TOWNSHIP of HOPEWELL
MERCER COUNTY

201 WASHINGTON CROSSING – PENNINGTON ROAD
TITUSVILLE, NEW JERSEY 08560-1410

PROJECT / APPLICATION

BLOCK: 93

LOT: 19, 20, 45.01, 46, p/o 60

ADDRESS: 61 NURSERY RD., SCOTCH RD., NURSERY RD., NURSERY RD., 137 NURSERY RD.

PROJECT NAME: MAJOR SUBDIVISION, PRELIMINARY/FINAL AND SITE PLAN, PRELIMINARY/FINAL (VENUE AT HOPEWELL)

PLANS

SOIL EROSION & SEDIMENT CONTROL

APPROXIMATE LOCATION OF FUTURE TRAFFIC CIRCLE

50' WIDE RIGHT-OF-WAY EASEMENT TO SUN PIPE LINE COMPANY (DB. 1217, PG. 70)

BLOCK 93 LOT 60 N/F DEER VALLEY REALTY, INC. DB. 3404, PG. 119

N86°24'08"E 1,002.69' (SURVEY)

N86° 24' 08"E – 1002.69'

EDGE OF PAVEMENT

252.60' (SURVEY)

50' WIDE RIGHT-OF-WAY EASEMENT TO SUN PIPE LINE COMPANY (DB. 1217, PG. 70)

N74°08'08"W 998.00' (DEED)

50'

APPROXIMATE LOCATION DITCH EASEMENT (REF. #5)

STATE OF NEW JERSEY, DEPARTMENT OF TRANSPORTATION 16

DECLARATION OF TAKING BY CONDEMNATION

PROPOSED RETAINING WALL (TYP.)

20' REAR YARD SETBACK

7.5' SIDE YARD SETBACK

10' SIDE YARD SETBACK

20' FRONT YARD SETBACK

12" DIP WATER MAIN

194 L.F. 8" PVC @ 0.40%

6" WATER VALVE

PROPOSED GRANITE BLOCK CURB, MOUNTABLE (TYP.)

REMOVE EX. UTILITY POLE

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB

CONSTRUCT 9" x 18" CONCRETE SIDEWALK

CONSTRUCT CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

INLET A118 GR. 212.70 I.E. 209.33 (A119) I.E. 209.33 (1)

INLET A275 (109) GR. 210.00 I.E. -4.71 (A275 (217))

SMH S6C RIM 213.10 I.E. 206.10 (SHT.) INLET A275 (107) GR. 210.00 I.E. -4.71 (A275 (217))

INLET A119 GR. 212.70 I.E. 209.45 (A118)

INLET A275 (217) GR. -2.81 I.E. -5.02 (A275 (107)) I.E. -6.09 (A275 (109)) I.E. -5.02 (A275 (108))

RELOCATE UTILITY POLE TO +11.83, 44.71'R

CONSTRUCT POROUS SHARED USE PATH

CONSTRUCT MILLING, 3" OR LESS

CONSTRUCT MILLING, 3" OR LESS HMA 9.5M64 SURFACE COURSE, 2" THICK

MAINTAIN EX. UTILITY POLE

CONSTRUCT RAMP DOWN FOR BICYCLES

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 7 DETECTABLE WARNING SURFACE

CONSTRUCT REMOVAL OF EXISTING PAVEMENT, GRADING TOPSOIL, 4" THICK SUBSOIL, 6" THICK FERTILIZING AND SEEDING, TYPE A–3 STRAW MULCHING

CONSTRUCT AP9" x 18" CONCRETE VERTICAL CURB FUCONCRETE SIDEWALK CONCRETE RAMP, TYPE 7 DETECTABLE WARNING SURFACE

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

CONSTRUCT EXCAVATION, UNCLASSIFIED HMA 9.5M64 SURFACE COURSE, 2" THICK HMA 19M64 BASE COURSE, 8" THICK DENSE GRADED AGGREGATE, 8" THICK

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB

CONSTRUCT SHARED USE PATH

INLET A275 (115) GR. 200.00 I.E. 8.00 ()

38 L.F. 18" RCP @ 1.18%

RELOCATE UTILITY POLE TO +87.33, 32.1'L

CONSTRUCT RAMP DOWN FOR BICYCLES

PROPOSED RETAINING WALL (TYP.)

PROPOSED UPLIGHTS FOR ID SIGN (TYP. OF 2)

EDGE OF PAVEMENT

TOP OF BANK (TYP.)

PROPOSED RIGHT-OF-WAY

50' RIPARIAN BUFFER

APPROXIMATE LOCATION DRAINAGE EASEMENT (REF. #5)

CONC. CULVERT

SAWCUT

NURSERY ROAD (C.R. 619)

NURSERY ROAD (VARIABLE WIDTH R.O.W.)

SCOTCH ROAD

P.O.B. EASEMENT

PROJECT LIMIT

MAINTAIN EX. UTILITY POLE

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

CONSTRUCT MILLING, 3" OR LESS HMA 9.5M64 SURFACE COURSE, 2" THICK

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB

CONSTRUCT 9" x 18" CONCRETE SIDEWALK

CONSTRUCT CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

D.W.P. CONC. WALK

BELGIAN BLOCK CURB

GRASS AREA

D.W.P. – DOT BOX

INLET GR. 215.02 INV. OUT (15") 213.02

INLET GR. 215.57 INV. IN (15") 212.77 INV. OUT (15") 212.57

INLET GR. 215.28 INV. IN (15") 212.28 INV. OUT (15") 212.18

INLET GR. 213.40 INV. OUT (15") 209.40

INLET GR. 211.40 INV. OUT (15") 208.00

DMH Rim 211.78 NO INVERTS HEAVY TRAFFIC

DOT BOX

LIGHT POLE

15" RCP

SCALE: 1"=30'

0 30 60 120 ft.

NO.	REVISION	DATE	CHKD
1	REVISED PER PB COMPLETENESS REVIEW	09/10/24	

PROJ. 08139-101-001
DWG. 08139-SESC
CHKD. SAD

Bowman

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SEAN A. DELANY, NJ Professional Engineer, Lic. 24GE04447100

PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 59.24, 60.01, 60.02
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No. 16A OF

PageSetUp: DWG to PDF 3042 PlotStyleTable: BCG–NJ.ctb
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Deer Valley Easement.dwg

50' RIPARIAN BUFFER

N85° 26' 18"E – 929.55'

N85°26'18"E 929.55' (SURVEY)

50' WETLANDS BUFFER
PER NJDEP LOI APPROVAL
1106-19-0003.1 FWW 190001

50' WETLANDS BUFFER
PER NJDEP LOI APPROVAL
1106-19-0003.1 FWW 190001

STREAM CORRIDOR 150' BUFFER LINE

STREAM CORRIDOR BUFFER REDUCTION
41,089 SF (0.29 AC)

EXISTING TOP OF BANK (TYP.)

LIMIT OF
DISTURBANCE
(TYP.)

FRESHWATER WETLANDS / WATERS
BOUNDARY LINE AS VERIFIED BY NJDEP
FILE NO.: 1106-19-0003.1 FWW 190001
(WETLANDS 'B' AND 'BB' LINES)
(REF. #8)

SILT FENCE /(TYP.)

50' WETLANDS BUFFER
PER NJDEP LOI APPROVAL
1106-19-0003.1 FWW 190001

FRESHWATER WETLANDS / WATERS
BOUNDARY LINE AS VERIFIED BY NJDEP
FILE NO.: 1106-19-0003.1 FWW 190001
(WETLANDS 'B' AND 'BB' LINES)
(REF. #8)

BLOCK 93
LOT 20
DEER VALLEY REALTY, INC.
DB. 6330, PG. 884

BLOCK 93
LOT 44
N/F DEER VALLEY REALTY, INC.
C/O CREST ULTRA
DB. 5624, PG. 115

BLOCK 93
LOT 60
N/F DEER VALLEY REALTY, INC.
DB. 3404, PG. 119

ROAD B

ROAD C

EXISTING 50 FOOT
GAS MAIN EASEMENT

N84°24'05"E 294.90' (SURVEY)

N84° 24' 05"E 294.90' (SURVEY)

S89°31'00"W 1,212.00' (DEED)

50' WIDE RIGHT-OF-WAY EASEMENT
TO SUN PIPE LINE COMPANY
(DB. 1217, PG. 70)

DECLARATION OF TAKING

SCALE: 1" = 30'

12	11	10	9	8	7	6	5	4	3	2	1	REVISION
												DATE
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1 REVISED PER PB COMPLETENESS REVIEW 09/10/24

PROJ. 08139-101-001
DWG. 08139024
CHKD. SAD

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No. 24GA28222600

SEAN A. DELANY, N.J. Professional Engineer, Lic. 24GE04447100

PRELIMINARY AND FINAL MAJOR SUBDIVISION &
PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT
CONTROL PLAN
BLOCK 93, LOTS 19.04, 20, 44.01, 44.02 &
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No.
16B
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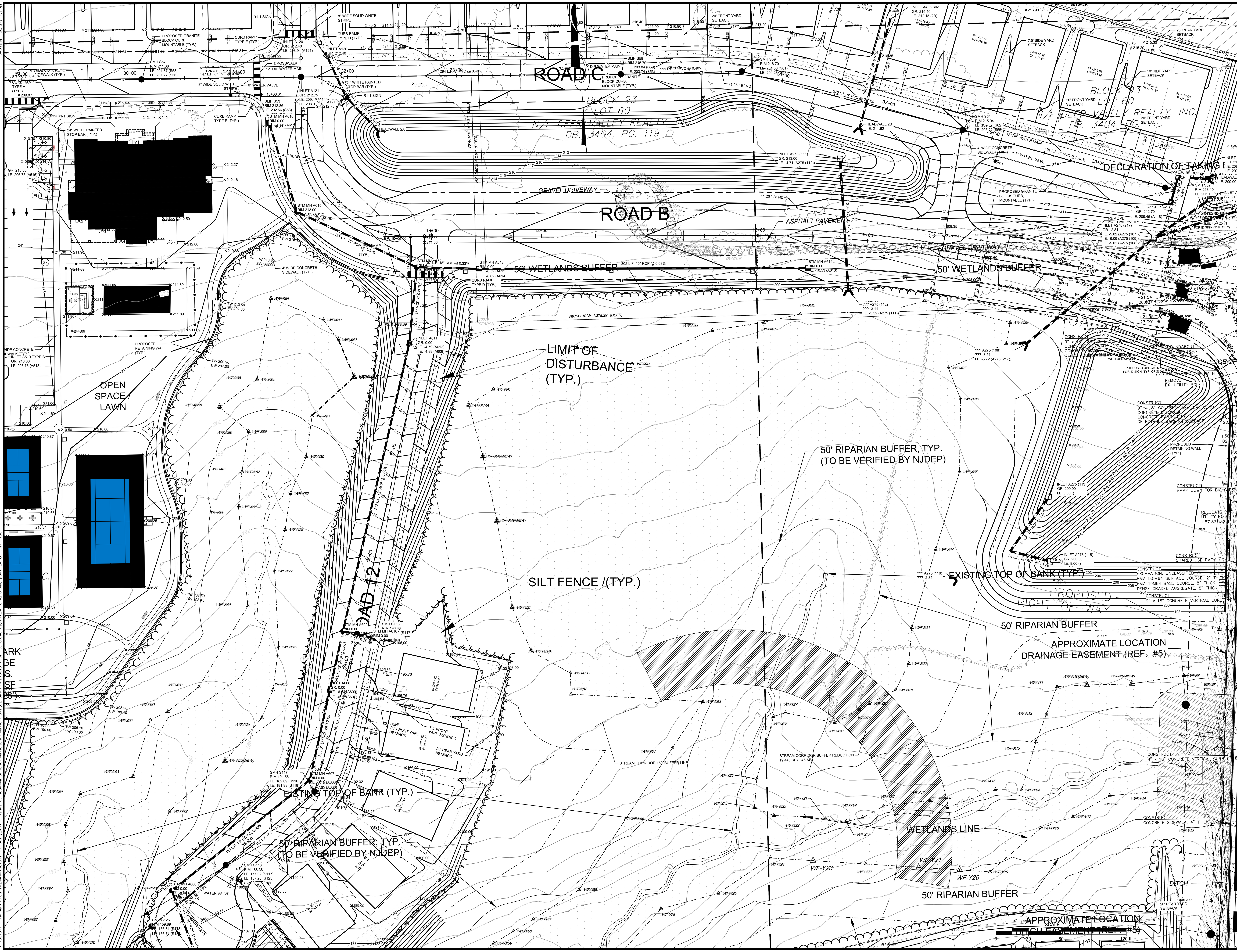

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DATE: 06/25/2024
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NJ Certificate of Authorization No. 24GA28222600
SEAN A. DELANY, N.J. Professional Engineer, Lic. 24GE04447100

PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR

VENUE AT HOPEWELL

SOIL EROSION AND SEDIMENT CONTROL PLAN

BLOCK 93, LOTS 19, 20, 45.01, 46 & 60
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No.
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OF

XREFS: 081391_FORD.dwg 081077.01 Deer Valley-Hopewell-sheets 2-13.dwg 081391_PBASE.dwg Deer Valley Easement.dwg
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EXISTING TOP OF BANK (TYP.)

50' RIPARIAN BUFFER, TYP. (TO BE VERIFIED BY NJDEP)

50' WETLANDS BUFFER

LIMIT OF DISTURBANCE (TYP.)

SILT FENCE /(TYP.)

STREAM CORRIDOR 150' BUFFER LINE

STREAM CORRIDOR BUFFER REDUCTION 8,215 SF (0.19 AC)

STREAM CORRIDOR BUFFER REDUCTION 20,644 SF (0.47 AC)

CORRIDOR BUFFER REDUCTION (0.28 AC)

STREAM CORRIDOR 150' BUFFER LINE

EXISTING TOP OF BANK (TYP.)

50' WETLANDS BUFFER

50' RIPARIAN BUFFER

100' DRCC BUFFER

STREAM CORRIDOR BUFFER REDUCTION 19,445 SF (0.45 AC)

STREAM CORRIDOR 150' BUFFER LINE

WETLANDS LINE

50' RIPARIAN BUFFER

50' WETLANDS BUFFER

APPROXIMATE LOCATION DITCH EASEMENT (REF. #5)

APPROXIMATE LOCATION SLOPE E.W. (REF. #5)

50' WETLANDS BUFFER

50' WETLANDS BUFFER

PROPOSED RIGHT-OF-WAY

EDGE OF PAVEMENT

EDGE OF PAVEMENT

DITCH

DITCH

DITCH

DITCH

ROAD G

NURSERY ROAD

NURSERY ROAD

SAWCUT

SAWCUT

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB

CONSTRUCT CONCRETE SIDEWALK, 4" THICK

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

CONSTRUCT TOPSOILING, 4" THICK FERTILIZING AND SEEDING, TYPE A-3 STRAW MULCHING

CONSTRUCT EXCAVATION, UNCLASSIFIED HMA 9.5M64 SURFACE COURSE, 2" THICK HMA 19M64 BASE COURSE, 8" THICK DENSE GRADED AGGREGATE, 8" THICK

CONSTRUCT MILLING, 3" OR LESS HMA 9.5M64 SURFACE COU

PROPOSED RETAINING WALL (TYP.)

24" WHITE PAINTED STOP BAR (TYP.)

BLOCK 93 LOT 20 OF DEER VALLEY REALTY, INC. DB. 6330, PG. 884

BLOCK 93 LOT 20 N/F OF DEER VALLEY REALTY, INC. DB. 6330, PG. 884

BLOCK 93 LOT 20 N/F DEER VALLEY REALTY, INC. DB. 6161, PG. 1140

BLOCK 93 LOT 34 N/F LYNCH

BLOCK 93 LOT 31 N/F MORREALE

BLOCK 93 LOT 30 N/F WEINTRAUB

BLOCK 93 LOT 27 N/F BURD JAMES C

BLOCK 93 LOT 28

BLOCK 93 LOT 46 N/F DEER VALLEY REALTY, INC. DB. 6161, PG. 1140

BLOCK 93 LOT 20 N/F DEER VALLEY REALTY, INC. DB. 6161, PG. 1140

BLOCK 93 LOT 20 N/F DEER VALLEY REALTY, INC. DB. 6330, PG. 884

S85°08'38"W 945.00' (SURVEY)

S83°38'38"W 100.00' (SURVEY)

S84°57'39"W 100.00' (DEED)

S83°26'39"W 200.00' (DEED)

N84°57'39"E 100.00' (DEED)

N85°26'39"E 200.00' (DEED)

S85°22'21"W 400.00' (DEED)

N85°22'21"E 398.66' (DEED)

SCALE: 1"=30'

0 30 60 120 ft

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DATE: 09/10/24
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SEAN A. DELANY, N.J. Professional Engineer, Lic. 24GE04447100

PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 19.02, 20, 46 & 49
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

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FLOOD HAZARD AREA

100' DRCC BUFFER

50' RIPARIAN BUFFER

50' WETLANDS BUFFER

50' WETLANDS BUFFER

SILT FENCE /(TYP.)

EXISTING TOP OF BANK (TYP.)

LIMIT OF DISTURBANCE (TYP.)

50' RIPARIAN BUFFER

50' WIDE RIGHT-OF-WAY EASEMENT TO SUN PIPE LINE COMPANY (DB. 1217, PG. 70)

ROAD A

ROAD B

ROAD C

AREA

BLOCK 93 LOT 20

DEER VALLEY REALTY, INC. DB. 6,330, PG. 884

FRESHWATER WETLANDS / WATERS
ARY LINE AS VERIFIED BY NJDEP
FILE NO.: 1106-19-0002.1 FWW 190001
(WETLANDS 'C' LINE)
(REF. #6)

SHWATER WETLANDS / WATERS
ARY LINE AS VERIFIED BY NJDEP
NO.: 1106-19-0002.1 FWW 190001
(WETLANDS 'C' LINE)
REF. #6)

N85°26'18"E 929.55' (SURVEY)

STREAM CORRIDOR BUFFER REDUCTION
10,924 SF (0.24 AC)

STREAM CORRIDOR 150' BUFFER LINE

STREAM CORRIDOR 100' BUFFER LINE

50'

S89°31'00"W 1,212.00' (DEED)

SCALE: 1"=30'

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NO.	REVISION	DATE	CHKD
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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR

VENUE AT HOPEWELL

SOIL EROSION AND SEDIMENT CONTROL PLAN

BLOCK 93, LOTS 19.01, 19.02 & 20

TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No. 16E

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Deer Valley Easement.dwg
Deer Valley Realty-Hopewell-sheets 2~13.dwg
08139 - Proposed Easement.dwg
08139 - Offsite Sewer.dwg
08139 - Offsite Water.dwg

PRELIMINARY AND FINAL MAJOR SUBDIVISION &
PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT
CONTROL PLAN

BLOCK 93, LOTS 19, 20, 45.01, 46 & 60
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No. 16F OF

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081077-01 Deer Valley-Hopewell-sheets 2-13.dwg
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ROAD F

ROAD G

CONSERVATION EASEMENT "B" ON LOT 45.01, BLOCK 93 DB. 5056, PG. 281

50' WIDE ACCESS EASEMENT IN FAVOR OF LOT 45, BLOCK 3 DB. 1519, PG. 229

LIMIT OF DISTURBANCE (TYP.)

SILT FENCE /(TYP.)

WF-L6 TO WF-L7 PROVIDED BY OTHERS AND NOT FIELD LOCATED BY BOWMAN CONSULTING

CONSERVATION EASEMENT "A" ON LOT 45.01, BLOCK 93 DB. 5056, PG. 281

50' WIDE ACCESS EASEMENT IN FAVOR OF LOT 45, BLOCK 3 DB. 1519, PG. 229

25' WIDE ACCESS AND UTILITY EASEMENT ON LOT 37.01 BENEFITS LOT 45.01 DB. 5056, PG. 266

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'G' LINE) (REF. #6)

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'L' AND 'K' LINES) (REF. #7)

50' WETLANDS BUFFER

50' RIPARIAN BUFFER, TYP. (TO BE VERIFIED BY NJDEP)

50' WETLANDS BUFFER

50' RIPARIAN BUFFER

STREAM CORRIDOR BUFFER REDUCTION 12,367 SF (0.28 AC)

STREAM CORRIDOR BUFFER REDUCTION 1904 SF (0.04 AC)

EXISTING STREAM

FLOOD HAZARD AREA

RIGHT-OF-WAY DEDICATION

BLOCK 93 LOT 42 DB. 4040, PG. 246

BLOCK 93 LOT 37.01 N/F LOMNICKI JESSICA Z & ZBIGNIEW DB. 5083, PG. 256

BLOCK 93 LOT 36 N/F GALLAGHER JOHN F III & SEITZ ERICA DB. 5925, PG. 218

BLOCK 93 LOT 35 N/F STEVENSON THOMAS P DB. 5765, PG. 43

BLOCK 93 LOT 34 N/F LYNCH TIMOTHY M DB. 6135, PG.

BLOCK 93 LOT 19 N/F DEER VALLEY REALTY INC DB. 6367, PG. 787

BLOCK 93 LOT 45.01 N/F DEER VALLEY REALTY INC DB. 5056, PG. 93

BLOCK 93 LOT 45 N/F CF DEER VALL DB. 6330,

FILED MAP #3

EXISTING

SCALE: 1"=30'

0 30 60 120 ft.

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PROJ.: 08139-I-01-001
WORK ORDER: 00424
CHKD: SAD

Bowman

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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 19, 37.01, 45.01, 45.02 &
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

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EXISTING STREAM

EXISTING STREAM

N84° 32' 20"E – 2117.52'

LIMIT OF DISTURBANCE (TYP.)

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'Y' LINE) (REF. #6)

50' RIPARIAN BUFFER, TYP. (TO BE VERIFIED BY NJDEP)

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'C' LINE) (REF. #6)

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'A' AND 'FF' LINES) (REF. #6)

EXISTING 50 FOOT GAS MAIN EASEMENT

ROAD A

ROAD A

ROAD A

SILT FENCE //(TYP.)

SOIL STOCKPILE AREA (TYP.)

BLOCK 19.03 LOT 19 N/F DEER VALLEY REALTY, INC. DB 9367, PG. 1787

DETACHED DWELLINGS (TYP.)

PROPOSED SINGLE FAMILY SEMI-DETACHED DWELLINGS (TYP.)

STREAM CORRIDOR 150' BUFFER LINE

FLOC

SCALE: 1"=30'

0 30 60 120 ft.

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DATE 09/10/24
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SEAN A. DELANY, N.J. Professional Engineer, Lic. 24GE04447100

PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 58, LOTS 30.01, 46.01, 46.02
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No.
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OF

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PRELIMINARY AND FINAL MAJOR SUBDIVISION &
PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT
CONTROL PLAN
BLOCK 93, LOTS 19, 20, 45.01, 46 & 60
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No. 16 OF

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REVISION	DATE	CHKD

PROJ.: 081391-01-001
DATE: 06/25/2024
CHKD: SAD

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SOIL STOCKPILE AREA (TYP.)

GAZEBO

BLOCK 93
LOT 19
N/F DEER VALLEY REALTY, INC.
DB. G36 PG. 1787

ROAD 2

ROAD 3

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO. 1125-10-0002.1 FWW 190001 (WETLANDS LETTER #01)

20' FRONT YARD SETBACK

20' REAR YARD SETBACK

7.5' SIDE YARD SETBACK

PROPOSED RETAINING WALL (TYP.)

PROPOSED GRANITE CURB TO BE MOUNTABLE (TYP.)

4' WIDE CONCRETE SIDEWALK (TYP.)

5'X5' CONCRETE SIDEWALK BYPASS AREA (TYP.)

24" WHITE PAINTED STOP BAR (TYP.)

CURB RAMP TYPE C (TYP.)

CURB RAMP TYPE A (TYP.)

CURB RAMP TYPE D (TYP.)

CBU CLUSTER MAILBOXES 1 TYPE I 4 PARCEL LOCKERS

ABOVE GROUND OIL TANKS

METAL BUILDING

SCALE: 1"=50'

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Deer_Valley_Easement.dwg

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ROAD F

ROAD D 6

ROAD 7

ROAD E

CHANGE ROAD 9 PROFILE TO MATCH THESE ELEVATIONS

ABOVE GROUND OIL TANKS

METAL BUILDING

GRAVEL DRIVEWAY

SILT FENCE /(TYP.)

LIMIT OF DISTURBANCE (TYP.)

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'D' LINE) (REF. #6)

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO : 1106-19-0002.1 FWW 190001 (WETLANDS 'G' LINE) (REF. #6)

50' WETLANDS

50' RIPARIAN (TO BE VERIFI

PROPOSED RIGHT-OF-WAY

WETLANDS 0.53 AC (TO REMAIN)

ABOVE GROUND POOL

RAILROAD TIE WALL

METAL WIRE FENCE

S2°19'27"E 100.51' (SURVEY)

S84°20'35"W 183.49' (SURVEY)

S02°19'27"E 176.82' (SURVEY)

N5°39'27"W 275.45' (SURVEY)

100.00' (SURVEY)

IP FND REBAR

BLOCK 93 LOT 19

BLOCK 93 LOT 33

BLOCK 93 LOT 48

BLOCK 93 LOT 47

N/F DEER VALLEY REALTY INC. DB. 6367, PG. 178

SCALE: 1"=30'

0 30 60 120 ft.

REVISION

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1 REVISED PER RI COMPLETENESS REVIEW

PROJ. 1.08391-01-001
DRAWN BY MG
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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 19 & 25.01, 48 & 49
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No.
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OF

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Xrefs: 08191-01-001-Cover.dwg, 08191-SP-Base.dwg, 08191-SP-Utility-Hopewell.dwg, Deer Valley Easement.dwg

FILED MAP #3196

EXISTING STR

EXISTING STREAM

N84° 32' 20"E — 2117.52'

IRON ROD FND (TRENTON ENG)

N2°30'03"E 1003.97' (SURVEY)

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'F' AND 'FF' LINES) (REF. #6)

50 FT RIPARIAN BUFFER

LIMIT OF DISTURBANCE (TYP.)

SILT FENCE /(TYP.)

EXISTING TOP OF BANK (TYP.)

NDS BUFFER

S 0.13 AC
LED)

TE
(TYP)

SIDE DRIVE
R.O.W.)

S 0.44 AC
LED)

50' RIPARIAN BUFFER, TYP. (TO BE VERIFIED BY NJDEP)

50' WETLANDS BUFFER

WETLANDS 0.13 AC (TO BE FILLED)

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO.: 1106-19-0002.1 FWW 190001 (WETLANDS 'I' LINE) (REF. #6)

ROAD 6

50' WIDE RIGHT-OF-WAY EASEMENT ON LOT 19 IN FAVOR OF SUNOCO (SEE NOTE)

PROPOSED RETAINING WALL (TYP.)

PROPOSED GRANITE BLOCK CURB, MOUNTABLE (TYP.)

CHAIN LINK FENCE

BLOCK 93

N/F DELAWARE VALLEY T. MASON INC. DB. 6367 PG. 176

LOT 19

LOT 20

LOT 21

LOT 22

LOT 23

LOT 24

LOT 25

LOT 26

LOT 27

LOT 28

LOT 29

LOT 30

LOT 31

LOT 32

LOT 33

LOT 34

LOT 35

LOT 36

LOT 37

LOT 38

LOT

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1 REVISED PER PB COMPLETENESS REVIEW	09/10/24	

PROJ.: 081391-01-001
DATE: 06/25/2024
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PRELIMINARY AND FINAL MAJOR SUBDIVISION &
PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 19, 20, 45.01, 46 & 60
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

SHEET No.
16L
OF

RETAINING WALL

MOUNTABLE CURB (TYP)

4' CONCRETE SIDEWALK (TYP)

BLOCK 93
LOT 54
N/F CURRAN MARK E & JANICE M
DB. 4613, PG. 266

BLOCK 93
LOT 49
N/F DEER VALLEY REALTY INC.
DB. 6367, PG. 1427

ROAD 1

ROAD 2

50' WETLANDS BUFFER

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO. 1106-19-0002.1 FWW 190001 (WETLANDS 'E' LINE) (REF. #6)

SILT FENCE /(TYP.)

LIMIT OF DISTURBANCE (TYP.)

PROPOSED RETAINING WALL (TYP.)

PROPOSED GRANITE BLOCK CURB, MOUNTABLE (TYP.)

GRAVEL DRIVEWAY

SCALE: 1"=30'

0 30 60 120 ft.

PROJECT: 08139-101-001
DRAWN: 09/10/24
CHKD: SAD

NO.	DATE	CHKD
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NO.	DATE	CHKD
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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL PLAN
BLOCK 93, LOTS 49, 50, 54.01, 54.02
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

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WALK (TYP)

DS 1.23 AC

LLED MAX.

NURSERY ROAD

(A.K.A. MERCER COUNTY ROUTE #647)

(VARIABLE WIDTH R.O.W.)

NURSERY ROAD (C.R. 647)

PROJECT LIMIT

DR. 6367, PG. 1183

50' WETLANDS BUFFER

PROPOSED RIGHT-OF-WAY

INLET A274 GR. 145.00 I.E. -5.02 (A273)

INLET A275 (155) GR. 145.00 I.E. -4.71 (A275 (156))

INLET A273 GR. 149.00 I.E. -4.44 (A274)

INLET A275 (153) GR. 145.00 I.E. -4.71 (A275 (154))

??? A275 (150) ???-3.37 I.E. -5.58 (A275 (149))

??? A275 (152) ???-3.22 I.E. -5.43 (A275 (151))

??? A275 (156) ???-2.79 I.E. -5.00 (A275 (155))

??? A275 (154) ???-2.63 I.E. -4.84 (A275 (153))

143 LF 18" RCP @ 0.50%

150 LF 18" RCP @ 0.50%

CONSTRUCT TOPSOILING, 4" THICK FERTILIZING AND SEEDING, TYPE A-3 STRAW MULCHING

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB

CONSTRUCT CONCRETE SIDEWALK, 4" THICK

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 7

CONSTRUCT MILLING, 3" OR LESS HMA 9.5M64 SURFACE COURSE, 2" THICK

CONSTRUCT EXCAVATION, UNCLASSIFIED HMA 9.5M64 SURFACE COURSE, 2" THICK HMA 19M64 BASE COURSE, 6" THICK DENSE GRADED AGGREGATE, 4" THICK

CONSTRUCT 9" x 18" CONCRETE VERTICAL CURB CONCRETE SIDEWALK CONCRETE RAMP, TYPE 5 DETECTABLE WARNING SURFACE

PROPOSED UPLIGHTS FOR ID SIGN (TYP. OF 2)

LIMIT OF GRADING

LIMIT OF DISTURBANCE

EDGE OF PAVEMENT

MAINTAIN EX. UTILITY POLE

REMOVE EX. UTILITY POLE

IRON ROD FND (TRENTON ENG)

S84°04'20"W 1,150.19' (SURVEY)

12" PIPE

18" PIPE

20" PIPE

DITCH

SAWCUT

CONC. HEADWALL

CONC. PAD

ASPHALT DRIVEWAY

STONE DRIVEWAY

EXISTING DRIVEWAY

LIGHT POLE

64308 HW

02315 HW

MAILBOX

MONUMENT

PROPOSED MONUMENT ID SIGN WITH UPLIGHTING

STABILIZED CONSTRUCTION ENTRANCE 24'X100'

SECONDARY ACCESS

NURSERY ROAD

(A.K.A. MERCER COUNTY ROUTE #647)

(VARIABLE WIDTH R.O.W.)

BLOCK 93 LOT 33 DB. 6133, PG. 1004

BLOCK 93 LOT 48 DB. 3716, PG. 70

BLOCK 93 LOT 47 DB. 5856, PG. 78

BLOCK 93 LOT 28 DB. 6161, PG. 1140

N53°42'47"W 276.71' (SURVEY)

N53°42'47"W 276.71' (DEED)

S84°04'20"W 390.44' (SURVEY)

S84°04'20"W 390.44' (DEED)

S5°41'52"E 206.15' (SURVEY)

S05°41'52"E 206.15' (DEED)

N84°04'20"E 176.82' (SURVEY)

N84°04'20"E 176.82' (DEED)

N5°02'21"W

N4°51'27"W 294.89' (SURVEY)

N4°51'27"W 294.89' (DEED)

FRESHWATER WETLANDS / WATERS BOUNDARY LINE AS VERIFIED BY NJDEP FILE NO. 1106-19-0002.1 FWW 190001 (WETLANDS 'G' LINE) (REF. #6)

WETLANDS 0.13 AC (TO REMAIN)

CONSTRUCT CONCRETE SIDEWALK, 4" THICK

REMOVE EX. UTILITY POLE

ASPHALT DRIVEWAY TO REMAIN

APPROXIMATE LOCATION SLOPE E.W. (REF

MON. FND DOT

L=109.11'
R=273.95'
Δ=22°48'58"
CH=S16°45'51"E
CL=108.39'
(SURVEY)

L=372.52'
R=273.95'
Δ=77°54'38"
CH=S35°20'02"W
CL=344.47'
(SURVEY)

45° BEND

22.5° BEND

CONC. PAD

METAL GUIDE RAIL

RIP-RAP AREA

SCALE: 1"=30'

0 30 60 120 ft.

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PROJ. 08139-101-001
DES. 08/06/2024
CHKD. SAD

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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR

VENUE AT HOPEWELL

SOIL EROSION AND SEDIMENT CONTROL PLAN

BLOCK 93, LOTS 19.04, 19.01, 48 & 47

TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

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Deer Valley Easement.dwg

MERCER COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL NOTES

1. The Mercer County Soil Conservation District shall be notified 48 hours prior to starting land disturbance activity. Notice may be mailed, faxed or emailed to:
   MCSCD, 590 Hughes Drive, Hamilton Square, NJ 08690
   Phone: 609-586-9603 Fax: 609-586-1117 Email: Paula1mercer@aol.com
2. If applicable to this project, the owner should be aware of his or her obligation to file for a NJPDES Construction Activity Stormwater SG3 Permit (NJG0088323) via the NJDEP online permitting system (www.nj.gov/dep/online) and to maintain the associated best management practices and Stormwater Pollution Prevention Plan self-inspection logbook onsite at all times. This permit must be filed prior to the start of soil disturbance. The online application process will require entry of an SCD certification code, which is provided by the Soil Conservation District upon certification of the Soil Erosion and Sediment Control Plan.
3. The Mercer County Soil Conservation District shall be notified of any changes in ownership.
4. Any changes to the Certified Soil Erosion and Sediment Control Plan, including an increase in the limit of disturbance, will require the submission of revised Soil Erosion and Sediment Control Plans to the District for recertification. The revised plans must meet all current State Soil Erosion & Sediment Control STANDARDS.
5. A copy of the certified Soil Erosion and Sediment Control plan shall be maintained on site at all times.
6. All Soil Erosion and Sediment Control practices shall be installed prior to any major soil disturbances, or in their proper sequence as outlined within the Sequence of Construction on the Certified Soil Erosion and Sediment Control Plan, and maintained until permanent protection is established.
7. All work shall be done in accordance with the current STANDARDS for Soil Erosion and Sediment Control in NJ. If language contained within any other permit for this project is more restrictive than (but not contradictory to) what is contained within these notes or on the Certified Soil Erosion and Sediment Control Plan, then the more restrictive permit requirements shall be followed.
8. The Standard for Stabilized Construction Access requires the installation of a 1½" to 2½" clean stone tracking pad at all construction driveways immediately after initial site disturbance, whether identified on the certified plan or not. The width shall span the full width of egress, and length shall be 50 ft. or more, depending on site conditions and as required by the STANDARD. This shall include individual lot access points within residential subdivisions. If the egress is to a County road, then a 20 ft. long paved transition shall be provided between the edge of pavement and the stone access pad.
9. A sub-base course will be applied immediately following rough grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas. In areas where no utilities are present, the sub-base shall be installed within 15 days of preliminary grading, provided that all other requirements related to detention basins, swales and the Sequence of Construction have been met.
10. Any disturbed areas that will be left exposed more than 14 days and not subject to construction activity will immediately receive temporary stabilization. If the season prevents establishment of a temporary vegetative cover, or if the area is not topsoiled, then the disturbed areas will be mulched with straw, or equivalent material, at a rate of two (2) tons per acre, according to State STANDARDS. Sloped areas in excess of 3H:1V shall be provided with erosion control blankets. Critical areas subject to erosion (i.e. steep slopes, roadway embankments, environmentally sensitive areas) will receive temporary stabilization immediately after an initial disturbance or rough grading.
11. Any steep slopes (i.e. slopes greater than 3:1) receiving pipeline or utility installation will be backfilled and stabilized daily, as the installation proceeds.
12. Permanent vegetation shall be seeded or sodded on all exposed areas within ten (10) days after final grading and topsoiling. All agronomic requirements contained within the STANDARDS and on the Certified Plan shall be employed. Mulch with a binder, in accordance with the STANDARDS, shall be used on all seeded areas. Save all tags and/or bags used for seed, lime, and fertilizer, and provide them to the District inspector to verify that mixtures and rates meet the STANDARDS.
13. At the time when the site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover shall be removed or treated in such a way that will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide suitable conditions, then non-vegetative means of permanent ground stabilization will have to be employed.
14. During the course of construction, soil compaction may occur within haul routes, staging areas, and other project areas. In accordance with the Standard for Topsoiling, compacted surfaces should be scarified 6" to 12" immediately prior to topsoil application. This will help ensure a good bond between the topsoil and subsoil. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).
15. Prior to seeding, topsoil shall be worked to properly prepare a proper seedbed. This shall include raking of the topsoil and removal of debris and stones, along with other requirements of the Standard for Permanent Vegetative Cover for Soil Stabilization.
16. In accordance with the STANDARD for Management of High Acid Producing Soils, any soil having a pH of 4 or less or containing iron sulfides shall be buried with limestone in accordance with the STANDARD and the application of a minimum of 12" of soil having a pH of 5 or more prior to topsoil application and seedbed preparation. If the area is to receive tree or shrub plantings or is located on a slope, then the area shall be covered with a minimum of 24" of soil having a pH of 5 or more.
17. Mulching to the STANDARDS is required for obtaining a Conditional Report of Compliance. Conditional ROC's are only issued when the season prohibits seeding. Permanent stabilization must then be completed during the optimum seeding season immediately following the Conditional ROC or the completion of work in a given area.
18. Hydroseeding is a two-step process. The first step includes seed, fertilizer, lime, etc., along with minimal amounts of mulch to promote consistency, good seed-to-soil contact, and give a visual indication of coverage. Upon completion of the seeding operation, hydro-mulch should be applied at a minimum rate of 1500 lbs. per acre in the second step. The use of hydro-mulch, as opposed to straw, is limited to optimum seeding dates as listed in the STANDARDS. The use of hydromulch on sloped areas is discouraged.
19. The contractor is responsible for keeping all adjacent roads clean during the life of the construction project. All sediment washed, dropped, tracked or spilled onto paved surfaces shall be immediately removed.
20. The developer shall be responsible for remediating any erosion or sediment problems that arise as a result of ongoing construction, and for employing additional erosion and sediment control measures at the request of the Mercer County Soil Conservation District.
21. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
22. All detention / retention basins must be fully constructed (inclusive of all structural components and liners) and permanently stabilized prior to paving or prior to the addition of any impervious surfaces. Permanent stabilization includes, but may not be limited to: topsoil, seed, straw mulch and binders or erosion control blankets on all seeding, all agronomic requirements as specified on the Certified Soil Erosion and Sediment Control Plan, installation of the outflow control structures and discharge storm drainage piping, low flow channels, conduit outlet protection, emergency spillways, and lap ring protection.
23. The riding surface of all utility trenches within paved areas shall be 3/4" clean stone or base pavement until such time as final pavement has been installed. Temporary soil riding surfaces are prohibited. All construction dewatering (trenches, excavations, etc.) must be done through an inlet or outlet filter in accordance with the Standard for Dewatering or as depicted on the Certified Soil Erosion and Sediment Control Plan. Discharge locations for the dewatering operation must contain perennial vegetation or a similar stable surface.
24. All construction dewatering (trenches, excavations, etc.) must be done through an inlet or outlet filter in accordance with the Standard for Dewatering or as depicted on the Certified Soil Erosion and Sediment Control Plan. Discharge locations for the dewatering operation must contain perennial vegetation or similar stable surface.
25. All swales or channels that will receive runoff from paved surfaces must be permanently stabilized prior to the installation of pavement. If the season prohibits the establishment of permanent stabilization, the swales or channels may be temporarily stabilized in accordance with the STANDARDS.
26. NJSA 4:24-39 et seq. requires that no Certificate of Occupancy or Temporary Certificate of Occupancy be issued by the Municipality before the provisions of the Certified Soil Erosion and Sediment Control Plan have been satisfied. Therefore, all site work for site plans and all work around individual lots in subdivisions must be completed before the District issues a Report of Compliance or Conditional Report of Compliance, which must be forwarded to the Municipality prior to the issuance of a Certificate of Occupancy or Temporary Certificate of Occupancy, respectively.

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TOPSOIL STOCKPILE PROTECTION

a) Apply ground limestone at a rate of 90 lbs/1000 S.F.
b) Apply fertilizer (10-20-10) at a rate of 11 lbs/1000 S.F.
c) Apply Perennial Rye grass seed at 1 lb/1000 S.F. and Annual Rye grass at 1lb/1000 S.F.
d) Mulch stockpile with straw or hay at a rate of 90 lbs/1000 S.F.
e) Apply a liquid mulch binder or tack to straw or hay mulch.
f) Properly entrench a silt fence at the bottom of the stockpile.

ADDITIONAL NOTES

1. Contractor shall be responsible for maintaining all permanent soil erosion and sediment control measures during construction. The property owners shall assume this responsibility after construction is completed and certificates of occupancy are issued.
2. The soil erosion inspector may require additional soil erosion measures to be installed, as directed by the district inspector.
3. The contractor is responsible for keeping the roadways clean at all times. Any sediment spilled or tracked on the roadway will be cleaned up immediately, or at minimum, by the end of each work day.

ADDITIONAL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. THE PROPERTY OWNERS SHALL ASSUME THIS RESPONSIBILITY AFTER CONSTRUCTION IS COMPLETED AND CERTIFICATES OF OCCUPANCY ARE ISSUED.
2. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.
3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE ROADWAYS CLEAN AT ALL TIMES. ANY SEDIMENT SPILLED OR TRACKED ON THE ROADWAY WILL BE CLEANED UP IMMEDIATELY, OR AT MINIMUM, BY THE END OF EACH WORK DAY.
4. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON INDIVIDUAL SITES SHALL APPLY TO ANY SUBSEQUENT OWNERS.
5. STEEP SLOPES TO RECEIVE A 'TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR SUITABLE EQUAL. (SEE ANCHORING NOTES & NOTE NO. 6 OF SOIL EROSION & SEDIMENT CONTROL NOTES.)
6. BERMS ALONG THE ROAD SHALL BE BROUGHT TO GRADE AND STABILIZED AS SOON AS POSSIBLE.
7. THE CONTRACTOR SHALL PROVIDE ADDITIONAL ROWS OF SEDIMENT BARRIER (SILT FENCING, HAY BALES OR STONE BERM) AS NECESSARY DURING THE COURSE OF CONSTRUCTION SUCH THAT THE CONTRIBUTION DRAINAGE AREA IS LESS THAN 1 ACRE AND THE LENGTH OF SLOPE ABOVE THE BARRIER IS LESS THAN 150'.
8. THE BASIN SHALL NOT BE UTILIZED AS A SEDIMENT BARRIER DURING CONSTRUCTION. INLET PROTECTION SHALL BE MAINTAINED DURING CONSTRUCTION AND ANY DEWTERING OPERATIONS SHALL DISCHARGE INTO SEDIMENT CONTROL BAGS.

RIPRAP SPECIFICATIONS

RIPRAP GRADATION

HE RIPRAP SHALL BE COMPOSED OF WELL-GRADED MIXTURE SUCH THAT 50% OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE d50 SIZE AS DETERMINED FROM THE DESIGN PROCEDURE. A WELL-GRADED MIXTURE AS USED HEREIN IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE d50 SIZE. THE d75 SHOULD BE 1.25 TIMES THE d50 AND THE d15 SHOULD BE 0.5 TIMES THE d50 SIZE.

THE DESIGNER AFTER DETERMINING THE RIPRAP SIZE THAT WILL BE STABLE UNDER THE FLOW CONDITION SHALL CONSIDER THAT SIZE TO BE A MINIMUM SIZE AND THEN, BASED ON RIPRAP GRADATIONS ACTUALLY AVAILABLE IN THE AREA SELECT THE SIZE OR SIZES THAT EQUAL OR EXCEED THE MINIMUM SIZE. THE POSSIBILITY OF VANDALISM SHALL BE CONSIDERED BY THE DESIGNER IN SELECTING A RIPRAP SIZE. IF THE d50 SIZE IS INCREASED, THE APRON THICKNESS SHALL BE INCREASED PROPORTIONATELY.

FILTER

SYNTHETIC FILTER FABRIC SHALL MEET THE U.S. ARMY CORPS OF ENGINEERS GUIDE SPECS, CW02215, NOVEMBER 1977 FOR STRENGTH. RIPRAP THAT IS 12" AND LARGER SHALL NOT BE DUMPED DIRECTLY ONTO SYNTHETIC FILTER CLOTH UNLESS THE MANUFACTURER RECOMMENDS SUCH USE OF THE CLOTH OTHERWISE, A 4" MINIMUM THICKNESS BLANKET OF GRAVEL SHALL BE PLACED DIRECTLY ON THE FILTER CLOTH BY HAND OR BY THE BUCKET OF THE EQUIPMENT.

QUALITY

STONE FOR RIPRAP SHALL CONSIST OF FIELD STONE OR QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. THE STONE SHALL BE HARD AND ANGULAR AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING. THE SPECIFIC GRAVITY ON THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.

RUBBLE CONCRETE MAY BE USED, PROVIDED IT HAS A DENSITY OF AT LEAST 150 POUNDS PER CUBIC FOOT, AND OTHERWISE MEETS THE REQUIREMENTS OF THIS STANDARD.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

Definition

Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for long-term protection.

Purpose

To permanently stabilize the soil, ensuring conservation of soil and water, and to enhance the environment.

Water Quality Enhancement

Slows the over-land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable

On exposed soils that have a potential for causing off-site environmental damage.

Methods and Materials

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading.
   B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading .
   C. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling.
   D. Install needed erosion control practices or facilities such as diversions, grade-stabilization structures, channel stabilization measures, sediment basins, and waterways.
2. Seedbed Preparation
   A. Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co-operative Extension Soil sample mailers are available from the local Rutgers Cooperative Extension offices (http://rjaes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply one-half the rate described above during seedbed preparation and repeat another one-half rate application of the same fertilizer within 3 to 5 weeks after seeding.
   B. Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with a disc, spring-tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
   C. High acid producing soil. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seedbed reparation. See Standard for Management of High Acid-Producing Soils for specific requirements.
3. Seeding
   A. Select a mixture from Table 4-3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless retested.

      1. Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.

      2. Warm-season mixtures are grasses and legumes which maximize growth at high temperatures, generally 850 F and above. See Table 4-3 mixtures 1 to 7. Planting rates for warm-season grasses shall be the amount of Pure Live Seed (PLS) as determined by germination testing results.

      3. Cool-season mixtures are grasses and legumes which maximize growth at temperatures below 850F. Many grasses become active at 650F. See Table 4-3, mixtures 8-20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.

   B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse-textured soil.
   C. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
   D. Hydroseeding is a broadcast seeding method usually involving a truck, or trailer-mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
   D. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
4. Mulching

   Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

   A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing the turf or lawns due to the presence of weed seed.

      Application - Spread mulch uniformly by hand or mechanically so that at least 85% of the soil surface is covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.

      Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

      1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.

      2. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

      3. Crimper (mulch anchoring coulter tool) - A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

      4. Liquid Mulch-Binders - May be used to anchor salt hay, hay or straw mulch.

         a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.

         b. Use one of the following:

            (1) Organic and Vegetable Based Binders - Naturally occurring, powder-based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membranned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.

            (2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

            Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

   B. Wood-fiber or paper-fiber mulch - shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder.
   C. Pelletized mulch - compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

5. Irrigation (where feasible)

If soil moisture is deficient supply new seeding with adequate water (a minimum of 1/4 inch applied up to twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.

6. Topdressing

Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A - Seedbed Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 300 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

7. Establishing Permanent Vegetative Stabilization

The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch and other management are essential. The seed application rates in Table 4-3 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

Definition

Establishment of temporary vegetative cover on soils exposed for periods of two to 6 months which are not being graded, not under active construction or not scheduled for permanent seeding within 60 days.

Purpose

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Water Quality Enhancement

Provides temporary protection against the impacts of wind and rain, slows the over land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable

On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

1. Site Preparation
   A. Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, pg. 19-1.
   B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
   C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).
2. Seedbed Preparation
   A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample mailers are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone at the rate of 2 tons/acre unless soil testing indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.
   B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
   C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled in accordance with the above.
   D. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1-1.
3. Seeding
   A. Select seed from recommendations in Table 7-2.
   B. Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil, to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
   C. Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
   D. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seeding emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.
4. Mulching

   Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

   A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing the turf or lawns due to the presence of weed seed.

      Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section.

      Anchoring shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

      1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.

      2. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

      3. Crimper (mulch anchoring tool). A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

      4. Liquid Mulch-Binders. - May be used to anchor hay or straw mulch.

         a. Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.

         b. Use one of the following:

            (1) Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membranned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrass. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.

            (2) Synthetic Binders - High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

            Note: All names give above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

   B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the project manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
   C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, forms mulch mat. Pelletized mulch shall be applies in accordance with the manufacturers recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs/1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-seed free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.

      Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

MITIGATION NOTES FOR ACIDIC SOIL

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE EXPOSED MORE THAN 30 DAYS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT A RATE OF 6 TONS PER ACRE (OR 275 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SILT FENCE, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID PRODUCING SOILS FROM, AROUND OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE, (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PG. 7-1, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, PG. 4-1 AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW LATEST EDITION) MONITORING SHOULD CONTINUE FOR APPROXIMATELY 6 TO 12 MONTHS TO ASSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.
9. MONITORING OF AREAS WHERE HIGH ACID PRODUCING SOIL HAS BEEN PLACED OR BURIED SHOULD BE PERFORMED FOR AT LEAST 2 YEARS OR LONGER IF PROBLEMS OCCUR, TO ASSURE THERE IS NO MIGRATION OF POTENTIAL ACIDE LEACHATE.

STANDARD FOR STORM SEWER INLET PROTECTION

A TEMPORARY BARRIER AND SETTLING FACILITY INSTALLED AT A STORM SEWER INLET.

DEFINITION

THE PURPOSE OF STORM SEWER INLET PROTECTION IS TO INTERCEPT AND RETAIN SEDIMENT PREVENTING THE ENTRANCE OF SEDIMENT INTO THE STORM SEWER SYSTEM.

PURPOSE

CONDITIONS WHERE PRACTICE APPLIES

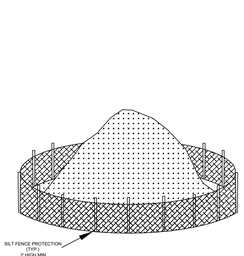
1. CONTRIBUTING DRAINAGE AREA IS 3 ACRES OR LESS.
2. A STORM SEWER OR THE OUTLET CHANNEL OF A STORM SEWER NEEDS PROTECTION FROM SEDIMENT.
3. TRAFFIC WILL NOT DESTROY OR CAUSE CONSTANT MAINTENANCE OF THE STORM SEWER INLET PROTECTION.
4. A TRAFFIC HAZARD WILL NOT BE CREATED.
5. A FLOODING PROBLEM WILL NOT BE CREATED.

WATER QUALITY ENHANCEMENT

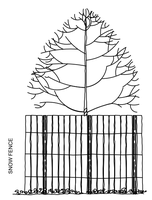
THE PRIMARY BENEFIT TO WATER QUALITY IS REMOVAL OF SEDIMENTS FROM STORMWATER RUNOFF. SOME REMOVAL OF OTHER POLLUTANTS MAY OCCUR AS AN ADDED BENEFIT. OTHER FLO

CONSTRUCTION SEQUENCE

SITE PREPARATION	DURATION
1. INSTALL SEDIMENT FILTER FENCE, TREE PROTECTION FENCE, AND FENCING ALONG LIMITS OF DISTURBANCE.	4 WEEKS
2. INSTALL STABILIZED CONSTRUCTION ACCESS.	2 DAYS
3. CLEAR TREES AND REMOVE TREE STUMPS	4 WEEKS
4. REMOVE EXISTING BUILDINGS, PAVED AND GRAVEL DRIVES.	2 WEEKS
5. STRIP AND STOCKPILE TOPSOIL	1 WEEK
6. ROUGH GRADE SITE AND STORMWATER MANAGEMENT BASINS	8 WEEKS
7. PLACE CONSTRUCTION TRAILER AND CONSTRUCT STAGING AND LAYDOWN AREA. INSTALL STONE BEDDING OVER AREA FOR STABILIZATION DURING CONSTRUCTION OF SITE.	2 WEEKS
8. FINALIZE INTERIM CONSTRUCTION OF STORMWATER MANAGEMENT BASINS AND PROVIDE PERMANENT STABILIZATION PRIOR TO INSTALLATION OF STORM DRAINS. K3 SOIL AND SAND LAYERS IN BOTTOM OF BASINS NOT TO BE INSTALLED IN INTERIM CONDITION. BASIN BOTTOMS TO BE COVERED WITH ANCHORED DOWN FILTER FABRIC.	2 WEEKS 12 WEEKS
9. CONSTRUCT STORMWATER STRUCTURES AND PIPING, AND OUTFALLS AND SOIL EROSION AND SEDIMENT CONTROL MEASURES. STABILIZE BASINS UPON COMPLETION	8 WEEKS
10. ROUGH GRADE PROPOSED ROADWAYS ONSITE AND INSTALL CURB AND ROADWAY SUBBASE.	12 WEEKS
11. INSTALL ONSITE SANITARY SEWER AND WATER MAINS WITHIN ROADS. INSTALL WATER SERVICE AND SANITARY SEWER LATERALS FROM MAINS WITHIN PROPOSED ROADWAYS BEHIND CURB LINE LOCATION.	2 WEEKS
12. CONSTRUCT ROADWAY WIDENING ALONG WASHINGTON CROSSING - PENNINGTON ROAD: INSTALL CURB, SAWCUT PAVEMENT, ROUGH GRADE WIDENING AREA TO SUBGRADE ELEVATIONS.	2 WEEKS
13. FINE GRADE WASHINGTON CROSSING - PENNINGTON ROAD ROADWAY WIDENING: CONSTRUCT ROADWAY SUBBASE, BASE COURSE.	4 WEEKS
14. FINE GRADE ONSITE ROADWAYS AND PARKING AREAS: CONSTRUCT ROADWAY BASE COURSE PAVEMENT.	4 WEEKS
15. CONSTRUCT SIDEWALKS.	8 WEEKS
16. INSTALL ELECTRIC, TELEPHONE, CABLE, GAS UTILITIES.	6 WEEKS
17. FINE GRADE LANDSCAPE AREAS AND OPEN SPACE LOTS.	12 WEEKS
18. INSTALL BUFFER LANDSCAPING AND STREET TREES ALONG ROADWAYS. INSTALL LIGHTING FIXTURES AND STREET LIGHTS.	2 WEEKS
19. SOIL RESTORATION AND TESTING FOR SITE PRIOR TO INSTALLATION OF TOPSOIL	4 WEEKS
20. TOP SOIL AND SEED ALL DISTURBED LANDSCAPED AREAS IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS.	8 WEEKS
21. INSTALL TRAFFIC SIGNS AND TEMPORARY STRIPING.	ONGOING
22. CONSTRUCT DWELLING UNITS AND AFFORDABLE HOUSING BUILDINGS.	8 WEEKS
23. UPON COMPLETION OF ALL RESIDENTIAL BUILDINGS ALONG A ROADWAY, CONSTRUCT FINAL PAVEMENT SURFACE COURSE AND INSTALL FINAL PAVEMENT STRIPING.	
TYPICAL BUILDING CONSTRUCTION	1 WEEK
1. INSTALL SEDIMENT FILTER FENCE AROUND LOT PERIMETER INSTALL STABILIZED CONSTRUTION ENTRANCE FOR EACH LOT AT A DRIVEWAY LOCATION.	2 WEEKS
2. INSTALL BUILDING FOUNDATION	1 WEEK
3. INSTALL UTILITY CONNECTIONS TO BUILDING.	8-12 WEEKS
4. CONSTRUCT BUILDING	1 WEEK
5. FINE GRADE LOT WITHIN LIMITS OF CLEARING/DISTURBANCE	1 WEEK
6. REMOVE STABILIZED CONSTRUCTION ACCESS AND CONSTRUCT DRIVEWAY, SIDEWALK AND PATIO.	1 WEEK
7. INSTALL PROPOSED LANDSCAPING ON LOT AND TOPSOIL, FERTILIZE AND SEED ALL DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING SPECIFICATIONS.	1 DAY
8. REMOVE ACCUMULATED SEDIMENT AND FILTER FABRIC FENCE ON INDIVIDUAL LOT ONLY. (REPEAT TYPICAL LOT CONSTRUCTION FOR EACH LOT AT TIME OF DEVELOPMENT).	
FINAL MEASURES AFTER FULL BUILD OUT OF DEVELOPMENT	2 WEEKS
1. REMOVE ALL ACCUMULATED SEDIMENT FROM ROADWAYS, AND STORMWATER BASINS, STORM PIPING AND AT BASIN OUTFALLS. REMOVE ANCHORED FILTER FABRIC FROM STORMWATER BASINS. K3 SOIL AND SAND LAYERS TO BE INSTALLED WITHIN BASINS.	1 WEEK
2. REMOVE ALL PERIMETER FILTER FABRIC FENCING AND TREE PROTECTION FENCING, AND ALL REMAINING INLET FILTER PROTECTION.	

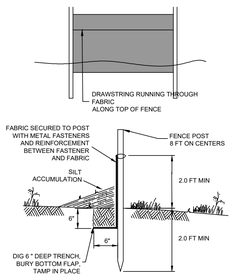


TOPSOIL STOCK PILE DETAIL
NOT TO SCALE

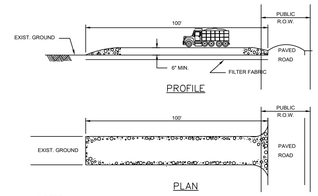


NOTE:
SNOW FENCE IS TO BE LOCATED 10' FROM THE OUTER PERIMETER OF THE DRIP LINE. IN NO CASE SHALL IT BE CLOSER THAN 10' TO THE TRUNK. NO CONSTRUCTION MATERIALS, FILL, TOPSOIL, SOIL, ETC. SHALL BE STORED INSIDE THIS FENCE. EXISTING ELEVATIONS WITHIN THE FENCING AREA SHALL REMAIN UNCHANGED AND SOIL SHALL BE LEFT UNDISTURBED. (TO BE USED FOR SPECIMEN TREES IF IN THE VICINITY OF CLEARING OPERATION)

TREE PROTECTION
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE



REMOVABLE PUMPING STATION
(LONG DURATION DEWATERING)

NOTES

STONE SIZE: 1 1/2" - 2 1/2" CRUSHED STONE

WIDTH NOT LESS THAN FULL WIDTH AT POINTS OF EGRESS AND INGRESS.

WASHING: WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC R.O.W. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.

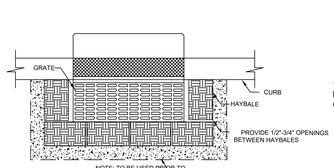
MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC R.O.W. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRAPPED ONTO PUBLIC R.O.W. MUST BE REMOVED IMMEDIATELY.

WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.

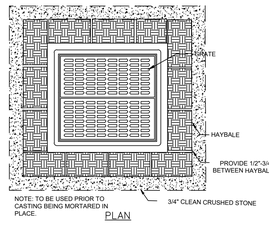
PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COARSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 ft.	100ft.
2 TO 5%	100ft.	200ft.
>5%	ENTIRE SURFACE STABILIZED WITH FABC BASE COURSE [1]	

1. AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



INLET PROTECTION TYPE "B"
N.T.S.



INLET PROTECTION
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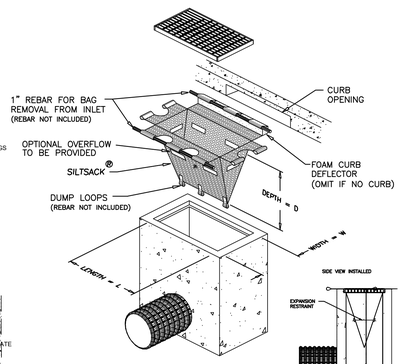
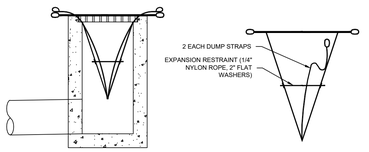
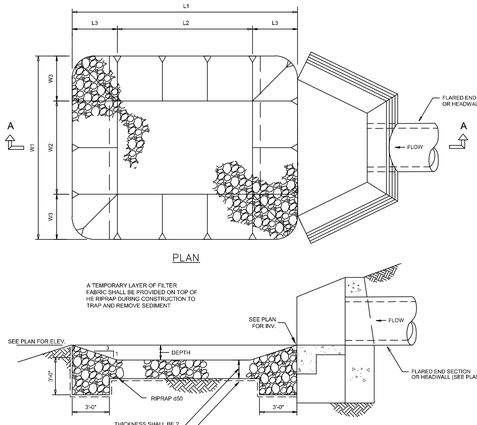


INLET SEDIMENT CONTROL DEVICE
WITH CURB DEFLECTOR
NOT TO SCALE





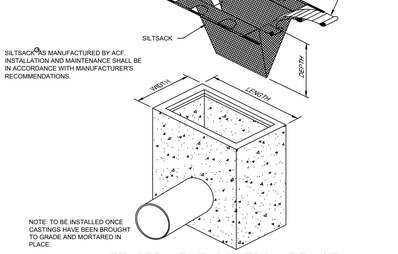
SUMP PIT
(SHORT DURATION DEWATERING)

PREFORMED SCOUR HOLE DETAIL
NOT TO SCALE

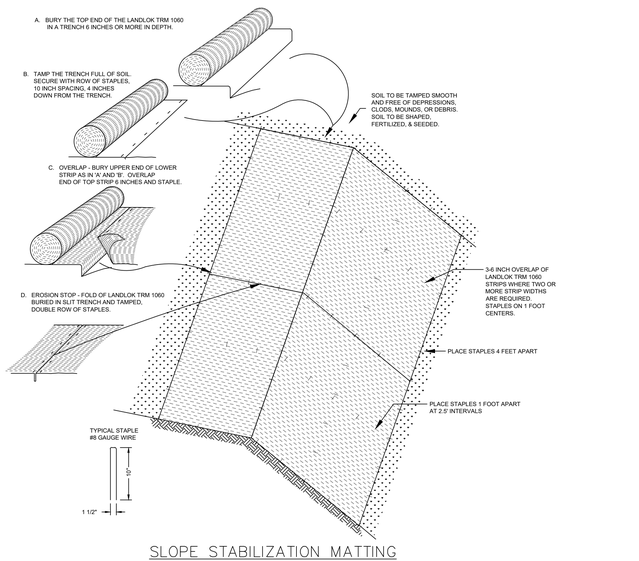
SCOUR HOLE LOCATION	PIPE SIZE (IN.)	RIPRAP d50 (IN.)	DEPTH (FT.)	L1 (FT.)	L2 (FT.)	L3 (FT.)	W1 (FT.)	W2 (FT.)	W3 (FT.)
FES A100	30	6	1.25	15	7.5	3.75	12.5	5	3.75
FES A200	18	6	0.75	9	4.5	2.25	7.5	3	2.25
FES A300	18	6	0.75	9	4.5	2.25	7.5	3	2.25
FES A400	18	6	0.75	9	4.5	2.25	7.5	3	2.25
HW A01	24	6	1.0	12	6	3	10	4	3
FES B100	24	6	1.0	12	6	3	10	4	3
HW B200	42	6	1.75	21	10.5	5.25	17.5	7	5.25
HW B300	29 X 45	6	1.21	14.6	7.25	3.67	14.8	7.5	3.65
FES B01	30	6	1.25	15	7.5	3.75	12.5	5	3.75
FES C100	18	6	0.75	9	4.5	2.25	7.5	3	2.25
FES C200	36	6	1.50	18	9	4.5	15	6	4.5
HW C01	18	6	0.75	9	4.5	2.25	7.5	3	2.25
HW D100	24	6	1.0	12	6	3	10	4	3
FES E102	24	6	1.0	12	6	3	10	4	3
FES E101	18	6	0.75	9	4.5	2.25	7.5	3	2.25
FES E100	18	6	0.75	9	4.5	2.25	7.5	3	2.25
FES F100	15	6	0.63	7.8	3.75	1.92	6.3	2.5	1.9

NOTE:
RIPRAP SHALL CONFORM TO "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY."

PREFORMED SCOUR HOLE DIMENSIONS



INLET SEDIMENT CONTROL DEVICE
NOT TO SCALE



SLOPE STABILIZATION MATTING
(LANDLOK TRM 1060 OR APPROVED EQUAL)
N.T.S.

hydraulic, biological, aesthetic and other environmental functions of the stream.

Soil Management and Preparation

Subgrade soils prior to the application of topsoil shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

This section of this Standard addresses the potential for excessive soil compaction in light of the intended land use, testing for excessive soil compaction where permanent vegetation is to be established and mitigation of excessive soil compaction when appropriate.

Due to use or setting, certain disturbed areas will not require compaction remediation including, but not limited to the following:

1. Within 20 feet of building foundations with basements, 12 feet from slab or crawl space construction.
2. Where soils or gravel surfaces will be required to support post-construction vehicular traffic loads such as roads, parking lots and driveways (including gravel surfaces), bicycle paths or pedestrian walkways (including trails).
3. Airports, railways or other transportation facilities
4. Areas requiring industry or government specified soil designs, including golf courses, landfills, wetland restoration, septic disposal fields, wet/land ponds, etc.
5. Areas governed or regulated by other local, state or federal regulations which dictate soil conditions
6. Brownfields (capped sites), urban redevelopment areas, , in-fill areas,, recycling yards, junk yards, quarries and
7. Slopes determined to be inappropriate for safe operation of equipment
8. Portions of a site where no heavy equipment travel or other disturbance has taken place
9. Areas receiving temporary vegetative stabilization in accordance with the Standard.
10. Where the area available for remediation practices is 500 square feet or less in size.
11. Locations containing shallow (close to the surface) bedrock conditions.

Areas of the site which are subject to compaction testing and/or mitigation shall be graphically denoted on the certified soil erosion control plan.

Soil compaction remediation or testing to prove remediation is not necessary will be required in areas where permanent vegetation is to be established that are not otherwise exempted above. Testing method shall be selected, and soil compaction testing shall be performed by, the contractor or other project owner's representative (e.g. engineer). A minimum of two (2) tests shall be performed for projects with an overall limit of disturbance of up to one (1) acre and at a rate of two (2) tests per acre of the overall limit of disturbance for larger areas which shall be evenly distributed over the area of disturbance subject to testing. Tests shall be performed in areas representative of the site conditions as determined by the design. If the result of the soil compaction test exceeds the applicable maximum threshold indicated for the testing method, the contractor/owner shall have the option to perform compaction mitigation over the entire disturbed area (excluding exempt areas) or to perform additional testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation.

Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

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Soil Test Method Options

1. Probing Wire Test Method

   This test shall be conducted with a firm wire (13-1/2 gauge steel wire - e.g. survey marker flag, straight wire stock, etc.), 18 to 21 inches in length, with 6" inches from one end visibly marked on the wire. Conduct wire flag test by holding the wire flag near the flag end and push it vertically into the soil at several different locations in the field to the lesser of a 6 inch depth or the depth at which it bends due to soil resistance. The soil is compacted if the wire penetrates the soil to a depth of 4" or less, or the wire penetrates without bending or deforming at least 4" into the ground by hand, without the use of tools. If penetration fails and an obstruction is suspected (rocks, root, debris, etc.) the test can be repeated in the same general area. If the test is successful the soil is not excessively compacted. If the wire is difficult to insert (wire bends or deforms prior to reaching 6 inches in depth) the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

2. Handheld Soil Penetrometer Test Method

   This test shall be conducted based on the Standard Operation Procedure (SOP) #SCS2010-001, prepared by the Rutgers Cooperative Extension, Implemented June 1, 2010, last revised February 28, 2011. A result of less than or equal to 300 psi shall be considered passing. If the result is greater than 300 psi the soil may be excessively compacted and compaction mitigation or further testing via method 3 or 4 below is required, the choice of which is at the contractor/owner's discretion.

3. Tube Bulk Density Test Method

   This test shall be certified by a New Jersey Licensed Professional Engineer utilizing only undisturbed samples (reconstitution of the sample not permitted) collected utilizing the procedure for Soil Bulk Density Tests as described in the USDA NRCS Soil Quality Test Kit Guide, Section 1-4, July 2001. When the texture of the soil to be tested is a sand or loamy sand and lack of soil cohesion or the presence of large amounts of coarse fragments, roots or worm channels prevent the taking of undisturbed samples, this test shall not be used.

   Where the results of replicate tests differ by more than ten percent (10%), the samples shall be examined for the following defects:

   i. Cracks, worm channels, large root channels or poor soil tube contact within the samples;
   ii. Large pieces of gravel, roots or other foreign objects
   iii. Smearing or compaction of the upper or lower surface of the samples

   If any of the defects described in 3 (i-iii) above are found, the defective core(s) shall be discarded and the test repeated using a new replicate sample. If no defective replicate samples exist, the bulk density (determined in accordance with Table 19-1) shall be considered adequate if it is less than the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

4. Nuclear Density Test Method

   This test shall be certified by a New Jersey Licensed Professional Engineer and conducted by a nuclear gauge certified inspector pursuant to ASTM D6938. The bulk density measurement results shall be compared with the Maximum Dry Bulk Densities in Table 19-1. A result of less than or equal to the applicable maximum bulk density shall be considered passing. If the result is greater than the maximum bulk density the soil shall be considered excessively compacted and compaction mitigation is required.

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Table 19-1 – Maximum Dry Bulk Densities (grams/cubic centimeter) by soil type

Soil Type/Texture	Bulk Density (g/cc)
Coarse, Medium and Fine Sands and Loamy Sands	1.80
Very Fine Sand and Loamy Very Fine Sand	1.77
Sandy Loam	1.70
Loamy Sand, Sandy Clay Loam	1.70
Clay Loams	1.65
Sandy Clay	1.60
Silt, Silt Loam	1.55
Silty Clay Loam	1.50
Silty Clay	1.45
Clay	1.40

Source: USDA Natural Resource Conservation Service, Soil Quality Information Sheet, Soil Quality Resource Concerns: Compaction, April 1996

5. Additional testing methods which conform to ASTM standards and pecifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

Procedures for Soil Compaction Mitigation

If subgrade soils are determined to be excessively compacted by testing, as identified above, procedures shall be used to mitigate excessive soil compaction prior to placement of topsoil and establishment of permanent vegetative cover. Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.) or in the alternative, another method as specified by a New Jersey Licensed Professional Engineer.

Installation Requirements

Timber, logs, brush, rubbish, rocks, stumps and vegetative matter which will interfere with the grading operation or affect the planned stability or fill areas shall be removed and disposed of according to the plan.

Topsoil is to be stripped and stockpiled in amounts necessary to complete finish grading of all exposed areas requiring topsoil. See Standard for Topsoiling, pg. 8-1.

Fill material is to be free of brush, rubbish, timber, logs, vegetative matter and stumps in amounts that will be detrimental to constructing stable fills.

All structural fills shall be compacted as determined by structural engineering requirements for their intended purpose and as required to reduce slipping, erosion or excessive saturation.

All disturbed areas shall be left with a neat and finished appearance and shall be protected from erosion. See Standards for Permanent Vegetative Cover for Soil Stabilization, pg. 4-1.

Trees to be retained shall be protected if necessary in accordance with the Standard for Tree Protection During Construction, pg. 9-1.

Return to TOC

REVISION	DATE	CHKD
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1 REVISED PER PB COMPLETENESS REVIEW	09/19/24	

PROJ. 08139-101-001
DATE 09/19/2024
CHKD SAD

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PRELIMINARY AND FINAL MAJOR SUBDIVISION & PRELIMINARY AND FINAL SITE PLAN FOR
VENUE AT HOPEWELL
SOIL EROSION AND SEDIMENT CONTROL DETAILS
BLOCK 58, LOTS 19, 20 AND 21 - M.A.P.
TOWNSHIP OF HOPEWELL, MERCER COUNTY, NEW JERSEY

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