

SITE DEVELOPMENT PLAN SOLAR ENERGY STORAGE SYSTEM (ESS)

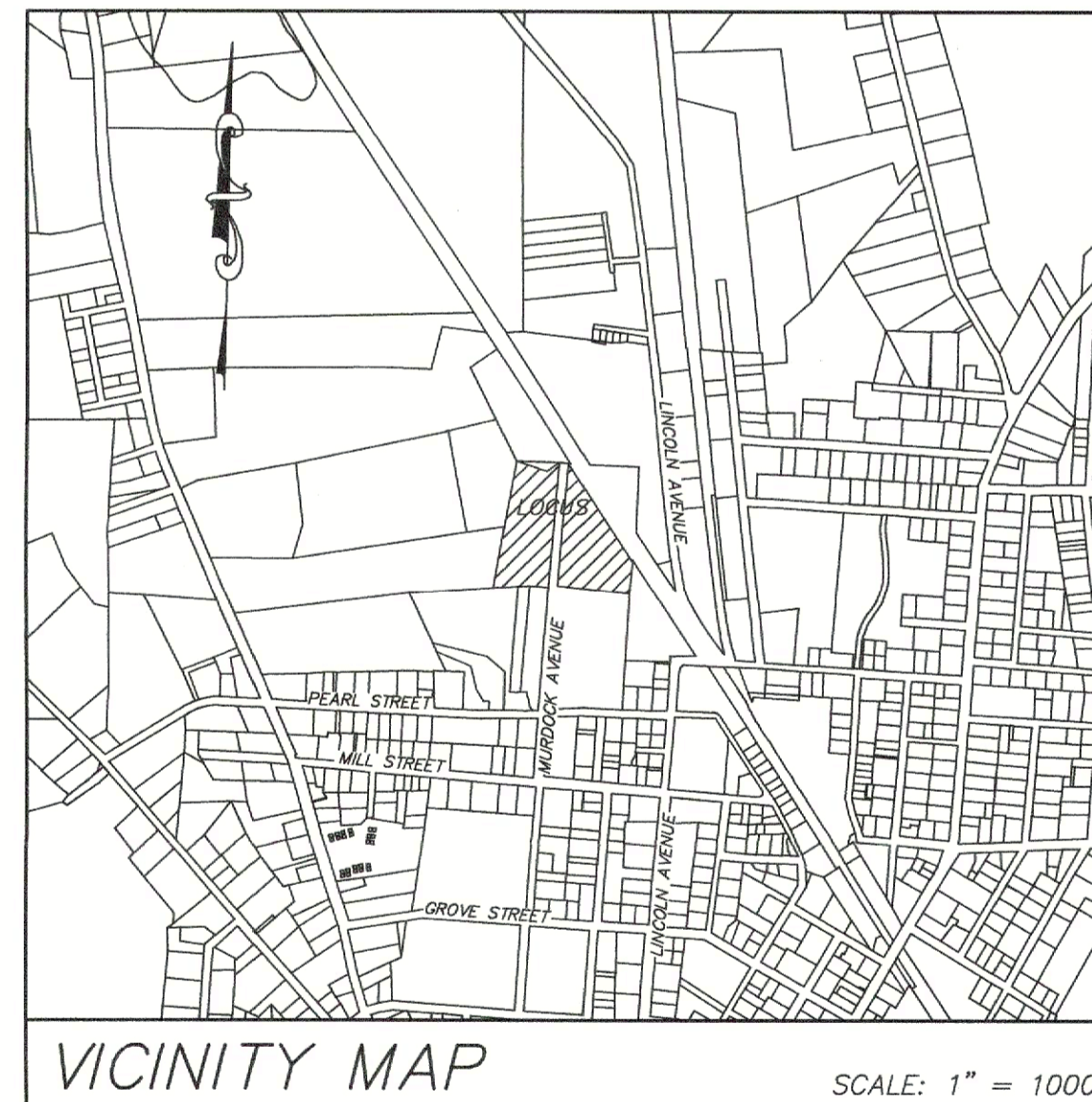
0 MURDOCK AVENUE

IN

WINCHENDON, MASSACHUSETTS

MARCH 27, 2023

REVISIONS THROUGH JULY 10, 2023



APPLICANT:

ZP BATTERY DEVCO, LLC
PETE FORTE
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608

OWNER:

BOSTWICK REALTY TRUST
256 MURDOCK AVENUE
WINCHENDON, MASSACHUSETTS 01475

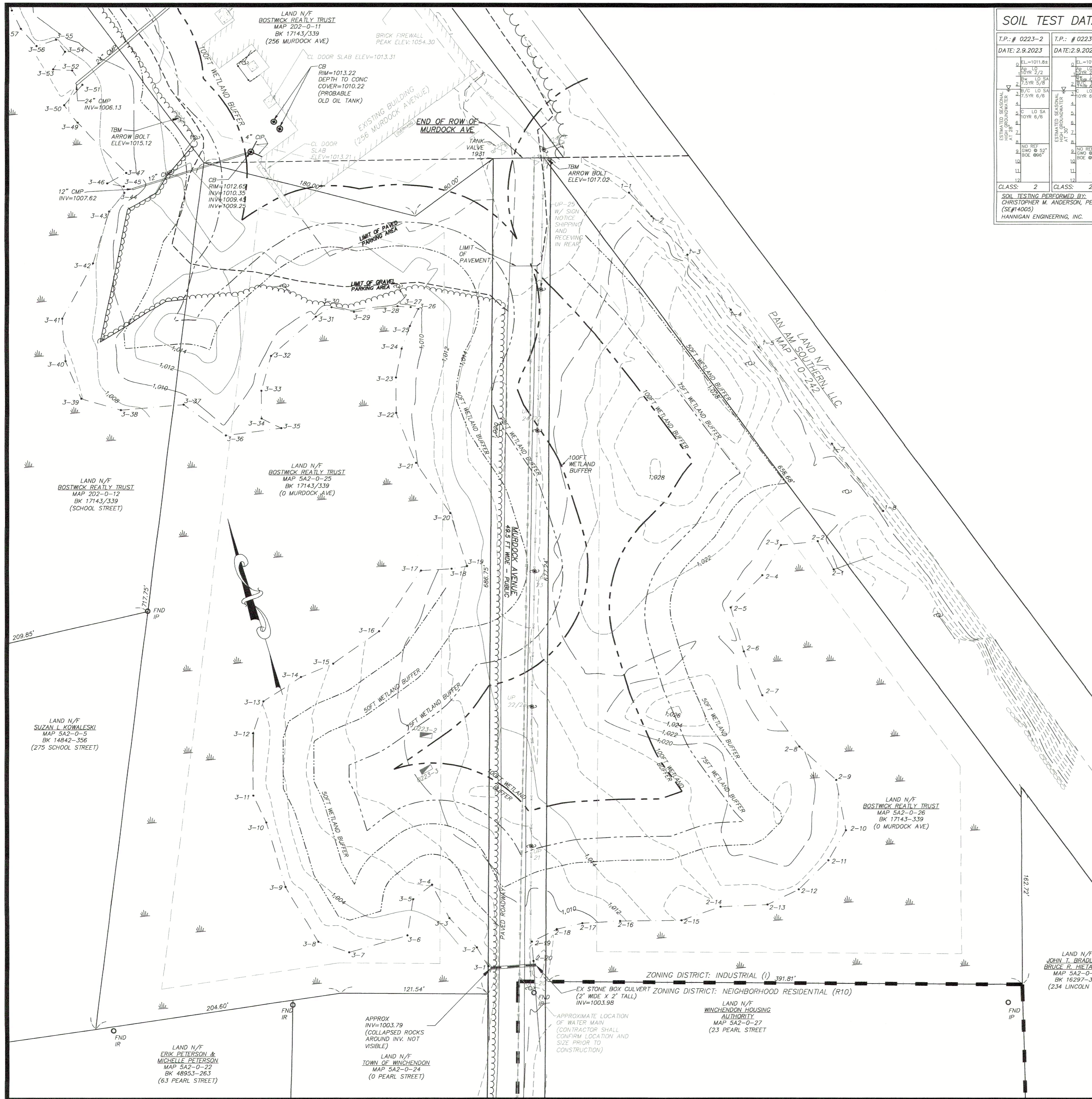
CIVIL ENGINEER & LAND SURVEYOR:

HANNIGAN ENGINEERING, INC.
8 MONUMENT SQUARE
LEOMINSTER, MASSACHUSETTS 01453
TEL: (978) 534-1234

PLAN INDEX

| | |
|-------------|---------------------------|
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| SHEET 3 | EROSION CONTROL PLAN |
| SHEET 4 | LANDSCAPE AND LAYOUT PLAN |
| SHEET 5 - 6 | CONSTRUCTION DETAILS |

PERMITTING SET - NOT FOR CONSTRUCTION



| SOIL TEST DATA | |
|---|---------------------------------------|
| T.P. # 0223-2 | T.P. # 0223-3 |
| DATE: 2.9.2023 | DATE: 2.9.2023 |
| ESTIMATED SEASONAL PROPHOMETER AT 30" | ESTIMATED SEASONAL PROPHOMETER AT 30" |
| CLASS: 2 | CLASS: 2 |
| SOIL TESTING PERFORMED BY: CHRISTOPHER M. ANDERSON, PE (SE#14005) HANNIGAN ENGINEERING, INC. | |



LOCUS MAP SCALE: 1" = 1000'

OWNER
BOSTWICK REALTY TRUST
256 MURDOCK AVENUE
WINCHENDON, MASSACHUSETTS

APPLICANT
ZP BATTERY DEVCO, LLC
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608

- PROJECT NOTES:**
- EARTHEN MATERIALS UTILIZED AS FILL WITHIN THE PROJECT AREA SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS AND SHALL NOT CONTAIN ANY HAZARDOUS MATERIALS.
 - PRIOR TO THE START OF CONSTRUCTION AND CLEARING ACTIVITIES, THE APPROVED LIMITS OF CONSTRUCTIONS SHALL BE FIELD STAKED AND REVIEWED BY THIS OFFICE UPON THE COMPLETION OF CONSTRUCTION CATCHBASINS, SUMPS AND STORMWATER BASINS OR BEST MANAGEMENT PRODUCTS (BMPs) SHALL BE CLEANED AND ANNUALLY THEREAFTER.
 - HAULING OF EARTHEN MATERIALS TO OR FROM THE CONSTRUCTION SITE SHALL BE LIMITED TO THE HOURS OF 9AM TO 4PM MONDAY THROUGH FRIDAY.
 - IMPERVIOUS COVERAGE FROM THE PROPOSED PROJECT SHALL BE COMPRISED OF CONCRETE AND CRUSHED STONE/GRAVEL FOR ACCESS WAYS.

PROJECT INFORMATION

| LAND INFORMATION | |
|---------------------------|--|
| MAP/PARCEL: | 5A2/25; 5A2/26 |
| DEED BOOK/PAGE: | 17143/339 |
| EXISTING FRONTAGE: | 686.75 FT (5A2/25); 677.24 FT (5A2/26) |
| EXISTING AREA: | 4.33 ACRES± (5A2/25); 3.67 ACRES± (5A2/26) |
| ZONING INFORMATION | |
| ZONING DISTRICT: | INDUSTRIAL |
| DIMENSIONAL REQUIREMENTS: | |
| MINIMUM AREA: | 43,560 SF |
| MINIMUM FRONTAGE: | 150 FEET |
| MAXIMUM HEIGHT: | 50 FT |
| MAXIMUM COVERAGE: | NA |
| MINIMUM SETBACKS: | |
| FRONT YARD: | 40 FT |
| SIDE YARD: | 25 FT |
| REAR YARD: | 50 FT |

- GENERAL NOTES:**
- PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN MAY OF 2022.
 - AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT HAVE BEEN DELINEATED BY LEG ENVIRONMENTAL CONSULTANTS IN FEBRUARY OF 2022. THESE AREAS ARE DEPICTED ON THE PLANS BASED ON FIELD SURVEY LOCATION DURING THE TOPOGRAPHIC SURVEY.
 - LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON VISIBLE STRUCTURES AT THE TIME OF THE FIELD SURVEY. LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR, MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION. (SEE NOTE)
 - NOTIFICATION REQUIREMENTS SHOWN ON THIS PLAN SHALL NOT RELIEVE THE CONTRACTOR OF ANY OTHER REQUIREMENTS WHICH MAY EXIST UNDER LOCAL, STATE, OR FEDERAL JURISDICTION TO WHICH THE CONTRACTOR IS OBLIGATED.
 - RELOCATION OF AND/OR CONNECTION TO EXISTING UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
 - UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE TOWN OF WINCHENDON AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
 - ALL SLOPES UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION.
 - ANY DEVIATIONS IN DESIGN AS SHOWN SHALL REQUIRE A REVIEW AND APPROVAL OF THE DESIGN ENGINEER OR FIRM. CHANGES MADE IN THE FIELD MADE WITHOUT AUTHORIZATION SHALL BE SUBJECT TO REVIEW BY THE ENGINEER AND APPROPRIATE APPROVING AUTHORITY. EXPENSES INCURRED TO BRING THE UNAUTHORIZED CHANGES TO ACCEPTABLE PERFORMANCE SHALL BE BORNE BY THE COMPANY OR CONTRACTOR MAKING THE UNAUTHORIZED CHANGE.
 - ANY MATERIALS DISCOVERED ON-SITE WHICH ARE NOT SUITABLE FOR USE IN THE PROJECT AS SHOWN ON THIS PLAN SHALL BE REMOVED AND HAULED OFF-SITE TO AN APPROPRIATELY LICENSED FACILITY.
 - PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.
 - APPLICANT SHOULD BE AWARE OF OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE ASSOCIATED REGULATIONS (310 CMR 10.00).
 - STOCKPILING OF MATERIAL SHALL NOT BE PERMITTED WITHIN ANY AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT WITHOUT PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION. STOCKPILES SHALL BE PLACED IN A SUITABLE LOCATION AND SURROUNDED BY A ROW OF STAKED HAY BALES FOR EROSION CONTROL.
 - AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.
 - ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
 - THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER FEMA FIRM PANEL #250348-0016B, DATED: JUNE 15, 1982. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
 - ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
 - PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
 - ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE TOWN OF WINCHENDON.

| LEGEND | |
|---------------------------|---------------------------|
| EXISTING | PROPOSED |
| 542 | 562 |
| CONTOURS | CONTOURS |
| PROPERTY LINES | PROPERTY LINES |
| DRAIN | DRAIN |
| SEWER | SEWER |
| WATER | WATER |
| ELEC/TELE/CABLE | ELEC/TELE/CABLE |
| OHW | OHW |
| ECT | ECT |
| EDGE OF PAVEMENT | EDGE OF PAVEMENT |
| CURBLINE | CURBLINE |
| EROSION CONTROL | EROSION CONTROL |
| STRAW MATS AND SILT FENCE | STRAW MATS AND SILT FENCE |
| TREELINE | TREELINE |
| WETLAND | WETLAND |
| WETLAND BUFFER ZONE | WETLAND BUFFER ZONE |
| HYDRANTS | HYDRANTS |
| SIGNS | SIGNS |
| LIGHTPOLE | LIGHTPOLE |

APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

| WINCHENDON PLANNING BOARD | | |
|---------------------------|--|--|
| DATE: | | |

David LoRoy No. 47418 REGISTERED PROFESSIONAL LAND SURVEYOR

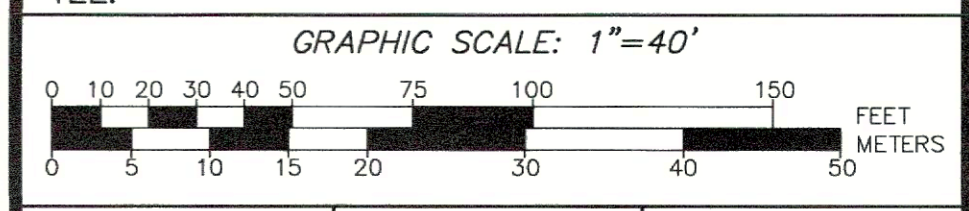
David LoRoy 7-10-23

HANNIGAN ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS

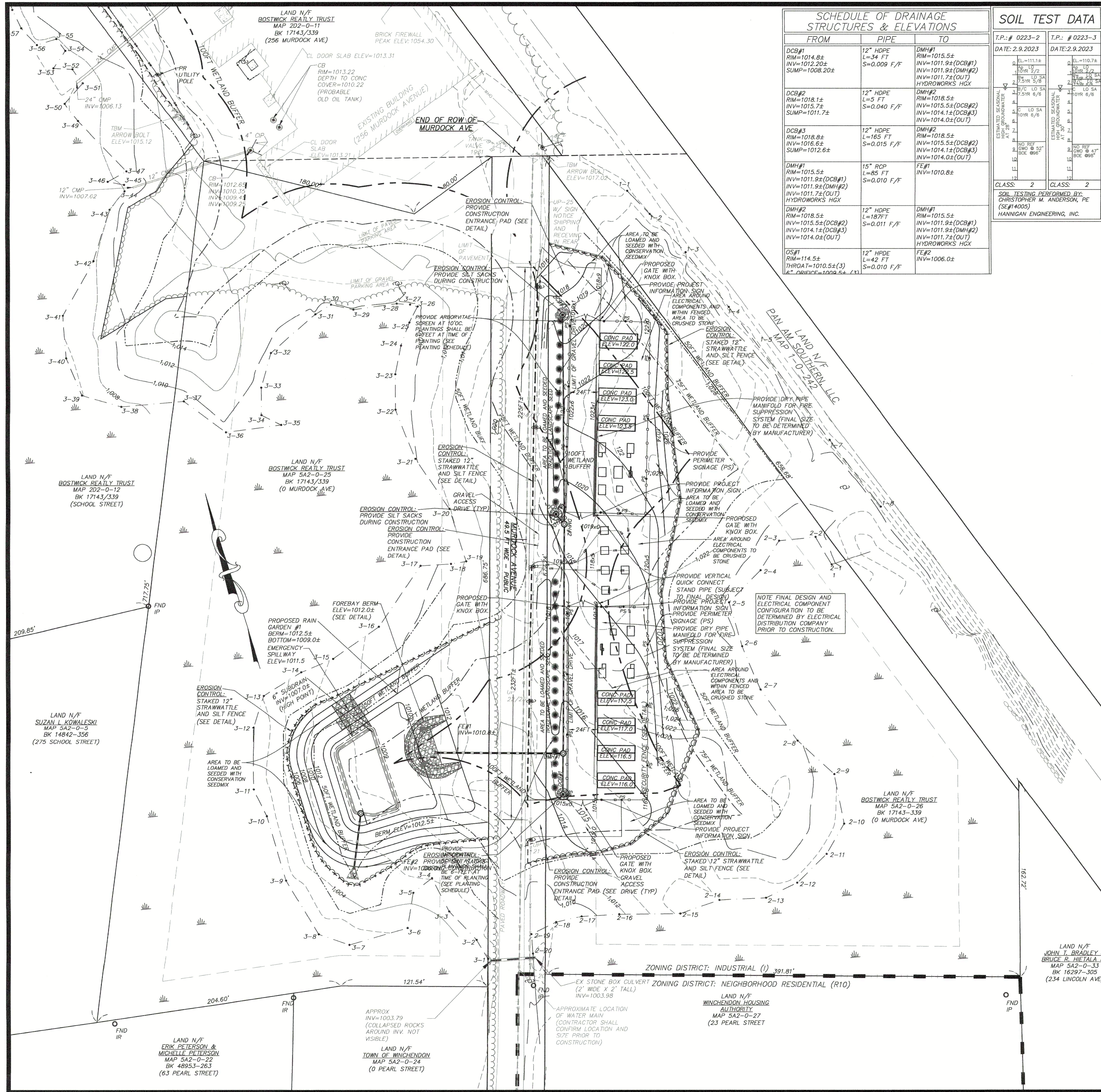
8 MONUMENT SQUARE (978) 534-1234 (T)
LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (F)
WWW.HANNIGANENGINEERING.COM

EXISTING CONDITIONS PLAN
IN
WINCHENDON, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
PETE FORTE
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608
TEL:



| | | |
|---------------|--------------|--------------------|
| CALC: DJL | DRWN: DJL | SCALE: 1" = 40' |
| CHKD: WDH | APPD: DJL | DATE: MAR 27, 2023 |
| SRV: JEF | FB: 75-130 | JOB NO: 3101 |
| TAB: (1)EXOND | SHEET 1 OF 6 | PLAN NO: C-18-41 |



| SCHEDULE OF DRAINAGE STRUCTURES & ELEVATIONS | | |
|---|-------------------------------------|---|
| FROM | PIPE | TO |
| DCB#1 RIM=1014.8± INV=1012.20± SUMP=1008.20± | 12" HDPE L=34 FT S=0.009 F/F | DMH#1 RIM=1015.5± INV=1011.9±(DCB#1) INV=1011.7±(DMH#2) HYDROWORKS HX |
| DCB#2 RIM=1018.1± INV=1015.7± SUMP=1011.7± | 12" HDPE L=5 FT S=0.040 F/F | DMH#2 RIM=1018.5± INV=1015.5±(DCB#2) INV=1011.7±(DMH#2) INV=1014.0±(OUT) |
| DCB#3 RIM=1018.8± INV=1016.6± SUMP=1012.6± | 12" HDPE L=165 FT S=0.015 F/F | DMH#2 RIM=1018.5± INV=1015.5±(DCB#2) INV=1014.1±(DCB#3) INV=1014.0±(OUT) |
| DMH#1 RIM=1015.5± INV=1011.9±(DCB#1) INV=1011.7±(DMH#2) INV=1011.7±(OUT) HYDROWORKS HX | 15" ROP L=85 FT S=0.010 F/F | FE#1 INV=1010.8± |
| DMH#2 RIM=1018.5± INV=1015.5±(DCB#2) INV=1014.1±(DCB#3) INV=1014.0±(OUT) | 12" HDPE L=187 FT S=0.011 F/F | DMH#1 RIM=1015.5± INV=1011.9±(DCB#1) INV=1011.7±(DMH#2) INV=1011.7±(OUT) HYDROWORKS HX |
| OS#1 RIM=114.5± THROAT=1010.5±(3) 6" DRIVE=1009.5±(3) | 12" HDPE L=42 FT S=0.010 F/F | FE#2 INV=1006.0± |

| SOIL TEST DATA | |
|---|---|
| T.P. # 0223-2 | T.P. # 0223-3 |
| DATE: 2.9.2023 | DATE: 2.9.2023 |
| 0. EL=111.1± 1. EL=110.7± 2. EL=110.7± 3. EL=110.7± 4. EL=110.7± 5. EL=110.7± 6. EL=110.7± 7. EL=110.7± 8. EL=110.7± 9. EL=110.7± 10. EL=110.7± 11. EL=110.7± 12. EL=110.7± | 0. EL=110.7± 1. EL=110.7± 2. EL=110.7± 3. EL=110.7± 4. EL=110.7± 5. EL=110.7± 6. EL=110.7± 7. EL=110.7± 8. EL=110.7± 9. EL=110.7± 10. EL=110.7± 11. EL=110.7± 12. EL=110.7± |
| CLASS: 2 | CLASS: 2 |
| SOIL TESTING PERFORMED BY: CHRISTOPHER M. ANDERSON, PE (SE#14005) HANNIGAN ENGINEERING, INC. | |



PROJECT INFORMATION

LAND INFORMATION
 MAP/PARCEL: 5A2/25, 5A2/26
 DEED BOOK/PAGE: 17143/339
 EXISTING FRONTAGE: 686.75 FT (5A2/25); 677.24 FT (5A2/26)
 EXISTING AREA: 4.33 ACRES± (5A2/25); 3.67 ACRES± (5A2/26)

ZONING INFORMATION
 ZONING DISTRICT: INDUSTRIAL
 DIMENSIONAL REQUIREMENTS:
 MINIMUM AREA: 43,560 SF
 MINIMUM FRONTAGE: 150 FEET
 MAXIMUM HEIGHT: 50 FT
 MAXIMUM COVERAGE: NA
 MINIMUM SETBACKS:
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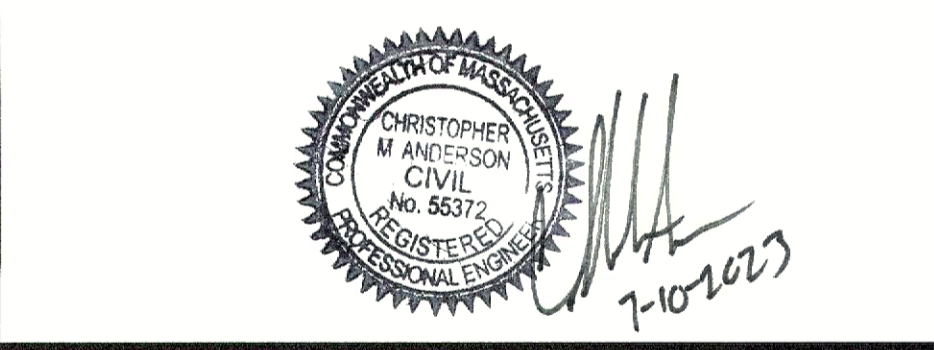
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 12. STOCKPILING OF MATERIAL SHALL NOT BE PERMITTED WITHIN ANY AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT WITHOUT PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION. STOCKPILES SHALL BE PLACED IN A SUITABLE LOCATION AND SURROUNDED BY A ROW OF STAKED HAY BALES FOR EROSION CONTROL.
 13. AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.
 14. ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED SIDEWALKS.
 15. THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M.A. FIRM PANEL 82034S-0168, DATED: JUNE 15, 1982. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
 16. ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
 17. PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
 18. ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE TOWN OF WINCHENDON.

OWNER
 BOSTWICK REALTY TRUST
 256 MURDOCK AVENUE
 WINCHENDON, MASSACHUSETTS

ARCHITECT
 ZP BATTERY DEVCO, LLC
 1 MERCANTILE STREET, SUITE 630
 WORCESTER, MASSACHUSETTS 01608

- PROJECT NOTES:**
- EARTHEN MATERIALS UTILIZED AS FILL WITHIN THE PROJECT AREA SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS AND SHALL NOT CONTAIN ANY HAZARDOUS MATERIALS
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 - IMPERVIOUS COVERAGE FROM THE PROPOSED PROJECT SHALL BE COMPRISED OF CONCRETE AND CRUSHED STONE/GRAVEL FOR ACCESS WAYS.

| NO. | DATE | REVISIONS | BY |
|-----|-----------|-------------------------------|-----|
| 1 | 7/10/2023 | PEER REVIEW AND BOARD COMMENT | CMA |



HANNIGAN ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8 MONUMENT SQUARE
 LEOMINSTER, MASSACHUSETTS 01453
 (978) 534-1234 (T)
 (978) 534-6060 (F)
 WWW.HANNIGANENGINEERING.COM

LEGEND

| EXISTING | PROPOSED |
|-------------------------------|-------------------------------|
| — S42 | — 560 |
| — CONTOURS | — CONTOURS |
| — PROPERTY LINES | — PROPERTY LINES |
| — DRAIN | — DRAIN |
| — SEWER | — SEWER |
| — WATER | — WATER |
| — ELEC/TELE/CABLE | — ELEC/TELE/CABLE |
| — ELEC/TELE/CABLE | — ELEC/TELE/CABLE |
| — CURBLINE | — CURBLINE |
| — EDGE OF PAVEMENT | — EDGE OF PAVEMENT |
| — EROSION CONTROL | — EROSION CONTROL |
| — STRAW WATTLE AND SILT FENCE | — STRAW WATTLE AND SILT FENCE |
| — TREELINE | — TREELINE |
| — WETLAND | — WETLAND |
| — WETLAND BUFFER ZONE | — WETLAND BUFFER ZONE |
| — HYDRANTS | — HYDRANTS |
| — SIGNS | — SIGNS |
| — LIGHTPOLE | — LIGHTPOLE |

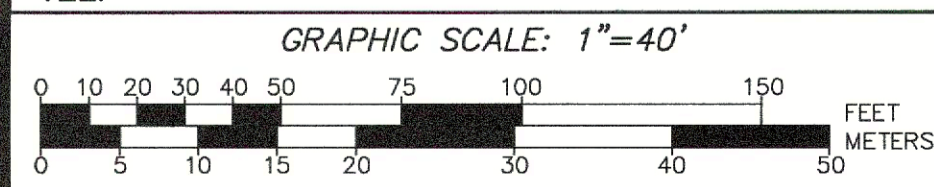
APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

WINCHENDON PLANNING BOARD

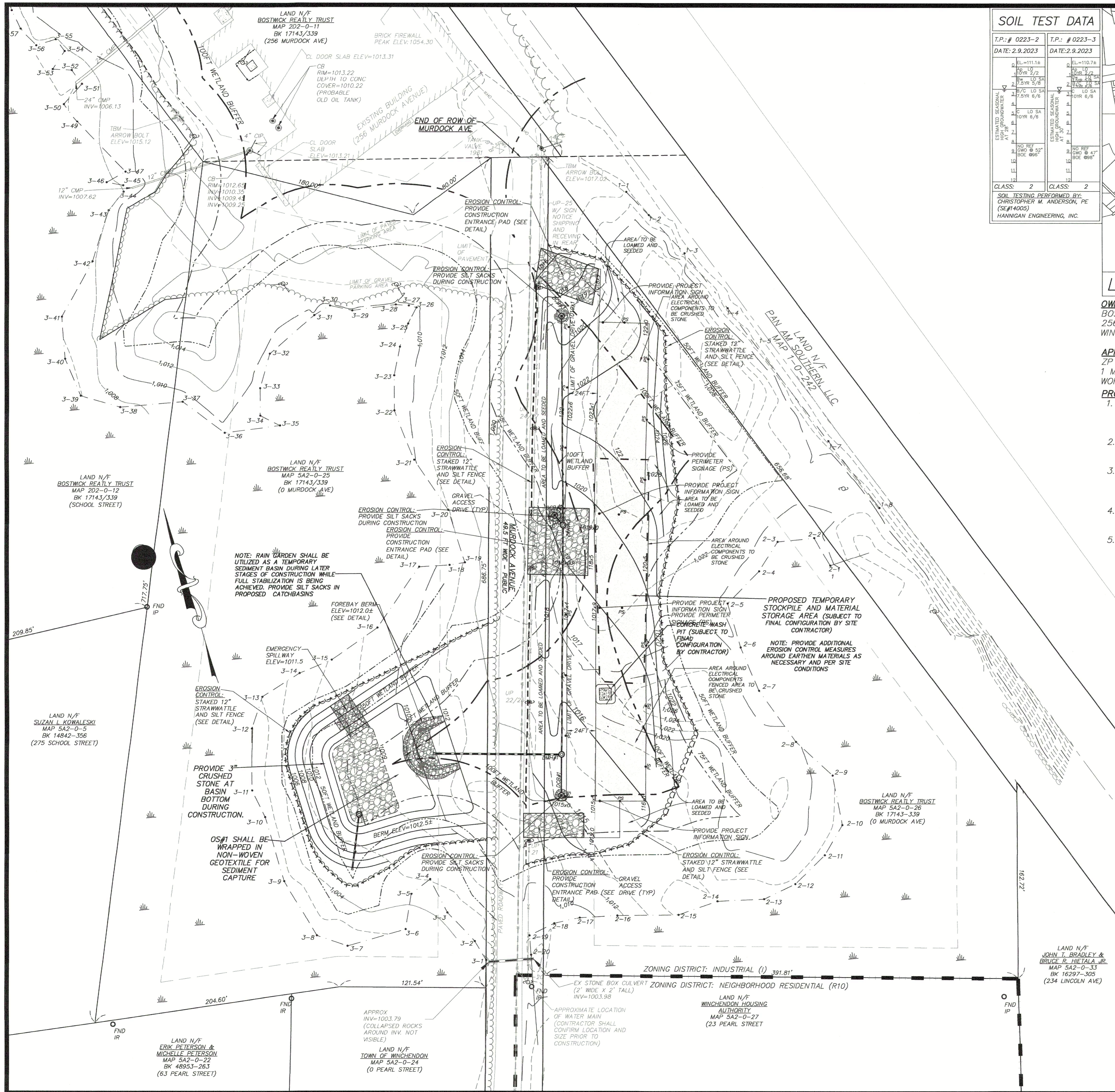
| | |
|-------|--|
| DATE: | |
|-------|--|

SITE DEVELOPMENT PLAN IN WINCHENDON, MASSACHUSETTS

PREPARED FOR:
 ZP BATTERY DEVCO, LLC
 PETE FORTE
 1 MERCANTILE STREET, SUITE 630
 WORCESTER, MASSACHUSETTS 01608
 TEL:



| | | |
|--------------|--------------|--------------------|
| CALC: CMA | DRWN: CMA | SCALE: 1"=40' |
| CHKD: WDH | APPD: CMA | DATE: MAR 27, 2023 |
| SRV: JEF | FB: 75-130 | JOB NO: 3101 |
| TAB: (2) SDO | SHEET 2 OF 6 | PLAN NO: 08-141 |



| T.P. # | DATE | T.P. # | DATE | | | | | | | | | | | | | | |
|---|----------------------------------|---|----------------------------------|----------------------------------|--------|--------|--------|--------|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------|--------|--------|--------|
| #0223-2 | 2.9.2023 | #0223-3 | 2.9.2023 | | | | | | | | | | | | | | |
| <table border="1"> <tr> <th>EST. SEASONAL FROST DEPTH AT 20"</th> <th>EST. SEASONAL FROST DEPTH AT 48"</th> <th>EST. SEASONAL FROST DEPTH AT 72"</th> <th>EST. SEASONAL FROST DEPTH AT 96"</th> </tr> <tr> <td>1.5 FT</td> <td>2.5 FT</td> <td>3.5 FT</td> <td>4.5 FT</td> </tr> </table> | EST. SEASONAL FROST DEPTH AT 20" | EST. SEASONAL FROST DEPTH AT 48" | EST. SEASONAL FROST DEPTH AT 72" | EST. SEASONAL FROST DEPTH AT 96" | 1.5 FT | 2.5 FT | 3.5 FT | 4.5 FT | <table border="1"> <tr> <th>EST. SEASONAL FROST DEPTH AT 20"</th> <th>EST. SEASONAL FROST DEPTH AT 48"</th> <th>EST. SEASONAL FROST DEPTH AT 72"</th> <th>EST. SEASONAL FROST DEPTH AT 96"</th> </tr> <tr> <td>1.5 FT</td> <td>2.5 FT</td> <td>3.5 FT</td> <td>4.5 FT</td> </tr> </table> | EST. SEASONAL FROST DEPTH AT 20" | EST. SEASONAL FROST DEPTH AT 48" | EST. SEASONAL FROST DEPTH AT 72" | EST. SEASONAL FROST DEPTH AT 96" | 1.5 FT | 2.5 FT | 3.5 FT | 4.5 FT |
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| 1.5 FT | 2.5 FT | 3.5 FT | 4.5 FT | | | | | | | | | | | | | | |
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| 1.5 FT | 2.5 FT | 3.5 FT | 4.5 FT | | | | | | | | | | | | | | |
| CLASS: 2 | CLASS: 2 | SOIL TESTING PERFORMED BY: CHRISTOPHER M. ANDERSON, PE (S#14005) HANNIGAN ENGINEERING, INC. | | | | | | | | | | | | | | | |

PROJECT INFORMATION

| LAND INFORMATION | ZONING INFORMATION |
|---|--|
| MAP PARCEL: 542/26, 542/26 DEED BOOK/PAGE: 17143/339 EXISTING FRONTAGE: 686.75 FT (5A2/25); 677.24 FT (5A2/26) EXISTING AREA: 4.33 ACRES ² (5A2/25); 3.67 ACRES ² (5A2/26) | ZONING DISTRICT: INDUSTRIAL DIMENSIONAL REQUIREMENTS: MINIMUM AREA: 43,560 SF MINIMUM FRONTAGE: 150 FEET MAXIMUM HEIGHT: 50 FT MAXIMUM COVERAGE: NA MINIMUM SETBACKS: FRONT YARD: 40 FT SIDE YARD: 25 FT REAR YARD: 50 FT |

GENERAL NOTES:

1. PROPERTY LINE INFORMATION BASED DEEDS AND PLANS OF RECORD. NO CERTIFICATION OF PROPERTY LINES SHOWN ON THIS PLAN IS INTENDED OR IMPLIED BY HANNIGAN ENGINEERING, INC. TOPOGRAPHIC INFORMATION IS THE RESULT OF AN ON-THE-GROUND TOPOGRAPHIC SURVEY BY HANNIGAN ENGINEERING, INC. IN MAY OF 2022.
2. AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT HAVE BEEN DELINEATED BY IEC ENVIRONMENTAL CONSULTANTS IN FEBRUARY OF 2022. THESE AREAS ARE DELETED ON THE PLANS BASED ON FIELD SURVEY LOCATION DURING THE TOPOGRAPHIC SURVEY.
3. LOCATION OF ALL UTILITIES ARE APPROXIMATE AS SHOWN AND BASED UPON VISIBLE STRUCTURES AT THE TIME OF THE FIELD SURVEY. LOCATION OF EXISTING UTILITIES AND SUBSURFACE STRUCTURES, WHETHER OR NOT SHOWN ON THESE PLANS, SHALL BE DETERMINED BY THE CONTRACTOR, MARKED IN THE FIELD, AND REVIEWED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL BE AWARE OF THE OBLIGATION TO ALL UTILITY COMPANIES AND AGENCY AS WELL AS DIG-SAFE PRIOR TO EXCAVATION. (SEE NOTE)
4. NOTIFICATION REQUIREMENTS SHOWN ON THIS PLAN SHALL NOT RELIEVE THE CONTRACTOR OF ANY OTHER REQUIREMENTS WHICH MAY EXIST UNDER LOCAL, STATE, OR FEDERAL JURISDICTION TO WHICH THE CONTRACTOR IS OBLIGATED.
5. RELOCATION OF AND/OR CONNECTION TO EXISTING UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PROVISIONS OF THE APPROPRIATE UTILITY COMPANY AND/OR REGULATORY AGENCY.
6. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE REQUIREMENTS OF THE TOWN OF WINCHENDON AND THE MASS DOT SPECIFICATIONS OF HIGHWAYS AND BRIDGES.
7. ALL SLOPES UNLESS OTHERWISE SPECIFIED, SHALL BE LOAMED AND SEEDED FOR STABILIZATION.
8. ANY DEVIATIONS IN DESIGN AS SHOWN SHALL REQUIRE A REVIEW AND APPROVAL OF THE DESIGN ENGINEER OR FIRM. CHANGES MADE IN THE FIELD MADE WITHOUT AUTHORIZATION SHALL BE SUBJECT TO REVIEW BY THE ENGINEER AND APPROPRIATE APPROVING AUTHORITY. EXPENSES INCURRED TO BRING THE UNAUTHORIZED CHANGES TO ACCEPTABLE CONFORMANCE SHALL BE BORNE BY THE COMPANY OR CONTRACTOR MAKING THE UNAUTHORIZED CHANGE.
9. ANY MATERIALS DISCOVERED ON-SITE WHICH ARE NOT SUITABLE FOR USE IN THE PROJECT AS SHOWN ON THIS PLAN SHALL BE REMOVED AND HAULLED OFF-SITE TO AN APPROPRIATELY LICENSED FACILITY.
10. PLANS TO BE REVIEWED BY APPLICABLE UTILITY AGENCIES FOR COMPLIANCE WITH REGULATIONS. FINAL LOCATION IS SUBJECT TO CHANGE.
11. APPLICANT SHOULD BE AWARE OF OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND THE ASSOCIATED REGULATIONS (310 CMR 10.00)
12. STOCKPILES OF MATERIAL SHALL NOT BE PERMITTED WITHIN ANY AREAS SUBJECT TO PROTECTION UNDER THE WETLANDS PROTECTION ACT WITHOUT PRIOR APPROVAL BY THE LOCAL CONSERVATION COMMISSION. STOCKPILES SHALL BE PLACED IN A SUITABLE LOCATION AND SURROUNDED BY A ROW OF STAKED HAY BALES FOR EROSION CONTROL.
13. AREAS OF FILL TO BE COMPACTED TO A MINIMUM 95% DRY DENSITY IN AREAS WITHIN ROADWAYS AND UTILITY EASEMENTS. OTHER AREAS OF FILL TO BE COMPACTED TO A MINIMUM 90% DRY DENSITY. ALL FILL MATERIALS ARE TO BE CLEAN FILL, FREE OF DELETERIOUS MATERIALS AND DEBRIS.
14. ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
15. THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER F.E.M.A. FIRM PANEL 2203449-0016B, DATED: JUNE 15, 1982. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
16. ALL REINFORCED CONCRETE PIPE TO BE CLASS III UNLESS OTHERWISE NOTED.
17. PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
18. ALL UTILITIES ARE TO BE INSTALLED BY A LICENSED UTILITY CONTRACTOR LICENSED BY THE TOWN OF WINCHENDON.

LOCUS MAP SCALE: 1" = 1000'

OWNER:
 BOSTWICK REALTY TRUST
 256 MURDOCK AVENUE
 WINCHENDON, MASSACHUSETTS

APPLICANT:
 ZP BATTERY DEVCO, LLC
 1 MERCANTILE STREET, SUITE 630
 WORCESTER, MASSACHUSETTS 01608

PROJECT NOTES:

1. EARTHEN MATERIALS UTILIZED AS FILL WITHIN THE PROJECT AREA SHALL BE CLEAN AND FREE OF DELETERIOUS MATERIALS AND SHALL NOT CONTAIN ANY HAZARDOUS MATERIALS.
2. PRIOR TO THE START OF CONSTRUCTION AND CLEARING ACTIVITIES, THE APPROVED LIMITS OF CONSTRUCTIONS SHALL BE FIELD STAKED AND REVIEWED BY THIS OFFICE UPON THE COMPLETION OF CONSTRUCTION CATCHBASINS, SUMPS AND STORMWATER BASINS OR BEST MANAGEMENT PRODUCTS (BMPs) SHALL BE CLEANED AND ANNUALLY THEREAFTER.
3. HAULING OF EARTHEN MATERIALS TO OR FROM THE CONSTRUCTION SITE SHALL BE LIMITED TO THE HOURS OF 9AM TO 4PM MONDAY THROUGH FRIDAY.
4. IMPERVIOUS COVERAGE FROM THE PROPOSED PROJECT SHALL BE COMPRISED OF CONCRETE AND CRUSHED STONE/GRAVEL FOR ACCESS WAYS.

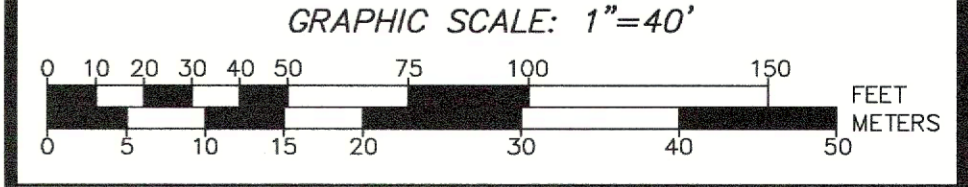
| NO. | DATE | REVISIONS | BY |
|-----|-----------|-------------------------------|-----|
| 1 | 7/10/2023 | PEER REVIEW AND BOARD COMMENT | CMA |



HANNIGAN ENGINEERING, INC.
 CIVIL ENGINEERS & LAND SURVEYORS
 8 MONUMENT SQUARE
 LEXINGTON, MASSACHUSETTS 01453
 (978) 534-1234 (T)
 (978) 534-6060 (F)
 WWW.HANNIGANENGINEERING.COM

EROSION CONTROL PLAN
 IN
WINCHENDON, MASSACHUSETTS

PREPARED FOR:
 ZP BATTERY DEVCO, LLC
 PETE FORTE
 1 MERCANTILE STREET, SUITE 630
 WORCESTER, MASSACHUSETTS 01608
 TEL:



| CALC: | DRWN: | SCALE: |
|-----------------|--------------|--------------------|
| CMA | CMA | 1" = 40' |
| CHKD: WDH | APPD: CMA | DATE: MAR 27, 2023 |
| SRV: JEF | FB: 75-130 | JOB NO: 3101 |
| TAB: (3)EROSION | SHEET 3 OF 6 | PLAN NO: C-18-41 |

LEGEND

| EXISTING | PROPOSED |
|---|---|
| 542 | 562 |
| CONTOURS | CONTOURS |
| PROPERTY LINES | PROPERTY LINES |
| DRAIN | DRAIN |
| SEWER | SEWER |
| WATER | WATER |
| OHW | OHW |
| ELEC./TELE/CABLE | ELEC./TELE/CABLE |
| ECT | ECT |
| EDGE OF PAVEMENT | EDGE OF PAVEMENT |
| CURBLINE | CURBLINE |
| EROSION CONTROL STRAW WATTLE AND SILT FENCE | EROSION CONTROL STRAW WATTLE AND SILT FENCE |
| TREELINE | TREELINE |
| WETLAND BUFFER ZONE | WETLAND BUFFER ZONE |
| HYDRANTS | HYDRANTS |
| SIGNS | SIGNS |
| LIGHTPOLE | LIGHTPOLE |

APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

WINCHENDON PLANNING BOARD

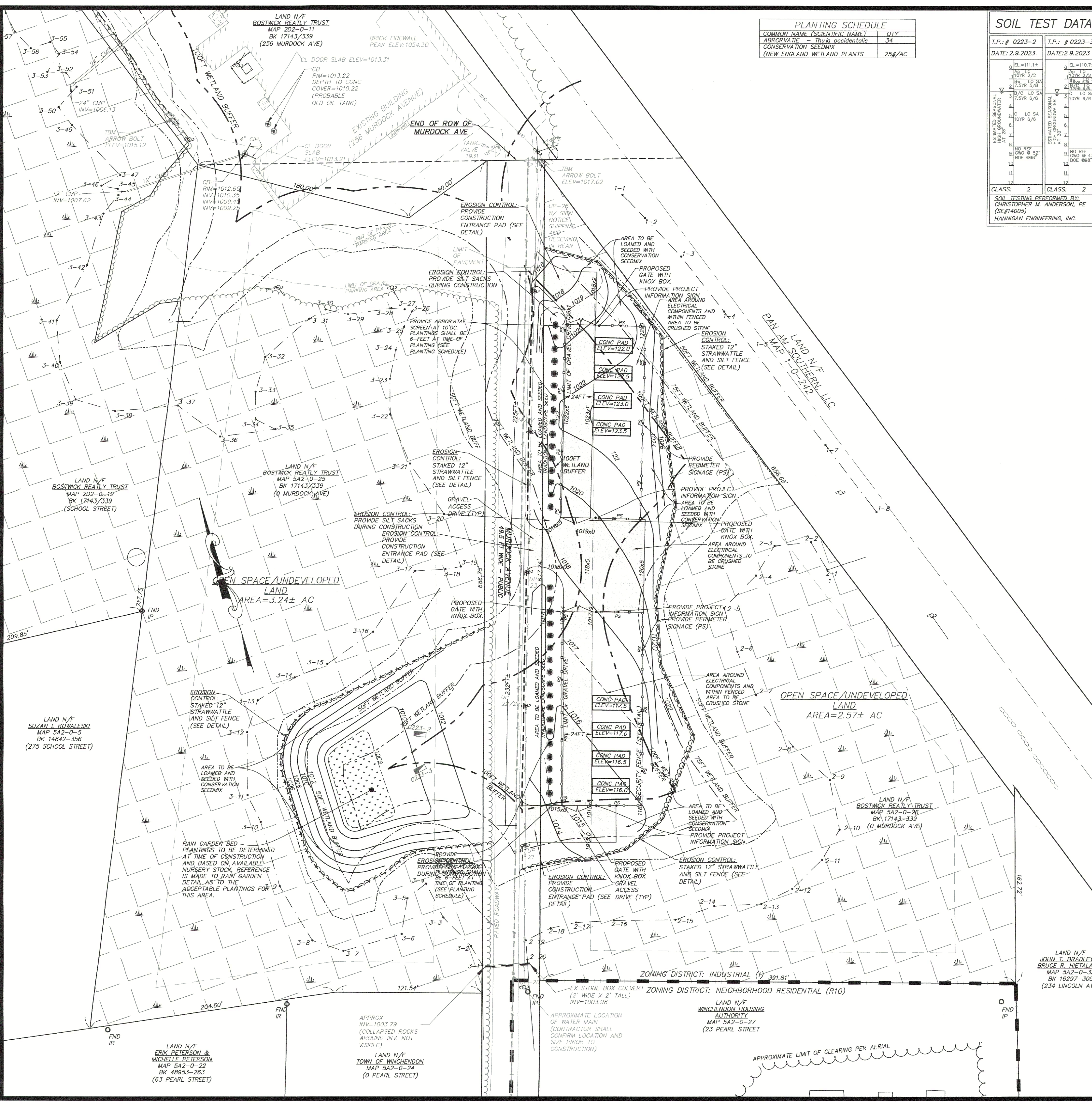
DATE: _____

LAND N/F JOHN T. BRADLEY & BRUCE R. HIETALA JR.
 MAP 5A2-0-33
 BK 16297-305
 (234 LINCOLN AVE)

LAND N/F WINCHENDON HOUSING AUTHORITY
 MAP 5A2-0-27
 (23 PEARL STREET)

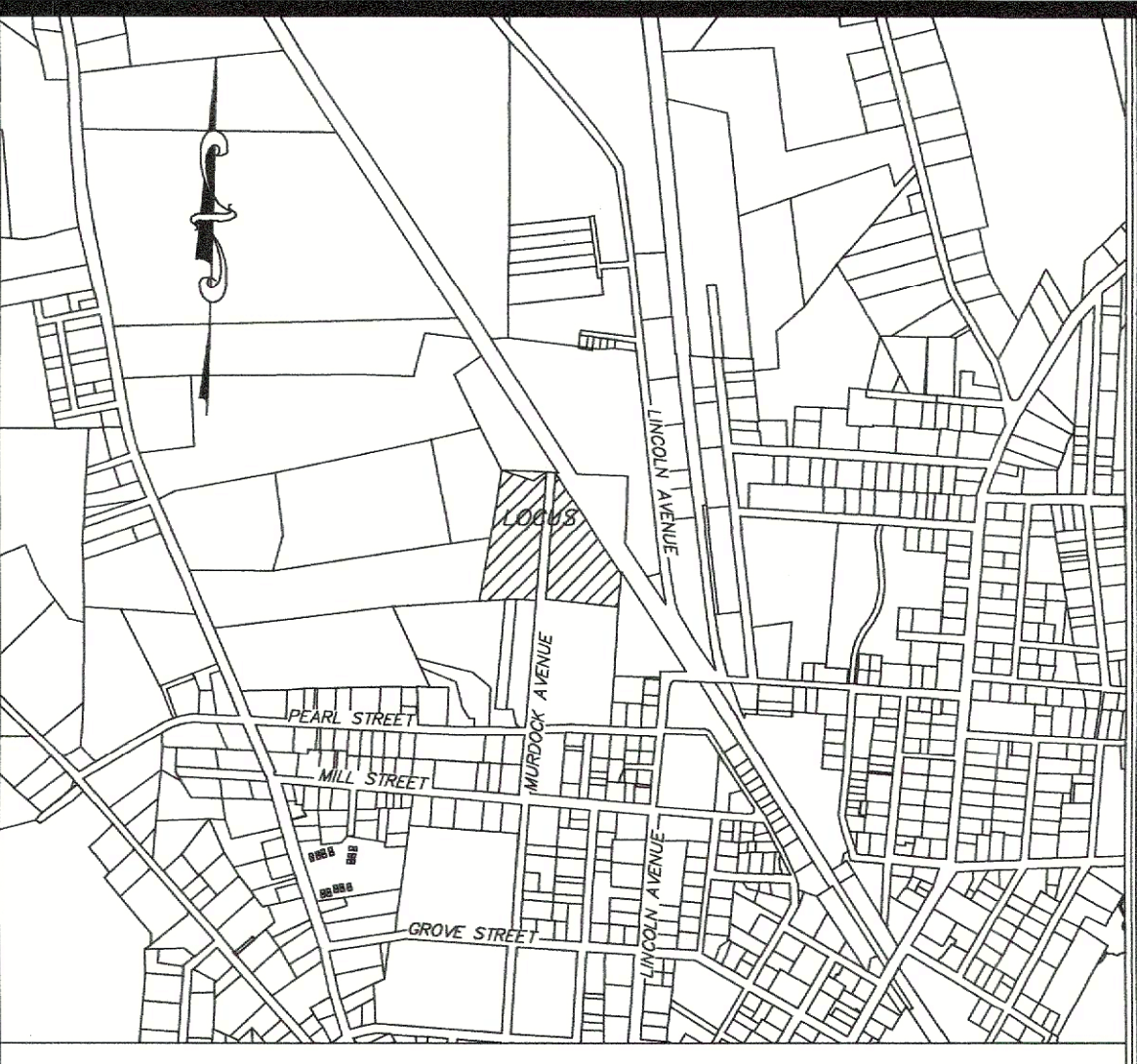
LAND N/F ERIK PETERSON & MICHELLE PETERSON
 MAP 5A2-0-22
 BK 48953-263
 (63 PEARL STREET)

LAND N/F TOWN OF WINCHENDON
 MAP 5A2-0-24
 (0 PEARL STREET)



| PLANTING SCHEDULE | |
|---|--------|
| COMMON NAME (SCIENTIFIC NAME) | QTY |
| ABRORVATIE (<i>Thuja occidentalis</i>) | 34 |
| CONSERVATION SEEDMIX (NEW ENGLAND WETLAND PLANTS) | 25#/AC |

| SOIL TEST DATA | |
|--|--|
| T.P.: # 0223-2 | T.P.: # 0223-3 |
| DATE: 2.9.2023 | DATE: 2.9.2023 |
| ESTIMATED SEASONAL AT 30" AT 30" DEPTH | ESTIMATED SEASONAL AT 30" AT 30" DEPTH |
| CLASS: 2 | CLASS: 2 |
| SOIL TESTING PERFORMED BY: CHRISTOPHER M. ANDERSON, PE (SE#14005) HANNIGAN ENGINEERING, INC. | |



PROJECT INFORMATION

| LAND INFORMATION | |
|--------------------|--|
| MAP/PARCEL: | 5A2/25, 5A2/26 |
| DEED BOOK/PAGE: | 17143, 339 |
| EXISTING FRONTAGE: | 686.75 FT (5A2/25); 677.24 FT (5A2/26) |
| EXISTING AREA: | 4.33 ACRES± (5A2/25); 3.67 ACRES± (5A2/26) |

| ZONING INFORMATION | |
|---------------------------|------------|
| ZONING DISTRICT: | INDUSTRIAL |
| DIMENSIONAL REQUIREMENTS: | |
| MINIMUM AREA: | 43,560 SF |
| MINIMUM FRONTAGE: | 150 FEET |
| MAXIMUM HEIGHT: | 50 FT |
| MAXIMUM COVERAGE: | NA |
| MINIMUM SETBACKS: | |
| FRONT YARD: | 40 FT |
| SIDE YARD: | 25 FT |
| REAR YARD: | 50 FT |

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- ALL SIDEWALKS AND RAMPS TO CONFORM TO REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA), AS REQUIRED. SEE ARCHITECTURAL PLANS FOR CONFORMANCE REQUIREMENTS FOR PROPOSED BUILDINGS.
- THE AREA PROPOSED FOR DEVELOPMENT IS NOT WITHIN A 100 YEAR FLOOD PLAIN PER FEMA FIRM PANEL #250348-0068, DATED: JUNE 15, 1982. COMPLIANCE WITH APPLICABLE REGULATIONS IS REQUIRED.
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OWNER

BOSTWICK REALTY TRUST
256 MURDOCK AVENUE
WINCHENDON, MASSACHUSETTS

APPLICANT

ZP BATTERY DEVCO, LLC
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608

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| NO. | DATE | REVISIONS | BY | CMA |
|-----|-----------|-------------------------------|----|-----|
| 1 | 7/10/2023 | PEER REVIEW AND BOARD COMMENT | | |



HANNIGAN ENGINEERING, INC.

CIVIL ENGINEERS & LAND SURVEYORS

8 MONUMENT SQUARE (978) 534-1234 (T)
LEOMINSTER, MASSACHUSETTS 01453 (978) 534-6060 (F)
WWW.HANNIGANENGINEERING.COM

LANDSCAPING & LAYOUT PLAN

IN
WINCHENDON, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
PETE FORTIE
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608

TELE: _____
GRAPHIC SCALE: 1" = 40'
0 10 20 30 40 50 75 100 150 FEET
0 5 10 15 20 30 40 50 METERS

| | | |
|--------------|--------------|--------------------|
| CALC: CMA | DRWN: CMA | SCALE: 1"=40' |
| CHKD: WDH | APPD: CMA | DATE: MAR 27, 2023 |
| SRV: JEF | FB: 75-130 | JOB NO: 3101 |
| TAB: (4) LLB | SHEET 4 OF 6 | PLAN NO: C-18-41 |

| LEGEND | |
|-----------------------------|-----------------------------|
| EXISTING | PROPOSED |
| 542 | 560 |
| CONTOURS | CONTOURS |
| PROPERTY LINES | PROPERTY LINES |
| DRAIN | DRAIN |
| SEWER | SEWER |
| WATER | WATER |
| ELEC/TELE/CABLE | ELEC/TELE/CABLE |
| EDGE OF PAVEMENT | EDGE OF PAVEMENT |
| CURBLINE | CURBLINE |
| EROSION CONTROL | EROSION CONTROL |
| STRAW WATTLE AND SILT FENCE | STRAW WATTLE AND SILT FENCE |
| TREELINE | TREELINE |
| WETLAND BUFFER ZONE | WETLAND BUFFER ZONE |
| HYDRANTS | HYDRANTS |
| SIGNS | SIGNS |
| LIGHTPOLE | LIGHTPOLE |

APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

| WINCHENDON PLANNING BOARD | |
|---------------------------|--|
| DATE: | |

LAND N/F
JOHN T. BRADLEY &
BRUCE R. HETZEL, JR.
MAP 5A2-0-33
BK 16297-305
(234 LINCOLN AVE)

ZONING DISTRICT: INDUSTRIAL (I)
ZONING DISTRICT: NEIGHBORHOOD RESIDENTIAL (R10)

APPROX
INV=1003.79
(COLLAPSED ROCKS
AROUND INV. NOT
VISIBLE)

LAND N/F
ERIK PETERSON &
MICHELLE PETERSON
MAP 5A2-0-22
BK 48933-263
(63 PEARL STREET)

APPROXIMATE LOCATION
OF WATER MAIN
(CONTRACTOR SHALL
CONFIRM LOCATION AND
SIZE PRIOR TO
CONSTRUCTION)

LAND N/F
WINCHENDON HOUSING
AUTHORITY
MAP 5A2-0-27
BK 17143-339
(23 PEARL STREET)

APPROXIMATE LIMIT OF CLEARING PER AERIAL

EROSION & SEDIMENTATION CONTROL PLAN

GENERAL:
 1. THE PURPOSE OF THIS PLAN IS TO PRESENT A PREVENTIVE METHOD OF CONSTRUCTION TO MINIMIZE THE IMPACT OF THE CONSTRUCTION ACTIVITIES UPON THE WETLANDS AND OTHER SENSITIVE AREAS. THE DATA CONTAINED ON THIS PLAN IS INTENDED TO SUPPLEMENT THE DEVELOPER OR CONTRACTORS' EXPERISE AND IS NOT MEANT TO CIRCUMVENT LOGICAL DECISIONS REQUIRED BY A VARIETY OF FIELD CONDITIONS INCLUDING WEATHER AND THE TYPE OF EQUIPMENT AVAILABLE TO THE CONTRACTOR.
 2. THE CONTRACTOR IS TO BE AWARE OF THE REQUIREMENTS AND OBLIGATIONS TO COMPLY WITH CHAPTER 131, SECTION 40 OF THE MASSACHUSETTS GENERAL LAWS, OTHERWISE KNOWN AS THE WETLANDS PROTECTION ACT, AND ITS ASSOCIATED REGULATIONS (310 CMR 10.00) CERTAIN PERMITS IN THE FORM OF AN ORDER OF CONDITIONS, OR OTHER FORMAT, MAY BE REQUIRED FOR THE CONSTRUCTION AS DEPICTED ON THIS PLAN. THESE PERMITS SHALL BE REVIEWED AND ADHERED TO BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ALSO MAINTAIN COPIES OF ALL PERMITS ON SITE AT ALL TIMES.
 3. IF CHANGES IN THE PROJECT ARE REQUIRED DUE TO FIELD CONDITIONS THE DEVELOPER/CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER FOR REVIEW OF THESE CONDITIONS. UPON REVIEW AND PRIOR TO THE IMPLEMENTATION OF ANY CHANGE, THE CONTRACTOR AND THE ENGINEER SHALL MEET WITH THE APPROPRIATE LOCAL AND/OR STATE OFFICIAL, OR ITS AGENT, TO DETERMINE IF THE CHANGE REQUIRES MODIFICATION TO EXISTING APPROVED PERMITS.

4. ALTERATION AND/OR DESTRUCTION OF WETLAND AREAS WITHOUT PRIOR CONSENT OF THE CONSERVATION COMMISSION IS PROHIBITED. SILTATION PLUMES, ILLICIT DISCHARGES, OR INADVERTENT ALTERATION SHALL BE CONSIDERED AS ACTIVITIES NOT PERMITTED BY THE ORDER AND SHALL BE REPORTED TO THE CONSERVATION COMMISSION ALONG WITH THE PROPOSED MITIGATIVE MEASURES.
 5. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE INSTALLED AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN THE EROSION CONTROL BARRIER UNTIL ALL WORK IS COMPLETE. ALL AREAS HAVE BEEN STABILIZED. THE REMOVAL OF SEDIMENT CONTROL DEVICES SHALL BE ONLY UPON THE APPROVAL OF THE CONSERVATION COMMISSION.
 6. EROSION AND SEDIMENTATION CONTROL DEVICES, SUCH AS CHECK DAMS, SEDIMENT BASINS, ETC. ARE TO BE INSTALLED AS SHOWN ON THE SITE DEVELOPMENT PLANS WITH ASSOCIATED DETAILS, AS APPROPRIATE.
 7. CONSTRUCTION OPERATIONS SHALL NOT CAUSE NOTICEABLE SEDIMENTATION PLUMES TO OCCUR ON OR SURROUNDING THE PROJECT. SHOULD SEDIMENTATION CONTROL DEVICES FAIL, THE CONTRACTOR SHALL STOP WORK AND INSTALL ADDITIONAL MITIGATIVE MEASURES TO PREVENT FURTHER SEDIMENTATION.
 8. NO MATERIAL SUBJECT TO EROSION SHALL BE STOCKPILED OVERNIGHT WITHIN 100 FEET OF ANY WETLAND AREAS WITHOUT PROPER EROSION AND SEDIMENTATION DEVICES IN PLACE.
 9. EQUIPMENT SHALL NOT BE PARKED WITHIN WETLAND OR BUFFER AREAS EXCEPT DURING ACTUAL OPERATIONS REQUIRING SAID EQUIPMENT.
 10. ACCUMULATED SEDIMENT ALONG EROSION CONTROL BARRIERS SHALL BE PERIODICALLY REMOVED AND DISPOSED OF BY THE CONTRACTOR AS REQUIRED BY THE CONSERVATION COMMISSION OR AS DIRECTED BY THE ENGINEER.

ROUGH GRADING:
 1. THE ROUGH GRADING OF THE ROADWAY SHALL FOLLOW THE FILL AND EXCAVATION SEQUENCES, RESULTING IN SLOPES BEING MAINTAINED AWAY FROM WETLANDS AND SENSITIVE AREAS AS MUCH IS PRACTICAL.
 2. DURING THIS PROCESS THE EROSION POTENTIAL IS HIGH. SUFFICIENT EROSION CONTROL BARRIERS SHOULD BE KEPT IN PROXIMITY TO THE WORK AREA TO ALLOW QUICK ACTION SHOULD EROSION BECOME AN ISSUE AND TO INSURE THAT NO SEDIMENT REACHES WETLANDS OR OTHER SENSITIVE AREAS.
 3. IN AREAS OF CUT AND/OR FILL WHERE SLOPES COULD DIVERT WATER TOWARD WETLANDS, DIVERSION TRENCHES AND/OR SWALES SHOULD BE CONSIDERED AND IMPLEMENTED TO DIVERT WATER AWAY FROM THESE AREAS.
 4. STEEP SIDE SLOPES IN EXCAVATION OR FILL SHOULD BE AVOIDED.
 5. DISTURBED AREAS SHALL BE STABILIZED BY LOAMING AND SEEDING OR RIPRAPPED IMMEDIATELY AFTER THE FINISH GRADE HAS BEEN MET. IF FINAL GRADING DOES NOT OCCUR DURING THE GROWING SEASON, THESE AREAS SHALL BE MULCHED BY HAY SECURED BY WEIGHTED SNOW FENCES, CHICKEN WIRE MESH OR JUTE NETTING WITH APPROPRIATE SECURING DEVICES.
 6. A GROUND COVER SUFFICIENT TO RETAIN SOILS IN A STABILIZED CONDITION MUST BE PROVIDED WITHIN 14 WORKING DAYS, SEASON PERMITTING, ON ANY PORTION OF THE TRACT UPON WHICH FURTHER ACTIVE CONSTRUCTION IS NOT BEING UNDERTAKEN.

DRAINAGE:
 1. IF DRAINAGE PIPES OR SWALES ARE TO BE INSTALLED, THEY SHALL BE CONSTRUCTED FROM DOWNSTREAM UP AND CONSTRUCTION SHALL INCLUDE THE PLACEMENT OF OUTFALL RIPRAP AND OTHER MITIGATIVE MEASURES SHOWN ON THE PLAN.
 2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, HAY BALES OR OTHER SUITABLE METHODS TO ENTRAP SEDIMENT SHALL BE PLACED DOWNSTREAM.
 3. THE TOE OF EMBANKMENTS SHALL BE STABILIZED IMMEDIATELY, MULCHED AND TACKED DOWN BY SUITABLE MEANS.
 4. IF THE PROPOSED ROADWAY IS NOT PAVED IMMEDIATELY AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, HAY BALES SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.
LANDSCAPING:
 1. LANDSCAPING OF AREAS SHOULD OCCUR AS SOON AS POSSIBLE.
 2. IF THE SEASON OR ADVERSE WEATHER CONDITIONS DO NOT PERMIT THE ESTABLISHMENT OF VEGETATION, TEMPORARY HAY MULCH, OR OTHER MEANS OF STABILIZATION SHALL BE PERFORMED.
 3. USE OF HERBICIDES MAY BE SUBJECT TO OTHER REGULATIONS.
 4. CARE SHOULD BE TAKEN WITH FERTILIZERS SUCH THAT THEY ARE NOT CARRIED TO A WETLAND OR SENSITIVE AREA.
 5. TRUNKS OF TREES SHOULD NOT BE COVERED WITH MORE THAN TWO (2) INCHES OF SOIL.
 6. STUMPS SHALL BE GROUND DOWN INTO A WOOD MULCH AND UTILIZED OR REMOVED FROM THE SITE.

EROSION CONTROL METHODS:

1. IT IS OF GREAT IMPORTANCE THAT CONCENTRATION OF RUNOFF BE AVOIDED IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENT.
 2. THE PRIMARY EROSION CONTROL METHOD TO BE UTILIZED IS TO LIMIT THE AREA OF DISTURBANCE DURING CONSTRUCTION ACTIVITIES. THIS IS ACCOMPLISHED BY PROMPT STABILIZATION OF DISTURBED AREAS UPON COMPLETION OF SEQUENCES OF CONSTRUCTION.
 3. EROSION AND SEDIMENT CONTROL DEVICES SUCH AS HAY BALES, SILT FENCES, DIVERSION BERMS, ETC. SHALL BE UTILIZED FOR THE PROTECTION OF THE AREAS BEYOND THE LIMIT OF CONSTRUCTION.

DEMARCATION OF SENSITIVE AREAS:

1. IT IS RECOMMEND THAT BARRIERS BE PLACED ON THE SITE TO CONTROL THE LIMITS OF THE DISTURBANCE. AS AN EXAMPLE, HAY BALE BARRIERS PROVIDE SUCH DEMARCATION AND OTHER METHODS SUCH AS LOG BARRIERS, ROPE WITH FLAGGING, ETC. MAY BE UTILIZED.
 2. CARE SHOULD BE TAKEN IN THE OPERATION OF EQUIPMENT, SUCH THAT ONLY THE MINIMUM AREA NEEDED TO BE ALTERED IS DISTURBED.

ACCESS:

1. ACCESS TO THE SITE SHALL BE MADE IN THE AREA OF A PERMANENT DRIVEWAY OR ROADWAY UNLESS DOING SO WOULD RESULT IN A TRAFFIC HAZARD.
 2. AN AREA OF CRUSHED STONE SHALL BE PLACED AT THE DRIVEWAY ENTRANCE TO INSURE THAT MUD IS NOT TRACKED ONTO THE EXISTING ROAD (SEE CONSTRUCTION ENTRANCE DETAIL). IF MUD IS INADVERTENTLY TRACKED ONTO THE ROAD, IT SHOULD BE PROMPTLY REMOVED.
 3. LABORERS VEHICLES SHALL BE PARKED IN A DESIGNATED AREA AS TO MINIMIZE DISTURBED SURFACES AND TO INSURE THAT RUTS ARE NOT CREATED AND WHICH COULD CARRY WATER TO A WETLAND OR OTHER SENSITIVE AREA.
 4. SUITABLE MEASURES SHALL BE TAKEN TO INSURE THAT LARGE DELIVERY TRUCKS SERVING THE SITE DO NOT DAMAGE TO AREAS OF EXISTING VEGETATION OR CAUSE DISTURBANCE TO STABILIZED AREAS.

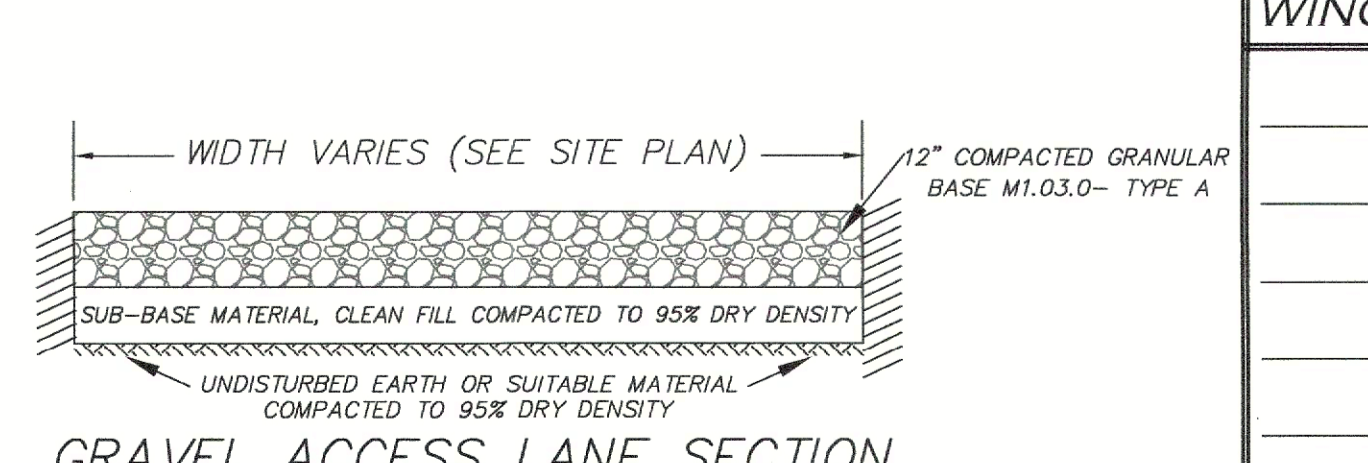
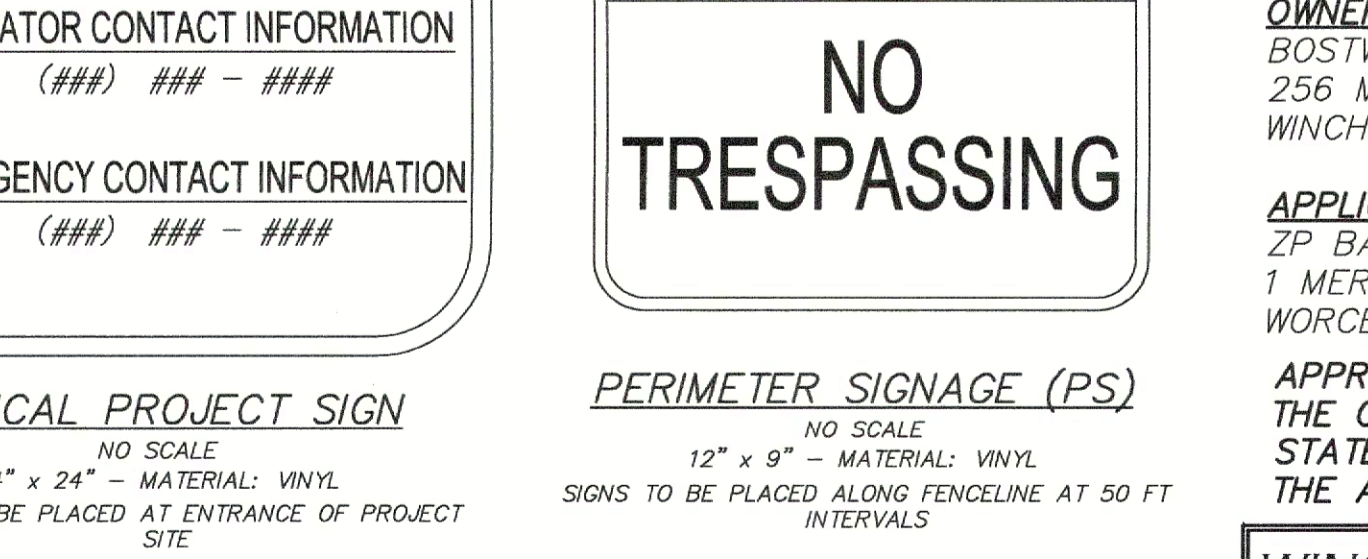
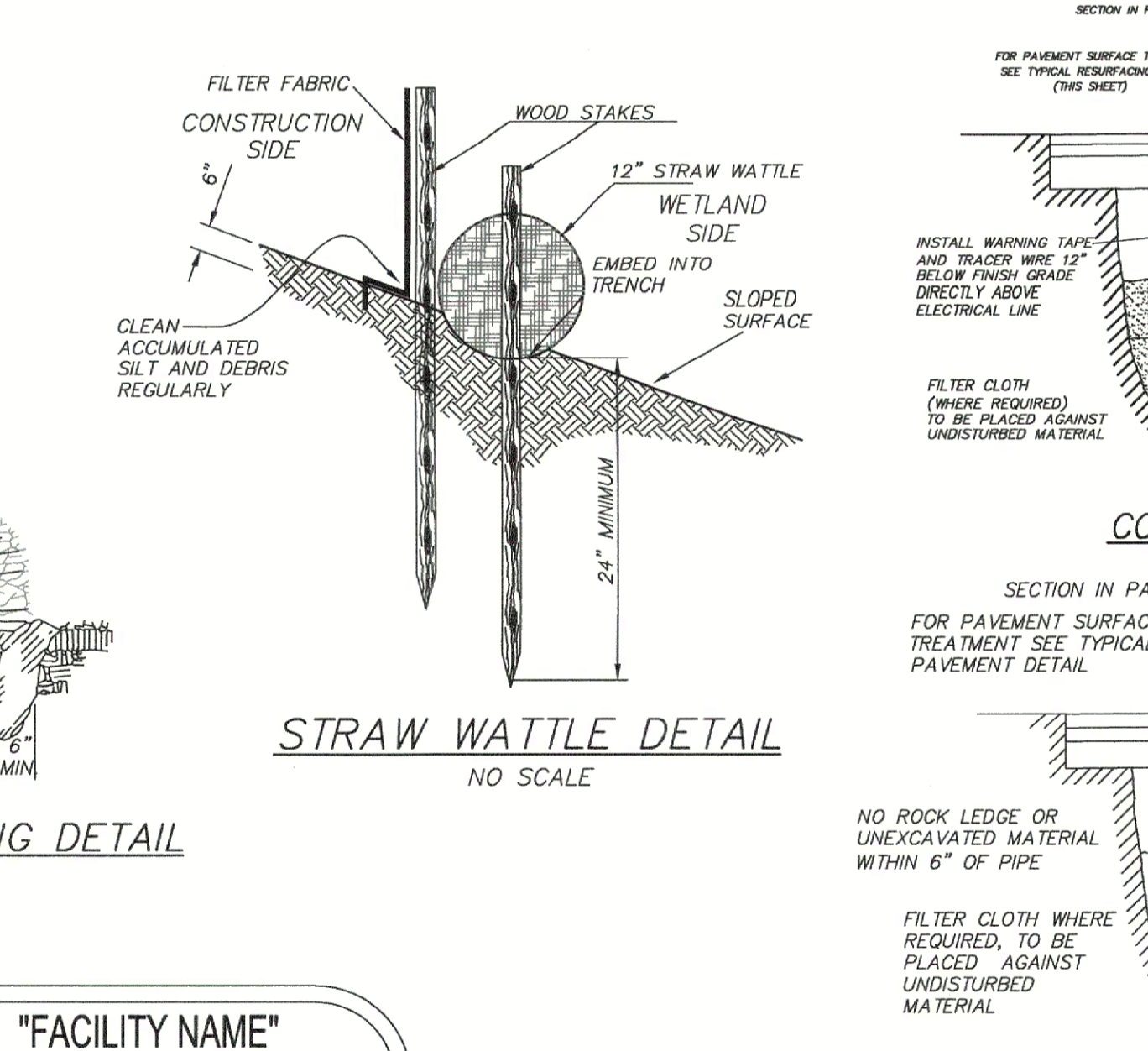
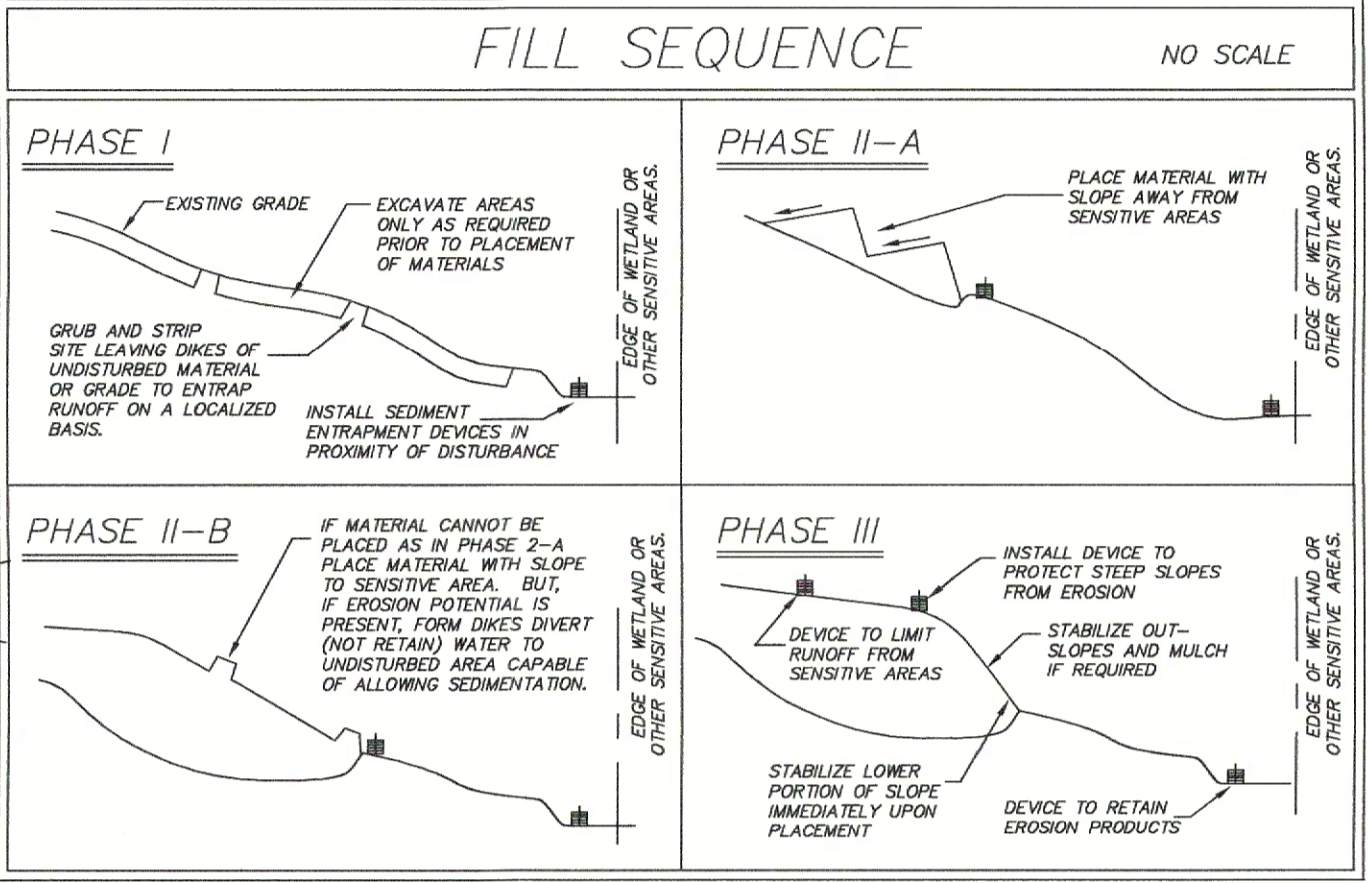
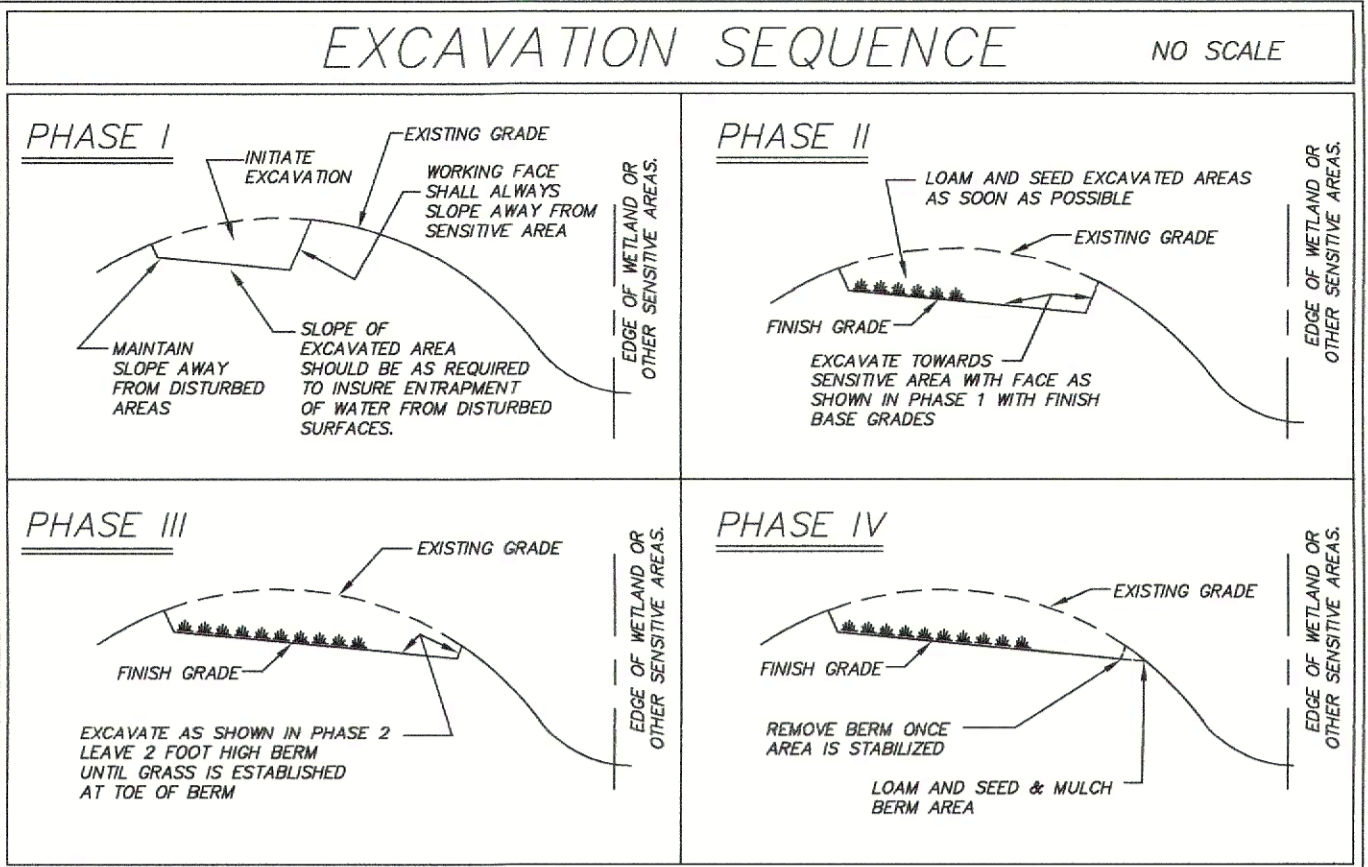
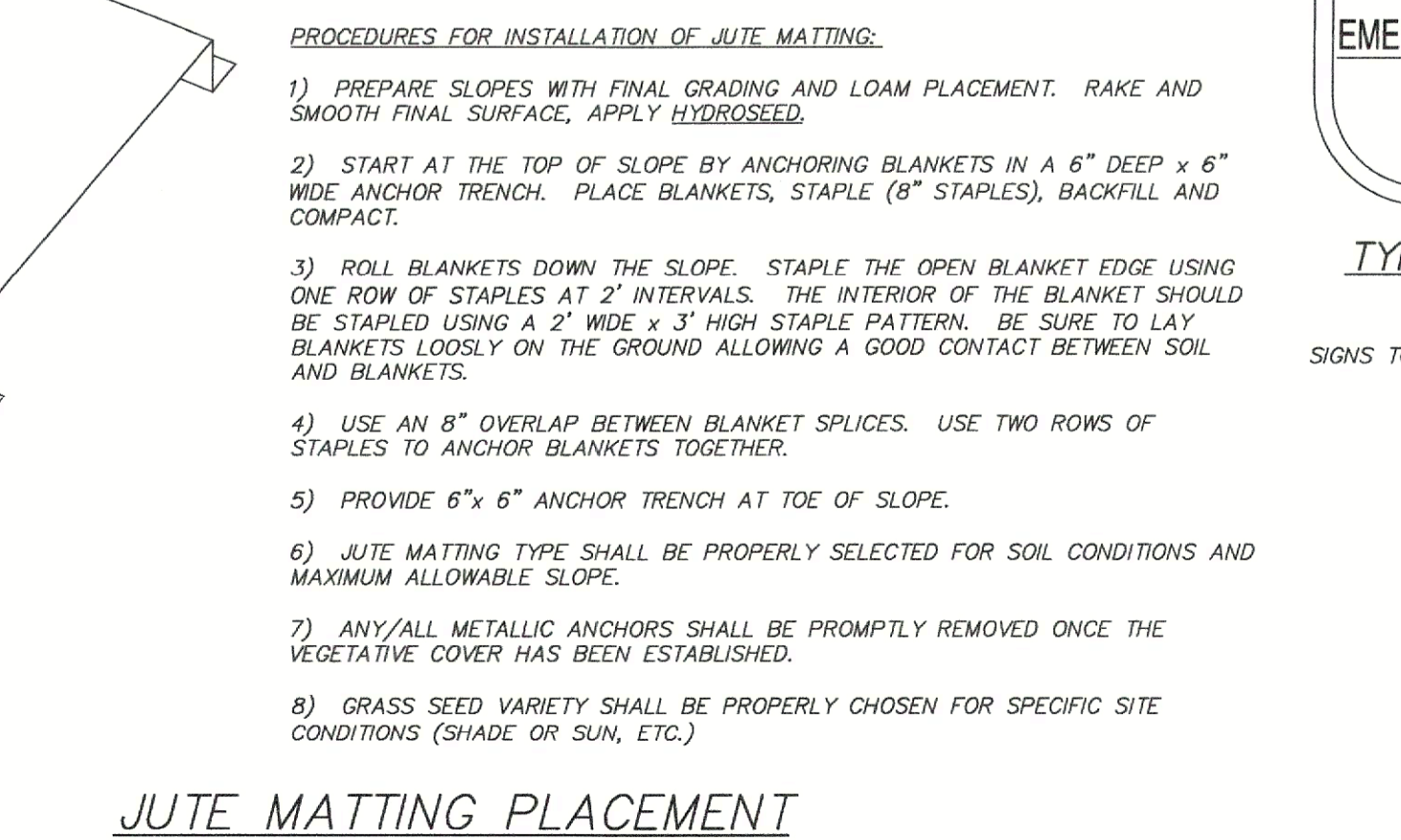
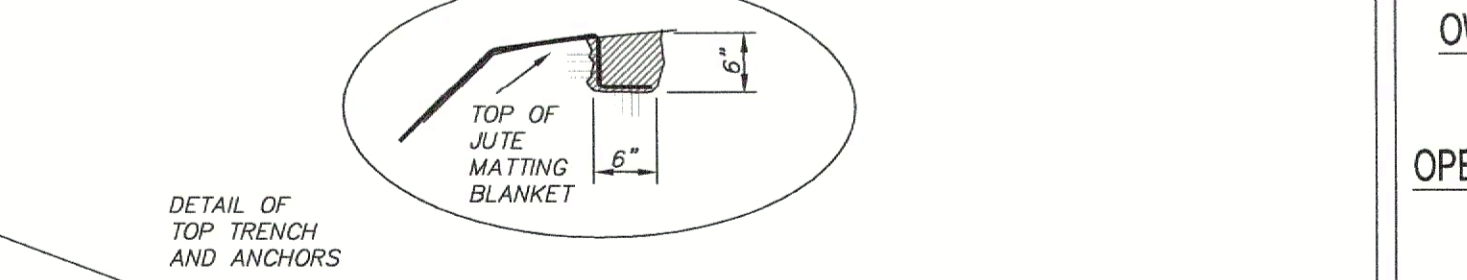
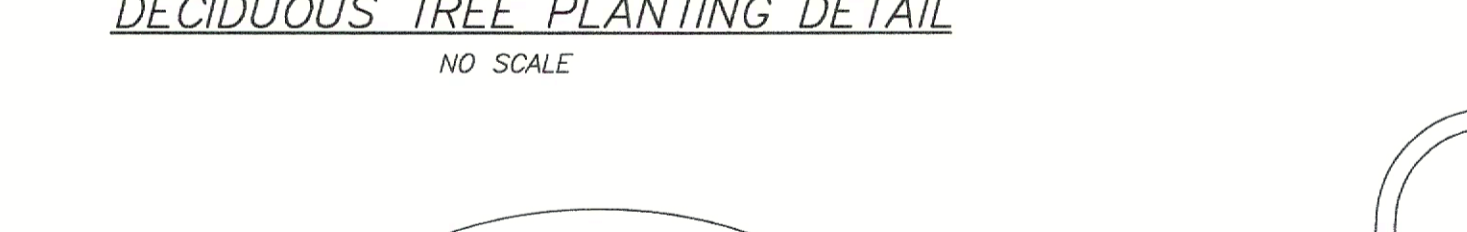
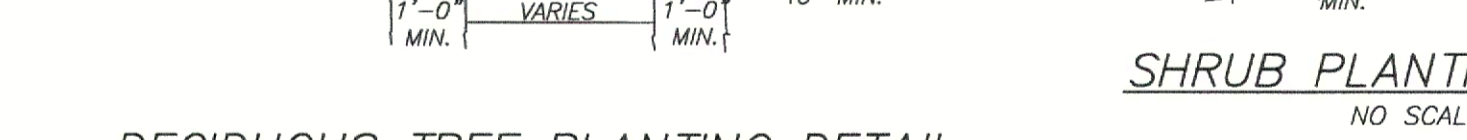
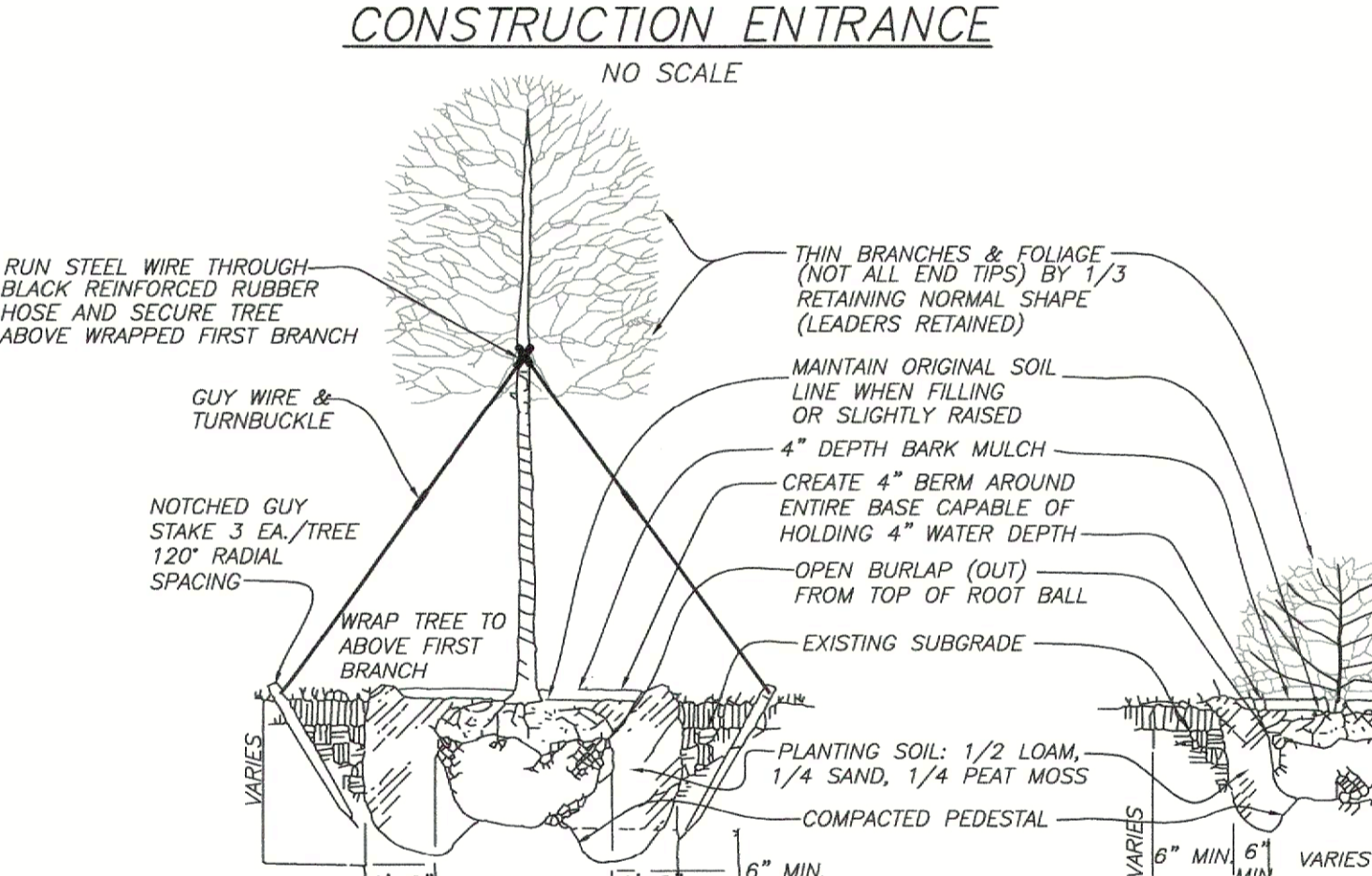
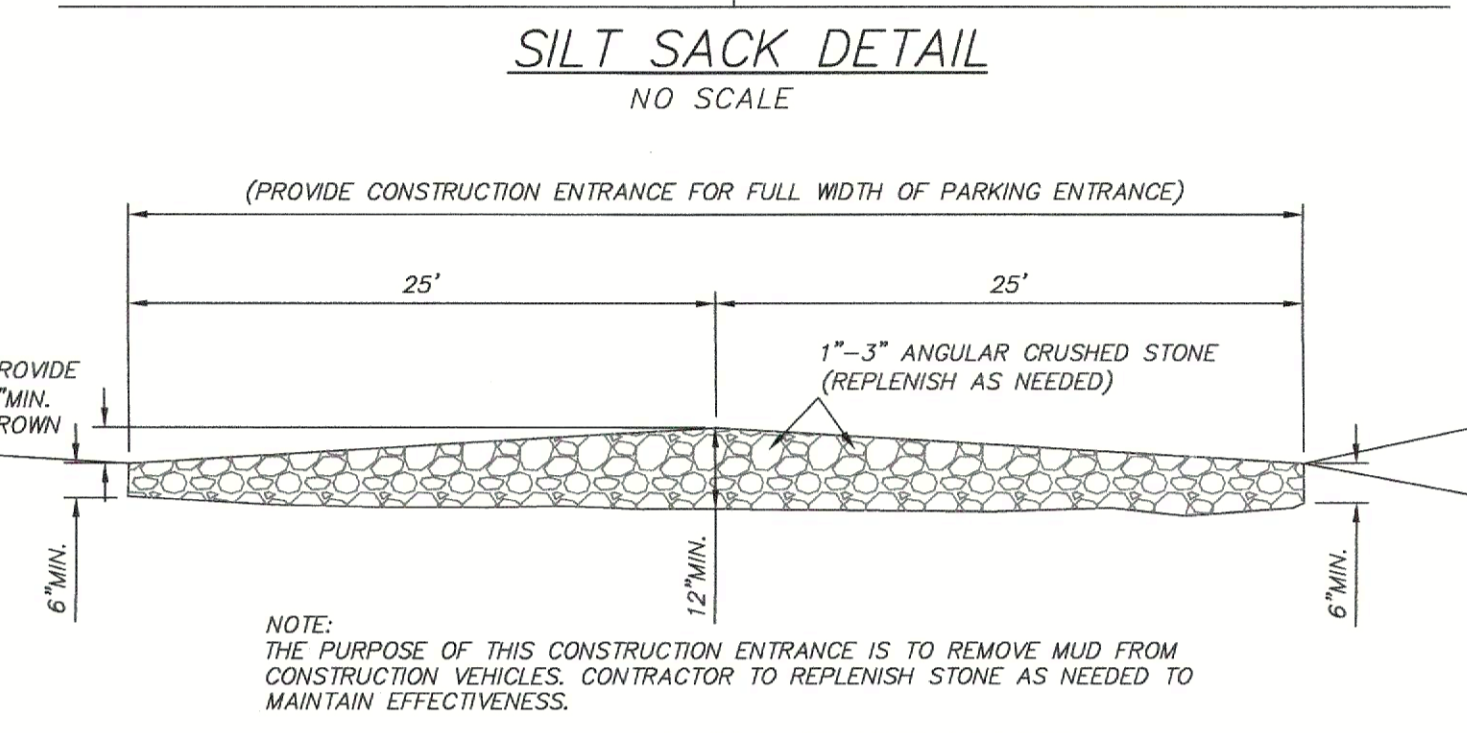
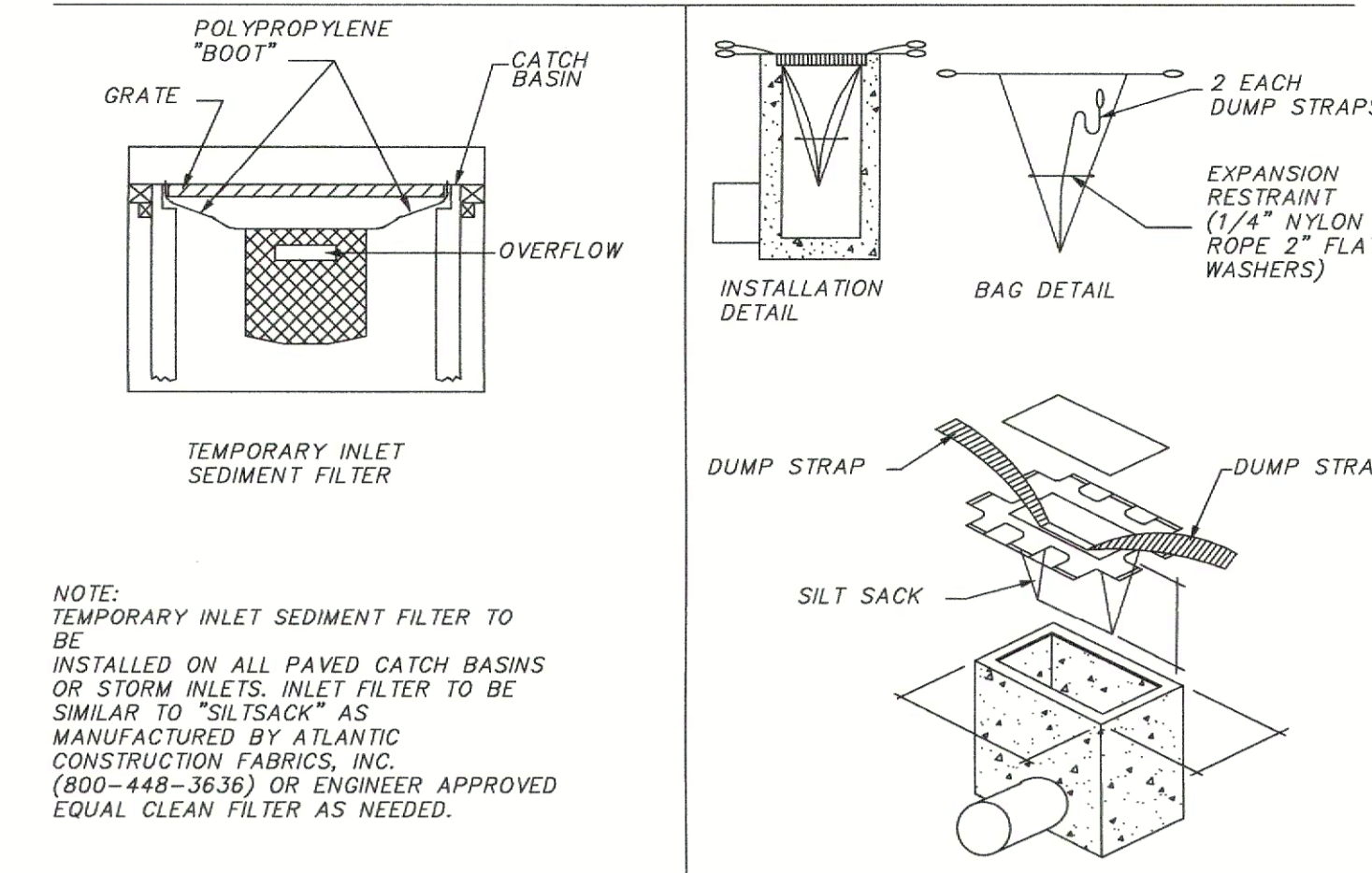
ORDERLY CONSTRUCTION PROCEDURES:

1. THE CONTRACTOR SHALL PERFORM SITE CONSTRUCTION IN A MANNER WHICH WILL INSURE THE STABILIZATION OF AREAS IN PROXIMITY OF OR TRIBUTARY TO WETLAND AREAS AS SOON AS POSSIBLE.
 2. EROSION CONTROL DEVICES SUCH AS HAY BALE BARRIERS, SILT FENCES AND MULCH SHALL BE BROUGHT TO THE SITE AND STOCKPILED PRIOR TO INITIATING CONSTRUCTION.
 3. THE CONTRACTOR SHALL PROVIDE AREAS FOR THE TEMPORARY STORAGE OF CONSTRUCTION DEBRIS. CONSTRUCTION DEBRIS SHALL NOT BE ALLOWED TO ACCUMULATE FOR AN EXTENDED PERIOD OF TIME.
CLEARING:
 1. LAND CLEARING SHALL BE PERFORMED IN PHASES CONSISTENT WITH ACTUAL CONSTRUCTION REQUIREMENTS. FINAL LAND CLEARING SHALL BE LIMITED TO RETURN TO GRADE SLOPES.
 2. TREES SHALL BE CUT AND STUMPS GROUND IN PLACE TO EXISTING GRADE TO MAINTAIN SOIL STABILIZATION.
 3. BRUSH AND BRANCHES SHALL BE CHIPPED AND UTILIZED FOR WOOD MULCH IF PRACTICAL.
 4. VEHICLES UTILIZED IN THE CLEARING OPERATION SHOULD NOT TRAVERSE WETLANDS OR FLOWING BROOKS OR STREAMS WITHOUT PRIOR APPROVAL FROM THE LOCAL CONSERVATION COMMISSION OR AGENT.

GRUBBING AND STRIPPING:

1. TOP SOIL SHALL BE RETAINED FOR LANDSCAPING PURPOSES.
 2. GRUBBING AND STRIPPING OF SLOPES LEADING TO WETLAND AREAS SHOULD NOT BE UNDERTAKEN DURING PERIODS OF INTENSE RAINFALL.
 3. TOP SOIL STOCKPILE LOCATIONS ARE DEPICTED ON THE SITE DEVELOPMENT PLAN, THE EROSION CONTROL PLAN, AND/OR THE CONSTRUCTION PHASING PLAN AND SHALL BE ADHERED TO.
 4. WHEN WORKING IN THE VICINITY OF WETLANDS, TOP SOIL SATURATED WITH WATER SHALL BE REMOVED, AND CONTAINED PRIOR TO BEING USED.
 5. AREAS LEADING TO WETLANDS SHALL HAVE HAY BALE BARRIERS INSTALLED ACROSS THEM IN ARCS POINTING DOWN THE HILL AT INTERVALS SUFFICIENT TO MITIGATE RUNOFF CARRYING SEDIMENT.
 6. DURING PERIODS OF INTENSE RAINFALL, OR IF THE PROJECT IS TO BE LEFT FOR A PERIOD OF TIME, CONSIDERATION SHOULD BE GIVEN TO SUPPLEMENT HAY BALE BARRIERS WITH EITHER CRUSHED STONE OR ARMORED BARRIERS. CONSIDERATION MAY ALSO BE GIVEN TO DIVERTING RUNOFF INTO TEMPORARY SEDIMENTATION CONTROL AREAS.
 7. WHENEVER PRACTICAL, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.

TEMPORARY INLET SEDIMENT FILTER:
 1. THE PURPOSE OF THIS CONSTRUCTION ENTRANCE IS TO REMOVE MUD FROM CONSTRUCTION VEHICLES. CONTRACTOR TO REPLENISH STONE AS NEEDED TO MAINTAIN EFFECTIVENESS.
SILT SACK DETAIL:
 1. DRAINAGE PIPES OR SWALES ARE TO BE INSTALLED, THEY SHALL BE CONSTRUCTED FROM DOWNSTREAM UP AND CONSTRUCTION SHALL INCLUDE THE PLACEMENT OF OUTFALL RIPRAP AND OTHER MITIGATIVE MEASURES SHOWN ON THE PLAN.
 2. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, HAY BALES OR OTHER SUITABLE METHODS TO ENTRAP SEDIMENT SHALL BE PLACED DOWNSTREAM.
 3. THE TOE OF EMBANKMENTS SHALL BE STABILIZED IMMEDIATELY, MULCHED AND TACKED DOWN BY SUITABLE MEANS.
 4. IF THE PROPOSED ROADWAY IS NOT PAVED IMMEDIATELY AFTER THE INSTALLATION OF DRAINAGE STRUCTURES, HAY BALES SHALL BE PLACED TO PROTECT THE INTEGRITY OF THE STRUCTURES.



STORMWATER OPERATION AND MAINTENANCE PLAN

THE FOLLOWING SHALL BE CONSIDERED THE OPERATION & MAINTENANCE PLAN (OMP) FOR THE STORMWATER COLLECTION FACILITY FOR THIS DEVELOPMENT. THIS OMP HAS BEEN PREPARED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT POLICY AS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

I. SYSTEM OWNERSHIP:
 THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE SITE DEVELOPMENT PLANS, INCLUDING THE DETENTION FACILITIES AND OUTFALL AREAS OF THE DRAINAGE SYSTEM. THE STRUCTURES OF THE SYSTEM SHALL INCLUDE THE DRAINAGE SWALES AND THE OUTFALL & CONTROL STRUCTURES. THE SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DETAILS AND THE APPROVED PLANS.
 UPON THE COMPLETION OF CONSTRUCTION THE DRAINAGE SYSTEM DESCRIBED ABOVE AND AS DEPICTED ON THE SITE PLANS SHALL BECOME PROPERTY OF THE LAND OWNER. WITH SPECIFIC EASEMENT RIGHTS TO THE OPERATOR OF THE SOLAR SYSTEM TO MAINTAIN THE DRAINAGE SYSTEM AS DEPICTED ON THE APPROVED PLANS. SAID EASEMENT RIGHTS SHALL BE SPECIFICALLY DESCRIBED IN LEASE DOCUMENTS FOR THE PROJECT.

II. RESPONSIBLE PARTIES:
 THE OPERATOR OF THE SOLAR SYSTEM SHALL BE CONSIDERED THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT SYSTEM. THE SYSTEM SHALL INCLUDE THE DRAINAGE INFRASTRUCTURE AND ALL OF ITS COMPONENTS AS SHOWN ON THE APPROVED PLANS. THE SYSTEM SHALL ALSO INCLUDE THE DETENTION FACILITIES AND THE OUTFALL AREAS OF THE DRAINAGE SYSTEM.

III. INSPECTION & MAINTENANCE SCHEDULE:
 THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE FOLLOWED IN ORDER TO MAINTAIN THE EFFECTIVENESS OF THE STORMWATER MANAGEMENT SYSTEM.

| STRUCTURE TYPE | INSPECTION | MAINTENANCE | TASK |
|-------------------------|--------------|----------------|----------------------------|
| RIP/RAP APPROX SPILLWAY | TWICE A YEAR | EVERY 10 YEARS | REMOVE DEBRIS & ADD STONE |
| | TWICE A YEAR | TWICE A YEAR | REMOVE DEBRIS AND SEDIMENT |

SEEDING OPERATION AND MAINTENANCE PLAN

I. RESPONSIBLE PARTIES:
 THE OPERATOR OF THE SOLAR SYSTEM SHALL BE CONSIDERED THE RESPONSIBLE PARTY FOR THE OPERATION AND MAINTENANCE OF THE GRASS & VEGETATION. THE VEGETATION SHALL INCLUDE ALL OF ITS AREAS AS SHOWN ON THE APPROVED PLANS. THE SYSTEM SHALL ALSO INCLUDE THE GRASSED AREAS AROUND THE PANELS AND DRAINAGE STRUCTURES.

II. INSPECTION & MAINTENANCE SCHEDULE:
 THE FOLLOWING MAINTENANCE SCHEDULE SHALL BE FOLLOWED IN ORDER TO MAINTAIN THE VEGETATED AREAS

| ACTIVITY | MAINTENANCE | TASK |
|---------------|-------------|---|
| GRASS CUTTING | MONTHLY | GRASS HEIGHT TO BE ALLOWED TO GROW TO A HEIGHT OF NO MORE THAN 18 INCHES AND BE CUT TO A HEIGHT OF 4 TO 6 INCHES. |

III. APPROPRIATE SEED MIX AND APPLICATION RATES:
 THE FOLLOWING SEED SCHEDULE SHALL BE FOLLOWED IN ORDER TO PROPERLY MAINTAIN VEGETATED AREAS

| SEED TYPE (NATIVE SEED REQUIRED) | APPLICATION RATE | % OF MIX |
|----------------------------------|---------------------------|----------|
| WILDFLOWER SEED MIX | 3 TO 5 POUNDS PER ACRE | 50% |
| WHITE CLOVER SEED MIX | 3 TO 5 POUNDS PER ACRE | 10% |
| KENTUCKY BLUEGRASS | 80 TO 100 POUNDS PER ACRE | 40% |

IV. HERBICIDES & PESTICIDES:
 THERE WILL NO HERBICIDES OR PESTICIDES USED ON THIS PROJECT.

| NO. | DATE | REVISIONS | BY |
|-----|-----------|-------------------------------|-----|
| 1 | 7/10/2023 | PEER REVIEW AND BOARD COMMENT | CMA |

HANNIGAN ENGINEERING, INC.
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8 MONUMENT SQUARE
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 (978) 534-6060 (M)
 WWW.HANNIGANENGINEERING.COM

CONSTRUCTION DETAILS
 IN
WINCHENDON, MASSACHUSETTS

PREPARED FOR:
 ZP BATTERY DEVCO, LLC
 PETE FORTE
 1 MERCANTILE STREET, SUITE 630
 WORCESTER, MASSACHUSETTS 01608

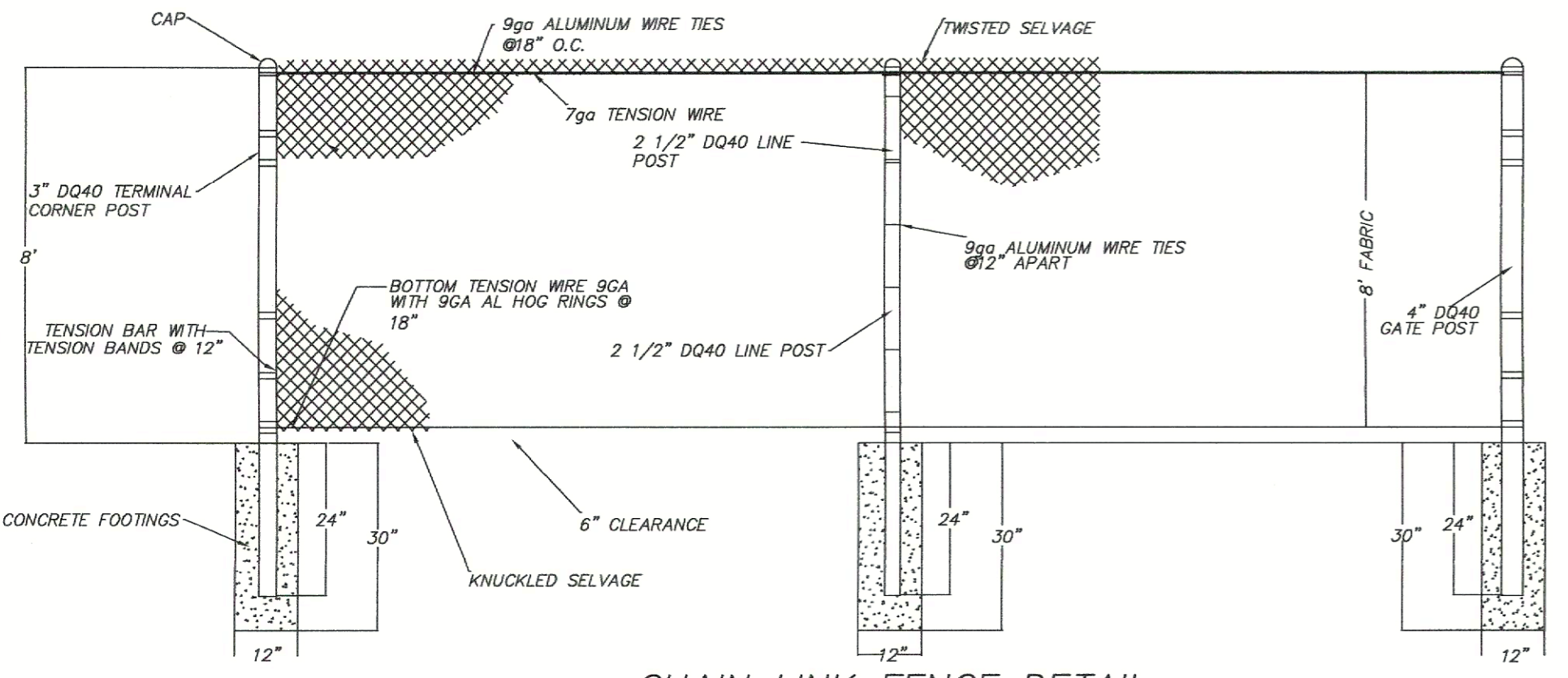
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APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

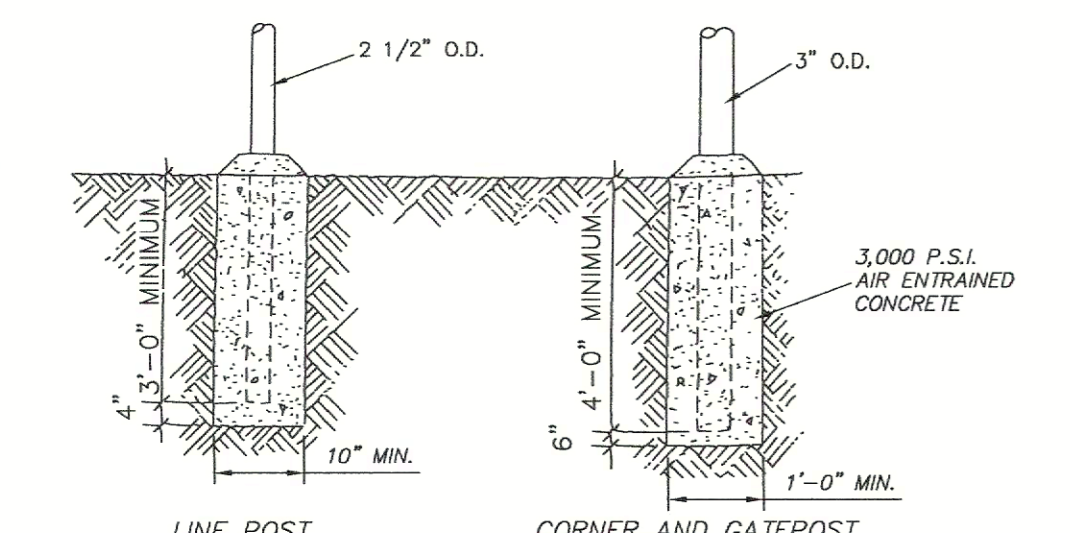
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WINCHENDON PLANNING BOARD

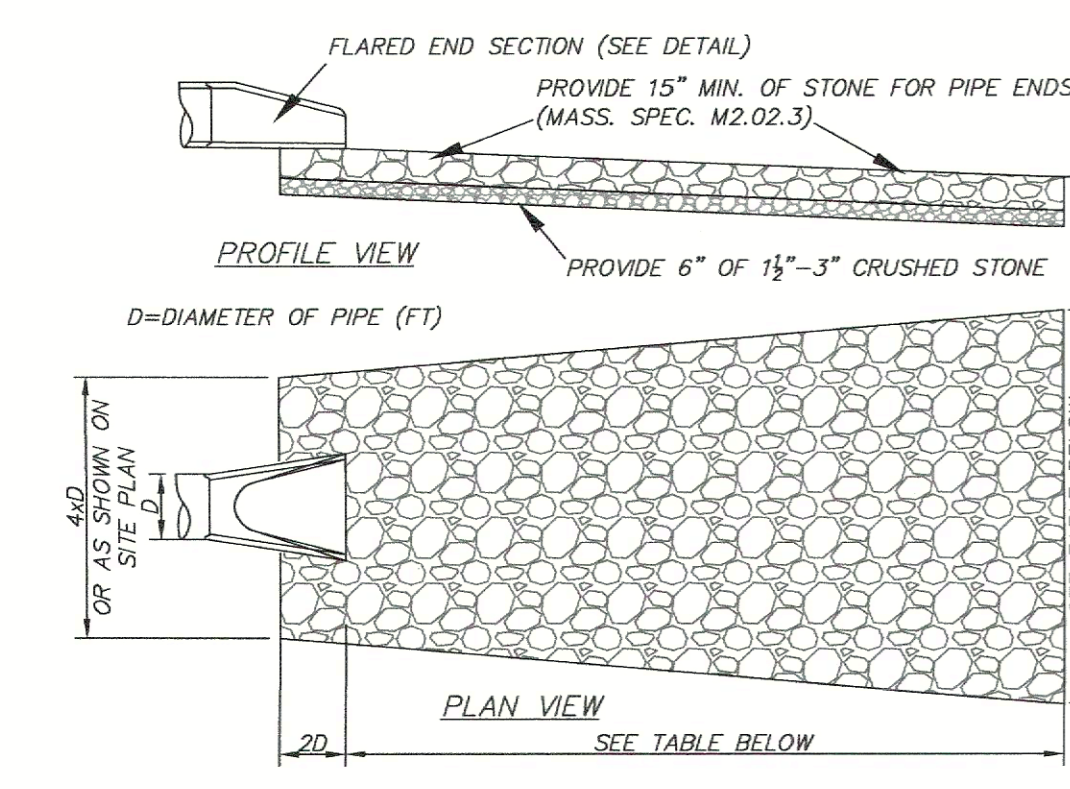
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| CMA | CMA | NA |
| CHKD: | APPD: | DATE: |
| WDH | CMA | MAR 27, 2023 |
| SRV: | FB: | JOB NO: |
| JEF | 75-130 | 3101 |
| TAB: | SHEET: | PLAN NO.: |
| (5-6) DELTA | 5 OF 6 | C18-41 |



CHAIN LINK FENCE DETAIL



FENCE POST DETAIL
NO SCALE

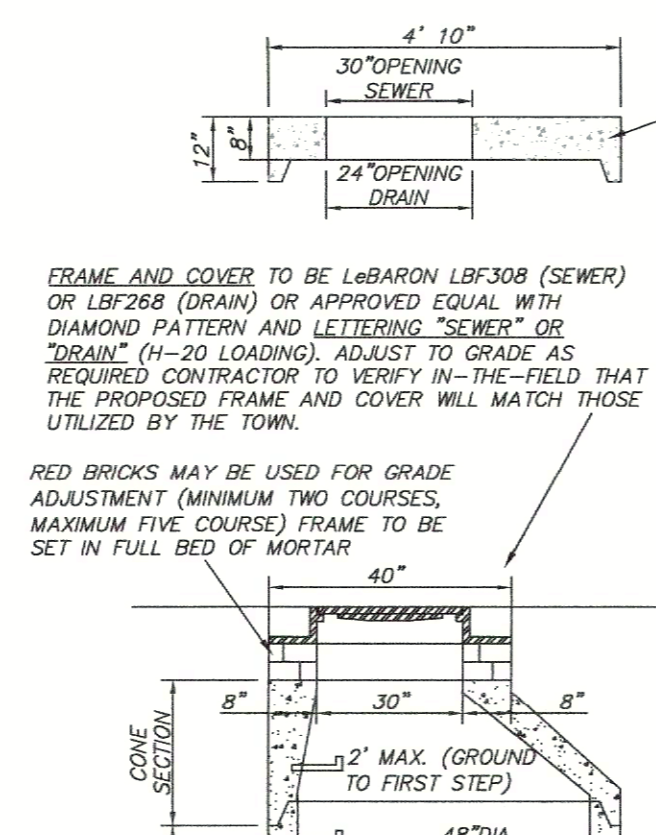


RIP RAP APRON DETAIL
NO SCALE

| PIPE DIAMETER | LENGTH | TERMINUS WIDTH |
|----------------|-----------|----------------|
| 15-INCH (FE#1) | 10.0 FEET | 10.0 FEET |

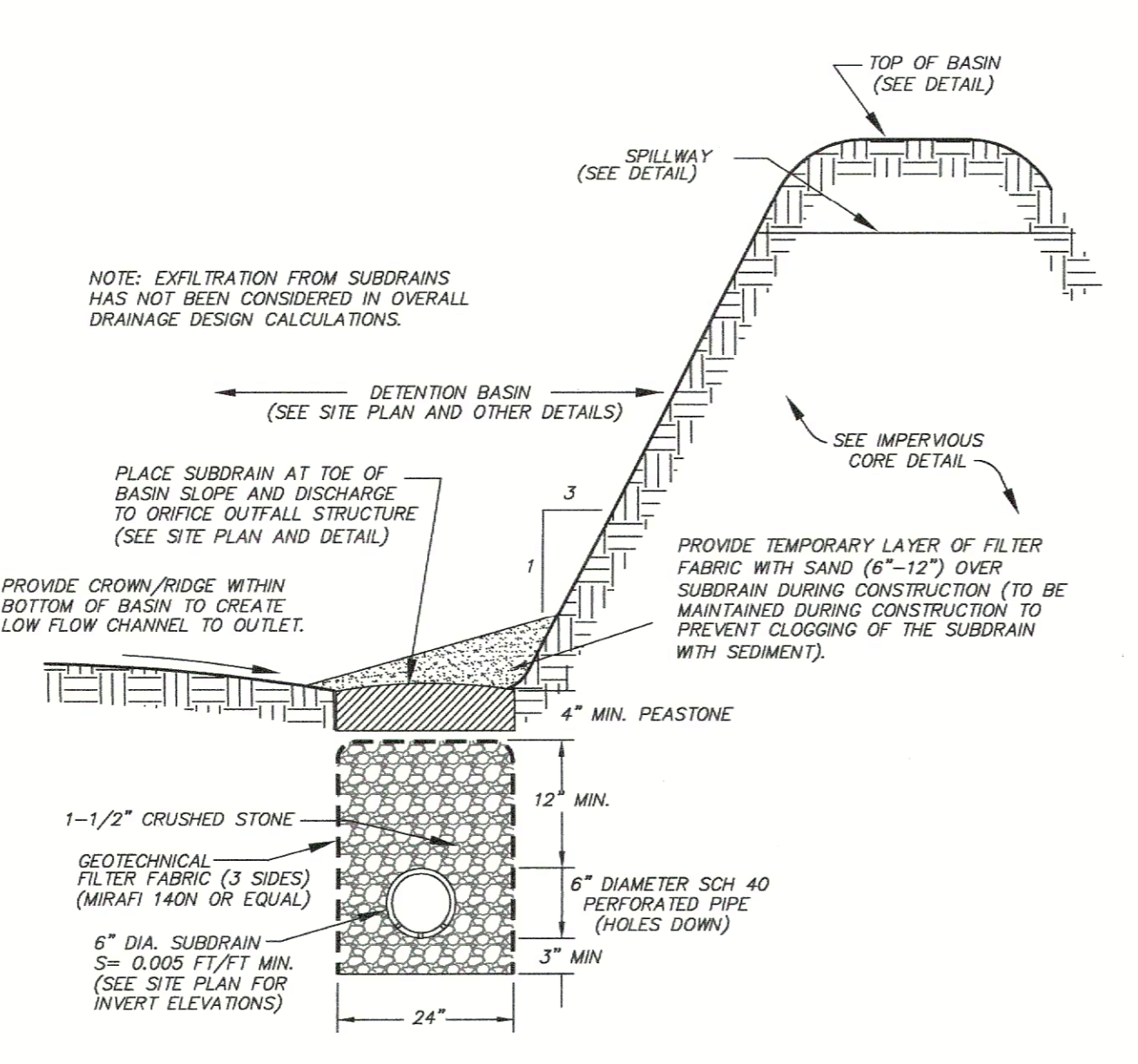
RIP-RAP APRON DIMENSIONING TABLE

NOTES:
COLOR OF ALL MATERIALS ARE GALVANIZED
INCLUDES 10\"/>

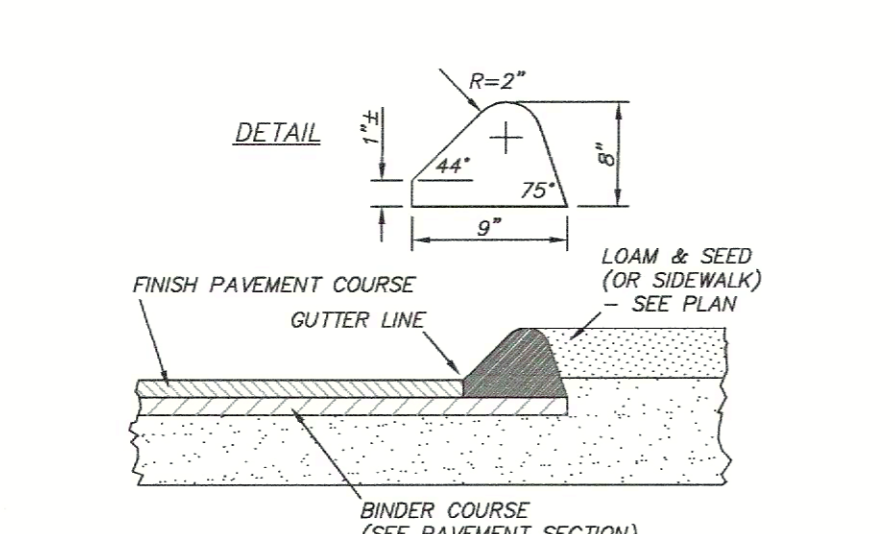


TYPICAL PRECAST MANHOLE
(SEWER OR DRAIN - USE APPROPRIATE COVER)
NO SCALE

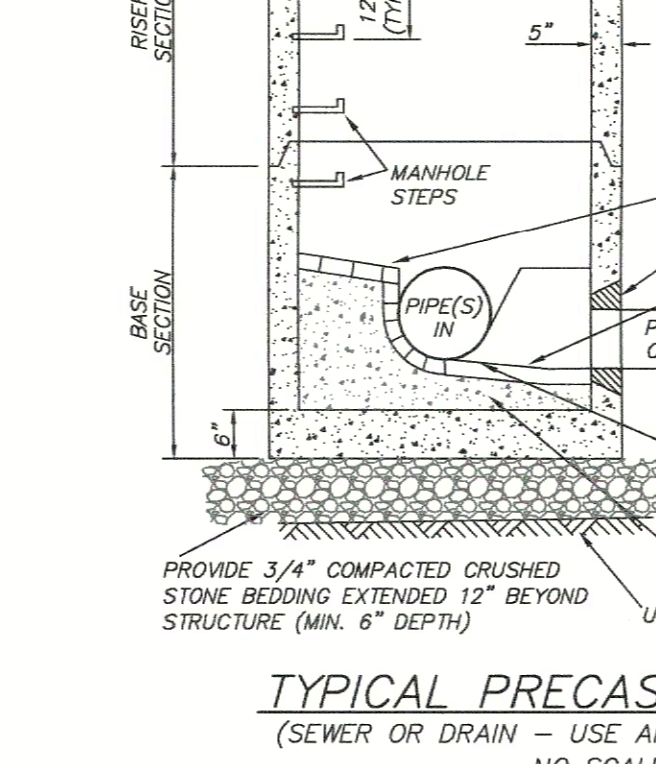
MANHOLE TOP SLAB USE AS REQUIRED FOR SHALLOW MANHOLES (CAPABLE OF WITHSTANDING H2O LOADING)
MANHOLE TO BE PRECAST CONCRETE AND WATER TIGHT
REINFORCING A.S.T.M. A185 AREA 48\"/>



RAIN GARDEN 6\"/>

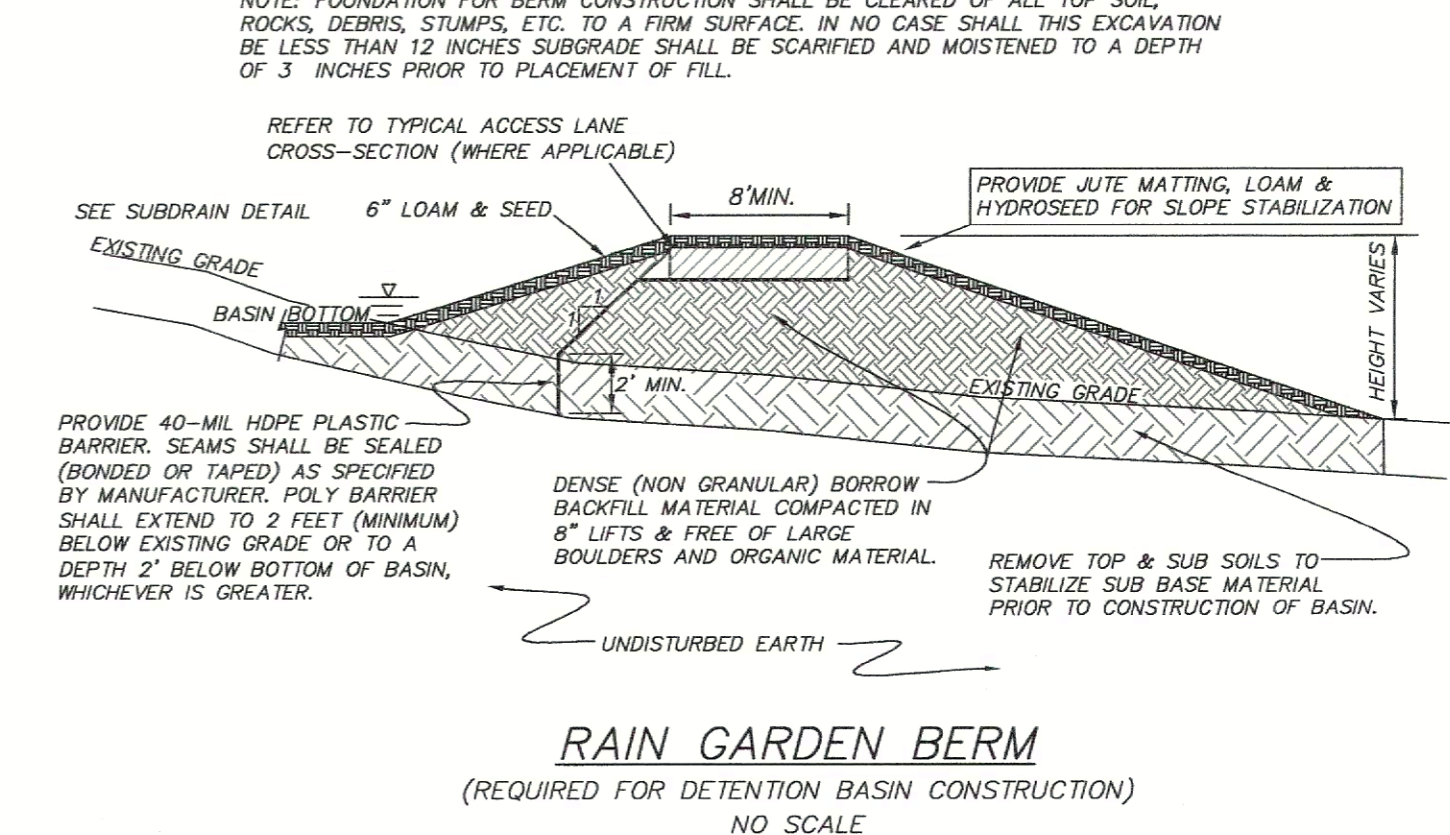


BITUMINOUS CONCRETE CURB
(MHD - TYPE 2)
NO SCALE

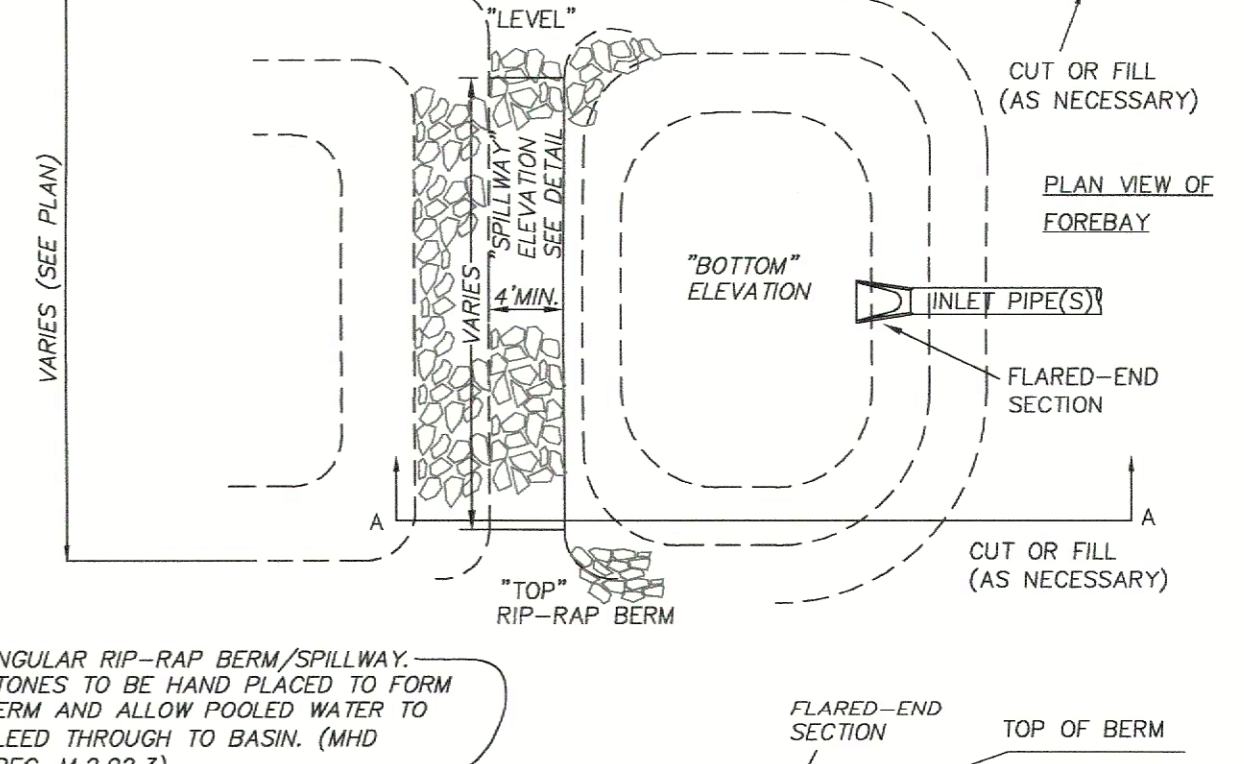


TYPICAL PRECAST CATCH BASIN
WITH GRANITE CURB INLET
NO SCALE

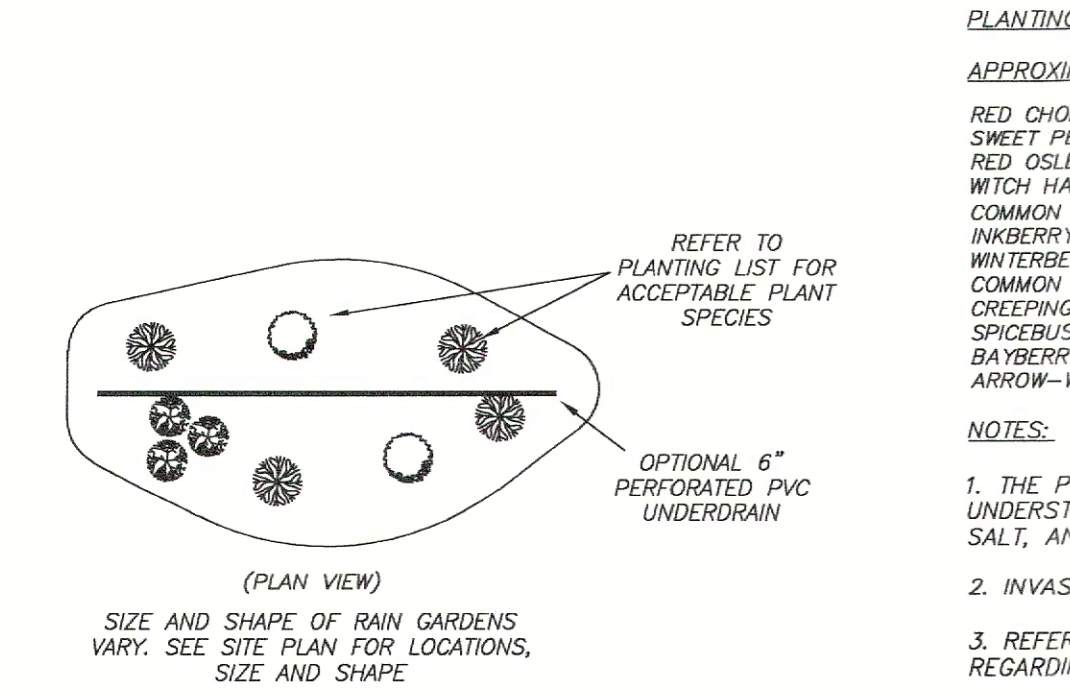
GENERAL NOTES:
1. CATCH BASIN TO BE PRECAST REINFORCED CONCRETE
2. STEEL REINFORCEMENT TO CONFORM TO A.S.T.M. A185 AREA 48\"/>



RAIN GARDEN BERM
(REQUIRED FOR DETENTION BASIN CONSTRUCTION)
NO SCALE

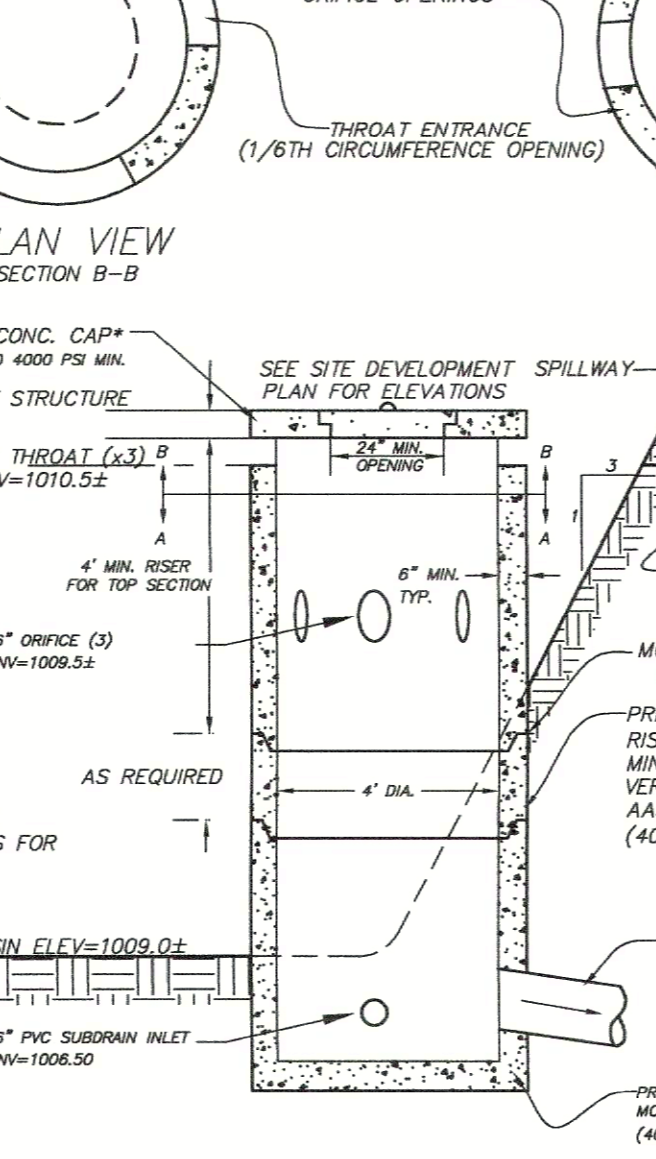


FOREBAY DETAIL
(NO SCALE)
(SEE PLAN FOR ACTUAL CONFIGURATION)

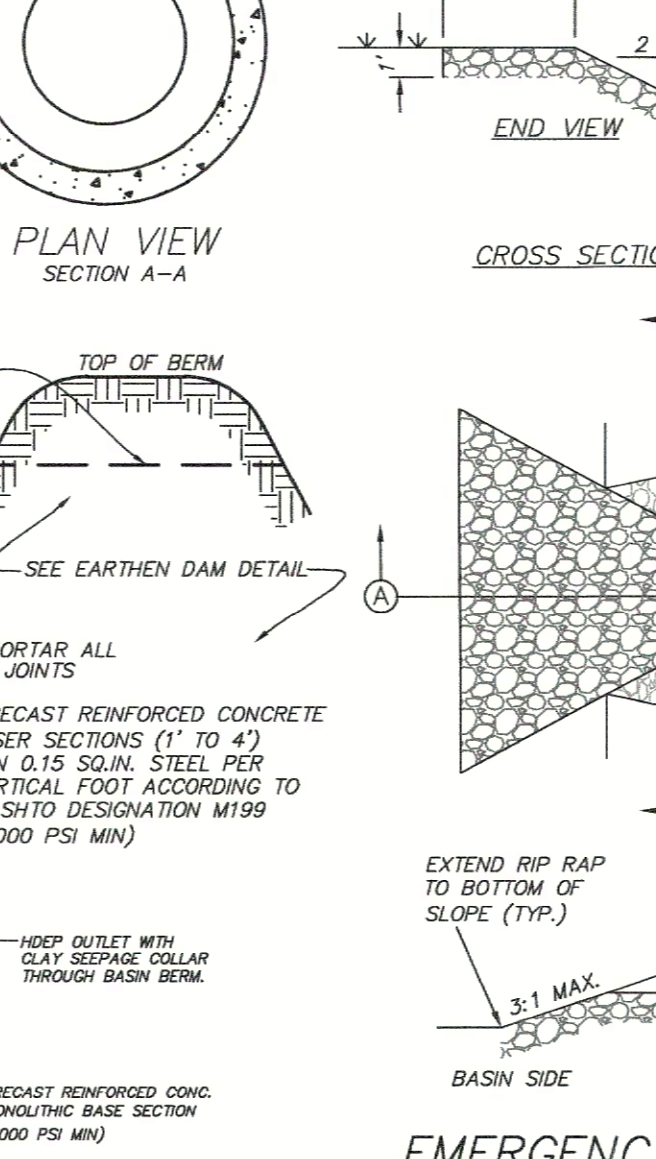


RAIN GARDEN DETAIL
(NO SCALE)

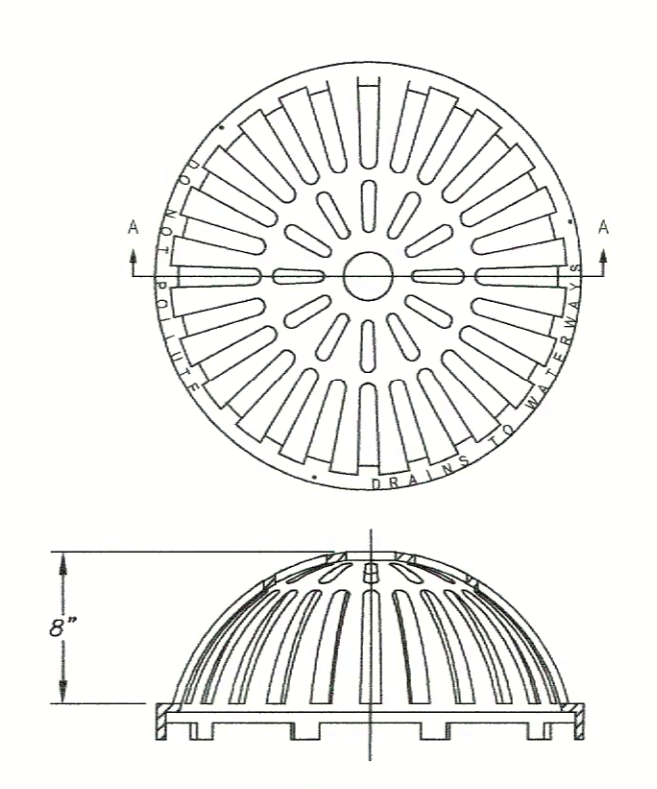
PLANTING LIST AND NOTES
APPROXIMATE SPECIES MIX
RED CHOKEBERRY - Aronia arbutifolia
SWEET PEPPERBUSH - Clethra alnifolia
RED OSLER DOGWOOD - Cornus sericea
WITCH HAZEL - Hamamelis virginiana
COMMON ST. JOHN'S WORT - Hypericum perforatum
INKBERRY - Ilex glabra
WINTERBERRY - Ilex verticillata
COMMON JUNIPER - Juniperus communis
CREEPING JUNIPER - Juniperus horizontalis
SPICEBUSH - Lindera benzoin
BAYBERRY - Myrica pensylvanica
ARROW-WOOD - Viburnum dentatum



RAIN GARDEN OUTLET STRUCTURE
WITH 1/6\"/>



EMERGENCY SPILLWAY DETAIL
NO SCALE



DOME STYLE GRATE
NO SCALE

| NO. | DATE | REVISIONS | BY |
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| 1 | 7/10/2023 | PEER REVIEW AND BOARD COMMENT | CMA |



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CONSTRUCTION DETAILS
IN
WINCHENDON, MASSACHUSETTS

PREPARED FOR:
ZP BATTERY DEVCO, LLC
PETE FORTE
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608
TEL:

OWNER
BOSTWICK REALTY TRUST
256 MURDOCK AVENUE
WINCHENDON, MASSACHUSETTS

APPLICANT
ZP BATTERY DEVCO, LLC
1 MERCANTILE STREET, SUITE 630
WORCESTER, MASSACHUSETTS 01608

APPROVAL OF THIS PLAN IS GRANTED ON THE CONDITIONS LISTED IN A SEPARATE STATEMENT OF CONDITIONS WHICH PART OF THE APPROVAL OF THIS SITE PLAN.

WINCHENDON PLANNING BOARD

| | | |
|---------------|--------------|--------------------|
| CALC: CMA | DRWN: CMA | SCALE: NA |
| CHKD: WDH | APPD: CMA | DATE: MAR 27, 2023 |
| SRV: JEF | FB: 75-130 | JOB NO: 3101 |
| TAB: (5-6)ETA | SHEET 6 OF 6 | PLAN NO: C-18-41 |

DATE: _____