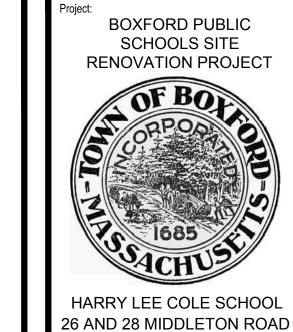
## NOTES:

- 1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- 3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- 4. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 5. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- 6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.









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Consultants:

Revisions:

No. Date Description

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No. 50675

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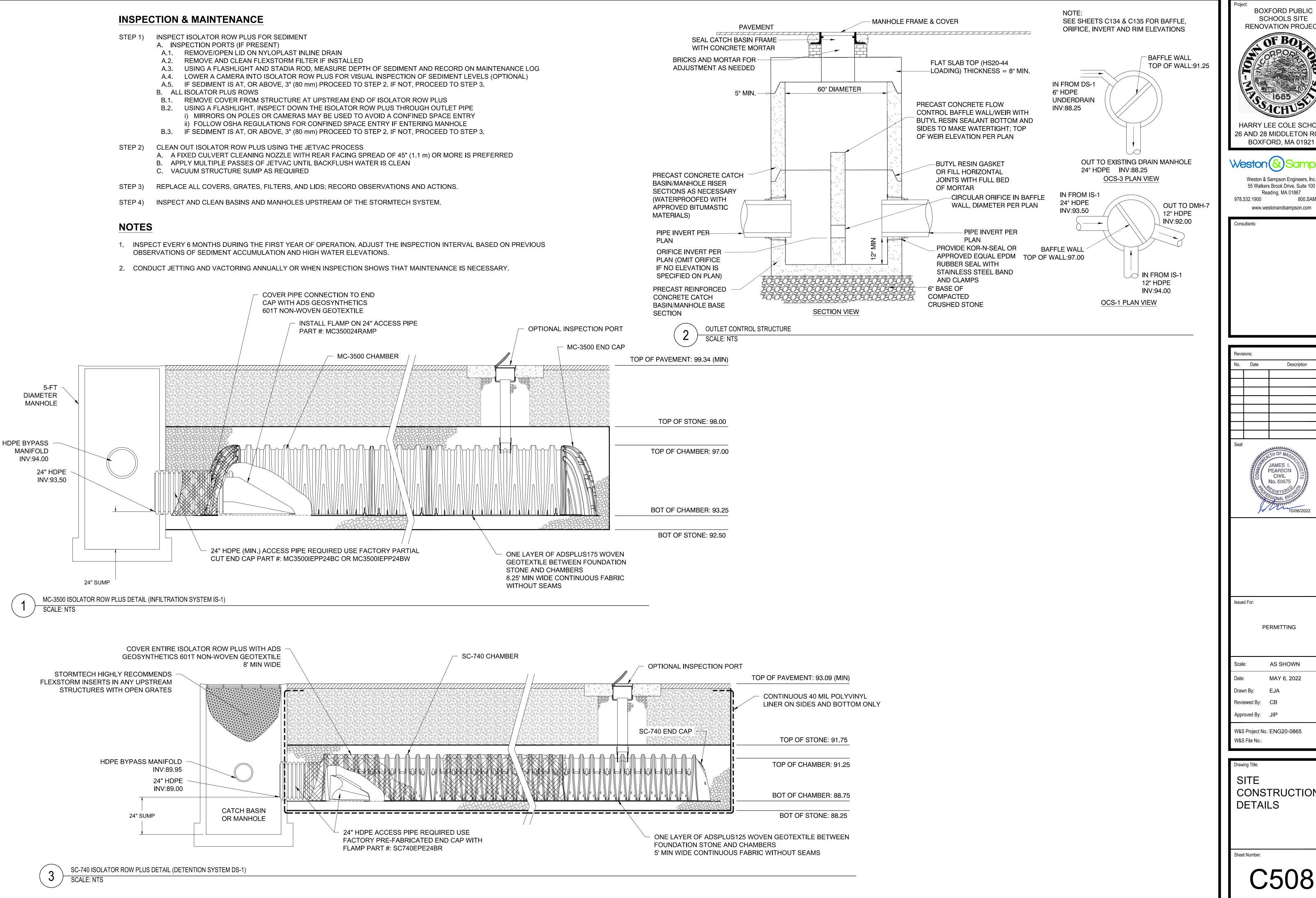
Drawn By: EJA
Reviewed By: CB
Approved By: JIP

W&S Project No.: ENG20-0865 W&S File No.:

SITE CONSTRUCTION

01 111 1

**DETAILS** 



**RENOVATION PROJECT** HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD BOXFORD, MA 01921

BOXFORD PUBLIC

SCHOOLS SITE

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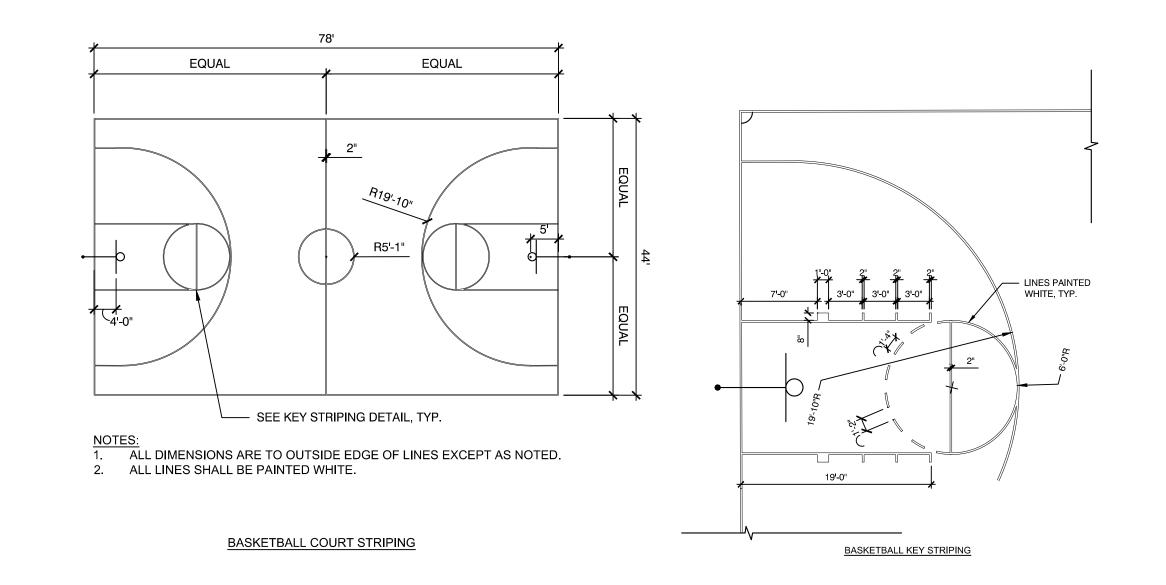
Consultants:

Description JAMES I No. 50675 Issued For: PERMITTING AS SHOWN MAY 6, 2022 Drawn By:

> Drawing Title: SITE CONSTRUCTION **DETAILS**

Sheet Number:

MUTCD IDENTIFI-				PANEL S	SIZE		N	UMERALS	& LETTERS	6	COLOR	NUMBER	TOTAL	POST SIZE AND
CATION NUMBER	TEXT	WIDTH	HEIGHT	CORNER RADII	BORDER WIDTH	MARGIN WIDTH	NUM. IN.	UPPER CASE	LOWER CASE	SERIES	COMB.	OF SIGNS REQUIRED	AREA SQ. FT.	NUMBER REQUIRED
R1-1	STOP	30"	30"	Å	Å						WHITE ON RED	4	12.50	P5-1 1
R5-1	DO NOT ENTER	36"	36"								WHITE ON RED	5	18.00	P5-1 2
R6-1	ONE WAY	36"	12"			 SEE MUTCD, HIGHWAY SI 					BLACK ON WHITE	9	5.00	P5-1 2
R7-8	RESERVED	12"	18"								WHITE ON BLUE	5	4.50	P5-1 1
R7-8P	RESERVED PARKING  VAN ACCESSIBLE	12"	18"		▼		•				WHITE ON BLUE	4	4.50	P5-1 2



- EXISTING RETAINING WALL

PERMANENT TRAFFIC SIGN SUMMARY

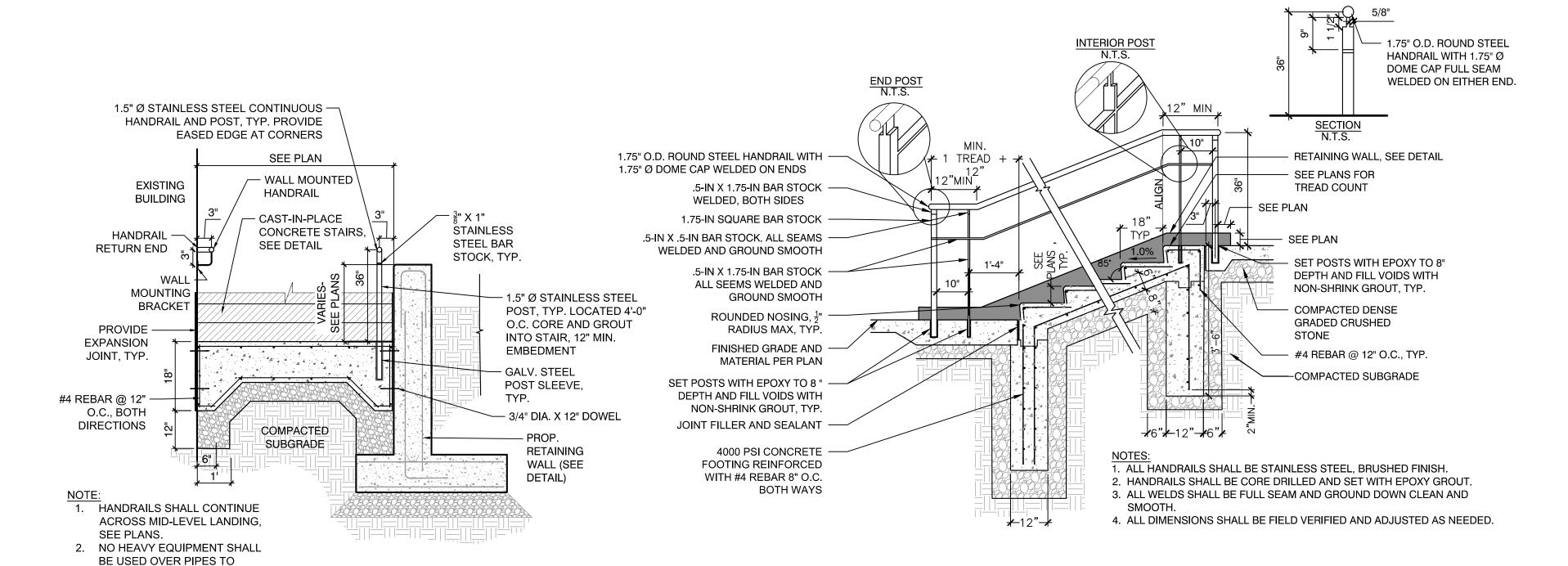
SCALE: N.T.S.

REMAIN IN THIS AREA.

CONCRETE STEP DETAIL

SCALE: N.T.S.

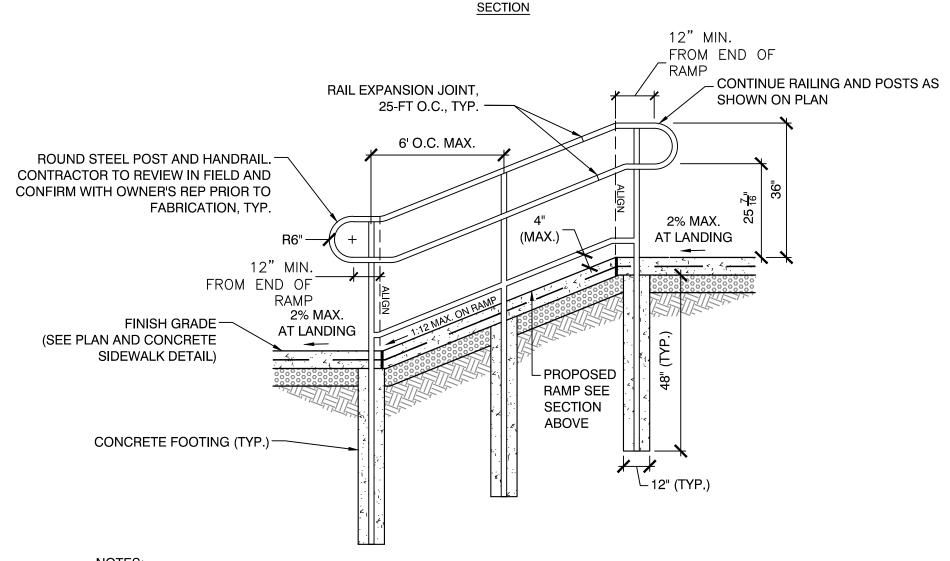
BASKETBALL COURT LAYOUT SCALE: N.T.S.



- STEEL POST CAP TO MATCH POSTS; TOP SHALL ALIGN WITH TOP HANDRAIL — 2" O.D. STEEL POST 1 1/2" O.D. STEEL PIPE (TYP.) 2" O.D. STEEL PIPE (TYP.) 2% MAX.

> 1. VERTICAL POSTS SHALL BE SET @ 6' MAXIMUM, EVENLY SPACED ALONG THE HORIZONTAL RAIL, UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.

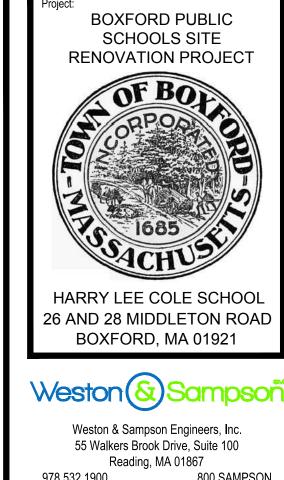
2. CONTRACTOR SHALL SUBMIT LARGE SCALE SHOP DRAWINGS OF HANDRAILS AND ALL NECESSARY HARDWARE PER



1. ALL HANDRAILS SHALL BE STAINLESS STEEL, BRUSHED FINISH. 2. ALL WELDS SHALL BE GROUND DOWN CLEAN AND SMOOTH.

3. ALL DIMENSIONS SHALL BE FIELD VERIFIED AND ADJUSTED AS NEEDED.

RAMP AND HANDRAIL SCALE: N.T.S.



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Reviewed By: CB Approved By: JIP

W&S Project No.: ENG20-0865 W&S File No.:

Drawing Title: SITE CONSTRUCTION **DETAILS** 

Sheet Number:

## RECEPTACLE ABBREVIATIONS

ODOLIND EALS T OIDOLIST INTERLIBER

GFI	PERSONAL PROTECTION
WP	WEATHERPROOF RECEPTACLE WITH COVERPLATE LISTED FOR WET LOCATION WITH AN ATTACHMENT PLUG INSERTED.

	RACEWAY AND WIRING
1,3 LP1B	HOMERUN TO PANELBOARD, NUMBER OF TICKS INDICATES NUMBER OF #12 AWG CONDUCTORS CONTAINED IN RACEWAY. TWO (2) #12 AWG SHALL NOT BE INDICATED BY TICKS, NUMERALS 1 AND 3 INDICATE CIRCUITS IN PANELBOARD. RACEWAYS LARGER THAN 1/2" AND CONDUCTORS LARGER THAN #12 AWG SHALL BE INDICATED ON THE DRAWINGS. PROVIDE AN INSULATED GREEN GROUND WIRE IN ALL RACEWAYS MINIMUM SIZE TO BE #12AWG.
	RACEWAY RUN BELOW GRADE
<u>—</u> он—	CONDUIT/WIRE RUN OVERHEAD
_	LIGHTING FIXTURES
Ŷ	PARKING LOT LIGHTING FIXTURE
<b>⊢</b> ⊙	WALL MOUNTED FIXTURE
	MISCELLANEOUS POWER
$\square$ $\frac{30A}{20A}$	FUSIBLE SAFETY SWITCH - RATING AND TYPE AS NOTED ON THE DRAWING. (30 AMP, 20 AMP FUSE, 3 POLE)
	PANELBOARD-SURFACE MOUNTED
S <sub>MS</sub>	THERMAL MOTOR SWITCH
S	SINGLE POLE TOGGLE SWITCH
$\bigcirc$	MOTOR, NUMBER INDICATES HORSE POWER
Ф	DUPLEX CONVENIENCE OUTLET RATED 20A, 125V, U-SLOT GROUNDED TYPE MOUNTED 48" ABOVE FINISHED FLOOR TO CENTER LINE WITHIN CONCRETE CHAMBER. ALL OTHER MOUNTING HEIGHTS SHALL BE AS NOTED ADJACENT TO THE SYMBOL. REFER TO RECEPTACLE ABBREVIATIONS FOR SPECIAL PURPOSE RECEPTACLES.
J	JUNCTION BOX WITH BLANK COVERPLATE, SIZE AS REQUIRED BY N.E.C.
LH	LIGHTING POWER HANDHOLE (COVER SHALL BE LABELED "LIGHTING")
PH	POWER HANDHOLE (COVER SHALL BE LABELED "POWER")
TVSS	SURGE SUPPRESSION UNIT

ELECTRICAL LEGEND

## **DEMOLITION NOTES**

- 1. THE ELECTRICAL CONTRACTOR WILL WORK IN CONJUNCTION WITH THE GENERAL CONTRACTOR TO DEMOLISH THE EXISTING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR IS TO DEACTIVATE, DISCONNECT AND REMOVE THOSE SYSTEMS WHICH WILL BE DEMOLISHED. THE ELECTRICAL CONTRACTOR WILL REMOVE AND DISPOSE OF ALL ELECTRICAL SYSTEM MATERIALS INCLUDING DEVICES, FIXTURES, RACEWAYS, CABLE, MOTOR CONTROLS AND APPURTENANCES. SYSTEMS REQUIRING TOTAL AND/OR PARTIAL DEMOLITION SHALL CONSIST OF BUT NOT BE LIMITED TO THE FOLLOWING:
- A. NORMAL AND EMERGENCY POWER BRANCH CIRCUIT SYSTEM
- B. NORMAL LIGHTING SYSTEM
- C. COMMUNICATIONS SYSTEM
- 2. EXISTING SYSTEMS THAT ARE TO REMAIN AND BE PROTECTED DURING DEMOLITION/CONSTRUCTION INCLUDE:
- A. POWER DISTRIBUTION SYSTEM
- B. EXTERIOR LIGHTING SYSTEM
- C. HVAC SYSTEM AND POWER WIRING
- 3. SYSTEMS WHICH PASS THROUGH THE AREA BEING DEMOLISHED BUT CONTINUE TO AREAS NOT WITHIN THE DEMOLITION SCOPE ARE TO REMAIN. THE ELECTRICAL CONTRACTOR IS TO IDENTIFY (SPRAY PAINT OR EQUIVALENT) AND PROTECT THOSE SYSTEMS WHICH ARE ACTIVE AND ARE TO REMAIN.
- 4. ALL EXISTING CAST IN PLACE RECEPTACLE, PULL, JUNCTION AND OTHER DEVICE BOXES WHICH CANNOT BE REMOVED OR EFFECTIVELY COVERED ARE TO BE PROVIDED WITH FINISHED PLATES AS APPROVED BY THE ARCHITECT.
- 5. ALL CONDUIT AND WIRE WHICH IS NO LONGER IN USE IS TO BE REMOVED. CONDUIT AND WIRE IS TO BE REMOVED BACK TO ITS SOURCE OR NEAREST DEVICE WHICH IS SCHEDULED TO REMAIN. COORDINATE THE REMOVAL OF ALL COMMUNICATIONS CONDUIT AND WIRE WITH THE COMMUNICATIONS CONTRACTOR. FIRE ALARM CABLING IS TO BE RETURNED TO THE NEAREST DEVICE SCHEDULED TO REMAIN, CONTROL PANEL, TERMINAL CABINET, ETC. UNDER NO CIRCUMSTANCES ARE ABANDONED CONDUIT AND WIRE OR SYSTEM COMPONENTS TO REMAIN.
- 6. MAKE ANY NECESSARY RE-CIRCUITING, EXTENSIONS OF EXISTING CIRCUITS AND RELOCATIONS REQUIRED TO PROPERLY RE-ENERGIZE REMAINING EXISTING SERVICES OR EQUIPMENT THAT MAY BE INTERFERED WITH BY NEW CONSTRUCTION, REMOVALS OR RELOCATIONS. ALL SHUTDOWNS TO RELOCATE ACTIVE FEEDERS OR BRANCH CIRCUITS WILL BE PERFORMED ON OFF HOURS AS MUTUALLY AGREED TO WITH THE OWNER.
- 7. PRIOR TO REMOVAL OF EQUIPMENT, CONFIRM THAT FEEDER AND BRANCH CIRCUITS ARE NO LONGER ACTIVE. SHOULD IT BE DISCOVERED THE FEEDER OR BRANCH CIRCUITS ARE ACTIVE, NOTIFY THE ARCHITECT IMMEDIATELY FOR DIRECTION.
- 8. ELECTRICAL CONTRACTOR IS TO REMOVE ALL LAMPS, BALLASTS AND OTHER ELECTRICAL COMPONENTS CLASSIFIED AS HAZARDOUS MATERIALS. ELECTRICAL CONTRACTOR IS TO OBTAIN THE SERVICES OF A LICENSED HAZARDOUS MATERIALS CONTRACTOR TO DISPOSE OF THE MATERIALS. PROVIDE WRITTEN DOCUMENTATION TO THE OWNER'S REPRESENTATIVE FROM THE HAZARDOUS MATERIALS CONTRACTOR.
- 9. ELECTRICAL DEMOLITION ABBREVIATIONS:
- "EX" DENOTES EXISTING EQUIPMENT TO REMAIN
- "RL" DENOTES EXISTING EQUIPMENT TO BE DISCONNECTED AND RELOCATED. ALL EXISTING CONDUIT AND WIRE SHALL BE REMOVED BACK TO ITS SOURCE AND ALL DEVICES ASSOCIATED WITH THE EQUIPMENT SHALL BE REMOVED OR ALL CONDUIT AND WIRE SHALL BE INTERCEPTED AND EXTENDED AS REQUIRED. ALL NEW CONDUIT AND WIRE SHALL MATCH EXISTING IN STYLE AND SIZE. ALL EXISTING ELECTRICAL DEVICES ASSOCIATED WITH THE EXISTING EQUIPMENT SHALL BE REMOVED AND NEW DEVICES AS SHOWN SHALL BE PROVIDED.
- "NL" DENOTES NEW LOCATION OF RELOCATED EXISTING EQUIPMENT.
- "RE" DENOTES EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED ALL EXISTING CONDUIT AND WIRE SHALL BE REMOVED BACK TO ITS SOURCE AND ALL DEVICES ASSOCIATED WITH THE EQUIPMENT SHALL BE REMOVED.

- SHALL BE COORDINATED AND DETERMINED IN THE FIELD.
- 2. ALL STRAIGHT FEEDER, BRANCH CIRCUIT AND AUXILIARY SYSTEM CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 150 FEET. EXACT SIZES OF PULL BOXES AND LOCATIONS TO BE DETERMINED IN THE FIELD BY THE ELECTRICAL CONTRACTOR.
- 3. FURNISH ALL REQUIRED ACCESS PANELS AS REQUIRED TO SUIT FIELD CONDITIONS FOR THE PROPER OPERATION AND MAINTENANCE OF THE ELECTRICAL SYSTEM. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL BE TO SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ALL ACCESS PANELS PROVIDED BY THE ELECTRICAL CONTRACTOR SHALL MATCH EXACTLY THE ACCESS PANELS FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR. THE ACCESS PANELS WILL BE INSTALLED BY THE TRADE CONTRACTOR
- UNDER THE APPROPRIATE SECTION OF THE SPECIFICATIONS FOR THE SURFACE IN WHICH THE PANELS ARE LOCATED. 4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR AS APPLICABLE AS TO THE EXACT LOCATION 35. WALL PLATES SHALL BE PROVIDED FOR EACH SWITCH AND RECEPTACLE. PROVIDE WALL PLATES WITH STAINLESS STEEL FINISH FOR
- 5. SLEEVES ARE TO BE UTILIZED FOR PASSAGE OF CONDUITS THROUGH FLOORS OR WALLS. CONDUITS AND BOXES ARE TO BE SUPPORTED 36. TOGGLE SWITCHES SHALL BE OF THE SINGLE POLE A.C. QUIET TOGGLE TYPE FOR MOUNTING IN A SINGLE-GANG SPACING. TOGGLE BY THE USE OF PRESET FASTENERS INSTALLED IN FLOORS, WALLS OR COLUMNS. CONDUITS AND BOXES ARE TO BE INSTALLED

SHALL BE COORDINATED WITH THE RESPECTIVE CONTRACTORS BEFORE THE START OF CONSTRUCTION IN THE FIELD.

- CONCEALED IN MASONRY WALLS AND ABOVE HUNG CEILINGS. ALL SLEEVES ARE TO BE SEALED WITH APPROVED FIRE STOPPING 6. COMBINED HOMERUNS OF TWO (2) OR THREE (3) CIRCUITS MAY BE UTILIZED. HOWEVER, THE NEUTRAL CONDUCTOR IS TO BE INCREASED
- TO #10AWG. COMBINED HOMERUNS ARE TO BE LIMITED TO 20A, LIGHTING AND POWER CIRCUITS. 7. INSTALLATION OF BACK TO BACK DEVICES ARE TO BE AVOIDED. ALLOW ONE WALL FRAMING MEMBER BETWEEN EACH BACK TO BACK
- 8. WORK SHALL CONFORM TO THE MASSACHUSETTS ELECTRICAL CODE, MASSACHUSETTS BUILDING CODE, NFPA AND REQUIREMENTS OF 39. FUSES SHALL BE DUAL ELEMENT, TIME DELAY TYPE, AS MANUFACURED BY BUSSMAN, RELIANCE OR APPROVED EQUAL. LOCAL AUTHORITIES HAVING JURISDICTION.
- 9. THE WORD "CONTRACTOR" AS USED IN THE "ELECTRICAL WORK" SHALL MEAN THE ELECTRICAL SUBCONTRACTOR.
- 10. CONTRACTOR SHALL PAY FOR ALL PERMITS, INSURANCE AND TESTS, AND SHALL PROVIDE LABOR AND MATERIAL TO COMPLETE THE ELECTRICAL WORK SHOWN.
- 11. EXCEPT AS OTHERWISE NOTED, THE ELECTRICAL WORK SHALL INCLUDE DEMOLITION, PANELBOARDS, CIRCUIT BREAKERS, FEEDERS, WIRING, RACEWAYS, LIGHTING FIXTURES, DEVICES, SAFETY SWITCHES, TRANSFORMERS AND CONNECTION NECESSARY TO OPERATE MOTORS AND OTHER EQUIPMENT.
- 12. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY LIGHTING AND POWER AND THE GENERAL CONTRACTOR SHALL PAY ALL ENERGY CHARGES FOR TEMPORARY POWER AND LIGHTING.
- 13. DURING CONSTRUCTION, THE ELECTRICAL CONTRACTOR SHALL KEEP HIS PORTION OF THE WORK NEAT, CLEAN AND ORDERLY.
- 14. ALL SYSTEMS SHALL BE TESTED FOR SHORT CIRCUIT AND GROUNDS PRIOR TO ENERGIZING AND ANY DEFECTS SHALL BE CORRECTED.
- 15. ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL WORK SHALL BE INCLUDED AS PART OF THIS SECTION.
- 16. COMPLETE SHOP DRAWINGS SHALL BE SUBMITTED FOR ELECTRICAL EQUIPMENT. WHERE SPECIFIED ELECTRICAL EQUIPMENT IS SUBSTITUTED, THE ELECTRICAL CONTRACTOR SHALL SUBMIT COMPLETE SPECIFICATIONS ON THE SUBSTITUTE AS WELL AS THE ITEM ORIGINALLY SPECIFIED.
- 17. MATERIALS SHALL BE SPECIFICATION GRADE AND UL LISTED.
- 18. WHERE MATERIAL IS CALLED OUT IN THE LEGEND BY MANUFACTURER, TYPE OR CATALOG NUMBER, SUCH DESIGNATIONS ARE TO ESTABLISH STANDARDS OR DESIRED QUALITY. ACCEPTANCE OR REJECTIONS OF PROPOSED SUBSTITUTIONS SHALL BE SUBJECT TO THE 49.PROVIDE AS-BUILT "CADD" DRAWINGS AT THE COMPLETION OF THE PROJECT. APPROVAL OF THE OWNER.
- 19. WORK SHALL BE COORDINATED WITH THAT OF OTHER TRADES TO ELIMINATE INTERFERENCES.
- 20.ELECTRICAL WORK SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL COMPLETION.
- 21. WORK SHALL BE GROUNDED IN ACCORDANCE WITH CODE REQUIREMENTS. COMPLETE EQUIPMENT (INSULATED GREEN WIRE) GROUNDING SYSTEM SHALL BE INSTALLED.
- 22.WIRE SHALL BE TYPE "THHN-THWN" INSULATED FOR 600 VOLTS, MINIMUM SIZE #12 AWG COPPER UNLESS SPECIFICALLY NOTED OTHERWISE.

## 23. WIRING METHODS:

- a. EXTERIOR UNDERGROUND FEEDERS SHALL BE PVC SCHEDULE 80 FOR DIRECT BURIED AND PVC SCHEDULE 40 FOR CONCRETE
- b. EXTERIOR ABOVE GRADE FEEDERS SHALL BE RGS CONDUIT.
- c. INTERIOR FEEDERS EXPOSED OR BURIED IN CONCRETE WALLS/SLABS SHALL BE RGS CONDUIT.
- d. EQUIPMENT CONNECTIONS SHALL BE LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
- 27.NO CONDUIT OR WIRE SHALL BE RUN IN OR BELOW SLAB WITHOUT ENGINEER APPROVAL OR NOTED OTHERWISE ON THE PLANS.
- 28. CONNECTORS FOR RIGID CONDUIT SHALL BE MADE WITH THREADED COUPLINGS.
- 29. CONNECTORS FOR FLEXIBLE LIQUID TIGHT CONDUIT SHALL BE STEEL COMPRESSION TYPE WITH INSULATED THROATS OR STEEL SET
- 30. CONDUIT AND TUBING SHALL BE SUPPORTED ON GALVANIZED WALL BRACKETS. TRAPEZE HANGERS OR PIPE STRAPS SECURED BY MEANS OF TOGGLE BOLTS OR INSERTS IN WOOD CONSTRUCTION.
- 31.BOXES SHALL BE GALVANIZED STEEL AND SHALL BE SIZED TO ACCOMMODATE THE EQUIPMENT OR APPARATUS TO BE INSTALLED. WHERE BOXES OF A STANDARD MAKE ARE NOT AVAILABLE, SPECIAL BOXES SHALL BE MANUFACTURED.

- **GENERAL NOTES**
- I. DRAWINGS ARE DIAGRAMMATIC ONLY. THE EXACT LOCATION, MOUNTING HEIGHTS, SIZE OF EQUIPMENT AND ROUTING OF RACEWAYS 32. PANELBOARDS SHALL BE DEAD FRONT, THERMAL MAGNETIC BOLT-ON CIRCUIT BREAKER TYPE, DESIGNED FOR SURFACE OR FLUSH MOUNTING AS INDICATED ON PLAN, AND HAVING CONNECTIONS TO 120/208 OR 277/480 VOLT, 3 PHASE, 4 WIRE SERVICE. ALL BUS BARS SHALL BE COPPER. CABINETS SHALL BE MADE OF CODE GAUGE GALVANIZED SHEET STEEL, WITH A MINIMUM OF 4 INCH GUTTERS, DOOR IN DOOR CONSTRUCTION, LOCKED DOOR, AND FLUSH HINGES. TYPEWRITTEN INDEX SHALL BE MOUNTED ON DOOR INSIDE TRANSPARENT COVER INDICATING LOAD SERVED. PANELS SHALL INCLUDE SEPARATE EQUIPMENT GROUND BUS.
  - 33.PANELBOARDS, DISCONNECT SWITCHES, AND CONTROLLERS SHALL HAVE NAMEPLATES OF BLACK LAMINATED PLASTIC WITH ENGRAVED WHITE LETTERS, SECURED WITH SELF-TAPPING SCREWS.
  - 34. CONTRACTOR SHALL PHASE BALANCE PANELBOARDS IN THE FIELD. LOAD ON EACH PHASE SHALL BE BALANCED WITHIN 10% OF EACH
- OF THEIR RESPECTIVE EQUIPMENT; THE POWER WIRING, CONTROL WIRING AND ALL ELECTRICAL CONNECTIONS AND CONDUIT TURN-UPS ALL DEVICES IN FINISHED AREAS. FOR DEVICES IN UNFINISHED AREAS, PROVIDE CAST IRON OR ALLOY OF SUITABLE TYPE TO MATCH OUTLET BOXES SPECIFIED.
  - SWITCHES SHALL BE FULLY RATED 20 AMPERES AT 120/277 VOLT.
  - 37.DUPLEX WALL RECEPTACLES SHALL BE 2 POLE, 3 WIRE, GROUNDING TYPE 20 AMPERE, 125 VOLT WITH METAL PLASTER EARS. RECEPTACLES SHALL BE NEMA STANDARD CONFIGURATION 5-20R.
  - 38.FUSED OR UNFUSED SAFETY SWITCHES SHALL BE TOTALLY ENCLOSED, HEAVY DUTY TYPE. SWITCHES SHALL HAVE VOLTAGE. HORSEPOWER AND AMPERE RATING SUITABLE FOR THE APPLICATION. PROVIDE NUMBER OF POLES AS REQUIRED. SWITCHES LOCATED EXTERIOR TO THE BUILDING OR IN DAMP/WET LOCATIONS SHALL BE IN A NEMA 3R ENCLOSURE.

  - 40.FURNISH AND INSTALL SLEEVES IN FLOORS, BEAMS, WALLS, ETC. REQUIRED FOR INSTALLING THIS WORK.
  - 41.CONDUIT PASSING THROUGH FIRE RATED WALLS AND FLOORS SHALL BE PROVIDED WITH ALL NECESSARY MATERIALS TO ENSURE THAT THE FIRE RATED INTEGRITY IS MAINTAINED.
  - 42.FEEDER TAPS WILL NOT BE ALLOWED IN PANELBOARD GUTTERS.
  - 43. CONDUIT RUNS AS SHOWN ON THE PLANS ARE DIAGRAMMATIC ONLY; EXACT LOCATION AND METHOD OF SUPPORT SHALL BE
  - 44.CONTRACTOR SHALL CHECK EXISTING CONDITIONS TO DETERMINE EXACT EXTENT OF WORK TO BE PERFORMED PRIOR TO BIDDING. DIMENSIONS RELEVANT TO EXISTING WORK SHALL BE VERIFIED IN THE FIELD.
  - 45.IN AREAS NOT AFFECTED BY THIS RENOVATION, THIS SUBCONTRACTOR SHALL MAINTAIN CONTINUITY OF ELECTRIC SERVICE.
  - 46. WHERE CONNECTIONS ARE MADE IN EXISTING PANELS, THE PANEL INDEX SHALL BE REVISED TO INDICATE THE NEW LOADS SERVED. NEW CIRCUIT BREAKERS ADDED TO EXISTING PANELS SHALL BE THE SAME FRAME SIZE, VOLTAGE RATING AND INTERRUPTING CAPACITY AS EXISTING PANEL AND CIRCUIT BREAKERS.
  - 47.THE CONTRACTOR SHALL PROVIDE ALL REQUIRED POWER SUPPLIES, APPURTENANCES, FINAL CONNECTIONS, TESTING AND WORK REQUIRED FOR ADDITIONS TO THE EXISTING FIRE ALARM SYSTEM. PAY ALL COSTS ARISING THERE FROM, FOR A COMPLETE AND
  - 48.ELECTRICAL SHUTDOWN SHALL BE AT A TIME AND DATE APPROVED BY THE OWNER.

  - 50.ELECTRICAL CONTRACTOR SHALL LABEL ALL ELECTRICAL DEVICES INCLUDING BUT NOT LIMITED TO RECEPTACLES, DISCONNECT SWITCHES, PANELBOARDS, THERMAL MOTOR SWITCHES, CONTROL PANELS, JUNCTION BOXES, ETC.
  - a. RECEPTACLES PANEL NAME AND CIRCUIT DESIGNATION
  - b. DISCONNECTS PANEL NAME, CIRCUIT DESIGNATION AND EQUIPMENT SERVING.
  - c. THERMAL MOTOR SWITCHES PANEL NAME, CIRCUIT DESIGNATION AND EQUIPMENT SERVING.
  - d. ENCLOSED CIRCUIT BREAKERS PANEL NAME, CIRCUIT DESIGNATION AND EQUIPMENT SERVING.
  - e. PANELBOARDS PANEL NAME, VOLTAGE, AMPERAGE, PHASE AS WELL AS PANEL AND CIRCUIT IT IS FED FROM.
  - f CONTROL PANEL PANEL NAME AND CIRCUIT DESIGNATION
  - g. JUNCTION BOXES PANEL NAME AND CIRCUIT DESIGNATION
  - 52.ADDRESS QUESTIONS TO THE ENGINEER IN WRITING BEFORE AWARD OF CONTRACT, OTHERWISE ENGINEER INTERPERTATION OF MEANING AND INTENT OF DRAWINGS SHALL BE FINAL.

# LIGHTING FIXTURE SCHEDULE

TYPE	PE TYPE MANUFACTURE		TURER CATALOG NUMBER		LAMP		VOLTAGE	LOAD	REMARKS	
1111 L	111 L	MANOI ACTONEIX	CATALOG NOWIDER	NO.	NO. TYPE		VOLTAGE	LOAD	NEWANIO	
S1	LED SINGLE FIXTURE POLE MOUNTED SITE LIGHTING	CREE LIGHTING	ARE-EDG-3ME-DA-08-E-UL-BZ-525	-	LED 9994 LUMENS 4000K 70CRI	POLE	208	90W	NOTE 1	
S2	LED DUAL FIXTURE POLE MOUNTED SITE LIGHTING	CREE LIGHTING	ARE-EDG-3ME-DA-08-E-UL-BZ-525	-	LED 9994 LUMENS 4000K 70CRI	POLE	208	180W	NOTE 1	

1. PROVIDE 20' POLE ALUMINUM TAPPERED POLE

**BOXFORD PUBLIC** SCHOOLS SITE **RENOVATION PROJECT** HARRY LEE COLE SCHOOL

26 AND 28 MIDDLETON ROAD

BOXFORD, MA 01921

85 Devonshire Street, 3rd Floor Boston, MA 02109 978.532.1900

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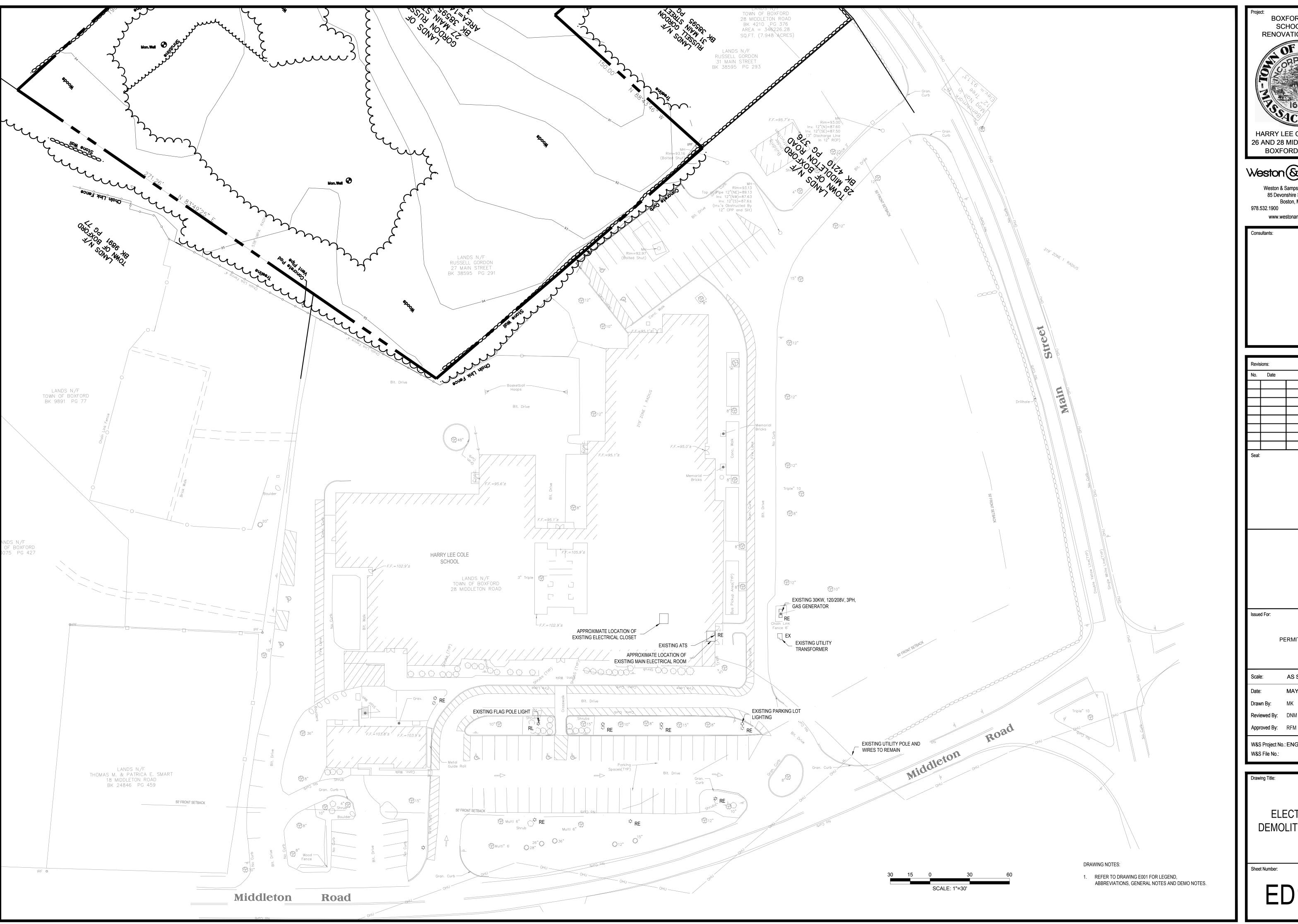
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Drawing Title:

LEGEND, GENERAL

Sheet Number:



BOXFORD PUBLIC SCHOOLS SITE RENOVATION PROJECT HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD BOXFORD, MA 01921

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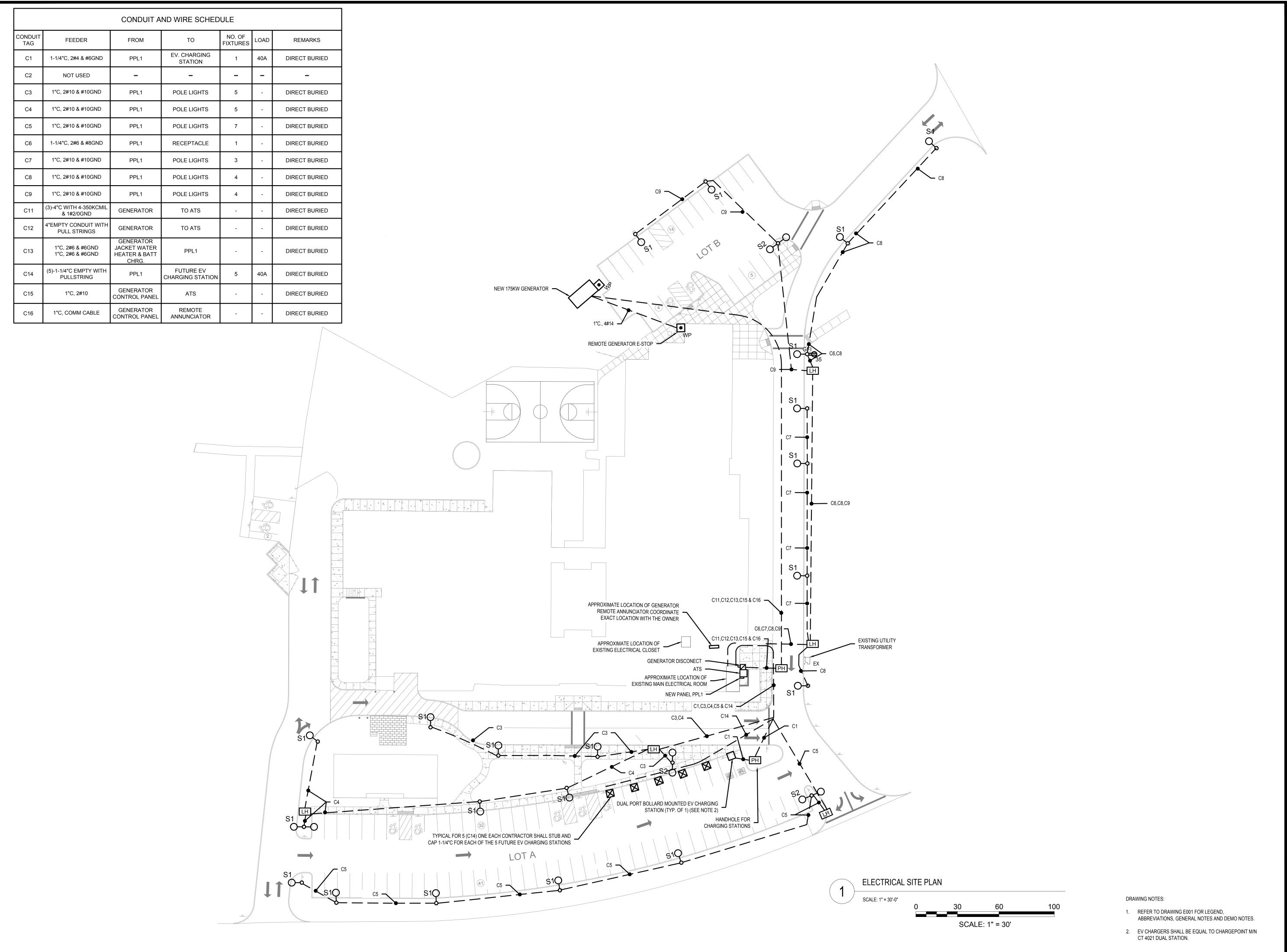
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ELECTRICAL **DEMOLITION PLAN** 

Sheet Number:

ED100



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BOXFORD, MA 01921

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Consultants:

Revis	sions:	
No.	Date	Description
Seal:		

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PERMITTING

: AS SHOWN

e: MAY 6, 2022 wn By: MK

Approved By: RFM

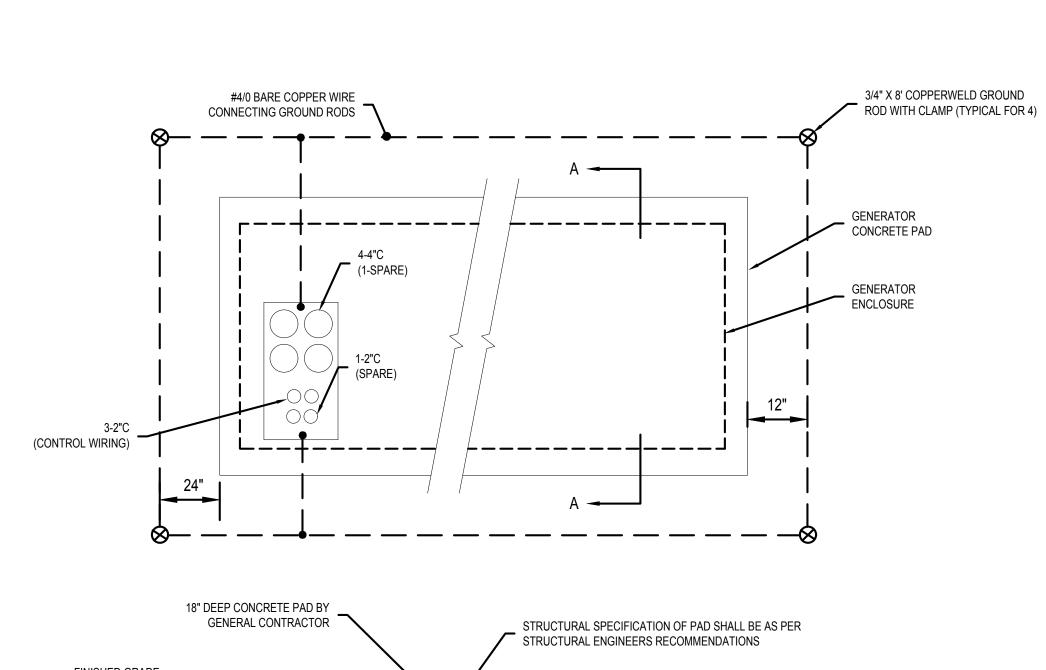
W&S Project No.: ENG20-0865 W&S File No.:

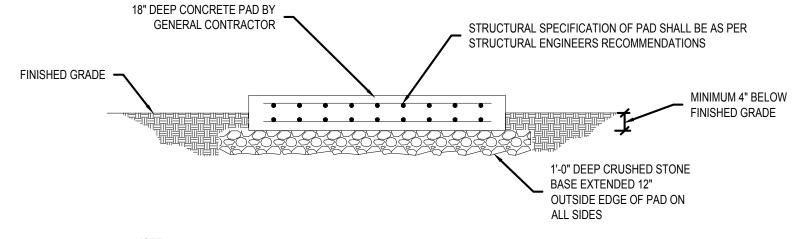
Drawing Title

ELECTRICAL SITE PLAN

Sheet Number:

E100



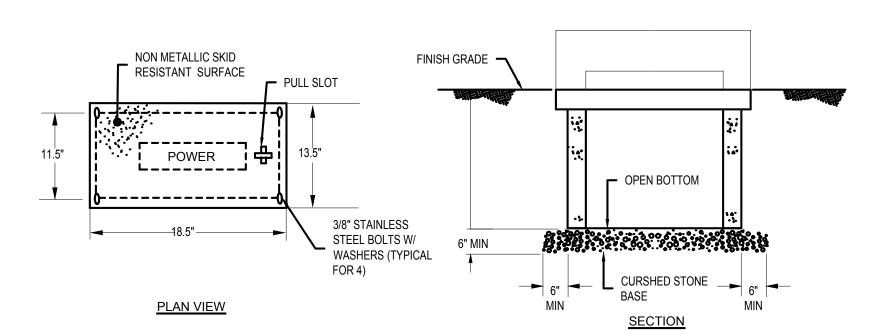


NOTE:

- 1. PAD DIMENSIONS SHALL BE PER GENERATOR MANUFACTURER RECOMMENDATIONS.
- 2. REFER TO ONE-LINE FOR EXACT NUMBER OF CONDUITS



## GENERATOR/ENCLOSURE PAD DETAIL



NOTES:

1. THIS HANDHOLE IS INTENDED FOR NON-DELIBERATE VEHICULAR TRAFFIC ONLY.

2. HANDHOLE SHALL BE PREFABRICATED POLYMER CONCRETE AGGREGATE EQUAL TO QUAZITE OR EQUAL PRE CAST CONCRETE CONSTRUCTION.

PREFABRICATED HANDHOLE "PH" & "LH" DETAIL





UNDISTURBED

TYPICAL LIGHT POLE BASE DETAIL

24" DIA

PLASTIC CAUTION TAPE -BY GENERAL CONTRACTOR

USE 1 1/2" CRUSHED STONE

BEDDING IF WATER IS

ENCOUNTERED

CONDUIT FOR

COMMUNICATIONS

POLE WITH HANDHOLE AND

2" CHAMFER

FINISHED GRADE

INTERNAL GROUNDING STUD

ANCHOR BOLTS WITH LEVELING

CONDUIT SEE SITE PLAN (TYP)

NUTS BY POLE MFR

SELECT COMMON FILL

- 8-#5 EQUALLY SPACED

- #4 HOOPS AT 12" OC

- CONCRETE BASE

NOTE: REFER TO

MATERIALS

SPECIFICATIONS FOR

COMPACTED IN 12" LIFTS

FINISHED GRADE •

TYPICAL DIRECT BURIED CONDUIT DETAIL

BOND CIRCUIT GROUND-ING CONDUCTOR TO POLE -

INSULATED GROUNDING

**BUSHINGS BONDED** 

CURB/ROAD EDGE SET BACK

REFER TO CIVIL PLANS

TO POLE (TYP)

BACKFILL BY GENERAL

COMPACTED SUBGRADE

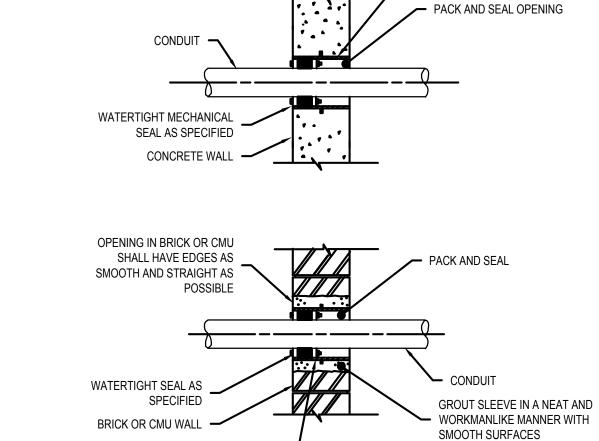
GENERAL CONTRACTOR

CONDUIT FOR POWER

CONDUIT FOR POWER -

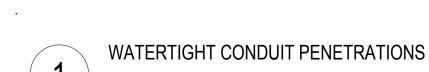
OR SUITABLE BACKFILL - BY

CONTRACTOR



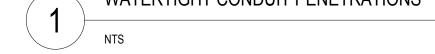
PVC SLEEVE, DIAMETER AS

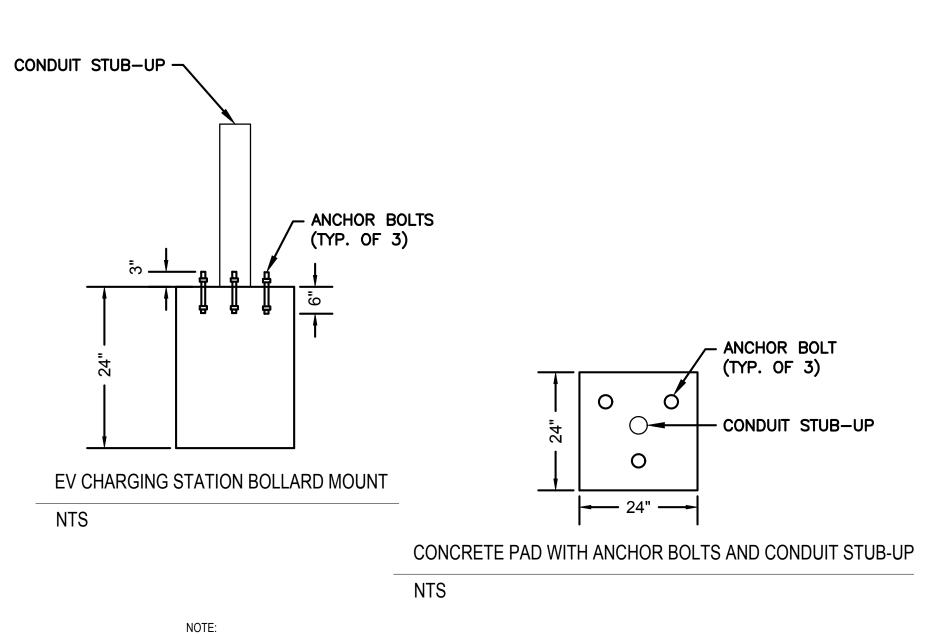
REQUIRED BY SEAL MANUFACTURER



PVC SLEEVE WITH WATERSTOP, DIAMETER

AS REQUIRED BY SEAL MANUFACTURER





1. THE CONCRETE BLOCK MUST MEASURE AT LEAST 24" ON ALL SIDES.

2. THE BOLT THREADS MUST EXTEND 3" ABOVE THE CONCRETE.

3. THE CONDUIT MUST BE AT LEAST 1-1/2" IN DIAMETER AND EXTEND 12" TO 24" ABOVE THE CONCRETE.

**EV-CHARGING STATION BOLLARD DETAIL** 

BOXFORD PUBLIC SCHOOLS SITE RENOVATION PROJECT HARRY LEE COLE SCHOOL 26 AND 28 MIDDLETON ROAD BOXFORD, MA 01921

Weston & Sampson Engineers, Inc. 85 Devonshire Street, 3rd Floor Boston, MA 02109 978.532.1900 800.SAMPSON

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MAY 6, 2022 Reviewed By: DNM

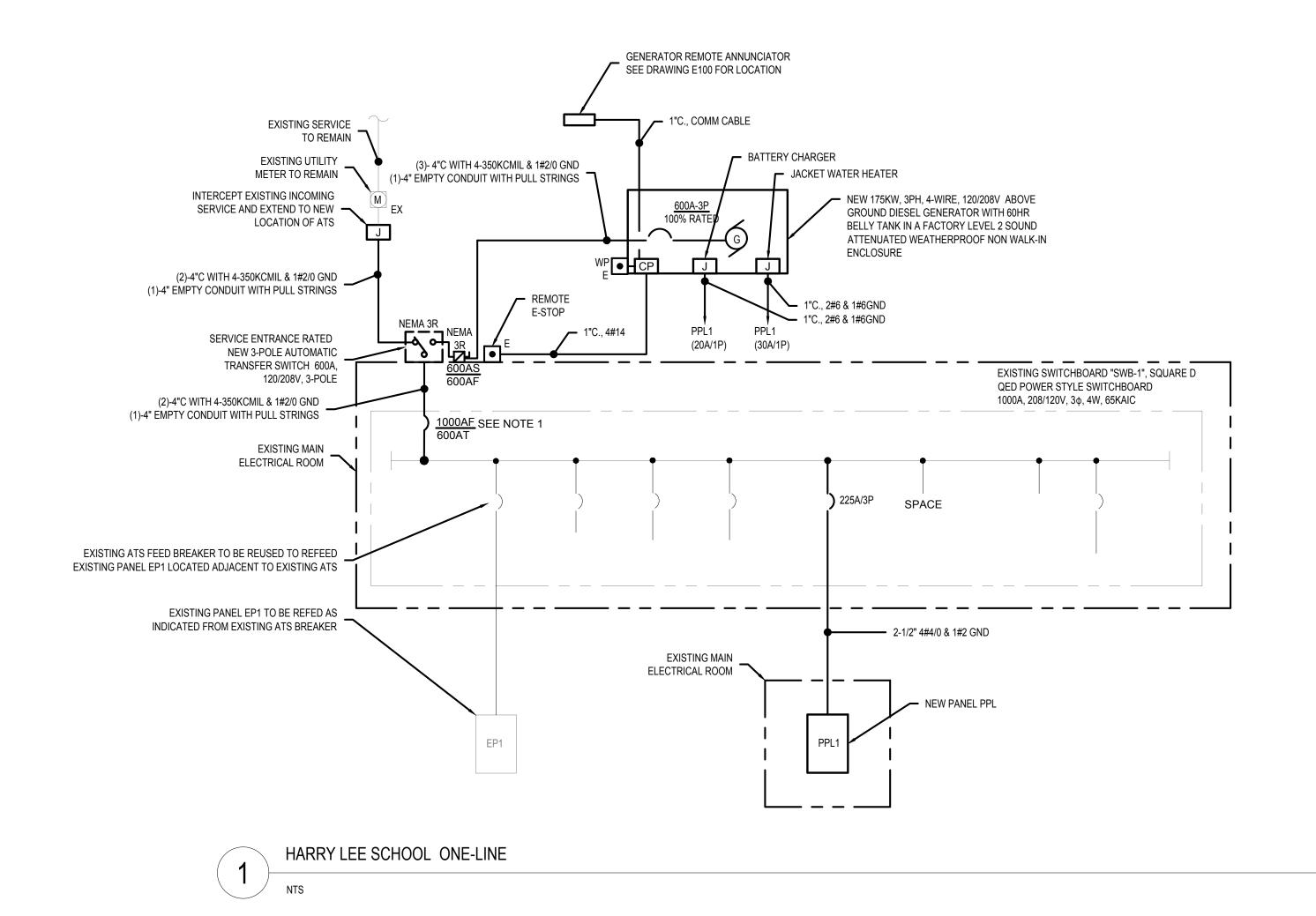
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ELECTRICAL DETAILS

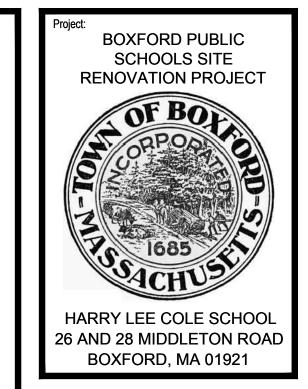
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## NOTES

 CONTRACTOR SHALL REMOVE AND REPLACE THE EXISTING PE121000RP 1000A TRIP PLUG IN EXISTING SQUARE D 1200A MICROLOGIC BREAKER WITH A NEW 600A TRIP PLUG.

	PA	NELE	BOA	RD	S	CHI	EDU	LE	
DESI	GNATION: PPL1	S.C. RATIN	G: 22,0	00 A	RMS		REMARKS: PANEL TO BE SQUARE		
1.00	ATION. EVICTING ELECTRICAL OLOGET	050/105	·					NQOB SERIES B ON NQOB BREA	
LOCA	ATION: EXISTING ELECTRICAL CLOSET	SERVICE:	120/208	V,3Ø,4	·VV				
RATI	NG: 225 AMPS	MOUNTING	: SURF	ACE					
MAIN	I: 225 AMP MCB								
CKT.	LOAD	BREA	(ER	PH	ASE	BRE	AKER	LOAD	
NO.	DESIGNATION	TRIP	POLE	A	в с	POLE	TRIP	DESIGNATION	
1	EV CHARGING STATION	40	<b>一</b>	-	$\Box$	ூ	40	FUTURE EV-CHARGING STATION	$\neg$
3	-	-	- A	H	+	8	-	-	┪
5	GENERATOR JACKET WATER HEATER	30	- R	H	$\Box$	8	20	BATTERY CHARGER	$\Box$
7	SITE LIGHTS	20	<b>─</b>	<del>                                      </del>	$\Box$	ூ	20	SITE LIGHTS	П
9	-	-	<b>─</b>	oxdot	$\blacksquare$	8	-	-	
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41	SPARE	20	<b>├</b> ०-	╙	₩	$\sim$	20	SPARE	



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Drawing <sup>-</sup>

ELECTRICAL ONE-LINE

Sheet Number:

E601