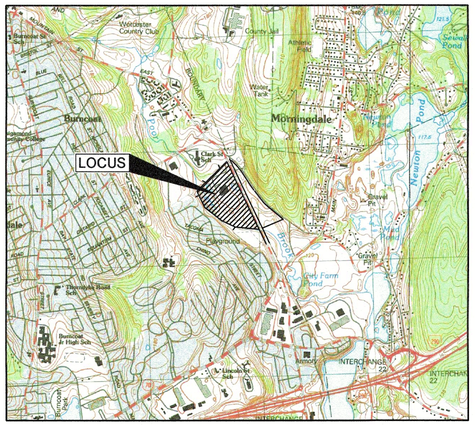
115 NORTHEAST CUTOFF

DEFINITIVE SITE PLAN
OF LAND AT 115 NORTHEAST CUTOFF
ASSESSORS MAP 52, BLOCK 6, PARCELS 1 & 2

IN

WORCESTER, MASSACHUSETTS

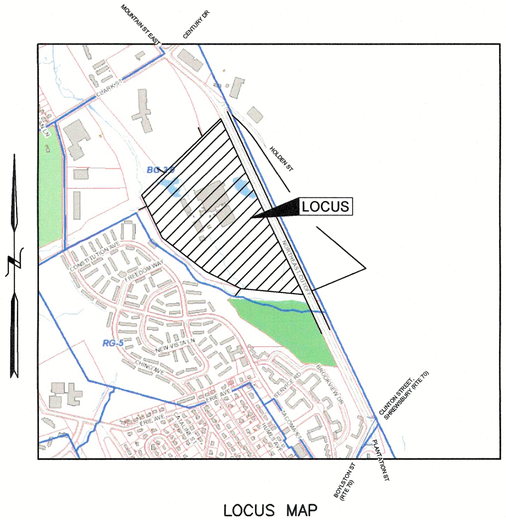


LOCUS MAP
SCALE: 1:25000

APPLICANT/OWNER:

115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASSACHUSETTS 01606

CLIENT NUMBER: 1032
JOB NUMBER: 3483261
DRAWING : CHACHARONE ALLEGRO CURRENT



LOCUS MAP
SCALE: 1"=800'

PREPARED BY:

THOMPSON-LISTON
ASSOCIATES, INC.
Professional Engineers Professional Land Surveyors
Erosion Control Specialists
51 Main Street, Post Office Box 570
Boylston, Massachusetts 01505-0570
Telephone (508) 869-6151 FAX (508) 869-6842

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
CIVIL
No. 39804
REGISTERED PROFESSIONAL ENGINEER
8/10/20

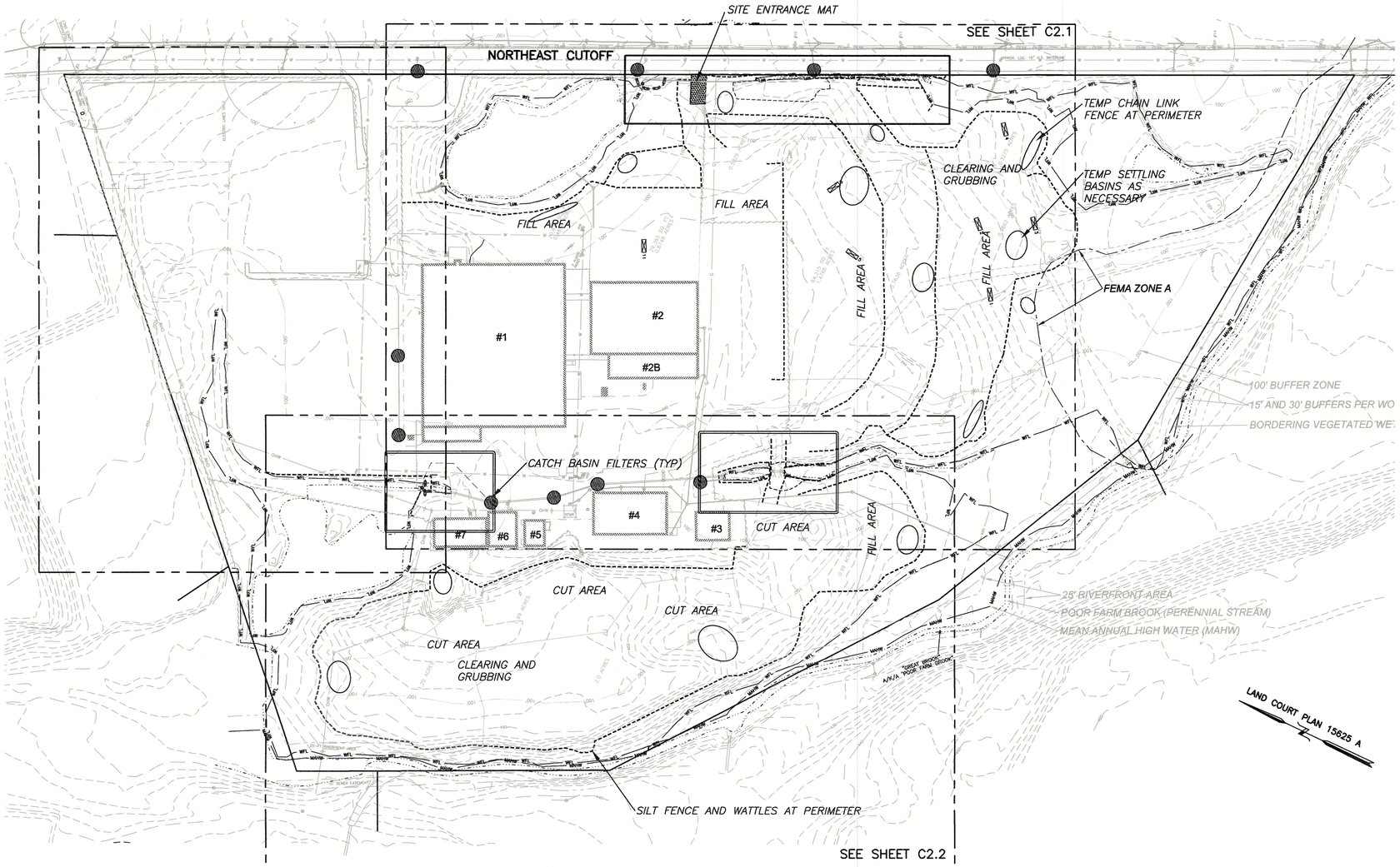
DATE:
JANUARY 13, 2020
REVISED FEBRUARY 10, 2020
REVISED AUGUST 10, 2020

NOTES:

1. SUBJECT PROPERTY IS IDENTIFIED AS ASSESSORS MAP 52, BLOCK 6, PARCELS 1 AND 2.
2. OWNED BY 115 NORTHEAST CUTOFF REALTY TRUST.
3. SEE DEED RECORDED AT THE WDRD REGISTERED LAND SECTION CERTIFICATE 18181, BOOK 91, PAGE 181.
4. SEE PLANS RECORDED AT THE WDRD REGISTERED PLAN SECTION: 15625-E, 34145-A, AND 34201-A.
5. ELEVATIONS REFER TO NGVD1929 DATUM AND IN THE AREA OF PROPOSED WORK ARE THE PRODUCT OF AN ON-GROUND SURVEY CONDUCTED BY THIS FIRM IN 1990 AND UPDATED IN 2019 IN CERTAIN AREAS TO REFLECT CURRENT CONDITIONS.
6. WETLAND RESOURCE AREAS WERE DELINEATED BY GLENN KREVOSKY OF EBT ENVIRONMENTAL CONSULTING, INC. AND LOCATED BY INSTRUMENT SURVEY BY THIS FIRM.
7. FLOOD ZONE A IS SHOWN BASED UPON THE CURRENT FEMA FIRM 25027C0620E AVAILABLE ONLINE.
8. THE PROPERTY IS LOCATED IN THE BG-2.0 ZONING DISTRICT AND LIES WITHIN THE WATER RESOURCES PROTECTION OVERLAY DISTRICT (GP-2).

SITE PLAN SHEET DIRECTORY

	SHEET NUMBER
EXISTING CONDITIONS	C1.0, C1.1, C1.2
EROSION AND SEDIMENT CONTROLS	C2.0, C2.1, C2.2. C2.3, C2.4
PROPOSED LAYOUT & PARKING	C3.0, C3.1, C3.2, C3.3
GRADING & DRAINAGE	C4.0, C4.1, C4.2, C4.3, C4.4
UTILITY PLAN	C5.1, C5.2
CONSTRUCTION DETAILS	C6.1, C6.2, C6.3
LANDSCAPE PLAN – BY OTHERS	C7.1, C7.2
PHOTOMETRIC PLAN – BY OTHERS	3 SHEETS

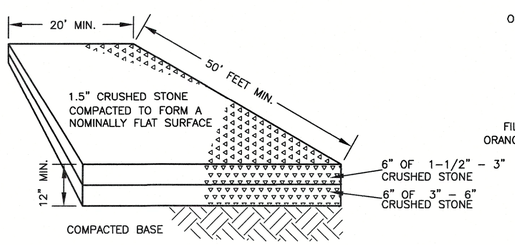


EROSION & SEDIMENTATION CONTROL MEASURES AND SEQUENCE:

1. USE GATED ENTRANCE DURING DEMOLITION AND CONSTRUCTION. PROVIDE SITE ENTRANCE MAT/TIRE SCRUBBER TO PREVENT TRACKING.
2. PROVIDE TEMPORARY CHAIN LINK FENCE AT PERIMETER WHERE THERE IS NOT AN EXISTING FENCE AND MAINTAIN THROUGHOUT SITE CONSTRUCTION PERIOD.
3. INSTALL SILT FENCE AND WATTLES AT PERIMETER PRIOR TO ANY EARTH WORK.
4. INSTALL CATCH BASIN FILTERS ON ALL SITE INLETS AND DOWNSTREAM CATCH BASINS PRIOR TO ANY DEMOLITION OR EARTH WORK.
5. CLEARING AND GRUBBING TO LIMITS OF WORK. MAINTAIN AND REPLACE PERIMETER CONTROLS AS NECESSARY.
6. PROVIDE TEMPORARY SETTLING BASINS AND DIVERSIONS TO CONVEY CONSTRUCTION PERIOD RUNOFF INTO THEM.
7. EXCAVATION AND CONSTRUCTION OF PERIMETER RETAINING WALLS, STORMWATER AND FLOOD STORAGE SYSTEMS. BEGIN EARTH MOVING AND COMPACTION OF FILL.
8. IN FILL AREAS, PLACE FILL AT THE PERIMETER OF THE FILL SECTION FIRST AND WORK INTO THE CENTER, IN ORDER TO FORM A DIKE AND DEPRESSION TO CONTROL RUNOFF.
9. COVER ALL STOCKPILES AND PROTECT THEM WITH SILT FENCES AROUND THE OUTSIDE.
10. AT ALL TIMES, PREVENT THE DISCHARGE OF ANY SILT LADEN STORMWATER INTO WETLAND RESOURCE AREAS AND PUBLIC WAYS.
11. INSTALLATION OF UTILITIES, SITE DRAINAGE, AND CONTINUE MOVING OF FILL.
12. PREPARATION OF SUBGRADE IN PAVED AREAS.
13. INSTALLATION OF CURBS, WALKS, LIGHTING.
14. BASE COURSE OF PAVEMENT, PERMANENT FENCING, IMPORT TOPSOIL FOR LANDSCAPED AREAS.
15. LANDSCAPING AND SEEDING.
16. PROVIDE TEMPORARY STABILIZATION OF ALL EXPOSED SOILS WITHIN 14 DAYS.
17. TOP COURSE OF PAVEMENT, SIGNS, AND MARKINGS.
18. SEE THE CONSTRUCTION PERIOD O&M PLAN, REGULARLY INSPECT AND MAINTAIN EROSION AND SEDIMENTATION CONTROLS. O&M AND INSPECTION FORMS ARE PROVIDED IN THE STORMWATER REPORT.
19. SEE THE ACCOMPANYING POLLUTION PREVENTION PLAN FOR MORE SPECIFIC INFORMATION.APPLY WATER TO CONTROL DUST AT ALL TIMES.
20. USE OF HYDRANT REQUIRES A PERMIT FROM WDPW.

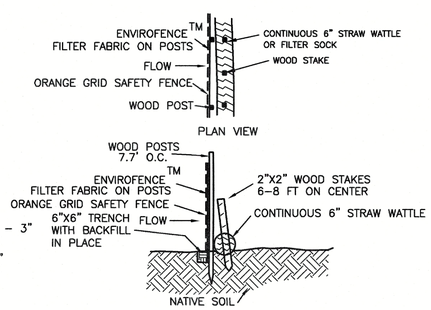
-- KEY --

- BROOK OR POND HIGH WATER LINE
- 25' RIVERFRONT AREA
- MEAN ANNUAL HIGH WATER LINE
- BORDERING VEGETATED WETLAND
- 15' CITY WETLAND BUFFER
- 30' CITY WETLAND BUFFER
- 100' BUFFER ZONE
- FEMA ZONE A LINE
- DRAIN LINE
- SEWER LINE
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCHBASIN WITH HEADER
- CATCHBASIN
- FLARED END SECTION
- WATER LINE
- WATER GATE
- WATER SHUT OFF
- HYDRANT
- GAS LINE
- EDGE OF PAVEMENT
- BITUMINOUS BERM
- GRANITE CURB
- GRANITE MONUMENT
- CONCRETE MONUMENT
- OVERHEAD WIRES
- UTILITY POLE
- CHAIN LINK FENCE
- 2' CONTOUR
- 10' CONTOUR
- 500 PROPOSED CONTOUR



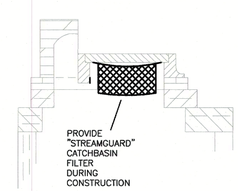
SITE ENTRANCE MAT

(NOT TO SCALE)
ROADS WILL BE SWEPT DAILY WHEN HAULING IS IN PROGRESS.



SEDIMENTATION CONTROL BARRIER WITH WATTLE

(NOT TO SCALE)



PROTECTION OF EXISTING INLETS DURING CONSTRUCTION

(NOT TO SCALE)

DIG SAFE:

EXCEPT FOR VISIBLE STRUCTURES (MANHOLES, GATES, POLES, ETC.) LOCATED BY THOMPSON-LISTON ASSOCIATES, INC., ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD BEFORE DESIGNING, EXCAVATING, BLASTING OR INSTALLING, BACKFILLING, GRADING, PAVEMENT RESTORATION, OR REPAIRING. ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE CONTACTED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN.
THOMPSON-LISTON ASSOCIATES, INC. ASSUMES NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. CALL "DIG SAFE" AT 1-888-DIG-SAFE (1-888-344-7233) BY CALLING 811 OR BY OTHER ALLOWED MEANS.

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
CIVIL
No. 39904
REGISTERED PROFESSIONAL ENGINEER

8/10/20

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Professional Engineers Professional Land Surveyors
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51 Main Street, Post Office Box 570, Boylston, MA 01505
Telephone 508-869-6151 FAX 508-869-6842

CLT. NO. 1032	JOB NO. 348-3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
8/10/2020	REVISION AND RESPOND TO STAFF COMMENTS

SCALE: 1 INCH = 100 FEET

FEET 0 50 100 200 300

METERS 0 50 100

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS

PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

EROSION AND SEDIMENTATION CONTROL C2.0

NORTHEAST CUTOFF

WORK IN THIS AREA WILL BE CONDUCTED UNDER THE DIRECTION OF THE WETLAND SCIENTIST (SEE SHEET C2.4)

APPROX. LOC. 16" H.S. WATERLINE

DETENTION POND

2,000 CF TSB

1,200 CF TSB

LIMIT OF WORK

2,500 CF TSB

LIMIT OF WORK

1,600 CF TSB

5,400 CF TSB

1,200 CF TSB

3,600 CF TSB

3,000 CF TSB

1,200 CF TSB

#1

#2

#2B

#3

#4

#5

#6

#7

LIMIT OF WORK

1,200 CF TSB

WORK IN THIS AREA WILL BE CONDUCTED UNDER THE DIRECTION OF THE WETLAND SCIENTIST (SEE SHEET C2.4)

WORK IN THIS AREA WILL BE CONDUCTED UNDER THE DIRECTION OF THE WETLAND SCIENTIST (SEE SHEET C2.4)

LIMIT OF WORK

3,600 CF TSB

SEE SHEET C2.2

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- GRANITE CURB
- GRANITE MONUMENT
- CONCRETE MONUMENT
- OVERHEAD WIRES
- UTILITY POLE
- CHAIN LINK FENCE
- 2' CONTOUR
- 10' CONTOUR
- 500 PROPOSED CONTOUR
- STONE WALL
- TP7 TEST HOLE LOCATIONS

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1032	348-3261
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REVISIONS

DATE:	DESCRIPTION
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SCALE: 1 INCH = 40 FEET

FEET 0 10 20 40 80 120

METERS 0 5 10 20 30 40

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WORCESTER, MASSACHUSETTS
PREPARED FOR
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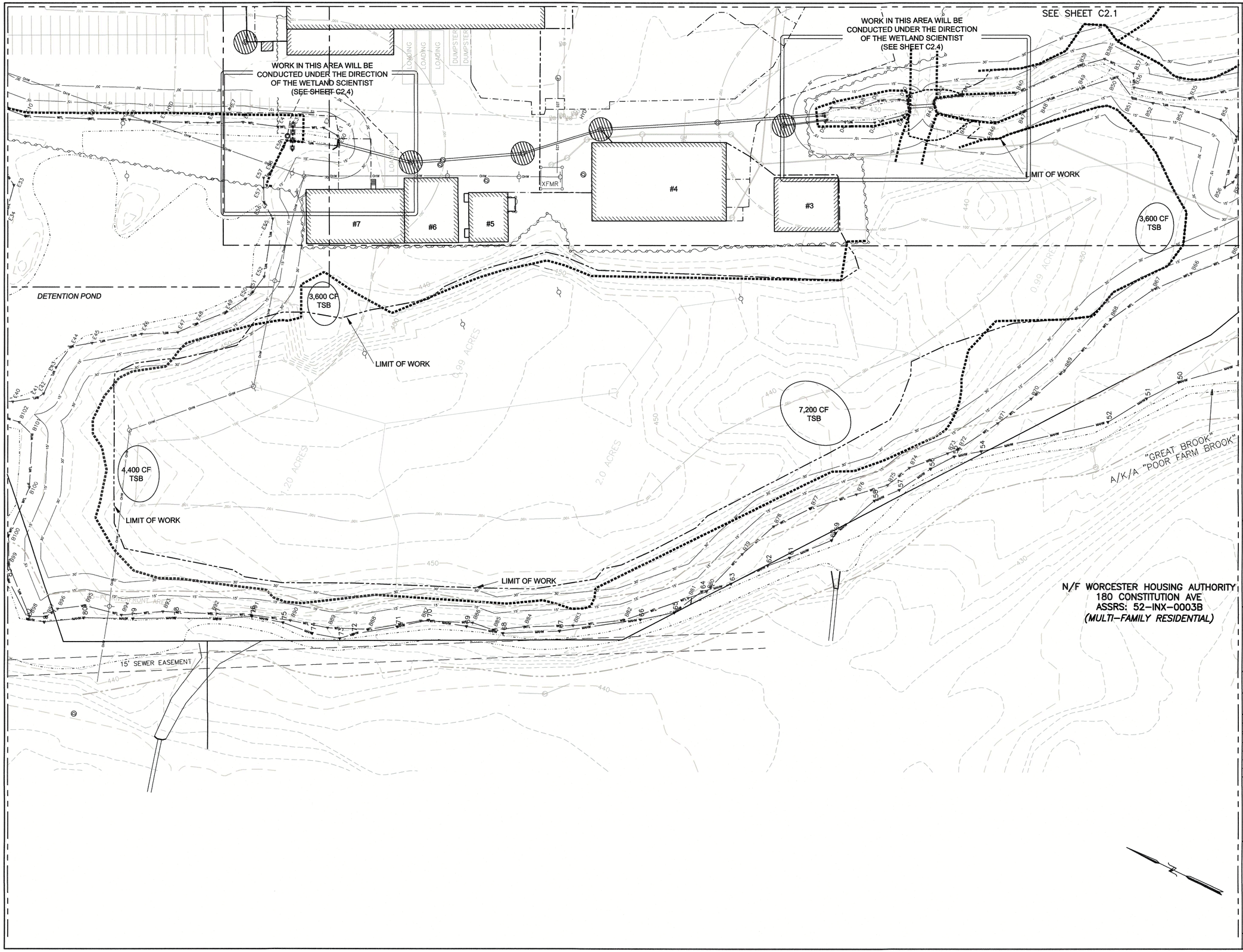
WORCESTER, MASS. 01605

EROSION & SEDIMENTATION CONTROL C2.1



-- KEY --

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COMMONWEALTH OF MASSACHUSETTS PATRICK J. HEALY CIVIL No. 39004 REGISTERED PROFESSIONAL ENGINEER

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SCALE: 1 INCH = 40 FEET

FEET 0 10 20 40 80 120

METERS 0 5 10 20 30 40

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS

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EROSION & SEDIMENTATION CONTROL C2.2

STORMWATER POLLUTON PREVENTION PLAN

NOTE: DURING THE CONSTRUCTION PERIOD, THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE SITE WILL BE THE GENERAL CONTRACTOR.

Project Description

The Site contains approximately 40.1 acres of land. Together with the proposed building, associated parking and utilities will be constructed. The construction process will involve activities that will disturb a significant soil before stabilizing the work areas. The site will be altered by the earthwork required to construct the Site improvements. The total disturbed area will be approximately 15.3 acres.

Construction Process

A sign for all job notices must be posted conspicuously near the main construction entrance to the Site. The sign shall contain a list of permits and file numbers, the location of the permits and SWPPP, and a 24-hour contact name and phone number.

Before construction begins, siltation control barriers consisting of silt fencing attached to wood posts and backed by staked straw bales will be placed between the work areas and areas where sediment could be carried to resource areas. Additional siltation control barriers will be installed around the proposed drainage systems and at other critical locations.

The Contractor will record dates when:

1) Milestones and major grading activities occur;
2) Construction activities temporarily or permanently cease on a sub area of the site;
3) When stabilization measures are initiated in each sub area.

The time of construction requiring the most attention and care occurs between the stripping of natural overburden and the stabilization of construction areas. Cut and fill areas create additional risk by increasing the possibility of stormwater runoff causing erosion.
The Contractor will, as much as possible, leave natural cover untouched. The Contractor will limit to the shortest time possible the time that slopes are exposed. The slope stabilization will be completed as early as construction activities will allow. During the times between clearing and final landscaping treatments, slopes will be benched to interrupt long slopes, and stabilized temporarily with a combination of rip-rap, straw mulch, stump grindings, temporary grass seeding and other measures as necessary to prevent any significant erosion of soils.

When necessary, the Contractor shall implement structural practices to divert flows from slopes and exposed soils, retain/detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in close proximity must be avoided to the degree practicable. Structural measures should be placed on upland soils to the degree practicable. Such measures must be designed and installed in compliance with applicable federal, state or local requirements.

All solid materials such as washings from concrete trucks, building materials, or surplus concrete, shall not be directed to any drainage system or wetland resource area.
During and after construction there shall be no spillage of fuel or other pollutants into any wetland resource area or the drainage systems leading thereto. If there is a spill or discharge of any pollutant during construction, the Conservation Commission shall be notified within one business day.

In conjunction with the site grading process, a number of sedimentation control procedures will be followed. The object of the procedures is to prevent the erosion of soils and the transport of sediments to the resource areas off the site.

Prior to beginning any site work, the Contractor shall file a Stormwater Notice of Intent with the US EPA. The Contractor shall meet the US EPA Construction General Permit requirements and the requirements shown on the site plans, and any conditions placed upon the project in the Special Permit or Order of Conditions. While the best management practices (BMPs) shown on the plans are the minimum necessary to manage the site, locations and methods may change during the construction period as conditions warrant. Additional BMPs such as diversion dikes and swales, methods of stabilization, settling basins, and other devices will be added by the Contractor to meet the requirements. Any and all changes must be recorded in the SWPPP kept on the site.

Stabilization: Temporary and permanent stabilization of disturbed surfaces is the most reliable method of preventing the erosion and transport of site soils and pollution of stormwater runoff. Toward that end, the areas that are disturbed will be provided temporary stabilization within two weeks (14 days) after the last disturbance when:

1) Work is not complete in that area;
2) Work will remain incomplete for a period of two weeks or more, and
3) The planting season has not been reached in areas which will be re-vegetated.

Permanent stabilization will take place when:

4) Work is complete in that area and
5) The planting season has been reached and areas can be revegetated.

Best Management Practices Employed: To guard against the transport of soils to resource areas, several Best Management Practices (BMPs), will be employed. Siltation control barriers, sediment sumps, straw check dikes, swales, temporary settling basins, vegetative filter strips, site entrance mat, rip-rap outlet protection, flocculants with jute mesh or other biomedia, will or may be used on this site as appropriate to the needs of erosion control. Some of these items, such as sediment sumps, are temporary. Other features, such as catch basins, area drains, hydrodymanic separators and detention basins are permanent.

Soils: According to the Natural Resources Conservation Service Soil Survey of Worcester County, Northwestern Part, the site is predominantly Hinckley series soils categorized as belonging to Hydrologic Soil Group "A." On site soil testing has shown the soil to be sand.

Resource Areas: There are several wetland resources such as streams, water bodies, bordering vegetated wetlands, 100-foot buffer zones, and riverfront areas on site. The Contractor shall become familiar with the resource areas before commencing work on the site and shall conduct the work in a manner to protect the wetland resource areas at all times.

INSPECTION AND MAINTENANCE OF EROSION CONTROLS

1) At all times, siltation fabric fencing, stakes and straw bales sufficient to construct an erosion control barrier a minimum 100 feet long will be stockpiled on the Site in order to repair established barriers that may have been damaged or breached.

2) The Applicant will designate as Inspector, a person or entity other than the Site Contractor. The Inspector must be accessible seven days per week and be responsible for inspecting and coordinating the maintenance and repair of all erosion control systems on the site.

3) An inspection of all erosion control measures shall be conducted by the Inspector at least once each week until the completion of construction of the project. The Contractor shall inspect all erosion control systems daily and shall notify the Inspector of any breaches or failures. In case of any noted breach or failure, the Contractor shall immediately make appropriate repairs.

4) The Inspector shall inspect all erosion control systems on the Site before, during and after any storm event reaching one of the following thresholds:

a) Any storm event in which rain is predicted to last for 12 consecutive hours or more;
b) Any storm event for which a flash flood watch or warning is issued;
c) Any single storm event predicted to have a cumulative rainfall greater than 1/2 inch; or
d) Any storm event not meeting the previous three thresholds but which would mark the third consecutive day of measurable rainfall.

5) The Inspector shall inspect erosion control measures at times of significant increase in surface water runoff due to rapid thawing when the risk of failure of those measures is significant.

6) In such instances as remedial action is necessary, the Inspector shall cause to be repaired as soon as possible and before the next storm event, any and all significant deficiencies in erosion control measures.

7) The Conservation Commission shall be notified of any significant failure of erosion control measures and shall be notified of any release of pollutants to a resource area.

EROSION CONTROL DEVICES

1) Site Entrance Mats will be installed at the construction entrance to the site and to each subsequent phase of work. It will consist of a 50-foot long, 6-inch thick layer of 1-1/2" to 3" crushed stone overlying a 6-inch thick layer of 3" to 6" crushed stone. The site entrance mat will be installed over a compacted base (see Construction Details). The crushed stone will be refreshed as necessary.

2) Erosion Control Barriers will consist of an approved siltation fabric fencing installed on posts according to the manufacturer's instructions and backed by staked straw bales where appropriate. The filter fabric and straw bales will be placed in a manner that prevents the passage of soil materials under, around or over the fencing. Sediment will be removed from areas against the barrier when the accumulated sediment has reached one third of the original installed height of the barrier.

3) Straw Bale Diversion Dikes will be placed in other locations on the site in order to further prevent the flow of sediment from the site or reduce the velocity of runoff crossing open land or running off of stockpile or fill areas. Straw bale diversion dikes will also be placed within developing rills to reduce surface runoff velocities and to shift the path of the water flow. The locations where straw bale diversion dikes are installed will be determined in the field at the Inspector's discretion.

4) Slope Stabilization: Slopes or surfaces that are created due to excavation or filling of the site will be stabilized with one or more of the following:

- Straw mulch,
- Stump grindings
- Softwood and hardwood chips, or
- In areas that will be steeper than 3:1 after construction, the slope will be stabilized by the placement of erosion control blanket or heavy rip-rap. The rip-rap slope to be placed will be formed by placing heavy stone on a one foot thick layer of gravel.

Permanent stabilization of slopes and surfaces will employ one or more of the following:

- Loam and grass,
- Sod,
- Rip-Rap, or
- A combination of grasses, rip-rap and/or plants and shrubbery.

5) Runoff Diversion Swales will be provided in order to intercept sheet and concentrated flows above areas of cut, above abutting properties and above resource areas. The swales will direct runoff to sediment sumps or temporary settling basins or to detention basins.

6) Sediment Sumps are excavated depressions 10-foot in diameter and 2-feet deep. The sumps will collect runoff from the unfinished Parking Area and slopes and will allow sediment to settle out before flow continues to siltation control barrier. Sediment sumps will be cleaned whenever the accumulated sediment has reached one-half of the original depth of the sump.

7) Temporary Settling Basins (TSBs) are large, excavated sediment sumps that have a stone face overflow leading to a swale or to a drainage inlet structure. The size of each varies with the area draining to it. A minimum volume of 3,600 cubic feet per acre of contributing area shall be provided. TSBs will be cleaned whenever the accumulated sediment has reached one half of their original depth. TSBs may be located in place of permanent detention basins if located in a smaller footprint and above the final basin floor elevation.

8) Rip-Rip Outlet Protection is a stone apron beginning at a drainage system discharge point and extending down the slope to a flatter grade. The rip-rap will serve to reduce the velocity of the discharge, thereby preventing erosion. Care should be taken to create a level cross section in order for the discharge to spread across the width of the apron.
BMPs require ongoing maintenance. Sediment collected in BMPs must be removed when design capacity has been reduced by 33-50 percent.

WASTE DISPOSAL

All waste materials will be collected and stored securely in metal dumpsters. The dumpster will meet local and state solid waste management regulations. All trash and construction debris will be deposited in the dumpster and emptied as necessary. A licensed company in accordance with applicable Federal, State, and local regulations, will transport the trash. No trash or construction debris will be buried on site. Individuals working on the site will be informed of the appropriate procedure for waste disposal.

HAZARDOUS WASTE

All hazardous waste materials will be disposed of in accordance with applicable Federal, State and local regulations and in accordance with the manufacturer's recommendations. Individuals working on the site will be informed of the appropriate procedures for waste disposal. The construction supervisor will be responsible for overseeing that the proper procedures are followed.

SANITARY WASTE

All sanitary waste will be collected in a timely manner by a licensed contractor and disposed of in accordance with Federal, State, and local regulations.

EQUIPMENT & VEHICLE FUELING AND MAINTENANCE PRACTICES

Large equipment will be fueled by an over the road fuel truck and small equipment will be fueled by fitted pickup truck fuel tanks. All equipment will be fueled outside the 100-foot buffer zones, and a minimum 100 feet from any catch basin discharging toward any wetland and/or water body. Fueling areas will be inspected for signs of leaks or spills.

EQUIPMENT & VEHICLE WASHING

No heavy equipment and vehicle washing will be allowed on the site. All construction equipment will be parked in the designated staging area at least 100 feet from any wetland resource area and 100 feet from any catch basin discharging toward any wetland resource area.

SPILL PREVENTION

All construction personnel will be instructed regarding the following measures.
The site construction supervisor will be responsible for overseeing that all spill prevention procedures will be followed. All personnel are to be trained in proper spill prevention measures, and personnel shall also be trained in proper spill clean up. Spills of "Toxic" or "Hazardous" must be reported to all Local, State and Federal authorities.

- Spill Cleanup Kits shall be kept on site at all times.
- The location of Spill Cleanup Kits are to be posted, and all personnel shall be informed of its location
- No storage, stockpiling, or staging of equipment or construction material will occur within 100 feet from any catch basin discharging toward any wetland and/or water body.
- All materials stored onsite will be maintained in an orderly manner and in their appropriate containers.
- After use of a Material listed on the "Potential Construction Site Pollutants" table has been used, it is to be kept and resealed in its original container with its original labels.
- Substances will not be mixed with one another unless recommended by the manufacturer. The manufacturers' guidelines for the proper use and disposal of the substances will be implemented.
- The construction supervisor will inspect the premises regularly to ensure proper use and disposal of materials.

SPILL CONTROL PRACTICES

All of the manufacturers' recommended methods for spill cleanup will be clearly posted and site personnel will be informed of the necessary procedures and the location of the cleanup supplies. Materials and the equipment necessary for cleanup of a spill will be kept on site in a designated area. Examples of cleaning equipment are: shovels, rakes, wheel barrows, brooms, dust pans, mops, rags, safety gloves and eye wear, absorbent foams, sand, sawdust, and plastic or metal bins designated specifically for spill cleanup. After discovery, all spills will be removed as soon as possible.

Reportable Spills, toxic or hazardous (10 gallons or more for petroleum), material will be reported in person or by mail to the Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup Central Regional Office, 627 Main Street, Worcester, MA 01608 or by telephone at 508-792-7653.

The Contractor's on site supervisor will be responsible for spill prevention and be the cleanup coordinator and supervisor. The Contractors's on site supervisor is responsible for educating the construction personnel of the protocol in the event of a spill, including all subcontractors.

PETROLEUM PRODUCTS

All onsite construction machinery and vehicles will be monitored for leaks and will receive regular preventive maintenance to reduce the likelihood of leakage. All petroleum products will be stored in sealed containers appropriately labeled.

FERTILIZERS

Fertilizers will be applied at the minimum amount recommended by the manufacturer. The storage of fertilizer products will be in sealed containers within a roofed structure that will be located inside the Aquifer Protection Zone III area and not within the Aquifer Protection Zone II area.

SOLVENTS & PAINTS

All containers will be sealed and stored when not used. Excess material will not be discharged to the storm and or sewer systems and will be properly disposed of according to the manufacturers specifications including all Federal, State, and local regulations.

CONCRETE TRUCK WASHOUT

Concrete trucks will discharge their excess into designated temporary basins lined with polyethylene sheeting, where the concrete will be allowed to cure. Once the concrete is cured, the concrete will be broken up and used as common fill or hauled off site. In no case shall concrete truck washout be discharged to a stormwater BMP.

NON-STORMWATER DISCHARGES

The following non-stormwater discharges are expected as part of the proposed project during the construction phase:
Water from utility flushing and dust control, pavement wash water, where no spills or leaks of toxic or hazardous materials have occurred and uncontaminated groundwater during the dewatering excavations.
Non-stormwater discharges will be directed to vegetated surfaces and/or temporary settling basins prior to discharge to wetlands and/or waterways.

SEQUENCE OF INSTALLATION AND CONSTRUCTION IN EACH PHASE OF WORK

Prior to the start of earth-moving activities, the perimeter sedimentation control barriers and temporary settling ponds shall be installed along the limit of work as shown on the site plans.

CONSTRUCTION ACCESS

At each construction entrance, a stone entrance mat shall be installed to remove soil material from the equipment tires. Any other bare construction routes or equipment staging areas shall be stabilized with gravel, wood chips, stump grindings, or temporary vegetation.

LAND CLEARING AND GRADING

To the extent practicable, clearing, grubbing and stripping shall be limited. Whenever practical, existing strips of vegetative cover will be preserved between cleared areas and resource areas to provide runoff filtration. All slopes shall be brought to finish grade and stabilized as soon as possible. Slopes between 1:1 and 2.5:1 grades shall be stabilized with rip-rap armoring. Slopes that are 2.5:1 and flatter shall be stabilized with a bonded fiber matrix and hydroseeding or with seed and erosion control blanketing. Additional run-off control measures shall be installed as grading progresses, and may include temporary basins, dikes, and swales.

TEMPORARY SEDIMENT BASINS AND SUMPS

As needed within construction phases, temporary sediment basins and sumps will be excavated prior to further soil disturbance on the site. The basins shall include stone and filter fabric. The basin slopes and bottom shall be stabilized with loam, seed, and/or a rolled erosion control product (RECP), and a stabilized exit spillway shall be constructed with a filter fabric and stone apron. Temporary riser pipes may be utilized to allow retention and treatment with controlled release of stormwater runoff during construction. The basins may be over-excavated as needed to provide storage for, at a minimum, 3,600 cubic feet of soil per disturbed acre of runoff. Additional temporary sediment basins or sediment sumps, may be constructed as necessary to store and infiltrate runoff. Sediment sumps are excavated depressions of a minimum 10-foot diameter and a 2-foot depth and strategically installed to reduce velocities and to provide sediment trapping. Basins and sumps will be inspected weekly, before and after significant storm events and will be cleaned as necessary and appropriate.

RUNOFF CONTROL AND CONVEYANCE SYSTEMS

As needed, diversion swales and /or dikes, temporary slope drains, check dams, or other BMPs leading into the basins may be warranted, and shall be constructed and stabilized utilizing earth, crushed stone, pipes, or haybales. Additional swales or dikes shall be constructed as necessary to divert runoff into temporary sediment basins. Stone check dams shall be installed at appropriate intervals in swales and elsewhere to break up the lengths of slopes.

STOCKPILING

Soil stockpiling shall take place outside the 100-foot buffer zone to the extent feasible. Any stockpiling that will remain inactive for more than 2 weeks shall be hydroseeded or covered with canvas or plastic sheeting.

SURFACE STABILIZATION

Apply temporary or permanent stabilization measures immediately on all disturbed areas where work is completed or delayed greater than 2 weeks.

CONSTRUCTION & UTILITY CONNECTIONS

After the parking lot, driveways, and field are rough graded, temporary swales with check dams or dikes and settling basins will be utilized to control runoff until the closed drainage system is functional. After the utilities, including the catch basins have been installed, the driveways and parking areas will be finish graded and stabilized with a binder coat of pavement.

INLET PROTECTION

Following the installation of the closed drainage system, driveway paving, catch basin inlets will be protected with catch basin filters.

LANDSCAPING AND FINAL STABILIZATION

After construction is complete in a given area any exposed soils will be stabilized by installing rip rap, sod, hydroseeding and or landscaping.

CONSTRUCTION SCHEDULE

The following is a general construction sequence for the construction of the Site. The actual schedule may vary somewhat from that stated if site or weather conditions require a different schedule and if such change does not negatively affect the prevention of pollution. An example of a logical change to the schedule would be deviating from the sequence below to allow the laying of driveway berm prior to a winter freeze in order to better control the site drainage.

Preconstruction:

- The Contractor will hold a pre-construction meeting with the Engineer, Contractor's employees and the Inspector in order to review permits, procedures and construction methods. The Conservation Commission shall be invited to send a representative.
- Establish the Site Entrance Mat at the construction entrance to the site.
- Establish a construction staging and equipment storage area protected against erosion by lines of staked straw bales and siltation fencing and stable surface.

Begin with Access Drives:

- Tree clearing and logging. Comply with Asian Longhorned Beetle Protocols.
- Begin stripping in the first phase of work along the access road and the stabilized existing cart road wetland crossing to construct access to the rear portion of the site.
- Stockpile and compact excavated loam in an area surrounded by staked straw bales or siltation fencing. Place the straw bales or fencing at least five feet from the base of the loam pile. Cover or stabilize with vegetation as soon as possible.
- Excavate the wetland replication area and move wetland soils and plant life directly from altered wetland are to the replication area.
- Stockpile and compact excavated loam in an area surrounded by staked straw bales or siltation fencing. Place the straw bales or fencing at least five feet from the base of the loam pile. Cover or stabilize stockpiles with tarps or RECPs, and vegetate as soon as possible.
- Establish and build the drainage discharge points for the access road, and various erosion control BMPs that are warranted along the route.

Building Site:

Once the access drive is constructed from Northeast Cutoff,

- Proceed with tree clearing and logging the larger part of the site
- Install the siltation control barriers between wetland resource areas and the work areas and in other locations as shown within the plan set.
- Begin stripping operation, stockpile loam in the remainder of Phase 1.
- Begin rough grading and earthwork operations. Expose ledge in cut areas and establish access, loading, and onsite crushing operation area. Provide temporary drainage system to manage runoff from crushing and loading operation as necessary.

Access Roadway construction continues:

- Construction of retaining walls and rip rap slopes along the access road, as processed material is moved from the main site to the access drive and parking area.
- Install permanent culverts in the access drives.
- When subgrade is reached, install drainage and utilities.
- Inspect, maintain and install supplemental BMPs such as diversion dikes and swales, and TSBs before and as the earthwork operation progresses.
- As areas are lowered or raised to final grade, apply temporary or permanent slope stabilization measures.
- Install temporary stabilization immediately on all disturbed areas where work is completed or will be delayed greater than 2 weeks.
- Installed base material for roadway, then proceed to fencing and guardrails.

Parking Lots:

- Continue with site grading to match the site plan grading, beginning at the perimeter.
- Install rip rap slopes, if any, as grades are raised at the site perimeter.
- As site grades reach appropriate elevations, install the drainage system, including stormwater ponds, discharge points, pipes, drain manholes and catch basins.
- As building area reaches appropriate elevations, begin construction of the subsurface infiltration systems.
- Continue grading operations for parking areas up to subgrade, then install the base material for the pavements.
- Place concrete pavements and continue around the building.
- Permanently stabilize exposed slopes and additional erosion control devices as required.
- Lay the base course of asphalt pavement upon completion of concrete pavements.
- Install trees and landscape features.
- Lay finish course of pavement upon completion of the building interior renovations.
- Install fencing, signs, lot and road striping and signage.
- Cleanup the site, complete the punch list and as-built plan.
- Prepare and Submit an Application for the Certificate of Compliance and the Notice of Termination to US EPA.

THOMPSON-LISTON ASSOCIATES, INC.
Professional Engineers Professional Land Surveyors
Erosion Control Specialists
51 Main Street, Post Office Box 570, Boylston, MA 01505
Telephone 508-869-6151 FAX 508-869-6842

CLT. NO. 1032	JOB NO. 348-3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
8/10/2020	ADDRESS STAFF COMMENTS

SCALE: 1 INCH = 100 FEET

FEET 0 50 100 200 300

METERS 0 50 100

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

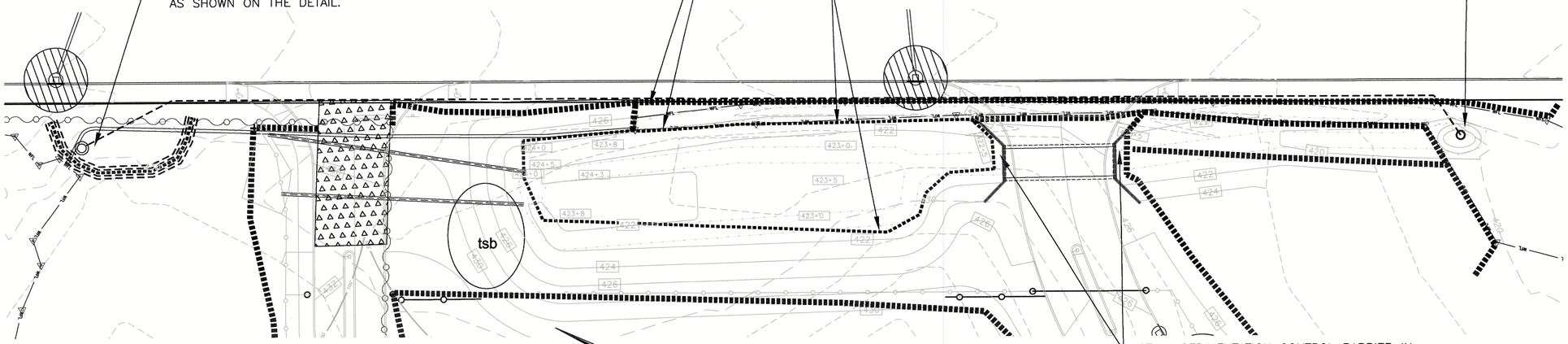
EROSION AND SEDIMENTATION CONTROL C2.3

ESTABLISH A SUMP USING SILT FENCE AND SAND BAGS AND A WELLPOINT. DURING WORK ON THE CULVERT, WETLAND ALTERATION, AND CONSTRUCTION OF THE REPLICANT WETLAND, PUMP STREAM FLOW AROUND THE WORK AREA AND REPLICANT WETLAND. PLACE HOSE ALONG BACK OF SIDEWALK. DISCHARGE INTO A SUMP AS SHOWN ON THE DETAIL.

FIRST INSTALL SEDIMENTATION CONTROL BARRIER AROUND THE WETLAND TO PROTECT IT DURING EARTH MOVING ACTIVITIES.

AFTER REPLICANT WETLAND IS EXCAVATED AND GRADED, INSTALL SILT FENCE AT THE PERIMETER OF THE NEW WETLAND TO PROTECT THE NEWLY GRADED AREA FROM RUNON EROSION.

DEWATERING DISCHARGE INTO THE RIVER ROCK LINED SUMP. HOSE WILL DISCHARGE INTO A BARREL OR OTHER DEVICE TO REDUCE VELOCITY.

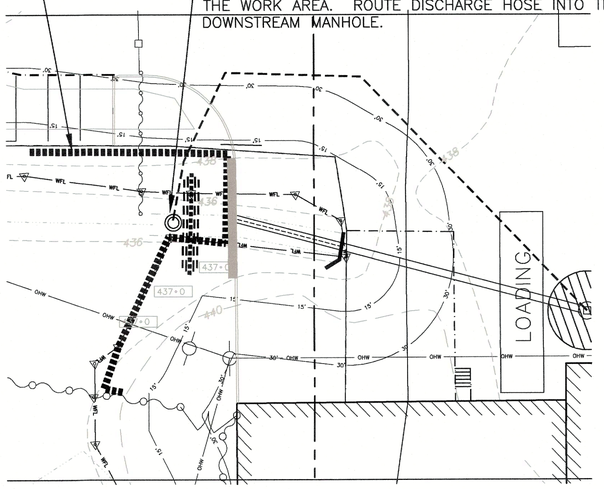


INSTALL SEDIMENTATION CONTROL BARRIER IN THIS AREA TO PREVENT MIGRATION OF ANY SILT FROM THE CULVERT AND ROAD FILL SECTION. IMMEDIATELY STABILIZE THE SLOPES OF THE FILL SECTION.

PLAN VIEW OF WETLAND REPLICATION AREA 1
SCALE 1"=20'±

INSTALL SEDIMENTATION CONTROL BARRIER AT THE LIMIT OF THE REPLICANT WETLAND AND AT LIMIT OF FILL SECTION.

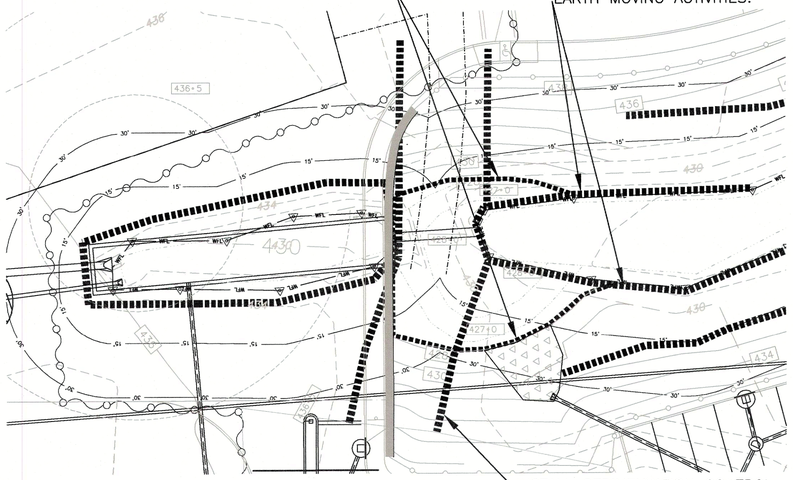
ESTABLISH A SUMP USING A TEMPORARY DAM CONSTRUCTED WITH SAND BAGS AND A WELLPOINT. DURING WORK TO INSTALL THE CULVERT AND WETLAND ALTERATION, PUMP STREAM FLOW AROUND THE WORK AREA. ROUTE DISCHARGE HOSE INTO THE DOWNSTREAM MANHOLE.



PLAN VIEW OF WETLAND REPLICATION AREA 2
SCALE 1"=20'±

AFTER REPLICANT WETLAND IS EXCAVATED AND GRADED, INSTALL SILT FENCE AT THE PERIMETER OF THE NEW WETLAND TO PROTECT THE NEWLY GRADED AREA FROM RUNON EROSION.

FIRST INSTALL SEDIMENTATION CONTROL BARRIER AROUND THE WETLAND TO PROTECT IT DURING EARTH MOVING ACTIVITIES.



PLAN VIEW OF WETLAND REPLICATION AREA 3
SCALE 1"=20'±

INSTALL SEDIMENTATION CONTROL BARRIER BETWEEN TREE CLEARING HAUL ROAD AND WETLAND RESOURCE AREAS DURING CLEARING AND GRUBBING AND EARTH MOVING ACTIVITIES

-- KEY --

- BROOK OR POND HIGH WATER LINE
- 25' RIVERFRONT AREA
- MEAN ANNUAL HIGH WATER LINE
- BORDERING VEGETATED WETLAND
- 15' CITY WETLAND BUFFER
- 30' CITY WETLAND BUFFER
- 100' BUFFER ZONE
- FEMA ZONE A LINE
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- HYDRANT
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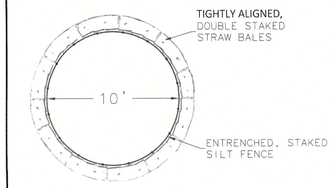
- BITUMINOUS BERM
- GRANITE CURB
- GRANITE MONUMENT
- CONCRETE MONUMENT
- OVERHEAD WIRES
- UTILITY POLE
- CHAIN LINK FENCE
- 2' CONTOUR
- 10' CONTOUR
- 500 PROPOSED CONTOUR
- STONE WALL
- TP7 TEST HOLE LOCATIONS



TYPICAL DETAIL OF ABOVE GROUND SILT SUMP FOR DE-WATERING
(N.T.S.)

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CLT. NO. 1032	JOB NO. 348-3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

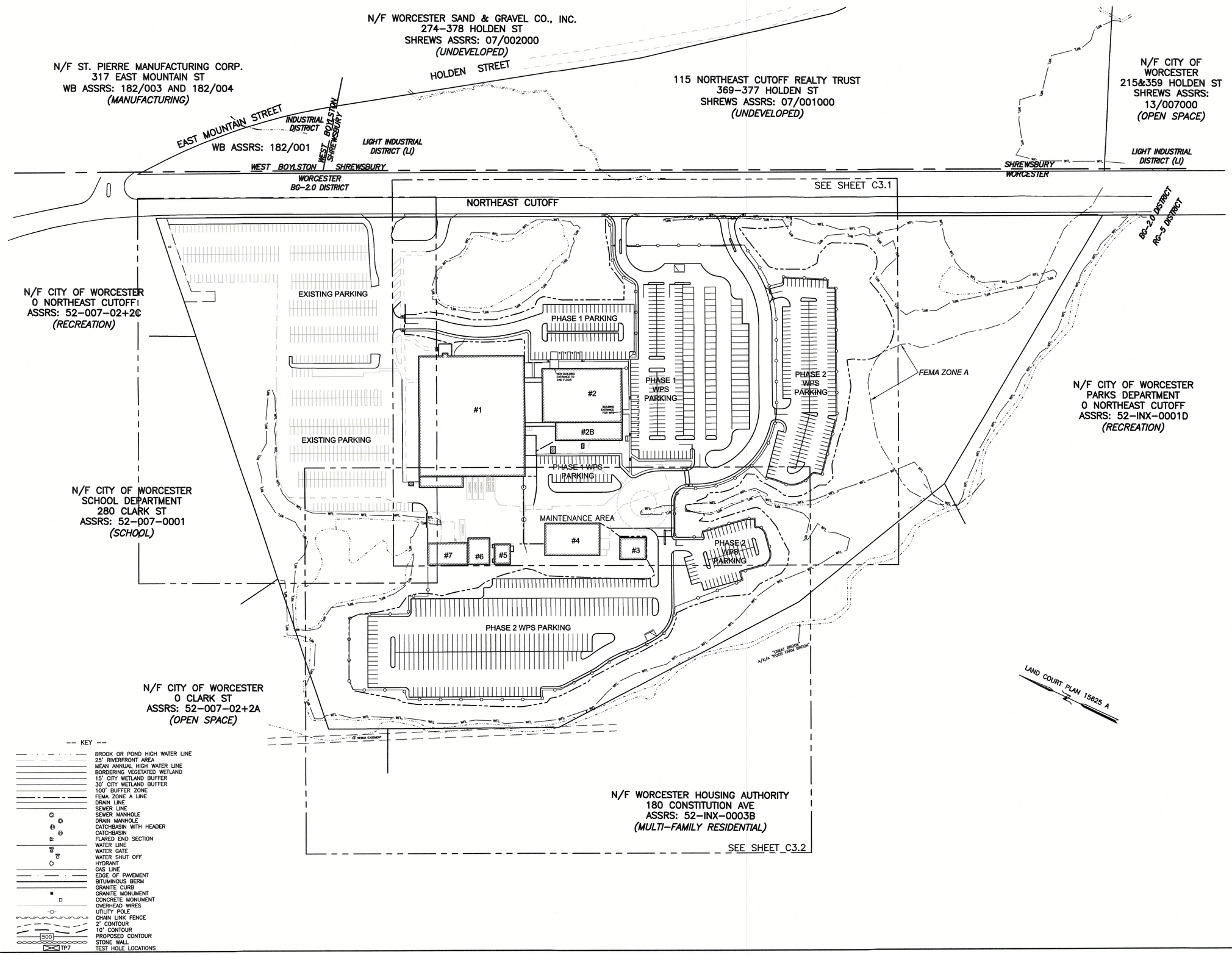
REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
2/10/2020	ISSUED REPLICATION PLAN
8/10/2020	REVISION AND RESPOND TO STAFF COMMENTS

SCALE: AS NOTED

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

EROSION CONTROL AT WETLAND REPLICATION AREAS C2.4



ZONING COMPLIANCE TABLE:
ZONING DISTRICT: BG–2.0, WATER RESOURCES PROTECTION OVERLAY DISTRICT GP–2 (WRPOD)

	REQUIRED OR ALLOWED	PROVIDED
LOT AREA	N/A	1,748,456 S.F.
LOT FRONTAGE	N/A	2,162.04'
FRONT YARD	N/A	287'
SIDE YARD	N/A	372'
REAR YARD	10'	245'
HEIGHT (STY)	N/A	2 STORY
HEIGHT (FT.)	50'	45'±
FLOOR AREA RATIO	2:1 MAX	0.12:1

PROPOSED USES:
BUILDING 1 MANUFACTURING, INCLUDING OFFICE, R&D, STORAGE,
BUILDING 2 OFFICE – 2ND FLOOR OF BUILDING 2
OFFICE AND TRAINING – 1ST FLOOR OF BUILDING 2 FOR WORCESTER PUBLIC SCHOOLS TRANSPORTATION AND FACILITIES, INCLUDING DRIVER TRAINING, LOGISTICS, AND SUPPORT
BUILDING 3 – WORCESTER PUBLIC SCHOOLS STORAGE
BUILDING 4 – WORCESTER PUBLIC SCHOOLS VEHICLE MAINTENANCE
BUILDING 5 – PART OF MANUFACTURING R&D USE
BUILDING 6 – PART OF MANUFACTURING R&D USE
BUILDING 7 – STORAGE

PARKING CALCULATIONS

	REQUIRED	PROVIDED
MANUFACTURING/OFFICE/R&D (139,800 G.S.F.) BUILDINGS 1, 5, & 6		
1 PARKING SPACE REQUIRED FOR EVERY 300 S.F.	466	534 EX.
OFFICE TENANT (22,300 G.S.F.) 2ND FLOOR OF BUILDING 2		
1 PARKING SPACE REQUIRED FOR EVERY 300 S.F.	75	80
WORCESTER PUBLIC SCHOOLS (40,700 G.S.F.) 1ST FLOOR OF BUILDING 2 AND BUILDINGS 6 AND 7		
1 PARKING SPACE FOR EVERY 300 S.F.	135	139
FLEET PARKING PROVIDED:		
DRIVERS & FLEET PASSENGER VEHICLES		266
MID SIZE BUSES		98
LARGE BUSES		144
TOTAL PARKING SPACES REQUIRED	676	
TOTAL PARKING SPACES PROVIDED		753
HP SPACES	14 (2%)	24
AT MANUFACTURING/OFFICE/R&D ENTRANCE		12
AT NEW OFFICE BUILDING 2 ENTRANCE		4
AT WORCESTER PUBLIC SCHOOLS ENTRANCE		8

SPECIAL PERMIT IN THE WATER RESOURCES PROTECTION OVERLAY DISTRICT (WRPOD) FOR IMPERVIOUS COVER:

EXISTING CONDITION: 23.6% IMPERVIOUS
PROPOSED UNMITIGATED:: 46.5% IMPERVIOUS
PROPOSED NET AFTER MITIGATION: 20.6% IMPERVIOUS

SEE STORMWATER REPORT FOR DETAILED CALCULATIONS AND DESCRIPTIONS OF THE PROPOSED TREATMENT AND INFILTRATION MITIGATION MEASURES.

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CLT. NO. 1032	JOB NO. 348–3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

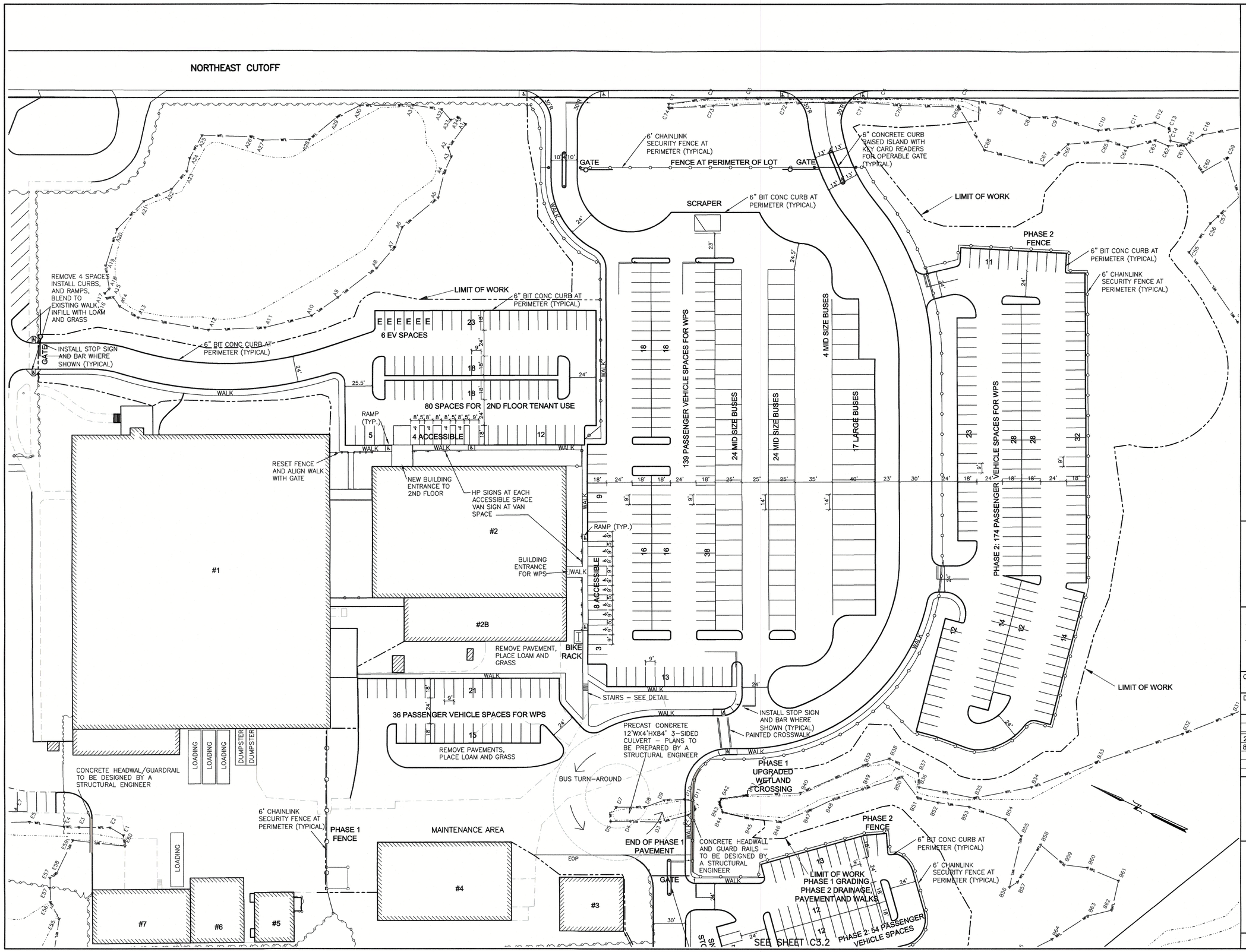
REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
8/10/2020	REVISION AND RESPOND TO STAFF COMMENTS

SCALE: 1 INCH = 100 FEET
FEET 0 50 100 200 300
METERS 0 50 100

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

PROPOSED LAYOUT PLAN C3.0



-- KEY --

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- OVERHEAD WIRES
- UTILITY POLE
- CHAIN LINK FENCE
- 2' CONTOUR
- 10' CONTOUR
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- TP7 TEST HOLE LOCATIONS

COMMONWEALTH OF MASSACHUSETTS PATRICK J. HEALY CIVIL No. 33304 REGISTERED PROFESSIONAL ENGINEER

8/21/20

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1032	348-3261
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SCALE: 1 INCH = 40 FEET

FEET 0 10 20 40 80 120

METERS 0 5 10 20 30 40

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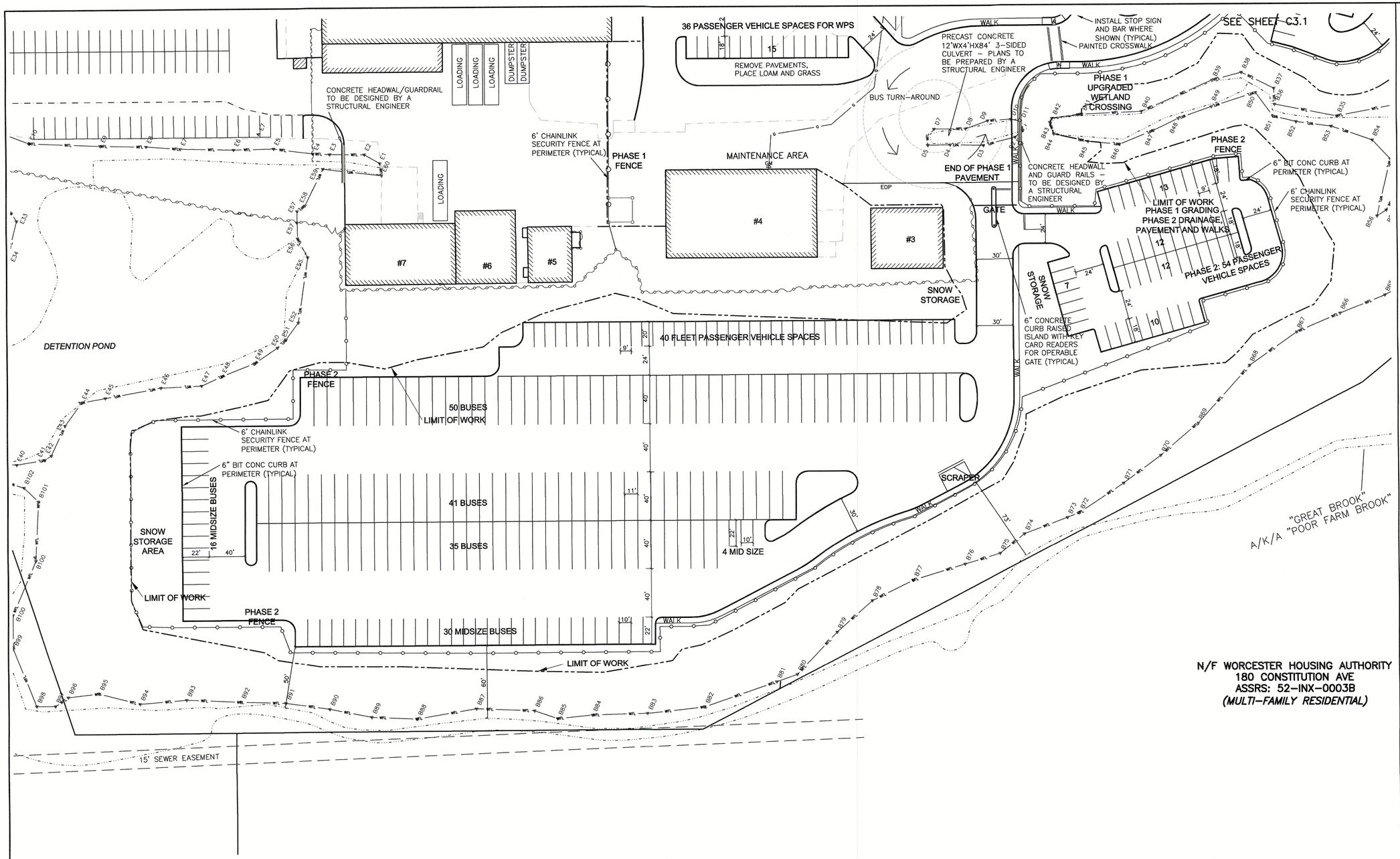
PROPOSED LAYOUT PLAN C3.1



N/F WORCESTER HOUSING AUTHORITY
180 CONSTITUTION AVE
ASSRS: 52-INX-0003B
(MULTI-FAMILY RESIDENTIAL)

-- KEY --

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COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
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FEET 0 10 20 40 80 120

METERS 0 5 10 20 30 40

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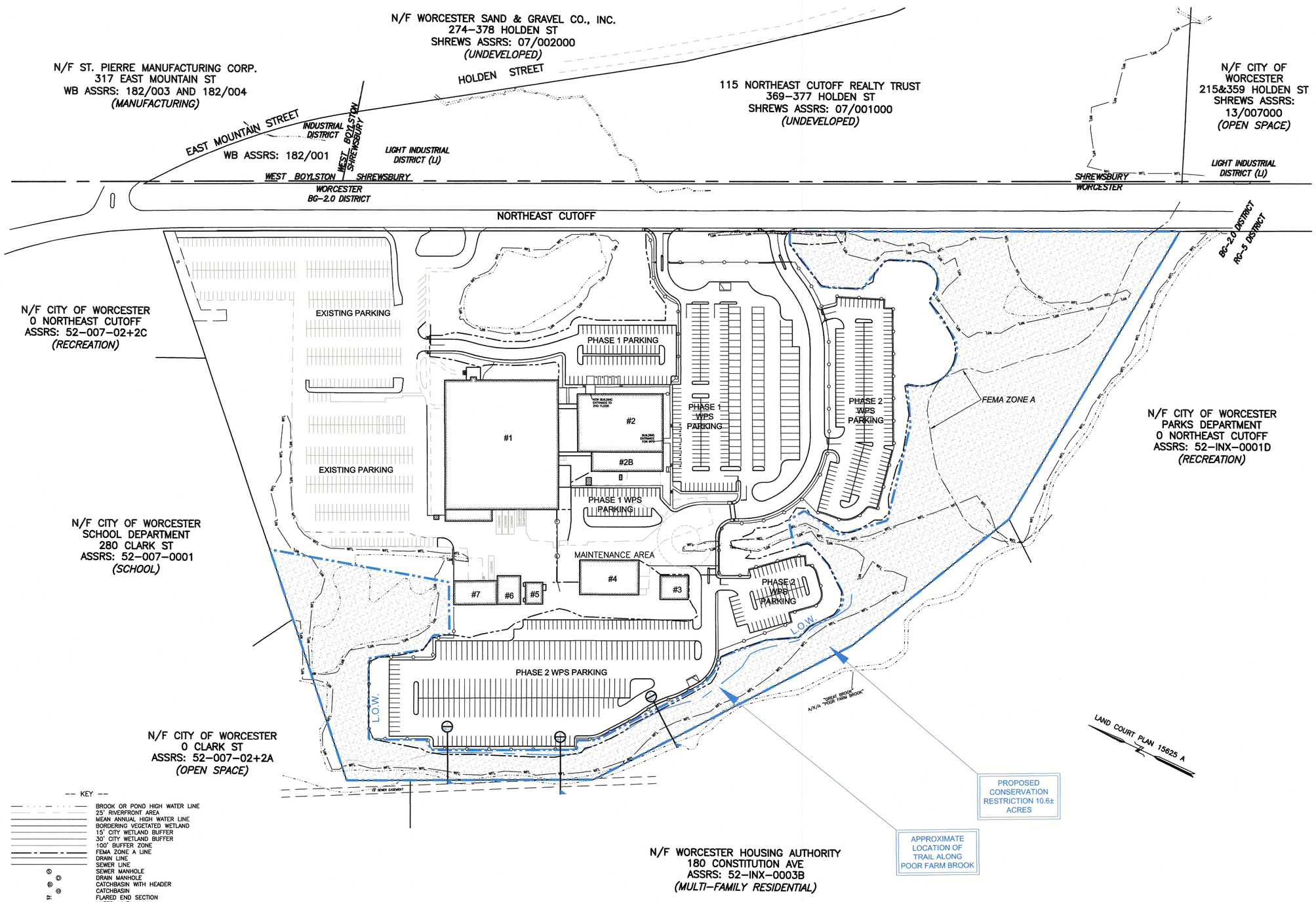
PROPOSED LAYOUT PLAN C3.2



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PROPOSED CONSERVATION RESTRICTION EASEMENT TO THE GREATER WORCESTER LAND TRUST

TOTAL AREA 10.6± ACRES

COMMONWEALTH OF MASSACHUSETTS
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REGISTERED PROFESSIONAL ENGINEER
8/24/20

THOMPSON-LISTON ASSOCIATES, INC.
Professional Engineers Professional Land Surveyors
Erosion Control Specialists
51 Main Street, Post Office Box 570, Boylston, MA 01505
Telephone 508-869-6151 FAX 508-869-6842

CLT. NO.	JOB NO.
1032	348–3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
8/10/2020	REVISION AND RESPOND TO STAFF COMMENTS

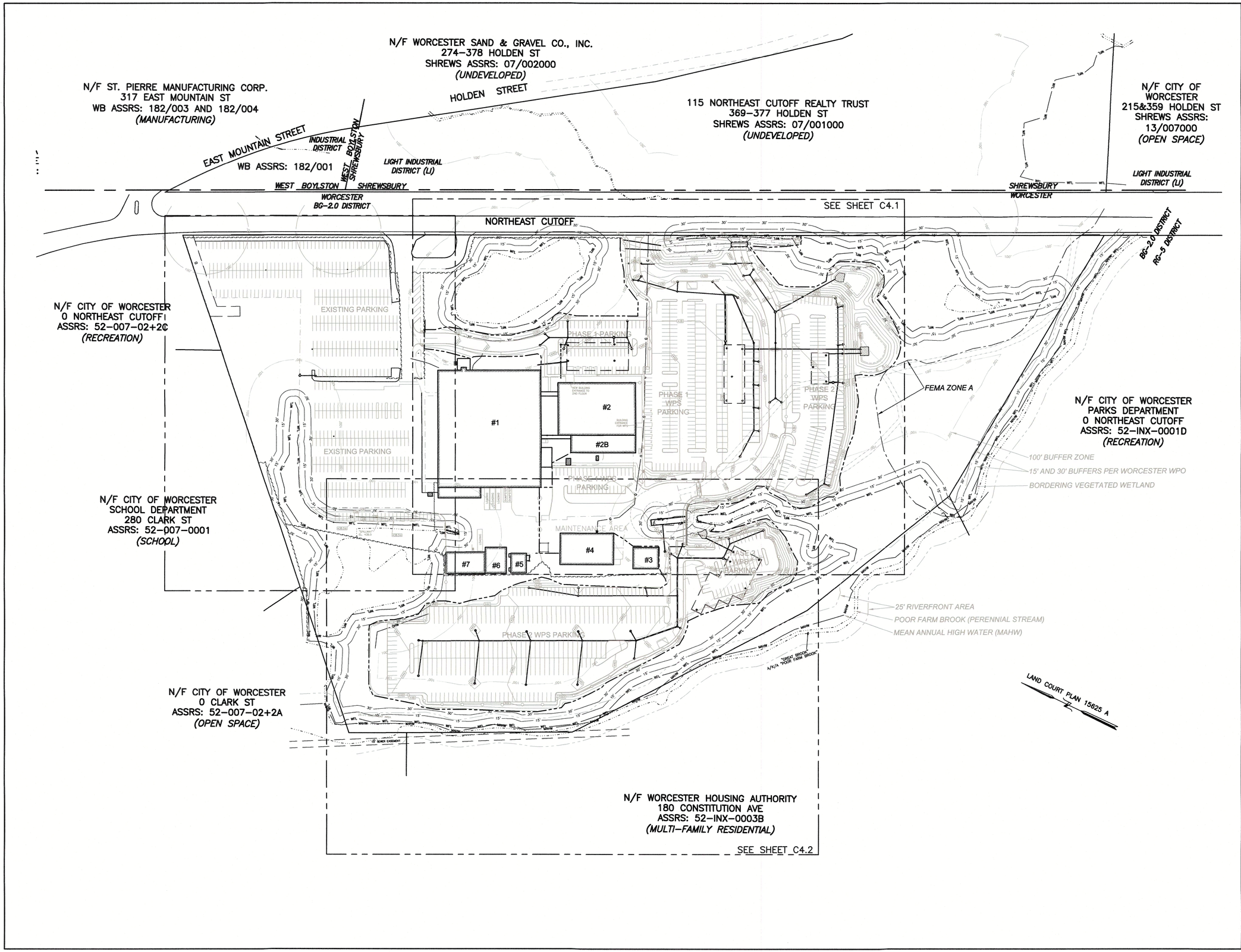
SCALE: 1 INCH = 100 FEET

FEET 0 50 100 200 300

METERS 0 50 100

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

EXHIBIT SHOWING CONSERVATION EASEMENT C3.3



-- KEY --

- BROOK OR POND HIGH WATER LINE
- 25' RIVERFRONT AREA
- MEAN ANNUAL HIGH WATER LINE
- BORDERING VEGETATED WETLAND
- 15' CITY WETLAND BUFFER
- 30' CITY WETLAND BUFFER
- 100' BUFFER ZONE
- FEMA ZONE A LINE
- DRAIN LINE
- SEWER LINE
- SEWER MANHOLE
- DRAIN MANHOLE
- CATCHBASIN WITH HEADER
- CATCHBASIN
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- WATER LINE
- WATER GATE
- WATER SHUT OFF
- HYDRANT
- GAS LINE
- EDGE OF PAVEMENT
- BITUMINOUS BERM
- GRANITE CURB
- GRANITE MONUMENT
- CONCRETE MONUMENT
- OVERHEAD WIRES
- UTILITY POLE
- CHAIN LINK FENCE
- 2' CONTOUR
- 10' CONTOUR
- 500 PROPOSED CONTOUR
- STONE WALL
- TP7 TEST HOLE LOCATIONS

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
CIVIL
No. 51804
REGISTERED PROFESSIONAL ENGINEER

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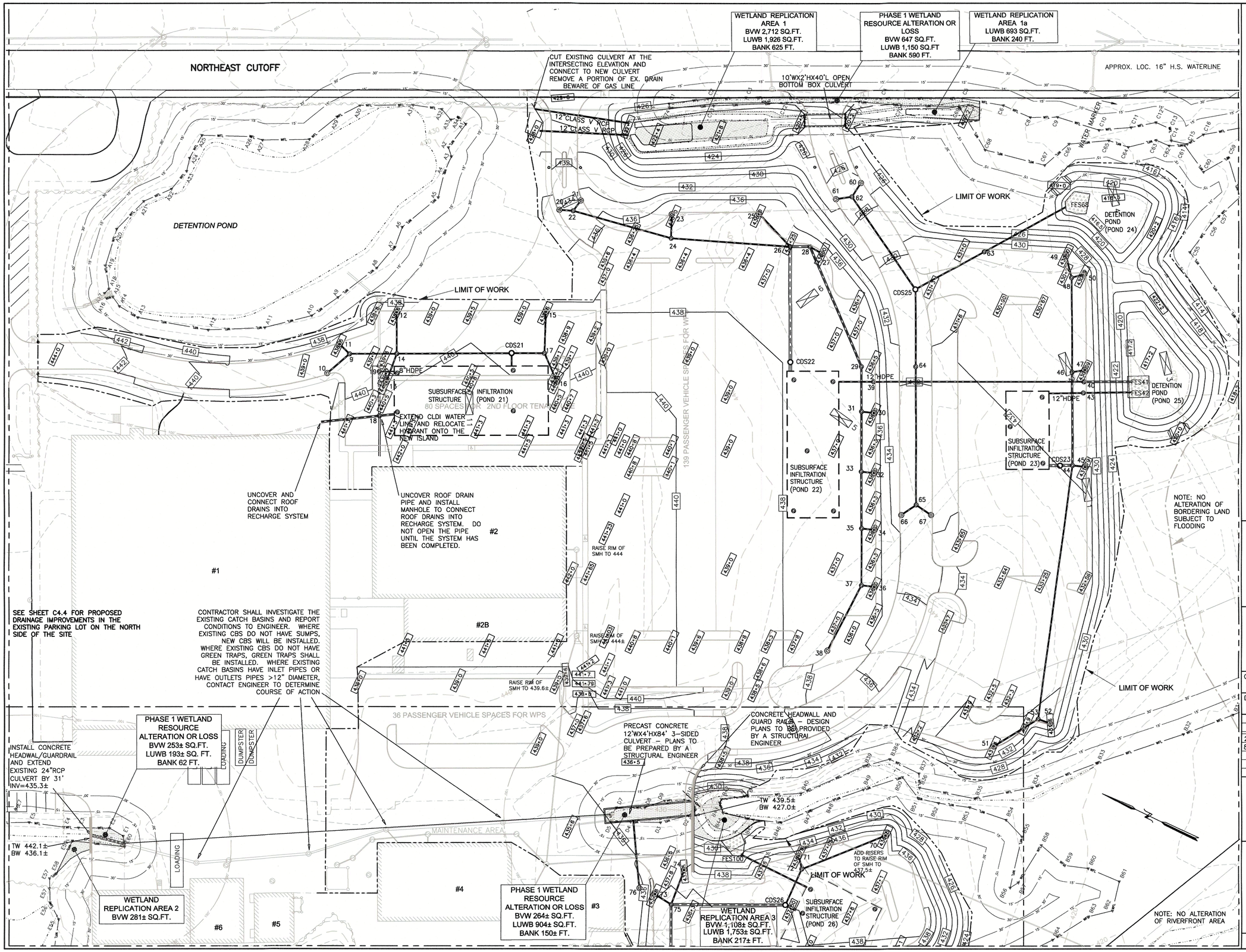
GRADING & DRAINAGE PLAN KEY C4.0



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SUMMARY OF WORK IN WETLAND RESOURCE AREAS

RESOURCE	ALTERATION	REPLACEMENT
BANK	802 FT.	1,082 FT.
BORDERING VEGETATED WETLAND	1,164 SQ. FT.	4,101 SQ. FT.
LAND UNDER WATER BODY	2,247 SQ. FT.	4,372 SQ. FT.
BORDERING LAND SUBJECT TO FLOODING	0	0
RIVERFRONT AREA	0	0

SEE SHEET C4.3 FOR BREAKDOWN BY INDIVIDUAL AREA

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
CIVIL
No. 36604
REGISTERED PROFESSIONAL ENGINEER

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CLT. NO.	JOB NO.
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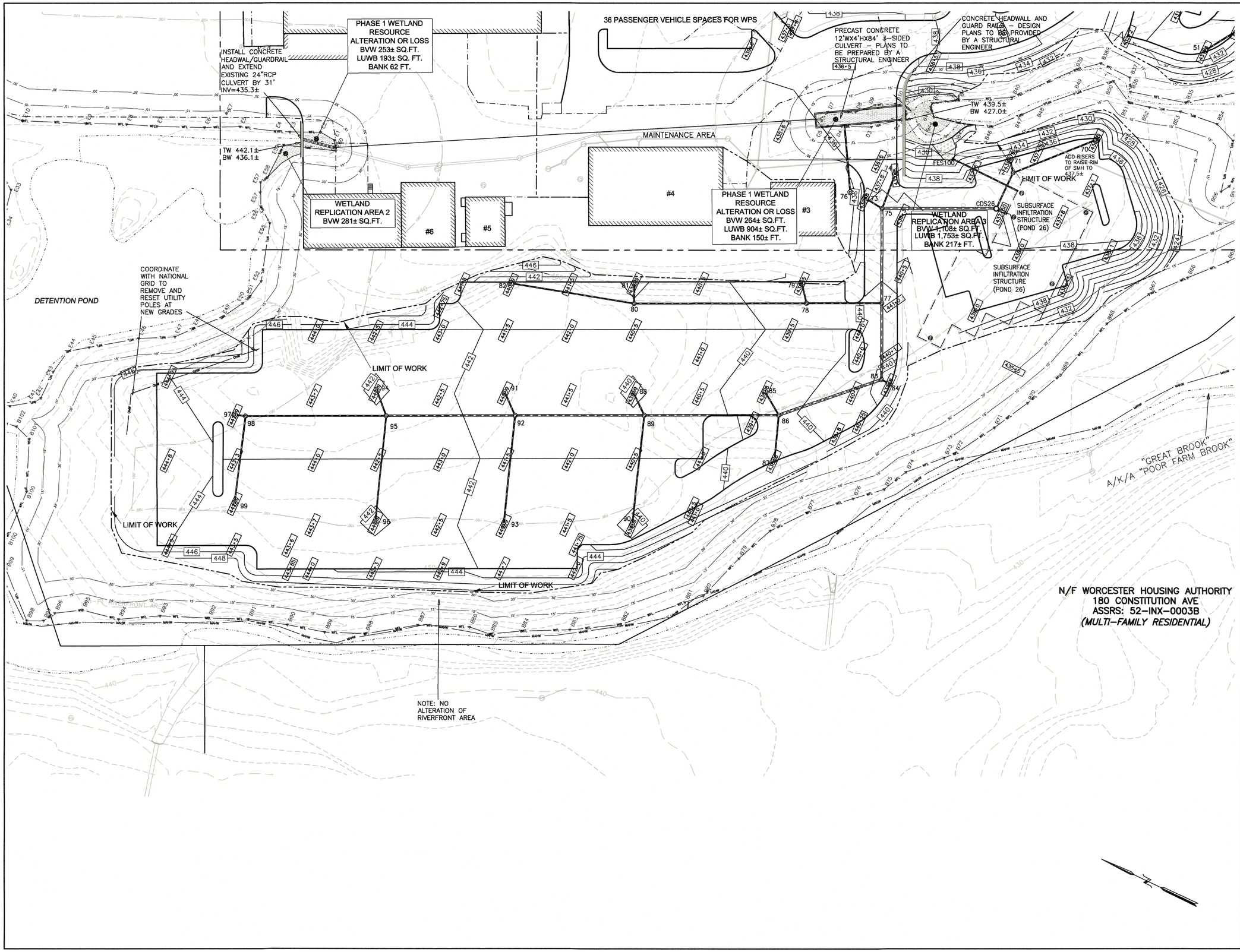
GRADING & DRAINAGE PLAN C4.1



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COMMONWEALTH OF MASSACHUSETTS
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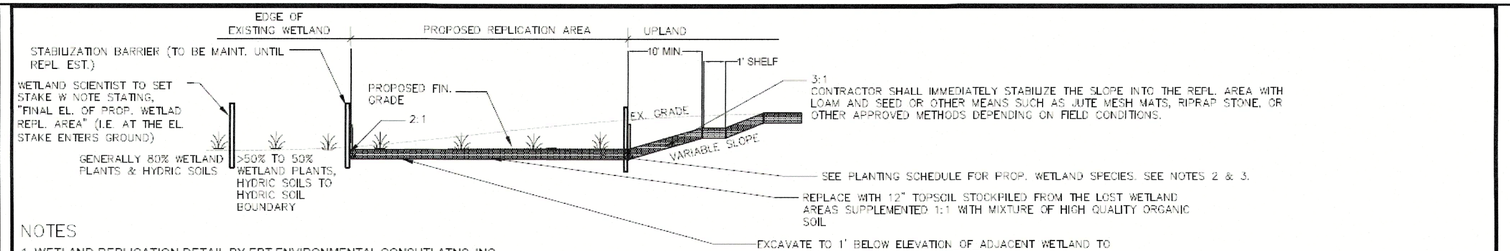
GRADING & DRAINAGE PLAN C4.2

REPLICATION AREA PLANTING SCHEDULE

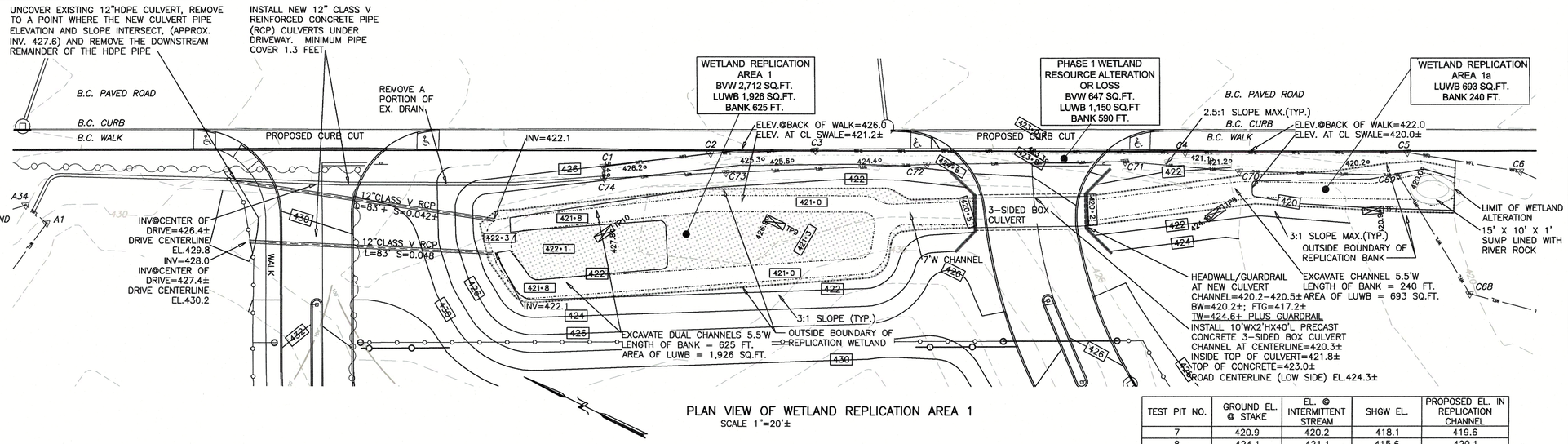
REPL. AREA	TREES	SHRUBS	GROUND COVER
AREA 1	12 RED MAPLE (ACER RUBRUM, FAC)	13 HIGHBUSH BUEBERRY (VACCINIUM CRYMBOSUM, FACW)	19 CINNAMON FERN (OSMUNDA CINNAMOMIA, FACW) AT 6' SPACING
	12 BLACKGUM (NYSSA SYLVITICA, FAC)	13 NORTHERN ARROWWOOD (VIBURNUM RECONITUM, FACW)	
		13 COMMON WINTERBERRY (ILEX VERTISILLATA, FACW)	
		13 NORTHERN SPICEBUSH (LINDERA BENZOIN, FACW)	
AREA 2	1 RED MAPLE (ACER RUBRUM, FAC)	2 HIGHBUSH BUEBERRY (VACCINIUM CRYMBOSUM, FACW)	2 CINNAMON FERN (OSMUNDA CINNAMOMIA, FACW) AT 6' SPACING
	1 BLACKGUM (NYSSA SYLVITICA, FAC)	2 NORTHERN ARROWWOOD (VIBURNUM RECONITUM, FACW)	
		2 COMMON WINTERBERRY (ILEX VERTISILLATA, FACW)	
		2 NORTHERN SPICEBUSH (LINDERA BENZOIN, FACW)	
AREA 3	5 RED MAPLE (ACER RUBRUM, FAC)	6 HIGHBUSH BUEBERRY (VACCINIUM CRYMBOSUM, FACW)	8 CINNAMON FERN (OSMUNDA CINNAMOMIA, FACW) AT 6' SPACING
	5 BLACKGUM (NYSSA SYLVITICA, FAC)	6 NORTHERN ARROWWOOD (VIBURNUM RECONITUM, FACW)	
		6 COMMON WINTERBERRY (ILEX VERTISILLATA, FACW)	
		6 NORTHERN SPICEBUSH (LINDERA BENZOIN, FACW)	



NOTES

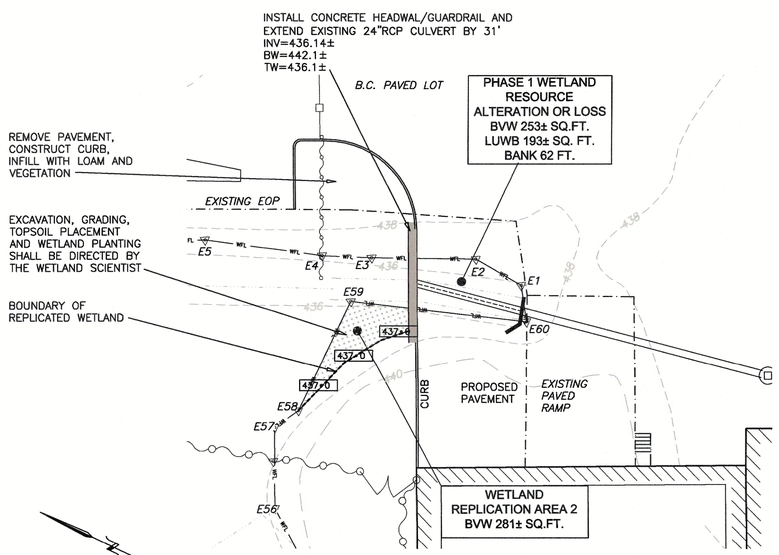
1. WETLAND REPLICATION DETAIL BY EBT ENVIRONMENTAL CONSUTLATNS. INC.
2. SEE PLANTING TABLE AT LEFT FOR EACH REPLICATION AREA, INCLUDING THE NUMBER AND SPECIES OF TREES, SHRUBS, AND GROUNDCOVERS. CONTRACTOR MAY SUGGEST ALTERNATE PLANTS FOR APPROVAL TO AVOID ASIAN LONGHORNED BEETLE HOST SPECIES.
3. RED MAPLES ARE TO BE 1" CALIPER AT CHEST HEIGHT (CBH) MINIMUM, BUSHES ARE TO BE 3'-5' TALL AND CINNAMON FERN SHALL BE PLANTED IN 1 GALLON CONTAINERS. SEDGE RUSH SEED MIX SHALL BE SOWN IN THE REPLICATION AREA AFTE THE WOODY VEGETATION IS PLANTED TO PROPMOTE RAPID SOIL STABILIZATION.
4. WETLAND SPECIALIST TO SET STAKE WITH NOTE SAYING "FINAL ELEVATION OF PROPOSED WETLAND REPLICATION AREA AT THE ELEVATION THE STAKE ENTERS THE GROUND."

SECTION VIEW OF WETLAND REPLICATION AREAS
SCALE 1"=20'±

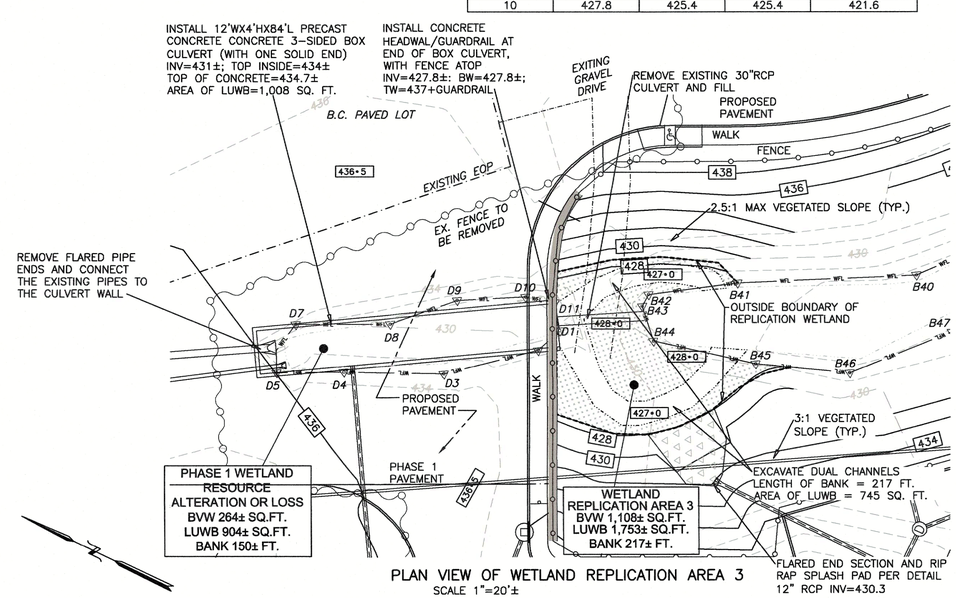


PLAN VIEW OF WETLAND REPLICATION AREA 1
SCALE 1"=20'±

TEST PIT NO.	GROUND EL. @ STAKE	EL. @ INTERMITTENT STREAM	SHGW EL.	PROPOSED EL. IN REPLICATION CHANNEL
7	420.9	420.2	418.1	419.6
8	424.1	421.1	415.6	420.1
9	426.9	425.4	423.7	421.1
10	427.8	425.4	425.4	421.6



PLAN VIEW OF WETLAND REPLICATION AREA 2
SCALE 1"=20'±



PLAN VIEW OF WETLAND REPLICATION AREA 3
SCALE 1"=20'±

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SUMMARY OF WORK IN WETLAND RESOURCE AREAS

REPLICATION AREA 1

RESOURCE	ALTERATION	REPLACEMENT
BANK	590 FT.	865 FT.
BVW	647 SQ. FT.	2,712 SQ. FT.
LUWB	1,150 SQ. FT.	2,619 SQ. FT.

REPLICATION AREA 2

RESOURCE	ALTERATION	REPLACEMENT
BANK	62 FT.	
BVW	253 SQ. FT.	281 SQ. FT.
LUWB	193 SQ. FT.	

REPLICATION AREA 3

RESOURCE	ALTERATION	REPLACEMENT
BANK	150 FT.	217 FT.
BVW	264 SQ. FT.	1,108 SQ. FT.
LUWB	904 SQ. FT.	1,753 SQ. FT.

TOTALS:

RESOURCE	ALTERATION	REPLACEMENT
BANK	802 FT.	1,082 FT.
BVW	1,164 SQ. FT.	4,101 SQ. FT.
LUWB	2,247 SQ. FT.	4,372 SQ. FT.

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
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8/10/20

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8/10/2020	REVISIONS AND RESPOND TO STAFF COMMENTS

SCALE: AS NOTED

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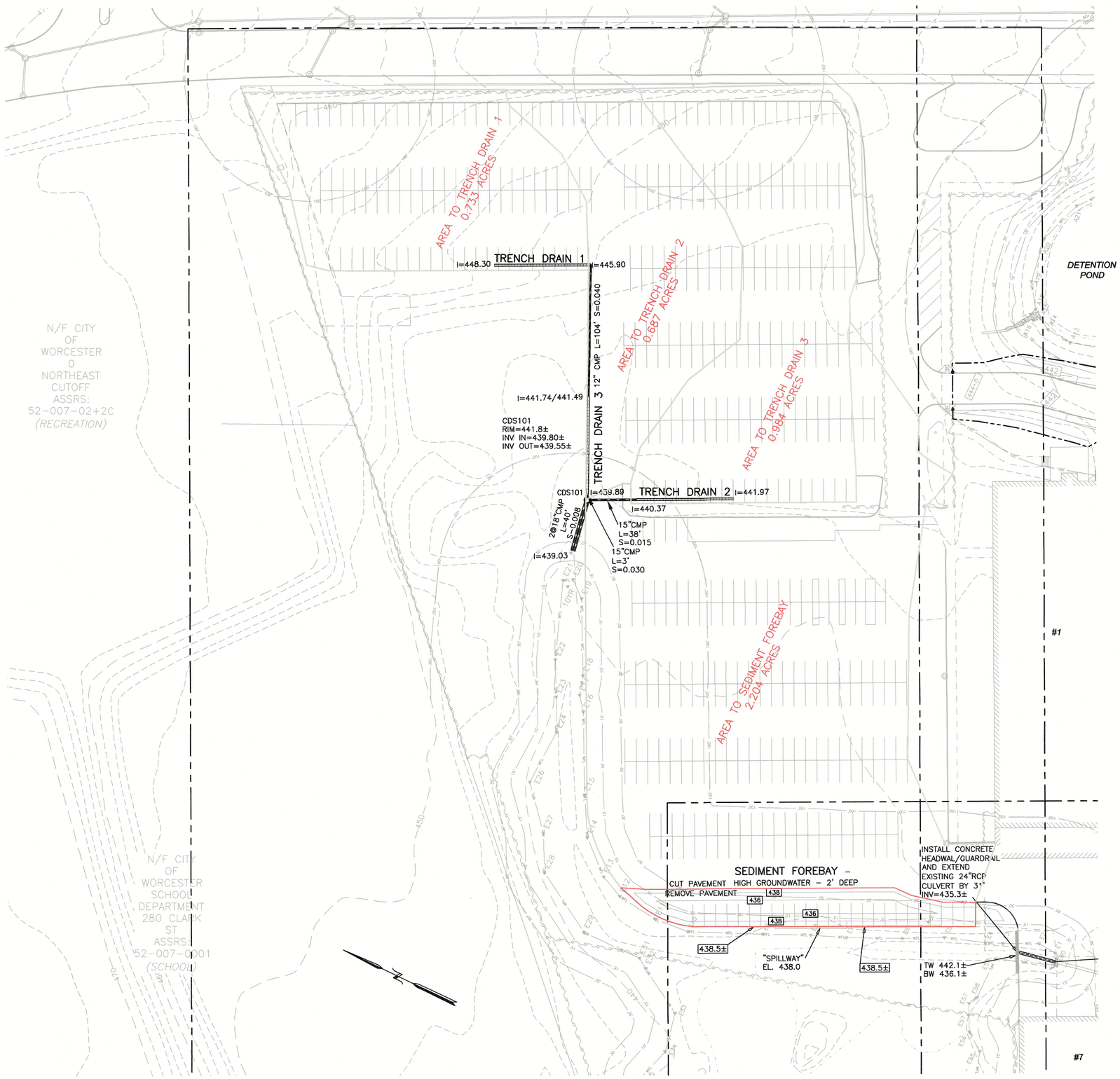
WETLAND REPLICATION PLAN C4.3



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- TP7 TEST HOLE LOCATIONS

PROPOSED IMPROVEMENTS
TO EXISTING PARKING LOT
INSTALL TRENCH DRAINS AND
SEPARATORS AT UPPER LOT
INSTALL SEDIMENT FOREBAY
AT LOWER LOT

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
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8/24/20

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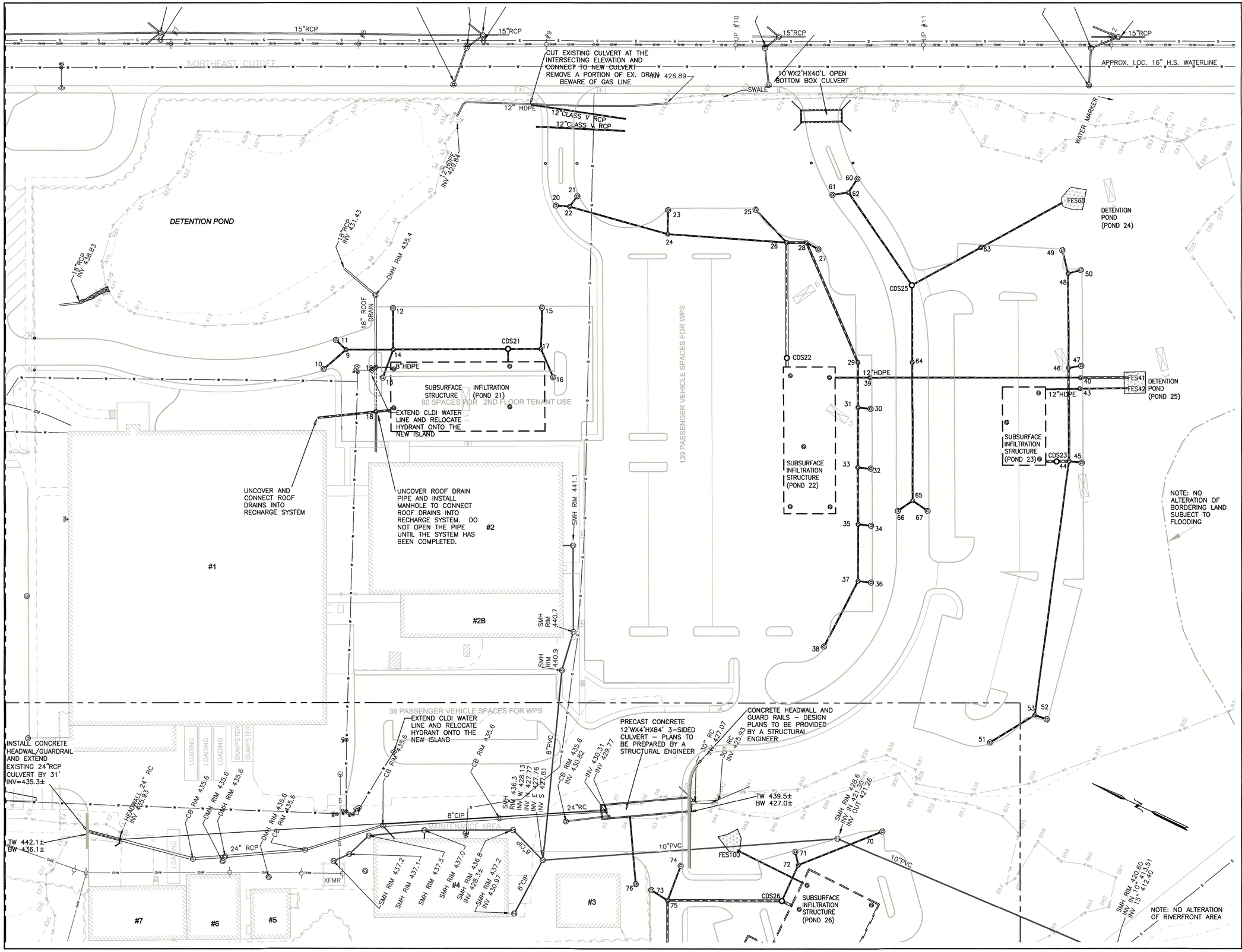
GRADING & DRAINAGE PLAN C4.4



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DIG SAFE:

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ALL UTILITY COMPANIES, PUBLIC & PRIVATE, MUST BE CONTACTED, INCLUDING THOSE IN CONTROL OF UTILITIES NOT SHOWN ON THIS PLAN.
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COMMONWEALTH OF MASSACHUSETTS
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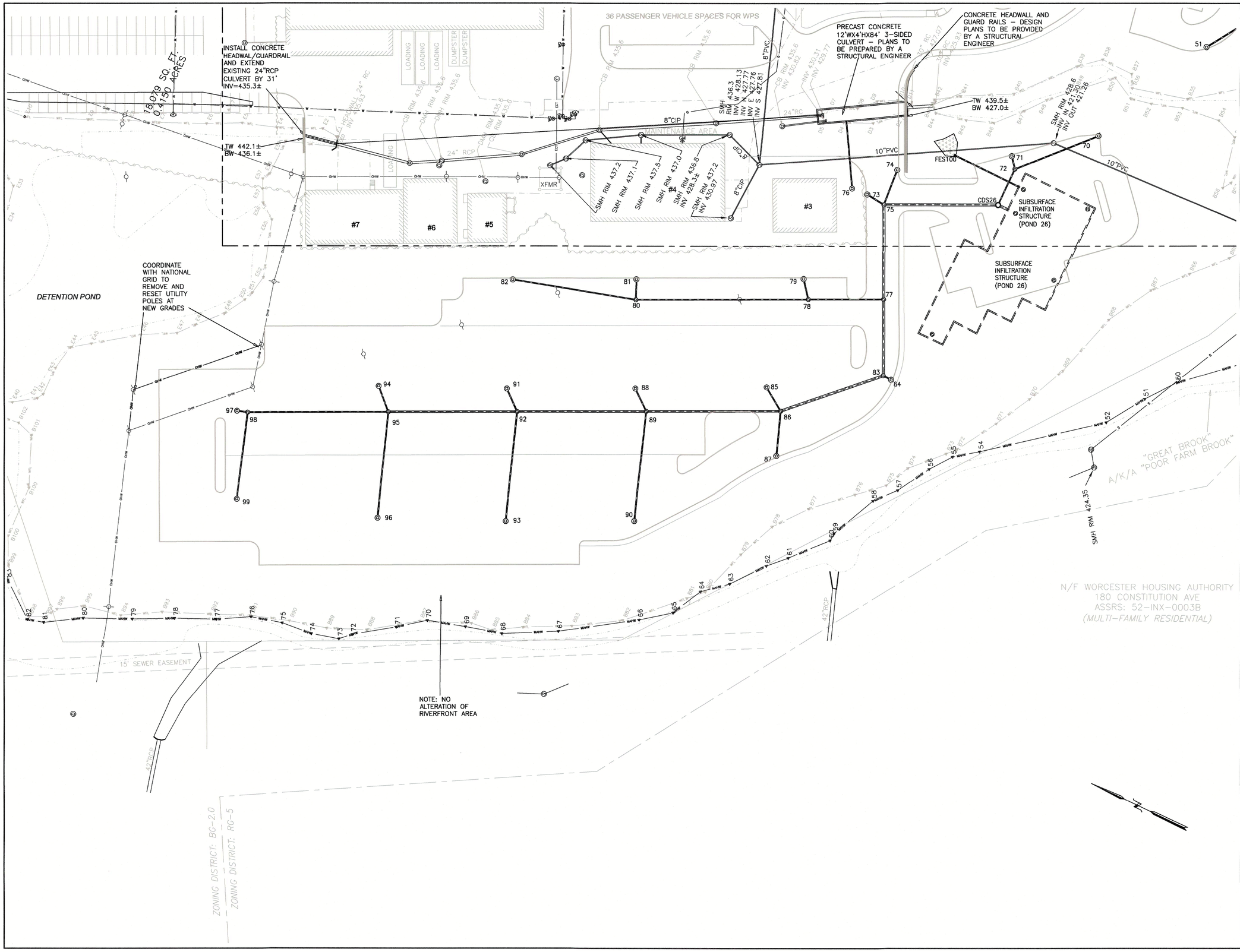
UTILITY PLAN C5.1



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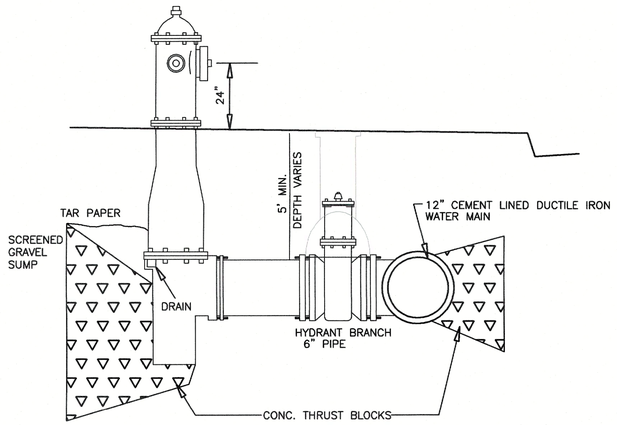
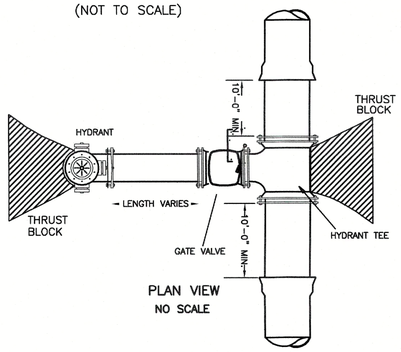
WORCESTER, MASS. 01605

UTILITY PLAN C5.2



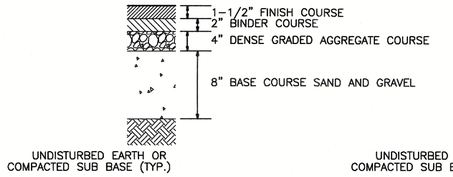
PROVIDE HYDRANT AND VALVES MEETING BOYLSTON WATER DISTRICT SPECIFICATIONS

HYDRANT DETAIL
(NOT TO SCALE)

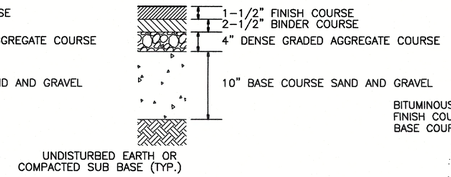


PLAN VIEW
NO SCALE

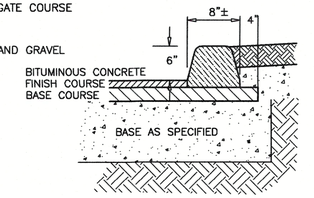
TYPICAL HYDRANT W/GATE
(NOT TO SCALE)



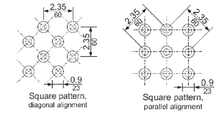
PAVEMENT SECTION PASSENGER CAR PARKING AREAS
APPROX. SCALE 1"=1'



PAVEMENT SECTION TRUCK TRAFFIC AREAS AND PRIVATE ROAD
APPROX. SCALE 1"=1'

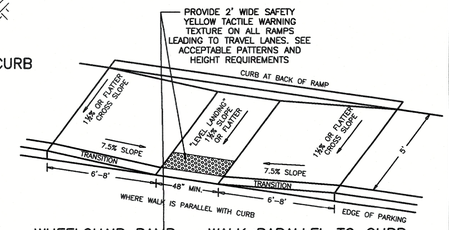


BITUMINOUS CONCRETE CURB
(NOT TO SCALE)

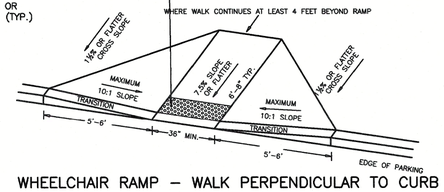


Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 in (23 mm), a height of nominal 0.2 in (5 mm) and a center-to-center spacing of nominal 2.35 in (60 mm) and shall contrast visually with adjoining surfaces, either light-on-dark or dark-on-light.

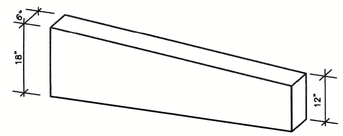
The material used to provide contrast shall be an integral part of the walking surface. Detectable warnings used on interior surfaces shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact. ADAAG 4.29.2



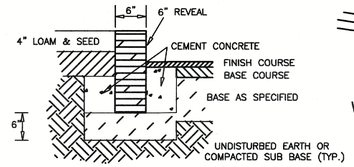
WHEELCHAIR RAMP – WALK PARALLEL TO CURB
(NOT TO SCALE)



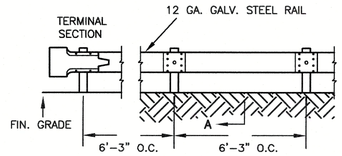
WHEELCHAIR RAMP – WALK PERPENDICULAR TO CURB
(NOT TO SCALE)

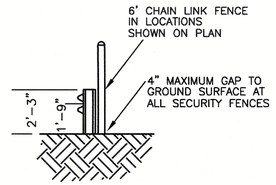


TYPICAL GRANITE CURB TRANSITION SECTION
(NOT TO SCALE)

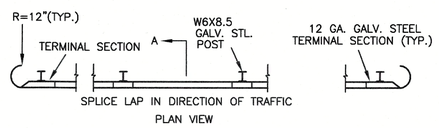


GRANITE CURB
(NOT TO SCALE)

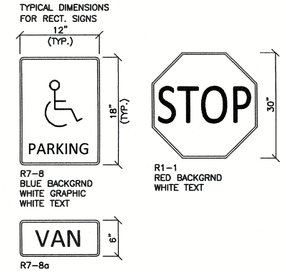




SECTION "A–A"



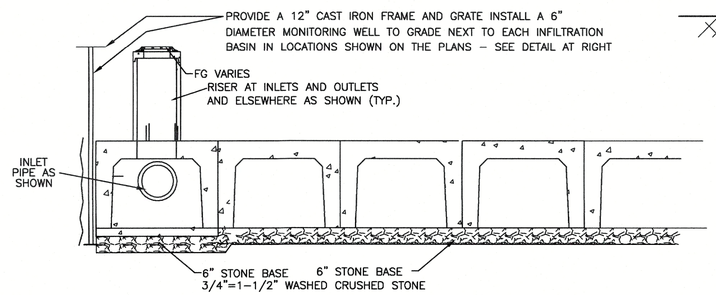
DETAIL OF STEEL BEAM GUARD RAIL TYPE SS
COMMONWEALTH OF MASSACHUSETTS DPW
(NOT TO SCALE)



NOTES:
ALL SIGNS SHALL BE COMPLIANT WITH THE MUTCD. SIGNS SHALL BE PERMANENTLY LOCATED AT A HEIGHT OF NOT LESS THAN FIVE FEET NOR MORE THAN EIGHT FEET TO THE TOP OF THE SIGN.

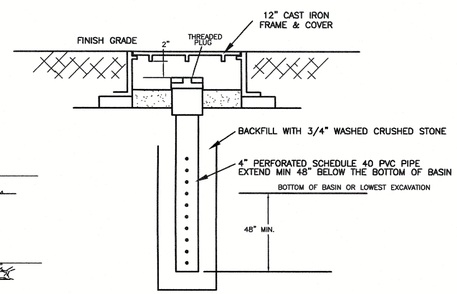
ALL HANDICAP PARKING SIGNS SHALL BE LOCATED AT THE HEAD OF EACH SPACE AND NO MORE THAN TEN FEET AWAY FROM THE SPACE. SIGNS SHALL BE MOUNTED ON NOMINAL 2"X2" GALVANIZED STEEL POSTS.

TRAFFIC AND PARKING SIGNS
(NOT TO SCALE)

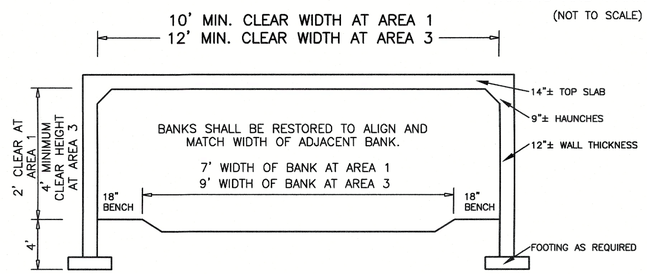


PROFILE OF INFILTRATION/RETENTION STRUCTURE
SUBMIT SHOP DRAWINGS TO ENGINEER SHOWING ACTUAL SYSTEM CONFIGURATIONS

THE RETENTION/INFILTRATION STRUCTURES SHALL CONSIST OF PRECAST CONCRETE 8'X8' MODULES WITH AN INSIDE HEIGHT OF 2'–5' AS SHOWN IN THE STORMWATER REPORT AND SHALL BE OPEN BOTTOM EXCEPT FOR THE INLET MODULE WHICH SHALL HAVE A PRECAST CONCRETE SLAB FLOOR TO ALLOW FOR POSSIBLE ADDITIONAL CLEANOUT. INLETS AND OUTLETS SHALL BE FACTORY CAST OR CORED INTO THE WALLS OF THE MODULES. SEE THE STORMWATER REPORT FOR CONFIGURATIONS AND DIMENSIONS OF THE FOUR SUBSURFACE PONDS 21, 22, 23, AND 26.



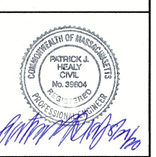
DETAIL OF MONITORING WELL FOR ALL INFILTRATION BASINS
INSTALLED IN LOCATIONS SHOWN ON PLANS
NOT TO SCALE



TYPICAL PRE–CAST STANDARD BOX CULVERT AS MANUFACTURED BY ARROW CONCRETE OR EQUAL
MINIMUM DIMENSIONS AND OPENNESS RATIO ARE SHOWN. LARGER BOX CULVERTS OR PRECAST CONCRETE ARCHES MAY BE SUBSTITUTED WITH LARGER AREAS.

(NOT TO SCALE)

NOTES:
1. THE MATERIALS, METHODS, AND WORKMANSHIP OF ALL SEWER, DRAIN, AND WATER PIPES PROPOSED HEREON, INCLUDING ALL WORK WITHIN THE PUBLIC STREETS, TRENCHES AND PAVEMENT PATCHES, SHALL COMPLY WITH THE STANDARD DETAILS AND SPECIFICATIONS OF THE WORCESTER DEPARTMENT OF PUBLIC WORKS.
2. UNLESS OTHERWISE NOTED, THE CONSTRUCTION MATERIALS DESCRIBED HEREIN REFER TO THE MASSACHUSETTS DOT, HIGHWAY DEPARTMENT, SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
3. PAVEMENT REPAIRS IN THE PUBLIC WAYS SHALL BE HOT MIX ASPHALT CONCRETE, TYPE I, 1–1/2" TOP COURSE ⅜" AGGREGATE, OVER 2–1/2" DENSE BINDER, INTERMEDIATE AGGREGATE. (M3.11.00)
4. FLOWABLE FILL IN ROAD TRENCHES SHALL MEET THE REQUIREMENTS OF THE CITY OF WORCESTER DEPARTMENT OF PUBLIC WORKS.
5. CEMENT CONCRETE SHALL BE 4,000 PSI, ¾" AGGREGATE, MIN 610 LBS CEMENT PER CY (M4.02.00)
6. REFER TO LANDSCAPE DRAWINGS FOR SOIL PREPARATION, PLANTINGS, SEED MIX, AND DENSE MIX SURFACING SPECIFICATIONS.
7. DRAINAGE PIPE SHALL BE DR18PVC FROM CATCH BASIN TO MANHOLE, REINFORCED CONCRETE PIPE WHERE IT CONNECTS TO ANY CITY OF WORCESTER SYSTEM, AND HDPE N–12 ELSEWHERE WITHIN THE SITE, EXCEPT WHERE NOTED OTHERWISE.
8. SANITARY SEWER PIPE SHALL BE SDR35 PVC. CONNECTIONS TO EXISTING SERVICE SHALL BE MADE IN THE MANNER AND WITH MATERIALS ACCEPTABLE TO THE WORCESTER DPW
9. FIRE PROTECTION WATER SERVICE SHALL BE 8" DIAMETER CLASS 52 CEMENT LINED DUCTILE IRON PIPE CONNECTED TO THE EXISTING MAIN IN THE MANNER AND WITH MATERIALS ACCEPTABLE TO THE WORCESTER DPW.
10. DOMESTIC WATER SERVICE SHALL BE 2" COPPER, WITH CORPORATION STOP MEETING THE REQUIREMENTS OF THE WORCESTER DPW.
11. TRASH AND RECYCLABLES WILL BE STORED IN CLOSED DUMPSTER CONTAINERS AT THE REAR OF THE BUILDING AS IS THE CASE PRESENTLY.
12. ALL TREES PLANTED SHALL BE ASIAN LONGHORNED BEETLE RESISTANT VARIETIES.



THOMPSON-LISTON ASSOCIATES, INC.
Professional Engineers Professional Land Surveyors
Erosion Control Specialists
51 Main Street, Post Office Box 570, Boylston, MA 01505
Telephone 508-869-6151 FAX 508-869-6842

CLT. NO. 1032	JOB NO. 348–3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

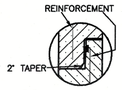
REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
8/10/2020	REVISION AND RESPOND TO STAFF COMMENTS

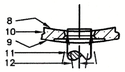
SCALE: 1 INCH = 40 FEET
FEET 0 10 20 40 80 120
METERS 0 5 10 20 30 40

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

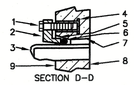
CONSTRUCTION DETAILS C6.1



"O" RING JOINT DETAIL



SECTION C–C
(GASKET AND FLANGE OMITTED)

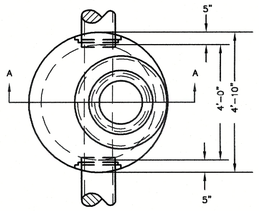


SECTION D–D
THRU RESILIENT SEAL AND MANHOLE

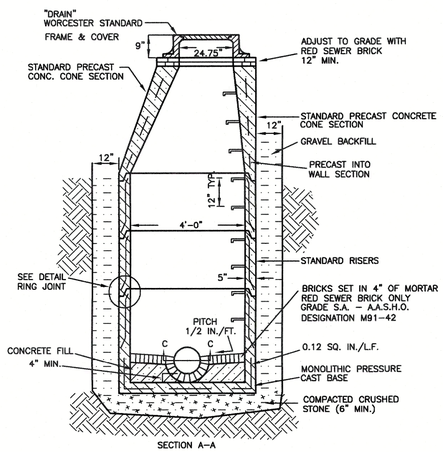
DETAILS

(NOT TO SCALE)
(SEE NOTES TO LEFT)

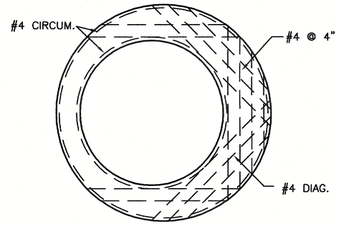
1. 1/2" COR–TEN BOLTS OR APPROVED EQUAL WITH WASHER
2. CAST IRON COMPRESSION FLANGE (A.S.T.M. A48 CLASS 20) SIZE OF FLANGE TO MEET CLASS AND TYPE OF PIPE
3. PIPE SECTION
4. CAST IRON INSERT – 1/2" TAP (A.S.T.M. A48)
5. SMOOTH BEVELED SURFACE TO RECEIVE RUBBER GASKET
6. RUBBER GASKET (A.S.T.M. C443–65)
7. BEVEL TO ALLOW FOR MISALIGNMENT
8. INNER SURFACE OF PRECAST CONCRETE MANHOLE
9. OUTER SURFACE OF PRECAST CONCRETE MANHOLE
10. PRECAST CONCRETE MANHOLE (A.S.T.M. C478–68)
11. PVC, CLAY, CAST IRON OR CONCRETE PIPE
12. 9" ALLOWABLE MISALIGNMENT OFF CENTER IN ANY DIRECTION



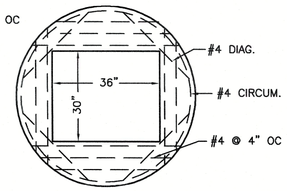
PLAN VIEW OF
TYPICAL PRE–CAST MANHOLE
(NOT TO SCALE)



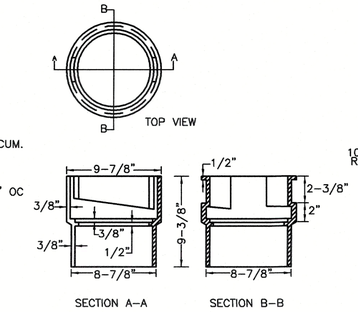
TYPICAL PRE–CAST MANHOLE
(NOT TO SCALE)



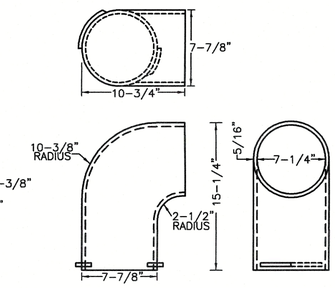
8" TOP SLAB



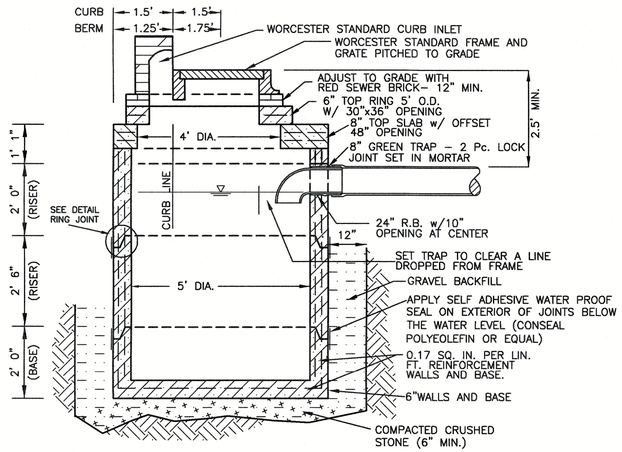
6" TOP RING



COLLAR FOR 8" TRAP
(NOT TO SCALE)

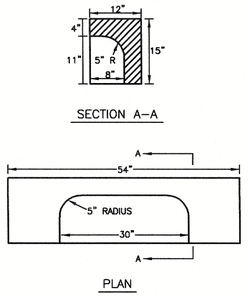


BODY FOR 8" TRAP
(NOT TO SCALE)

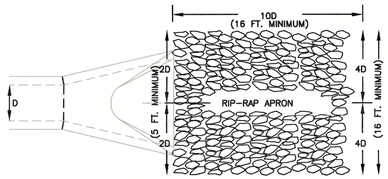


TYPICAL PRE–CAST CATCH BASIN
(NOT TO SCALE)

CONTRACTOR SHALL INVESTIGATE AND REPORT TO ENGINEER ON THE CONDITIONS OF THE EXISTING CATCH BASINS AT THE REAR OF BUILDINGS 1 & 2. WHERE EXISTING CATCH BASINS DO NOT HAVE SUMPS, NEW CATCH BASINS MEETING THESE STANDARDS SHALL BE INSTALLED EITHER IN PLACE OF OR ADJACENT TO THE EXISTING STRUCTURES, AND THE EXISTING STRUCTURES SHALL BE CONVERTED TO DRAIN MANHOLES. WHERE THE EXISTING CATCH BASINS WITH SUMPS DO NOT HAVE GREEN TRAPS, GREEN TRAPS SHALL BE INSTALLED. IF THE EXISTING CATCH BASING HAVE INLET PIPES OR IF THEY HAVE OUTLETS EXCEEDING 12" DIAMETER, REPORT CONDITIONS TO THE ENGINEER TO DETERMINE THE COURSE OF ACTION THAT IS REQUIRED.

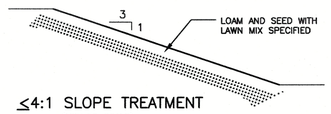


TYPICAL HEADSTONE FOR CATCH BASIN
(NOT TO SCALE)

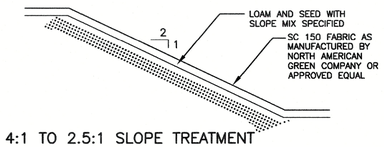


THE RIP RAP APRON SHALL CONSIST OF A LAYER OF STONE 12 INCHES IN THICKNESS OR MORE, PLACED UPON A BED OF SAND AND GRAVEL 6 INCHES IN THICKNESS. THE STONES SHALL BE SIZED SO THAT NOT LESS THAN 60 PERCENT SHALL HAVE ONE DIMENSION 12 INCHES OR MORE. THE STONES, AFTER BEING LAID, SHALL BE CAREFULLY CHINKED BY HAND TO MAKE A REASONABLY SMOOTH AND SHAPED SURFACE.

FLARED END SECTION
WITH SCOUR PROTECTION
(NOT TO SCALE)



≤4:1 SLOPE TREATMENT
(NOT TO SCALE)



4:1 TO 2.5:1 SLOPE TREATMENT
(NOT TO SCALE)

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DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS
PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

CONSTRUCTION DETAILS C6.2

DRAINAGE PIPE AND INVERT TABLE

FROM			Rational Runoff				PIPE						TO	
STRUCTURE	RIM/GRATE	INV OUT	A	C	i	Q	L	SIZE	SLOPE	TYPE	n	Mannings Qcap	STRUCTURE	INV IN
DMH 9	439.00	436.56	0.60	0.62	5.40	2.01	40	12"	0.005	HDPE	0.012	2.60	DMH14	436.36
**CB 10	438.60	435.90	0.48	0.55	5.40	1.43	23	12"	0.005	DR18PVC	0.010	2.60	DMH9	435.79
**CB 11	438.60	435.90	0.12	0.90	5.40	0.58	10	8"	0.015	DR18PVC	0.010	1.56	DMH9	435.75
**CB 12	438.60	435.90	0.17	0.75	5.40	0.69	34	8"	0.010	DR18PVC	0.010	1.27	DMH14	435.56
CB 13	440.00	436.30	0.14	0.75	5.40	0.57	24	8"	0.025	DR18PVC	0.010	2.01	DMH14	435.70
DMH 14	439.30	436.31	0.91	0.66	5.40	3.26	104	12"	0.010	HDPE	0.012	3.67	CDS21	435.27
**CB 15	438.60	435.90	0.24	0.75	5.40	0.97	35	8"	0.010	DR18PVC	0.010	1.27	DMH17	435.55
CB 16	440.00	436.30	0.15	0.75	5.40	0.61	24	8"	0.030	DR18PVC	0.010	2.21	DMH17	435.58
DMH 17	439.10	435.38	0.39	0.75	5.40	1.58	26	12"	0.005	HDPE	0.012	2.60	CDS21	435.25
CDS 21	*439.70*	*435.25*	*1.30*	*0.69*	*5.40*	*4.84*	*10*	*12"*	*0.018*	*HDPE*	*0.012*	*4.93*	*POND21*	*435.07*
DMH* 18	441.00	435.14	0.51	0.90	5.40	2.48	12	18"	0.012	HDPE	0.012	11.79	POND21	435.00
						Q from HydroCAD								
POND 21*	*438.9-441.2*	*435.90*	-	-	-	*2.58*	*13*	*12"*	*0.050*	*HDPE*	*0.012*	*4.50*	*DMH19**	*435.25*
DMH* 19	440.00	432.25	-	-	-	2.58	45	18"	0.010	RCP	0.013	9.94	EX.DMH	431.80
**CB 20	434.50	431.80	0.02	0.90	5.40	0.10	9	8"	0.010	DR18PVC	0.010	1.27	DMH22	431.71
**CB 21	434.50	431.80	0.02	0.75	5.40	0.08	9	8"	0.010	DR18PVC	0.010	1.27	DMH22	431.71
DMH 22	434.20	431.66	0.04	0.83	5.40	0.18	92	12"	0.005	HDPE	0.010	2.60	DMH24	431.20
**CB 23	436.00	433.30	0.25	0.75	5.40	1.01	18	8"	0.016	DR18PVC	0.010	1.27	DMH24	433.01
DMH 24	436.20	431.15	0.29	0.76	5.40	1.19	108	12"	0.005	HDPE	0.012	2.60	DMH26	430.61
**CB 25	436.00	433.30	0.22	0.90	5.40	1.07	36	8"	0.016	DR18PVC	0.010	1.27	DMH26	432.72
DMH 26	436.20	431.02	2.51	0.86	5.40	11.71	104	24"	0.005	HDPE	0.012	16.16	CDS22	430.50
CDS 22	*437.90*	*430.50*	*2.51*	*0.86*	5.40	*11.71*	*6*	*24"*	*0.005*	*HDPE*	*0.012*	*16.16*	*POND22*	*430.47*
**CB 27	436.00	433.30	0.34	0.90	5.40	1.65	8	8"	0.020	DR18PVC	0.010	1.80	DMH28	433.14
DMH 28	436.10	431.24	2.00	0.87	5.40	9.45	15	18"	0.008	HDPE	0.012	9.63	DMH26	431.12
DMH 29	436.60	432.00	1.66	0.87	5.40	7.79	118	18"	0.006	HDPE	0.012	8.34	DMH28	431.29
**CB 30	436.00	433.30	0.31	0.90	5.40	1.51	8	8"	0.016	DR18PVC	0.010	1.61	DMH31	433.17
DMH 31	436.10	432.28	1.66	0.87	5.40	7.79	38	18"	0.006	HDPE	0.012	8.34	DMH29	432.05
**CB 32	436.00	433.30	0.31	0.85	5.40	1.42	8	8"	0.016	DR18PVC	0.010	1.61	DMH33	433.17
DMH 33	436.10	432.59	1.35	0.86	5.40	6.29	52	18"	0.005	HDPE	0.012	7.61	DMH29	432.33
**CB 34	436.00	433.30	0.35	0.85	5.40	1.61	8	8"	0.016	DR18PVC	0.010	1.61	DMH35	433.17
DMH 35	436.10	432.92	1.04	0.87	5.40	4.87	50	18"	0.005	HDPE	0.012	7.61	DMH33	432.67
**CB 36	436.00	433.30	0.34	0.90	5.40	1.65	8	8"	0.020	DR18PVC	0.010	1.80	DMH37	433.14
DMH 37	436.10	433.41	0.69	0.87	5.40	3.26	48	12"	0.005	HDPE	0.012	2.60	DMH35	433.17
**CB 38	437.30	434.60	0.35	0.85	5.40	1.61	64	8"	0.016	DR18PVC	0.010	1.61	DMH37	433.58
						Q from HydroCAD								
POND 22	*437.0-438.0*	*436.40*				*1.82*	*32*	*12"*	*0.015*	*HDPE*	*0.012*	*4.50*	*DMH39*	*435.92*
DMH 39	436.40	427.00				1.82	194	12"	0.015	HDPE	0.012	4.50	DMH40	424.09
DMH 40	430.10	419.01				1.82	43	12"	0.042	RCP	0.013	7.53	FES41	417.20
						Q from HydroCAD								
POND 23	*431.4-433.3*	*423.00*	-	-	-	*1.16*	*38*	*12"*	*0.010*	*HDPE*	*0.012*	*3.67*	*DMH43*	*422.62*
DMH 43	430.10	419.01	-	-	-	1.16	43	12"	0.042	RCP	0.012	6.95	FES42	417.20
DMH 44	431.90	423.42	1.33	0.86	5.40	6.19	7	12"	0.030	HDPE	0.012	5.81	CDS23	423.21
CDS 23	*432.00*	*423.21*	*1.33*	*0.86*	5.40	*6.19*	*7*	*12*	*0.030*	*HDPE*	*0.012*	*5.81*	*POND23*	*423.00*
CB 45	431.80	428.00	0.14	0.90	5.40	0.68	8	8"	0.016	DR18PVC	0.010	1.61	DMH43	427.87
DMH 46	430.20	424.64	0.75	0.88	5.40	3.56	83	12"	0.013	HDPE	0.012	3.67	DMH44	423.56
CB 47	430.00	426.20	0.25	0.88	5.40	1.19	8	8"	0.016	DR18PVC	0.010	1.61	DMH46	426.07
DMH 48	430.20	425.58	0.50	0.88	5.40	2.37	84	12"	0.010	HDPE	0.012	3.67	DMH46	424.74
CB 49	430.00	426.20	0.17	0.84	5.40	0.77	18	8"	0.016	DR18PVC	0.010	1.61	DMH48	425.91
CB 50	430.00	426.20	0.33	0.90	5.40	1.60	8	8"	0.016	DR18PVC	0.010	1.61	DMH48	426.07
CB 51	431.40	427.60	0.14	0.78	5.40	0.59	45	8"	0.016	DR18PVC	0.010	1.61	DMH53	426.88
CB 52	431.60	427.80	0.30	0.84	5.40	1.36	8	8"	0.016	DR18PVC	0.010	1.61	DMH53	427.67
DMH 53	431.70	426.55	0.44	0.82	5.40	1.95	234	12"	0.010	HDPE	0.012	3.67	DMH44	424.21
CB 60	426.30	422.50	0.26	0.55	5.40	0.77	11	8"	0.016	DR18PVC	0.010	1.61	DMH62	422.32
CB 61	426.30	422.50	0.30	0.75	5.40	1.22	11	8"	0.016	DR18PVC	0.010	1.61	DMH62	422.32
DMH 62	426.60	422.15	0.56	0.66	5.40	1.99	101	12"	0.010	HDPE	0.012	3.67	CDS25	421.14
DMH 63	430.80	420.11	0.96	0.68	5.40	3.50	86	12"	0.042	HDPE	0.012	5.32	FES68	416.50
DMH 64	431.80	425.02	0.40	0.70	5.40	1.52	68	12"	0.030	HDPE	0.012	6.36	CDS25	422.98
CDS 25	*430.10*	*420.94*	*0.96*	*0.68*	*5.40*	*3.50*	*70*	*12"*	*0.010*	*HDPE*	*0.012*	*3.67*	*DMH63*	*420.24*
DMH 65	433.10	428.82	0.40	0.70	5.40	1.52	125	12"	0.030	HDPE	0.012	6.36	DMH64	425.07
CB 66	433.00	429.20	0.24	0.61	5.40	0.79	13	8"	0.016	DR18PVC	0.010	1.61	DMH65	428.99
CB 67	433.00	429.20	0.16	0.84	5.40	0.73	13	8"	0.016	DR18PVC	0.010	1.61	DMH65	428.99
CB 70	436.50	432.70	0.23	0.90	5.40	1.12	80	8"	0.016	DR18PVC	0.010	1.61	DMH72	431.42
CB 71	436.75	432.95	0.36	0.78	5.40	1.52	8	8"	0.016	DR18PVC	0.010	1.61	DMH72	432.82
DMH 72	436.90	431.09	0.59	0.83	5.40	2.63	23	12"	0.010	HDPE	0.012	3.67	CDS26	430.86
CB 73	437.80	434.00	0.05	0.90	5.40	0.24	14	8"	0.056	DR18PVC	0.010	3.02	DMH75	433.22
CB 74	437.50	433.70	0.07	0.90	5.40	0.34	30	8"	0.016	DR18PVC	0.010	1.61	DMH75	433.22
DMH 75	438.20	432.40	4.08	0.82	5.40	18.16	103	24"	0.008	HDPE	0.012	20.44	CDS26	431.58
CDS 26	*437.50*	*431.58*			5.40	-	*9*	*24"*	*0.007*	*HDPE*	*0.012*	*20.44*	*POND26*	*431.52*
						Q from HydroCAD								
POND 26	437.0-439.0	432.50	-	-	-	2.21	69	12"	0.032	RCP	0.013	6.07	FES100	430.30
CB 76	435.80	432.00	0.37	0.40	5.40	0.80	60	8"	0.016	DR18PVC	0.010	1.61	BOX CULVERT	431.04
DMH 77	441.30	433.35	3.96	0.82	5.40	17.57	85	24"	0.010	HDPE	0.012	27.42	DMH75	432.50
DMH 78	438.70	434.69	0.64	0.76	5.40	2.64	68	12"	0.005	HDPE	0.012	2.60	DMH77	434.35
CB 79	438.50	434.70	0.27	0.80	5.40	1.17	16	8"	0.016	DR18PVC	0.010	1.61	DMH78	434.44
DMH 80	440.20	435.74	0.37	0.74	5.40	1.47	158	12"	0.006	HDPE	0.012	3.85	DMH78	434.79
CB 81	439.90	436.10	0.17	0.78	5.40	0.72	15	8"	0.010	DR18PVC	0.010	1.27	DMH80	435.95
CB 82	440.90	437.20	0.20	0.70	5.40	0.76	113	8"	0.010	DR18PVC	0.010	1.27	DMH80	436.07
DMH 83	439.90	434.55	3.32	0.83	5.40	14.94	67	24"	0.005	HDPE	0.012	16.16	DMH77	434.21
CB 84	439.80	436.00	0.09	0.90	5.40	0.44	4	8"	0.016	DR18PVC	0.010	1.61	DMH83	435.94
CB 85	438.80	435.00	0.29	0.86	5.40	1.35	22	8"	0.016	DR18PVC	0.010	1.61	DMH86	434.65
DMH 86	439.50	431.44	3.23	0.83	5.40	14.50	98	24"	0.005	HDPE	0.012	16.16	DMH83	430.95
CB 87	438.80	435.00	0.17	0.88	5.40	0.81	38	8"	0.018	DR18PVC	0.010	1.61	DMH86	434.32
CB 88	439.90	436.10	0.35	0.90	5.40	1.70	19	8"	0.018	DR18PVC	0.010	1.71	DMH89	435.76
DMH 89	440.10	433.77	2.77	0.83	5.40	12.34	122	18"	0.015	HDPE	0.012	13.19	DMH86	431.94
CB 90	439.90	436.10	0.20	0.88	5.40	0.95	98	8"	0.016	DR18PVC	0.010	1.61	DMH89	434.53
CB 91	440.90	437.10	0.33	0.90	5.40	1.60	19	8"	0.016	DR18PVC	0.010	1.61	DMH92	436.80
DMH 92	441.10	435.05	2.22	0.81	5.40	9.69	118	18"	0.010	HDPE	0.012	10.77	DMH89	433.87
CB 93	440.90	437.10	0.30	0.90	5.40	1.46	98	8"	0.016	DR18PVC	0.010	1.61	DMH92	435.53
CB 94	441.90	438.10	0.37	0.80	5.40	1.60	21	8"	0.016	DR18PVC	0.010	1.61	DMH95	437.76
DMH 95	442.10	435.74	1.59	0.77	5.40	6.63	118	18"	0.005	HDPE	0.012	7.61	DMH92	435.15
CB 96	441.90	438.10	0.30	0.90	5.40	1.46	96	8"	0.016	DR18PVC	0.010	1.61	DMH95	436.56
CB 97	442.90	439.10	0.52	0.75	5.40	2.11	6	8"	0.029	DR18PVC	0.010	2.17	DMH98	438.93
DMH 98	443.10	437.52	0.92	0.72	5.40	3.57	128	12"	0.010	HDPE	0.012	3.67	DMH95	436.24
CB 99	442.90	439.10	0.40	0.68	5.40	1.47	78	8"	0.016	DR18PVC	0.010	1.61	DMH98	437.85

*LOCATION, LENGTH, INVERT SUBJECT TO REVISION AFTER PIPES ARE UNCOVERED

**CATCH BASINS WITH SLAB TOPS

COMMONWEALTH OF MASSACHUSETTS
PATRICK J. HEALY
CIVIL
No. 39804
REGISTERED PROFESSIONAL ENGINEER

THOMPSON-LISTON
ASSOCIATES, INC.
Professional Engineers Professional Land Surveyors
Erosion Control Specialists
51 Main Street, Post Office Box 570, Boylston, MA 01505
Telephone 508-869-6151 FAX 508-869-6842

CLT. NO.	JOB NO.
1032	348-3261
DATE: JANUARY 13, 2020	DWG NO. CHACHARONE ALLEGRO CURRENT

REVISIONS

DATE:	DESCRIPTION
2/10/2020	UPDATED FOR NOTICE OF INTENT FILING
7/13/2020	STORMWATER REVISIONS – UPPER LOT MOVED

SCALE: 1 INCH = 40 FEET

FEET 0 10 20 40 80 120

METERS 0 5 10 20 30 40

DEFINITIVE SITE PLAN OF LAND AT
115 NORTHEAST CUTOFF
WORCESTER, MASSACHUSETTS

PREPARED FOR
115 NORTHEAST CUTOFF REALTY TRUST
1 WEST BOYLSTON STREET, SUITE LL05
WORCESTER, MASS. 01605

CONSTRUCTION DETAILS C6.3