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PROPOSED WAREHOUSE BUILDING

75 PLAIN STREET, HOPEDALE, MASSACHUSETTS

DEFINITIVE SITE DEVELOPMENT PLANS
DATE: SEPTEMBER 01, 2021

LOCUS MAP
SCALE: 1"=400'

ENDORSEMENT

HOPEDALE PLANNING BOARD

_____ SIGNATURE

_____ SIGNATURE

_____ SIGNATURE

_____ SIGNATURE

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PROJECT TEAM

LAND SURVEYOR: GUERRIERE & HALNON, INC.
55 WEST CENTRAL STREET
FRANKLIN, MA 02038

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781-245-2500

ENVIRONMENTAL CONSULTANT : ENVIROTRAC
2 MERCHANT STREET #2
SHARON, MA 02067
781-793-0074

TRAFFIC CONSULTANT : BAYSIDE ENGINEERING INC.
600 UNICORN PARK DRIVE. #17
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781-932-3201

ACOUSTIC CONSULTANT: TECH ENVIRONMENTAL, INC.
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OWNER: ROSENFELD CONCRETE CORPORATION
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APPLICANT: 75-131 PLAIN STREET, LLC
C/O GFI PARTNERS, INC.
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BOSTON, MA 02110

LEGAL COUNSEL: MAYER, ANTONELLIS, JACHOWICZ, AND HARANAS, LLP
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DEDHAM, MA 02026
781-713-3401

ARCHITECT: APPLIED FORM + SPACE
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ANDOVER, MA 01810

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37736
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
2	PER PEER REVIEW COMMENTS	01.14.2022
3	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
T100
TITLE SHEET

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GENERAL NOTES

1. THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND THE ENGINEER.

2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE ANY AND ALL SAFETY MEASURES NECESSARY TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION. THESE SHALL INCLUDE SIGNS, BARRICADES, FENCES, POLICE OFFICERS, ETC. AS IS NECESSARY, OR AS DIRECTED BY THE PUBLIC AUTHORITIES AND THE OWNER. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.

3. THE EXISTING SITE CONDITIONS SHOWN ON THESE PLANS WERE DETERMINED BY A FIELD SURVEY AND COMPILATION OF PLANS OF RECORD. ANY VARIATIONS FROM THE CONDITIONS SHOWN ON THESE PLANS SHOULD BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE PROPOSED WORK.

4. THE BORDERING VEGETATED WETLANDS SHOWN ON THESE PLANS ARE BASED ON A PLAN TITLED "EXISTING CONDITIONS - 75 PLAIN STREET - WORCESTER COUNTY - HOPEDALE, MA," DATED MARCH 18, 2019 AND PREPARED BY GUERRIERE & HALNON, INC. ENGINEERING & LAND SURVEYOR

5. UNLESS OTHERWISE SPECIFIED ON THE PLANS AND SPECIFICATIONS, ALL SITE CONSTRUCTION MATERIALS AND METHODOLOGIES ARE TO CONFORM TO THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 EDITION OR THE LATEST EDITION.

6. ALL WORK TO BE DONE WITHIN PUBLIC RIGHT-OF-WAYS SHALL CONFORM TO TOWN OF HOPEDALE STANDARD CONSTRUCTION REQUIREMENTS FOR THE INSTALLATION OF AND/OR REPAIR OF UNDERGROUND FACILITIES, EXCAVATIONS AND PAVING IN THE PUBLIC WAY.WORK WITHIN THE STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

7. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, PRIOR TO THE START OF CONSTRUCTION.

8. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.

9. LIMIT OF WORK SHALL BE EROSION CONTROL BARRIERS, LIMIT OF GRADING AND SITE PROPERTY LINES AND/OR AS INDICATED ON DRAWINGS.

10. CONTRACTOR TO VERIFY UTILITY STUB LOCATIONS AND ELEVATIONS IN THE FIELD PRIOR TO COMMENCING WORK.

11. ANY ALTERATION TO THESE DRAWINGS MADE IN THE FIELD DURING CONSTRUCTION SHALL BE RECORDED BY THE CONTRACTOR ON RECORD DOCUMENTS.

12. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO COST TO OWNER.

13. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL AND SHALL NOTIFY THE OWNER/ENGINEER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.

SOIL EROSION/ SEDIMENTATION CONTROL NOTES

1. UNLESS DIRECTED OTHERWISE, ALL EXISTING TURF OR VEGETATED AREAS WITHIN THE PROPOSED LIMITS OF WORK FOR EXCAVATION, GRADING, OR IMPROVEMENT SHALL BE CLEARED AND GRUBBED. WITHIN THE CLEARING AND GRUBBING AREA, REMOVE ALL TREES, SHRUBS AND ROOTS UNLESS DESIGNATED OTHERWISE. CLEARING SHALL INCLUDE THE FELLING, CUTTING AND OFF-SITE DISPOSAL OF ALL TREES, SHRUBS, STUMPS AND VEGETATIVE DEBRIS PRODUCED THROUGH THE CLEARING OPERATIONS.

2. UNLESS OTHERWISE STATED IN THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) THE FOLLOWING EROSION CONTROL SPECIFICATIONS SHOWN ON SHEETS C200 THRU C206 SHALL BE INSTITUTED.

3. THE LOCATION OF EROSION CONTROL BARRIERS SHOWN ON DRAWINGS ARE INTENDED TO BE MINIMUM REQUIREMENTS AND A GUIDE FOR THE PLACEMENT OF THESE BARRIERS. OTHER MEASURES MAY BE WARRANTED BASED UPON EXPERIENCE AT THE SITE. WHEN NO SEDIMENTATION CONTROL SYSTEM IS SHOWN ON THE DRAWING, THE CONTRACTOR SHALL BE REQUIRED TO ESTABLISH A SYSTEM TO PREVENT SILTATION OR POLLUTION OF ADJACENT PROPERTIES AND PUBLIC RIGHTS-OF-WAY. THE SYSTEMS SHOWN SHALL NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF PLACING ADDITIONAL BARRIERS OR REPLACING BARRIERS AS REQUIRED BY SITE CONDITIONS. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT AND ADDITIONS TO THESE SYSTEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. AS CONSTRUCTION PROGRESSES AND SEASONAL CONDITIONS DICTATE, MORE SILTATION CONTROL FACILITIES MAY BE REQUIRED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS NEW CONDITIONS THAT MAY BE CREATED.

4. THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEAN UP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. ALL DEMOLITION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE SITE TO A LEGAL DUMP SITE. ALL TRUCKS LEAVING THE SITE SHALL BE COVERED.

5. AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND SURPLUS MATERIALS FROM THE SITE. A THOROUGH INSPECTION OF THE WORK PERIMETER IS TO BE MADE AND ALL DISCARDED MATERIALS, INCLUDING BLOWN OR WATER CARRIED DEBRIS, SHALL BE COLLECTED AND REMOVED FROM THE SITE. ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS. EROSION CONTROL BARRIERS ARE TO BE REMOVED AND DISPOSED OF IN ACCORDANCE TO LOCAL REQUIREMENTS. THE CONTRACTOR SHALL NOT REMOVE ANY SILTATION CONTROLS UNTIL AUTHORIZED (IN WRITING) BY THE OWNER OR OWNER'S REPRESENTATIVE.

6. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO COMPOST FILTER SOCK BARRIERS, SILTATION FENCING, SILTSACK® DRAINAGE INLET PROTECTION INSERTS, AND MULCHING AND PLANTING OF DISTURBED AREAS.

8. EROSION CONTROL BARRIERS ARE TO BE INSTALLED AT THE PROPOSED DOWNGRADIENT TOES OF SLOPE AT ALL LOCATIONS WHERE EARTHWORK IS PROPOSED.

9. DURING CONSTRUCTION THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY, TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE.

10. ALL POINTS OF CONSTRUCTION EGRESS OR INGRESS SHALL BE MAINTAINED TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADS. ANY SEDIMENT TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE SWEPT AT THE END OF EACH WORKING DAY.

11. SUMPS OF EXISTING AND DRAINAGE INLETS SHALL BE CLEANED AS NECESSARY IN CONJUNCTION WITH PERIODIC INSPECTION OF SILTSACK® INSERTS TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE SUBSURFACE DRAINAGE SYSTEM.

12. FILTER FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUAL.

13. AFTER INSTALLATION OF EACH DRAINAGE INLET A SILTSACK® INLET PROTECTION INSERT WITH BUILT-IN EMERGENCY BYPASS DEVICE SHALL BE INSTALLED BELOW THE GRATE TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.

14. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS. ANY DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.

15. ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT LEFT IN A NATURAL CONDITION SHALL RECEIVE SIX (6) INCHES OF LOAM AND SEED.

16. AREAS NOT DISTURBED BY CONSTRUCTION SHALL BE LEFT NATURAL. CARE SHALL BE TAKEN TO PRESERVE EXISTING TREES, GROUND COVER, AND OTHER NATURAL FEATURES WHENEVER POSSIBLE.

17. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL STATE AT THE CONTRACTOR'S EXPENSE.

18. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

19. ALL STOCKPILE AREAS SHALL BE LOCATED AS SHOWN ON THE SITE PREPARATION & EROSION CONTROL PLAN.

20. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF-SITE.

21. PROVIDE CRIBBING AS NECESSARY TO PROTECT EXISTING UTILITY LINES DURING CONSTRUCTION.

22. SITE ELEMENTS TO REMAIN SHALL BE PROTECTED FOR DURATION OF PROJECT.

23. ALL TOPSOIL ENCOUNTERED WITHIN WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE IN STOCKPILE LOCATIONS DESIGNATED ON THE SITE PREPARATION, DEMOLITION AND SEDIMENTATION CONTROL PLAN. EXCESS TOPSOIL SHALL BE DISPOSED OF ON-SITE AS DIRECTED BY OWNER. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.

24. ALL AREAS IDENTIFIED AS CRITICAL AREA SEEDING SHALL BE STABILIZED DURING CONSTRUCTION BY SEEDING WITH ANNUAL RYE GRASS AT THE RATE OF FORTY (40) LBS/ACRE.

25. DUST SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER, OWNER'S REPRESENTATIVE, OR TOWN OFFICIAL.

26. EXTREME CARE SHALL BE EXERCISED SO AS TO PREVENT ANY UNSUITABLE MATERIAL FROM ENTERING ENVIRONMENTALLY SENSITIVE OR JURISDICTIONAL RESOURCE AREAS.

27. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR EXPOSED PRIOR TO OCTOBER 15 SHALL BE SEEDED OR PROTECTED BY SAID DATE.

28. LOAMING AND SEEDING OR MULCHING OF NON-PAVEMENT AREAS SHALL TAKE PLACE AS SOON AS PRACTICABLE.

29. ALL SLOPES WITH SURFACE GRADES STEEPER THAN 3:1 SHALL BE STABILIZED WITH EROSION CONTROL BLANKETS.

30. COIR FIBER ROLLS, HAYBALES, SILT FENCE OR OTHER SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.

SITE LAYOUT AND MATERIALS NOTES

1. CONTRACTOR SHALL REPORT SIGNIFICANT CONFLICTS TO THE OWNER OR OWNER'S REPRESENTATIVE FOR RESOLUTION.

2. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH FEDERAL AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES AND THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB).

3. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WHERE APPLICABLE.

4. ALL PARKING STRIPING SHALL BE 4" WIDE LINES OF TRAFFIC PAINT AND MATCH COLOR OF EXISTING PARKING STRIPING TO REMAIN.

5. ALL NEW CURBS SHALL BE BITUMINOUS CONCRETE WITH 6" REVEAL UNLESS OTHERWISE INDICATED HEREON. INSTALL 6' LONG TRANSITION CURB AT ALL TRANSITIONS FROM VERTICAL TO FLUSH.

6. EXISTING CURBS TO REMAIN AS SHOWN HEREON ARE ASSUMED TO BE IN SATISFACTORY CONDITION BUT ARE TO BE PARGED OR REPLACED IN KIND IN LOCATIONS OF DAMAGE.

7. INSTALL EXPANSION AND CONTROL JOINTS IN SIDEWALKS AT INTERVALS OF 5 FEET AND 25 FEET, RESPECTIVELY. PROVIDE BROOM FINISH IN TRANSVERSE DIRECTION OF TRAVEL ON ALL WALKS.

8. SIDEWALK WIDTHS INDICATED HEREON ARE MEASURED FROM BACK OF CURB TO BACK OF SIDEWALK; 6" WIDTH OF CURBS ARE NOT INCLUDED.

9. ALL CURB RADIUS DIMENSIONS SHOWN HEREON ARE MEASURED ALONG FACE OF CURB.

10. REFER TO LAYOUT PLAN FOR EXTENTS OF MILL AND OVERLAY AND FULL DEPTH OF PAVEMENT CONSTRUCTION AND PATCHING WHERE APPLICABLE.

11. ALL WORK CONDUCTED WITHIN PUBLIC RIGHTS-OF-WAY SHALL CONFORM TO TOWN OF HOPEDALE REQUIREMENTS AND SPECIFICATIONS.

12. THE FOLLOWING LAYOUT CRITERIA SHALL CONTROL UNLESS OTHERWISE NOTED ON THE PLAN:

    12.1. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING.

    12.2. DIMENSIONS ARE TO FACE OF CURB AT GUTTER LINE.

    12.3. DIMENSIONS ARE TO THE CENTER OF PAVEMENT MARKINGS.

13. ALL LINES AND DIMENSIONS AND TIES TO PROPERTY LINES ARE PERPENDICULAR TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.

14. CONTRACTOR SHALL FURNISH AND SET ALL LINES AND GRADES REQUIRED AND PROTECT ALL PERMANENT BENCHMARKS OR MONUMENTS IF PRESENT. DAMAGED MONUMENTS SHALL BE REPLACED BY A LICENSED SURVEYOR AT NO COST TO THE OWNER.

15. ALL BITUMINOUS CONCRETE PAVING SHALL COMPLY WITH THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 EDITION AS AMENDED. THE CONTRACTOR SHALL SUBMIT A JOB MIX FORMULA DEMONSTRATING COMPLIANCE WITH THESE SPECIFICATIONS. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A CERTIFICATE OF COMPLIANCE SUPPLIED BY THE PAVING CONTRACTOR.

16. BITUMINOUS CONCRETE PAVEMENT: CLASS I, TYPE I-1 CONFORMING TO THE STANDARD SPECIFICATIONS, SECTIONS 420 AND 460, AND M3.11.03 FOR BINDER COURSE AND TOP COURSE JOB MIX FORMULAS.

17. ALL CONCRETE WORK SHALL COMPLY WITH ACI301, "SPECIFICATION FOR STRUCTURAL CONCRETE," AND ACI 316R, UNLESS MODIFIED BY THE CONTRACT DOCUMENTS. COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR FABRICATING, PLACING, AND SUPPORTING REINFORCEMENT. COMPLY WITH ACI 306.1 FOR COLD WEATHER PROTECTION, AND FOLLOW RECOMMENDATIONS IN ACI 350R FOR HOT WEATHER PROTECTION DURING CURING. COMPLY WITH ACI 304 "GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE."

18. SAW-CUT EXISTING PAVEMENT WHERE NEW BITUMINOUS CONCRETE PAVEMENT IS TO COME IN CONTACT. PRIME COAT THE CUT EDGE PRIOR TO PLACEMENT.

19. CONTRACTOR(S) SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND ALL SITE CONDITIONS PRIOR TO CONSTRUCTION.

20. OUT-OF-FUNCTION OR SCREENED IMAGES REPRESENT EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPACTED BY PROPOSED BUILDINGS AND/OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND/OR CAPPED OR DEMOLISHED AS REQUIRED.

LANDSCAPE NOTES

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF HOPEDALE, MA.
2. PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF NAY CONFLICTS IN WRITING.
4. NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.
5. ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
6. CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.
7. ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.
8. ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
9. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.
10. ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.
11. ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.
12. TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.
13. ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH.
14. ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.
15. ALL TREE STAKES SHALL BE STAINED DARK BROWN.
16. CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.
17. ALL LANDSCAPE AREAS WITH SHRUBS, TREES AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. THE 18" OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE/SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUB AND TREES. ALL AREAS OF LOAM AND SEED TO HAVE A MINIMUM OF 6" DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS THE SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO THE OWNER. SEE TOPSOIL DETAIL.
18. ALL PROPOSED MOWED LAWN AREAS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.

GRADING NOTES

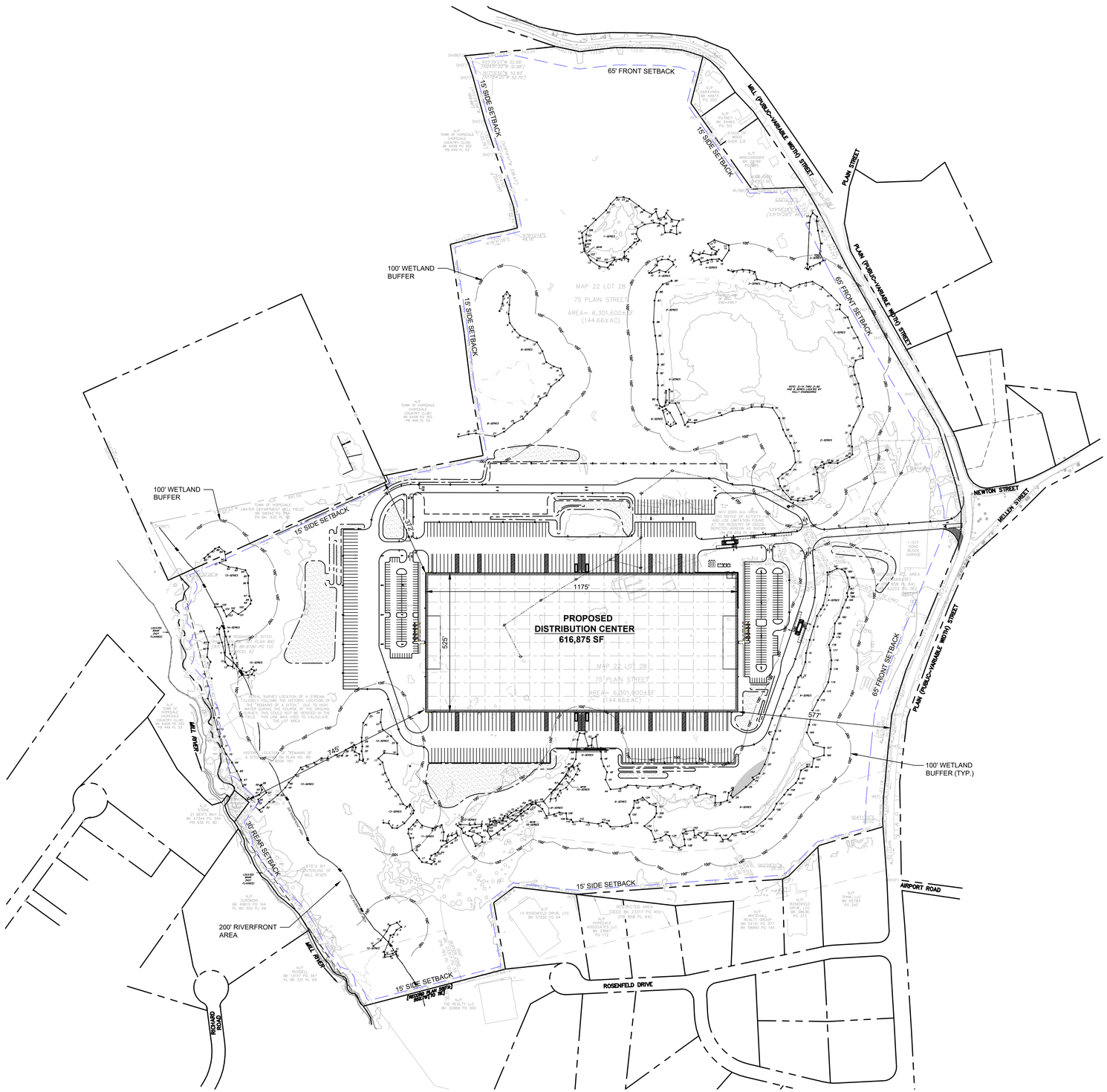
1. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER OR HIS REPRESENTATIVE.
2. ALL STUMPS, PEAT, CONSTRUCTION DEBRIS AND OTHER DELETERIOUS MATERIALS ON THE SITE AT THE TIME OF CONSTRUCTION ARE TO BE REMOVED FROM THE SITE TO AN APPROVED LANDFILL. NO SUCH MATERIALS ARE TO BE BURIED OR OTHERWISE DISPOSED OF ON THE SITE. MATERIAL FOR BACKFILL SHALL NOT INCLUDE UNSUITABLE MATERIAL SUCH AS PEAT, TRASH, STUMPS, DEBRIS OR HAZARDOUS WASTE.
3. FILL MATERIAL SHALL BE AS SPECIFIED BY THE ARCHITECT/ENGINEER AND SELECTED FROM ON-SITE EXCAVATION MATERIAL WHERE POSSIBLE.
4. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
5. PITCH EVENLY BETWEEN SPOT GRADES. GRADE ALL AREAS TO DRAIN.
6. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES, AND PLANTING BEDS.
7. THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PONDING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF THE FINISH SUBGRADE AND/OR SURFACE PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE AS REQUIRED.
8. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1/8" PER FOOT UNLESS OTHERWISE SPECIFIED. ANY DISCREPANCIES NOT ALLOWING THIS MINIMUM PITCH SHALL BE REPORTED TO THE OWNER OR HIS REPRESENTATIVE PRIOR TO CONTINUING WORK.
9. ACCESSIBLE CURB RAMPS, RAMP, LANDINGS, WALKWAYS, CROSSWALKS, PATIOS/PLAZAS AND PARKING AREAS SHALL BE CONSTRUCTED PER THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY REQUIREMENTS. WALKWAY AND CROSSWALK ALONG ACCESSIBLE ROUTE(S) SHALL HAVE 5% MAXIMUM LONGITUDINAL SLOPE AND 2% MAXIMUM CROSS SLOPE. LANDINGS, PATIOS/PLAZAS, AND ACCESSIBLE PARKING SPACES SHALL BE 2% MAXIMUM IN ALL DIRECTIONS. RAMPS SHALL BE 8.3% MAXIMUM.
10. A GEOTECHNICAL ENGINEER MAY BE RETAINED BY THE OWNER TO OBSERVE PERFORMANCE OF WORK, FOR CONFORMANCE WITH THESE CONTRACT DOCUMENTS. IN CONNECTION WITH EXCAVATING, TRENCHING, FILLING, BACKFILLING AND GRADING, AND TO PERFORM ASSOCIATED FIELD TESTS.
11. DURING THE PROGRESS OF THE WORK, THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE ADDITIONAL TEST PITS FOR THE PURPOSE OF LOCATING UNDERGROUND UTILITIES OR STRUCTURES AS AN AID IN ESTABLISHING THE PRECISE LOCATION OF NEW WORK. THIS WORK IS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. TEST PITS SHALL BE BACKFILLED, AS SOON AS THE DESIRED INFORMATION HAS BEEN OBTAINED.
12. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS CREATED BY CONTRACTOR OPERATIONS.
13. STOCKPILED TOPSOIL SHALL BE PLACED NEATLY IN AREAS INDICATED ON THE SITE PREPARATION, DEMOLITION, AND SEDIMENTATION CONTROL PLAN.
14. EXISTING TREES AND SHRUBS OUTSIDE THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON PRIOR APPROVAL OF THE OWNER.
15. FILL DEPRESSIONS CAUSED BY TEST PITS AND CLEARING AND GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIAL UNLESS FURTHER EXCAVATION OR EARTHWORK IS INDICATED.
16. THE CONTRACTOR SHALL PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS OR EARTHWORK AREAS WHICH WOULD CAUSE FLOODING OF THE PROJECT SITE AND SURROUNDING AREA, OR SOFTENING OR LOOSENING OF THE SOIL AT EXCAVATION OR EARTHWORK SUB-GRADES.
17. THE CONTRACTOR SHALL PROVIDE, INSTALL, OPERATE, MAINTAIN AND REMOVE ADEQUATE AND SATISFACTORY DEWATERING SYSTEMS AND DRAINAGE OF EXCAVATIONS TO PERMIT CONSTRUCTION TO PROCEED "IN THE DRY". THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE ADEQUACY OF THE METHODS, MATERIALS AND EQUIPMENT EMPLOYED. THE CONTRACTOR SHALL BEAR THE FULL COST OF PROVIDING ALL NECESSARY DEWATERING.
18. THE CONTRACTOR SHALL PROHIBIT SEEPAGE, GROUNDWATER FLOW OR SURFACE INFILTRATION AND RUNOFF FROM UNDERMINING OR OTHERWISE DAMAGING ADJACENT STRUCTURES AND UTILITIES.
19. PAVING, CONCRETE WORK AND BASE COURSE PREPARATION SHALL BE DONE ONLY AFTER EXCAVATION AND CONSTRUCTION WORK WHICH MIGHT INJURE THEM HAS BEEN COMPLETED. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED BEFORE ACCEPTANCE.
20. PAVEMENT OR BASE MATERIALS SHALL NOT BE PLACED ON MUDDY OR FROZEN SUBGRADE.
21. ESTABLISHMENT OF GRADES, GRADE CONTROL, AND CONFORMANCE TO REQUIRED GRADE TOLERANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
22. PROTECT GRADED, FINISHED OR PAVED AREAS FROM DAMAGE AND KEEP THEM FREE OF TRASH AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS. REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS.
23. PAVEMENT, LAWN OR PLANTING AREAS EXCAVATED DURING UTILITY CONSTRUCTION, WHETHER ON THE SITE OR ADJACENT PROPERTIES, SHALL BE RESTORED AND MATCHED WITH EXACTLY THE SAME MATERIALS AND TOLERANCES AS PRIOR TO DISRUPTION, AT NO ADDITIONAL COST TO THE OWNER, OR ADJACENT PROPERTY OWNERS.

DRAINAGE NOTES

1. ALL STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) UNLESS OTHERWISE NOTED.
2. MANHOLES SHALL BE 48-INCH DIAMETER REINFORCED CONCRETE (UNLESS OTHERWISE SPECIFIED). CAST-IN-PLACE BASES SHALL BE USED WHERE MANHOLES ARE CONSTRUCTED OVER EXISTING PIPES.
3. FRAMES, GRATES AND COVERS SHALL BE SET FIRM AND TRUE TO GRADE, ADJUST FOR FRAMES, GRATES AND COVERS SHALL BE SET FIRM AND TRUE TO GRADE, ADJUST FOR GRADE WITH BRICK MASONRY.
4. PRECAST CONCRETE STRUCTURES INCLUDING WATER QUALITY UNITS, BARREL SECTIONS, CATCH BASINS AND BASES SHALL CONFORM TO ASTM C478 AND AASHTO HS20-44. PLACEMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS. ALL PRECAST STRUCTURES INCLUDING JOINTS, SEALS, OPENINGS, ETC. MUST BE WATERTIGHT.
5. AT THE END OF CONSTRUCTION, AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, THE CONTRACTOR SHALL CLEAN THE SUMPS OF ALL CATCH BASINS AND THE INVERTS OF ALL DRAIN MANHOLES.
6. ALL DRAIN LINES SHOWN SHALL BE 12" DIAMETER UNLESS OTHERWISE NOTED.

UTILITY NOTES

1. THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE AS NECESSARY.
2. PROVIDE UNDERGROUND ELECTRICAL CONDUIT FOR SITE LIGHTS AS APPROPRIATE.
3. ENSURE ALL EXISTING (TO REMAIN) AND PROPOSED MANHOLE COVERS PROPERLY IDENTIFY UTILITY SERVED.
4. UNLESS OTHERWISE INDICATED, ABANDONED EXISTING UTILITY LINES SHALL BE CAPPED AND ABANDONED IN PLACE UNLESS THEY CONFLICT WITH PROPOSED IMPROVEMENTS. CAP REMAINING PORTIONS WHERE PARTIALLY REMOVED.
5. UNDERGROUND UTILITIES WERE COMPILED FROM AVAILABLE RECORD PLANS OF UTILITY COMPANIES AND PUBLIC AGENCIES A



ZONING COMPLIANCE SUMMARY			
ZONING DISTRICT:	LIGHT INDUSTRIAL (LI)		
OVERLAY DISTRICT:	GROUNDWATER PROTECTION DISTRICT		
CRITERIA	**REQUIRED**	**EXISTING**	**PROPOSED**
LOT AREA (MIN)	40,000 SF	6,301,600 SF (144.66 AC.)	NO CHANGE
LOT FRONTAGE (MIN)	100'	2,600'+/-	NO CHANGE
SETBACKS (MIN)			
FRONT	65'	75'+/-	577'+/-
SIDE	15'	NA	372'+/-
REAR	30'	NA	745'+/-
OPEN SPACE (MIN)	50%	NA	71.3 %+/-
PARKING / LOADING SUMMARY	**REQUIRED**	**EXISTING**	**PROPOSED**
STALL WIDTH	9'	9'	9'
STALL DEPTH	19'	19'	19'
PARKING QUANTITIES	250 (NOTE 3)	NA	300 (NOTE 3)
LOADING DOCKS	5	NA	135
TRAILER STORAGE SPACES	NA	NA	206
TRAILER STORAGE EXPANSION	NA	NA	100
BUILDING SUMMARY			
USE	**REQUIRED**	**EXISTING**	**PROPOSED**
DISTRIBUTION WAREHOUSE	NA	NA	616,875 SF
BUILDING HEIGHT (MAX)	60'	NA	45' ±

GENERAL NOTES

1. EXISTING CONDITION PROVIDED BY GUERRIERE & HALNON, INC. PLAN TITLED "EXISTING CONDITIONS 75 PLAIN STREET HOPEDALE WORCESTER COUNTY, MASSACHUSETTS" DATED JULY 9, 2021.
2. WETLANDS DELINEATED BY LEC ENVIRONMENTAL CONSULTANTS DATED 3/21.
3. NO MORE THAN 360 EMPLOYEES ARE EXPECTED TO BE WORKING AT ANY GIVEN TIME. ZONING REQUIRES 1 SPACE FOR EVERY 1.2 EMPLOYEES FOR INDUSTRIAL USES.

   300 EMPLOYEES * (1 SPACE / 1.2 EMPLOYEES) = 250 REQUIRED SPACES

200 0 100 200 400 800

GRAPHIC SCALE 1 inch = 200 ft.

GMA ARCHITECTS
7930 Clayton Road, Suite 300
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P: (770) 541-1700
www.gma-architects.com

ARCO NATIONAL CONSTRUCTION | NEW ENGLAND
30 Speen Street Suite 300
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CIVIL
Highpoint Engineering, Inc.
980 Washington Street, Suite 216
Dedham, MA. 02026
781-770-0970

STRUCTURAL
GMA Structural
7930 Clayton Rd. Suite 300
St. Louis, MO 63117
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GEOTECH ENGINEER
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7 Marshall Road
Hampstead, NH 03841
603-489-5556

FIRE PROTECTION
Platinum Fire Protection
34 Saint Martin Dr., Suite 12
Marlboro, MA 01752
508-246-2142

MECHANICAL
IENG, LLC
1982 Innerbelt Business Center
St. Louis, MO 63114
314-548-5218

ELECTRICAL
C.A. Senecal Electrical Services
120 Mayfield Street
Worcester, MA 01602
508-792-2399

PROJECT
616,875 SPEC - GFI Partners
75 Plain Street,
Hopedale, MA 01747

COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37796
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PEER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
G101
SITE CONFORMANCE PLAN

If this is not 24" long then the drawing has been reduced from the size shown and is not to scale

SHEET 4

SHEET 5

SHEET 6

SHEET 3

SHEET 2

SHEET 1

PROPOSED
DISTRICT CENTER
616,875 SF

NEWTON

PLAIN (PUBLIC~VARIABLE WIDTH) STREET

MILL RIVER

200' RIVERFRONT AREA

S78°29'33"W 891.55'

100 0 50 100 200 400

GRAPHIC SCALE 1 inch = 100 ft.

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1	PER PEER REVIEW COMMENTS	01.14.2022
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SHEET NUMBER
G102
KEY PLAN

MAP 22 LOT 28

75 PLAIN STREET

AREA= 6,301,600±SF
(144.66±AC)

N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53

N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 374
PN BK. 932 PL 95

DHSB(F)

S78°29'33"W 891.55'

N65°40'14"E 853.05'

N78°29'33"E 382.07'

N24°19'04"W 25.12

8-SERIES

13-SERIES

14-SERIES

15-SERIES

11-SERIES

12-SERIES

9-SERIES

10-SERIES

MHW

N28°30'26"W 8.09'

N41°39'30"W [TIE] 827.07'

N/F
STONE
21 BEN'S WAY
BK 47344 PG 344
PB 536 PL 82

OWNER
UNKNOWN
SWAMP
LAND

N52°26'28"E 82.45'

LOCATED BANK (NOT FLAGGED)

MILL RIVER

876'± BY CENTERLINE OF MILL RIVER

N/F
ZUROMSKI
BK 49610 PG 164
PL BK 552 PL 48

N34°35'41"W [TIE] 845.82'

N/F
RUSSELL
BK 13157 PG 347
PL BK 531 PL 69

S75°23'46"W [RECORD PLAN 550'±] 552.79' [TO TIE]

552'±

N/F
TSE REALTY LLC
BK 32969 PG 300

BUFFER ZONE
BK 23317 PG 59
(PB 362 PL 122)

S10°02'51"E 253.98'

N/F
13 ROSENFELD DRIVE, LCC
BK 57232 PG 64

RESTRICTED AREA
(DEED BK 23317 PG 49)
(PB 858 PL 64)

N/F
HOPEDALE
ASSOCIATES LLC
BK 33667
PG 172

N83°25'58"W 234.99'

S52°45'56"W 96.84'

S85°46'48"W 777.87'

S62°28'51"W 26.35'

N/F
WHITEHALL
REALTY GROUP
BK 54151 PG 377
BK 58993 PG 145

N/F
ROSENFELD
DRIVE, LCC
BK 38636
PG 313

N/F
BCLC, LCC

AIRPORT ROAD

S40°57'02"W 182.17'

S73°39'50"W 250.00'

S04°11'02"E 22.02'

N04°11'02"W 200.00'

IR(F)

DH(F)

ACTIVITY & USE LIMITATION AREA

N17°50'07"W 87.00'

N62°50'37"E 75.00'

S27°09'23"E 87.00'

N62°50'37"E 100.00'

S27°09'23"E 100.00'

N62°50'37"E 75.00'

PUMP HOUSE

2-STY W/F OFFICE

1-STY CONC BLOCK GARAGE

W/F GARAGE

Fire Hydrant

Shed

Boulders

Pump House

Trailer

Office

Conc Mix

Concrete Foundation

Concrete Block Piles

1-Sty Conc Bldg

Sand Storage

Conex Container

Gravel

OVERHEAD WIRES (TYP)

WATER ROUTE PER TOWN WATER DEPARTMENT (AC PIPING)

S17°23'11"E 228.06'

S11°33'58"E 89.82'

S80°00'00"W 60.89'

S11°15'52"W 508.23'

S67°35'21"E (TIE LINE) 425.07'

PLAIN (PUBLIC-VARIABLE WIDTH) STREET

S17°39'00"W 177.17'

S05°05'26"W 101.55'

S05°05'26"W 87.43'

S05°05'26"W 13.98'

S05°05'26"W 22.50'

[S06°10'35"W 22.50']

[S06°10'35"W 13.98']

[S06°10'35"W 87.43']

[S06°10'35"W 101.55']

[S17°39'00"W 177.17']

[S11°15'52"W 508.23']

[S67°35'21"E (TIE LINE) 425.07']

[S11°33'58"E 89.82']

[S80°00'00"W 60.89']

[S17°23'11"E 228.06']

[N78°29'33"E 382.07']

[S78°29'33"W 891.55']

[N65°40'14"E 853.05']

[N41°39'30"W [TIE] 827.07']

[N34°35'41"W [TIE] 845.82']

[S75°23'46"W [RECORD PLAN 550'±] 552.79' [TO TIE]]

[N83°25'58"W 234.99']

[S52°45'56"W 96.84']

[S10°02'51"E 253.98']

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[N28°30'26"W 8.09']

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[N52°26'28"E 82.45']

[N62°50'37"E 75.00']

[S27°09'23"E 87.00']

[N62°50'37"E 100.00']

[S27°09'23"E 100.00']

[N62°50'37"E 75.00']

[N17°50'07"W 87.00']

0.11'

0.49'

0.52'

N
W E
S
MASSACHUSETTS STATE PLANE NAD83

LEGEND	
S29°58'28"E 48.15'	PLAN METE AND BOUND
[S31°01'28"E 48.13']	RECORD METE AND BOUND
IR/SB	IRON ROD IN STONE BOUND
DHSB	DRILL HOLE IN STONE BOUND
IR	IRON ROD
DH	DRILL HOLE
(F)	FOUND

COMMONWEALTH OF MASSACHUSETTS
ROBERT E. CONSTANTINE, II
No. 49611
REGISTERED PROFESSIONAL LAND SURVEYOR

7/30/2021

OWNER

ROSENFELD CONCRETE CORP.
P.O. BOX 9187
100 NORTH WASHINGTON STREET
BOSTON, MA 02111

(DMJ CONCRETE CORP DEED BK. 8780 PG 110)
(SEE MERGER CERTIFICATE INTO ROSENFELD CONCRETE CORP. IN DEED BK 11502 PG 280)

EXISTING CONDITIONS
75 PLAIN STREET
HOPEDALE,
WORCESTER COUNTY, MASSACHUSETTS

JULY 16, 2021

DATE	REVISION DESCRIPTION
07.16.2021	1-SERIES WETFLAGS ADDED
07.30.2021	PER CONSULTANT COMMENTS.

GRAPHIC SCALE: 1"=100'

0 50 75 100 150 200 300 FEET
0 10 20 30 40 50 75 100 METERS

Guerriere & Halnon, Inc.
ENGINEERING & LAND SURVEYING
55 WEST CENTRAL ST. PH. (508) 528-3221
FRANKLIN, MA 02038 FX. (508) 528-7921
www.gandhengineering.com

SHEET 1 OF 2

JOB NO. F4444

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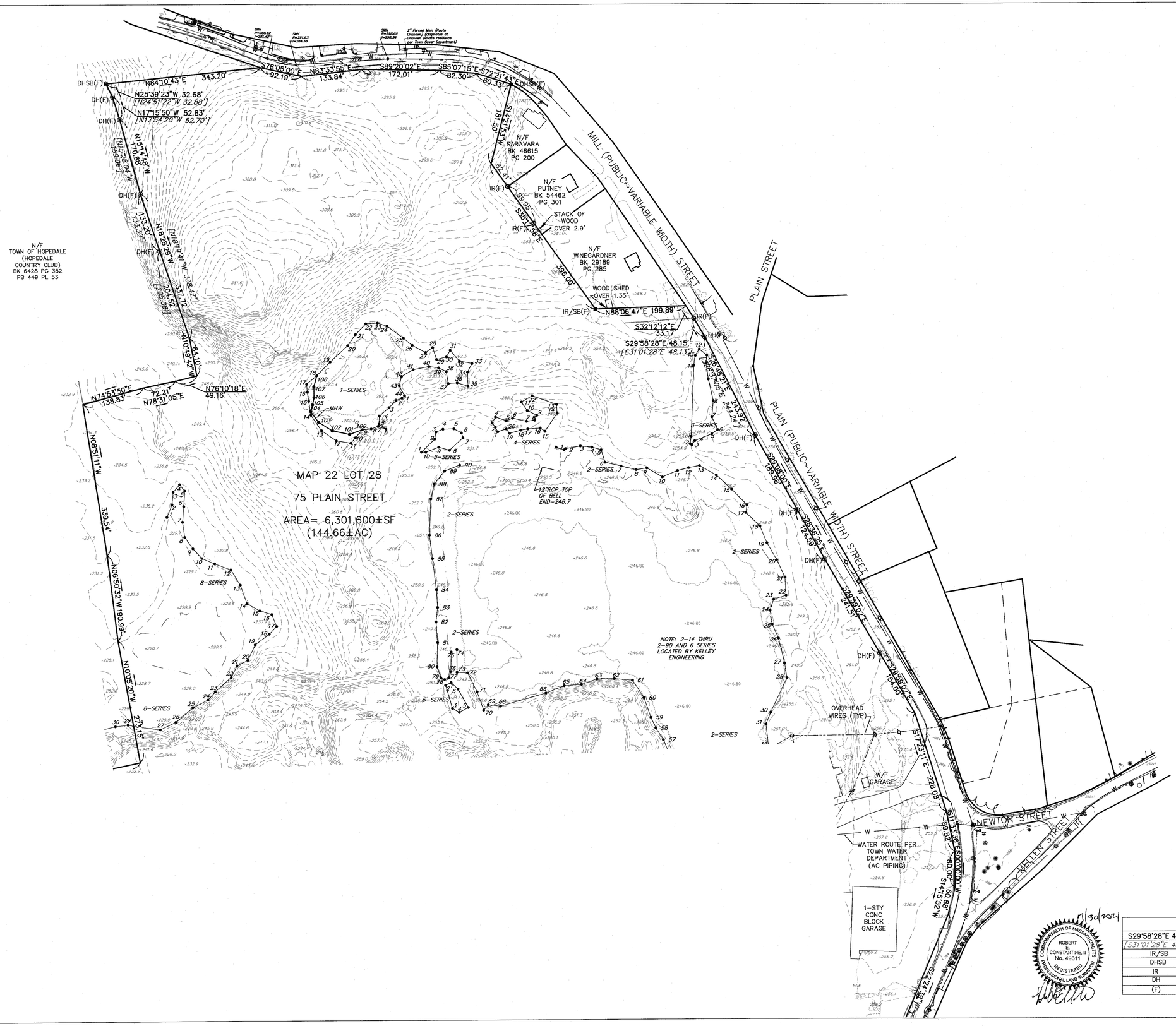

OWNER
ROSENFELD CONCRETE CORP. P.O. BOX 9187 100 NORTH WASHINGTON STREET BOSTON, MA 02111 (DMJ CONCRETE CORP DEED BK. 8780 PG 110) (SEE MERGER CERTIFICATE INTO ROSENFELD CONCRETE CORP. IN DEED BK 11502 PG 280)

EXISTING CONDITIONS
75 PLAIN STREET
HOPEDALE,
WORCESTER COUNTY,
MASSACHUSETTS

JULY 9, 2021

DATE	REVISION DESCRIPTION
07.16.2021	1-SERIES WETFLAGS ADDED
07.30.2021	PER CONSULTANT COMMENTS.

GRAPHIC SCALE: 1"=100'

0 50 75 100 150 200 300 FEET
0 10 20 30 40 50 75 100 METERS

LEGEND	
S29°58'28"E 48.15'	PLAN METE AND BOUND
[S31°01'28"E 48.13']	RECORD METE AND BOUND
IR/SB	IRON ROD IN STONE BOUND
DHSB	DRILL HOLE IN STONE BOUND
IR	IRON ROD
DH	DRILL HOLE
(F)	FOUND

7/30/2021
COMMONWEALTH OF MASSACHUSETTS
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SHEET 2 OF 2 | JOB NO. F4444

K:\F4444\dwg\F4444-EXISTING CONDITIONS(2021-07-30).dwg, 7/29/2021 3:43:27 PM, [REC]

Erosion & Sediment Control Notes
Site Construction Schedule
Site Construction Specifications
Long Term O&M Plan

N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53
N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 753
PN BK. 93X PL 95
OVERHEAD WIRES (TYP.)
NEWTON ST
WATER ROUTE PER TOWN WATER DEPARTMENT (AC PIPING)
Fire Hydrant
PUMP
PLAIN (PUBLIC-VARIABLE WIDTH) STREET
AIRPORT ROAD
MILL
HISTORIC LOCATION OF REMAINS OF A DITCH PLOTTED ON PLAN AND BOOK
APPROXIMATE SURVEY LOCATION OF A STREAM WHICH FOLLOWS THE HISTORIC LOCATION OF THE REMAINS OF A DITCH. DUE TO HIGH WATER DURING THE COURSE OF THE PRESENT SURVEY, THIS COULD NOT BE VERIFIED IN THE FIELD. THIS LINE WAS USED TO CALCULATE THE RIVERFRONT AREA.
200 RIVERFRONT AREA
N/F
ZUROMSKI
BK 49610 PG 164
PL BK 552 PL 48
N/F
13 ROSENFELD DRIVE, LCC
BK 57232 PG 64
N/F
HOPEDALE
ASSOCIATES LLC
BK 33667
PG 172
N/F
WHITEHALL
REALTY GROUP
BK 54151 PG 377
BK 58993 PG 145
N/F
ROSENFELD
DRIVE, LCC
BK 38636
PG 313
N/F
TPKM, LLC
BK 65783
PG 240
Boulders
Foundation
Concrete Block Piles
1-Sty Conc Bldg
Sand Storage
Conx Container
Tank
Pump House
Pump Station
Pump Station
Pump Station

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MATCH LINE SHEET C206

MATCH LINE SHEET C202

CUT ALL TREES AND VEGETATION WITHIN LIMIT OF WORK. R&D STUMPS AND DEBRIS (TYP.)

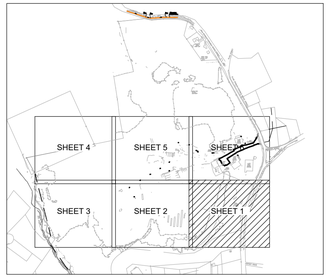
R&D CONC. PAVEMENT (TYP.)

R&D TRAILERS AND EQUIPMENT (BY OWNER)

VISUALLY INSPECT POND, BORDERING WETLANDS, AND BUFFER ZONE OUTSIDE EROSION CONTROL BARRIER. R&D CONCRETE METAL DEBRIS AND FILL PILES BY HAND AS REQUIRED (TYP.)

100 BUFFER ZONE (TYP.)

PLAIN (PUBLIC~VARIABLE WIDTH) STREET



KEY

SYMBOL LEGEND	
	STRAW WATTLE EROSION CONTROL BARRIER/LIMIT OF WORK
	SILTSACK CATCH BASIN INSERT
	CONSTRUCTION ANTI-TRACKING PAD
	R&D EXISTING POWER LINE
	R&D RETAINING WALLS
	R&D EXISTING WATER LINE
	R&D PAVEMENT AND GRAVEL BASE LAYER
	STRIP LOAM AND STOCKPILE ON SITE
	STRUCTURE TO BE DEMOLISHED AND REMOVED
LOW LOW LOW	LIMIT OF WORK
X	REMOVE & DISPOSE EXISTING OBJECT
M&P	MAINTAIN AND PROTECT
R&D	REMOVE AND DISPOSE

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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508-246-2142

MECHANICAL
IDNG, LLC
1982 Innerbelt Business Center
St. Louis, MO 63114
314-548-5218

ELECTRICAL
C.A. Senecal Electrical Services
120 Mayfield Street
Worcester, MA 01602
508-792-2399

PROJECT
616,875 SPEC - GFI Partners
75 Plain Street,
Hopedale, MA 01747

COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37706
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C201
SITE PREPARATION & EROSION CONTROL PLAN

If this is not 24" long then the drawing has been reduced from the original size

MATCH LINE SHEET C205

MATCH LINE SHEET C203

MATCH LINE SHEET C201

R&D OVERHEAD ELECTRIC AND TIMBER POLES (COORD. WITH UTILITY)

R&D CONCRETE FOUNDATIONS AND PRECAST STOCKPILE (TYP.)

CUT ALL TREES AND VEGETATION WITHIN LIMIT OF WORK. R&D STUMPS AND DEBRIS (TYP.)

R&D ALL HOISTING EQUIPMENT (TYP.)

100' BUFFER ZONE (TYP.)

WETLAND FILL AREA 3700 SF

R&D PRECAST CONC. STRUCTURES. REGRADE SIDE SLOPE AT 3:1. HOLD TOE OF SLOPE AT 5' OFF BORDERING WETLAND (TYP.)

VISUALLY INSPECT POND, BORDERING WETLANDS, AND BUFFER ZONE OUTSIDE EROSION CONTROL BARRIER R&D CONCRETE METAL DEBRIS AND FILL PILES BY HAND AS REQUIRED (TYP.)

Concrete Foundation

Concrete Block Piles

1-Sty Conc Bldg

Sand Storage

Conx Container

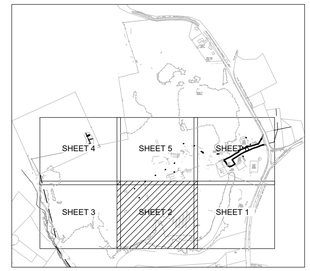
Tank

Concrete Forms

MHW

9-SERIES

10-SERIES



KEY

NOTE:

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GRAPHIC SCALE

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4-13-2023

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SHEET NUMBER
C202
SITE PREPARATION & EROSION CONTROL PLAN

Erosion & Sediment Control Notes:
1. Inspect BMP's daily and after each rainfall.
2. Repair any BMP's as needed.
3. Remove sediment when BMP's are 1/2 full.

MATCH LINE SHEET C204

MATCH LINE SHEET C202

100' BUFFER ZONE (TYP.)

200' RIVERFRONT AREA

CUT ALL TREES AND VEGETATION WITHIN LIMIT OF WORK. R&D STUMPS AND DEBRIS (TYP.)

N/F
STONE
21 BEN'S WAY
BK 47344 PG 344
PB 536 PL 82

OWNER UNKNOWN SWAMP LAND

MILL RIVER

14–SERIES

15–SERIES

13–SERIES

SCRUB

KEY

NOTE:

1. SEE SHEET C201 FOR LEGEND.

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SHEET NUMBER
C203
SITE PREPARATION & EROSION CONTROL PLAN

Erosion & Sediment Control Inspection Log Sheet
Per Section 5(a) 3(a) of the Hopedale Wetlands Protection Bylaw Regulations
Inspection Log Sheet

N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53

N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 374
PN BK. 932, PL 85

LOW

100'

100' BUFFER ZONE
(TYP.)

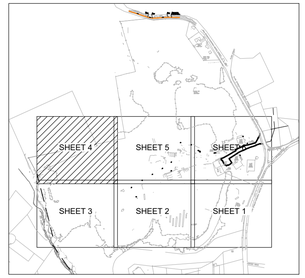
CUT ALL TREES AND VEGETATION WITHIN LIMIT OF WORK. R&D STUMPS AND DEBRIS (TYP.)

MATCH LINE SHEET C205

MATCH LINE SHEET C203

NOTE:

1. SEE SHEET C201 FOR LEGEND.



KEY

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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SHEET NUMBER
C204
SITE PREPARATION & EROSION CONTROL PLAN

If this is not 24" long then the drawing is not to scale. Adjust scale accordingly.

100' BUFFER ZONE (TYP.)

100' BUFFER ZONE (TYP.)

R&D TANK (BY OWNER)

R&D PUMP HOUSE , EQUIPMENT AND PIPING

R&D ALL RETAINING WALLS WITHIN LIMIT OF WORK (TYP.)

R&D TRUCK WASH STAGING AREA AND EQUIPMENT

R&D ALL DRAINAGE STRUCTURES WITHIN LIMIT OF WORK (TYP.)

CUT ALL TREES AND VEGETATION WITHIN LIMIT OF WORK. R&D STUMPS AND DEBRIS (TYP.)

INSTALL FLOATING CONTAINMENT BOOM

R&D CONC. PAVEMENT (TYP.)

R&D OVERHEAD ELECTRIC AND TIMBER POLES (COORD. WITH UTILITY)

R&D ALL RETAINING WALLS WITHIN LIMIT OF WORK (TYP.)

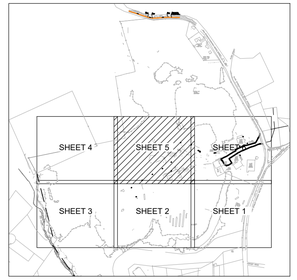
R&D PROCESSING EQUIPMENT & ALL ASSOCIATED APPURTENANCES

R&D ALL SOIL STOCKPILE WALLS WITHIN LIMIT OF WORK (TYP.)

MATCH LINE SHEET C203

MATCH LINE SHEET C206

MATCH LINE SHEET C202



KEY

NOTE:

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SHEET NUMBER
C205
SITE PREPARATION & EROSION CONTROL PLAN

Erosion & Sediment Control Notes
Site Construction Notes
Site Demolition Notes
Site Layout Notes
Site Utility Notes

NOTE: 2-14 AND 2-15 AND 6 SERIES LOCATED BY KELLY ENGINEERING

100 BUFFER ZONE (TYP.)

R&D PUMP HOUSE BUILDING, EQUIPMENT, METAL CATWALK AND APPURTENANCES

INSTALL FLOATING CONTAINMENT BOOM

R&D ELECTRICAL EQUIPMENT

WATER LINE TO BE ABANDONED IN PLACE

BURIED CONCRETE TO BE REMOVED

OVERHEAD WIRES (TYP)

R&D STRUCTURES (BY OWNER) TYP.

ANTI TRACKING PAD

CUT & CAP EXISTING WATER LINE. ABANDON LINE IN PLACE.

WATER ROUTE PER TOWN WATER DEPARTMENT (AC PIPING)

R&D CONC. PAVEMENT (TYP.)

BURIED CONCRETE TO BE REMOVED

Fire Hydrant

R&D CONC. PAVEMENT (TYP.)

LIMIT OF ACTIVITY : USE LIMITS RUN ALA

R&D GAS PUMPS AND UNDERGROUND TANKS (BY OWNER)

100' BUFFER ZONE (TYP.)

R&D PUMP HOUSE BUILDING, EQUIPMENT AND APPURTENANCES

R&D METAL CATWALK LAND UNDER WATER AREA OF DISTURBANCE =

R&D CONC. PAVEMENT (TYP.)

MATCH LINE SHEET C205

MATCH LINE SHEET C201

SHEET 4 | SHEET 5 | SHEET 6 | SHEET 3 | SHEET 2 | SHEET 1

KEY

NOTE:

1. SEE SHEET C201 FOR LEGEND.

GRAPHIC SCALE 40 0 20 40 80 160 — 1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
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SHEET NUMBER
C206
SITE PREPARATION & EROSION CONTROL PLAN

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N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53

N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 374
PN BK. 932 PL 95

15' SIDE SETBACK

PROPOSED
DISTRIBUTION CENTER
616,875 SF

OFFICE

TENANT "A"

TENANT "B"

OFFICE

POTENTIAL TENANT DEMISING LINE

65' FRONT SETBACK

NEWTON ST

MASSACHUSETTS STATE PLANE
DATUM (NAD83)

PLAIN (PUBLIC~VARIABLE WIDTH) STREET

65' FRONT SETBACK

AIRPORT ROAD

15' SIDE SETBACK

200' RIVERFRONT AREA

200' RIVERFRONT AREA

OWNER UNKNOWN SWAMP LAND

WAY
'G 344
L 82

LOCATED BANK (NOT FLAGGED)

N/F
ZUROMSKI
BK 49610 PG 164
PL BK 552 PL 48

MILL

N/F
13 ROSENFELD DRIVE, LCC
BK 57232 PG 64

N/F
HOPEDALE
ASSOCIATES LLC
BK 33667
PG 172

N/F
WHITEHALL
REALTY GROUP
BK 54151 PG 377
BK 58993 PG 145

N/F
ROSENFELD
DRIVE, LCC
BK 38636
PG 313

N/F
TPKM, LLC
BK 65783
PG 240

NOTE: Z-14 THRU Z-99 AND E SERIES LOCATED BY KELLY ENGINEERING

100 0 50 100 200 400
GRAPHIC SCALE 1 inch = 100 ft.

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SHEET NUMBER
C300
OVERALL LAYOUT & MATERIALS PLAN

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MATCH LINE SHEET C306

MATCH LINE SHEET C302

OFFICE

ACCESSIBLE SIGN (TYP.)

CURB STOP (TYP.)

168 PARKING SPACES

CURB RAMP (TYP.)

LS

6'

R=4'

124'

19' 24' 38' 24' 19'

PROPOSED SITE LIGHTING (TYP.)

MONOLITHIC CONCRETE SIDEWALK

EOP

STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT

HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

STORMWATER SEE GRADING & DRAINAGE PLANS

70'

CC

BCC

TC

HEAVY DUTY CONCRETE PAD FOR TRAILER STAGING

R=58'

65'

55'

SNOW STORAGE

WETLAND REPLICATION AREA

STOP SIGN

BAR LIFT GATE (TYP.)

STOP SIGN (R1-1)

GUARD STATION

46'

30'

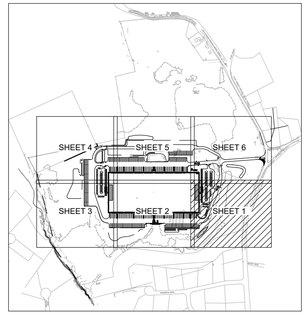
R=242'

EXISTING SOUND WALL TO REMAIN

65' FRONT SETBACK

HEADWALL SEE GRADING & DRAINAGE PLAN

MASSACHUSETTS STATE PLANE DATUM NAD83



KEY

SYMBOL LEGEND	
EOP	EDGE OF PAVEMENT
BCC	BITUMINOUS CONCRETE CURB
R=10'	CURB RADIUS
	ACCESSIBLE PARKING / STOP SIGN
	MONOLITHIC CONCRETE SIDEWALK
	ACCESSIBLE PARKING STALL
	CURB RAMPS
LS	LANDSCAPE AREA
(8)	PARKING SPACES
8	TRAILER DOCKS
	HEAVY DUTY CONCRETE PAD LIMITS
	HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT LIMITS
	PROPOSED LIGHT POLE

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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508-792-2399

PROJECT
616,875 SPEC - GFI Partners
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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37796
REGISTERED PROFESSIONAL ENGINEER

4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C301
LAYOUT & MATERIALS PLAN

Erroneous scale or dimensions can result if plans are electronically reproduced. Check the graphic scale before scaling drawing.

MATCH LINE SHEET C305

PROPOSED DISTRIBUTION CENTER 616,875 SF

TENANT "A"

TENANT "B"

525'

50'

56'

62.5'

POTENTIAL TENANT DEMISING LINE

(2) 10' x 30' TRASH COMPACTOR PAD

70'

14'

135'

190'

65'

55'

77 LOADING SPACES

38 TRAILER SPACES

35 TRAILER SPACES

HEAVY DUTY CONCRETE PAD FOR TRAILER STAGING

BCC

EOP

R=25'

6'x8' SPILL CONTAINMENT SUPPLY SHED

SEGMENTAL BLOCK RETAINING WALL w/GUARD RAIL

HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

SNOW STORAGE (TYP. OF 4)

STORMWATER

MHW

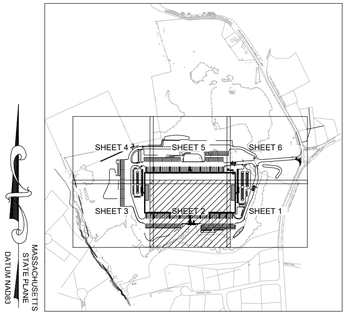
10-SERIES

9-SERIES

MATCH LINE SHEET C303

MATCH LINE SHEET C301

MASSACHUSETTS STATE PLANE DATUM NAD83



KEY

NOTE:

1. SEE SHEET C301 FOR LEGEND.

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
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No. 37796
REGISTERED PROFESSIONAL ENGINEER

4-13-2023

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SHEET NUMBER
C302
LAYOUT & MATERIALS PLAN

Electronic Copy of Plans and Specifications Prepared for this Project are Instruments of Service and Shall Not be Used by Any Entity for Any Other Project

MATCH LINE SHEET C304

MATCH LINE SHEET C302

50 TRAILER SPACES

132 PARKING SPACES

ACCESSIBLE SIGN (TYP.)

CURB STOP (TYP.)

CURB RAMP (TYP.)

STANDARD DUTY BITUMINOUS CONCRETE PAVEMENT MONOLITHIC CONCRETE SIDEWALK

HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

O F F I C E

SNOW STORAGE

SNOW STORAGE

55'

80'

30'

14'

R=58'

R=50'

R=30'

EOP

BOC

CC

LS

14-SERIES

15-SERIES

13-SERIES

SCRUB

MILL RIVER

200' RIVERFRONT AREA

N/F
STONE
21 BEN'S WAY
BK 47344 PG 344
PB 536 PL 82

OWNER UNKNOWN
SWAMP LAND

525'

MASSACHUSETTS STATE PLANE DATUM NAD83

SHEET 4 SHEET 5 SHEET 6
SHEET 3 SHEET 2 SHEET 1

KEY

NOTE:

1. SEE SHEET C301 FOR LEGEND.

GRAPHIC SCALE 40 0 20 40 80 160
1 inch = 40 ft.

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4-13-2023

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SHEET NUMBER
C303
LAYOUT & MATERIALS PLAN

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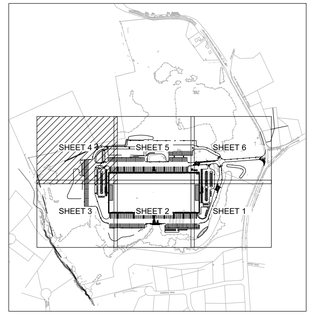
prohibited.

N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53

MASSACHUSETTS
STATE PLANE
DATUM NAD83



KEY

MATCH LINE SHEET C305

N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 374
PN BK. 932 PL 95

VINYL COATED CHAIN LINK FENCE FINAL LENGTH TO BE CONFIRMED WITH HOPEDALE WATER DEPARTMENT

TRAILER STORAGE ACCESS

TRUCK TRAFFIC ONLY

NO LEFT TURN (R3-2)

STOP SIGN (R1-1) CAR PARKING (LEFT)

EOP

STOP SIGN (R1-1)

SNOW STORAGE

DEDICATED VEHICULAR ACCESS

STORMWATER

STOP SIGN (R1-1) NO TURNS

TRUCK TRAFFIC ONLY

TRUCK TRAFFIC ONLY

STOP SIGN (R1-1) / NO TURNS

LS

MATCH LINE SHEET C303

NOTE:

1. SEE SHEET C301 FOR LEGEND.

40 0 20 40 80 160
GRAPHIC SCALE 1 inch = 40 ft.

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DOUGLAS J. HARTNETT
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COMMONWEALTH OF MASSACHUSETTS
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C304
LAYOUT & MATERIALS PLAN

Filed in accordance with Chapter 93A Section 10 and 780 CMR 107.3.1 Electronic Seal Current as of the date of this plan

MATCH LINE SHEET C303

8–SERIES

6–SERIES

MATCH LINE SHEET C305

MASSACHUSETTS STATE PLANE DATUM (NAD83)

KEY

SHEET 4 | SHEET 5 | SHEET 6 | SHEET 3 | SHEET 2 | SHEET 1

STORMWATER

SNOW STORAGE

SNOW STORAGE

SNOW STORAGE

SNOW STORAGE

80'

83 POTENTIAL TRAILER PARKING EXPANSION

GRAVEL OR PAVED IN FUTURE TBD BY OWNER

EOP

30'

80'

55'

R=30'

34 POTENTIAL TRAILER PARKING EXPANSION

GRAVEL OR PAVED IN FUTURE TBD BY OWNER

HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

STORMWATER

55'

39 TRAILER SPACES

LIMITS OF BCC

R=25'

19 TRAILER SPACES

SNOW STORAGE

SPILL CONTAINMENT SUPPLY SHED

(2) 10' x 30' TRASH COMPACTOR PAD

HEAVY DUTY CONCRETE PAD FOR TRAILER STAGING

58 LOADING SPACES

190'

136'

14'

70'

R=40'

BOLLARD (TYP)

CC

BCC

TC

56'

62.5'

50'

1175'

MATCH LINE SHEET C301

NOTE:

1. SEE SHEET C301 FOR LEGEND.

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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4-13-2023

JOB NO: GA1149

PA: AA

ISSUE DATE: 09.01.2021

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SHEET NUMBER

C305

LAYOUT & MATERIALS PLAN

Electronic Seal: Douglas J. Hartnett
The Seal on this Document was authorized by Douglas J. Hartnett on 4-13-2023

MATCH LINE SHEET C305

NOTE: 2-14 THRU 2-90 AND 6 SERIES LOCATED BY KELLY ENGINEERING

2-SERIES

9-SERIES

LS

SNOW STORAGE

EOP

R=80'

R=50'

R=200'

R=60'

R=25'

R=15'

R=20'

R=42'

30'

40'

65' FRONT SETBACK

65' FRONT SETBACK

STOP (R1-1)

TRUCK TRAFFIC ONLY

GUARD STATION

STOP SIGN (R1-1) RIGHT TURN ONLY

HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT

STORMWATER

MONOLITHIC CONCRETE SIDEWALK

BOLLARD (TYP)

BCC

62'

167'

20'

6'

ACCESSIBLE SIGN (TYP.)

MASSACHUSETTS STATE PLANE DATUM NAD83

NEW

MATCH LINE SHEET C301

KEY

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6

NOTE:

1. SEE SHEET C301 FOR LEGEND.

GRAPHIC SCALE 1 inch = 40 ft.

40 0 20 40 80 160

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COMMONWEALTH OF MASSACHUSETTS
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4-13-2023

JOB NO: GA1149
PA: AA
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SHEET NUMBER
C306
LAYOUT & MATERIALS PLAN

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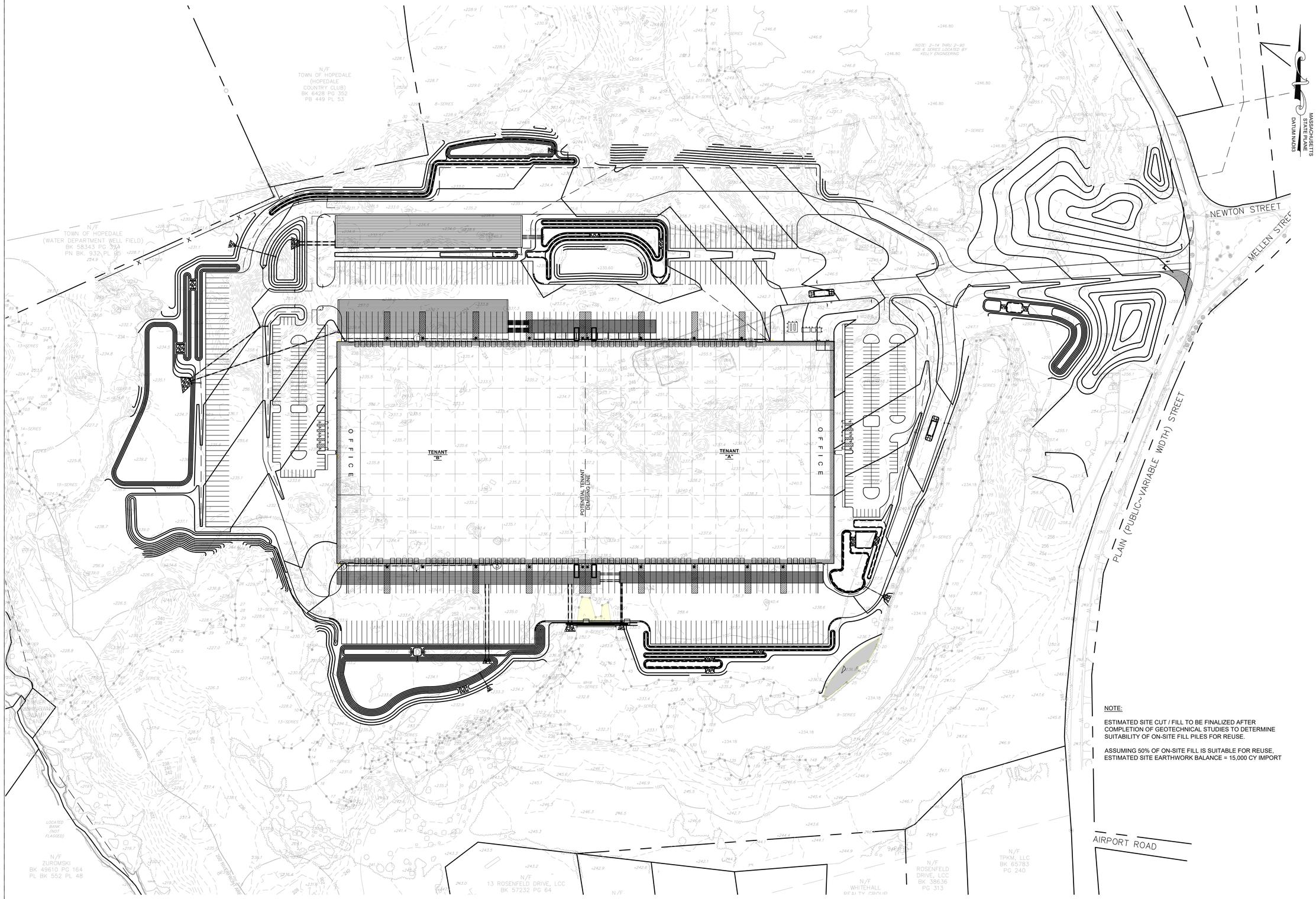

NOTE:

ESTIMATED SITE CUT / FILL TO BE FINALIZED AFTER COMPLETION OF GEOTECHNICAL STUDIES TO DETERMINE SUITABILITY OF ON-SITE FILL PILES FOR REUSE.

ASSUMING 50% OF ON-SITE FILL IS SUITABLE FOR REUSE, ESTIMATED SITE EARTHWORK BALANCE = 15,000 CY IMPORT

100 0 50 100 200 400

GRAPHIC SCALE 1 inch = 100 ft.

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COMMONWEALTH OF MASSACHUSETTS
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4-13-2023

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SHEET NUMBER
C400
OVERALL GRADING & DRAINAGE PLAN

If this is not 24" long bar
the drawings have been
reduced. Adjust scales
accordingly

MATCH LINE SHEET C406

MATCH LINE SHEET C402

ACCESSIBLE PARKING
MAX SLOPE = 2.0%

O F F I C E

FFE = 244.0

FOREBAY 2A
BOTTOM ELEV=239.5
SPILLWAY ELEV=240.0
BERM ELEV=240.5

FOREBAY 2B
BOTTOM ELEV=239.0
SPILLWAY ELEV=239.5
BERM ELEV=240.0

INFILTRATION BASIN IB 2
BOTTOM ELEV=238.5

BERM @240.6

1.0%

3' WIDE RIP RAP
ALONG EDGE OF
PAVEMENT

GUARD HOUSE

TP-38
232.4

FES
INV= 237.0
La= 16'
Wu= 4.5'
Wd= 18'
SEE DETAIL SHEET.

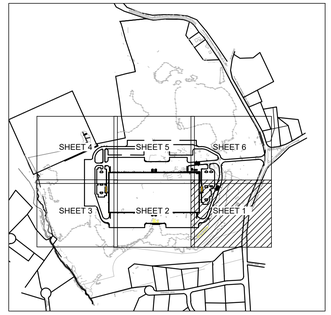
4'x4' PRECAST OUTLET
CONTROL STRUCTURE
RIM=240.5
WEIR(41x1.3'H)= 239.2
INV(OUT-15")=237.5

EL=235.5

PROPOSED WETLAND
REPLICATION 5,200 SF
NEW EL = 235.5
SEE WETLAND REPLICATION
PLAN FOR DETAILS

PLAIN (PUBLIC~VARIABLE WIDTH) STREET

MASSACHUSETTS
STATE PLANE
DATUM NAD83



KEY

GRADING LEGEND

118	ELEVATION CONTOUR
x117.1	SPOT ELEVATION
TW 98.50 / BW 96.00	TOP AND BOTTOM OF WALL
	DRAIN MANHOLE
	OUTLET CONTROL BOX STRUCTURE
	LANDSCAPE AREA DRAIN
	STORM DRAIN
	FLARED END SECTION
	RIP RAP
FES	FLARED END SECTION
RD	ROOF DRAIN
	FLOW ARROW
HDPE	HIGH-DENSITY POLYETHYLENE

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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4-13-2023

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SHEET NUMBER
C401
GRADING & DRAINAGE PLAN

If this is not 24" long then the drawings have been reduced. Adjust scales accordingly.

MATCH LINE SHEET C405

PROPOSED WAREHOUSE AND DISTRIBUTION CENTER
616,875 GSF
FFE = 244.0

TENANT "B"

TENANT "A"

POTENTIAL TENANT DEMISING LINE

MATCH LINE SHEET C401

MATCH LINE SHEET C403

TP-32 231.9

TP-9 230.7

TP-8 231.3

TP-37 233.3

TP-36 232.4

TP-17 230.2

TP-34 228.9

TP-35 234.1

TP-5

TP-6 229.9

DOORS @ 244.0 (TYP.)
SEE ARCH PLANS FOR STAIR DETAILS

LOADING BAYS @ 240.0 (TYP.)

CDS-07
CONTECH 2020-5
RIM= 239.9
INV OUT= 235.7
INV IN= 235.7

15" HDPE PIPE
L=14 | S=1.4%

CONNECT ROOF DRAINS TO HDPE. SEE PLUMBING PLANS FOR CONNECTIONS.

ROOF DRAIN CLEANOUT
INV= 232.3

L=175 | S=1.0%
15" HDPE PIPE

L=191 | S=1.0%
15" HDPE PIPE

12" HDPE PIPE
L=47 | S=3.0%

12" HDPE PIPE
L=47 | S=3.0%

8" ROOF DRAIN

INV= 235.5

INV= 235.0

INV= 235.5

INV= 236.9

UNDERGROUND PIPE SYSTEM UPS 4
(8,060 LF) 18" PERFORATED CMP
MIN FG=239.5±
TOP STONE=237.0
TOP PIPE=236.5
BOTTOM PIPE=235.0
BOTTOM STONE=234.5
INV(IN-ROOF-11x12")=235.5
INV(IN-UPS3-4x12")=235.5
INV(OUT-2x18")=235.0
INV(OUT-2x12")=235.5
MAX SHGW=230.5±

12" HDPE PIPE
L=176 | S=4.5%

12" HDPE PIPE
L=176 | S=4.5%

18" HDPE PIPE
L=94 | S=1.1%

12" HDPE PIPE
L=97 | S=1.4%
(TYP OF 3)

12" HDPE PIPE
L=47 | S=3.0%

12" HDPE PIPE
L=47 | S=3.0%

PERMANENT WETLAND ALTERATION AREA= 3,430 SF

FES W/ RIP RAP
INV= 235.0 (TYP. OF 3)
La= 12'
Wu= 7'
Wd= 17'
SEE DETAIL SHEET.

UNDERGROUND PIPE SYSTEM UPS 3
(6,240 LF) 12" PERFORATED CMP
MIN FG=239.75±
TOP STONE=238.4
TOP PIPE=237.9
BOTTOM PIPE=236.9
BOTTOM STONE=236.4
INV(IN-ROOF-8x12")=236.9
INV(OUT-7x12")=236.9
MAX SHGW=232.4±

1.0%

3' WIDE RIP RAP ALONG EDGE OF PAVEMENT

3' WIDE RIP RAP ALONG EDGE OF PAVEMENT

FOREBAY 4B
BOTTOM ELEV=234.0
SPILLWAY ELEV=235.0
BERM ELEV=236.0

FOREBAY 4A
BOTTOM ELEV=235.0
SPILLWAY ELEV=236.0
BERM ELEV=237.0

FES W/ RIP RAP
INV= 234.6
La= 12'
Wu= 11'
Wd= 21'
SEE DETAIL SHEET.

12" HDPE PIPE
L=15 | S=4.0%

12" HDPE PIPE
L=16 | S=3.8%

FES
INV= 234.0

FES
INV= 234.0

FES
INV= 233.0

12" HDPE PIPE
L=20 | S=2.0%

CDS-07
RIM= 237.0
INV OUT= 233.4
INV IN= 233.4
INV IN= 233.4

FES
INV= 234.0

INFILTRATION BASIN IB 4
BOTTOM ELEV=233.0

12" HDPE PIPE
L=34 | S=1.5%

FES W/ RIP RAP
INV= 233.5
La= 12'
Wu= 3'
Wd= 13'
SEE DETAIL SHEET.

SPILLWAY ELEV=237.0

FES W/ RIP RAP
INV= 234.0
La= 18'
Wu= 13'
Wd= 26'
SEE DETAIL SHEET.

TW 239.9
BW 234.0

TW 240.0
BW 234.0

TW 239.7
BW 236.0

TEMPORARY WETLAND ALTERATION AREA = 450 SF

FOREBAY 3A
BOTTOM ELEV=237.0
SPILLWAY ELEV=237.5
BERM ELEV=238.0

FOREBAY 3B
BOTTOM ELEV=237.0
SPILLWAY ELEV=237.5
BERM ELEV=238.0

INFILTRATION BASIN IB 3
BOTTOM ELEV=236.5

SPILLWAY ELEV=237.5

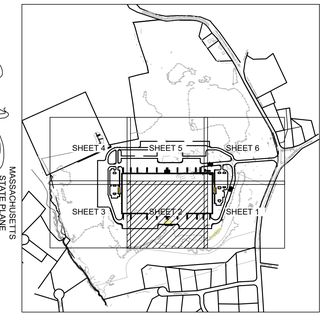
MHW 10-SERIES

MHW 9-SERIES

NOTE:

1. SEE SHEET C401 FOR LEGEND.

GRAPHIC SCALE 1 inch = 40 ft.



KEY

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
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No. 37756
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
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2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C402
GRADING & DRAINAGE PLAN

Filtration Inlet(s) Flag Non-Standard Inlet Grate Filtration Device Notes Inlet Grate Type Filtration Device Type

MATCH LINE SHEET C404

MATCH LINE SHEET C402

W@= 39'
SEE DETAIL SHEET.

FES
INV= 237.5

1' DEEP GRASS
DRAINAGE CHANNEL

INFILTRATION BASIN IB 5
BOTTOM ELEV=233.0

1.5%

FFE = 244.0

O F F I C E

TP-30
229.8

TP-31
223.9

TP-10
229.0

TP-11
231.0

TP-33
227.5

D.I. 5 — L=175 | S=1.0%
15" HDPE PIPE

6' HIGH SOUND WALL
BTM WALL = 240
TOP WALL = 246
SEE GEOTECHNICAL
PLANS BY OTHERS

1.0%

3' WIDE RIP RAP ALONG EDGE
OF PAVEMENT

POWER
UNKNOWN
SWAMP
LAND

N/F
STONE
21 BEN'S WAY
BK 47344 PG 344
PB 536 PL 82

200' RIVERFRONT AREA

MILL RIVER

14-SERIES
15-SERIES
13-SERIES

SCRUB

NOTE:

1. SEE SHEET C401 FOR LEGEND.

MASSACHUSETTS STATE PLANE DATUM NAD83

KEY

SHEET 1 | SHEET 2 | SHEET 3 | SHEET 4 | SHEET 5 | SHEET 6

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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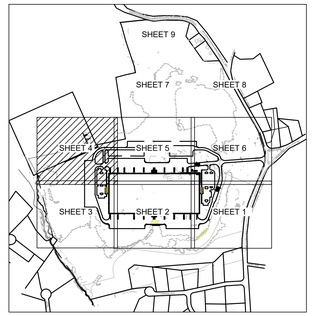
SHEET NUMBER
C403
GRADING & DRAINAGE PLAN

If this is not 2" long then the Drawings are not to Scale and Dimensions are Approximate

N/F
TOWN OF HOPEDALE
(HOPEDALE
COUNTRY CLUB)
BK 6428 PG 352
PB 449 PL 53

N/F
TOWN OF HOPEDALE
(WATER DEPARTMENT WELL FIELD)
BK 58343 PG 374
PN BK. 932, PL 85

MASSACHUSETTS STATE PLANE DATUM NAD83



KEY

MATCH LINE SHEET C405

MATCH LINE SHEET C403

FES W/ RIP RAP
INV= 232.0
La= 16'
Wu= 4.5'
Wd= 18'
SEE DETAIL SHEET.

TP-28
225.0

1' DEEP GRASS DRAINAGE CHANNEL

18" HDPE PIPE
L=95 | S=1.0%

FOREBAY 5A
BOTTOM ELEV=234.0
SPILLWAY ELEV=235.0
BERM ELEV=236.0

FOREBAY 5B
BOTTOM ELEV=234.0
SPILLWAY ELEV=235.0
BERM ELEV=236.0

TP-29
233.5

TP-15
227.8

INFILTRATION BASIN IB 5
BOTTOM ELEV=233.0

3 - FES W/ RIP RAP
INV (ALL)= 233.65
La= 24'
Wu= 16.5'
Wd= 39'
SEE DETAIL SHEET.

15" HDPE PIPE
L=201 | S=0.5%

16" HDPE PIPE
L=175 | S=0.5%

FES
INV= 237.5

TP-29

FES
INV= 233.0
INFILTRATION BASIN
IB 6
BOTTOM ELEV=230.0

FES W/ RIP RAP
INV= 233.0
La= 20'
Wu= 13'
Wd= 30'
SEE DETAIL SHEET.

24" HDPE PIPE
L=85 | S=0.6%
INV= 233.5

24" HDPE PIPE
L=85 | S=0.6%

18" HDPE PIPE
L=14 | S=0.7%

CDS-04
RIM= 238.1
INV OUT= 234.7
INV IN= 234.7

AREA DRAIN AD-01
RIM= 237.1
INV= 234.8

18" HDPE PIPE
L=186 | S=0.5%

DRAIN MANHOLE DMH-02
RIM= 238.9
INV OUT= 234.5
INV IN= 234.6

1' DEEP SWALE

DRAIN MANHOLE DMH-01
RIM= 240.1
INV OUT= 235.5
INV IN= 235.5

L=180 | S=0.4%
15" HDPE PIPE

NOTE:

1. SEE SHEET C401 FOR LEGEND.

40 0 20 40 80 160
GRAPHIC SCALE 1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
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No. 37795
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C404
GRADING & DRAINAGE PLAN

If this is not 24" long bar
adjust your plot scale
to 50% before printing
and/or plotting

MATCH LINE SHEET C404

MATCH LINE SHEET C406

MATCH LINE SHEET C402

INFILTRATION BASIN IB 7
BOTTOM ELEV=234.0

FES W/ RIP RAP
INV= 234.0
La= 12'
Wu= 3'
Wd= 13'
SEE DETAIL SHEET.

12" HDPE PIPE
L=36 | S=2.8%

CDS-01
RIM= 240.0
INV OUT= 235.0
INV IN= 235.1

12" HDPE PIPE
L=17 | S=3.4%

FES
INV= 236.0

FOREBAY 6A
BOTTOM ELEV=235.7
SPILLWAY ELEV=236.5
BERM ELEV=237.2

TP-16
246.2

TP-26
229.2

RIDGE

TP-27
227.1

FOREBAY 7B
BOTTOM ELEV=236.0
OUTLET ELEV=236.5
BERM ELEV=237.0

12" HDPE PIPE
L=48 | S=4.2%
(TYP OF 3)

MIN GROUND EL=242.0 IN THIS AREA

UNDERGROUND PIPE SYSTEM UPS 1
(8,800 LF) 30" PERFORATED CMP
MIN FG=238.1±
TOP STONE=236.0
TOP PIPE=235.5
BOTTOM PIPE=233.0
BOTTOM STONE=232.5
INV(IN-FB7B-3x12")=234.5
INV(OUT-2x24")=233.5
MAX SHGW=228.5±

INV= 234.5

FES
INV= 236.5
(TYP OF 3)

12" HDPE PIPE
L=17 | S=4.1%

INV= 234.5

FOREBAY 7A
BOTTOM ELEV=236.0
SPILLWAY ELEV=236.5
BERM ELEV=237.0

FES
INV= 236.3
10" HDPE PIPE
L=14 | S=4.3%

CDS-02
RIM= 238.7
INV OUT= 235.2
INV IN= 235.7

3' WIDE RIP RAP ALONG EDGE
OF PAVEMENT

3' WIDE RIP RAP ALONG EDGE
OF PAVEMENT

TP-24
240.0±
(OIL)

LOW POINT

UNDERGROUND PIPE SYSTEM UPS 2
(4,500 LF) 12" PERFORATED CMP
MIN FG=239.0±
TOP STONE=237.5
TOP PIPE=237.0
BOTTOM PIPE=236.0
BOTTOM STONE=235.5
INV(IN-ROOF-12x12")=236.0
INV(OUT-12-12")=236.0
MAX SHGW=231.5±

UNDERGROUND PIPE SYSTEM UPS 5
(9,360 LF) 24" PERFORATED CMP
MIN FG=239.0±
TOP STONE=237.0
TOP PIPE=236.5
BOTTOM PIPE=234.5
BOTTOM STONE=234.0
INV(IN-UPS2-12x12")=235.5
INV(IN-ROOF-7x12")=235.5
INV(OUT-18")=235.5
MAX SHGW=230.0±

12 - 12" PIPE INV= 235.50

12" HDPE PIPE
L=50 | S=1.0%
(TYP OF 12)

12 - 12" PIPE INV= 236.00

12" PIPE INV= 236.00 (TYP OF 12)

TP-14
228.6

15" HDPE PIPE
L=14 | S=1.4%

L=180 | S=0.4%
15" HDPE PIPE

15" HDPE PIPE
L=212 | S=0.3%

CDS-03
CONTECH 2020-5
RIM= 239.9
INV OUT= 235.7
INV IN= 235.7

CONNECT
ROOF DRAINS
TO HDPE. SEE
PLUMBING
PLANS FOR
CONNECTIONS.

12" PIPE INV= 236.17 (TYP OF 12)

LOADING BAYS @ 240.0 (TYP.)

DOORS @ 244.0 (TYP.)
SEE ARCH PLANS FOR STAIR DETAILS

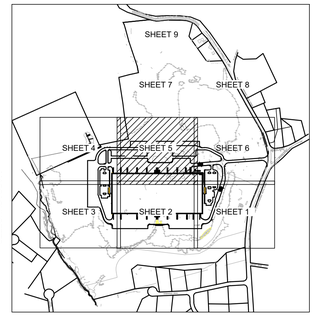
24" ROOF DRAIN HEADER
L=550' | S=0.0%
INV(HDR-24")=236.17
INV OUT(12-12")=236.17

TP-25
231.6

1.5%

1.0%

MASSACHUSETTS STATE PLANE DATUM NAD83



KEY

NOTE:

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GRAPHIC SCALE

40 0 20 40 80 160

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4-13-2023

JOB NO: GA1149

PA: AA

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SHEET NUMBER

C405

GRADING & DRAINAGE PLAN

MATCH LINE SHEET C407

MATCH LINE SHEET C404

MATCH LINE SHEET C400

HOR. 2-14 THRU 2-56 AND 6 SERIES LOCATED BY KELLY ENGINEERING

OVERHEAD WIRES (TYP)

2-SERIES

9-SERIES

TP-23
248.4
(OIL)

TP-24
240.0
(OIL)

TP-22
OW
246.3

TP-21
249.4

TP-20
252.1

TP-27
OW
238.5

TEMP BVW DISTURBANCE
[1,000 +/- SF]

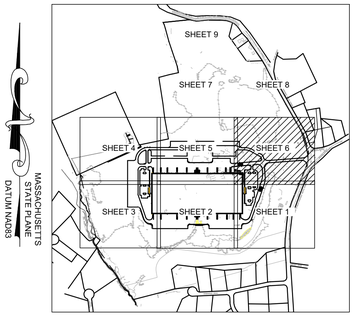
FOREBAY 1A
BOTTOM ELEV=246.0
SPILLWAY ELEV=246.5
BERM ELEV=247.0

FOREBAY 1B
BOTTOM ELEV=245.5
SPILLWAY ELEV=246.0
BERM ELEV=246.5

INFILTRATION BASIN IB 1
BOTTOM ELEV=244.0

PITCH DRIVEWAY WITH 1%
CROSS SLOPE TOWARDS SWALE

1.5%



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SHEET NUMBER
C406
GRADING & DRAINAGE PLAN

Filename:\\mwdc-1\dgn\Projects\GMA Architects\GFI Partners\616,875 SPEC - GFI Partners\Drawings\Civil\C500 OVERALL UTILITY PLAN.dwg
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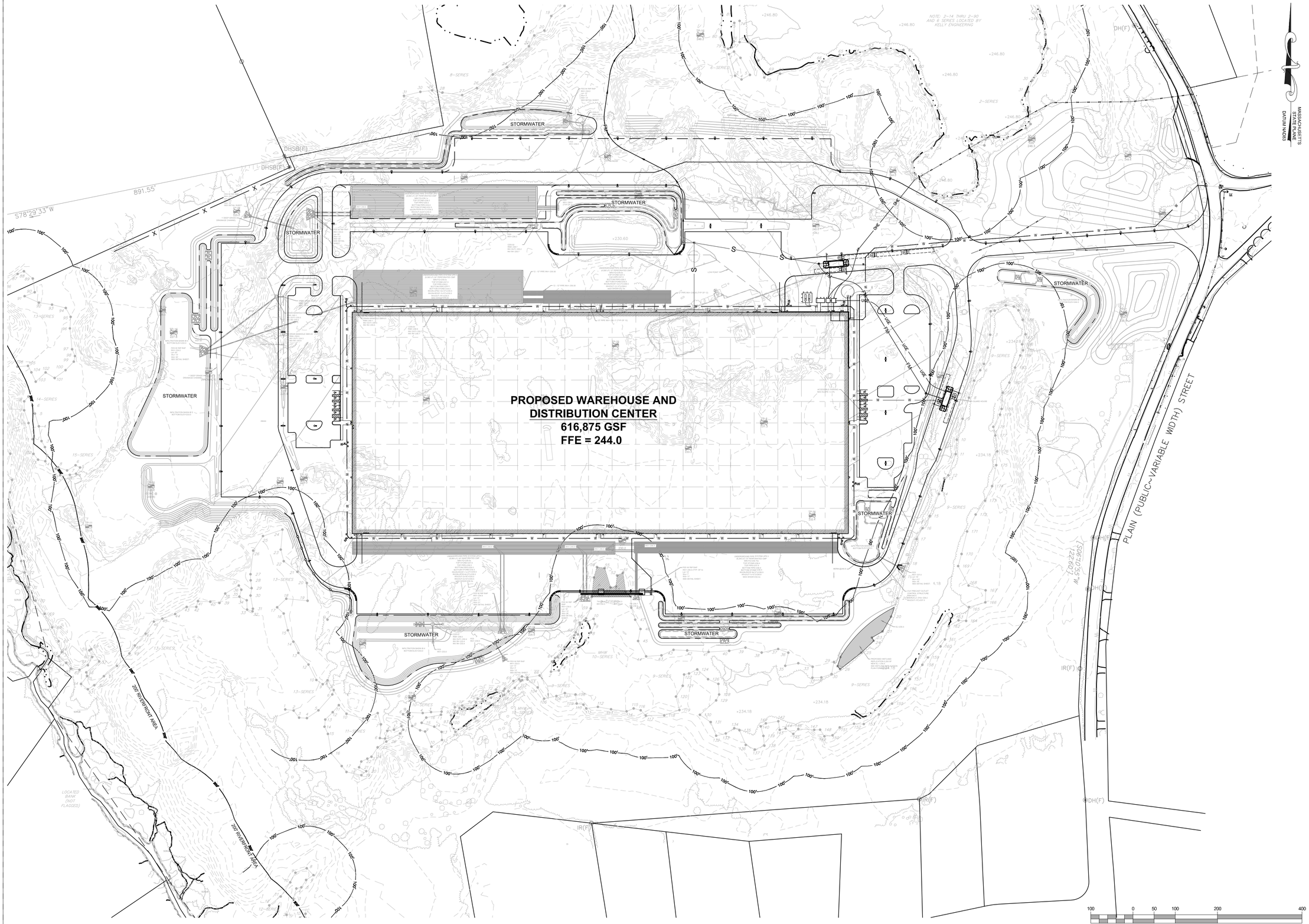
Last Plotted: 4/13/2023 2:47:22 PM



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ELECTRICAL
C.A. Senecal Electrical Services
120 Mayfield Street
Worcester, MA 01602
508-792-2399

PROJECT
616,875 SPEC - GFI Partners
75 Plain Street,
Hopedale, MA 01747

COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37756
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C500
OVERALL UTILITY PLAN

Erosion controls / stockpiles shall not be placed on adjacent properties without permission of the property owner. Contractor shall obtain.

MATCH LINE SHEET C502

MATCH LINE SHEET C506

PLAIN STREET (PUBLIC~ VARIABLE WIDTH) STREET

12" 8" DOMESTIC/FIRE CLDI

12" 8" DOMESTIC/FIRE CLDI

W W W W W W W

3/4" DOMESTIC CLDI

6" CLDI S2 WATER CONNECTION (TYP.)

PROPOSED FIRE HYDRANT & TRIPLE WATER GATE CLUSTER (TYP)

E-ONE DH071 LIFT STATION
RIM: 242.20
INV(O): 238.50 (1.25" FM)
INV(I): 237.80 (6" SDR 35)

6" SDR 35
L = 40' | S = 3.0%

GUARD HOUSE

1.25" SDR 21 FORCE MAIN

FM

UGE

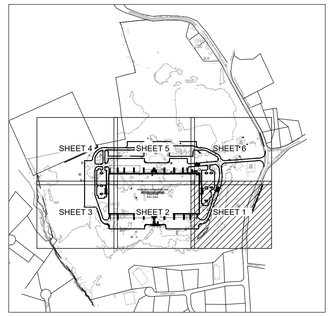
UGE

UGE

INFILTRATION BASIN 2
BOTTOM ELEV = 238.5

SEE GRADING & DRAINAGE PLANS FOR STORMWATER DETAILS (TYP.)

MASSACHUSETTS STATE PLANE
DATUM NAD83



KEY

SYMBOL LEGEND	
W	PROPOSED WATER SERVICE
FM	PROPOSED FORCE MAIN SERVICE
S	PROPOSED SEWER SERVICE
GAS GAS	PROPOSED GAS SERVICE
OHW OHW	PROPOSED OVERHEAD ELECTRIC
UGE UGE	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED HYDRANT
	PROPOSED WATER GATE
	PROPOSED SEWER MANHOLE
	PROPOSED UTILITY POLE
	PROPOSED LIGHT POLE
	PROPOSED SEWER PUMP STATION

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
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No. 37394
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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C501
UTILITY PLAN

MATCH LINE SHEET C505

PROPOSED WAREHOUSE AND DISTRIBUTION CENTER

616,875 GSF

FFE = 244.0

MATCH LINE SHEET C501

MATCH LINE SHEET C503

6" CLDI 52 WATER CONNECTION (TYP.)

8" DOMESTIC/FIRE CLDI

8" DOMESTIC/FIRE CLDI

DRAINAGE SHOWN FOR COORDINATION. SEE GRADING & DRAINAGE PLANS FOR STORMWATER DETAILS (TYP.)

PROPOSED HYDRANT & GATE

TW 239.9
BW 234.0

FW 240.3
BW 234.0

TW 239.7
BW 236.0

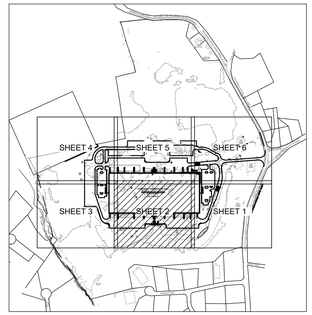
MHW
10-SERIES

9-SERIES

9-SERIES

10-SERIES

MHW
10-SERIES



KEY

NOTE:

1. SEE SHEET C501 FOR LEGEND.

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37786
REGISTERED PROFESSIONAL ENGINEER

4-13-2023

JOB NO: GA1149

PA: AA

ISSUE DATE: 09.01.2021

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SHEET NUMBER

C502

UTILITY PLAN

MATCH LINE SHEET C504

MATCH LINE SHEET C502

W= 30'
SEE DETAIL SHEET.

FES
INV= 237.5

1' DEEP GRASS
DRAINAGE CHANNEL

INFILTRATION BASIN IB 5
BOTTOM ELEV=233.0

8" DOMESTIC FIRE CLDI

PROPOSED FIRE HYDRANT &
TRIPLE WATER GATE CLUSTER (TYP)

6" CLDI 52 WATER
CONNECTION (TYP.)

12" HDPE PW

DRAINAGE SHOWN FOR COORDINATION.
SEE GRADING & DRAINAGE PLANS FOR
STORMWATER DETAILS (TYP.)

200' RIVERFRONT AREA

WILLIAMANSETT RIVER

N/F
STONE
21 BEN'S WAY
BK 47344 PG 344
PB 536 PL 82

POWER
UNKNOWN
SWAMP
LAND

14-SERIES
15-SERIES
13-SERIES
SCRUB

MASSACHUSETTS
STATE PLANE
DATUM NAD83

KEY

SHEET 4 | SHEET 5 | SHEET 6
SHEET 3 | SHEET 2 | SHEET 1

NOTE:

1. SEE SHEET C501 FOR LEGEND.

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

I Hereby Certify That This Plan Was Prepared By Me Or Under My Direct Supervision And Is Filed In Accordance With The Applicable Regulations.

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DOUGLAS J. HARTNETT
CIVIL
No. 37706
REGISTERED PROFESSIONAL ENGINEER
COMMONWEALTH OF MASSACHUSETTS
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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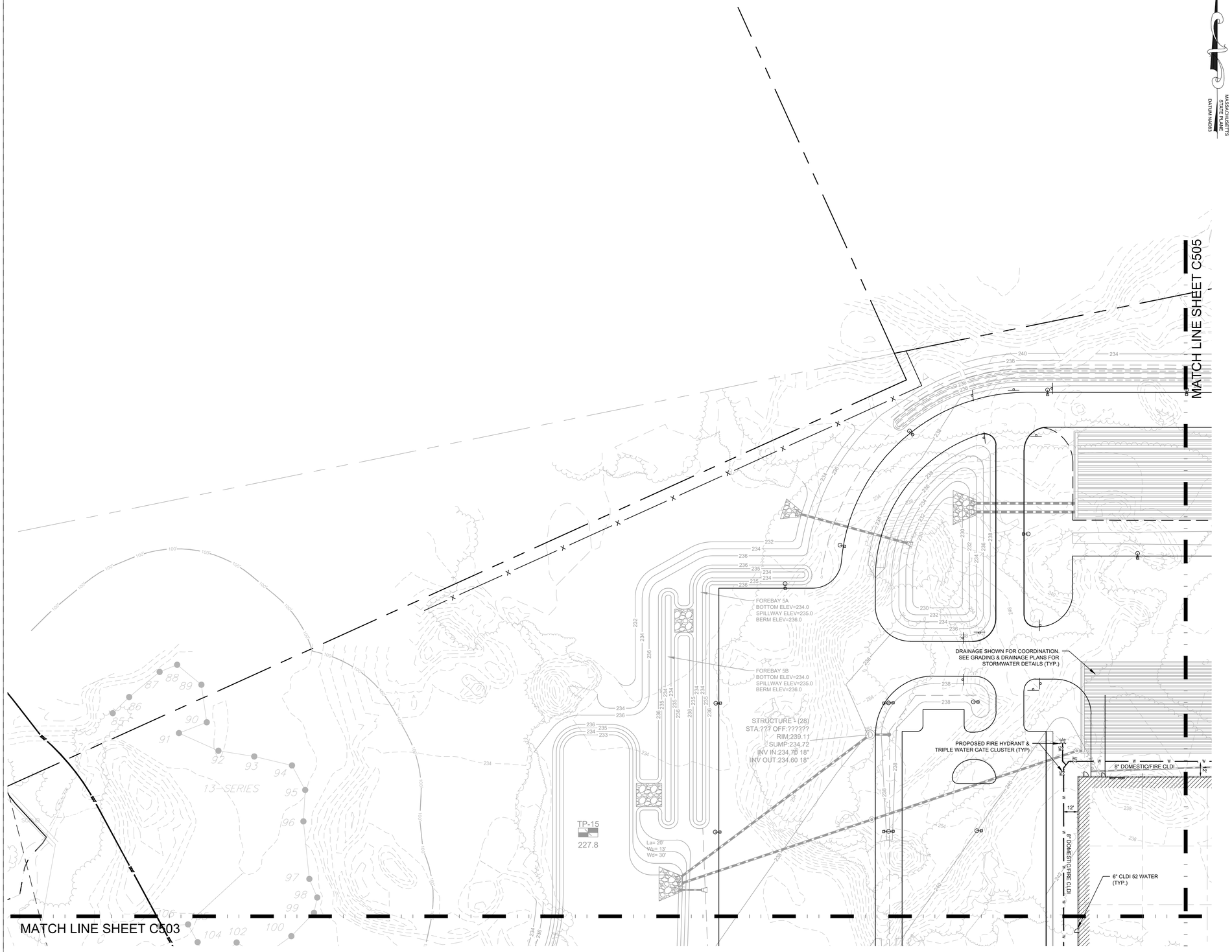
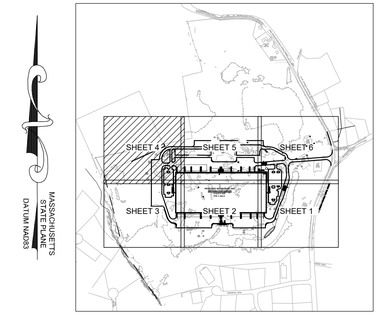
SHEET NUMBER
C503
UTILITY PLAN

Erosion and Sediment Control Notes
Site Construction Notes
Site Demolition Notes
Site Layout Notes
Site Utility Notes





KEY

NOTE:

1. SEE SHEET C501 FOR LEGEND.

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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508-792-2399

PROJECT
616,875 SPEC - GFI Partners
75 Plain Street,
Hopedale, MA 01747

COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37796
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C504
UTILITY PLAN

I Hereby Certify That the Plans and Specifications Were Prepared by Me or Under My Direct Supervision and I am a Duly Licensed Professional Engineer

MATCH LINE SHEET C503

MATCH LINE SHEET C506

MASSACHUSETTS STATE PLANE DATUM NAD83

SEE SHEETS C600 & C601 FOR PLAN & PROFILE

SEE GRADING & DRAINAGE PLANS FOR GRADING DETAILS

8" SDR 35
L = 20' | S = 1.3%

E-ONE DH272 PUMP STATION
RIM: 237.80
INV(O): 230.95 (1.25" SDR 11)
INV(I): 227.70 (6" SDR 35)

8" SDR 35
L = 297' | S = 3.1%

SMH 1
RIM: 237.45
INV(O): 227.95 (6" SDR 35)
INV(I): 228.05 (8" SDR 35)
INV(I): 228.05 (8" SDR 35)

8" SDR 35
L = 161' | S = 0.5%

PAD MOUNTED 1,000 GALLON PROPANE GAS TANK

PROPOSED FIRE HYDRANT & TRIPLE WATER GATE CLUSTER (TYP)

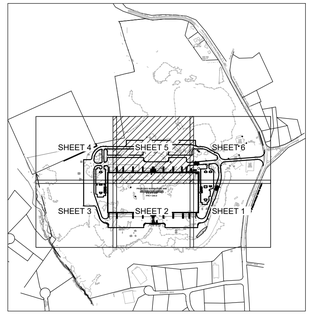
PROPOSED 8" DOMESTIC/FIRE PROTECTION LOOP

8" DOMESTIC/FIRE CLDI

6" CLDI 52 WATER (TYP.)

SEWER INV: 228.86
SEE PLUMBING PLANS

MATCH LINE SHEET C501



KEY

NOTE:

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GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J HARTNETT
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REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
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SHEET NUMBER
C505
UTILITY PLAN

Erosion & Sediment Control Notes
Limit of Work Line Proposed
Limit of Work Line Not Proposed
Limit of Work Line Existing

MATCH LINE SHEET C505

NOTE: 12-14 THRU 12-30 AND 6 SERIES LOCATED BY KELLY ENGINEERING

2-SERIES

9-SERIES

EXISTING UTILITY POLE TO REMAIN

NEW OVERHEAD ELECTRIC LINE

NEW UTILITY POLE

SMH 2
RIM: 243.50
INV(O): 237.15 (8" SDR 35)
INV(I): 237.25 (6" SDR 35)
INV(I): 239.00 (1.25" SDR 11)

6" SDR 35
L = 20' | S = 2.0%

8" DOMESTIC/FIRE CLDI 52

CONNECT NEW 8" DOMESTIC / FIRE SERVICE TO EXISTING SITE WATER SERVICE. VERIFY 8" MIN. EXISTING SERVICE SIZE PRIOR TO CONSTRUCTION.

1.25" SDR 21 (FORCE MAIN)

GEN

T

T

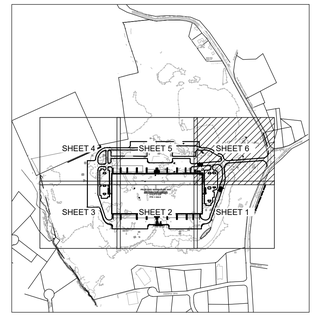
10' x 10' CONC. ELECTRICAL TRANSFORMER PADS

20' x 10' CONC. GENERATOR PAD

1.25" SDR 21 FORCE MAIN

INFILTRATION BASIN IB 1
BOTTOM ELEV=244.0

MASSACHUSETTS STATE PLANE DATUM NAD83



KEY

NOTE:

1. SEE SHEET C501 FOR LEGEND.

MATCH LINE SHEET C501

GRAPHIC SCALE 1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
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No. 37196
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4-13-2023

JOB NO: GA1149
PA: AA
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SHEET NUMBER
C506
UTILITY PLAN

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NOTES:

1. CONTRACTOR TO RELOCATE FORCE MAIN IN FIELD TO AVOID TREE DISTURBANCE TO THE MAXIMUM EXTENT PRACTICABLE. CONSULT WITH SITE ENGINEERS PRIOR TO ANY SIGNIFICANT ADJUSTMENTS.
2. SEE UTILITY PLAN FOR SEWER AND UTILITY DETAILS.
3. AFTER INSTALLATION OF FORCE MAIN, REGRADE SURFACE TO MATCH EXISTING GRADE.

MATCHLINE SHEET C601

MATCHLINE SHEET C600

PROPOSED CLEANOUT

50.5'

100' WETLAND BUFFER

11+00.00

PROPOSED AIR RELEASE VALVE

10+00.00

PROPOSED CLEANOUT

9+00.00

8+00.00

1.25" FORCE MAIN | L = 2,250'

7+00.00

PROPOSED AIR RELEASE VALVE

PROPOSED CLEANOUT

6+00.00

5+00.00

4+00.00

100' WETLAND BUFFER

8' WIDE TRENCH FOR FORCE MAIN INSTALL

2+00.00

PROPOSED CLEANOUT

3+00.00

1+00.00

E-ONE DH272 PUMP STATION
STA -0+00.00
RIM: 237.80
INV(O): 230.95 (1.25" SDR 11)
INV(I): 227.70 (6" SDR 35)

0+00.00

SMH1
STA -0+26.19
RIM: 237.45
INV(O): 227.95 (6" SDR 35)
INV(I): 228.05 (8" SDR 35)
INV(I): 228.05 (8" SDR 35)

-1+00.00

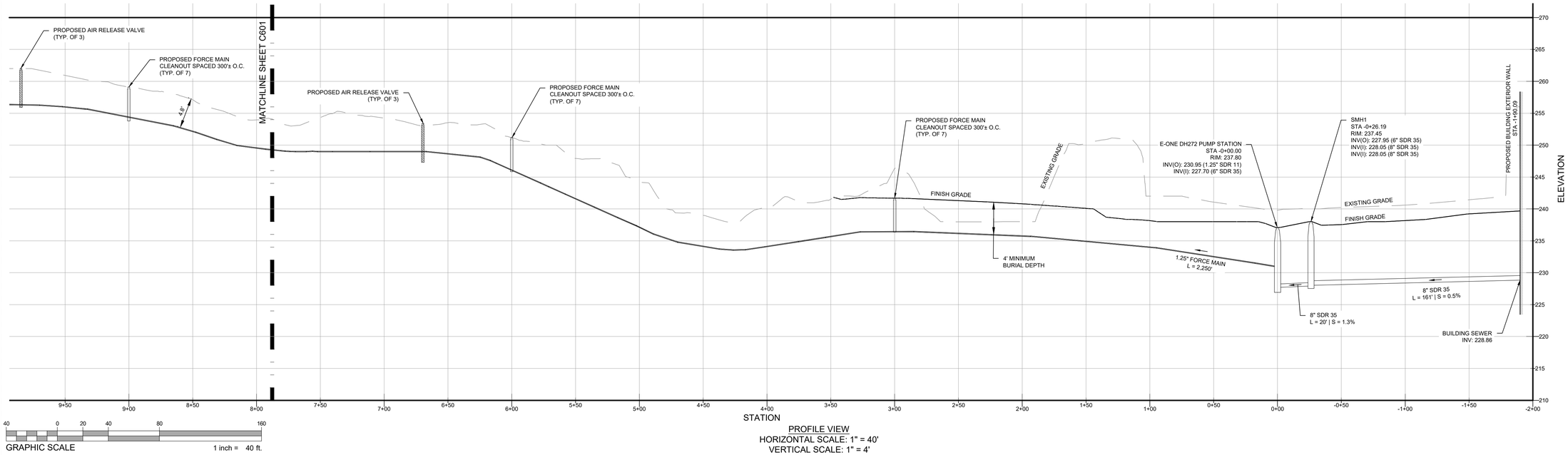
-1+90.09

MASSACHUSETTS STATE PLANE
DATUM NAD83

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

PLAN VIEW
SCALE: 1" = 40'



40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

PROFILE VIEW
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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DOUGLAS J. HARTNETT CIVIL No. 37196 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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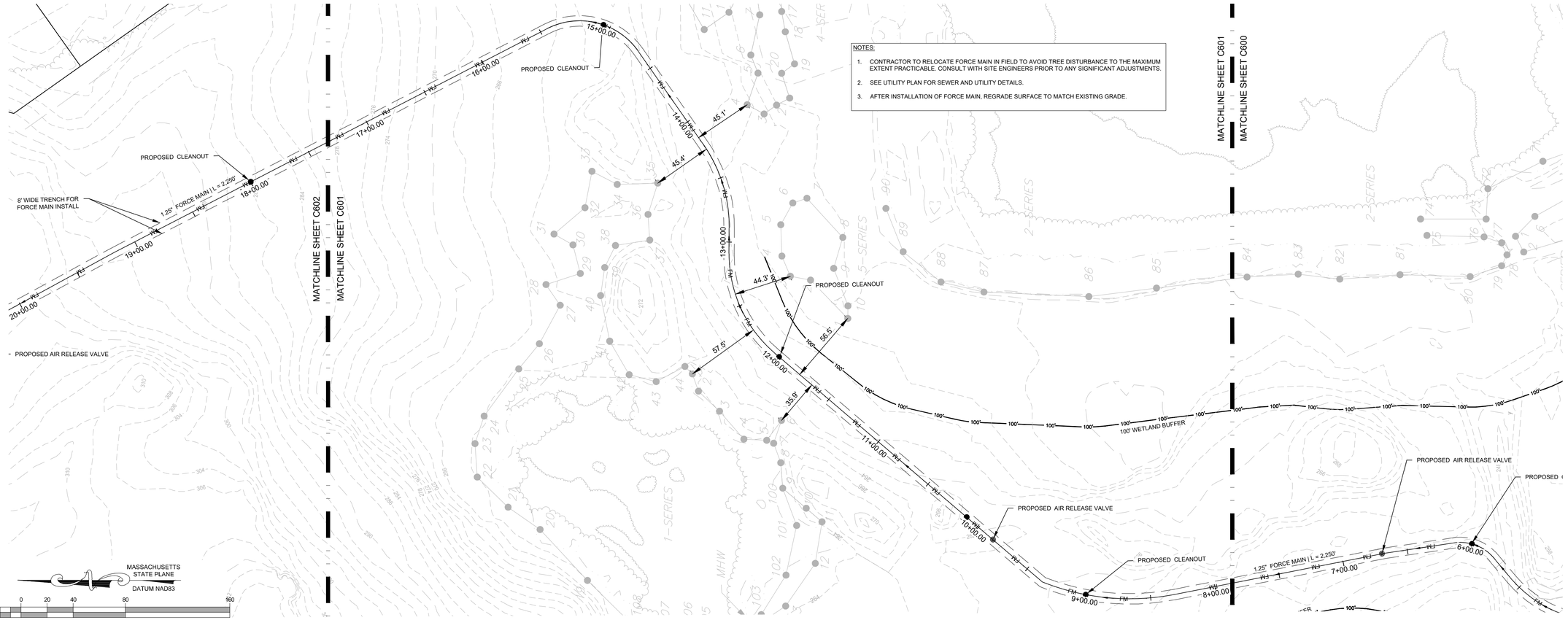
SHEET NUMBER
C600
PLAN & PROFILE

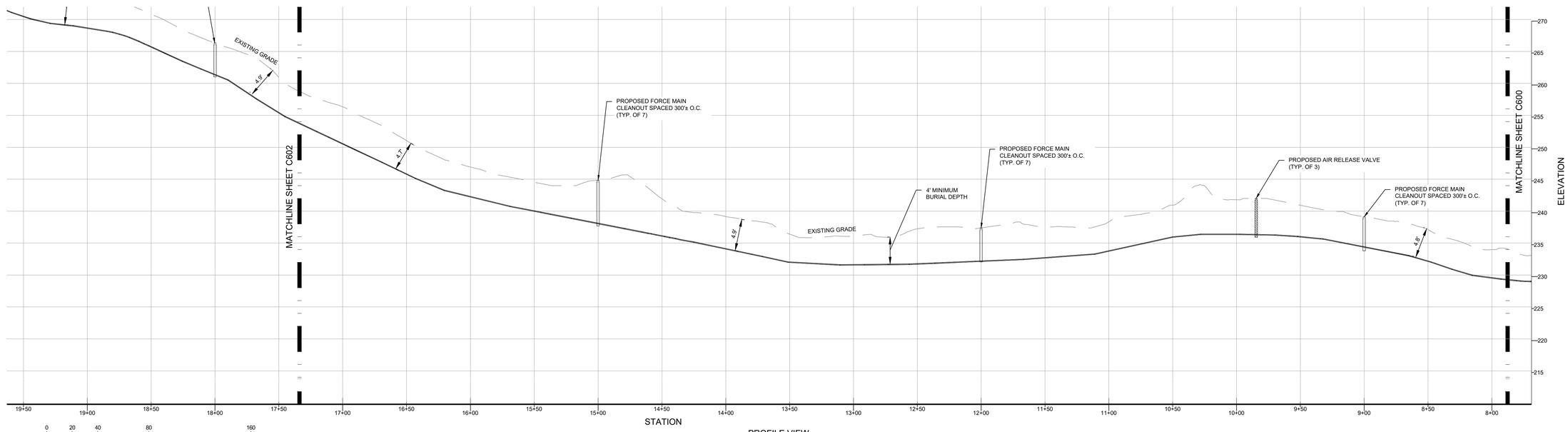
Massachusetts Registered Professional Engineers and Land Surveyors may certify only in their area of competence

NOTES:

1. CONTRACTOR TO RELOCATE FORCE MAIN IN FIELD TO AVOID TREE DISTURBANCE TO THE MAXIMUM EXTENT PRACTICABLE. CONSULT WITH SITE ENGINEERS PRIOR TO ANY SIGNIFICANT ADJUSTMENTS.
2. SEE UTILITY PLAN FOR SEWER AND UTILITY DETAILS.
3. AFTER INSTALLATION OF FORCE MAIN, REGRADE SURFACE TO MATCH EXISTING GRADE.



PLAN VIEW
SCALE: 1" = 40'



PROFILE VIEW
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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COMMONWEALTH OF MASSACHUSETTS
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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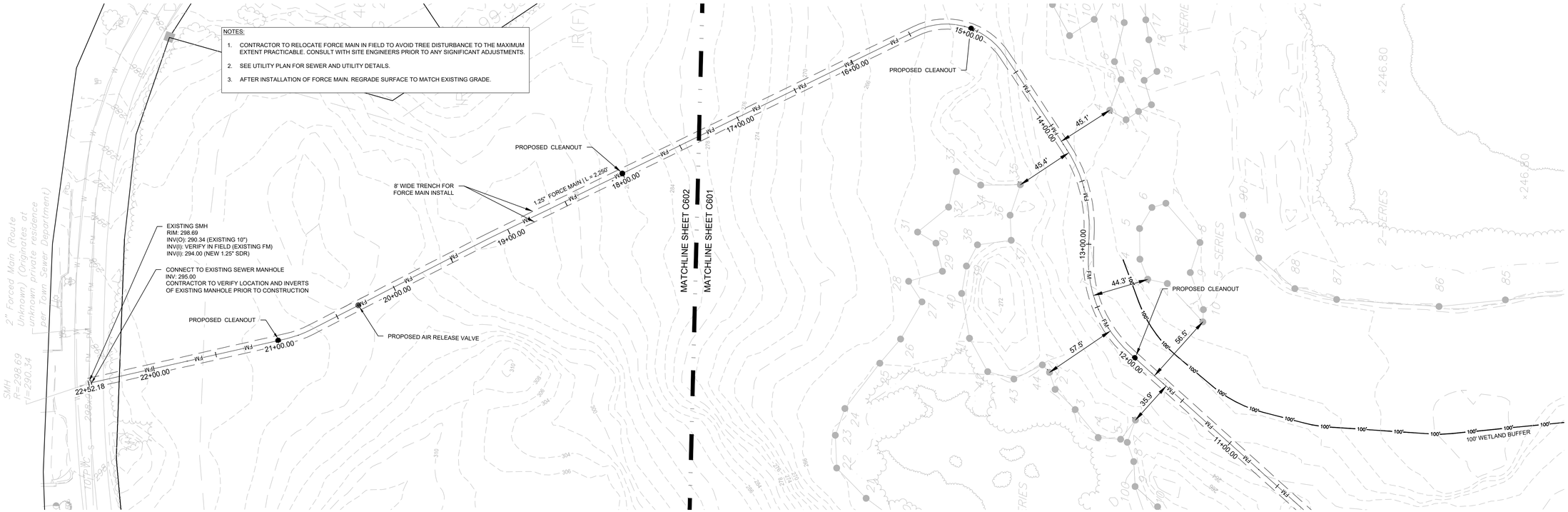
SHEET NUMBER
C601
PLAN & PROFILE

If this is not 1" long then the drawings have been printed to the incorrect scale

NOTES:

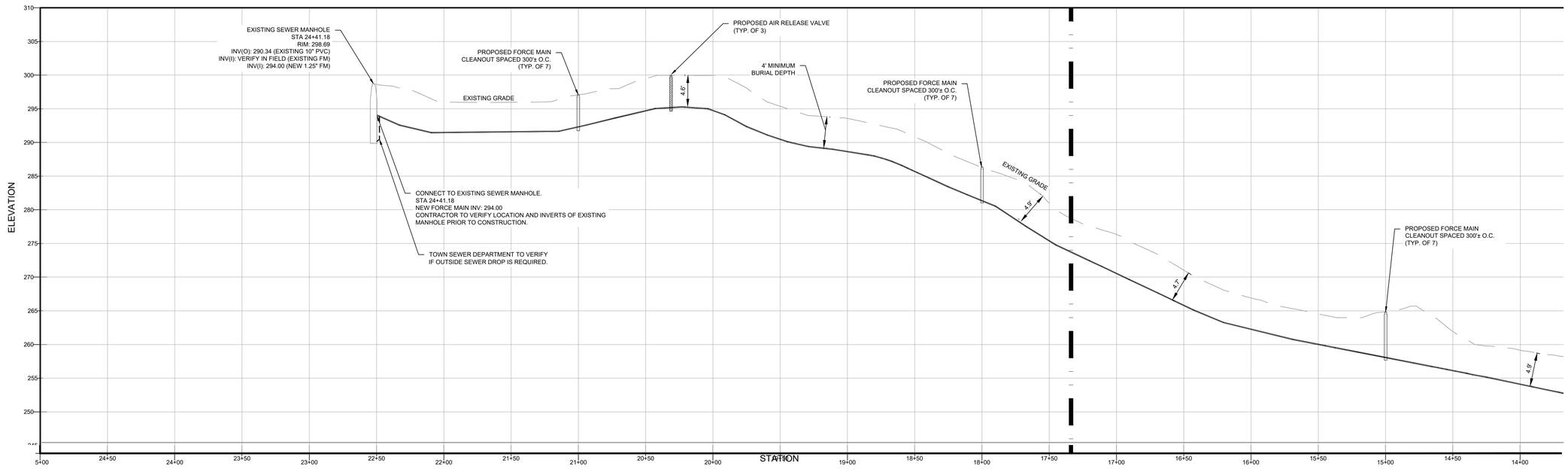
1. CONTRACTOR TO RELOCATE FORCE MAIN IN FIELD TO AVOID TREE DISTURBANCE TO THE MAXIMUM EXTENT PRACTICABLE. CONSULT WITH SITE ENGINEERS PRIOR TO ANY SIGNIFICANT ADJUSTMENTS.
2. SEE UTILITY PLAN FOR SEWER AND UTILITY DETAILS.
3. AFTER INSTALLATION OF FORCE MAIN. REGRADE SURFACE TO MATCH EXISTING GRADE.



PLAN VIEW
SCALE: 1" = 40'

MASSACHUSETTS STATE PLANE
DATUM NAD83

40 0 20 40 80 160
GRAPHIC SCALE 1 inch = 40 ft.



PROFILE VIEW
HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

40 0 20 40 80 160
GRAPHIC SCALE 1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C602
PLAN & PROFILE

Erosion control / stormwater management facilities to be maintained by the owner in accordance with the approved O&M plan.

EROSION CONTROL SEED MIX. SEE SEED MIX #4 ON SHEET L708

EROSION CONTROL SEED MIX. SEE SEED MIX #4 ON SHEET L708

EROSION CONTROL SEED MIX. SEE SEED MIX #4 ON SHEET L708

FUTURE TRAILER STORAGE

FUTURE TRAILER STORAGE

STORMWATER

STORMWATER

STORMWATER

STORMWATER

STORMWATER

STORMWATER

STORMWATER

EROSION CONTROL/DETENTION BASIN SEED MIX. SEE SEED MIX #3 ON SHEET L708

SHOWY WILDFLOWER SEED MIX. SEE SEED MIX #2 ON SHEET L708

SHOWY WILDFLOWER SEED MIX. SEE SEED MIX #2 ON SHEET L708

GENERAL LAWN SEED MIX. SEE SEED MIX #1 ON SHEET L708

GENERAL LAWN SEED MIX. SEE SEED MIX #1 ON SHEET L708

GENERAL LAWN SEED MIX. SEE SEED MIX #1 ON SHEET L708

GENERAL LAWN SEED MIX. SEE SEED MIX #1 ON SHEET L708

PROPOSED DISTRIBUTION CENTER
616,875 GSF
FFE = 244.0

OFFICE

OFFICE

TENANT "B"

TENANT "A"

POTENTIAL TENANT DEMISING LINE

LINE

EROSION CONTROL/DETENTION BASIN SEED MIX. SEE SEED MIX #3 ON SHEET L708

SHOWY WILDFLOWER SEED MIX. SEE SEED MIX #2 ON SHEET L708

EROSION CONTROL/DETENTION BASIN SEED MIX. SEE SEED MIX #3 ON SHEET L708

EROSION CONTROL/DETENTION BASIN SEED MIX. SEE SEED MIX #3 ON SHEET L708

EROSION CONTROL/DETENTION BASIN SEED MIX. SEE SEED MIX #3 ON SHEET L708

SHOWY WILDFLOWER SEED MIX. SEE SEED MIX #2 ON SHEET L708

SHOWY WILDFLOWER SEED MIX. SEE SEED MIX #2 ON SHEET L708

EROSION CONTROL SEED MIX. SEE SEED MIX #4 ON SHEET L708

PERMANENT WETLAND ALTERATION AREA= 3,430 SF

TEMPORARY WETLAND ALTERATION AREA= 450 SF

PROPOSED WETLAND REPLICATION 5,200 SF

Fire Hydrant

Pump

NEWTON STREET

MELLEN STREET

PLAIN STREET

SYMBOL LEGEND	
	DECIDUOUS TREE
	FLOWERING TREE
	EVERGREEN TREE
	SHRUBS / ORNAMENTAL GRASSES
	PERRENIAL MASSES
	LIMIT OF PLANT BEDS
	SEED MIX #1 - TURF GRASS
	SEED MIX #2 - SHOWY WILDFLOWER MIX
	SEED MIX #3 - EROSION CONTROL/DETENTION BASIN-MOIST SITE
	SEED MIX #4 - EROSION CONTROL/DRY SITE

100 0 50 100 200 400

GRAPHIC SCALE 1 inch = 100 ft.

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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

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SHEET NUMBER
C700
LANDSCAPE & SEED MIX AREAS PLAN

MATCH LINE SHEET C305

MATCH LINE SHEET C301

2 CA
4 KF
18" WIDE GRAVEL STRIP
90 BS
6 RO
2 CA
4 SP
MS
7 SP
CA
3 IG
18" WIDE GRAVEL STRIP
3 XX
80 BS
1 BN
3 FS
6 KF
18 AN
12 JH
33 HH
33 HR
6 KF
23 RF
3 JH
4 KF
19 AN
16 JH
2 PC
6 KF
1 QP
1 QP
10 AN
13 JH
4 QP
6 KF
1 UA
3 MR
1 UA
1 SM
5 JV
70'
STORMWATER
WETLAND REPLICATION AREA (5,200± SF.)
GTK
HB
9-SERIES
Hooper
Hooper
IR(F)
DH(F)

KEY

SHEET 4 SHEET 5 SHEET 6
SHEET 3 SHEET 2 SHEET 1

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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SHEET NUMBER
C701
LANDSCAPE PLAN

MATCH LINE SHEET C304

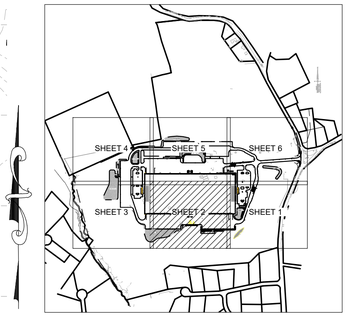
PROPOSED
DISTRIBUTION CENTER
616,875 GSF
FFE = 244.0

TENANT "B"

TENANT "A"

POTENTIAL TENANT DEMISING LINE

MATCH LINE SHEET C300



KEY

1176'

70'

PERMANENT WETLAND ALTERATION AREA= 3,430 SF

TEMPORARY WETLAND ALTERATION AREA= 450 SF

2 UA

2 UA

5'

TW 239.9
BW 234.0

TW 240.3
BW 234.0

TW 239.7
BW 236.0

2 JV

4 AC

STORMWATER

STORMWATER

MHW
10-SERIES

9-SERIES

MATCH LINE SHEET C302

40 0 20 40 80 160

GRAPHIC SCALE

1 inch = 40 ft.

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CIVIL
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4-13-2023

JOB NO: GA1149

PA: AA

ISSUE DATE: 09.01.2021

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SHEET NUMBER

C702

LANDSCAPE PLAN

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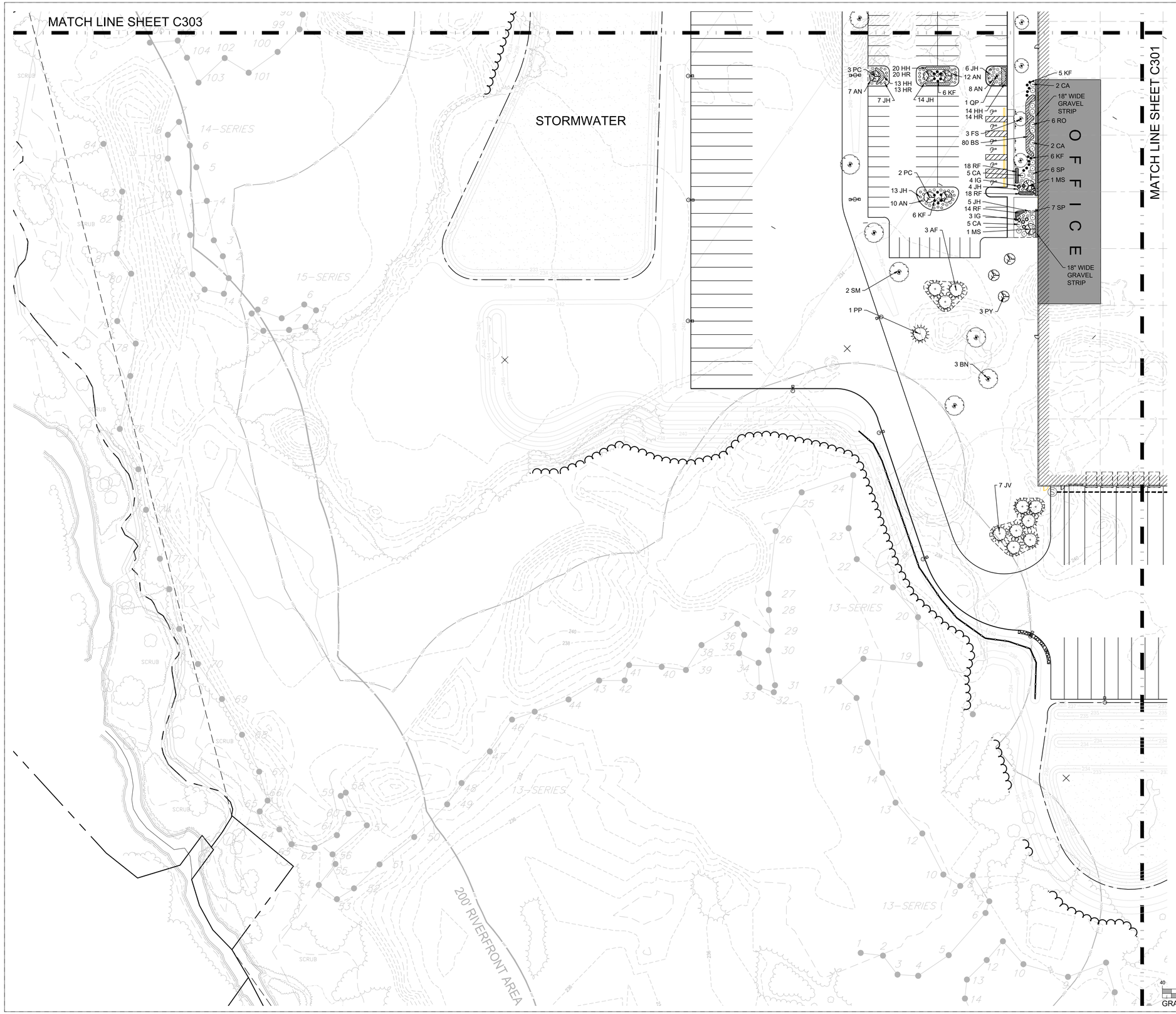

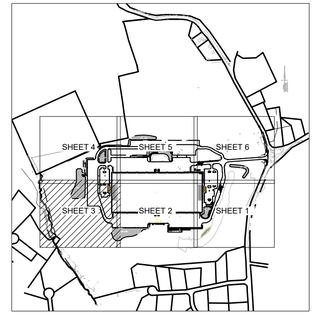

KEY

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4-13-2023

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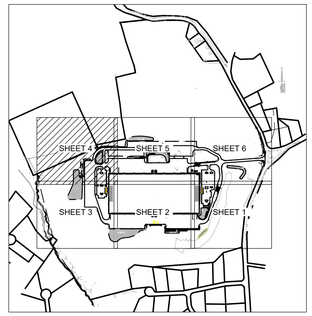
SHEET NUMBER
C703
LANDSCAPE PLAN

Effective Unless Filing Prior
Written Notice Is Received
From Owner Or Its Agents
Of Any Changes Or Errors
Or Omissions In Drawings



KEY

MATCH LINE SHEET C304

STORMWATER

MATCH LINE SHEET C302

13-SERIES

5 AF

2 QP

10 AN

13 JH

6 KF

6 UA

4 FS

40 0 20 40 80 160

GRAPHIC SCALE 1 inch = 40 ft.

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SHEET NUMBER
C704
LANDSCAPE PLAN

Electronic Media Warning
Electronic media may be altered
by unauthorized parties.
Only printed sets are true.

STORMWATER

FUTURE TRAILER STORAGE

MATCH LINE SHEET C305

FUTURE TRAILER STORAGE

STORMWATER

2 JV

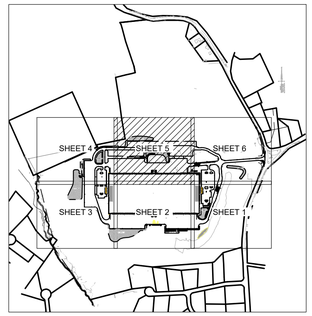
6 AF

70'

MATCH LINE SHEET C303

MATCH LINE SHEET C301

PROPOSED



KEY

GRAPHIC SCALE

40 0 20 40 80 160

1 inch = 40 ft.

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SHEET NUMBER
C705
LANDSCAPE PLAN

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prior to excavation
Call Dig Safe before you dig
Dig Safe Number
811 or 1-888-DIG-SAFE

ROSENFELD MEMORIAL
TO REMAIN

1 PS
1 HS
2 TR
5 RG
1 CA
6 JH
1 FP
2 PS
1 PY
2 PG
1 AR
4 PS
2 PA
2 SM
2 PO
3 AF
3 PH
5 RF
11 RR
11 RB
13 CS
RELOCATE 5 EXISTING
MAPLE TREES.
LOCATION TBD
1 BC
PROPOSED POST AND
TRIPLE RAIL FENCE
NEWTON
3 PO
4 PS
9 PS
1 AF
1 AF
2 PA
3 PA
1 AR
2 TR
4 JV
2 CD
3 IG
7 RG
18 EP
5 VT
5 IG
6 RG
3 PY
21 FI
1 AR
6 PH
1 BN
5 UA
3 JV
SHOWY WILDFLOWER SEED MIX.
SEE SEED MIX #2 ON
SHEET L708
2 BC
3 PG
6 UA
3 PY
6 UA
20 CC
1 BC
2 PP
2 PH
3 PA
1 QR
5 IG
18 EP
7 RG
18 EP
4 VT
8 RO
8 RN
2 CD
5 IG
3 MR
2 QR
1 PH
1 TR
2 PH
3 AF
1 AC
7 RO
7 RN
4 BC
1 AR
3 AC
2 FP
5 RF
11 RR
11 RB
5 RF
PROPOSED POST AND
TRIPLE RAIL FENCE
1 FP
1 AR
3 PO
1 PP
3 MS
5 RF
11 RR
11 RB
5 RF
2 SM
4 PS
1 PA
3 PS
3 PY
2 BN
1 QR
2 FP
2 SM
6 JV
STORMWATER
10 AN
13 JH
6 KF
2 PC
2 QP
10 AN
13 JH
6 KF
2 QP
4 FS
2 QP
1 SM
3 FS

GRAPHIC SCALE
40 0 20 40 80 160
1 inch = 40 ft.

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COMMONWEALTH OF MASSACHUSETTS
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C706
LANDSCAPE PLAN

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TEMPORARY WETLAND IMPACTS

AREAS OF TEMPORARY WETLAND ALTERATION WILL BE RESTORED IN-KIND AT THE DIRECTION OF THE SUPERVISING WETLAND SCIENTIST. TEMPORARY ALTERATION AREAS WHERE SOIL HAS BEEN DISTURBED WILL BE RESTORED BY ESTABLISHING NATURAL WETLAND SOIL PROFILES USING A WETLAND TOPSOIL SUITABLE FOR WETLAND REPLICATION AREAS AND SEEDING WITH A WETLAND SEED MIX, AS DESIGNATED BY THE WETLAND SCIENTIST, AND/OR IN-KIND REPLACEMENT OF NATIVE HERBACEOUS PLANTS, SHRUBS AND/OR TREES. TEMPORARY ALTERATION AREAS WHERE ONLY VEGETATION HAS BEEN REMOVED OR DISTURBED ALSO WILL BE SEEDED WITH THE WETLAND SEED MIX AND/OR IN-KIND REPLACEMENT OF NATIVE HERBACEOUS PLANTS, SHRUBS AND/OR TREES. SEEDED AREAS SHALL BE STABILIZED VIA HYDRO-SEEDING, STRAW MULCH, AND/OR EROSION CONTROL BLANKETS AT THE DIRECTION OF THE WETLAND SPECIALIST.

WETLAND REPLICATION AREA CONSTRUCTION SEQUENCE

1. A QUALIFIED WETLAND SCIENTIST SHALL SUPERVISE ALL ASPECTS OF THE PROPOSED WETLAND REPLICATION AREA (WRA) DURING CONSTRUCTION; EG., EROSION CONTROLS, SITE PREPARATORY, GRADING, BACKFILLING, PLANTING AND SEEDING.
2. FLAG OR STAKE LIMITS OF WRA. FLAG TREES AND/OR SHRUBS ADJACENT TO THE EXISTING WETLAND BOUNDARY TO REMAIN. INSTALL EROSION CONTROL BARRIER (E.G., STRAW WATTLES) ALONG INTERSECTION OF THE WETLAND REPLICATION AREA AND ADJACENT WETLAND, TAKING INTO CONSIDERING THAT GRADING WITHIN THE WETLAND MAY BE REQUIRED TO ACHIEVE A SUITABLE HYDROLOGIC CONNECTION TO THE WRA. ONCE THE WETLAND REPLICATION AREA AND ADJACENT SIDE SLOPE HAVE BEEN GRADED, INSTALL AN EROSION CONTROL BARRIER (E.G.., STRAW WATTLES) AT THE TOE OF SLOPE TO PROTECT THE WETLAND REPLICATION AREA.
3. DURING CONSTRUCTION OF THE WETLAND REPLICATION AREA, THE SUPERVISORY WETLAND SCIENTIST SHALL OVERSEE THE PROPOSED GRADING AND PLANTING SCHEME. THE FINAL ELEVATION SHALL BE DETERMINED IN THE FIELD. DURING CONSTRUCTION, THE WETLAND REPLICATION AREA SHALL BE EXCAVATED TO FINAL GRADE UNLESS A SUITABLE TOPSOIL IS NOT ENCOUNTERED, AT WHICH TIME THE AREA WILL BE EXCAVATED TO ONE FOOT BELOW THE FINAL DESIGN GRADE TO FACILITATE THE PLACEMENT OF APPROVED CLEAN WETLAND SOIL (12% ORGANIC CARBON CONTENT (OR 20% ORGANIC MATTER CONTENT) AND PH OF 6.2-6.8) AS A SUITABLE SUBSTRATE FOR THE ESTABLISHMENT OF WETLAND VEGETATION. WETLAND SOILS WILL CONSIST OF THE TOPSOIL (A HORIZON) FROM THE WETLAND IMPACT AREA AND/OR A WETLAND SOIL MIXTURE MANUFACTURED BY COMBINING TOPSOIL WITH A SOIL TEXTURAL CLASS OF SANDY LOAM, FINE SANDY LOAM, OR SILT LOAM WITH DECOMPOSED LEAF LITTER AT A 1:1 RATIO. THE WETLAND SOIL SHALL BE FREE OF STUMPS, ROOTS, HEAVY OR STIFF CLAY, STONES, COARSE SAND, NOXIOUS WEEDS, WEED SEEDS OR OTHER LITTER. SETTLING OF SOILS SHALL BE TAKEN INTO CONSIDERATION FOR FINAL ELEVATIONS.
4. TRANSPLANT WETLAND VEGETATION TO EXTENT FEASIBLE WITHIN WRA.
5. INSTALL SHRUBS AND TREES, ADD WOODY DEBRIS, AND THEN FERNS AND/OR HERBACEOUS PLANTINGS. LEAVE BOULDERS IN PLACE IF ENCOUNTERED.
6. APPLY WETLAND SEED MIX AT THE SPECIFIED APPLICATION RATE OR HIGHER IF APPLIED AT THE END OF THE GROWING SEASON AND LIGHTLY RAKE TO INSURE SEED-TO-SOIL CONTACT. THERE SHALL BE NO SEEDING IN AREAS OF STANDING WATER. DO NOT APPLY WITHIN 1-FOOT OF SHRUB AND TREE PLANTINGS.
7. APPLY CONSERVATION SEED MIX TO SIDE SLOPES AT THE SPECIFIED APPLICATION RATE AND LIGHTLY RAKE TO INSURE SEED-TO-SOIL CONTACT.
8. APPLY A LIGHT MULCH OF CLEAN WEED FREE STRAW.
9. THE SUPERVISORY WETLAND SCIENTIST SHALL RESERVE THE RIGHT TO REJECT ACCEPTANCE OF WETLAND AND BUFFER ZONE PLANT SPECIES UPON DELIVERY BASED ON PLANT VIGOR/CONDITIONS, UNAUTHORIZED SUBSTITUTIONS, AND/OR NON- CONFORMANCE WITH THE PLANTING PLAN AND SPECIFICATIONS. ALL PLANTINGS SHALL BE NATIVE VARIETIES WITH NO LANDSCAPE CULTIVARS ACCEPTED. DURING TRANSPORT, THE PLANTS SHALL BE PROTECTED TO MINIMIZE STRESS.
10. THE SUPERVISORY WETLAND SCIENTIST SHALL RESERVE THE RIGHT TO REQUIRE A SUPPLEMENTAL WATERING PROGRAM OF PLANTINGS.
11. REMOVE EROSION CONTROL BARRIERS UPON STABILIZATION OF THE SIDE SLOPE AND WETLAND REPLICATION AREA.

WETLAND REPLICATION AREA PLANTING SCHEDULE (3,600SF)

Plant Species (Common Name)	Plant Species (Latin Name)	SPACING	SIZE	QUANITY
RED MAPLE	Acer rubrum	10-12' O.C.+	3'-4' MINIMUM	12
YELLOW BIRCH	Betula alleghaniensis	10-12' O.C.+	3'-4' MINIMUM	12
WINTERBERRY	Ilex verticillata	6' O.C, CLUSTERED	3'-4' MINIMUM	24
COMMON ELDERBERRY	Sambucus canadensis	6' O.C, CLUSTERED	3'-4' MINIMUM	24
PUSSY WILLOW	Salix Discolor	6' O.C, CLUSTERED	3'-4' MINIMUM	24
STEEPLEBUSH	Spirea tomentosa	4' O.C, CLUSTERED	3'-4' MINIMUM	24
REDOISER DOGWOOD	Cornus sericea	6' O.C, CLUSTERED	3'-4' MINIMUM	24
SENSITIVE FERN	Onoclea sensibilis	1' O.C, CLUSTERED	#1	30
CINNAMON FERN	Osmunda cinnamomea	1' O.C, CLUSTERED	#1	30
ROYAL FERN	Osmunda regalis	1' O.C, CLUSTERED	#1	30
			TOTAL	234
PA New England Province FacW Mix*				
Buffer Zone (XXX± sf)				
BOX ELDER MAPLE	Acer negundo	10-12' O.C.+	3'-4' MINIMUM	TBD
RED OAK	Quercus rubra	10-12' O.C.+	3'-4' MINIMUM	TBD
GRAY BIRCH	Betulia populifolia	10-12' O.C.+	3'-4' MINIMUM	TBD
SERVICE BERRY	Amalenchiar canadensis/arborea	6' O.C, CLUSTERED	3'-4' MINIMUM	TBD
BAY BERRY	Morella (Myrica) pensylvanica	6' O.C, CLUSTERED	3'-4' MINIMUM	TBD
SWEET PEPPER BUSH	Clethra alnifolia	6' O.C, CLUSTERED	3'-4' MINIMUM	TBD
			TOTAL	TBD
New England Conservation/Wildlife Mix**				

*PA NEW ENGLAND PROVINCE FACW MIX, ERNST CONSERVATION SEEDS (WWW.ERNSTSEED.COM), OR APPROVED EQUIVALENT, APPLIED AT A RATE OF 1LB PER 2,200 SF OR HIGHER IF APPLIED AT THE END OF THE GROWING SEASON. LIGHTLY RAKE TO INSURE SEED-SOIL CONTACT.

**NEW ENGLAND CONSERVATION/WILDLIFE MIX, NEW ENGLAND WETLAND PLANTS (WWW.NEWP.COM), OR APPROVED EQUIVALENT, APPLIED AT A RATE OF 1,750 SF/LB, OR HIGHER IF APPLIED AT THE END OF THE GROWING SEASON. LIGHTLY RATE TO INSURE SEED-SOIL CONTACT. MAY INCLUDE ANNUAL OR WINTER RYE DEPENDING ON TIME OF APPLICATION.

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SHEET NUMBER
C707
WETLAND REPLICATION PLAN

SEED MIX #4

NEW ENGLAND WETLAND PLANTS, INC
820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Erosion Control/Restoration Mix for Dry Sites

Botanical Name	Common Name	Indicator
Elymus canadensis	Canada Wild Rye	FACU+
Festuca rubra	Red Fescue	FACU
Lolium multiflorum	Annual Ryegrass	
Lolium perenne	Perrenial Ryegrass	
Schizachyrium scoparium	Little Bluestem	FACU
Panicum virgatum	Switch Grass	FAC
Sorghastrum nutans	Indian Grass	UPL

PRICE PER LB. $18.00 MIN. QUANITY 5 LBS. **TOTAL:** $90.00 APPLY: 35 LBS/ACRE :1250 sq ft/lb

The New England Erosion Control/Restoration Mix For Dry Sites provides an appropriate selection of native and naturalized grasses to ensure that dry and recently disturbed sites will be quickly revegetated and the soil surface stabilized. It is an appropriate seed mix for road cuts, pipelines, steeper slopes, and areas requiring quick cover during the ecological restoration process. The mix may be applied by hydro-seeding, by mechanical spreader, or on small sites it can be spread by hand. Lightly rake, or roll to ensure proper soil-seed contact. Best results are obtained with a Spring or late Summer seeding. Late Spring through Mid-Summer seeding will benefit from a light mulching of weed-free straw to conserve moisture. If conditions are drier than usual, watering will be required. Fertilization is not required unless the soils are particularly infertile. Preparation of a clean weed free seed bed is necessary for optimal results.

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

SEED MIX #3

NEW ENGLAND WETLAND PLANTS, INC
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PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Erosion Control/Restoration Mix For Detention Basins and Moist Sites

Botanical Name	Common Name	Indicator
Elymus riparius	Riverbank Wild Rye	FACW
Schizachyrium scoparium	Little Bluestem	FACU
Festuca rubra	Red Fescue	FACU
Andropogon gerardii	Big Bluestem	FAC
Panicum virgatum	Switch Grass	FAC
Vernonia noveboracensis	New York Ironweed	FACW+
Agrostis perennans	Upland Bentgrass	FACU
Bidens frondosa	Beggar Ticks	FACW
Eupatorium maculatum (Eutrochium maculatum)	Spotted Joe Pye Weed	OBL
Eupatorium perfoliatum	Boneset	FACW
Aster novae-angliae (Symphyotrichum novae-anglia	New England Aster	FACW-
Scirpus cyperinus	Wool Grass	FACW
Juncus effusus	Soft Rush	FACW+

PRICE PER LB. $37.00 MIN. QUANITY 3 LBS. **TOTAL:** $111.00 APPLY: 35 LBS/ACRE :1250 sq ft/lb

The New England Erosion Control/Restoration Mix for Detention Basins and Moist Sites contains a selection of native grasses and wildflowers designed to colonize generally moist, recently disturbed sites where quick growth of vegetation is desired to stabilize the soil surface. It is an appropriate seed mix for ecologically sensitive restorations that require stabilization as well as long-term establishment of native vegetation. This mix is particularly appropriate for detention basins that do not hold standing water. Many of the plants in this mix can tolerate infrequent inundation, but not constant flooding. The mix may be applied by hand, by mechanical spreader, or by hydro-seeder. After sowing, lightly rake, roll or cultipack to insure good seed-to-soil contact. Best results are obtained with a Spring or late Summer seeding. Late Fall and Winter dormant seeding requires an increase in the application rate. A light mulching of clean, weed-free straw is recommended

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

SEED MIX #2

NEW ENGLAND WETLAND PLANTS, INC
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PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Showy Wildflower Mix

Botanical Name	Common Name	Indicator
Schizachyrium scoparium	Little Bluestem	FACU
Chamaecrista fasciculata	Partridge Pea	FACU
Sorghastrum nutans	Indian Grass	UPL
Festuca rubra	Red Fescue	FACU
Elymus canadensis	Canada Wild Rye	FACU+
Elymus riparius	Riverbank Wild Rye	FACW
Heliopsis helianthoides	Ox Eye Sunflower	UPL
Coreopsis lanceolata	Lance Leaved Coreopsis	FACU
Rudbeckia hirta	Black Eyed Susan	FACU-
Liatris spicata	Spiked Gayfeather/Marsh Blazing Star	FAC+
Asclepias syriaca	Common Milkweed	FACU-
Vernonia noveboracensis	New York Ironweed	FACW+
Aster novae-angliae (Symphyotrichum novae-anglia	New England Aster	FACW-
Eupatorium purpureum (Eutrochium maculatum)	Purple Joe Pye Weed	FAC
Asclepias tuberosa	Butterfly Milkweed	NI
Solidago juncea	Early Goldenrod	
Eupatorium perfoliatum	Boneset	FACW

PRICE PER LB. $86.00 MIN. QUANITY 1 LBS. **TOTAL:** $86.00 APPLY: 23 LBS/ACRE :1900 sq ft/lb

The New England Showy Wildflower mix includes a selection of native wildflowers and grasses that will mature into a colorful and vibrant native meadow. It is appropriate seed mix for roadsides, commercial landscaping, parks, golf courses, and industrial sites. Always apply on clean bare soil. The mix may be applied by mechanical spreader, or on small sites it can be spread by hand. Lightly rake, or roll to ensure proper seed to soil contact. Best results are obtained with a Spring or late Fall dormant seeding. Late Spring and early Summer seeding will benefit with a light mulching of weed-free straw to conserve moisture. If conditions are drier than usual, watering may be required. Late Fall and Winter dormant seeding require an increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile. Preparation of a clean weed free seed bed is necessary for optimal results.

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

SEED MIX #1

LOAM AND SEEDING NOTES:

CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER MATERIALS, AND AT AREAS SHOWN ON THE PLAN PER SPECIFICATIONS BELOW

SCIENTIFIC NAME	COMMON NAME	PROPORTION BY WEIGHT	PERCENT PURITY	PERCENTGERMINATION
FESTUCA RUBRA "RUBRA"	CREEPING RED FESCUE	37%	95%	90%
PAO PRAENTENSIS "BARON"	BARON KENTUCKY BLUEGRASS	40%	85%	90%
LOLIUM PERENNE "PALMER"	PALMER PERENNIAL RYEGRASS	15%	95%	90%
FESTUCA RUBRA COMMUTATA WILMA	WILMA CHEWINGS	8%	95%	80%

1. SEED TO BE SPREAD AT MINIMUM RATE OF 5 LBS. PER 1000 SQ. FT.

2. SEEDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RESEEDING OF BARE SPOTS. IF UNABLE TO SEED WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER "FLUX TERRA HP-FGM SOIL STABILIZER" AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SEEDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.

3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREAFORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.

4. LAWN AREAS TO BE SEEDED BY SOWING EVENLY WITH AN APPROVED MECHANICAL SEEDER AT THE RATE OF TEN POUNDS PER 1000 SQUARE FEET.

5. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RESEEDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

SITE PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	SPACING	COMMENT
DECIDUOUS SHADE TREES						
AR	5	ACER RUBRUM OCTOBER GLORY	RED MAPLE	2.5"- 3" CAL	AS SHOWN	B&B
BN	7	BETULA NIGRA HERITAGE	RIVER BIRCH	10-12' HT.	AS SHOWN	B&B
FP	6	FRAXINUS PENNSYLVANICA "PATMORE"	GREEN ASH	2.5" - 3" CAL.	AS SHOWN	B&B
FS	17	FAGUS SYLVATICA "DAWYCK GOLD"	DAWYCK GOLD BEECH	3.0" - 3.5" CAL	AS SHOWN	B&B
QP	13	QUERCUS PALUSTRIS	PIN OAK	2.5" - 3" CAL	AS SHOWN	B&B
QR	4	QUERCUS RUBRA	RED OAK	2.5" - 3" CAL	AS SHOWN	B&B
SM	9	ACER SACCHARINUM	SILVER MAPLE	2.5" - 3" CAL	AS SHOWN	B&B
TR	5	TILIA AMERICANA "REDMOND"	REDMOND LINDEN	2.5" - 3" CAL.	AS SHOWN	B&B
UA	29	ULMUS AMERICANA "PRINCETON"	PRINCETON ELM	2.5" - 3" CAL	AS SHOWN	B&B
FLOWERING TREES						
CD	4	CORNUS "STELLAR PINK"	STELLAR PINK DOGWOOD	2.5"-3" CAL.	AS SHOWN	B&B
HS	1	HIBISCUS SYRIACUS "APHRODITE"	APHRODITE ROSE OF SHARON	5'-6' HT.	AS SHOWN	B&B
MR	6	MALUS "RED BARON"	RED BARON FLOWERING CRAB	2.5"- 3" CAL.	AS SHOWN	B&B
MS	6	MALUS "SPRING SNOW"	WHITE FLOWERING CRABAPPLE	2.5"- 3" CAL.	AS SHOWN	B&B
PC	9	PYRUS CALLERYANA "JACZAM"	JACK ORNAMENTAL PEAR	2.5" - 3" CAL	AS SHOWN	B&B
PY	10	PRUNUS X YEDOENSIS	YOSHINO CHERRY	2.5"-3" CAL.	AS SHOWN	B&B
EVERGREEN TREES						
AC	10	ABIES CONCOLOR	WHITE FIR	8'-10" HT.	AS SHOWN	B&B
AF	22	ABIES FRASERI	FRASER FIR	10'-12" HT.	AS SHOWN	B&B
BC	9	PICEA PUNGENS "VAR. GLAUCA"	BLUE COLORADO SPRUCE	8'-10' HT.	AS SHOWN	B&B
JV	29	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	7'-8" HT.	AS SHOWN	B&B
PA	11	PICEA ABIES	NORWAY SPRUCE	10'-12' HT	AS SHOWN	B&B
PG	5	PICEA GLUACA	WHITE SPRUCE	10'-12' HT	AS SHOWN	B&B
PH	14	PINUS HELDREICHII "EMERALD ARROW"	BOSNIAN PINE	8'-10' HT	AS SHOWN	B&B
PO	8	PICEA OMORIKA	SERBIAN SPRUCE	8'-10' HT	AS SHOWN	B&B
PP	3	PICEA PUNGENS "HOOPSII"	HOOPSII BLUE SPRUCE	7'-9' HT	AS SHOWN	B&B
PS	20	PICEA STROBUS	WHITE PINE	8'-10' HT	AS SHOWN	B&B
SHRUBS						
CA	26	CLETHRA ALNIFOLIA 'SIXTEEN CANDLES'	SIXTEEN CANDLES SUMMERSWEET	24"-30" HT	AS SHOWN	POT
CC	20	CORNUS SERICEA "CARDINAL"	CARDINAL DOGWOOD	24"-30" HT	AS SHOWN	POT
CS	13	CORNUS SANGUINEA "MIDWINTER FIRE"	MIDWINTER FIRE DOGWOOD	30"-36" HT	AS SHOWN	POT
FI	21	FORSYTHIA X INTERMEDIA "SPRING GLORY"	SPRING GLORY FORSYTHIA	30"-36" HT	AS SHOWN	POT
IG	37	ILEX GLABRA 'SHAMROCK'	INKBERRY	24"-30" HT	AS SHOWN	POT
RN	15	RHODODENDRON "BOULE DE NEIGE"	BOULE DE NEIGE RHODODENDRON	30"-36" HT	AS SHOWN	POT
RG	25	RHODODENDRON "GIRARD'S HOT SHOT"	GIRARD'S HOT SHOT AZALEA	18"-24" HT	AS SHOWN	POT
RO	27	RHODODENDRON "OLGA MEZITT"	OLGA MEZITT RHODODENDRON	30"-36" HT	AS SHOWN	POT
SP	24	SPIRAEA JAPONICA "GALEN"	DOUBLE PLAY ARTISAN SPIREA	18"-24" HT	AS SHOWN	POT
JH	143	JUNIPERUS HORIZONTALIS "PLUMOSA" COMPACTA YOUNGSTOWN	ANDORRA JUNIPER	8" HT	AS SHOWN	POT
VT	10	VIBURNUM TRILOBUM "BAILEY COMPACT"	BAILEY COMPACT HIGHBUSH CRANBERRY	30"-36" HT.	AS SHOWN	POT
PERENNIALS/GRASSES						
AN	114	ASTER NOVAE-ANGLIAE "PURPLE DOME"	NEW ENGLAND ASTER	#3	AS SHOWN	STAGGERED
BS	280	LEUCANTHEMUM X SUPERBUM "BECKY"	BECKY SHASTA DAISY	#2	AS SHOWN	STAGGERED
EP	54	ECHINACEA PURPUREA	PURPLE CONEFLOWER "BUTTERFLY KISSES"	#2	AS SHOWN	STAGGERED
HH	80	HEMEROCALLIS X "HAPPY RETURNS"	HAPPY RETURNS DAYLILLY	#2	AS SHOWN	STAGGERED
HR	80	HEMEROCALLIS "ROSY RETURNS"	ROSY RETURN DAYLILLY	#2	AS SHOWN	STAGGERED
KF	73	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	#3	AS SHOWN	STAGGERED
RB	66	LUPINUS "RUSSELL RED"	RUSSELL RED LUPINE	#2	AS SHOWN	STAGGERED
RF	138	RUDBECKIA FULGIDA "EARLY BIRD GOLD"	EARLY BIRD GOLD CONEFLOWER	#3	AS SHOWN	STAGGERED
RR	66	LUPINUS "RUSSELL BLUE"	RUSSELL BLUE LUPINUS	#2	AS SHOWN	STAGGERED

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COMMONWEALTH OF MASSACHUSETTS
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C708
LANDSCAPE SEED MIXES AND PLANT LIST

Prints shall be 24 x 36in
Do Not Scale Drawings
Verify Dimensions in Field
and Report Any Discrepancies

LANDSCAPE NOTES

ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF NORTHBOROUGH, MA.

PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF NAY CONFLICTS IN WRITING.

NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA, ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.

ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.

ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.

ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.

TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.

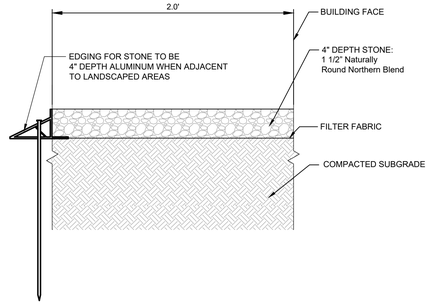
ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH

ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.

CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.

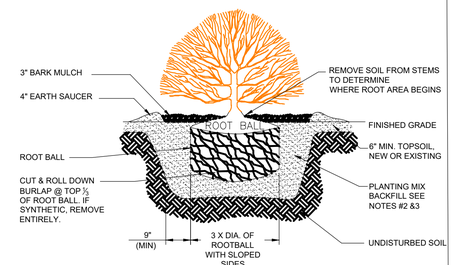
ALL LANDSCAPE AREAS WITH SHRUBS, TREES AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. THE 18" OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE/SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUB AND TREES. ALL AREAS OF LOAM AND SEED TO HAVE A MINIMUM OF 6" DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS THE SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO THE OWNER. SEE TOPSOIL DETAIL.

ALL PROPOSED MOWED LAWN AREAS SHALL BE PROVIDED WITH WATER EFFICIENT UNDERGROUND IRRIGATION. DESIGN AND INSTALLATION OF IRRIGATION SYSTEM TO BE PERFORMED BY AN APPROVED IRRIGATION DESIGN BUILD CONTRACTOR OR BY AN APPROVED EQUAL, TO BE DETERMINED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT. IRRIGATION SYSTEM IS TO BE DESIGNED FOR EFFICIENT WATER USAGE INCLUDING: IRRIGATION SYSTEM WITH HEAD-TO-HEAD COVERAGE, A CENTRAL SHUT-OFF VALVE, AND A RAIN SENSOR TO SHUT OFF IRRIGATION DURING RAIN EVENTS.

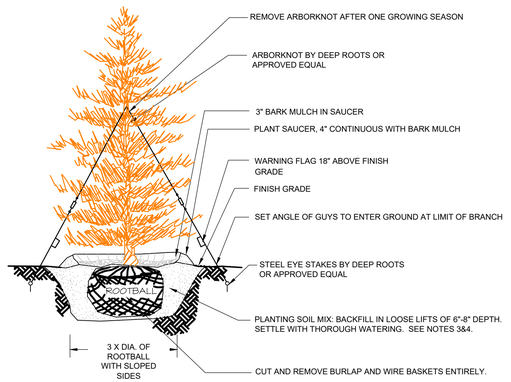


LANDSCAPE STONE STRIP — NOT TO SCALE — **C2**

NOTES:
1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.



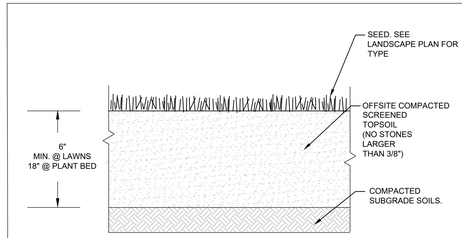
SHRUB PLANTING DETAIL — NOT TO SCALE — **C1**



NOTES

1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL — NOT TO SCALE — **B1**

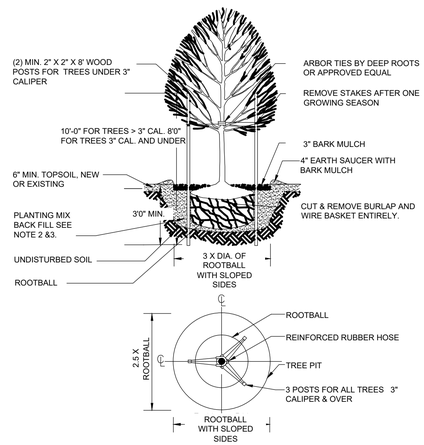


TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% - 65%
SILT	15% - 35%
CLAY	5% - 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85-100
NO. 40	60-85
NO. 100	38-60
NO. 200	10-35
20 u m	LESS THAN 5%

NOTES:
1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOP SOIL FOR LAWN,TREES,SHRUBS & PERENNIALS — NOT TO SCALE — **A2**



NOTES:
1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

DECIDUOUS TREE DETAIL — NOT TO SCALE — **A1**

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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

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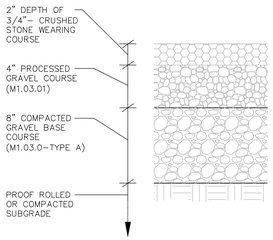
SHEET NUMBER
C709
LANDSCAPE DETAILS

Electronic Seal Per 309 CMR 12.00 Is Intended For This Document Only And Does Not Extend To Any Revisions Or Reuse Of Plans

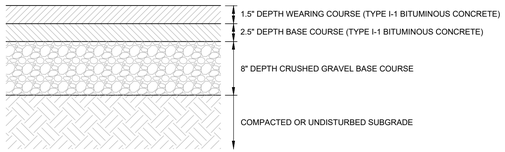


GRAVEL FOR BASE COURSE SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND SAND; FREE OF LOAM AND CLAY SURFACE COATINGS AND DELETERIOUS MATERIALS; AND SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

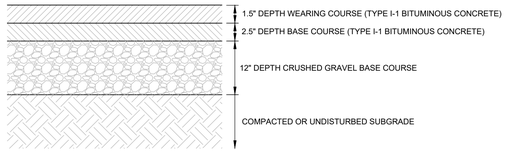
SIEVE SIZE	PERCENT PASSING
3"	100
1½"	60–100
¼"	55–95
#4	33–68
#20	15–43
#80	2–22
#200	0–10
0.02 mm	0–3

NOTES:
1. GRAVEL SHALL BE PLACED IN TWO LAYERS NOT GREATER THAN 6 INCHES IN DEPTH, COMPACTED MEASUREMENT, AND COMPACTED WITH A STEEL–WHEELED ROLLER WEIGHING NO LESS THAN 10 TONS.
2. OVERSIDE STONES SHALL BE REMOVED PRIOR TO COMPACTION.

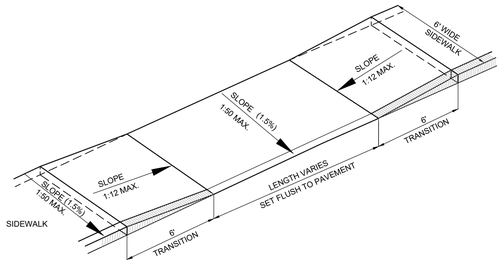
GRAVEL PARKING & ACCESS DRIVE **C4**
NOT TO SCALE



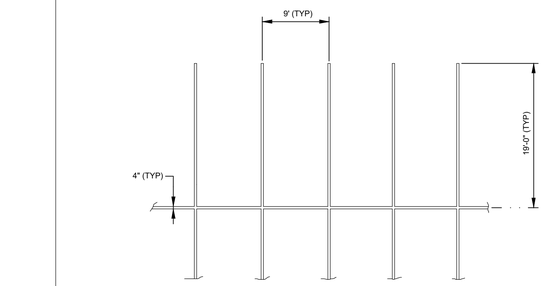
STANDARD BITUMINOUS CONCRETE PAVEMENT **C3**
NOT TO SCALE



HEAVY DUTY BITUMINOUS CONCRETE PAVEMENT **C2**
NOT TO SCALE

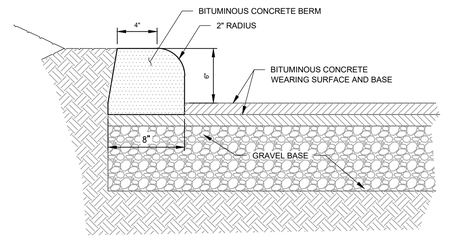


CURB RAMP **C1**
NOT TO SCALE

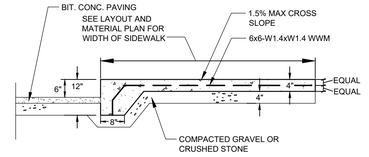


STRIPING SHALL BE 4" WIDE STRAIGHT LINES OF WHITE TRAFFIC PAINT. TO BE INSTALLED AS SHOWN ON LAYOUT AND MATERIALS PLAN

TYPICAL PARKING SPACE STRIPING **B3**
NOT TO SCALE



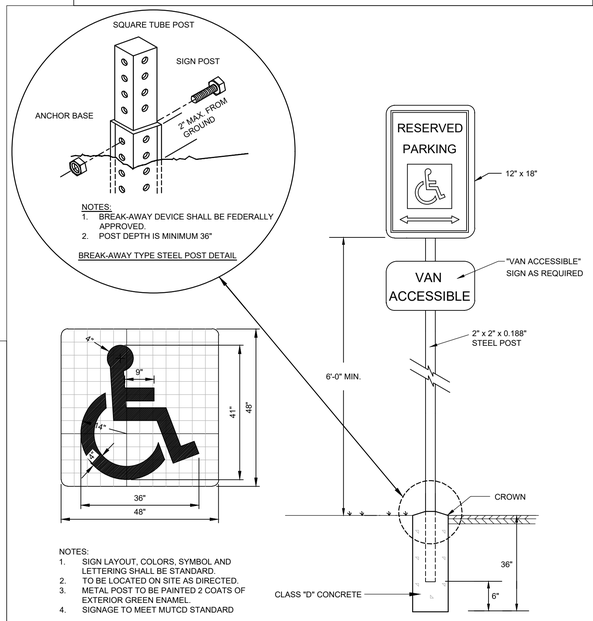
TYPICAL BITUMINOUS CONCRETE CURB **B2**
NOT TO SCALE



NOTE: PROVIDE EXPANSION JOINTS AT 25' O.C. (MIN.) AND CONTROL JOINTS AT 5' O.C. (MIN.)

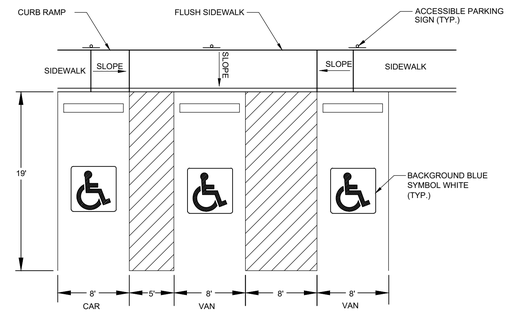
MONOLITHIC REINFORCED CONCRETE SIDEWALK **B1**
NOT TO SCALE

THERMOPLASTIC CROSSWALK AND STOP BAR **A4**
NOT TO SCALE

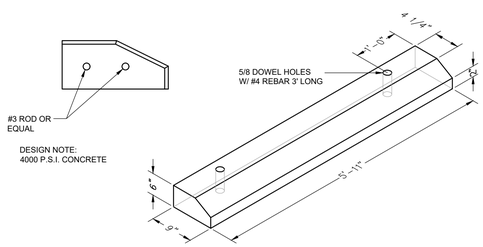


NOTES:
1. SIGN LAYOUT, COLORS, SYMBOL AND LETTERING SHALL BE STANDARD.
2. TO BE LOCATED ON SITE AS DIRECTED.
3. METAL POST TO BE PAINTED 2 COATS OF EXTERIOR GREEN ENAMEL.
4. SIGNAGE TO MEET MUTCD STANDARD

ACCESSIBLE PARKING SIGN AND PAVEMENT MARKING **A3**
NOT TO SCALE



ACCESSIBLE PARKING **A2**
NOT TO SCALE



PRECAST CONCRETE CURB STOP **A1**
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SHEET NUMBER
C800
SITE DETAILS

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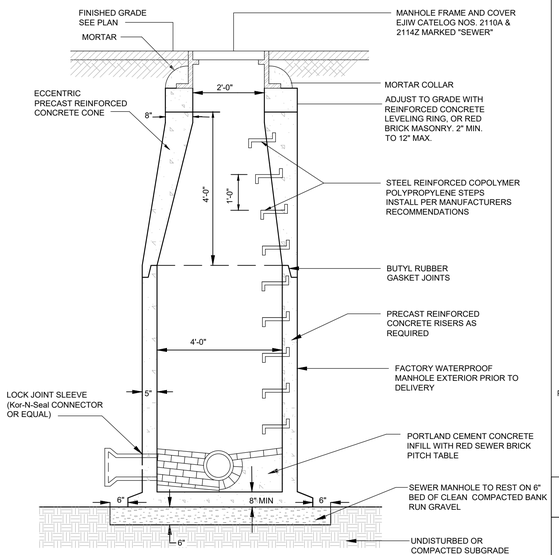
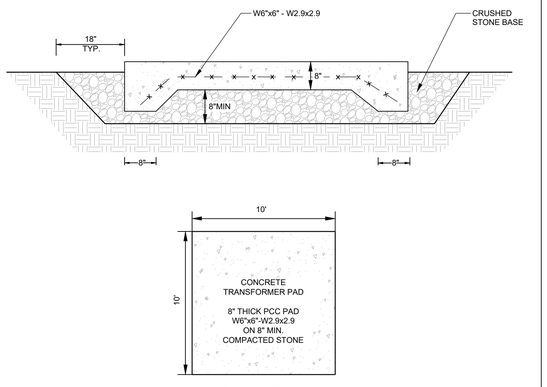
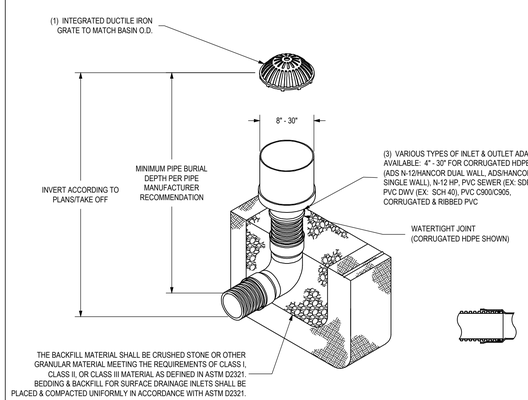


SEWER MANHOLE DETAIL — C4
NOT TO SCALE



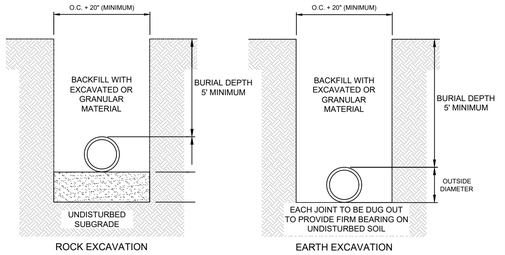
PLAN VIEW

TYPICAL ELECTRICAL TRANSFORMER PAD — B4
NOT TO SCALE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
3 - 8" - 30" DOME GRATES HAVE NO LOAD RATING

DRAIN DOME GRATE — C3
NOT TO SCALE



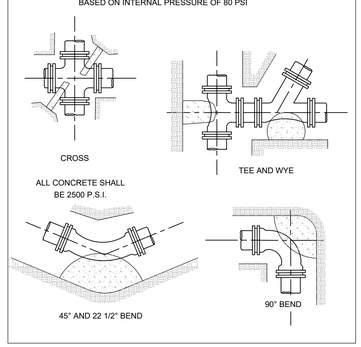
NOTE:
1. TRENCHING, BACKFILLING, COMPACTION, AND GRANULAR FILL MATERIALS SHALL CONFORM TO PLYMOUTH DPW STANDARD SPECIFICATIONS FOR EXCAVATION WITHIN PUBLIC RIGHT OF WAY BACKFILL TRENCH WITH EXCAVATEABLE CONTROLLED DENSITY FILL

WATER TRENCH — C2
NOT TO SCALE

TABLE OF MINIMUM BEARING AREA IN SQ. IN.
AGAINST UNDISTURBED SOIL FOR 8 IN. DIA. PIPE

SOIL BEARING CAPACITY(PSF)	90 DEGREE BEND	TEE	45 DEGREE BEND
1000	945	674	516
1500	630	450	344
2000	473	337	258
3000	315	225	172

NOTE: FOR FITTINGS W/LESS THAN 45°
DEFLECTION USE BEARING AREA FOR 45° BEND
BASED ON INTERNAL PRESSURE OF 80 PSI



THRUST BLOCK SCHEDULE — C1
NOT TO SCALE

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Hopedale, MA 01747

4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C801
SITE DETAILS

NOTES:

1. VALVE BOXES SHALL BE PROVIDED FOR EACH GATE VALVE AND TAPPING SLEEVE AND VALVE.
2. VALVE BOXES SHALL BE CAST IRON AND OF THE TELESCOPIC DESIGN WITH TWO PIECE CONSTRUCTION, TOP WITH A COVER AND A BOTTOM. THE TOP SECTION SHALL HAVE A TOP FLANGE TO INCREASE THE STABILITY OF THE BOX TO REMAIN AT PRESENT HEIGHT. THE LOWER SECTION OF THE BOX SHALL HAVE A BELL SHAPED BOTTOM DESIGNED TO ENCLOSE THE OPERATING NUT AND STUFFING BOX OF THE VALVE WITHOUT SETTLING.
3. THE GATE BOX SHALL COME COMPLETE WITH COVER ON WHICH THE WORD "WATER" SHALL BE CAST. THE COVER OF THE GATE BOX SHALL BE CLOSE FITTING AND SUBSTANTIALLY TIGHT AND FLUSH WITH THE TOP OF THE BOX RIM.
4. GATE BOXES SHALL BE INSTALLED FOR EACH BURIED VALVE.
5. VALVE BOXES SHALL BE CP TEST SERVICES, INC, OR EQUAL.
6. CAST IRON BOXES SHALL BE GENERAL FOUNDRY BUFFALO BOXES OR EQUAL. VALVE SHALL OPEN RIGHT.

WATER BOX GATE — B3
NOT TO SCALE

SECTION A-A

NOTE:

FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS CATALOG NOS. 2110A & 2114Z MARKED "DRAIN", OR APPROVED EQUAL.

DRAIN MANHOLE FRAME AND COVER — B2
NOT TO SCALE

SECTION A-A

NOTE:

FRAME AND COVER SHALL BE EAST JORDAN IRON WORKS CATALOG NOS. 2110A & 2114Z MARKED "SEWER", OR APPROVED EQUAL.

SEWER MANHOLE FRAME AND COVER — B1
NOT TO SCALE

NOTE: CONTRACTOR TO CONSTRUCT HEAVY DUTY WELDED GALVANIZED STEEL GRATE(19-W-4,1 1/2X1/8 MAIN BAR W/4" CROSS BAR SPACING) BY OHIO GRATINGS INC. OR EQUAL.

NOTE: PRECAST STRUCTURE IS THE BOTTOM HALF OF A MODIFIED PRECAST PUMP CHAMBER #PC 4X4 BY ROTONDO & SONS INC. REHOBOTH, MA. OPENINGS OF INLET & OUTLET ARE TO BE FORM CAST AT THE THE PLANT

JOINT DETAIL

TOP VIEW OUTLET STRUCTURE

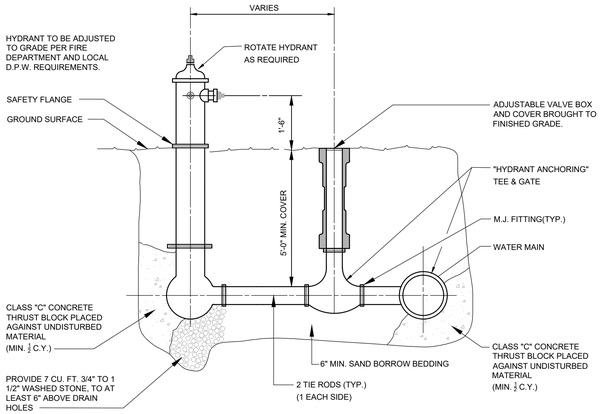
FRONT VIEW OUTLET STRUCTURE
FROM INSIDE BASIN

SIDE VIEW OUTLET STRUCTURE

DETENTION BASIN OUTLET CONTROL STRUCTURE — A2
NOT TO SCALE

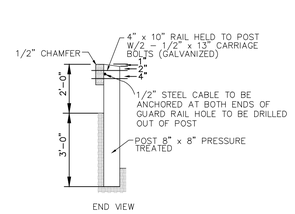
PRECAST DRAIN MANHOLE — A1
NOT TO SCALE

Filed in accordance with Mass. General Laws Chapter 66, Section 10. Electronic Seal Printed on Plans Submitted for Approval

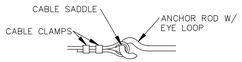


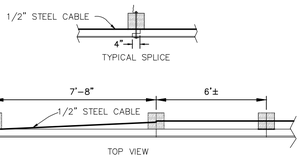
NOTE: ALL WATER GATES & HYDRANT TO OPEN IN DIRECTION AS SPECIFIED PER LOCAL D.P.W. REQUIREMENTS.

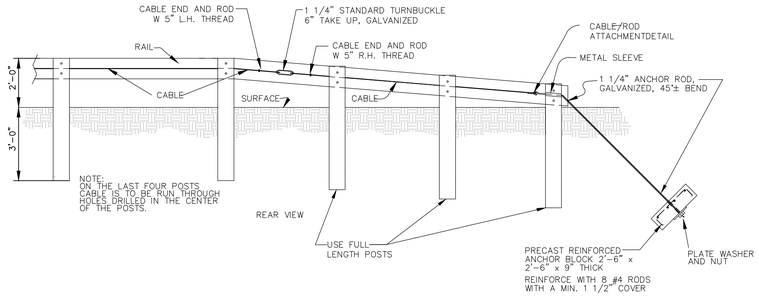
TYPICAL HYDRANT & VALVE
NOT TO SCALE **C1**



END VIEW







TIMBER GUARD RAIL
NOT TO SCALE **C1**

NOTES:

1. APRON LENGTH: APRON LENGTH (LA) SHALL BE DETERMINED FROM GRADING & DRAINAGE PLAN.
2. APRON WIDTH: THE APRON WIDTH IS BASED ON THE DIAMETER OF THE DISCHARGE PIPE, (D). THE APRON WIDTH WILL BE 3D AT THE UPSTREAM END (WU), AND THE DOWNSTREAM WIDTH (WD) WILL BE EQUAL TO (D + LA). THE APRON SHALL EXTEND ACROSS THE CHANNEL BOTTOM AND UP SIDE SLOPES FOR A MINIMUM HEIGHT EQUAL TO THE DIAMETER OF THE PIPE, (D).
3. ALIGNMENT: THE APRON SHALL BE LOCATED SO THAT THERE ARE NO BENDS IN THE HORIZONTAL ALIGN-MENT. THE APRON SHOULD BE LEVEL OVER ITS LENGTH, AND THE ELEVATION OF THE DOWNSTREAM END OF THE APRON MUST BE THE SAME AS THE ELEVATION OF THE RECEIVING CHANNEL OR ADJACENT GROUND.
4. THICKNESS: THE REQUIRED APRON THICKNESS IS SHOWN IN TABLE 1.
5. GABIONS: WHEN A GABION MATTRESS IS USED IT SHALL BE MADE OF DOUBLE TWISTED GALVANIZED STEEL WIRE. GABIONS SHALL BE FABRICATED IN SUCH A MANNER THAT THE SIDES, ENDS, AND LID CAN BE ASSEMBLED AT THE CONSTRUCTION SITE INTO MATS A MINIMUM OF 12 INCHES THICK.
6. MATERIALS: OUTLET PROTECTION MAY BE DONE USING ROCK RIPRAP OR GABION MATTRESSES TO CONSTRUCT THE APRON. THE ROCK SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE. THE STONE SHALL BE HARD AND ANGULAR AND OF A QUALITY THAT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING. BROKEN CONCRETE MAY BE USED PROVIDED IT DOES NOT HAVE ANY EXPOSED STEEL OR REINFORCING BARS, AND THAT IT IS BROKEN INTO BLOCKY PIECES SUCH THAT THE LARGEST DIMENSION OF EACH PIECE IS NO MORE THAN 3 TIMES THE SMALLEST DIMENSION. THE REQUIRED ROCK SIZE IS SHOWN IN TABLES 1 AND 2. IN ALL CASES A GEOTEXTILE (FILTER FABRIC) SHALL BE PLACED BETWEEN THE APRON AND THE UNDERLYING SOIL TO PREVENT SOIL MOVEMENT INTO AND THROUGH THE RIPRAP.
7. RIP RAP REQUIRED ONLY WHERE NOTED ON GRADING & DRAINAGE PLAN.

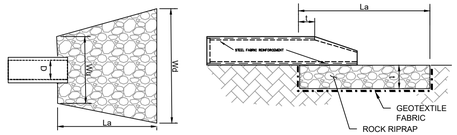


FIGURE 1 - TYPICAL DETAIL FOR ROCK OUTLET PROTECTION

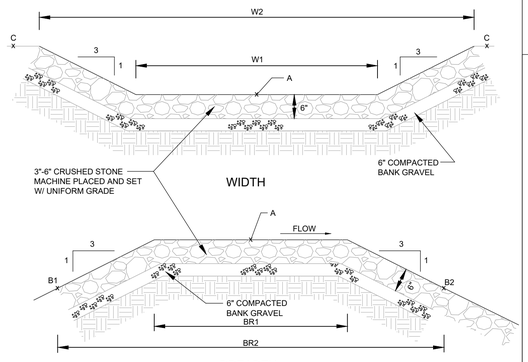
Culvert Size D, (inches)	Rock Size d_{50} (inches)	Apron Legnth La, (feet)	Upstream Width Wu, (feet)	Downstream Width Wd, (feet)	Thickness t, (inches)	Quantity (tons)
12	6	12	3	13	18	15
15	9	16	4.5	18	24	20
18	9	16	4.5	18	24	20
21	9	18	5	20	24	35
24	9	20	6	22	24	60
30	9	22	7.5	24	24	75
36	12	24	9	27	30	120
42	18	26	10.5	30	36	180
48	18	28	12	32	36	215

TABLE 1 - ROCK OUTLET PROTECTION APRON DIMENSIONS

Gadion Rock	Smallest Dimension in Inches				% of rocks small than size shown
	6"d50	9"d50	12"d50	18"d50	
8	12	15	21	30	100
6	9	12	18	24	50-70
4	6	9	12	18	35-50
3	2	3	4	6	2-10

TABLE 2 - REQUIRED ROCK GRADATION

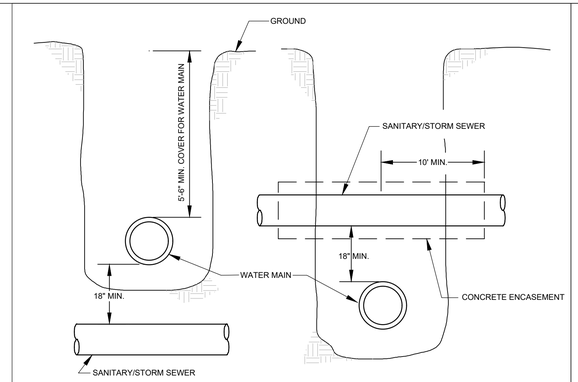
FLARED END SECTION WITH RIP RAP
NOT TO SCALE **A4**



EMERGENCY OVERFLOW SPILLWAY ELEVATIONS & DIMENSIONS (ft)

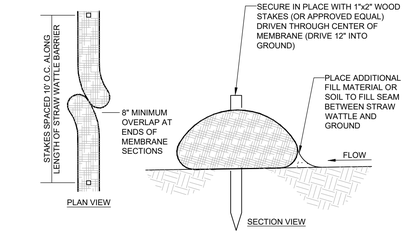
A	B1	B2	C	W1	W2	BR1	BR2
262.15	261.15	261.15	262.10	10	16	8	14

EMERGENCY OVERFLOW SPILLWAY
NOT TO SCALE **A3**



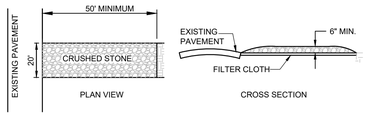
WATER OVER SEWER WATER UNDER SEWER

TYPICAL WATER-SEWER CROSSING
NOT TO SCALE **B2**



NOTES
1. WATTLES SHALL BE 8" MINIMUM DIAMETER.
2. WATTLES SHALL BE INSTALLED PRIOR TO START OF CONSTRUCTION ACTIVITIES AND LEFT IN PLACE TO BIODEGRADE AFTER FINAL STABILIZATION.

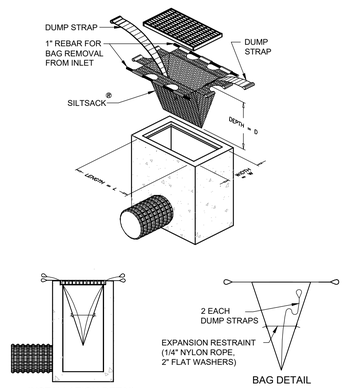
STRAW WATTLE EROSION CONTROL BARRIER
NOT TO SCALE **B1**



TRACKING PAD NOTES

1. STONE SIZE - USE 6" ANGULAR CRUSHED STONE
2. FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
3. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHOULD BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHOULD BE PERMITTED.
4. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

CRUSHED STONE TRACKING PAD
NOT TO SCALE **A2**



SILTSACK ® SPECIFICATIONS

NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE SPECIFICATIONS PROVIDED.

REGULAR FLOW SILTSACK ®

(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20 %
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80 %
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1

SILTSACK INLET PROTECTION DEVICE
NOT TO SCALE **A1**

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COMMONWEALTH OF MASSACHUSETTS
DOUGLAS J. HARTNETT
CIVIL
No. 37796
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

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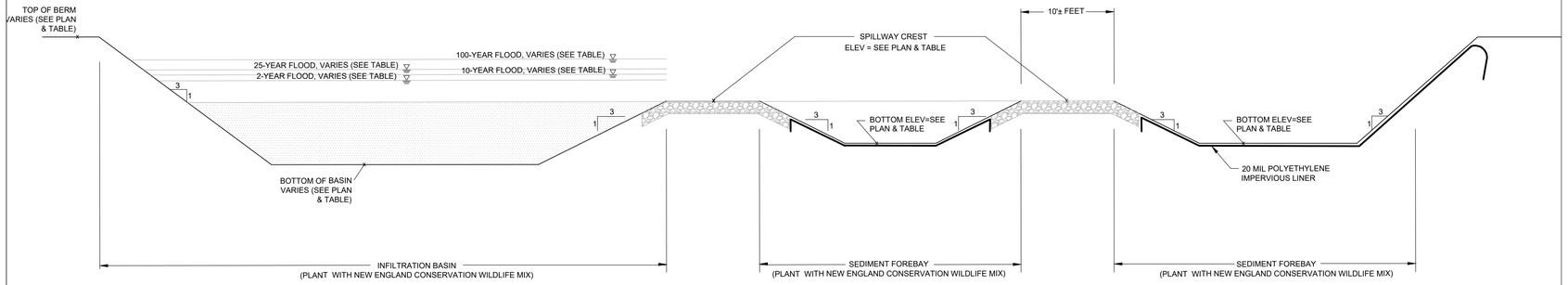


NOTE:

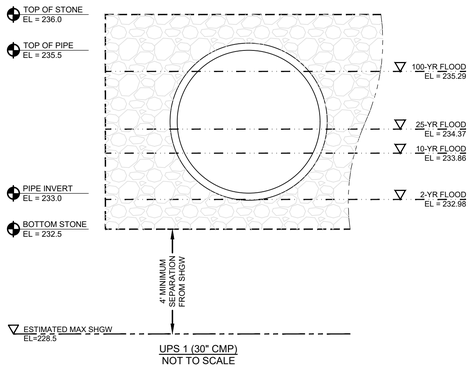
1. ALL FOREBAY ARE SIZED TO CONTAIN 0.1 INCH OF RUNOFF FROM IMPERVIOUS AREA OF CONTRIBUTING WATERSHED.

FOREBAY/INFILTRATION BASIN CROSS SECTION
NOT TO SCALE — **C1**

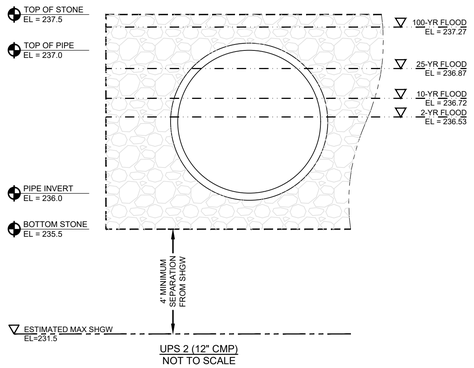
FOREBAY AND INFILTRATION BASIN ELEVATION SUMMARY

FOREBAY	INFILTRATION BASIN	BOTTOM ELEVATION (FT)	SPILLWAY OUT ELEVATION (FT)	TOP OF BERM ELEVATION (FT)	2-YEAR FLOOD ELEVATION (FT)	10-YEAR FLOOD ELEVATION (FT)	25-YEAR FLOOD ELEVATION (FT)	100-YEAR FLOOD ELEVATION (FT)	100-YEAR FREEBOARD (FT)
1A	--	246.0	246.5	247.0	--	--	--	--	--
1B	--	245.5	246.0	246.5	--	--	--	--	--
--	IB 1	244.0	NONE	250.0	244.00	244.34	245.02	246.25	3.75
2A	--	239.5	240.0	240.5	--	--	--	--	--
2B	--	239.0	239.5	240.0	--	--	--	--	--
--	IB 2	238.5	NONE	240.6	238.97	239.54	239.78	240.38	0.22
3A	--	237.0	237.5	238.0	--	--	--	--	--
3B	--	237.0	237.5	238.0	--	--	--	--	--
--	IB 3	236.5	237.5	238.0	237.22	237.32	237.39	237.51	0.49
4A	--	235.0	236.0	237.0	--	--	--	--	--
4B	--	234.0	235.0	236.0	--	--	--	--	--
--	IB 4	233.0	237.0	238.2	233.25	233.72	234.21	235.09	3.11
5A	--	234.0	235.0	236.0	--	--	--	--	--
5B	--	234.0	235.0	236.0	--	--	--	--	--
--	IB 5	233.0	NONE	236.0	233.02	233.09	233.24	233.82	2.18
6A	--	235.7	236.5	237.2	--	--	--	--	--
6B	--	235.0	235.5	236.5	--	--	--	--	--
--	IB 6	230.0	NONE	237.9	230.0	230.23	232.88	235.44	2.46
7A	--	236.0	236.5	237.0	--	--	--	--	--
7B	--	236.0	236.5	237.0	--	--	--	--	--
--	IB 7	234.0	NONE	237.2	234.02	234.32	234.76	235.80	1.40

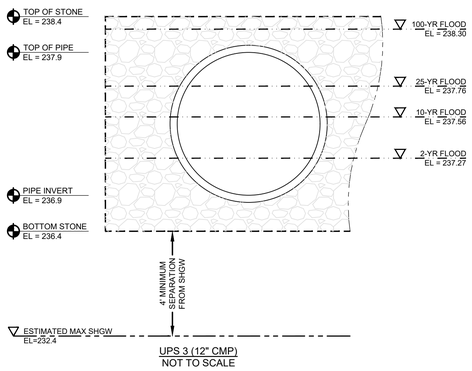
FOREBAY/INFILTRATION BASIN TABLE
NOT TO SCALE — **B1**



UPS 1 (30" CMP)
NOT TO SCALE



UPS 2 (12" CMP)
NOT TO SCALE



UPS 3 (12" CMP)
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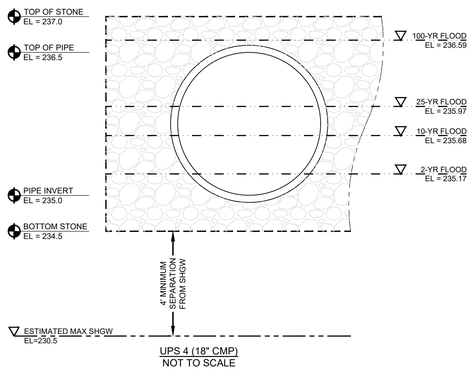
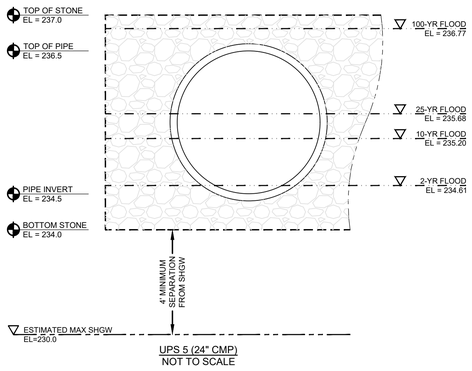
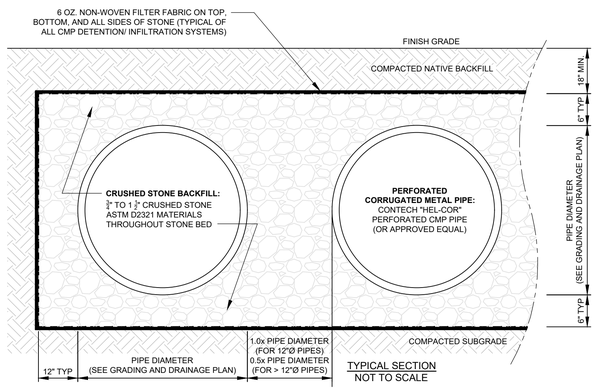


UPS 4 (18" CMP)
NOT TO SCALE

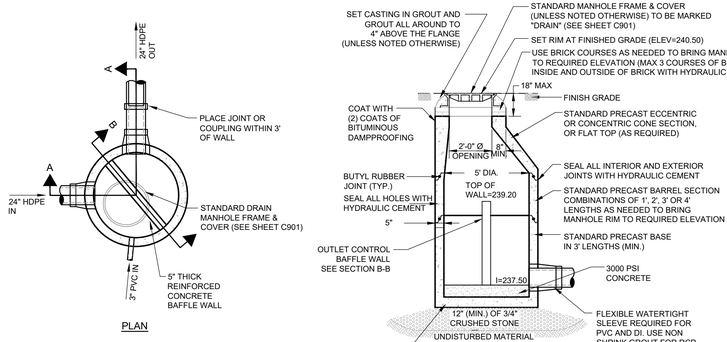


UPS 5 (24" CMP)
NOT TO SCALE



TYPICAL SECTION
NOT TO SCALE

PERFORATED CORRUGATED METAL PIPE (CMP) DETENTION/ INFILTRATION SYSTEM SECTIONS
NOT TO SCALE



OUTLET CONTROL MANHOLE (IB 2)
NOT TO SCALE — **A1**

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No. 37756
REGISTERED PROFESSIONAL ENGINEER
4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
2	ENDORSEMENT SET	04.13.2023

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SHEET NUMBER
C803
SITE DETAILS

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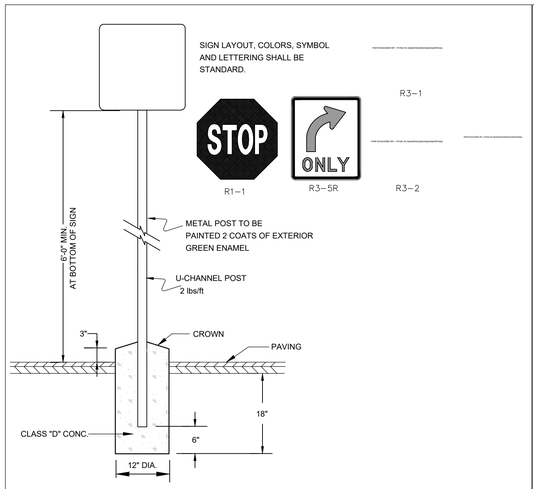
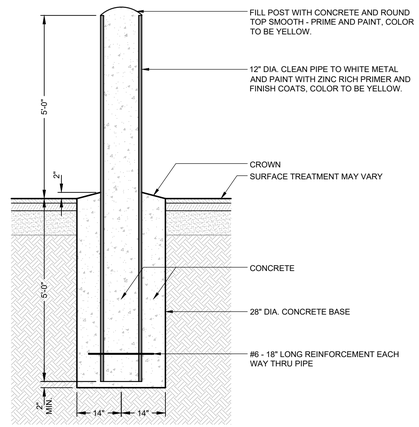
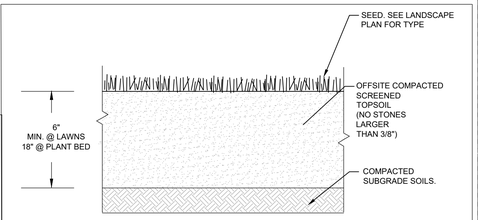


TYPICAL SIGN DETAIL **B3**
NOT TO SCALE



CONCRETE FILLED STEEL PIPE BOLLARD **B2**
NOT TO SCALE



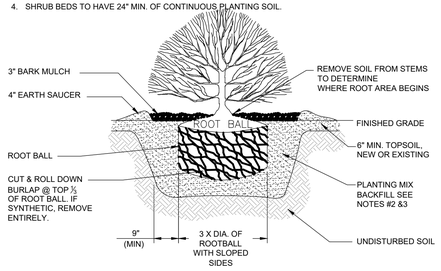
TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% - 65%
SILT	15% - 35%
CLAY	5% - 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85-100
NO. 40	60-85
NO. 100	38-60
NO. 200	10-35
20 u m	LESS THAN 5%

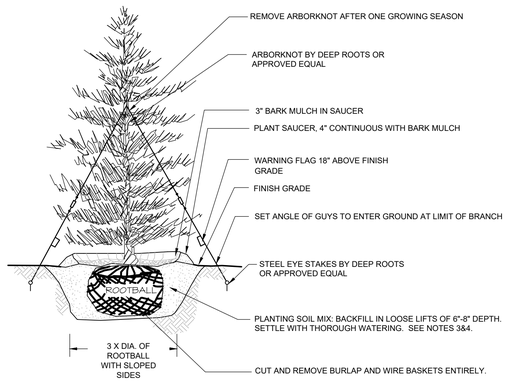
NOTES:
1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRIABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH, WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE, FREE OF SUBSOIL, LARGE STONES, EARTH CLODS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UMASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOP SOIL FOR LAWN,TREES,SHRUBS & PERENNIALS **B1**
NOT TO SCALE

NOTES:
1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1"-2" ABOVE FINISH GRADE.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.

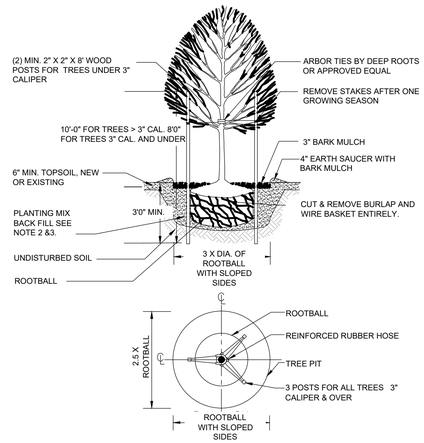


SHRUB PLANTING DETAIL **A3**
NOT TO SCALE



NOTES
1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL **A2**
NOT TO SCALE



NOTES:
1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

DECIDUOUS TREE DETAIL **A1**
NOT TO SCALE

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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

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2	ENDORSEMENT SET	04.13.2023

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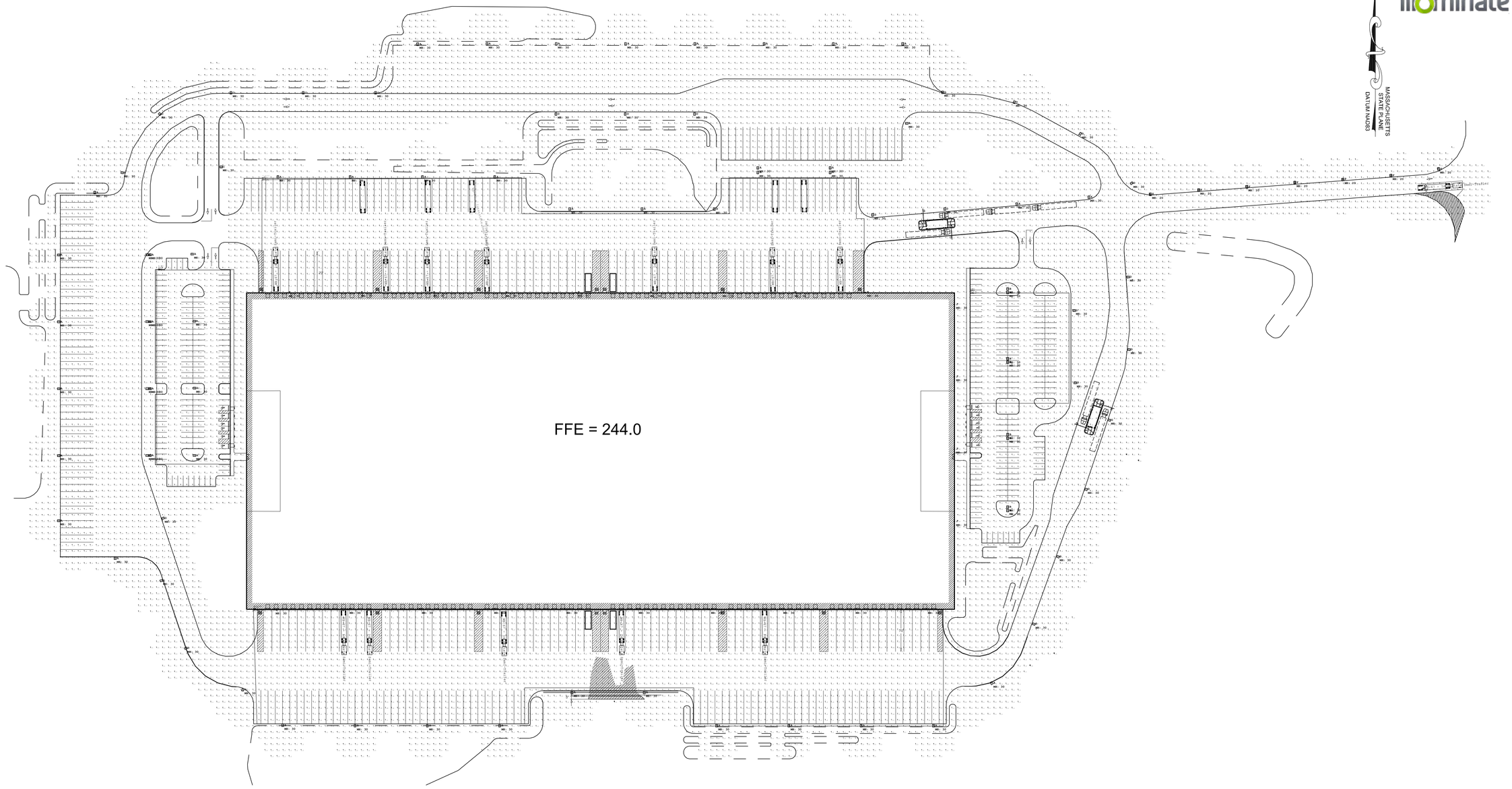
SHEET NUMBER
C804
SITE DETAILS

Electronic Seal: Doug Hartnett
Signature Date: 4-13-2023
Not Valid Unless Signed
Sheet Name: SITE LIGHTING PLAN



MASSACHUSETTS STATE PLANE DATUM NAD83

illuminate

Luminaire Schedule								
Symbol	Tag	Qty	Label	Arrangement	LLF	Description	Lum. Watts	Lum. Lumens
	A	53	VP-1-36L-120-4K7-4F	SINGLE	0.900	VP-1-36L-120-4K7-4F	120.9	13388
	C	4	VP-1-36L-105-3K7-2	SINGLE	0.900	VP-1-36L-105-3K7-2	108.2	11265
	D	21	VP-1-36L-105-4K7-3	SINGLE	0.900	VP-1-36L-105-4K7-3	108.2	12601
	B	8	VP-1-36L-120-4K7-4W	SINGLE	0.900	VP-1-36L-120-4K7-4W	120.9	11992
	E	2	VP-1-36L-55-4K7-4W	SINGLE	0.900	VP-1-36L-55-4K7-4W	56.8	6657
	F	5	VP-1-36L-39-4K7-3	SINGLE	0.900	VP-1-36L-39-4K7-3	39.6	5702
	G	1	VP-1-36L-120-4K7-3	SINGLE	0.900	VP-1-120L-120-4K7-3	120.9	13684
	H	19	RWL2-160L-155-3K7-4-U	SINGLE	0.900	RWL2-160L-155-3K7-4-U	156.8	18592
	J	4	RWL2-160L-45-4K7-2	SINGLE	0.900	RWL2-160L-45-4K7-T2-U	46.1	6668

Calculation Summary								
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	Grid Z
GRID AT GRADE	Illuminance	Fc	0.97	3.5	0.0	N.A.	N.A.	0
CAR PARKING_EAST	Illuminance	Fc	1.38	2.4	0.9	1.53	2.67	
CAR PARKING_WEST	Illuminance	Fc	1.36	2.5	1.0	1.36	2.50	
LOADING DOCKS - NORTH SIDE	Illuminance	Fc	1.24	2.6	0.2	6.20	13.00	
LOADING DOCKS - SOUTH SIDE	Illuminance	Fc	1.17	2.6	0.2	5.85	13.00	

80 0 40 80 160 320

GRAPHIC SCALE 1 inch = 80 ft.

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4-13-2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 09.01.2021

REVISIONS:

#	DESCRIPTION	DATE
1	PER PEER REVIEW COMMENTS	01.14.2022
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SHEET NUMBER
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SITE LIGHTING PLAN

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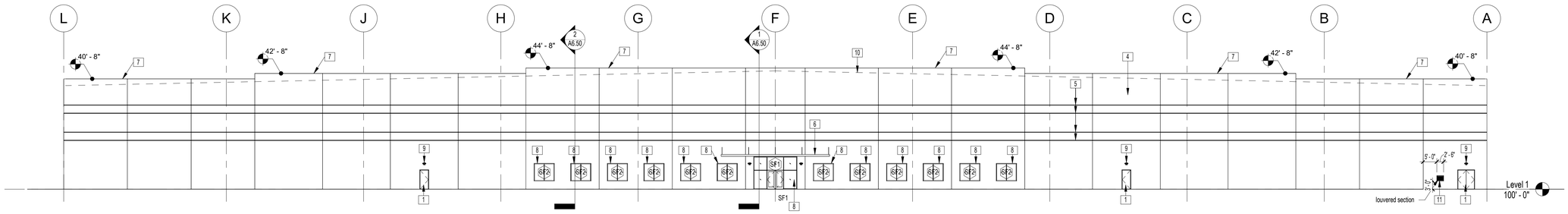
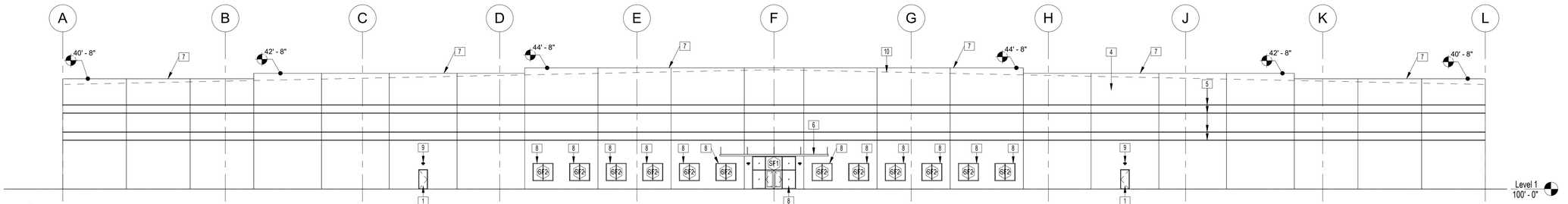
ELEVATION KEY NOTES

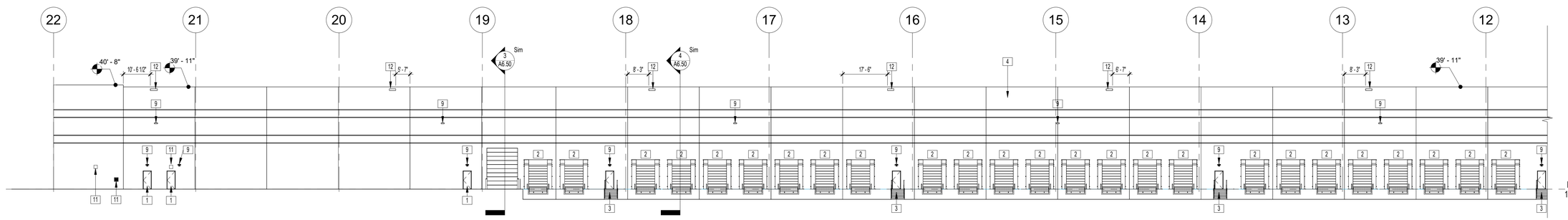
1. PAINTED HOLLOW METAL DOOR AND FRAME - SEE PLAN AND DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
2. NON INSULATED OVERHEAD DOOR, SHELTER, DOCK LEVELER, BUMPERS, AND OTHER ACCESSORIES. SEE PLANS AND DOOR SCHEDULE FOR MORE INFO.
3. PAINTED HOT DIPPED GALVANIZED METAL STAIRS W GUARD RAILS - SEE A7.10 FOR DETAILS
4. CONCRETE PANELS WITH REVEALS, PAINTED. COLOR TO BE DETERMINED BY ARCHITECT AND/OR OWNER
5. HORIZONTAL REVEAL, SEE DETAIL 4/7.11
6. PREFABRICATED METAL CANOPY, SEE A6.50 FOR DETAILS
7. PREFINISHED METAL COPING CAP WITH CONTINUOUS CLEAT
8. 1" IGU IN THERMALLY BROKEN STOREFRONT SYSTEM. SEE WINDOW TYPES FOR MORE DETAIL.
9. LIGHT FIXTURES - SEE ELECTRICAL DWGS FOR MORE INFORMATION
10. LINE OF ROOF BEYOND
11. PREFINISHED METAL LOUVER W/ INSECT SCREEN. SEE MECHANICAL DWGS FOR MORE INFO
12. OVERFLOW SCUPPERS, CENTERED ON ROOF DRAIN 6" ABOVE DRAIN INLET. 8" TALL X 30" WIDE



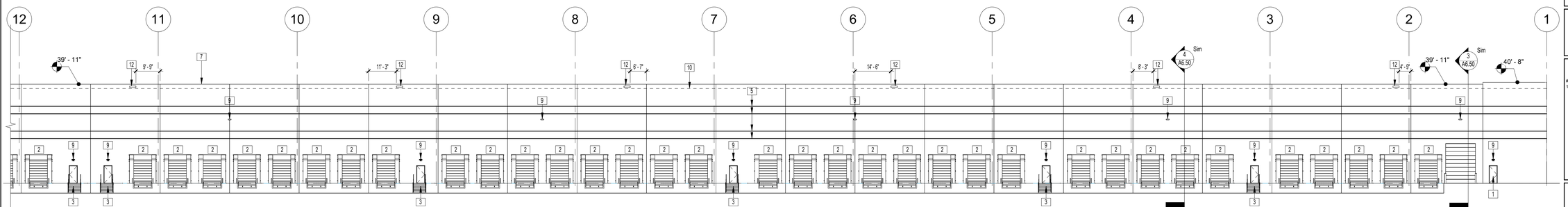
1 A5.10 EAST
1" = 20'-0"



2 A5.10 WEST
1" = 20'-0"



3 A5.10 PARTIAL NORTH ELEVATION
1" = 20'-0"



4 A5.10 PARTIAL NORTH ELEVATION
1" = 20'-0"

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No. 34119
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COMMONWEALTH OF MASSACHUSETTS
03.10.2023

JOB NO: GA1149
PA: AA
ISSUE DATE: 03.10.2023

REVISIONS:

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1	PERMIT SET	03.10.2023

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SHEET NUMBER
A5.10
EXTERIOR ELEVATIONS

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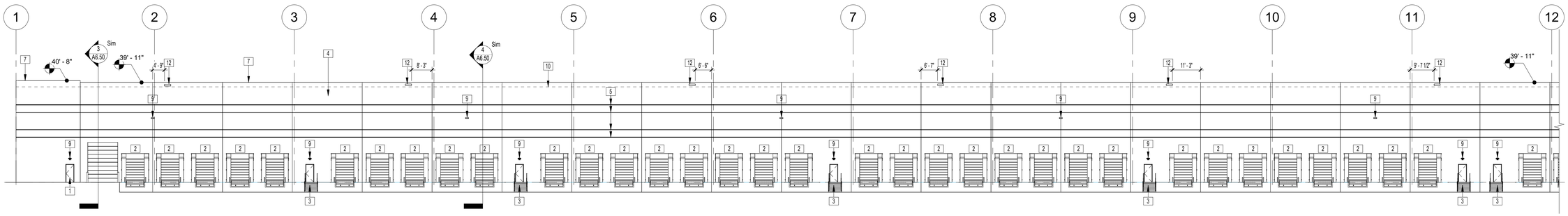
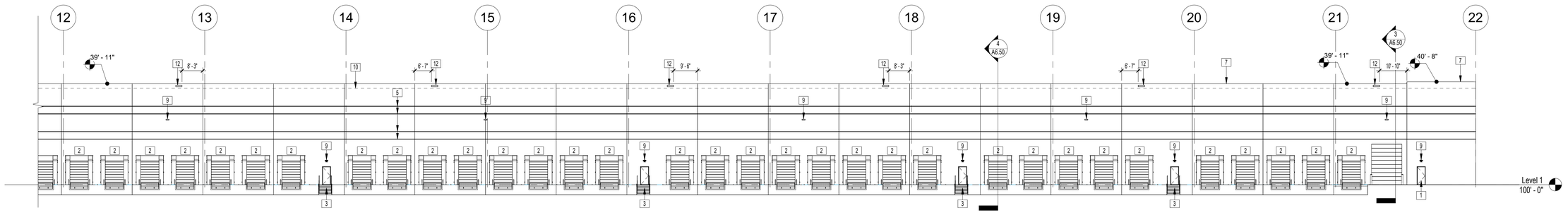


1 PARTIAL SOUTH ELEVATION
A5.11 1" = 20'-0"



2 PARTIAL SOUTH ELEVATION
A5.11 1" = 20'-0"

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5. HORIZONTAL REVEAL, SEE DETAIL 4/7.11
6. PREFABRICATED METAL CANOPY, SEE A6.50 FOR DETAILS
7. PREFINISHED METAL COPING CAP WITH CONTINUOUS CLEAT
8. 1" IGU IN THERMALLY BROKEN STOREFRONT SYSTEM. SEE WINDOW TYPES FOR MORE DETAIL.
9. LIGHT FIXTURES - SEE ELECTRICAL DWGS FOR MORE INFORMATION
10. LINE OF ROOF BEYOND
11. PREFINISHED METAL LOUVER W/ INSECT SCREEN. SEE MECHANICAL DWGS FOR MORE INFO
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SHEET NUMBER
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EXTERIOR ELEVATIONS