IBI GROUP
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3 October 2022

Devens Enterprise Commission
33 Andrews Parkway
Devens, MA 01434

Attention: Neil Angus

Dear Neil,

Re: Commonwealth Fusion Systems
111 Hospital Road - Commonwealth Fusion Systems Campus Building 2
(Parcel ID# 018.0-0007-0200.0)
IBI Project No. 122047

IBI Group has reviewed the third submittal for 111 Hospital Road - Commonwealth Fusion Systems Campus Building 2 – SITE PLANS dated 26 August 2022. This resubmittal appears to address most of the comments from the previous submittal review.

IBI Group offers the following comments for consideration addressing general and submittal requirements per Section 3.02: REQUIREMENTS and Section 3.04: DESIGN STANDARDS. Please refer to additional related comments provided by Nitspch Engineering in PDF document 9419-2022-09-29 CFS-2 LTReview3.

974 CMR 3.02: REQUIREMENTS

1. 3.02 (3) (b) 6 (a) states that “All existing landscape features, especially existing trees and woodland to remain, shall be shown on ALL site plan sheets.…Scattered trees to be preserved shall also be shown as well as all "specimen trees" (trees exceeding a min caliper of 12") within 100' of existing or proposed lot lines have been identified and indicated”

    - The Erosion and Sediment Control Plan indicates that the site will have a silt fence on the eastern, northern, and western edge of the site that is to “remain in place until all disturbed earth has been securely stabilized.” This fence line is not indicated on any of the other site plans. If the silt fence is intended to serve as tree protection fencing, it needs to be shown and annotated on all the plans and the directive in the Erosion and Sediment Control Plan needs to be revised to require that it remain in place for the duration of all construction. This needs to be reiterated on all the plans. Alternatively, orange caution fence may be installed as tree protection fencing along the line of existing trees to remain and shown on all plans; the annotation should read that the fence must remain in place for the duration of construction activity.

        - Applicant Response - 02-22-2021: Tree protection will consist of orange caution fence; Callouts on the erosion control plans have been revised to indicate “Siltsock/Silt Fence Barrier”. The silt fence will serve as a visual barrier equivalent to tree protection fencing at the limit of disturbance. It is not practicable to show this information on all plans, as it will create unnecessary clutter and conflicts on all sheets. We anticipate the contractor

will stake out clearing limits prior to construction for a site walk with Neil, and adjustments to the line or additional tree protections can be considered.

- IBI Group Response – 3 October 2022:
  Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.

- The limit of tree clearing lines shown on all plans along the western and eastern edges of the project remain incorrectly drawn as the connection of proposed and existing contours cannot be accomplished with the right angles as shown on the Grading and Drainage Plans. As additional disturbance and additional tree removal will be required, an accurate tree clearing line should be provided.
  - Applicant Response - 02-22-2021: On the west side of the property, trees will be cleared up to the fence line along the impact area where necessary to facilitate construction of the 69kv access road for MassDev. Near the end of the access road, the clearing limits are shown approximately 12' off the edge of grading line. Along the eastern road, the proposed contours tie into existing at a minimum of 6' away from the property line, which coincides with the clearing limits on this section of the roadway. This is more a drafting comment then an engineering comment. In reality there is adequate room to clear and grade the slopes. As mentioned above, we anticipate a site walk with Neil to review clearing limits prior to construction.
  - IBI Group Response – 3 October 2022:
    Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.
- Existing tree sizes are not shown on the plans north of Plum Street where the meadow mix and sedimentation basin are proposed; identify those over 12" within 100' of the property line.
  - Applicant Response - 02-22-2021: Specimen trees were located accordingly south of our limits of disturbance (generally, south of the ravine). Specimen trees were not flagged or surveyed along the northerly property lines because construction activities outside existing pavements are not currently proposed.
  - IBI Group Response – 3 October 2022:
    Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.
- The Erosion and Sediment Control Plan shows tree protection fencing for a number of trees on the west side of the property. It does not indicate what the protection requirements are. Include these trees and the tree protection symbol on all plans and, at a minimum, require orange caution fence located 12" beyond the dripline of trees.
  - Applicant Response - 02-22-2021: Tree protection fencing will consist of orange caution fence (see sheet C-8.01) and is limited to the trees within close proximity of the clearing limits/ silt sock and silt fence barrier. It is not practicable to show this information on all plans, as it will create unnecessary clutter and conflicts on all sheets.
  - IBI Group Response – 3 October 2022:
    Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.

974 CMR 3.04: Design Standards

1. 3.04 (3) describes the requirements for site lighting levels and fixtures.
   - Select black as the fixture color instead of graphite to match the CFS-1 project.

- Applicant Response - 02-22-2021: Concur, fixture color has been revised as black

- IBI Group Response – 3 October 2022:
  ES 501 – LIGHTING FIXTURE SCHEDULE AND DETAILS
  Confirm all model numbers indicate black color to match CFS-1 fixtures. The bollard cuts sheets appear to be black, but the catalog numbers in the schedule appear to be specified as silver. Does this match CFS-1 bollard colors? If not already fully coordinated, revise to match the precedent of CFS-1.
- **Applicant Response 10-12-2022: The CFS-2 Main Entry at the east wing of the building is intended to be the most architecturally significant façade on the campus. The client intends for this building façade and entry to represent fusion technology and celebrate their scientific achievements. Therefore, this area is intended to have its own identity, special from the rest of the site. The bollard lights are confined to the main entry and have been selected with a silver finish to complement the façade architecture. Per all previous DEC comments, pedestrian and area light poles and fixture selections will be fully consistent with CFS-1 and black in color.**

2. 3.04 (8) (d) 2 calls for the preservation of all trees in setback areas with a min. 12" caliper.
   - Indicate setback lines and identify all trees within the setback of a minimum 12" caliper.
     - Applicant Response - 02-22-2021: The 25' Building setback is currently shown on the revised plans, as requested. Specimen trees were located accordingly south of our limits of disturbance (generally, south of the ravine). Specimen trees were not flagged or surveyed along the northerly property lines because construction activities outside existing pavements are not currently proposed.
     - IBI Group Response – 3 October 2022:
       Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.

3. 3.04 (8) (d) 4-7 describes the care to be taken to ensure the survival of existing trees.
   - The Erosion and Sediment Control Plan shows tree protection fencing for a number of trees on the west side of the property. It does not indicate what the protection requirements are. Include these trees and the tree protection symbol on all plans and, at a minimum, require orange caution fence located 12" beyond the dripline of trees. Provide a description of the excavation methods within rootzones of trees to remain.
     - Applicant Response - 02-22-2021: Tree protection fencing will consist of orange caution fence (see sheet C-8.01) and is limited to the trees within close proximity of the clearing limits/ silt sock and silt fence barrier. It is not practicable to show this information on all plans, as it will create unnecessary clutter and conflicts on all sheets. As the fence will be located 12" beyond the dripline of the trees, no specialized excavation will be applicable.
     - IBI Group Response – 3 October 2022:
       Administratively accepted by Neil Angus per email to IBI Group dated 19 September 2022.

4. 3.04 (8) (f) 3 requires any unpaved areas steeper than 1:3 to be planted with shrubs or groundcovers with fibrous root systems.
   - Most of the west edge of the site is graded at slopes of 1:2. An erosion control mix is called for in these areas. A 1:2 slope is too steep to maintain with the annual mowing required in the Landscape Maintenance Memo. Given the proximity to natural wooded areas at Devens, the height of the slopes and their steepness, the applicant should add a landscape management consultant to the team to advise on the interim slope stabilization that does not require mowing as well as on reforestation of the slopes. The reforestation plan should consider the use of an appropriate seed mix, the planting of nut caches, seedlings, saplings, and live stakes. Ensure that the plant palette includes woodland tree and shrub species appropriate to early and future successional growth for the naturally wooded slopes at

Devens such as the shrub species of blueberry, rhododendron, winterberry, bayberry, shrub dogwoods, cranberry bush, spicebush, and native viburnums.

- Applicant Response - 02-22-2021: The revised documentation includes the use of an erosion control seed mixture, biodegradable jute mat fabric, 1" whip native trees, and shrubs of the species indicated above. The seed mixture utilizes a variety of grasses that will form a strong fibrous root system as indicated in 3.04 (8) (f) 3 to hold soil in place. The fabric will allow the seeds to remain in place to get established. In regards to maintenance, this area is not intended to be mown annually or at all, but will be allowed to gradually revert to woodland, which is augmented by the addition of the trees and shrubs. As the area is within the 69 kv easement, any maintenance will be by MassDev in accordance with MassDev's current maintenance practices.

IBI Group Response – 3 October 2022:
Not all of this establishment zone is within the easement, but this cannot be verified, as the easement is not indicated on the plans. Please indicate the easement on the plans to verify the extents.

Given the limited establishment plan, for the total area within the scope of the woodland establishment, the proposed quantity of 1" whips and shrubs are underspecified. We suggest the applicant increase both the quantity of shrubs and whips, and the diversity of species as listed in the previous comment. This will increase the likelihood of survival and achieving the summarized goals.

Consider also that establishment within this zone will require more than just maintaining the erosion control mix as outlined in the Landscape Maintenance Plan. Suggest providing the establishment irrigation and a replacement warranty of two years for trees and shrubs within the Erosion Control / Woodland Edge Establishment and Meadow zones.

Consider selecting native alternatives from the 974 CMR 3.07 Appendix A: Plant Lists and Figures for the following species on the current PLANT SCHEDULE:

- *Ilex glabra* 'Shamrock"
- *Itea virginica*
- *Rhododendron maximum*
- *Panicum virgatum* 'Cheyenne Sky'
- *Sporobolus heterolepis*

Applicant Response 10-12-2022:

- **Concur, 69kv easement will be shown on plans**
- **Concur, will increase the quantity of shrubs and whips and vary the species.**
- **We can revise the replacement warranty to two years for trees and shrubs in the Erosion Control/Woodland Edge Establishment and Meadow Zones. Multiple wall hydrant locations are available to provide establishment irrigation in this area as required.**
- **Regarding plants-**
    - **Ilex glabra "Shamrock" was selected for specific characteristics to complement the architecture at the CFS-2 entry.**
    - **Itea virginica will be replaced with Clethra alnifolia.**
    - **Rhododendron maximum will be replaced with Kalmia latifolia**

- **Both Panicum virgatum and Sporobolus were specifically selected for certain characteristics to provide for aesthetics and plant success. Additionally, these species were coordinated with the CFS-1 Landscape Architect.**

5. 3.04 (8) (l) 1 describes the landscape treatment of building perimeters visible from a road or Residential or Open Space Zoning District.
   - The central portion of the east side of CFS-2 will be visible from the Open Space/Recreation Zoning District to the east. The DEC has confirmed that screening from the open space buffer will be desirable. Provide a minimum of one shade tree or three ornamental/ evergreen trees per 50 lineal feet of building façade within 50' of the building face or, alternatively, at the perimeter of the property.
     - Applicant Response - 02-22-2021: Concur, trees have been provided.

       IBI Group Response – 3 October 2022:
       This is not readily apparent on the updated plans. Please indicate on the sheet LP100-C LANDSCAPE PLAN OVERALL – COMPARISON where the additional screening has been provided compared to the previous plan of 1/27/2021.

   Applicant Response 10-12-2022: LP100-C will be updated to clearly indicate how screening meets requirements. Specifically, there is 484 LF of building facade facing the Open Space/Recreation district. 484 LF/ 50LF = 9.68 or 10 shade trees required along the facade. We have provided 13 shade trees plus 4 evergreen trees, exceeding the requirement. Note, the small portion of entry facade has been kept free of trees to satisfy client needs to tie the campus together and celebrate the company mission architecturally.

6. 3.04 (8) (n) 2 Landscape maintenance and water management plan.
   - Include protocols in the landscape maintenance plan for the establishment and maintenance of the erosion control seed mix that reflects its placement on steep, unmowable slopes. See item #4 above.
     - Applicant Response - 02-22-2021: Protocols for the establishment of the erosion control seed mix have been added and indicate that no mowing will be required.

       IBI Group Response – 3 October 2022:
       Within section 4. Reseeding, mowing is called for prior to reseeding perennials. Assuming this was copy/pasted from the meadow section, which is understood, but DEC and applicant should be aware of the expectation that this material will need to be cut in some way, on the slopes, to encourage reseeding of viable seeds.
       Applicant Response 10-12-2022: Understood, comment noted. Landscape Maintenance Memo will be updated to indicate mowing for reseeding.

   - Include the snow storage areas designated by the winter plowing plan in the planting plans to ensure that plantings within the snow storage areas are tolerant of road salt.
     - Applicant Response - 02-22-2021: Concur, snow storage areas indicated on sheet LP200 now also shown on sheets LP101 and LP102.

       IBI Group Response – 3 October 2022:
       Snow storage zone along northwest edge of property does not seem viable on a slope with a barbed wire fence adjacent to the curb. Consider an alternate location for this volume or provide a toe of slope with the fence behind the snow storage.

       The snow storage zones are planted with salt tolerant species of grasses, Meadow Mix, and bearberry. This general claim of salt tolerance should not be misconstrued to imply tolerance of accumulated road salts and chemicals from vehicles when concentrated through snow storage and melting. DEC and applicant should understand there is no expectation the plantings will thrive in these zones and may require frequent replacement.

       For the parking island to the east of the north building wing that includes three *Betula nigra*, we suggest removing/relocating the snow storage to a location without trees - LP102 LANDSCAPE ENLARGEMENT PLAN 2. Trees are often

damaged by the weight of plowed snow and ice, especially when they are young, requiring frequent replacement.

Applicant Response 10-12-2022:

- **The most recent iteration of L200 pushes the fence back from the curb line 8 feet and allows for snow storage in this location, inboard of the fence.**
- **Understood, comment noted.**
- **Understood, we will take the suggestion under consideration.**

As always, please contact us with any questions or comments regarding these responses related to this submission.

Kind regards,

James Kros, RLA

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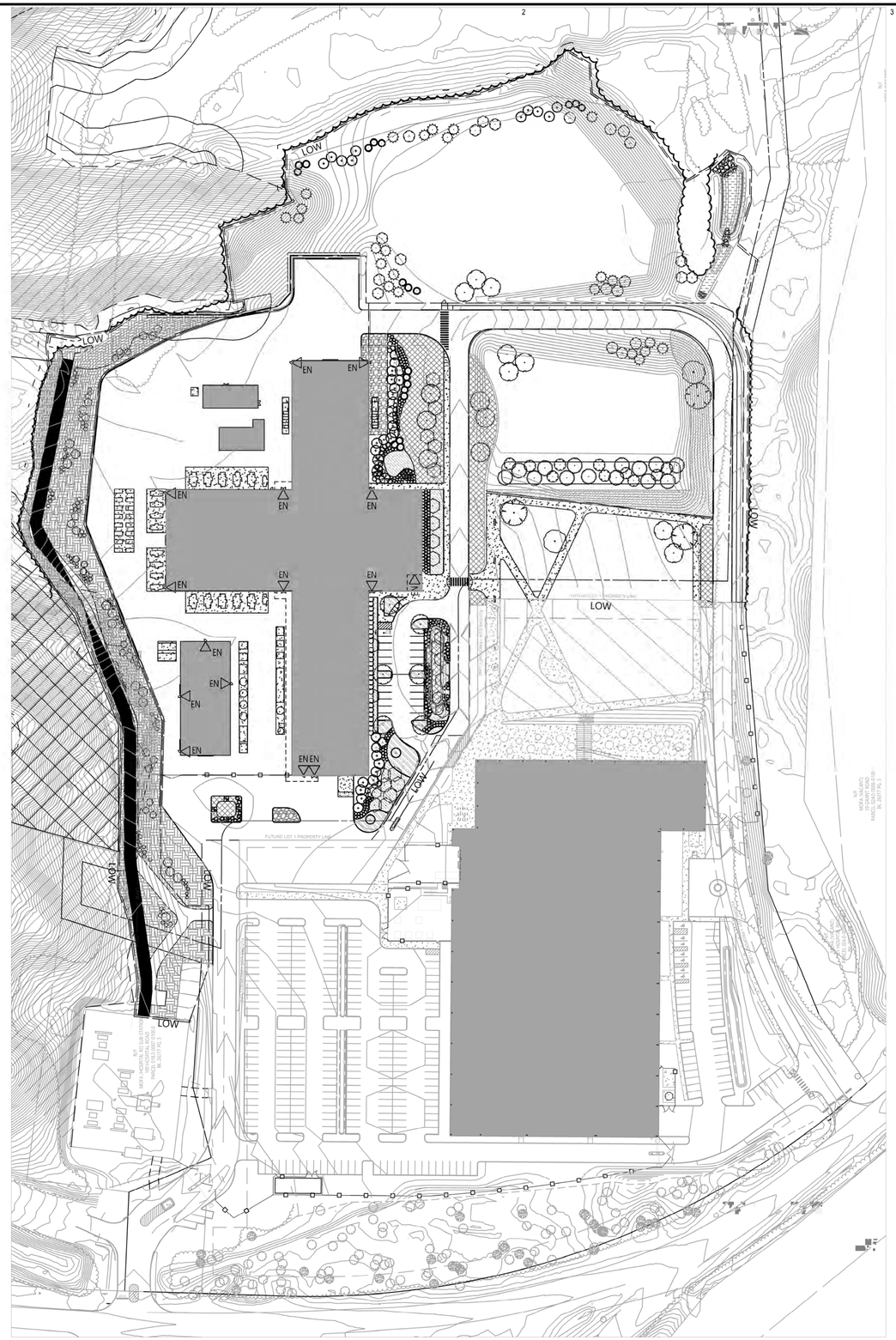
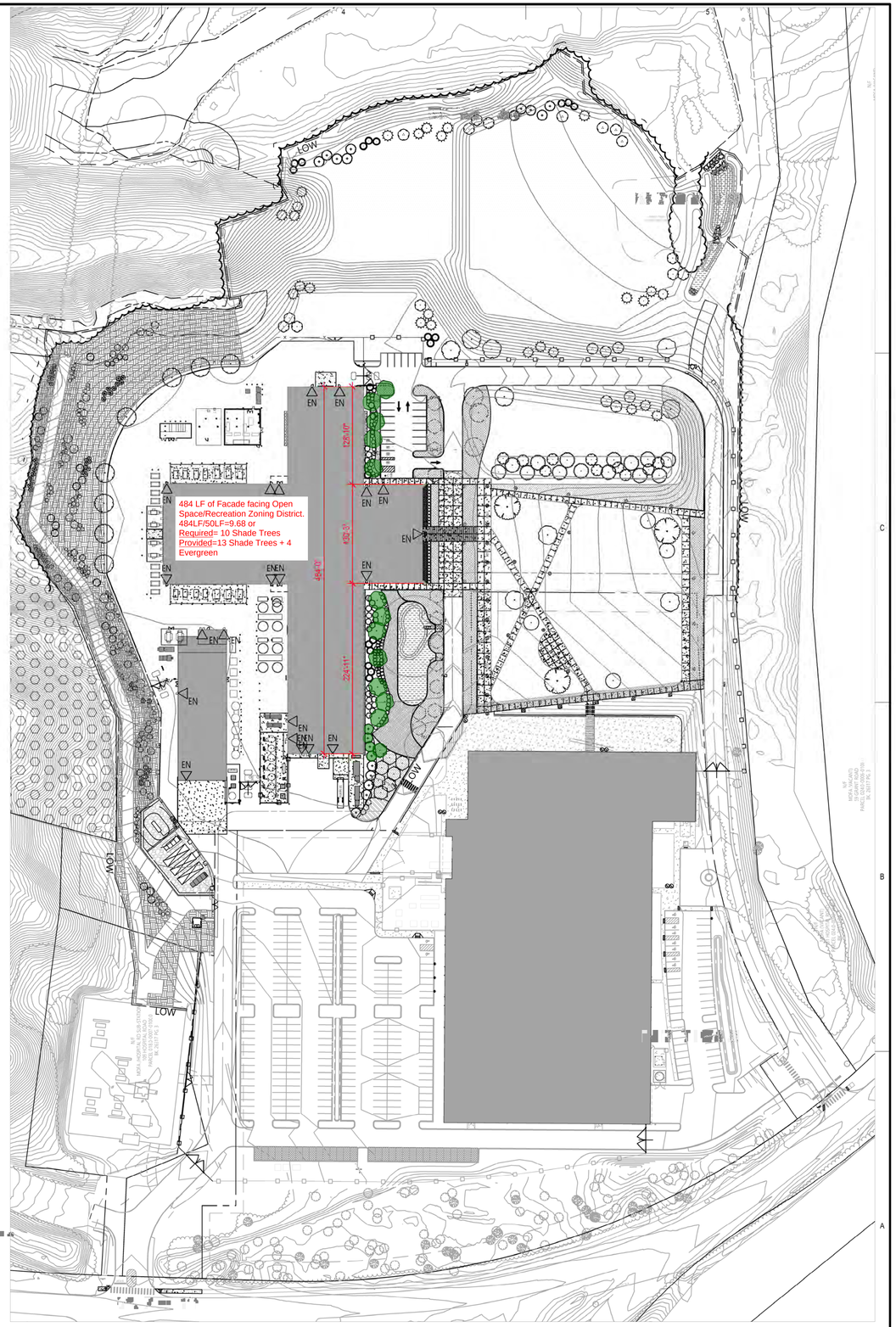


1 LANDSCAPE PLAN OVERALL - 01/27/2021

SCALE: 1" = 80'



2 LANDSCAPE PLAN OVERALL - CURRENT

SCALE: 1" = 80'

HDR Architecture, P.C.
1800 American Blvd. Suite 100
Pennington NJ 08534

101 Walnut Street
PO Box 9151
Watertown, MA 02471

Commonwealth Fusion Systems Campus -

Building 1 and Building 2

111 Hospital Rd.
Devens, MA

NOTES

Approved by:

Devens Enterprise Commission

MARK	DATE	DESCRIPTION
	11/05/2020	LEVEL TWO PERMIT
1	01/06/2021	RESPONSE TO LEVEL 2 COMMENTS
2	07/25/2022	LEVEL 2 SITE PLAN AMENDMENT
3	10/17/2022	LEVEL 2 SITE PLAN AMENDMENT

Project Number 10211243
Original Issue 11/05/2020 -

Sheet Name

LANDSCAPE PLAN OVERALL - COMPARISON

Sheet Number

LP100-C

Project Status

LEVEL 2 PERMIT

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PLANTING NOTES

1. THE FINAL LOCATION OF ALL PLANT MATERIAL SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE OF THE A/E & O/R.
2. SEE SPECIFICATIONS FOR ADDITIONAL PLANTING REQUIREMENTS.
3. FOR PLANT LIST AND DETAILS, SEE SHEET LP502.
4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING AND PROPOSED SITE UTILITIES PRIOR TO THE INSTALLATION OF PLANT MATERIAL. IF A CONFLICT ARISES, NOTIFY A/E.
5. PROVIDE 3" SHREDDED COMPOSTED HARDWOOD BARK MULCH CONTINUOUS UNDER PLANT MASSINGS AND AROUND INDIVIDUAL PLANTS.
6. PERFORM WORK IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.
7. PLANTING SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR BEYOND THE TIME OF FINAL ACCEPTANCE BY THE OWNER. TREES AND SHRUBS WITHIN THE EROSION CONTROL/ WOODLAND EDGE ESTABLISHMENT ZONE SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS.
8. CONTRACTOR SHALL ALLOW FOR THE STAKING OF 50% OF THE TOTAL NUMBER OF SHADE, EVERGREEN, AND ORNAMENTAL TREES.
9. ALL PLANT MATERIAL SHALL MEET ALL AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) FOR PLANT MATERIAL AS SET FORTH IN Z60.1 AMERICAN STANDARD FOR NURSERY STOCK; LATEST EDITION. ALL PLANT MATERIAL SHALL ALSO MEET CERTAIN STANDARDS OF QUALITY FOR FORM, STRUCTURE, AND HEALTH.
10. DISTURBED AREAS INTENDED FOR NATURAL RE-GROWTH SHALL BE, AT A MINIMUM, GRADED, LOAMED, AND SEEDED WITH A NATIVE NEW ENGLAND WILDFLOWER AND/OR CONSERVATION SEED MIX.
11. LANDSCAPING SHALL BE MAINTAINED IN GOOD CONDITION IN PERPETUITY.
12. AN IRRIGATION SYSTEM IS NOT PROPOSED FOR THIS PROJECT. LIMITED WATER NEEDS SHALL BE MET THROUGH USE OF THE DEVENS WATER SYSTEM. HOWEVER, THE CENTRAL CAMPUS GREEN SHALL BE IRRIGATED FROM THE CFS-1 PARCEL, SUBMITTED BY OTHERS. IRRIGATION IS PROVIDED TO ENSURE UNIFORMITY OF APPEARANCE AND SUCCESS OF PLANTS AT THIS IMPORTANT CAMPUS SPACE.
13. EXISTING VEGETATION TO REMAIN SHALL BE PRESERVED IN ACCORDANCE WITH 974 CMR. CONSTRUCTION ACTIVITIES SHALL NOT DISTURB THE ROOT ZONE OF TREES DESIGNATED TO REMAIN.
14. DURING THE FIRST YEAR WARRANTY PERIOD, ALL PLANTS SHALL BE WATERED MANUALLY WITH AN ADEQUATE AMOUNT OF WATER TO ENSURE PLANT ESTABLISHMENT.
15. SEEDED AREAS OVER 2:1 SLOPE SHALL BE PROTECTED WITH BIODEGRADABLE EROSION CONTROL FABRIC. SEE JUTE MAT DETAIL, LP510.
16. AREAS DESIGNATED AS 'SEED MIX' (MEADOW MIX, WETLAND MIX, OR EROSION CONTROL MIX) SHALL RECEIVE MINIMUM 6" OF LOAM AND SPECIFIED SEED MIX.

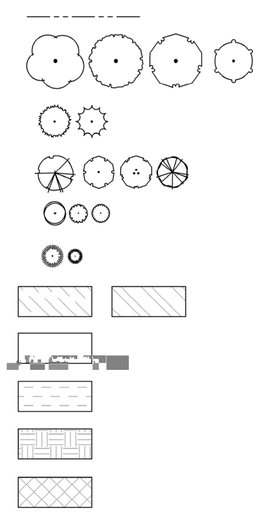
LANDSCAPE MAINTENANCE NOTES

1. THE LANDSCAPE MAINTENANCE PLAN WILL ENSURE THAT THE LANDSCAPE TREATMENT BE MAINTAINED IN GOOD CONDITION AND THAT THE PARCEL PRESENT A HEALTHY, NEAT, AND ORDERLY APPEARANCE FREE FROM REFUSE AND DEBRIS.
2. LANDSCAPE MAINTENANCE SHALL INCLUDE:
   - 2.1. INTEGRATED TURF MANAGEMENT/INTEGRATED PEST MANAGEMENT, AS REQUIRED: MOWING SCHEDULE, WEED CONTROL, PEST CONTROL, FERTILIZER PLAN, ETC.
   - 2.2. SHRUB AND GROUNDCOVER MANAGEMENT: MULCH SCHEDULE, WEED CONTROL, PRUNING, FERTILIZER, ETC.
   - 2.3. TREE MANAGEMENT: MULCH SCHEDULE, WEED CONTROL, DEADWOOD REMOVAL, PRUNING, FERTILIZER, ETC.
   - 2.4. SEASONAL MAINTENANCE: SPRING CLEAN-UP PLAN, FALL CLEAN-UP, DISPOSAL PLANS FOR LEAVES AND PLANT DEBRIS, WINTER PLOWING AND WINTER DEICING.
   - 2.5. MAINTENANCE SHALL INCLUDE INVASIVE PLANT SPECIES IDENTIFICATION FOR THE PURPOSES OF REMOVAL, TREATMENT, AND MONITORING.
   - 2.6. TREES LOCATED ADJACENT TO BUILDINGS SHALL BE MAINTAINED TO ENSURE THAT BRANCHES ARE KEPT OFF THE BUILDING FACADE AT ALL TIMES. PRUNING IS RECOMMENDED TO OCCUR MINIMALLY ONCE PER YEAR IN LATE FALL.

LANDSCAPE GRADING NOTES

1. AREAS DESIGNED TO REMAIN LANDSCAPE MAY BE COMPACTED BY CONSTRUCTION ACITIVITIES. TO ENSURE PLANT HEALTH AND DECOMPACT THE SOILS, SUB-GRADE SHALL BE SCARIFIED AS INDICATED BELOW.
2. PREPARATION OF SUBSOIL FOR LANDSCAPE GRADING.
   - 2.1. SCARIFY OR CULTIVATE SUBSOILS IN ORDER TO BREAK-UP CRUSH, OR OTHERWISE MAKE SUBSOILS CAPABLE OF DRAINAGE.
   - 2.2. SCARIFY OR CULTIVATE TO THE FOLLOWING DEPTHS:
     - 2.2.1. SEEDED OR SODDED AND GROUNDCOVER AREAS: 6 inches (150mm).
     - 2.2.2. SHRUBBED AREAS: 18 inches (450mm).
     - 2.2.3. TREE AREAS 48 inches (1200mm).
   - 2.3. GRADE SUBSOIL TO ELIMINATE UNEVEN AREAS AND LOW SPOTS. MAINTAIN LINES, LEVELS, PROFILES AND CONTOURS. MAKE CHANGES IN GRADE GRADUAL. BLEND SLOPES TO LEVEL AREAS.
   - 2.4. REMOVE FOREIGN MATERIALS AND CONTAMINATED SUBSOIL. REMOVE STONES LARGER THAN 2 INCHES.

LEGEND



CONTRACT LIMIT LINE

SHADE TREE

EVERGREEN TREE

FLOWERING TREE

SHRUB

GRASSES

GROUNDCOVER

MEADOW SEED MIX

WETLAND SEED MIX

EROSION CONTROL SEED MIX

NATIVE PLANTING MIX

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vhb

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Project Number 10211243
Original Issue 11/05/2020 -

Sheet Name

LANDSCAPE NOTES AND LEGEND

Sheet Number

LP001

Project Status

LEVEL 2 PERMIT

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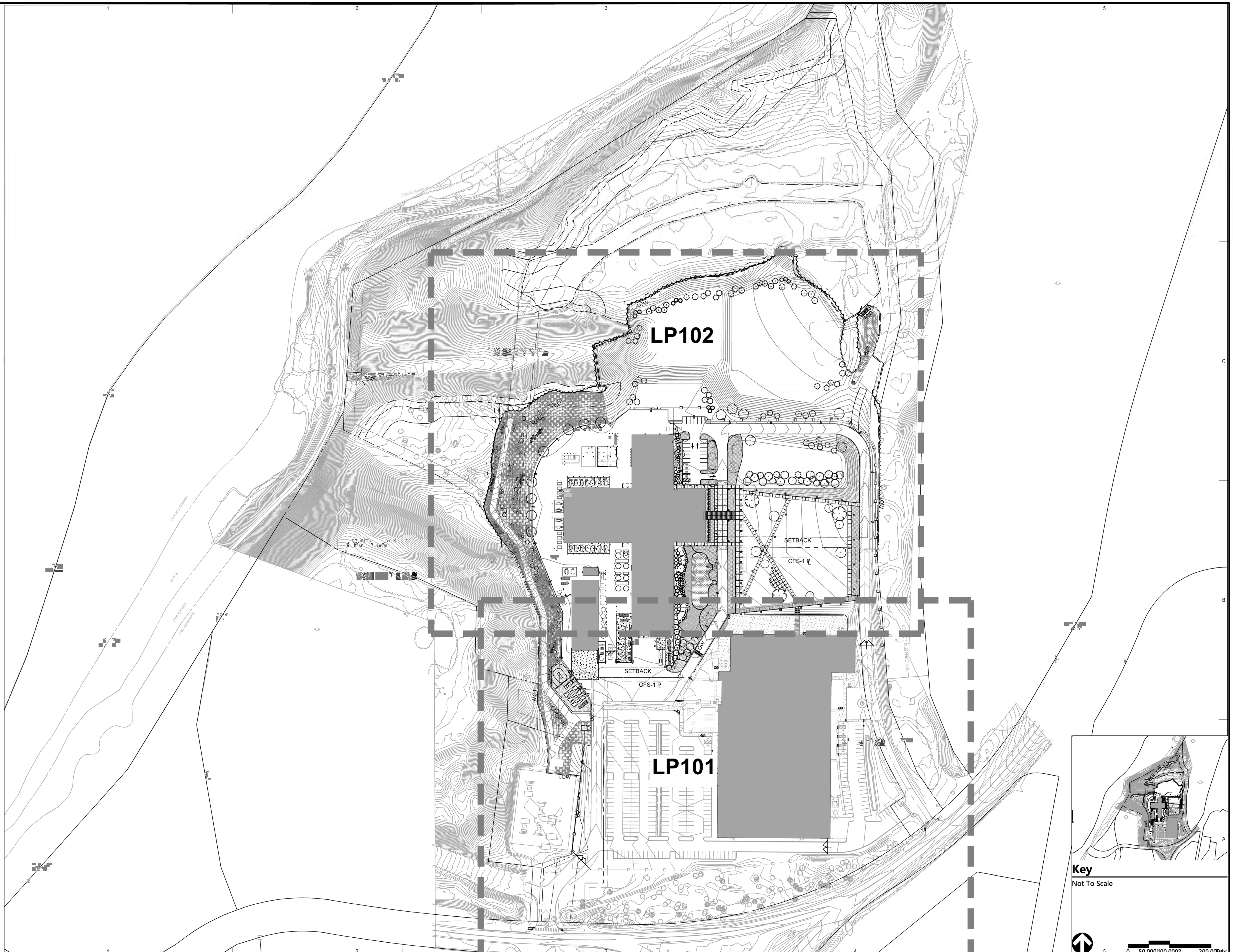

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Project Number 10211243
Original Issue 11/05/2020 -

Sheet Name
LANDSCAPE PLAN OVERALL

Sheet Number
LP100

Project Status
LEVEL 2 PERMIT

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SEE LP102

SEE LP102

END ORN. FENCE; BEGIN CHAIN LINK FENCE W/ BARB WIRE

EXISTING WOODLAND EDGE TO REMAIN

ORNAMENTAL FENCE

CHAIN LINK FENCE AT REAR OF EGEN YARD

EGEN YARD WITH GRAVEL SURFACE

EXISTING WOODLAND EDGE TO REMAIN

EROSION CONTROL MIX; SEE NOTE 15/ LP001
SEE ALSO NOTE 7, LP001

ORNAMENTAL FENCE

EXISTING SUBSTATION TO REMAIN

EXIST. CHAIN LINK SWITCHGEAR FENCE

ORNAMENTAL FENCE

GAS METER

CFS-1 PARCEL BOUNDARY BY OTHERS

SITE LIGHTING, TYP.; SEE ELEC. DWGS.

FUTURE GAS CYLINDER STORAGE LOCATION

CFS-1 PARCEL BOUNDARY BY OTHERS

CFS-1
BY OTHERS

CFS-1 PARCEL BOUNDARY BY OTHERS

ORN. FENCE BY OTHERS (CFS-1)

CFS-1 PARCEL BOUNDARY BY OTHERS

100' OPEN SPACE BUFFER

INNOVATION & TECHNOLOGY BLVD

OAK STREET

HOSPITAL ROAD
(PUBLIC - VARIABLE WIDTH)

Key
Not To Scale

0 20 40 80 Feet

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4	10/17/2022	LEVEL 2 SITE PLAN AMENDMENT

Project Number 10211243
Original Issue 11/05/2020 -

Sheet Name

LANDSCAPE PLAN ENLARGEMENT 1

Sheet Number

LP101

Project Status
LEVEL 2 PERMIT

EXISTING WOODLAND TO REMAIN; NEW EDGE

EXISTING WOODLAND TO REMAIN, NEW EDGE

MEADOW MIX

EXIST. WOODLAND EDGE TO REMAIN; NEW EDGE

EROSION CONTROL MIX; SEE NOTE 15 SEE ALSO NOTE 7, LP001

EXIST. WOODLAND EDGE TO REMAIN; NEW EDGE

15'-FT NO DISTURB ZONE

END ORN. FENCE; BEGIN CHAIN LINK FENCE W/ BARB WIRE

SITE LIGHTING, TYP.; SEE ELEC. DWGS.

ORN. FENCE

SITE LIGHTING; SEE ELEC.

6' WIDE STONE DUST PATH, TYP.

EX. WOODLAND EDGE TO REMAIN; NEW EDGE

EROSION CONTROL MIX; SEE NOTE 15 SEE ALSO NOTE 7, LP001

4' W. SIDEWALK

SITE LIGHTING, TYP.; SEE ELEC. DWGS.

MULCH AT TREE GROVE

NEW WOODLAND EDGE TO REMAIN

8' BACKLESS BENCH, TYP., QTY: 5

LAWN, TYP.

LAWN, TYP

SITE LIGHTING, TYP.; SEE ELEC. DWGS.

6' WIDE STONEDUST PATH, TYP.

SEE LP001 FOR TREE MAINTENANCE AT BLDG.

LAWN

LAWN, TYP.

LITTER RECEPTACLE

VEHICULAR CONC.; SEE CIVIL. DWGS.

STABILIZED TURF, TYP.

EROSION CONTROL MIX; SEE NOTE 15/ LP001

WETLAND SEED MIX

END ORN. FENCE; BEGIN CHAIN LINK FENCE W/ BARB WIRE

CFS-1 PARCEL BOUNDARY BY OTHERS

SEE LP101

SEE LP101

SPRUCE STREET

25' BUILDING SETBACK

WETLAND SEED MIX, TYP.

INNOVATION

LOW

Key

Not To Scale

0 20 40 80 Feet

10/31/2018 12:28:38 PM

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HDR Architecture, P.C.
1800 American Blvd. Suite 100
Pennington NJ 08534

vhb

101 Walnut Street
PO Box 9151
Watertown, MA 02471

Commonwealth Fusion Systems Campus -

Building 1 and Building 2

111 Hospital Rd.
Devens, MA

NOTES

Approved by:

Devens Enterprise Commission

MARK	DATE	DESCRIPTION
	11/05/2020	LEVEL TWO PERMIT
1	01/06/2021	RESPONSE TO LEVEL 2 COMMENTS
2	02/12/2021	RESPONSE TO LEVEL 2 COMMENTS
3	07/25/2022	LEVEL 2 SITE PLAN AMENDEMENT
4	10/17/2022	LEVEL 2 SITE PLAN AMENDMENT

Project Number 10211243
Original Issue 11/05/2020 -

Sheet Name

LANDSCAPE PLAN ENLARGEMENT 2

Sheet Number

LP102

Project Status

LEVEL 2 PERMIT

PLANT SCHEDULE								
TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
AR	14	Acer rubrum / Red Maple	3 1/2" - 4"					
AS2	2	Acer saccharum / Sugar Maple	3 1/2" - 4"					
BR	25	Betula nigra / River Birch	3 1/2" - 4"					
GA	10	Ginkgo biloba `Autumn Gold` TM / Autumn Gold Maidenhair Tree	3 1/2" - 4"					
LS	8	Liquidambar styraciflua / American Sweet Gum	3 1/2" - 4"	B & B	12` HT	Single Stem with Central Leader		
QA	12	Quercus alba / White Oak	3 1/2" - 4"	B & B	12` HT	Single Stem with Central Leader		
QR	3	Quercus rubra / Red Oak	6" CAL					
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
JA	24	Juniperus virginiana `Greenbelt` / Greenbelt Eastern Red Cedar	--		8`-10`			
PG	29	Picea glauca / White Spruce	--		8`-10`			
FLOWERING TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
AC2	8	Amelanchier canadensis / Canadian Serviceberry	B & B					
CE2	11	Cercis canadensis / Eastern Redbud Multi-trunk	2 1/2" - 3"	B & B	8` HT	Multi-stem		
CS	13	Chionanthus virginicus `Spring Fleecing` / White Fringetree	2 1/2" - 3"		8`-10`			
CF	4	Cornus florida / Eastern Dogwood	2 1/2" -3"	B & B	8` HT			
HM	20	Hamamelis virginiana `Mohonk Red` / Mohonk Red Witch Hazel	2 1/2" - 3"	B & B	8`-10`			
SLOPE STABILIZATION	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
BL2	12	Betula lenta / Sweet Birch	1" Whip					
JA2	12	Juniperus virginiana / Eastern Red Cedar	1" Whip					
PT	13	Populus tremuloides / Quaking Aspen	1" Whip					
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	HEIGHT	REMARKS		REMARKS
MP3	42	Myrica pensylvanica / Northern Bayberry	2 GAL.					
MP2	63	Myrica pensylvanica / Northern Bayberry	5 GAL					
PC	266	Panicum virgatum `Cheyenne Sky` / Switch Grass	2 GAL.					
RC	23	Rhododendron carolinianum / Carolina Rhododendron	5 GAL					
RA	23	Rhus aromatica / Fragrant Sumac	2 GAL.					
RT	37	Rhus typhina / Staghorn Sumac	2 GAL.					
VA	33	Viburnum dentatum / Viburnum	5 GAL					
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	HEIGHT	REMARKS	SPACING	REMARKS
AU	955	Arctostaphylos uva-ursi / Kinnikinnick	1 GAL	1 GAL			24" o.c.	
AL	2,951	Aronia melanocarpa `UCONNAM165` TM / Low Scape Mound Black Chokeberry	1 GAL				18" o.c.	
JH	5,551	Juniperus horizontalis / Creeping Juniper	1 GAL				18" o.c.	

PLANT SCHEDULE (PREVIOUS - JANUARY 27, 2021)

2022-10-17 22:05

PLANT SCHEDULE								
TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
AR	14	Acer rubrum / Red Maple	3 1/2" - 4"	B & B				
AS2	5	Acer saccharum / Sugar Maple	3 1/2" - 4"	B & B				
BR	20	Betula nigra / River Birch	3 1/2" - 4"	B & B				
GA	10	Ginkgo biloba `Autumn Gold` TM / Autumn Gold Maidenhair Tree	3 1/2" - 4"	B & B				
LS	4	Liquidambar styraciflua / American Sweet Gum	3 1/2" - 4"	B & B	12` HT	Single Stem with Central Leader		
LT2	4	Liriodendron tulipifera / Tulip Poplar	3 1/2" - 4"	B & B				
QA	11	Quercus alba / White Oak	3 1/2" - 4"	B & B		Single Stem with Central Leader		
QC	12	Quercus coccinea / Scarlet Oak	3 1/2" - 4"	B & B				
QR	3	Quercus rubra / Red Oak	6" CAL	B & B				
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
JA	26	Juniperus virginiana `Greenbelt` / Greenbelt Eastern Red Cedar	--	B & B	8`-10`			
PG	19	Picea glauca / White Spruce	--	B & B	8`-10`			
FLOWERING TREES	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
CE2	11	Cercis canadensis / Eastern Redbud Multi-trunk	--	B & B	8`-10`	Multi-trunk		
CS	10	Chionanthus virginicus `Spring Fleecing` / White Fringetree	--	B & B	8`-10`	Multi-trunk		
HM	20	Hamamelis virginiana `Mohonk Red` / Mohonk Red Witch Hazel	--	B & B	8`-10`	Multi-trunk		
SLOPE STABILIZATION	QTY	BOTANICAL / COMMON NAME	CAL	CONT.	HEIGHT	REMARKS		REMARKS
AR2	20	Acer rubrum / Red Maple	1" Whip					
BL2	12	Betula lenta / Sweet Birch	1" Whip					
JA2	12	Juniperus virginiana / Eastern Red Cedar	1" Whip					
LT	3	Liriodendron tulipifera / Tulip Poplar	1" Whip					
PT	10	Populus tremuloides / Quaking Aspen	1" Whip					
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	HEIGHT	REMARKS		REMARKS
CS2	39	Clethra alnifolia `September Beauty` / Summersweet Clethra	B&B		3-4` HT.			
Ca2	17	Cornus alternifolia / Pagoda Dogwood	5 GAL					
IS	28	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	5 GAL					
KI	28	Kalmia latifolia / Mountain Laurel	B&B		4-5`			
LB	53	Lindera benzoin / Spicebush	2 GAL.					
MP3	35	Myrica pensylvanica / Northern Bayberry	2 GAL.					
RA	23	Rhus aromatica / Fragrant Sumac	2 GAL.					
RT	37	Rhus typhina / Staghorn Sumac	2 GAL.					
Vh	29	Vaccinium corymbosum / Highbush Blueberry	5 GAL					
VA	18	Viburnum dentatum / Viburnum	5 GAL					
VA2	11	Viburnum trilobum / American Cranberrybush	5 GAL					
GROUND COVERS	QTY	BOTANICAL / COMMON NAME	SIZE	CONTAINER	HEIGHT	REMARKS	SPACING	REMARKS
AU	213	Arctostaphylos uva-ursi / Kinnikinnick	1 GAL	1 GAL			24" o.c.	
AL	1,152	Aronia melanocarpa `UCONNAM165` TM / Low Scape Mound Black Chokeberry	1 GAL				18" o.c.	
JH	2,583	Juniperus horizontalis / Creeping Juniper	1 GAL				24" o.c.	
PC3	480	Panicum virgatum `Cheyenne Sky` / Cheyenne Sky Switch Grass	18" O.C.				40" o.c.	
SH	10,332	Sporobolus heterolepis / Prairie Dropseed	LP50 CELL				18" o.c.	

PLANT SCHEDULE (CURRENT)

SEED MIXES:

SEED MIX	AREA	
MEADOW MIX New England Wetland Plants 'Wildflower Mix' Application Rate - 23 lbs/acre	178,000	SF

Little Bluestem (Schizachyrium scoparium), Red Fescue (Festuca rubra), Indian Grass (Sorghastrum nutans), Partridge Pea (Chamaecrista fasciculata), Canada Wild Rye (Elymus canadensis), Virginia Wild Rye (Elymus virginicus), Blue Vervain (Verbena hastata), Butterfly Milkweed (Asclepias tuberosa), Narrowleafed Blue Eyed Grass (Sisyrinchium angustifolium), Black Eyed Susan (Rudbeckia hirta), New England Aster (Symphyotrichum novae-angliae), Spiked Gayfeather/ Marsh Blazing Star (Liatris spicata), Starved/Calico Aster (Aster lateriflorus/Symphyotrichum lateriflorum), Early Goldenrod (Solidago juncea), Hollow-Stem Joe Pye Weed (Eupatorium fistulosum/Eutrochium fistulosum)

WETLAND SEED MIX New England Wetland Plants 'Wetmix' Application Rate - 18lbs/acre	3,200	SF

Fox Sedge (Carex vulpinoidea), Lurid Sedge (Carex lurida), Blunt Broom Sedge (Carex scoparia), Blue Vervain (Verbena hastata), Fowl Bluegrass (Poa palustris), Hop Sedge (Carex lupulina), Green Bulrush (Scirpus atrovirens), Creeping Spike Rush (Eleocharis palustris), Fringed Sedge (Carex crinita), Soft Rush (Juncus effusus), Spotted Joe Pye Weed (Eupatorium maculatum), Rattlesnake Grass (Glyceria canadensis), Swamp aster (Aster puniceus), Blueflag (Iris versicolor), Swamp Milkweed (Asclepias incarnata), Square stemmed Monkey Flower (Mimulus ringens)

*Seed mixtures shall contain 80% (by weight) native species, minimum.

** If hydroseeding, do NOT use tackifier with the above mixes.

SEED MIXES:

SEED MIX	AREA	
EROSION CONTROL MIX New England Wetland Plants 'Erosion Control Restoration Mix for Dry Sites Application Rate - 35 lbs/acre	53,400	SF

Red Fescue (Festuca rubra), Canada Wild Rye (Elymus canadensis), Annual Ryegrass (Lolium multiflorum), Perennial Ryegrass (Lolium perenne), Little Bluestem (Schizachyrium scoparium), Indian Grass (Sorghastrum nutans), Switch Grass (Panicum virgatum), Upland Bentgrass (Agrostis perennans).

** If hydroseeding, do NOT use tackifier with the above mixes.

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Commonwealth Fusion Systems Campus -
Building 1 and Building 2

111 Hospital Rd.
Devens, MA

NOTES

Approved by:

Devens Enterprise Commission

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Project Number	10211243
Original Issue	11/05/2020 -

Sheet Name

LANDSCAPE SCHEDULE

Sheet Number

LP502

Project Status

LEVEL 2 PERMIT

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Landscape Maintenance Memorandum

CFS Building 2

111 Hospital Road

Devens MA

February 12, 2021

Landscape Maintenance Plan

Introduction

The Owner will provide for landscape maintenance from an experienced local American Association of Nurserymen (AAN) certified nursery business capable of performing the work outlined herein. Maintenance will begin immediately after final approval and acceptance of the landscaping by the Owner's representative.

The area to be maintained under the terms of this contract include all lawns, groundcover, perennial, grasses, and shrub beds, and tree planting within the Owner's property. Landscape maintenance shall include all necessary watering, cultivation, weeding, pruning, wound dressing, disease and insect pest control, replacement of dead plant material (labor only), straightening plants which lean or sag, adjustments of plants which settle, mowing of turf areas, replacement of mulch that has been displaced by erosion, repairing water rings or saucers, and repair of soil erosion by reseeding or replanting affected areas.

Plant disease problems shall be treated following Best Management Practices. Insect infestations shall be treated using Integrated Pest Management practices.

Remove all rubbish and waste used in the execution of the contract at the end of each work day.

During the initial one-year plant guarantee period, any replacement of plant material shall be the responsibility of the general contractor under the original construction contract for the facility. After the lapse of the initial one-year guarantee period, dead plants shall be replaced at the expense of the Owner. Determination of trees to be replaced will be made by an Owner representative. Acceptable trees shall have less than 25% dead branches and branch tips, and shall bear foliage of normal density, size, and color. All plants replaced during the initial one-year plant guarantee period shall be guaranteed for one additional year and their condition reviewed at the end of that year.

Trees and shrubs within the Erosion Control/Woodland Edge Establishment Zone shall be guaranteed for a period of two years. See plans for location.

Maintenance Operations

Watering and Water Management

To eliminate water consumption for irrigation and meet sustainability goals, a permanent irrigation system is not proposed for the CFS-2 project area. Native plants accustomed to the local climate and rainfall will be utilized.

Temporary irrigation will be provided for one to two years in order to establish the new plant material. The temporary irrigation system shall be used by the maintenance contractor for the establishment watering program, but any failure of the system does not eliminate the Contractor's responsibility of maintaining the desired level of moisture necessary to maintain vigorous, healthy growth. Report irrigation system problems to the Owner's maintenance department immediately.

On-site water for temporary irrigation shall be furnished by the Owner through use of the Devens water system. Hose and other watering equipment shall be furnished by the Contractor.

Note that the Central Campus Green shall be irrigated from the CFS-1 parcel, submitted by others. The north half of the Central Campus Green falls within the CFS-2 project boundary. Irrigation shall be extended from CFS-1 to provide coverage for the entire Campus Green in order to ensure uniformity of appearance at this important campus space.

Weed Control

Maintenance contractor shall monitor all lawn and planting areas for weeds and undesirable grasses. If results of the scouting and monitoring program indicate areas exceed thresholds identified in the project specifications, appropriate controls shall be implemented to address the specific infestation. The identified problem shall first be addressed through the implementation of suitable cultural controls. Generally speaking, the cultural controls will likely result in the least impacts to any adjacent environmentally-sensitive areas.

Cultural controls are mechanical practices that can often provide effective treatment of weed, disease and pest outbreaks. The cultural controls that shall be utilized for lawn areas are summarized below:

- Remove clippings, fallen leaves/limbs and other debris from turf areas
- Minimize shading and optimize air circulation of turf areas
- Hand eradicate outbreaks of weeds when practicable
- Maintain proper soil moisture levels and avoid over watering
- Set mowing heights appropriately for each season
- Increase mowing heights to relieve turf stress as necessary

- Adjust mowing frequency to relieve turf stress as necessary
- When appropriate, apply top dressing following aeration

The application of chemicals to maintained lawn areas shall follow the guidelines below. These controls shall only be utilized if the cultural measures presented above are not effective in treating a particular weed, disease, or pest infestation.

Guidelines for pesticides, herbicides and fungicides are as follows:

- Only use when action thresholds have been exceeded
- Confirm identity of outbreak requiring treatment
- Use organic/environmentally sensitive products when feasible
- Use target specific products
- Calibrate application equipment (sprayer/spreader) prior to use
- Apply to target areas only
- Minimize drift by limiting applications to periods when winds are 5 mph or less

Disease and Insect Pest Control

Inspect all plant material to locate any disease or insect pest infestations on a regular basis. Upon the discovery of any disease or insect pest infestation, identify, or have identified, the nature or species of the infestation. Report this condition to the Owner's maintenance department immediately. A method of control in accordance with common Integrated Pest Management standards shall be immediately implemented.

Fertilizing

Maintenance Contractor is to conduct yearly soil tests at various locations on the lawn to test for plant nutrients and pH. Soil should be amended with a liming, and/or a fertilizer mix at a rate of application as indicated by the soil test.

Fertilization should also be based on visual assessment, as indicated below (i.e. yellowing may indicate nitrogen deficiency, a dark blue-green color and excessive thatch indicate excessive nitrogen.)

Fertilize established turf with a slow release fertilizer.

Fertilize trees and shrubs only if visual assessments and soil tests indicate that it is necessary. Soil should be amended with a fertilizer mix at a rate of application as indicated by the soil test. Follow manufacturer's instructions.

Guidelines for fertilizers are as follows:

- Perform soil nutrient testing at regular intervals

- Use organic/environmentally-sensitive blends when feasible
- Regulate application of nitrogen to optimize turf vigor
- Use slow release nitrogen when possible
- Avoid over application of nitrogen and phosphorus

Liming

Maintenance contractor is to conduct yearly soil tests at various locations on the lawn to determine the pH of the soil. Soil should be kept between pH 6.0 and 7.0. When pH falls below 6.0 the Contractor shall add lime at a rate indicated by the soil test.

Pruning and Repair

The amount of pruning shall be limited to the minimum necessary to remove dead, diseased, or injured branches or to maintain safety in vehicular use areas. Pruning shall be done in such a manner as to not change the natural habit or shape of the plant. All cuts shall be to the branch collar. Do not cut flush with trunk.

Comply with pruning standards in the American National Standards Institute, (ANSI).

Repair eroded lawn areas by loaming, aerating, over-seeding, or topdressing, as needed.

Mowing

Mow at regular intervals to maintain grass height.

Observation of heavily clumped grass clippings is a sign of a too infrequent mowing schedule. The maintenance contractor shall increase the number of mowings to prevent this.

Reduce frequency of lawn mowing during the summer dormant season and periods of stress from drought.

Lawn mower blades shall be kept sharp at all times. Mowing pattern shall be alternated weekly to keep grass blades erect and assure an even cut. Leave light accumulations on the lawn. Remove heavy accumulations of clippings and dispose of off site.

Mow lawns in such a manner as to prevent clippings from blowing onto paved areas and walks. Clean-up after mowing shall include sweeping or blowing paved areas.

Mulching

Mulch for planting bed areas shall be natural, un-dyed, composted double shredded hardwood mulch. Mulch for reforestation plantings shall be leaf mold.

Maintenance contractor shall maintain a bed of mulch in shrub beds and around trees. Mulch shall be 100% organic, composted for a minimum of 6 months, having a maximum moisture content of 40%, and free of any disease and insects. Mulch shall not be placed against root flares of shrubs or trees. Apply mulch yearly or as necessary to replace decomposed mulch. Mulch depth should not exceed 3".

Guying

Maintenance contractor shall adjust tree guys on new trees as necessary to prevent stem injury. Remove all stakes, guys, tree wrap, and rubber hose collars one year after planting.

Sweeping/Raking

Maintenance contractor shall sweep paved surfaces to keep them clean of dirt, sand, litter, and other debris. Lawns and shrub areas shall be raked to remove leaf litter and trash.

■

Maintenance Task Schedule

March (Weather Permitting)

- Clean up all winter debris, sand, leaves, trash, etc.
- Re-edge mulch beds.
- Prune all dead, broken, and storm damaged branches on trees and shrubs.
- Aerate, over-seed, and top-dress turf with compost, if necessary.
- De-thatch.

April

- Re-seed or sod all bare or thin grass areas.
- Test soil in turf areas for pH and fertility.
- Re-mulch beds, trees, and planted areas as necessary.
- Fertilize turf, if required by test results.
- Lime, if required by test results.
- Start mowing.

May

- Mow.
- Weed as necessary.
- Check for disease and pest problems in both turf and plants.
- Irrigation system startup.

June

- Mow.
- Fertilize turf, if necessary.
- Monitor operation of the irrigation system.
- Weed plant beds and median islands.
- Check for disease and pest problems in both turf and plants; treat immediately if necessary.
- Prune shrubs after flowering.

July - August

- Mow.
- Check for disease, pest and weed problems. Treat as necessary.
- Monitor operation of the irrigation system.
- Prune shrubs.
- Weed plant beds and median islands

September

- Re-seed bare or thin lawn areas.
- Mow.
- Fertilize turf and groundcover/shrub areas with a fertilizer designed for fall season application.
- Monitor operation of the irrigation system.
- Check for disease problems. Treat as necessary using approved.

October

- Mow.
- Clean up leaves, trash. etc.
- Irrigation system shut down.

November

- Final mowing.
- De-thatch lawn areas, if necessary.
- Prune trees and shrubs, if necessary.
- Prune trees adjacent to building to keep plant materials right sized at these locations.

- Final clean-up of leaves and trash.

December, January and February

- Develop schedule, order lawn supplies.
- Prune storm-damaged trees as needed.
- Remove trash as needed.
- Apply wilt-pruf antidessicant to evergreen shrubs.
- Cut off bagworm cocoons.

Meadow/Grass/Wetland Seed Mixes

1. Site Preparation: Site to be covered with black plastic for a whole growing season and may also be covered with thick layers of leaves and grass clippings.
2. Sowing or Planting: Sow in spring or early summer.
3. Post Planting Management:
    a. Weed Control: A monthly program of weed control should be established. Weeds should be eliminated as soon as they can be recognized, either by pulling, spot-spraying with a general herbicide, or selective cutting with a string trimmer.
    b. Supplemental Watering: In moist conditions, regular rainfall may make supplemental watering unnecessary. In dry conditions, up to 1/2 inch of supplemental water per week may be required.
    c. Fertilization: Apply fertilizers at rates indicated in soil test, as necessary. If soil fertility is very low, a low nitrogen fertilizer can be used, or add organic matter.
    d. Mulching: Any mulch applied to meadow/wetland or native planting areas shall be leaf mold.
    e. Maintenance:
        i. Equipment - A flail-type mower is preferred for meadow maintenance as it can mow above the terminal tips of young desired plants as it shreds the cut material and disperses it gently on top of the vegetation. Attachments can be purchased for most riding lawnmowers that allow mowing at 6” height if the meadow is of a larger scale and too large for a string.
        ii. First Season –
            a. Monitor plants for invasive species.
            b. Mow to a height of 4- 6” every 4 to 6 weeks to control annual nonnative and invasive species early in the growing season. Mowing should be conducted prior to weed seed production. Mowing height and timing may need to be adjusted per target species.
            c. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

d. Discontinue mowing at the end of the growing season (late October/early November) as plant growth slows

iii. Second Season –

a. Mow meadow vegetation to the ground annually, either in late winter or early spring, before next year's growth begins. Early spring mowing is preferable as it preserves wildlife habitat during the winter.

b. Monitor for invasive plants and weeds all season long. Prevent the establishment of biennial and perennial weeds.

c. Avoid mowing the meadow stand during bird nesting season to prevent injury to young nesting ground birds. Cease mowing by the end of April and refrain from mowing until late-July.

f. Fall Mowing and Cleanup: In some areas closer to the building, a maintained look may be desired during the winter. Mow to a height of four to six inches after the wildflowers have gone to seed. In the third and future years, mow close to the ground. This should be done in late fall, removing the debris from mowing.

4. Reseeding:

a. Perennial plantings should be reseeded if there are bare spots. In the fall, remove dead seed stalks and excessive plant material by mowing or cutting to a height of 4 to 6 inches. This will allow the reseeding of any viable seeds.

b. Fall reseeding should be late enough so that seeds do not germinate until spring. Spring reseeding should be completed as soon as the ground is workable and after the last killing frost.

Erosion Control Seed Mixes

1. Site Preparation: Site to be covered with black plastic for a whole growing season and may also be covered with thick layers of leaves and grass clippings.
2. Sowing or Planting: Sow in spring or early summer.
3. Post Planting Management:

a. Weed Control: A monthly program of weed control should be established. Weeds should be eliminated as soon as they can be recognized, either by pulling, spot-spraying with a general herbicide, or selective cutting with a string trimmer.

b. Supplemental Watering: In moist conditions, regular rainfall may make supplemental watering unnecessary. In dry conditions, up to 1/2 inch of supplemental water per week may be required.

c. Fertilization: Apply fertilizers at rates indicated in soil test, as necessary. If soil fertility is very low, a low nitrogen fertilizer can be used, or add organic matter.

d. Mulching: Any mulch applied to seed mix planting areas shall be leaf mold.

e. Maintenance:

i. The erosion control seed mix is intended to stabilize slopes within the 69kv right of way. Slopes vary between 2:1 and 3:1, and therefore **regular** mowing will not be part of the ongoing maintenance. The maintenance plan allows for secondary succession. **Allow for one annual mowing in the fall to encourage reseeding per Item 4 below.**

ii. First Season –

a. Monitor plants for invasive species.

b. Weeds should be eliminated as soon as they can be recognized, either by pulling, spot-spraying with a general herbicide, or selective cutting with a string trimmer.

iii. Second Season and beyond -

a. Maintenance within the 69kv easement will be implemented by MassDev following their current protocols for the property.

4. Reseeding:

a. Perennial plantings should be reseeded if there are bare spots. In the fall, remove dead seed stalks and excessive plant material by mowing or cutting to a height of 4 to 6 inches **using methods suitable for the sloped terrain**. This will allow the reseeding of any viable seeds.

b. Fall reseeding should be late enough so that seeds do not germinate until spring. Spring reseeding should be completed as soon as the ground is workable and after the last killing frost.

Maintenance Report

Maintenance contractor shall provide a schedule and report to the Owner's maintenance department that details his planned maintenance activities and schedule including any subcontractors.