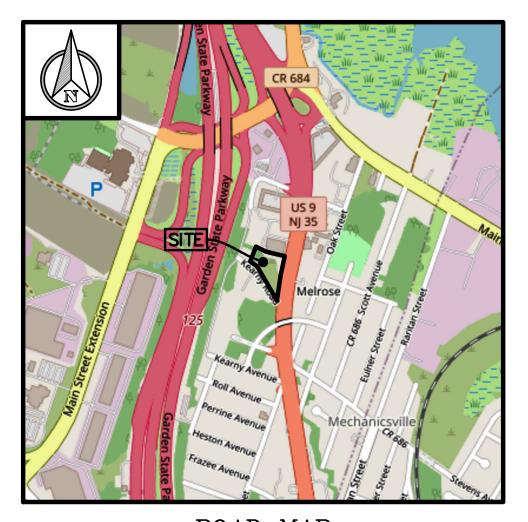
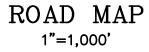
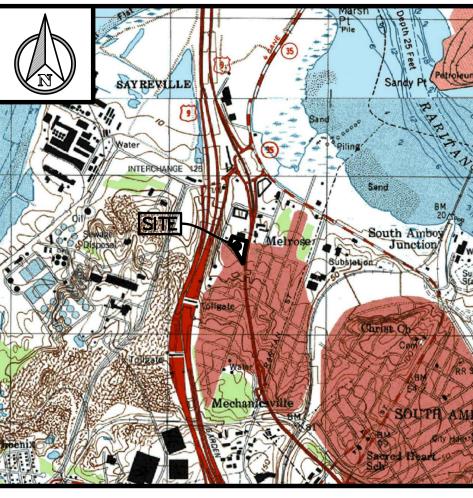
# PRELIMINARY/FINAL SITE PLAN for

# GARAVAN, ILIC

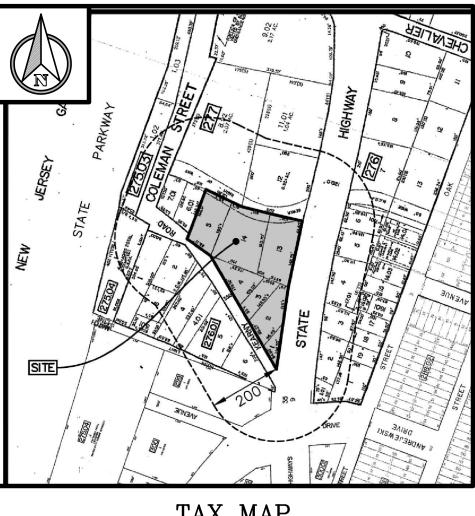
# BOROUGH OF SAYREVILLE MIDDLESEX COUNTY NEW JERSEY BLOCK 277, LOT 1-5 & 13-14



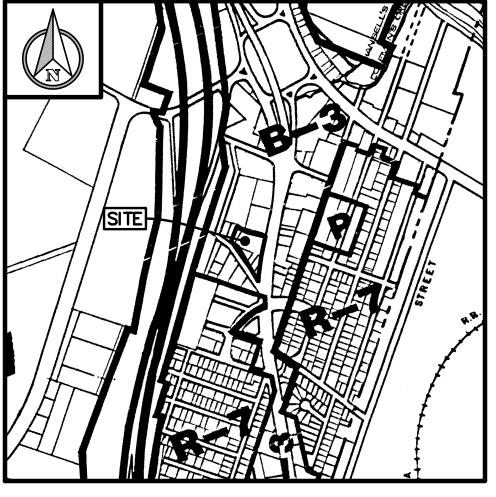




U.S.G.S. MAP



TAX MAP 1"=300'



ZONE MAP 1"=1,000'

# 200' OWNERS LIST

South Amboy, NJ 08879

Barbara A. Loftus 39 Kearney Road South Amboy, NJ 08879

| <b>BLOCK</b> | <u>LOT</u> | NAME & ADDRESS  | <b>BLOCK</b> | <u>LOT</u>         | NAME & ADDRESS   |
|--------------|------------|---|--------------|--------------------|--|
| 75.03        | 1.02       | B & C Enterprises, LLC<br>7061 Highway 35 & 9<br>South Amboy, NJ 08879            | 276.01       | 3                  | Wioletta Paluzzi<br>35 Kearney Road<br>South Amboy, NJ 08879                   |
| 75.04        | 1          | Garden State Parkway Authority<br>Administration Building<br>Woodbridge, NJ 07095 | 276.01       | 3.01               | Jonathan Mocarski<br>33 Kearney Road<br>South Amboy, NJ 08879                  |
| 76           | 1          | Russell J. Powell, Jr.<br>325 Oak Street<br>South Amboy, NJ 08879                 | 276.01       | 4, 4.01            | Edward John McDonough<br>122 Jansen Avenue<br>Iselin, NJ 08830                 |
| 76           | 1.01       | Viacom Outdoor, Inc.<br>185 Highway 46<br>Fairfield, NJ 07006                     | 276.01       | 5                  | Patricia L. Scully - Estate<br>27 Kearney Road<br>South Amboy, NJ 08879        |
| 76           | 2, 3       | 7040 Hwy 35 LLC<br>109 University Drive<br>Lincroft, NJ 07738                     | 276.01       | 6                  | Michael P. & Catherine J. O'Connor<br>21 Kearney Road<br>South Amboy, NJ 08879 |
| 76           | 4, 17.01   | Amber, LLC<br>4 Hauser Lane<br>Matawan, NJ 07747                                  | 277          | 6.01               | Robert & Catherine Porter<br>42 Kearney Road<br>South Amboy, NJ 08879          |
| 76           | 5          | Arkady Mushailov<br>52 Fern Road<br>East Brunswick, NJ 08816                      | 277          | 7.01               | MRT Rental Properties, LLC<br>256 Maxim Road<br>Howell, NJ 07731               |
| 76           | 6, 7.01    | Miguel A. Marmolejos<br>358 Rector Street, Apt. 218<br>Perth Amboy, NJ 08861      | 277          | 8.02,<br>11.01, 12 | B & C Enterprises, LLC<br>7061 Highway 35 & 9 North<br>South Amboy, NJ 08879   |
| 76           | 7          | Octagon Management, LLC c/o Medina<br>99 Vliet Street<br>Spotswood, NJ 08884      | 299          | 1                  | SPJP Property, LLC<br>1180 St. Georges Avenue, #3<br>Avenel, NJ 07001          |
| 76           | 19         | Kim & Deborah Van Pelt<br>327 Oak Street<br>South Amboy, NJ 08879                 |              |                    | Middlesex County Utilities Authority<br>P.O. Box 159<br>Sayreville, NJ 08872   |
| 76.01        | 1          | Luke Genzlinger 41 Kearney Road   |              |                    |  |

| SHEET INDEX |                      |   |  |  |  |
|-------------|----------------------|---|--|--|--|
| SHEET #     | SHEET # DWG. # TITLE |   |  |  |  |
| SHEET 1     | CV-1                 | COVER SHEET                                 |  |  |  |
| SHEET 2     | OP-1                 | OVERALL PLAN                                |  |  |  |
| SHEET 3     | EC-1                 | EXISTING CONDITIONS PLAN                    |  |  |  |
| SHEET 4     | GE-1                 | GEOMETRY PLAN                               |  |  |  |
| SHEET 5     | GR-1                 | GRADING PLAN                                |  |  |  |
| SHEET 6     | LT-1                 | LIGHTING PLAN                               |  |  |  |
| SHEET 7     | LA-1                 | LANDSCAPE PLAN                              |  |  |  |
| SHEET 8     | SE-1                 | SOIL EROSION & SEDIMENT CONTROL PLAN        |  |  |  |
| SHEET 9     | SED-1                | SOIL EROSION & SEDIMENT CONTROL DETAILS (1) |  |  |  |
| SHEET 10    | SED-2                | SOIL EROSION & SEDIMENT CONTROL DETAILS (2) |  |  |  |
| SHEET 11    | DE-1                 | CONSTRUCTION DETAILS (1)                    |  |  |  |
| SHEET 12    | DE-2                 | CONSTRUCTION DETAILS (2)                    |  |  |  |
| SHEET 13    | DE-3                 | CONSTRUCTION DETAILS (3)                    |  |  |  |
| SHEET 14    | DE-4                 | CONSTRUCTION DETAILS (4)                    |  |  |  |
| SHEET 15    | DE-5                 | CONSTRUCTION DETAILS (5)                    |  |  |  |

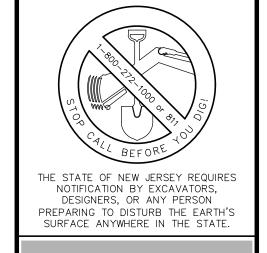
OWNER
MICHAEL CARACAPPA
PATRICA CARACAPPA
95 OAKLAND MILLS ROAD
MANALAPAN, NJ 07726

APPLICANT
CARAVAN LLC
95 OAKLAND MILLS ROAD
MANALAPAN, NJ 07726

| APPROVED BY |      |  |  |  |
|-------------|------|--|--|--|
| CHAIRMAN    | DATE |  |  |  |
| SECRETARY   | DATE |  |  |  |
| ENGINEER    | DATE |  |  |  |

PROJECT 2023.091

CARAVAN, LLC





Civil Engineering Consultant Landscape Architects Professional Planners 261 Cleveland Avenue Highland Park, NJ 08904

CARAVAN, LLC

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY NEW JERSEY

> BLOCK 277, LOTS 1-5 & 13-14 TAX MAP SHEET 93 2.06 ACRES

COVER SHEET

DRAWN BY RN
DESIGNED BY RN
APPROVED BY S

THIS WORK PREPARED UNDER MY
IMMEDIATE SUPERVISION...

SCOTT H. TURNER PROFESSIONAL ENGINEER NJPE# 43811

PROJECT NUMBER 2023.091 CV-1

DATE OF ISSUE JUNE 9, 2025

REVISED THROUGH

|               | н   | GHWAY BUSINESS ZONE |              |           |           |
|---------------|---|---------------------|--------------|-----------|-----------|
| SECTION       | ITEM  | REQUIRED/PERMITTED  | EXISTING     | PROPOSED  | CONDITION |
|               | LOT REQUIREMENTS (CORNER LOT)                 |                     |              |           |           |
| SCHEDULE II-B | MINIMUM LOT AREA                              | 20,000 SF           | 89,725 SF    | 85,570 SF | COMPLIES  |
| SCHEDULE II-B | MINIMUM LOT WIDTH                             | 100 FT              | 388 FT       | 375 FT    | COMPLIES  |
| SCHEDULE II-B | MINIMUM LOT DEPTH                             | 100 FT              | 367 FT       | 370 FT    | COMPLIES  |
|               | YARD REQUIREMENTS                             |                     |              |           |           |
| SCHEDULE II-B | MINIMUM FRONT YARD SETBACK                    | 50 FT               | N/A (VACANT) | 59.6 FT   | COMPLIES  |
| SCHEDULE II-B | MINIMUM SIDE YARD SETBACK (ONE)               | 10 FT               | N/A (VACANT) | 55.4 FT   | COMPLIES  |
| SCHEDULE II-B | MINIMUM SIDE YARD SETBACK (TOTAL)             | 20 FT               | N/A (VACANT) | 55.4 FT   | COMPLIES  |
| SCHEDULE II-B | MINIMUM REAR YARD SETBACK                     | 25 FT               | N/A (VACANT) | 137.7 FT  | COMPLIES  |
|               | BUILDING REQUIREMENTS                         |                     |              |           |           |
| SCHEDULE II-B | MAXIMUM HEIGHT (FEET)                         | 35 FT               | N/A (VACANT) | 33.6 FT   | COMPLIES  |
|               | COVERAGE REQUIREMENTS                         |                     |              |           |           |
| SCHEDULE II-B | MAXIMUM LOT COVERAGE (BUILDINGS)              | 25 %                | N/A (VACANT) | 11.1%     | COMPLIES  |
| SCHEDULE II-B | MAXIMUM LOT COVERAGE (BUILDINGS AND PAVEMENT) | 85 %                | 7.2%         | 35.1%     | COMPLIES  |
|               | PARKING REQUIREMENTS                          |                     |              |           |           |
| 26-98.1.B.8   | PARKING SETBACK — FRONT YARD                  | 50 FT               | N/A (VACANT) | 15.6 FT   | VARIANCE  |
| 26-98.1.B.8   | PARKING SETBACK - PROPERTY LINE               | 5 FT                | N/A (VACANT) | 15.6 FT   | COMPLIES  |

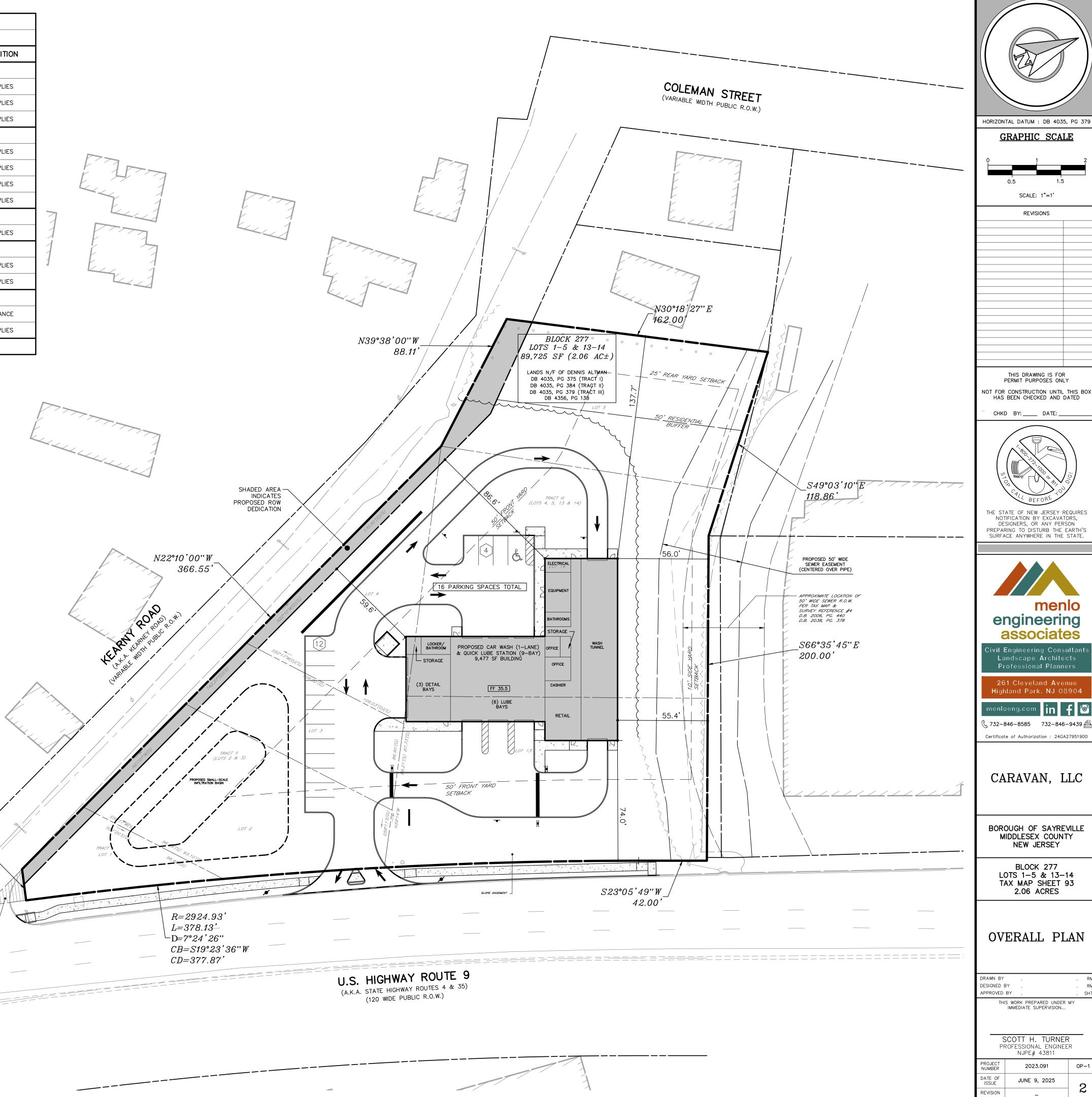
| PARKING TABULATION |  |                    |           |           |  |  |
|--------------------|--|--------------------|-----------|-----------|--|--|
|                    | CAR WASH &                                       | SERVICE STATION    |           |           |  |  |
| SECTION            | ITEM   | REQUIRED/PERMITTED | PROPOSED  | CONDITION |  |  |
|                    | PARKING  |                    |           |           |  |  |
| 26-88              | CAR WASH: 3 SPACES PER WASH LANE                 | 3 SPACES           |           |           |  |  |
| 26-88              | REPAIR GARAGE: 4 SPACES PER BAY                  | 36 SPACES          |           |           |  |  |
|                    | REPAIR GARAGE: 2 SPACES PER EACH SERVICE VEHICLE | -                  |           | VARIANCE  |  |  |
| <u></u>            | TOTAL  | 39 SPACES          | 16 SPACES |           |  |  |

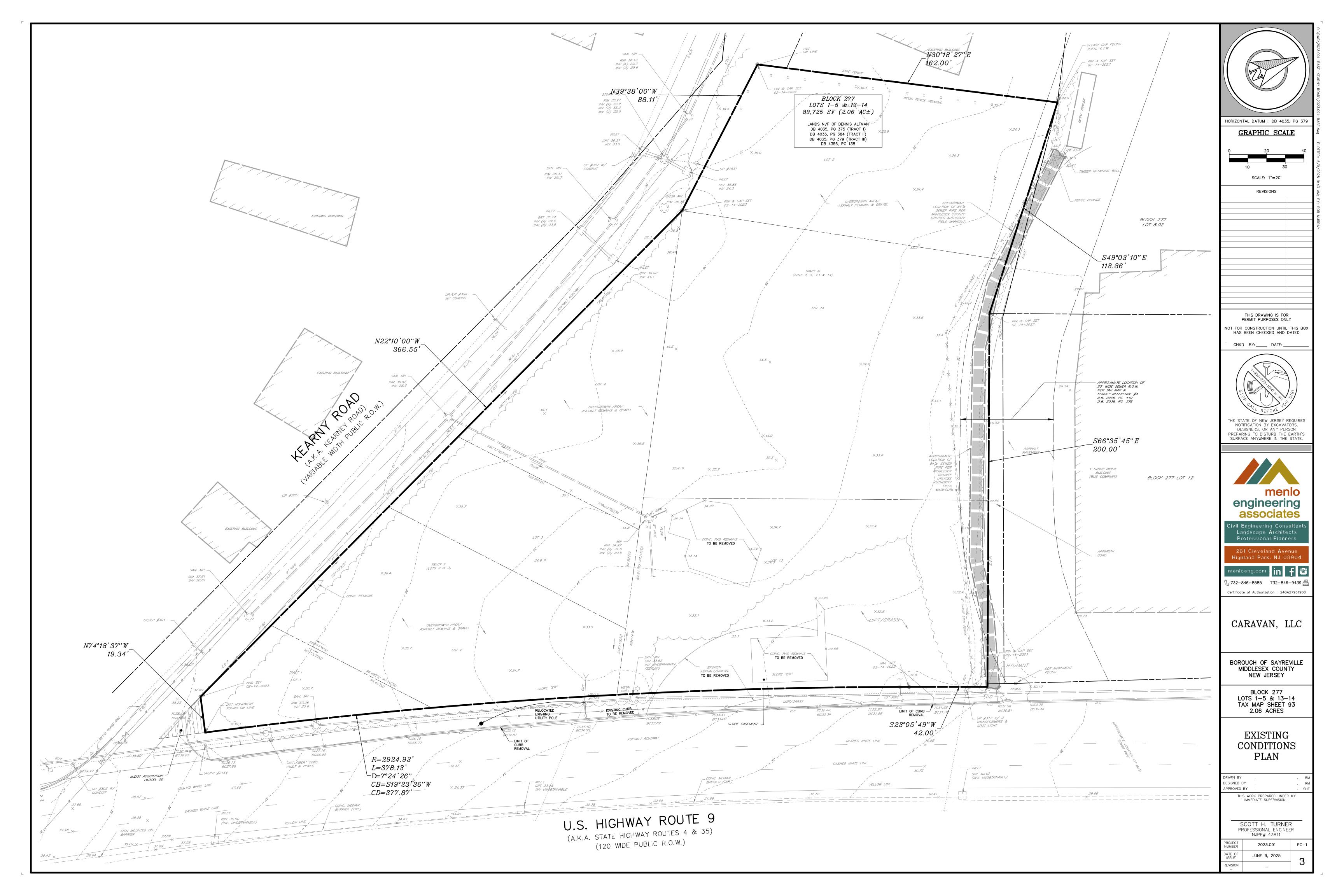
| SIGNAGE TABLE    |                                   |  |                 |           |  |  |  |
|------------------|-----------------------------------|--|-----------------|-----------|--|--|--|
| SECTION          | ITEM                              | REQUIRED/PERMITTED   | PROPOSED        | CONDITION |  |  |  |
| SIGN SCHEDULE II | MAX. BUILDING SIGN AREA           | 1 SF FOR EACH LINEAR FOOT<br>OF BUILDING WIDTH (130 FT) OR<br>85 SF, WHICHEVER IS LESS | LESS THAN 85 SF | COMPLIES  |  |  |  |
| SIGN SCHEDULE II | MAX. FREESTANDING SIGN AREA       | 85 SF  | 50 SF           | COMPLIES  |  |  |  |
| SIGN SCHEDULE II | MAX. FREESTANDING SIGN HEIGHT     | 15 FT. OR THE HEIGHT OF THE PRINCIPAL BUILDING, WHICHEVER IS LESS                      | 7.5 FT          | COMPLIES  |  |  |  |
| SIGN SCHEDULE II | MAX. NUMBER OF FREESTANDING SIGNS | 1 SIGN   | 3 SIGNS         | VARIANCE  |  |  |  |
| SIGN SCHEDULE II | FREESTANDING SIGN SETBACK         | HALF OF THE REQUIRED FRONT<br>YARD SETBACK (25 FT)                                     | 25 FT           | COMPLIES  |  |  |  |

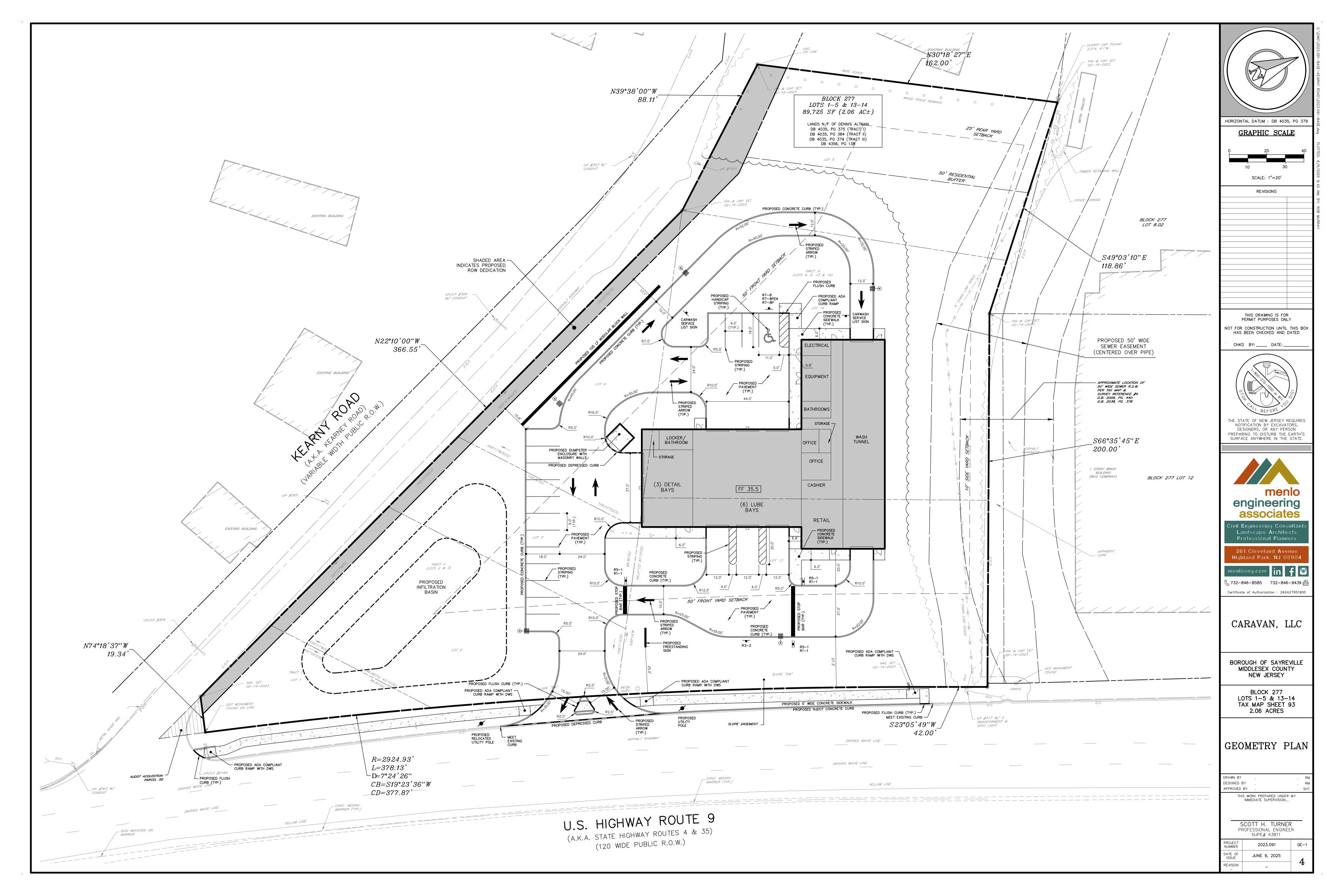
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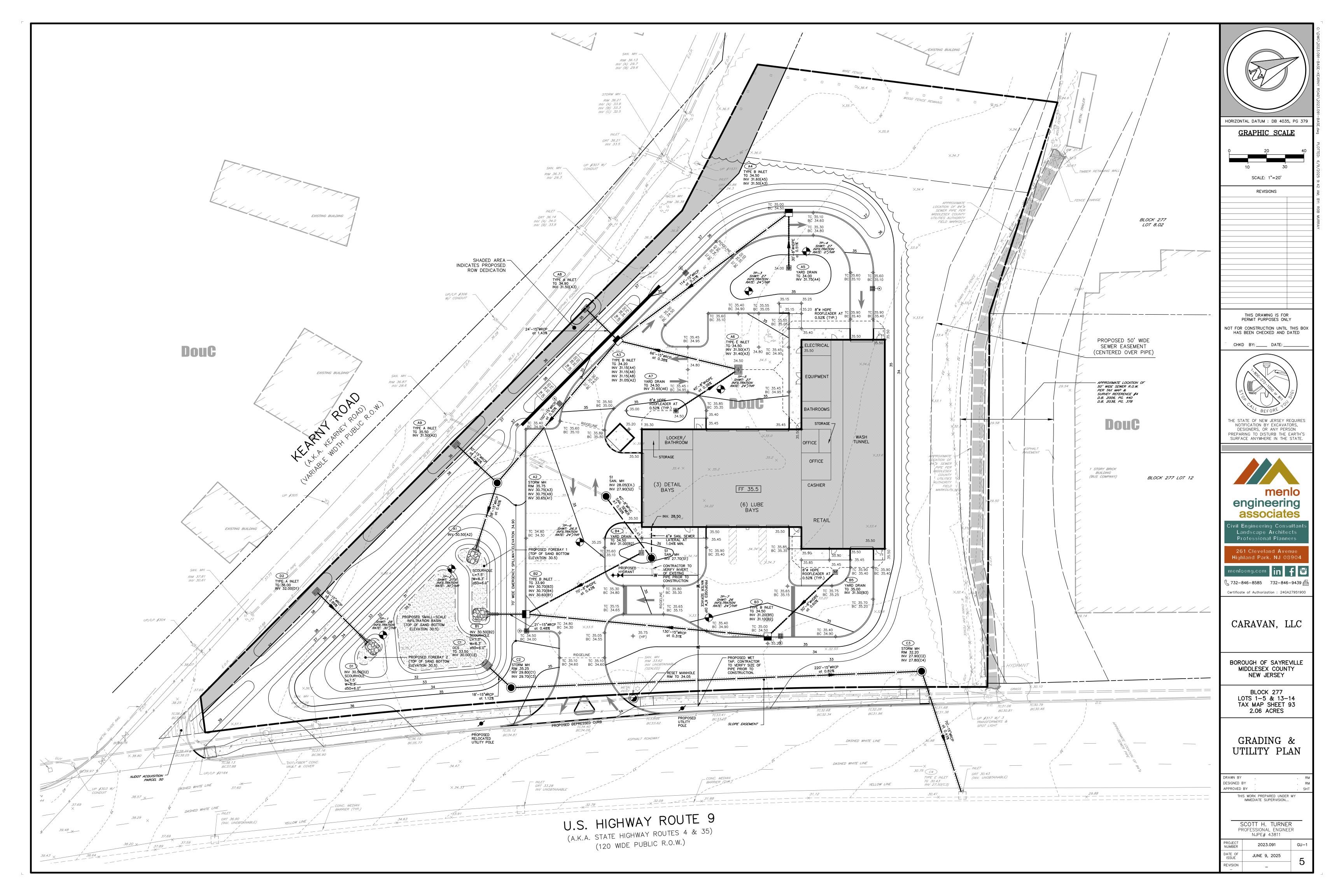
*19.34* '

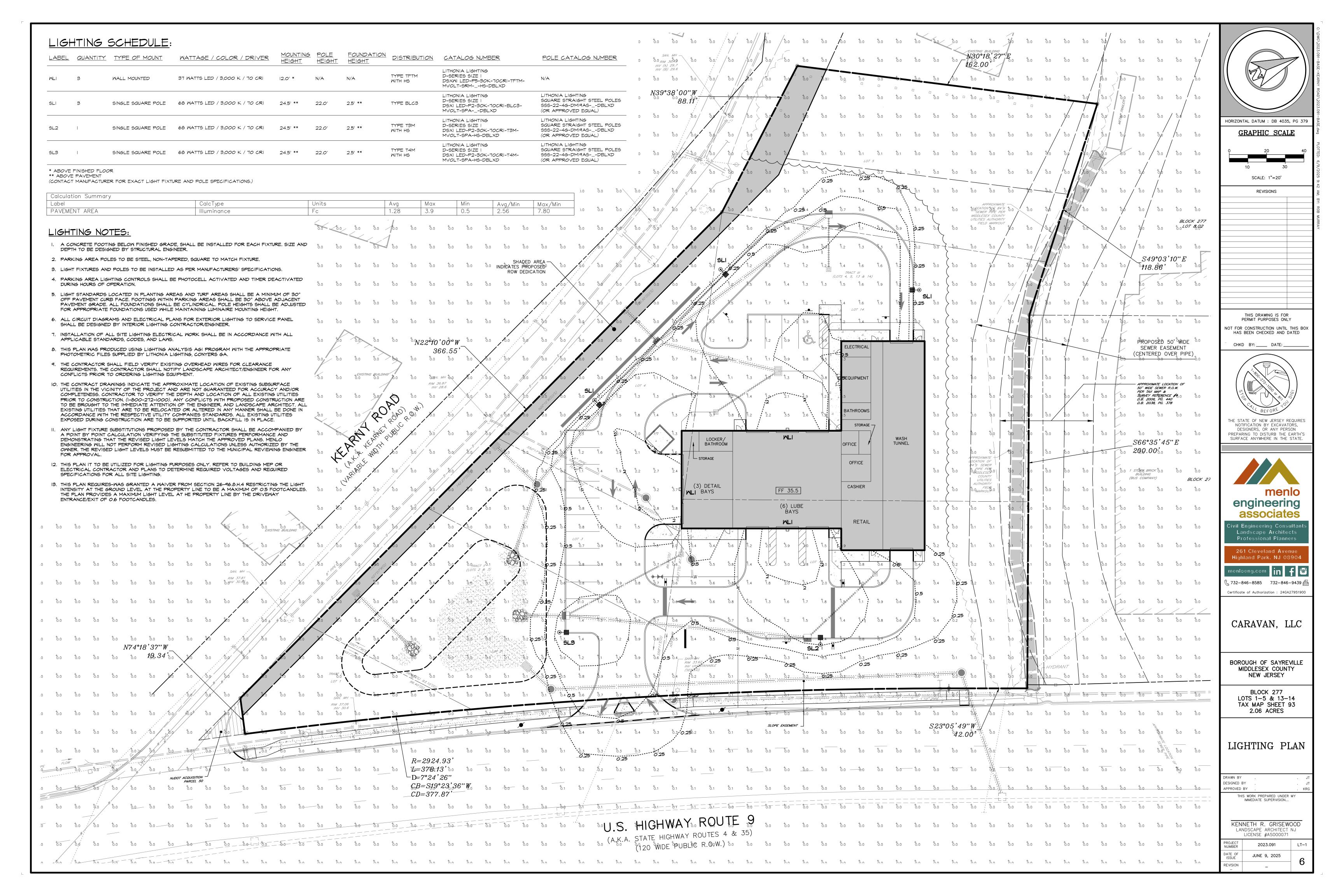
NOTES: NO PART OF THE PROPOSED FREESTANDING SIGN SHALL BE LESS THAN 18 INCHES ABOVE THE GROUND.

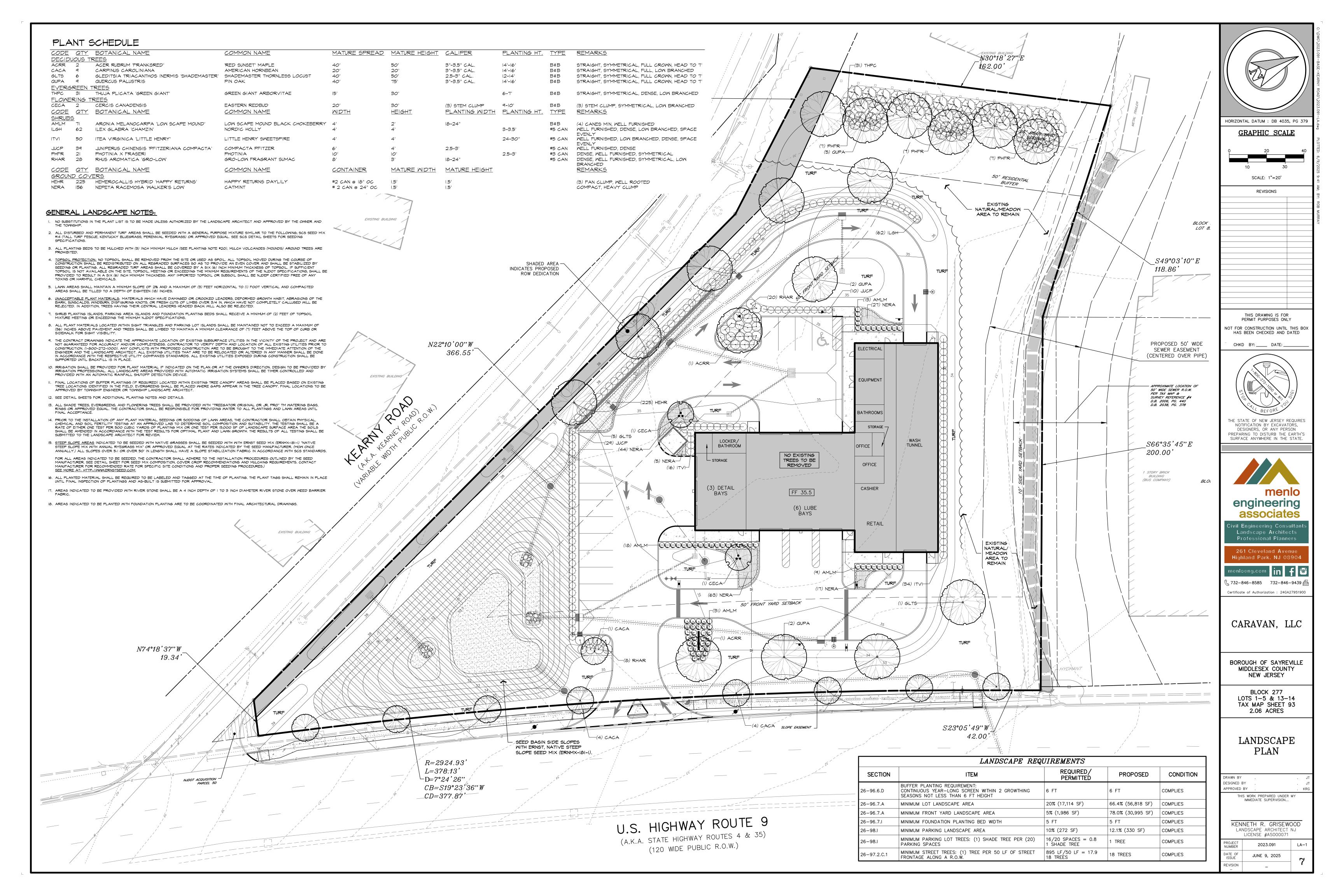


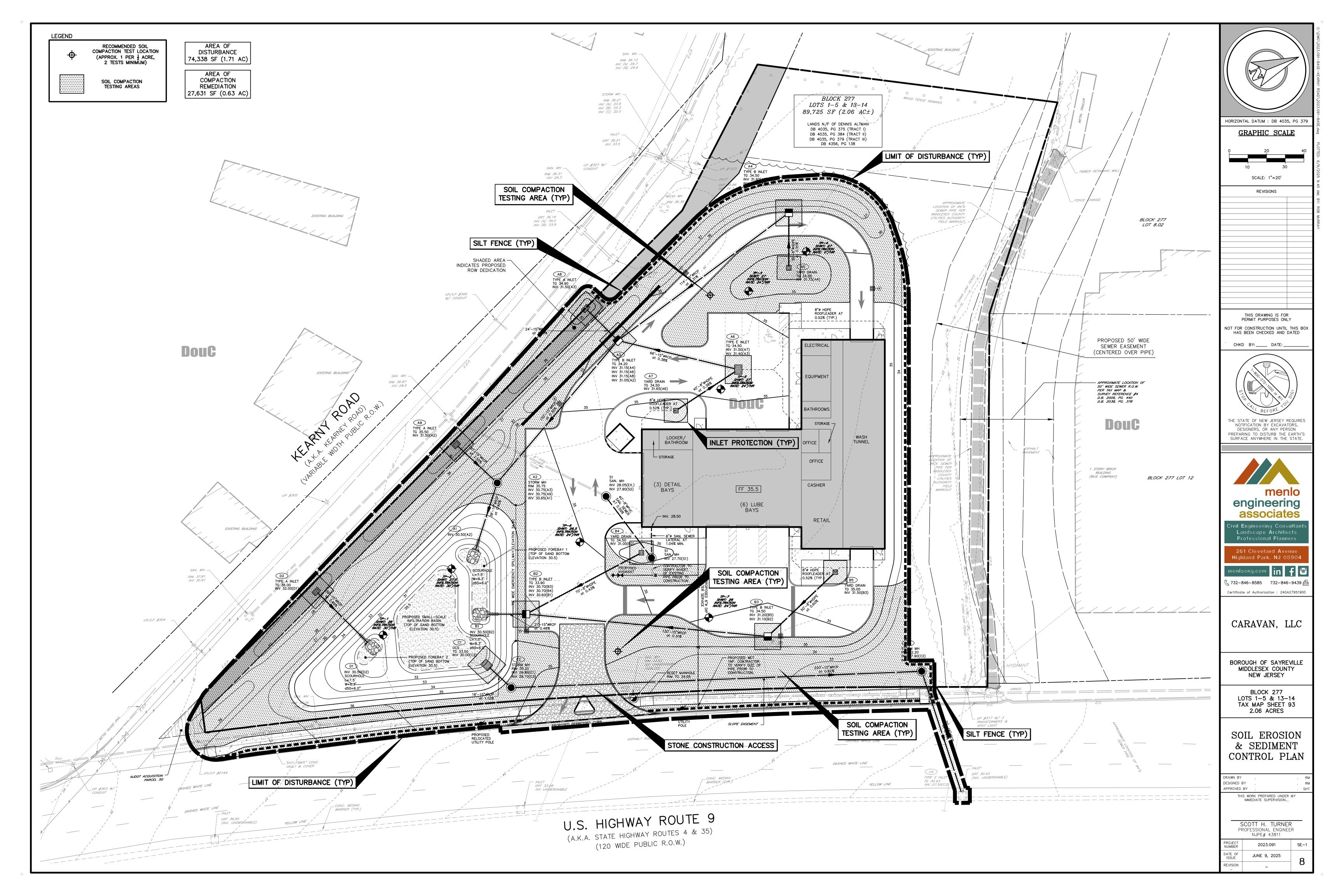












# STANDARD FOR PERMANENT VEGETATIVE COVER

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
- 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://NJAES.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 ARROWING 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. <u>SEEDING</u>

- A. SELECT A MIXTURE FROM TABLE 4-2 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 85'F AND ABOVE. SEE TABLE 4—2 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 85°F. MANY GRASSES BECOME ACTIVE AT 650F. SEE TABLE 4-2, 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 SEEDLING 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 4—MULCHING BELOW). HYDROSEEDING IS NOT A REFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

# 4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT 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, TO BE 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 FINE 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.
- 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.

ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE

- 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 MEMBRANED 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
- 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. 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, 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)

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

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.

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 4-2 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 PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

# STANDARD FOR TEMPORARY VEGETATIVE COVER

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
- 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. <u>SEEDBED PREPARATION</u>

- 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. 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. <u>SEEDING</u>

- 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 FRILIIZER 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 SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
- 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. UNNROTTED 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 FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

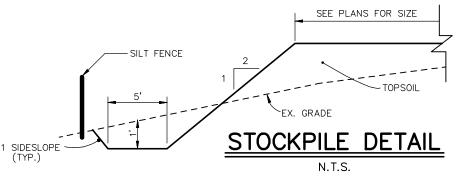
  APPLICATION. SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL
- SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION.

  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 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 MEMBRANED 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. 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, 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.
- 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.

# TABLE 7-2 TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH.

|                                 |             | SEEDING RATE<br>1      |   | OPTIMUM SEEDING DATE          |                       |                                |
|---------------------------------|-------------|------------------------|---|-------------------------------|-----------------------|--------------------------------|
| SEED SELECTIONS                 | (pounds)    |                        | Based on Plant<br>Hardiness Zone <sup>3</sup> |                               |                       | DEPTH <sup>4</sup><br>(inches) |
|                                 | Per<br>Acre | Per<br>1000<br>Sq. Ft. | ZONE<br>5b, 6s                                | ZONE<br>6b                    | ZONE<br>7a, b         |                                |
|                                 |             | COOL SI                | EASON G                                       | RASSES                        |                       |                                |
| 1. PERENNIAL RYEGRASS           | 100         | 1.0                    | 8/1-  | 3/1-<br>5/15<br>8/15-<br>10/1 | 8/15-                 | 0.5                            |
| 2. SPRING OATS                  | 86          | 2.0                    | 6/1<br>8/1-                                   | 3/1-<br>5/15<br>8/15-<br>10/1 | 5/1<br>8/15-          | 1.0                            |
| 3. WINTER BARLEY                | 96          | 2.2                    |   | 8/15-<br>10/1                 |                       | 1.0                            |
| 4. ANNUAL RYEGRASS              | 100         | 1.0                    | 3/15-<br>6/1<br>8/1-                          | 3/15-<br>6/1<br>8/1-<br>9/15  | 2/15-<br>5/1<br>8/15- | 0.5                            |
| 5. WINTER CEREAL RYE            | 112         | 2.8                    | 8/1-<br>11/1                                  | 8/1-<br>11/15                 |                       | 1.0                            |
|                                 |             | WARM S                 | EASON G                                       | RASSES                        |                       |                                |
| 6. PEARL MILLET                 | 20          | 0.5                    |   | 5/15-<br>8/15                 | 5/1-<br>9/1           | 1.0                            |
| 7. MILLET (GERMAN OR HUNGARIAN) | 30          | 0.7                    | 6/1-<br>8/1                                   | 5/15-<br>8/15                 |                       | 1.0                            |



# SOIL EROSION AND SEDIMENT CONTROL NOTES 1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY—EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE. AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- 3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE—CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT
- EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE—CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURR STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
- 4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
- 5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
- 6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
- 7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
- 8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1"-2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10") EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
- 9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.

10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.

- 11. AT THE TIME THAT 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 IT 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, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
- 12. 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 ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12"OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24"WHERE TREES OR SHRUBS ARE TO BE PLANTED.
- 13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
- UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
   SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET,
- TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.

  16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING

TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION

A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL

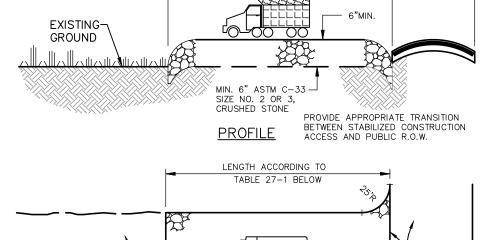
- PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.

  17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
- 18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

ENGTH ACCORDING T

TABLE 27-1 BELOW

PUBLIC R.O.W.



EXISTING GROUND

PUBLIC RIGHT OF WAY

PLAN VIEW

NOTE: INDIVIDUAL LOT ACCESS POINTS MAY REQUIRE STABILIZATION.
THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY (TYP.)

- NOTES:

  1. AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

  2. INDIVIDUAL LOT ENTRANCE AND EGRESS— AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOT INGRESS/EGRESS POINTS MAY REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF No. 3 STONE (1" TO 2") TO PREVENT OR MINIMIZE TRACKING OF SEDIMENTS. WIDTH OF THE STONE INGRESS/EGRESS SHALL BE EQUAL TO LOT ENTRANCE WIDTH AND SHALL BE A MINIMUM OF
- 3. TIRE WASHING— IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WASH WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS.
- 4. WHEN THE CONSTRUCTION ACCESS EXISTS 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.
   5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

| Table 27—1: Lengths of Construction Exits on Sloping Roadbeds |                           |                                    |  |  |  |  |  |  |
|---|---------------------------|------------------------------------|--|--|--|--|--|--|
| Devent Class of Bondway                                       | Length of Stone Required  |                                    |  |  |  |  |  |  |
| Percent Slope of Roadway                                      | Coarse Grained Soils      | Fine Grained Soils                 |  |  |  |  |  |  |
| 0 to 2%   | 50 ft                     | 100 ft                             |  |  |  |  |  |  |
| 2 to 5%   | 100 ft                    | 200 ft                             |  |  |  |  |  |  |
| >5%   | Entire surface stabilized | with FABC base course <sup>1</sup> |  |  |  |  |  |  |

# 1. As prescribed by local ordinance or other governing authority. STABILIZED CONSTRUCTION ACCESS

N.T.S.

# 'WET TOLERANT' SEEDING SPECIFICATION

SEEDBED PREPARATION: FERTILIZER (10-10-10) 500 LB/AC
LIMESTONE 6.000 LB/AC

MUST THEN BE RESEED WITH REQUIRED MIX WITHIN THE REQUIRED PLANTING DATES.)

# FOR UNMAINTAINED AREAS

ZONE 56,6a (3/15-5/31); ZONE 66 (3/1-4/30); ZONE 7a,7b (2/1-4/30)

(IF DISTURBANCE IS OUTSIDE OF PLANTING DATES THEN SEED AREA WITH TEMPORARY SEEDING MIX. THE TARGET AREA

SCS SEED MIX #9

DEERTONGUE
REDTOP
2 LB/AC
WILD RYE (ELYMUS)
SWITCHGRASS
30 LB/AC

FOR MAINTAINED AREAS
(POND AND CHANNEL BANKS, BERMS AND DAMS)

(OPTIMAL) ZONE 5b,6a (8/1-10/1); ZONE 6b (8/15-10/15); ZONE 7a,7b (8/15-10/30) (ACCEPTABLE) ZONE 5b,6a (3/15-5/31, 6/1-7/311); ZONE 6b (3/1-4/30, 5/1-8/141); ZONE 7a,7b (2/1-4/30, 5/1-8/141)

SCS SEED MIX #7 STRONG CREEPING RED FESCUE 130 LB/AC KENTUCKY BLUEGRASS 50 LB/AC PERENNIAL RYEGRASS 20 LB/AC

(SEE TABLE 4-3 OF THE SCS STANDARDS FOR ADDITIONAL PLANTING DATES)

(SEE TABLE 4-3 OF THE SCS STANDARDS FOR ADDITIONAL PLANTING DATES)

OR REDTOP 10 LB/AC
W/ WHITE CLOVER 5 LB/AC

FOR MAINTAINED AREAS (DETENTION BASINS AND SWALES)
SEEDING DATES:

(OPTIMAL) ZONE 5b,6a (8/1-10/1); ZONE 6b (8/15-10/15); ZONE 7a,7b (8/15-10/30) (ACCEPTABLE) ZONE 5b,6a (3/15-5/31, 6/1-7/31¹); ZONE 6b (3/1-4/30, 5/1-8/14¹); ZONE 7a,7b (2/1-4/30, 5/1-8/14¹)

SCS SEED MIX #14

TURF-TYPE TALL FESCUE
(3 CULTIVAR BLEND)
KENTUCKY BLUEGRASS (BLEND)
PERENNIAL RYEGRASS (BLEND)
30 LB/AC
350 LB/AC
350 LB/AC

MULCHING: UNROTTED SALT HAY OR APPROVED EQUAL 1 1/2 to 2 TONS/AC

MULCH ANCHORING: HYDROMULCH OR APPROVED EQUAL (USE RATES AS RECOMMENDED BY MANUFACTURER)

- NOTES:

  1) FOR ADDITIONAL REQUIREMENTS REFER TO THE SCS STANDARD FOR PERMANENT VEGETATIVE COVER.

  2) THE FERTILIZER AND LIMESTONE RATES REPRESENT THE UNTESTED SCS REQUIRED RATES. FINAL RATES SUBJECT TO SOIL FERTILITY, pH ANALYSIS AND LAB RECOMMENDATIONS.
- CONDITION OF ACCEPTANCE

  1) NO EROSION SHALL EXIST.

  2) BARE OR THIN SPOTS IN EXCESS OF 5 PERCENT OF ANY AREA WILL NOT BE ACCEPTABLE.

  3) ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATED COVER (OF THE SEEDED SPECIES) AND MOWED ONCE.

FOOTNOTE:

1-SUMMER SEEDING SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX. WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENSURE ESTABLISHMENT

# STANDARD FOR STABILIZATION WITH MULCH ONLY

<u>DEFINITION</u>
STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS EXPOSED FOR PERIODS LONGER THAN 14 DAYS

PURPOSE
TO PROTECT EXPOSED SOIL SURFACES FROM EROSION DAMAGE AND TO REDUCE OFFSITE ENVIRONMENTAL DAMAGE.

WATER QUALITY ENHANCEMENT

PROVIDES TEMPORARY MECHANICAL PROTECTION AGAINST WIND OR RAINFALL INDUCED SOIL EROSION UNTIL PERMANENT VEGETATIVE COVER MAY BE ESTABLISHED.

WHERE APPLICABLE

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO EROSION, WHERE THE SEASON AND OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION—RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE SUITABLE PROTECTION CAN BE APPLIED.

# 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
- 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.

  2. PROTECTIVE MATERIALS.
- A. UNROTTED SMALL—GRAIN STRAW, AT 2.0 TO 2.5 TONS PER ACRE, IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL
- CANNOT BE SEEN BELOW THE MULCH.

  C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS
- RECOMMENDED BY THE MANUFACTURER.

  D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE
- MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYDROSEEDER.
- E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.F. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
- G. GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.
   MULCH ANCHORING SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE
- LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.

  A. PEG AND TWINE DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET II 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.
- B. MULCH NETTINGS STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS T BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
  C. CRIMPER MULCH ANCHORING COULTER TOOL A TRACTOR-DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.
- D. LIQUID MULCH—BINDERS

  1. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
- 2. USE ONE OF THE FOLLOWING:

  a. ORGANIC AND VEGETABLE BASED BINDERS NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO—TOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
- b. 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 B APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL CERMINATION OF CRASS

# <u>DUST CONTROL</u>

THE CONTROL OF DUST ON CONSTRUCTION SITES AND ROADS

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCED ON—SITE AND OFF—SITE DAMAGE AND HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY.

CONDITION WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON—SITE AND OFF—SITE DAMAGE IS LIKELY WITHOUT TREATMENT. CONSULT WITH LOCAL MUNICIPAL ORDINANCES ON ANY RESTRICTIONS.

SEDIMENTS DEPOSITED AS "DUST" ARE OFTEN FINE COLLOIDAL MATERIAL WHICH IS EXTREMELY DIFFICULT TO REMOVE FROM WATER ONCE IT BECOMES SUSPENDED USE OF THIS STANDARD WILL HELP TO CONTROL THE GENERATION OF DUST FROM CONSTRUCTION SITES AND SUBSEQUENT BLOWING AND DEPOSITION INTO LOCAL SURFACE WATER RESOURCES.

PLANNING CRITERIA

WATER QUALITY ENHANCEMENT

THE FOLLOWING METHODS SHOULD BE CONSIDERED FOR CONTROLLING DUST:

MULCHES - SEE STANDARD OF STABILIZATION WITH MULCHES ONLY, PG. 5-1

VEGETATIVE COVER - SEE STANDARD FOR: TEMPORARY VEGETATIVE COVER, PG. 7-1, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION PG. 4-1 AND PERMANENT STABILIZATION WITH SOD, PG. 6-1

SPRAY-ON ADHESIVES — ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS.

TILLAGE — TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

SPRINKLING — SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

<u>BARRIERS</u> — SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

CALCIUM CHLORIDE — SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEPER SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.

TABLE 16-1 DUST CONTROL MATERIALS

STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

ACIDULATED SOY BEAN SOAP STICK

MATERIAL GALLONS/ ACRE DILUTION NOZZLE AIONIC ASPHALT EMULSION 1200 SPRAY 12.5:1 LATEX EMULSION 235 RESIN IN WATER 300 SPRAY APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS, MAY ALSO BE USED AS AN POLYACRYLAMIDE (PAM)- SPRAY ON POLYACRYLAMIDE (PAM)- DRY SPREAD | AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD, P. 26-1.

NONE

COARSE

SPRAY

1200

FOR CLARIFICATIONS AND ADDITIONAL INFORMATION SEE THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY, 7TH EDITION, JANUARY 2014, REVISED JULY 2017

CONSTRUCTION DETAIL NOTES

ALL TRAFFIC SIGNS AND PAVEMENT
MARKINGS SHALL CONFORM TO THE
CURRENT EDITION OF THE MANUAL ON
UNIFORM TRAFFIC CONTROL DEVICES

(MUTCD).

2. ALL CONSTRUCTION DETAILS SHALL BE SUPERCEDED BY APPLICABLE MUNICIPAL, COUNTY OR STATE DETAILS UNLESS OTHERWISE NOTED.

3. STRUCTURAL DETAILS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. SHOP DRAWINGS SHALL BE PROVIDED TO THE TOWNSHIP FNGINFER FOR ALL

WALLS AND STRUCTURAL ELEMENTS
PRIOR TO CONSTRUCTION.

4. SHOP DRAWINGS SHALL BE PROVIDED
FOR ALL PRECAST STRUCTURES PRIOR
TO THE ORDERING OF MATERIALS.

5. DETAILS ASSUME APPROPRIATE LOAD
BEARING CAPACITY AND COMPACTION
OF SOILS. ACTUAL FIELD CONDITIONS
SHALL BE CONFIRMED BY ON—SITE

BEARING CAPACITY AND COMPACTION OF SOILS. ACTUAL FIELD CONDITIONS SHALL BE CONFIRMED BY ON—SITE GEOTECHNICAL ENGINEER.

6. RESIDENTIAL DEVELOPMENTS SHALL CONFORM TO DETAILS WITHIN THE CURRENT EDITION OF THE RESIDENTIAL

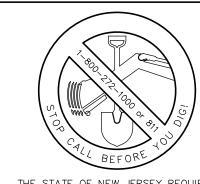
SITE IMPROVEMENT STANDARDS
(R.S.I.S.).
7. ALL CONSTRUCTION DETAILS ARE NOT
TO SCALE (N.T.S.) UNLESS OTHERWISE
NOTED.

REVISIONS

THIS DRAWING IS FOR
PERMIT PURPOSES ONLY

NOT FOR CONSTRUCTION UNTIL THIS BOX
HAS BEEN CHECKED AND DATED

CHKD BY: \_\_\_\_ DATE: \_\_\_



THE STATE OF NEW JERSEY REQUIRES

NOTIFICATION BY EXCAVATORS,

DESIGNERS, OR ANY PERSON

PREPARING TO DISTURB THE EARTH'S

SURFACE ANYWHERE IN THE STATE.



ivil Engineering Consultants Landscape Architects Professional Planners

261 Cleveland Avenue Highland Park. NJ 08904

732-846-8585 732-846-9439

Certificate of Authorization: 24GA27951900

CARAVAN, LLC

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY NEW JERSEY

> BLOCK 277 LOTS 1-5 & 13-14 TAX MAP SHEET 93

> > 2.06 ACRES

SOIL EROSION & SEDIMENT CONTROL DETAILS

DRAWN BY RM
DESIGNED BY RM
APPROVED BY ST

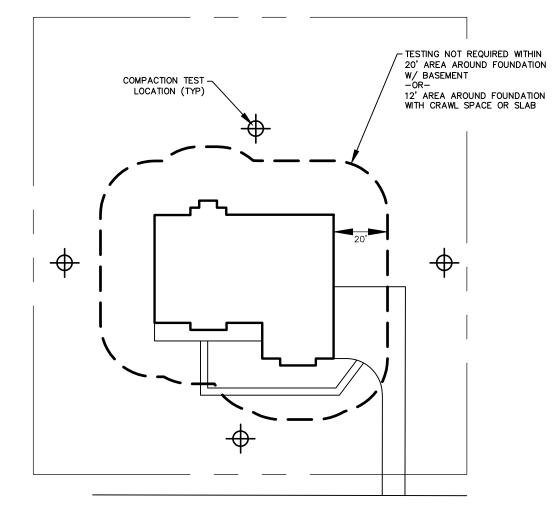
THIS WORK PREPARED UNDER MY
IMMEDIATE SUPERVISION...

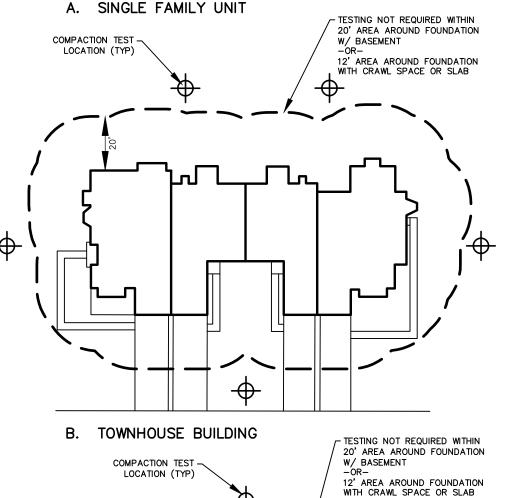
GREGORY S. OMAN
PROFESSIONAL ENGINEER
NJPE# 43441

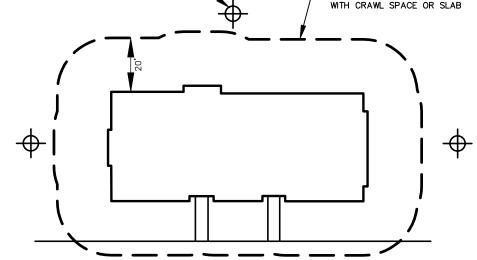
PROJECT 2023.091 SED—

DATE OF ISSUE JUNE 9, 2025

REVISION \_







C. MULTIFAMILY HOUSING OR OTHER NON-RESIDENTIAL BUILDING/STRUCTURE

NOTE: SOIL COMPACTION TESTING LOCATIONS IDENTIFIED ARE RECOMMENDED LOCATIONS FOR GRADED/DISTURBED AREAS WITHIN THE VICINITY OF BUILDINGS AND STRUCTURES OR ON INDIVIDUAL LOTS. FOR GRADED/DISTURBED AREAS WITHIN OPEN OR COMMON SPACES, SOIL COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FREQUENCY LISTED IN THE LEGEND (SEE PLAN SHEETS).

# TYPICAL SOIL COMPACTION TESTING LOCATIONS

N.T.S.

# SOIL DE-COMPACTION AND TESTING REQUIREMENTS

SOIL COMPACTION TESTING REQUIREMENTS SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE

ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. 2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL

3. COMPACTION TESTING LOCATIONS ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.

4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED

# COMPACTION TESTING METHODS

A. PROBING WIRE TEST (SEE DETAIL) B. HAND-HELD PENETROMETER TEST (SEE DETAIL)

AS PART OF THE SEQUENCE OF CONSTRUCTION.

C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

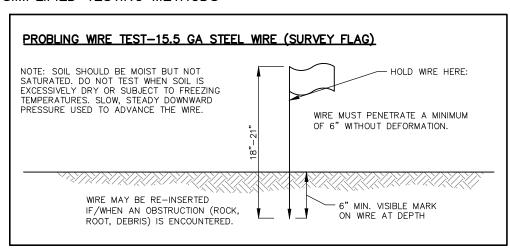
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

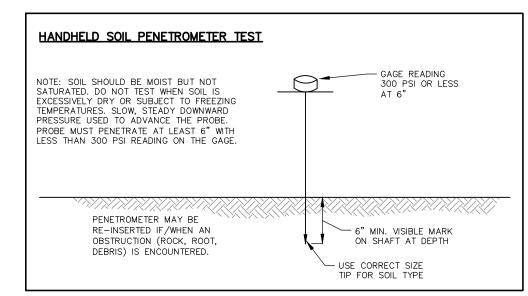
SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED

PROCEDURES FOR SOIL COMPACTION MITIGATION 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 <u>(6" MINIMUM DEPTH)</u> WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, RRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

# SIMPLIFIED TESTING METHODS





SOIL COMPACTION MITIGATION VERIFICATION FORM" MUST BE FILLED OUT COMPLETELY AND SUBMITTED TO THE LOCAL SOIL CONSERVATION DISTRICT PRIOR TO THE DISTRICT PERFORMING A REPORT OF COMPLIANCE INSPECTION.

\_ DAY(S)

\_ DAY(S)

\_ DAY(S)

WEEK(S)

# **CONSTRUCTION SEQUENCE**

1. INSTALLATION OF SILT FENCE ALONG LIMIT OF DISTURBANCE LINE AT SECTION DELINEATED ON "SOIL EROSION CONTROL PLANS" -INSTALLATION OF STONE AT CONSTRUCTION ENTRANCES -2. CLEARING AND GRUBBING — 3. ROUGH GRADING AND TEMPORARY SEEDING -INSTALLATION OF DETENTION FACILITIES 4. INSTALLATION OF UTILITIES AND FOUNDATIONS WITH EROSION CONTROL DEVICES (RIP-RAP OUTFALL, TEMPORARY SEEDING,

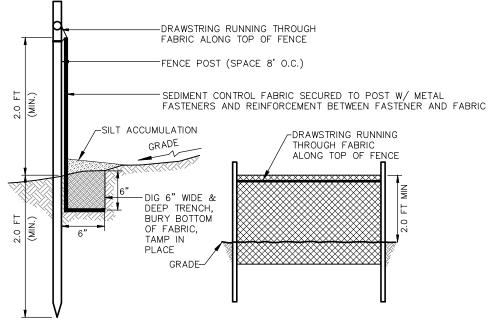
CONSTRUCTION COMMENCEMENT DATE: \_\_\_\_\_

INLET PROTECTION AND TEMPORARY STABILIZATION). -WEEK(S) WEEK(S) 6. PAVEMENT SUB-BASE -WEEK(S) 7. FINISHED GRADING AND LIGHTING -WEEK(S)

8. FINAL PAVEMENT -WEEK(S) 9. LANDSCAPING WITH PERMANENT SEEDING -WEEK(S) NOTE: AS C.O.'S FOR INDIVIDUAL BUILDING ARE APPLIED FOR, ALL SITE WORK AROUND THE BUILDING TO BE COMPLETED (No. 10 SUBJECT TO WEATHER

THE ABOVE SCHEDULE SUBJECT TO WEATHER CONDITIONS AND MATERIAL AVAILABILITY.

CONDITIONS AND TO BE COMPLETED WITHIN 6 MONTHS).

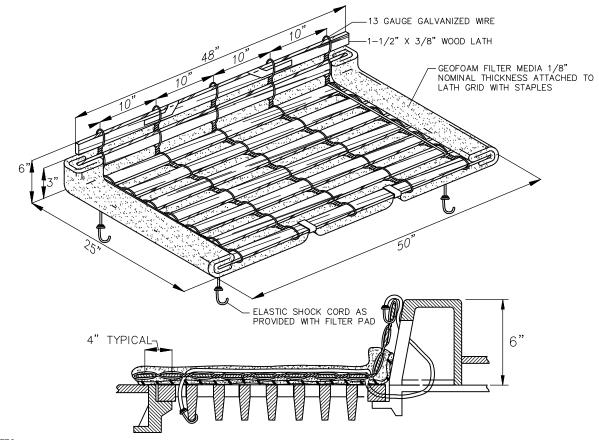


1) FENCE POSTS SHALL BE SPACE 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST TWO (2) FEET INTO THE GROUND AND EXTEND AT LEAST TWO (2) FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 13 INCHES.

2) A METAL FENCE WITH 6-INCH OR SMALLER OPENINGS AND AT LEAST TWO (2) FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEO-TEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED

3) A GEO-TEXTILE FABRIC. RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6-INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST TWO (2) FEET ABOVE THE GROUND. THE FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND A HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEO-TEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH

# SILT FENCE

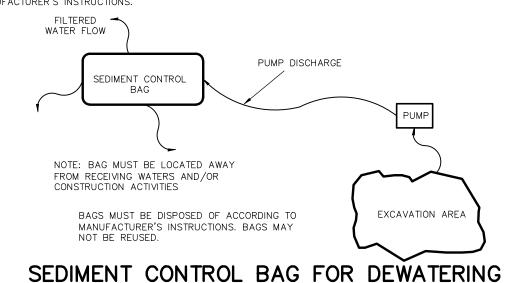


NOTES:

1. FURNISH AND INSTALL INLET FILTER PADS AS MANUFACTURED BY R.B.S. ENTERPRISES, OR APPROVED EQUAL. INSTALL IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PAD SHALL CONSIST OF 3/8" NORMAL THICKNESS GEOFOAM FILTER MEDIA ATTACHED TO FRAMEWORK. FRAMEWORK SHALL BE COMPRISED ON 1-1/2" x 3/8" x 48" WOOD LATH ON 4" CENTERS FOR A 5 WIRE GRID. FOAM SHALL BE ATTACHED TO LATH GRID WITH STAPLES. PAD SHALL BE ATTACHED TO GRATE WITH THE ELASTIC SHOCK CORD AND HOOKS. 2. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL

1. SILT CONTROL BAGS ARE CONTAINERS THROUGH WHICH SEDIMENT LADEN WATER IS PUMPED TO TRAP AND RETAIN THE SEDIMENT. A SILT CONTROL BAG IS TO BE USED ON SITES WERE EXCAVATIONS ARE DEEP, AND SPACES IS LIMITED AND WHERE DIRECT DISCHARGE OF SEDIMENT LADEN WATER TO STREAM AND STORM DRAINAGE SYSTEM IS TO BE AVOIDED. 2. CONTAINERS (BAGS) SHALL BE LOCATED FOR EASE OF CLEAN-OUT AND DISPOSAL OF THE TRAPPED SEDIMENT AND TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND PEDESTRIAN TRAFFIC. BAGS SHALL NOT BE PLACED

3. SEDIMENT CONTROL BAGS MUST BE LOCATED AWAY FROM RECEIVING WATERS AND DISPOSED OF ACCORDING TO



# SEEDING RATES

SEEDBED PREPARATION: FERTILIZER (10-10-10) 500 LB/AC LIMESTONE 6,000 LB/AC

TEMPORARY SEEDING (NOT FOR ACIDIC SOILS HAVING A PH OF 4 OR LESS)

SEED MIX: PERENNIAL RYEGRASS 200 LB/AC PERMANENT SEEDING (NOT FOR ACIDIC SOILS HAVING A PH OF 4 OR LESS)

(OPTIMAL) ZONE 5b.6a (8/1-10/1); ZONE 6b (8/15-10/15); ZONE 7a,7b (8/15-10/30)

(SEE TABLE 4-2 OF THE SCS STANDARDS FOR ADDITIONAL PLANTING DATES) TURF-TYPE TALL FESCUE SCS SEED MIX #14 350 LB/AC (3 CULTIVAR BLEND)

KENTUCKY BLUEGRASS (BLEND) PERENNIAL RYEGRASS (BLEND) 30 LB/AC

UNROTTED SALT HAY OR APPROVED EQUAL 1 1/2 to 2 TONS/AC

MULCH ANCHORING: HYDROMULCH OR APPROVED EQUAL (USE RATES AS RECOMMENDED BY MANUFACTURER)

) FOR ADDITIONAL REQUIREMENTS REFER TO THE SCS STANDARD FOR PERMANENT VEGETATIVE COVER. 2) THE FERTILIZER AND LIMESTONE RATES REPRESENT THE UNTESTED SCS REQUIRED RATES. FINAL RATES SUBJECT TO SOIL FERTILITY, pH ANALYSIS AND LAB RECOMMENDATIONS.

CONDITION OF ACCEPTANCE

) BARE OR THIN SPOTS IN EXCESS OF 5 PERCENT OF ANY AREA WILL NOT BE ACCEPTABLE 3) ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATED COVER (OF THE SEEDED SPECIES) AND MOWED ONCE.

# STANDARD FOR TOPSOILING

**DEFINITION** TOPSOILING ENTAILS THE DISTRIBUTION OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

TO IMPROVE THE SOIL MEDIUM FOR PLANT ESTABLISHMENT AND MAINTENANCE.

# WATER QUALITY ENHANCEMENT

GROWTH AND ESTABLISHMENT OF A VIGOROUS VEGETATIVE COVER IS FACILITATED BY TOPSOIL, PREVENTING SOIL LOSS BY WIND AND RAIN OFFSITE AND INTO STREAMS AND OTHER STORMWATER

# WHERE APPLICABLE

TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED.

## METHODS AND MATERIALS MATERIALS

- A. TOPSOIL SHOULD BE FRIABLE<sup>1</sup>, LOAMY<sup>2</sup>, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
- B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.

# 2. STRIPPING AND STOCKPILING

- A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
- B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
- C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
- D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR
- E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE
- OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
- F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG. 7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.

- A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF
- B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
- C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
- D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
- E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

# 4. APPLYING TOPSOIL

- A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).
- B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4 INCHES. FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLL COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC.. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1-1).
- C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED. WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.
- FRIABLE MEANS EASILY CRUMBLES IN THE FINGERS, AS DEFINED IN MOST SOILS TEXTS. 2 LOAMY MEANS TEXTURE GROUPS CONSISTING OF COARSE LOAMY SANDS, SANDY LOAM, FINE AND VERY FINE SANDY LOAM, LOAM, SILT LOAM, CLAY LOAM, SANDY CLAY LOAM AND SILTY CLAY LOAM TEXTURES AND HAVING LESS THAN 35% COARSE FRAGMENTS (PARTICLES LESS THAN 2MM IN SIZE) AS DEFINED IN THE GLOSSARY OF SOIL SCIENCE TERMS, 1996, SOIL SCIENCE SOCIETY OF AMERICA.

# CRITERIA FOR PROTECTING REMAINING TREES:

2. BOX TREES WITHIN 25 FEET OF A BUILDING SITE TO PREVENT MECHANICAL INJURY. FENCING OR OTHER BARRIER SHOULD BE INSTALLED BEYOND THE CRITICAL ROOT RADIUS. TREE ROOT SYSTEMS COMMONLY EXTEND WELL BEYOND THE DRIP LINE 3. BOARDS WILL NOT BE NAILED TO TREES DURING BUILDING OPERATIONS.

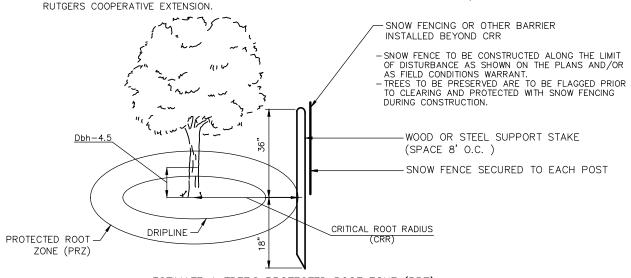
1. GENERAL MECHANICAL DAMAGE - SEE BELOW FOR CORRECT ROOT ZONE CALCULATION AND PLACEMENT OF TREE PROTECTION.

4. FEEDER ROOTS SHOULD NOT BE CUT IN AN AREA INSIDE THE PROTECTED ROOT ZONE (PRZ).

5. DAMAGED TRUNKS OR EXPOSED ROOTS SHOULD HAVE DAMAGED BARK REMOVED IMMEDIATELY AND NO PAINT SHALL BE APPLIED

XPOSED ROOTS SHOULD BE COVERED WITH TOPSOIL IMMEDIATELY AFTER EXCAVATION IS COMPLETE. ROOTS SHALL BE PRUNED O GIVE A CLEAN, SHARP SURFACE AMENABLE TO HEALING. ROOTS EXPOSED DURING HOT WEATHER SHOULD BE IRRIGATED TO PREVENT PERMANENT TREE INJURY. CARE FOR SERIOUS INJURY SHOULD BE PRESCRIBED BY A PROFESSIONAL FORESTER OR LICENSED TREE EXPERT.

NOTE: FOR MORE SPECIFIC TREE CHARACTERISTICS AND TREE LIMB REMOVAL, SEE THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY PUBLISHED BY THE NEW JERSEY DEPARTMENT OF AGRICULTURE—STATE SOIL CONSERVATION COMMITTEE OR CONSULT WITH A LICENSED PROFESSIONAL TREE EXPERT, SOIL CONSERVATION DISTRICT OR RUTGERS COOPERATIVE EXTENSION.



# ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF

2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET. DBH X 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.

DBH X 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES

# TREE PROTECTION

# STANDARD FOR PERMANENT STABILIZATION WITH SOD

# **DEFINITION**

ESTABLISHING PERMANENT VEGETATION USING SOD.

# <u>PURPOSE</u>

TO PERMANENTLY STABILIZE TOPSOIL WITH AN IMMEDIATE AESTHETIC COVERING, THUS ASSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

# WATER QUALITY ENHANCEMENT

## PROVIDES AN IMMEDIATE, PERMANENT VEGETATIVE COVER TO THE SOIL FROM THE IMPACTS OF WIND OR RAIN AND PREVENTS SOIL AND NUTRIENT LOSSES TO STREAMS AND OTHER STORMWATER CONVEYANCES FROM STORMWATER RUNOFF

ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE WHERE AN IMMEDIATE, PERMANENT, VEGETATIVE COVER IS DESIRED. WATER (RAIN OR IRRIGATION) IS REQUIRED FOR SUCCESS; ACCESS TO IRRIGATION IS ESSENTIAL DURING

# METHODS AND MATERIALS

- 1. HIGH QUALITY CULTIVATED SOD IS PREFERRED OVER NATIVE OR PASTURE SOD.
- 2. SOD SHOULD BE FREE OF BROADLEAF WEEDS AND UNDESIRABLE COARSE AND FINE
- 3. SOD SHOULD BE OF UNIFORM THICKNESS, TYPICALLY 5/8 INCH, PLUS OR MINUS 1/4 INCH, AT TIME OF CUTTING (EXCLUDES TOP GROWTH.).
- 4. SOD SHOULD BE VIGOROUS AND DENSE AND BE ABLE TO RETAIN ITS OWN SHAPE AND WEIGHT WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP FROM THE UPPER 10 PERCENT OF THE STRIP. BROKEN PADS AND ROLLS OR TORN AND UNEVEN ENDS WILL
- 5. FOR DROUGHTY SITES, A SOD OF TURF-TYPE TALL FESCUE OR TURF-TYPE TALL FESCUE MIXED WITH KENTUCKY BLUEGRASS IS PREFERRED OVER A 100% KENTUCKY BLUEGRASS SOD. ALTHOUGH NOT WIDELY AVAILABLE, A SOD OF FINE FESCUE IS ALSO
- 6. ONLY MOIST, FRESH, UNHEATED SOD SHOULD BE USED. SOD SHOULD BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 24 HOURS OR LESS DURING SUMMER

# 1. SITE PREPARATION

NOT BE ACCEPTABLE.

ACCEPTABLE FOR DROUGHTY SITES.

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR LIMING, FERTILIZING, INCORPORATION OF ORGANIC MATTER, AND OTHER SOIL PREPARATION PROCEDURES. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
- B. 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.
- SEE THE STANDARD FOR TOPSOILING FOR TOPSOIL AND AMENDMENT REQUIREMENTS.
- C. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS

# 2. SOIL PREPARATION

- A. UNIFORMLY 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 (HTTP: //NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET USING 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY 1/2 THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER 1/2 RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING. 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 TOPSOIL 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 REASONABLY UNIFORM, FINE
- SEEDBED IS PREPARED. C. REMOVE FROM THE SURFACE ALL OBJECTS THAT WOULD PREVENT GOOD SOD TO TOPSOIL CONTACT AND REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE
- ROOTS, PIECES OF CONCRETE, CLODS, LUMPS, OR OTHER UNSUITABLE MATERIAL. D. INSPECT SITE JUST BEFORE SODDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED IN ACCORDANCE WITH THE ABOVE.

# SOD PLACEMENT

- A. SOD STRIPS SHOULD BE LAID ON THE CONTOUR, NEVER UP AND DOWN THE SLOPE, STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UP. ON STEEP SLOPES, THE USE OF LADDERS WILL FACILITATE THE WORK AND PREVENT DAMAGE TO THE SOD. DURING PERIODS OF HIGH TEMPERATURE, LIGHTLY IRRIGATE THE SOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
- B. PLACE SOD STRIPS WITH SNUG, EVEN JOINTS (SEAMS) THAT ARE STAGGERED. OPEN SPACES INVITE EROSION.
- C. LIGHTLY ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT TO INSURE SOLIE CONTACT OF ROOT MAT AND SOIL SURFACE. DO NOT OVERLAP SOD. ALL JOINTS SHOULD BE BUTTED TIGHTLY TO PREVENT VOIDS WHICH WOULD CAUSE DRYING OF THE ROOTS AND INVASION OF WEEDS.
- D. ON SLOPES GREATER THAN 3 TO 1, SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES BIODEGRADABLE PLASTIC SPIKES, OR SPLIT SHINGLES (8 TO INCHES LONG BY 3/4 INCH WIDE).
- . SURFACE WATER CANNOT ALWAYS BE DIVERTED FROM FLOWING OVER THE FACE OF THE SLOPE, BUT A CAPPING STRIP OF HEAVY JUTE OR PLASTIC NETTING, PROPERL' SECURED, ALONG THE CROWN OF THE SLOPE AND EDGES WILL PROVIDE EXTRA PROTECTION AGAINST LIFTING AND UNDERCUTTING OF SOD. THE SAME TECHNIQUE CAN BE USED TO ANCHOR SOD IN WATER-CARRYING CHANNELS AND OTHER CRITICAL AREAS. WIRE STAPLES MUST BE USED TO ANCHOR NETTING IN CHANNEL
- IMMEDIATELY FOLLOWING INSTALLATION, SOD SHOULD BE WATERED UNTIL WATER PENETRATES THE SOIL LAYER BENEATH SOD TO A DEPTH OF 1 INCH. MAINTAIN OPTIMUM WATER FOR AT LEAST TWO WEEKS.
- 4. TOPDRESSING SINCE SOIL ORGANIC MATTER AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTIONS 1 AND 2IN THIS STANDARD, A FOLLOW—UP TOPDRESSING IS NOT MANDATORY, EXCEPT WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP TOPDRESSING SHALL THEN BE APPLIED. TOPDRESS WITH 10-0-10 OR EQUIVALENT AT 400 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.

FOR CLARIFICATIONS AND ADDITIONAL INFORMATION SEE THE STANDARDS

FOR SOIL EROSION AND SEDIMENT

CONTROL IN NEW JERSEY, 7TH EDITION, JANUARY 2014, REVISED JULY 2017

MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

(MUTCD). ALL CONSTRUCTION DETAILS SHALL B SUPERCEDED BY APPLICABLE
MUNICIPAL, COUNTY OR STATE
DETAILS UNLESS OTHERWISE NOTED. STRUCTURAL DETAILS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY SHOP DRAWINGS SHALL BE PROVIDED TO THE TOWNSHIP ENGINEER FOR ALL WALLS AND STRUCTURAL ELEMENTS

CONSTRUCTION DETAIL NOTES

ALL TRAFFIC SIGNS AND PAVEMENT

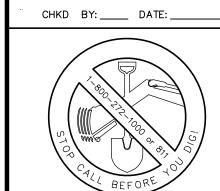
PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL PRECAST STRUCTURES PRIOR TO THE ORDERING OF MATERIALS. DETAILS ASSUME APPROPRIATE LOAD BEARING CAPACITY AND COMPACTION OF SOILS. ACTUAL FIELD CONDITIONS SHALL BE CONFIRMED BY ON-SITE GEOTECHNICAL ENGINEER. RESIDENTIAL DEVELOPMENTS SHALL

CONFORM TO DETAILS WITHIN THE CURRENT EDITION OF THE RESIDENTIAL SITE IMPROVEMENT STANDARDS ALL CONSTRUCTION DETAILS ARE NOT TO SCALE (N.T.S.) UNLESS OTHERWISE

REVISIONS

THIS DRAWING IS FOR PERMIT PURPOSES ONLY

NOT FOR CONSTRUCTION UNTIL THIS BOX HAS BEEN CHECKED AND DATED



THE STATE OF NEW JERSEY REQUIRES NOTIFICATION BY EXCAVATORS. DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.



associates ivil Engineering Consulta Landscape Architects Professional Planners

261 Cleveland Avenue Highland Park. NJ 08904

732-846-8585 732-846-9439 🚛

Certificate of Authorization: 24GA27951900

CARAVAN, LLC

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY

NEW JERSEY

BLOCK 277 LOTS 1-5 & 13-14 TAX MAP SHEET 93

2.06 ACRES

SOIL EROSION & SEDIMENT CONTROL DETAILS

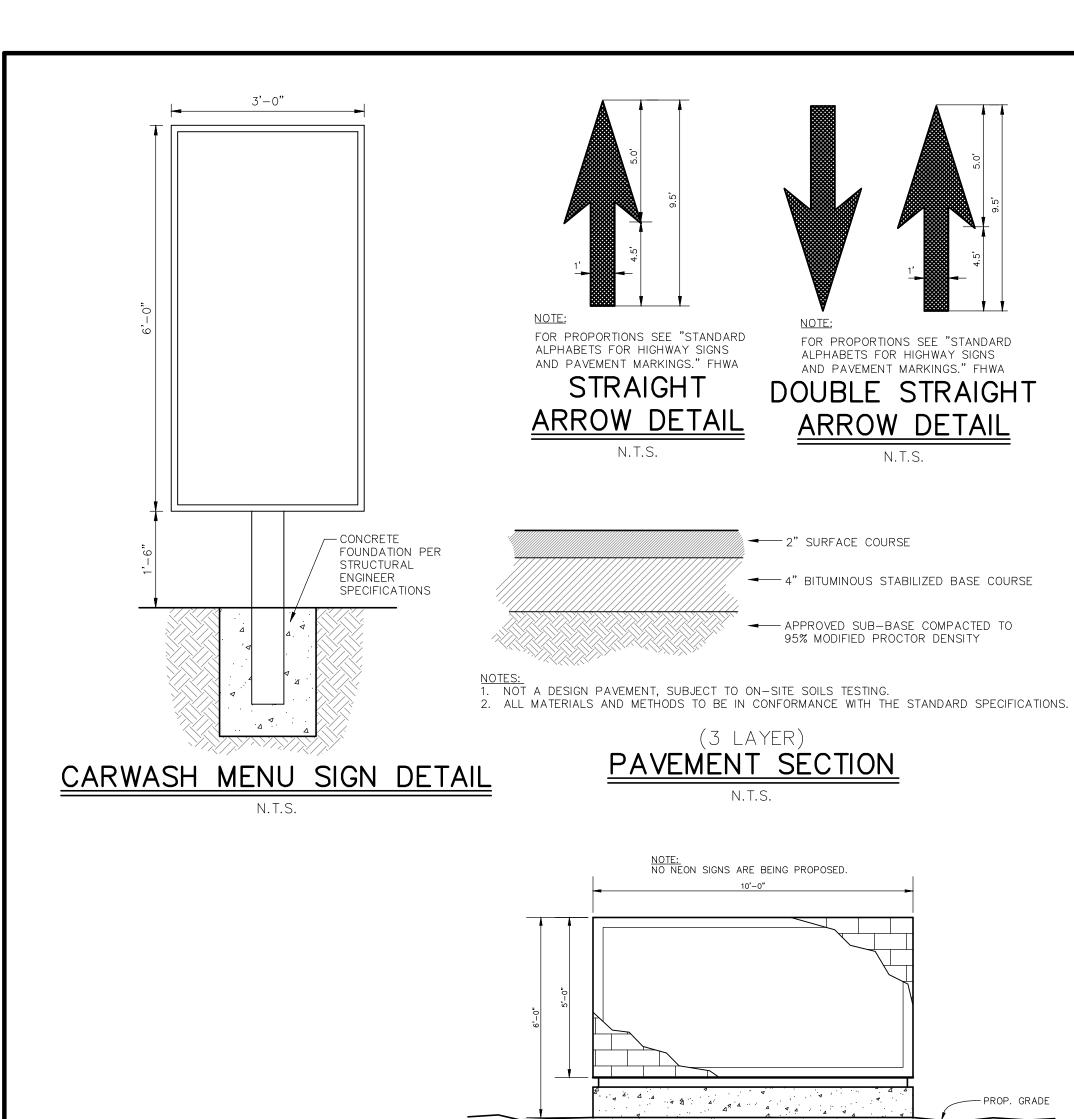
ESIGNED BY PROVED BY

> GREGORY S. OMAN PROFESSIONAL ENGINEER

> > NJPE# 43441

THIS WORK PREPARED UNDER MY IMMEDIATE SUPERVISION...

2023.091 SED-2 JUNE 9, 2025 REVISION



CONC. FOUNDATION ---

WHERE SIDEWALK ABUTS THE CURB.

-ROAD SURFACE

FINISHED GRADE

1. EXPANSION JOINTS TO BE 1/2" PREMOLDED, ASPHALT IMPREGNATED, JOINT FILLER

TO BE PLACED: IN TRAVERSE JOINTS 20' O.C. MAX; BETWEEN CURB AND CONCRETE SIDEWALK OR PAVEMENT; AT ALL STRUCTURES; AND AT THE END OF EACH WORK DAY.

2. ALL MATERIALS AND METHODS TO BE IN CONFORMANCE WITH THE STANDARD

(9"WIDE / 4"REVEAL)

NJDPT CONCRETE CURB DETAIL

MATERIAL, CUT TO FIT CROSS SECTION, RECESSED 1/4" FROM EXPOSED FACES AND ARE

4,500# CONCRETE AT 28-

DAYS (AIR ENTRAINED)

FREESTANDING SIGN DETAIL

4.0' OR AS NOTED

1.5% TYP. (2% MAX SLOPE)

- APPROVED SUBGRADE

-6"x6" 10/10 WIRE MESH ASTM A497

-1/2"x1/2"-MASTIC JOINT SEALER

1/2" EXPANSION JOINT

4" THICK (AIR ENTRAINED) 4,500# CONCRETE AT

1. EXPANSION JOINTS TO BE LOCATED AT MAXIMUM OF 20' O.C.; AT ALL STRUCTURES; AND

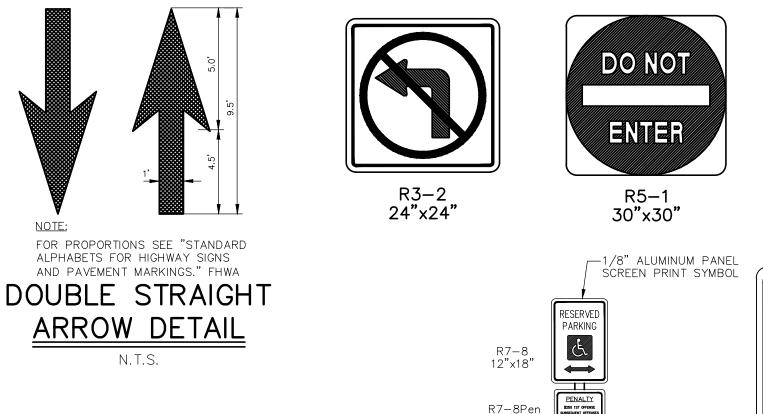
4. ALL MATERIALS AND METHODS TO BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS.

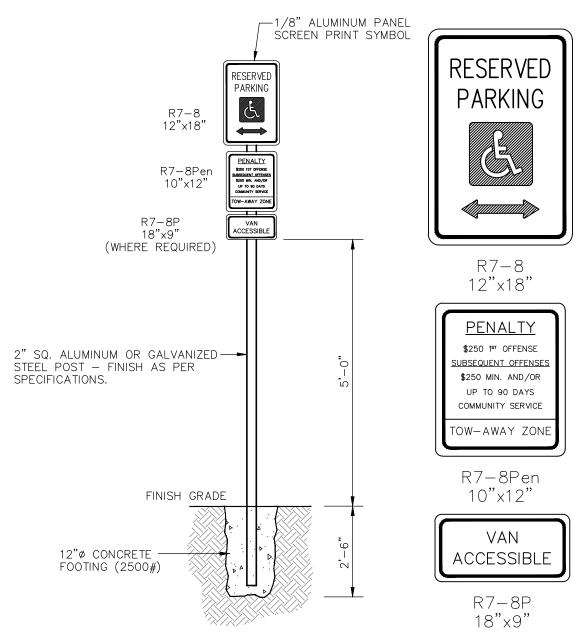
CONCRETE SIDEWALK

2. EXPANSION MATERIALS TO BE 1/2" PREMOLDED, ASPHALT IMPREGNATED, JOINT FILLER.

3. TOOLED JOINTS TO BE SPACED EQUAL TO THE SIDEWALK WIDTH (6' MAX).

28 DAYS, 6" THICK at DRIVEWAYS FOR FULL WIDTH.

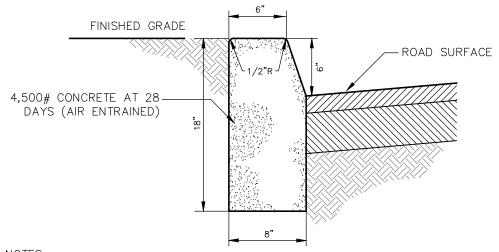




R1-1

30"x30"

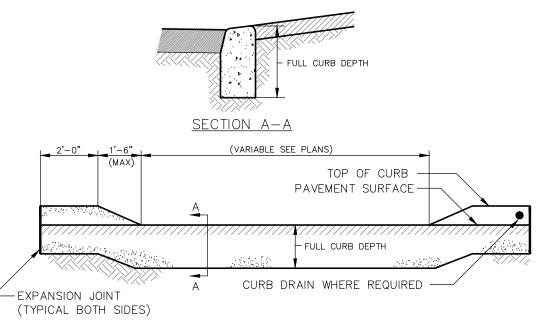
# ACCESSIBLE SIGN DETAIL



1. EXPANSION JOINTS TO BE 1/2" PREMOLDED, ASPHALT IMPREGNATED, JOINT FILLER MATERIAL, CUT TO FIT CROSS SECTION, RECESSED 1/4" FROM EXPOSED FACES AND ARE TO BE PLACED: IN TRAVERSE JOINTS 20' O.C. MAX; BETWEEN CURB AND CONCRETE SIDEWALK OR PAVEMENT; AT ALL STRUCTURES; AND AT THE END OF EACH WORK DAY.

2. ALL MATERIALS AND METHODS TO BE IN CONFORMANCE WITH THE STANDARD

# (8"WIDE / 6"REVEAL) STANDARD CONCRETE CURB (18")



ALL MATERIALS AND METHODS TO BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS. FLUSH CURB

# SECTION A-A TOP OF CURB -PAVEMENT SURFACE -FULL CURB DEPTH

95% MODIFIED PROCTOR DENSITY

<u>DEPRESSED CURB</u>

N.T.S.

# GENERAL ADA NOTES

PEDESTRIAN CURBS ARE PERMITTED WHEN ADJACENT TO NON-WALK AREAS OR ELEVATION DIFFERENCES WHICH CANNOT BE ACCOMMODATED BY FLARES OR GRADING.

CROSSWALKS FOR CURB RAMPS THAT LEAD TO A SINGLE CROSSWALK, THE RAMP (EXCLUDING FLARES) TO BE FULLY INSIDE OF MARKED CROSSWALK LINES. SHOULD BE PLACED A MINIMUM DISTANCE OF 4'-0" FROM STOP AND YIELD LINES. FOR UN-SIGNALIZED AREAS, CROSSWALKS SHOULD BE PLACED A MINIMUM DISTANCE OF 20'-0" AWAY FROM ON ROAD PARKING ZONES. FOR SIGNALIZED AREAS, CROSSWALKS SHOULD BE PLACED A MINIMUM DISTANCE OF 30'-0" FROM ON ROAD PARKING ZONES.

PEDESTRIAN CROSSWALKS ARE 6'-0" MINIMUM MEASURED FROM INSIDE THE PAINTED EDGE TO INSIDE PAINTED EDGE AND THE INSIDE LINES MUST BE OUTSIDE THE PROJECTED CURB LINES. AVOID USING THE PARALLEL LINE CROSSWALK DESIGN. INSTEAD USE THE LONGITUDINAL LADDER-STYLE, LINES AT 6'-0" LONG AND 1'-2' WIDE WITH A SPACING OF 1'-2' APART. SPACING SHOULD BE DESIGNED SO THE PAINTED AREAS AVOID THE WHEEL PATHS.

CURB RAMPS CONSTRUCT CURB RAMPS WITH A MINIMUM 4'-0" X 4'-0" CLEAR SPACE BEFORE THE CURB FACE, SLOPES THAT EXCEED 8.00%, OR CONTRACT DOCUMENTS AS APPLICABLE, WILL NOT BE ACCEPTED AND PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB, RAMP LENGTH NOT TO EXCEED 15'-0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE

FLATTEST SLOPE POSSIBLE. FOR NEW CONSTRUCTION, ATTEMPT TO KEEP THE CROSS SLOPE AS FLAT AS POSSIBLE. DO NOT EXCEED 2.00% CROSS SLOPE ON THE CURB RAMP OR PEDESTRIAN ACCESSIBLE ROUTE (MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL). CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK CURB RAMP WIDTH IS 4'-0" MINIMUM.

AVOID CURB RAMP DESIGNS WHERE THE WIDTH OF THE CROSSWALK WILL NEED TO BE GREATER THAN

ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP IS NOT SOLELY DEPENDANT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 6" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 6'-0" FOR A 12:1 SLOPE. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP AND ADJOINING ROAD SURFACE IS NOT TO EXCEED AN ALGEBRAIC DIFFERENCE OF 11.00%. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A CURB RAMP, LANDING OR BLENDED TRANSITION IS NOT TO EXCEED 8.00% AND IT IS

NOT NECESSARY TO HAVE THE LENGTH GREATER THAN 15'-0". WHEN TWO CROSSWALKS LEAD TO A SINGLE CURB RAMP, THE MAXIMUM RUNNING SLOPE IS 5% WITH A MAXIMUM 2% CROSS SLOPE. THESE TYPES OF RAMPS REQUIRE THE ENGINEERING DEPARTMENT'S APPROVAL AS THEY ARE NOT PREFERRED

· CONSTRUCT TOP OF PLAIN CEMENT CONCRETE DEPRESSED CURB TO BE FLUSH WITH ADJACENT SURFACES (RAMPS, SIDEWALKS, FLARES). CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT ROADWAY, GRADE EDGE OF ROAD ELEVATIONS AT THE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL LANDINGS BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE. THE VERTICAL ALIGNMENT OF A CURB RAMP, EXCLUDING FLARES, SHALL BE PLANAR. GRADE BREAKS SHALL BE FLUSH AND PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. RAMP TRANSITIONS BETWEEN WALKS, GUTTERS, LANDINGS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4" MAXIMUM). WHEN TWO CROSSWALKS LEAD TO A SINGLE CURB RAMP, THE DEPRESSED CURB MUST EXTEND FROM THE OUTER MOST EDGE OF EACH CROSSWALK.

DETECTABLE WARNING SURFACES

PROVIDE HMA FLARES ON-

/1:12 MAX

TEMPORARY CURB RAMP:-

SURFACE COURSE

T.D. ALIGNED WITH

PEDESTRIAN TRAVEL

. DETECTABLE WARNING SURFACE (DWS) SHALL EXTEND FULL WIDTH OF CURB RAMP

DWS SHALL EXTEND 2 FEET MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL.

a. WITHIN TOWNSHIP/COUNTY RIGHT OF WAY, COLOR SHALL CONTRAST VISUALLY WITH

ADJACENT SURFACES, EITHER LIGHT ON DARK OR DARK ON LIGHT, OR AS PER

WITHIN STATE RIGHT OF WAY, USE A SURFACE OR A COATING MATERIAL THAT IS

4. TYPICALLY, DWS SHALL BE PLACED ADJACENT TO BACK OF CURB. SEE "PLACEMENT OF

DETECTABLE WARNING SURFACE

SAFETY RED IN COLOR ACCORDING TO FED-STD-595B COLOR CHIP NO. 31350 AND

ENSURE THAT THE FINISHED PRODUCT IS STABILIZED AGAINST UV DEGRADATION AND

HAS A 35 BPM MINIMUM SLIP RESISTANCE WHEN TESTED ACCORDING TO ASTM R 303.

(EXCLUSIVE OF FLARES) OR FULL WIDTH OF LANDING/TURNING SPACE.

ADHERES TO THE SUBSTRATE WITHOUT PEELING OR BLISTERING.

DETECTABLE WARNING SURFACE ON CURB RADIUS" FOR EXCEPTIONS.

DIRECTION OF

HOT MIX ASPHALT (HMA)

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0 0 0 0 0

00000

00000

00000

<u>PLAN</u>

1.6" MIN. TO 2.4" MAX.

DWS SHOULD BE COLORED AS FOLLOWS:

SPECIFIED REQUIREMENTS.

SPACING

CENTER TO CENTER T.D.

EACH SIDE OF RAMP (3:1

NO SEPARATION BETWEEN DETECTABLE WARNING SURFACES FOR MEDIANS LESS THAN 4'-O" BETWEEN PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP. ALIGN DETECTABLE WARNING SURFACE TRUNCATED DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB WHEN APPROPRIATE. DETECTABLE WARNING SURFACES SHALL BE SAFETY RED COLOR, EXCEPT IF THE MUNICIPALITIES HAVE ESTABLISHED AN ALTERNATIVE COLOR SCHEME FOR TWO CROSSWALKS LEADING TO A SINGLE CURB RAMP, THE DETECTABLE WARNING SURFACE MUST BE PLACED ALONG THE ENTIRE DEPRESSED CURB AND THE DOMES MUST BE PLACED IN SUCH A WAY THAT THE DIRECTION OF TRAVEL IS ORIENTED INTO THE CROSSWALK.

5.00% MAXIMUM SLOPE FOR THE DRIVEWAY APRON. 1 1/2" MAXIMUM VERTICAL CHANGE IN HEIGHT BETWEEN THE ROAD SURFACE AND THE DEPRESSED CURB AT THE DRIVEWAY APRON.

· PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.

TEMPORARY CURB RAMP

(HOT MIX ASPHALT)

N.T.S.

TRUNCATED -

DOME (T.D.)

SIDEWALK

 $^{\prime}$  Temporary walkway (where applicable):

SHORT SEGMENTS OF ROUGH, SOFT, OR UNEVEN

FIRM, STABLE, SLIP-RESISTANT SURFACE TO COVER

\_\_\_\_ 0.45" MIN. TO 0.90" MAX.

— 0.90" MIN. TO 1.4" MAX.

TOP DIAMETER

BASE DIAMETER

8. LANDINGS (AKA TURNING SPACE) LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS, UNLESS AN EXCEPTION IS GRANTED DO NOT EXCEED 2.00% SLOPE IN ALL DIRECTIONS LANDING AREA SHOULD BE 4'-0" X 4'-0" MINIMUM CLEAR SPACE. IF THE TURNING SPACE IS CONSTRAINED ON 2 OR MORE SIDES, IT MUST BE 4'x5' WITH THE 5' LENGTH ALONG THE UNOBSTRUCTED SIDE. FOR TWO CROSSWALKS LEADING TO A SINGLE CURB, THE LANDING AREA MUST HAVE A MINIMUM OF A 5'-0" DEPTH (INCLUDING THE DETECTABLE WARNING SURFACE) ALONG THE DEPRESSED CURB/ROADWAY. ENGINEERING DEPÁRTMENT APPROVAL IS REQUIRED IF LANDING FOR TURNING MANEUVER IS NOT ON THE

SIDEWALK, I.E. IF THE LANDING AREA "CLEAR SPACE" IS IN THE ROADWAY. 4'x4' LANDINGS ARE REQUIRED AT EVERY ACCESSIBLE PEDESTRIAN SIGNAL/PUSHBUTTON LOCATION.

NON-WALK AREA IS AN OBSTRUCTION OR GRASS/NON-PAVED AREA ADJACENT TO THE PEDESTRIAN ACCESS ROUTE THAT IS NOT USED BY THE PEDESTRIAN FOR ACCESS.

10. PEDESTRIAN PUSHBUTTONS THE DETAILS DEPICT PEDESTRIAN PUSHBUTTON POLES TO ILLUSTRATE THE RECOMMENDED PLACEMENT OF PEDESTRIAN PUSHBUTTONS. FOR ALTERATION PROJECTS, PROVIDE ACCESS TO EXISTING PEDESTRIAN PUSHBUTTONS TO THE MAXIMUM EXTENT FEASIBLE. INSTALL PEDESTRIAN PUSHBUTTON STUB POLES, WHERE APPLICABLE, SO AS NOT TO CREATE PEDESTRIAN OBSTRUCTIONS. NEW CONSTRUCTION MUST COMPLY WITH RECOMMENDED LOCATIONS FOR ALTERATION PROJECTS LOCATE PEDESTRIAN PUSHBUTTONS, TO THE MAXIMUM EXTENT FEASIBLE (SEE 2009 MUTCD FIG 4E-3) ADJACENT TO A LEVEL NON-SLIP SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS A NON-SLIP WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP WITHIN 5'-0" OF THE CROSSWALK EXTENDED BETWEEN 1'-6" AND 10'-0" OF THE EDGE OF CURB, SHOULDER OR PAVEMENT

PARALLEL TO THE CROSSWALK TO BE USED MOUNT PEDESTRIAN PUSHBUTTON 42" ABOVE THE SIDEWALK OR FINISHED GRADE TO THE CENTER OF THE PUSHBUTTON AND 10" MAXIMUM LATERALLY FROM LANDING.

ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE. THEREFORE, THE LENGTH OF RAMP IS NOT SOLELY DEPENDANT ON THE HEIGHT OF CURB. (FOR EXAMPLE, A 6" CURB DOES NOT NECESSARILY MEAN A RAMP LENGTH OF 6'-0" FOR A 12:1 SLOPE. SIDE FLARES 10.00% MAXIMUM SLOPE WHERE THE PEDESTRIAN PATH CROSSES THE CURB RAMP SIDE FLARES MUST BE PARALLEL TO THE CURB LINE CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK GRADE GRASS AREAS OR OTHER NON-WALK AREAS AT 3:1 (1:3) MAXIMUM. DO NOT INSTALL CHEEK WALLS THAT INTERSECT THE PEDESTRIAN ACCESS ROUTE

12. SIDEWALKS NOTE THE AREA CONSIDERED TO BE THE "PEDESTRIAN ACCESSIBLE ROUTE" THE MAXIMUM SIDEWALK CROSS SLOPE IS 2.00% (MEASURED PERPENDICULAR TO THE DIRECTION OF TRAVEL). THE MAXIMUM GRADE IS 5.00%. FOR SIDEWALKS ALONG STREETS; HOWEVER, THE LONGITUDINAL GRADE OF THE SIDEWALK SHOULD BE CONSISTENT WITH THE GRADE OF THE ADJACENT ROADWAY. IF THE 5.00% GRADE IS NOT FEASIBLE DUE TO TOPOGRAPHY AND OTHER PHYSICAL CONSTRAINTS, THE LOWEST PRACTICAL GRADE GREATER THAN 5.00% SHOULD BE USED SIDEWALK WIDTH MAY BE REDUCED TO 4'-0", WHEN PASSING AREAS 5'-0" X 5'-0" ARE PROVIDED

13. TRAVEL LANES THE TRAVEL LANE IS DEFINED BY THE OUTSIDE EDGE OF THE WHITE PAVEMENT MARKING LINE. IF A WHITE PAVEMENT MARKING LINE DOES NOT EXIST, THE TRAVEL LANE IS DEFINED BY THE CONTRACT

SIDE FLARE WIDTH IS TYPICALLY 24" AND A MINIMUM OF 12".

14. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB HEIGHTS WHERE THE CURB IS LESS OR MORE THAN THE STANDARD 6" HEIGHT.

15. CONSTRUCTION MUST MEET THE STANDARDS CONTAINED HEREIN UNLESS OTHERWISE NOTED OR DIRECTED. 16. PREFERRED AND ALTERNATE TREATMENTS SHOULD NOT BE INTERMIXED WITHIN THE SAME INTERSECTION. 17. ALL HANDICAP RAMPS CONSTRUCTED IN THIS CONTRACT SHALL MEET ACCESSIBILITY REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT.

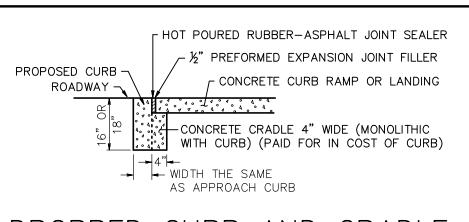
18. THE CONTRACTOR IS REQUIRED TO CONTACT THE TRAFFIC ENGINEERING DEPARTMENT ABOUT THE CONSTRUCTION OF ALL HANDICAP CURB RAMPS AT SIGNALIZED INTERSECTIONS AND VERIFY THE STRIPING PLAN IS IN ACCORDANCE WITH THE MOST RECENT NO PASSING ZONE PLAN.

GRADE BREAKS AT THE TOP AND BOTTOM OF THE CURB RAMP SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN GRADE BREAKS ARE NOT PERMITTED ON THE SURFACE OF RAMP RUNS OR LANDING AREAS. SURFACE SLOPES THAT MEET AT THE GRADE BREAKS SHALL BE FLUSH.

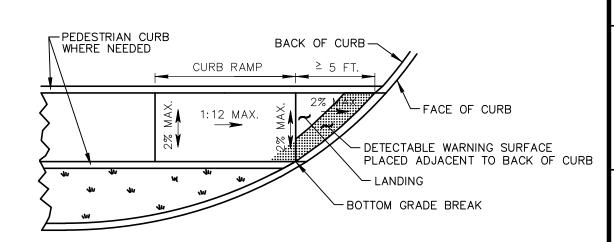
20. FOR NEW CONSTRUCTION AND ALTERATIONS, CONSTRUCT CURB RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE.

21. ALL VERTICAL SURFACE DISCONTINUITIES SHALL NOT EXCEED 1/4" IN HEIGHT. ANY VERTICAL SURFACE DISCONTINUITY BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AT A SLOPE NO GREATER THAN 50% ACROSS

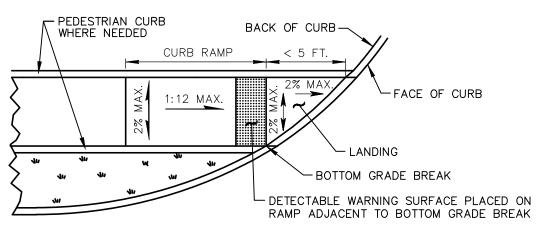
22. HORIZONTAL OPENINGS IN GRATES AND JOINTS SHALL NOT EXCEED 1/2" IN DIAMETER AND THE GRATES SHALL BE PLACED SO THE LONG DIMENSION IS PERPENDICULAR TO THE DIRECTION OF TRAVEL



# DROPPED CURB AND CRADLE



FOR RAMPS INTERSECTING A CURB RADIUS AT A SKEWED ANGLE WHERE AT LEAST ONE END OF BOTTOM GRADE BREAK IS GREATER THAN OR EQUAL TO 5 FEET FROM BACK OF CURB: DETECTABLE WARNING SURFACE SHALL BE PLACED ADJACENT TO BACK OF CURB.



FOR RAMPS INTERSECTING A CURB RADIUS AT A SKEWED ANGLE WHERE BOTH ENDS OF BOTTOM GRADE BREAK ARE LESS THAN 5 FEET FROM BACK OF CURB: DETECTABLE WARNING SURFACE SHALL BE PLACED ON THE RAMP ADJACENT TO BOTTOM GRADE BREAK.

# PLACEMENT OF DETECTABLE

N.T.S.

WARNING SURFACE ON CURB RADIUS

TO THE TOWNSHIP ENGINEER FOR ALL WALLS AND STRUCTURAL ELEMENTS PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL PRECAST STRUCTURES PRIOR TO THE ORDERING OF MATERIALS. DETAILS ASSUME APPROPRIATE LOAD BEARING CAPACITY AND COMPACTION OF SOILS. ACTUAL FIELD CONDITIONS SHALL BE CONFIRMED BY ON-SITE GEOTECHNICAL ENGINEER. RESIDENTIAL DEVELOPMENTS SHALL CONFORM TO DETAILS WITHIN THE CURRENT EDITION OF THE RESIDENTIAL SITE IMPROVEMENT STANDARDS ALL CONSTRUCTION DETAILS ARE NOT TO SCALE (N.T.S.) UNLESS OTHERWISE REVISIONS

CONSTRUCTION DETAIL NOTES

ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON

UNIFORM TRAFFIC CONTROL DEVICES

ALL CONSTRUCTION DETAILS SHALL B

SUPERCEDED BY APPLICABLE
MUNICIPAL, COUNTY OR STATE
DETAILS UNLESS OTHERWISE NOTED.

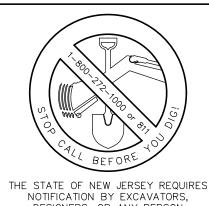
STRUCTURAL DETAILS ARE PROVIDED

FOR INFORMATIONAL PURPOSES ONLY

SHOP DRAWINGS SHALL BE PROVIDED

(MUTCD).

THIS DRAWING IS FOR PERMIT PURPOSES ONLY NOT FOR CONSTRUCTION UNTIL THIS BOX HAS BEEN CHECKED AND DATED



CHKD BY: \_\_\_\_ DATE: \_\_\_

DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.



Civil Engineering Consultan Landscape Architects Professional Planners 261 Cleveland Avenue Highland Park, NJ 08904

ູ 732–846–8585 732–846–9439 🗐

Certificate of Authorization: 24GA27951900

CARAVAN, LLC

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** 

> BLOCK 277 LOTS 1-5 & 13-14 TAX MAP SHEET 93 2.06 ACRES

CONSTRUCTION **DETAILS** 

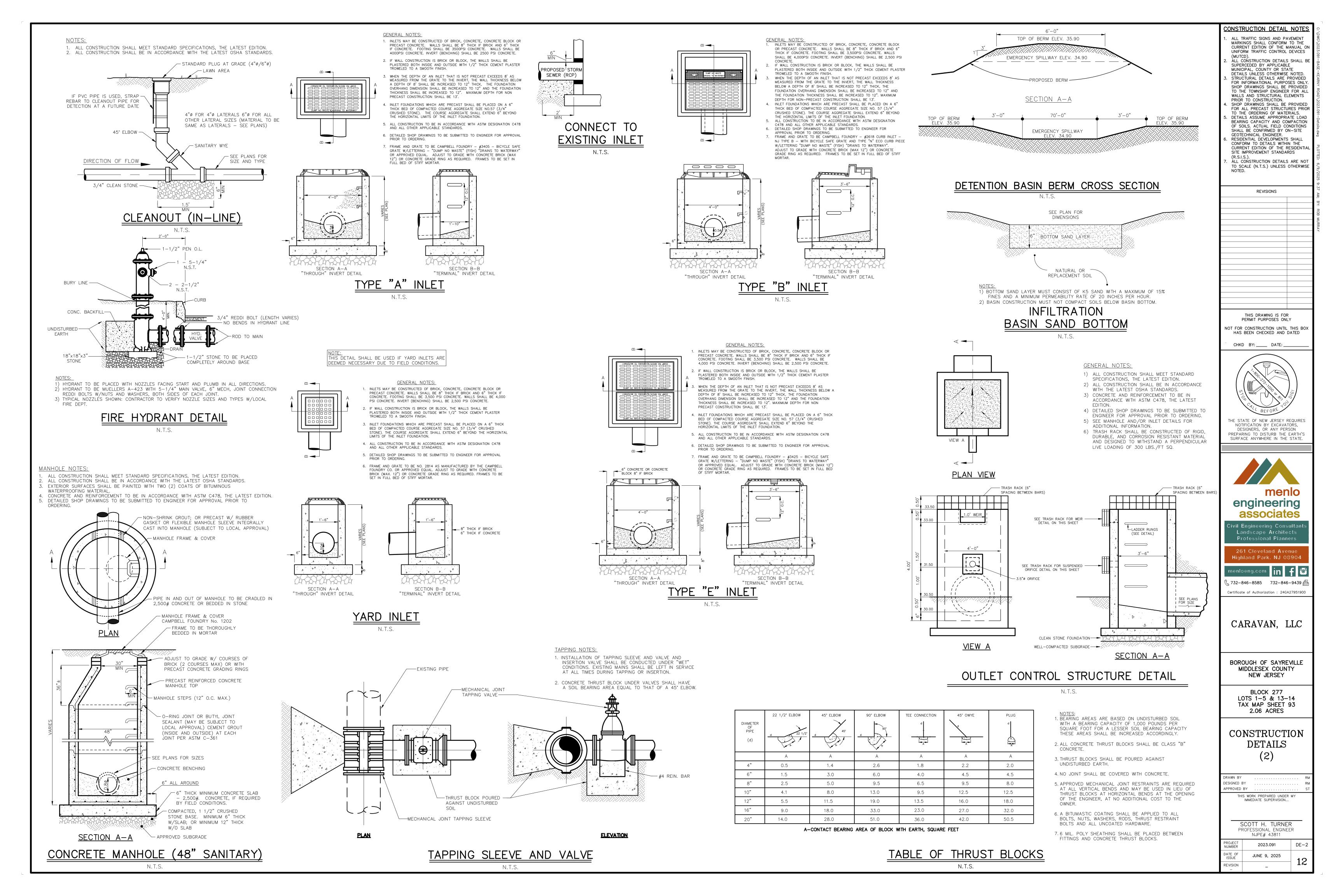
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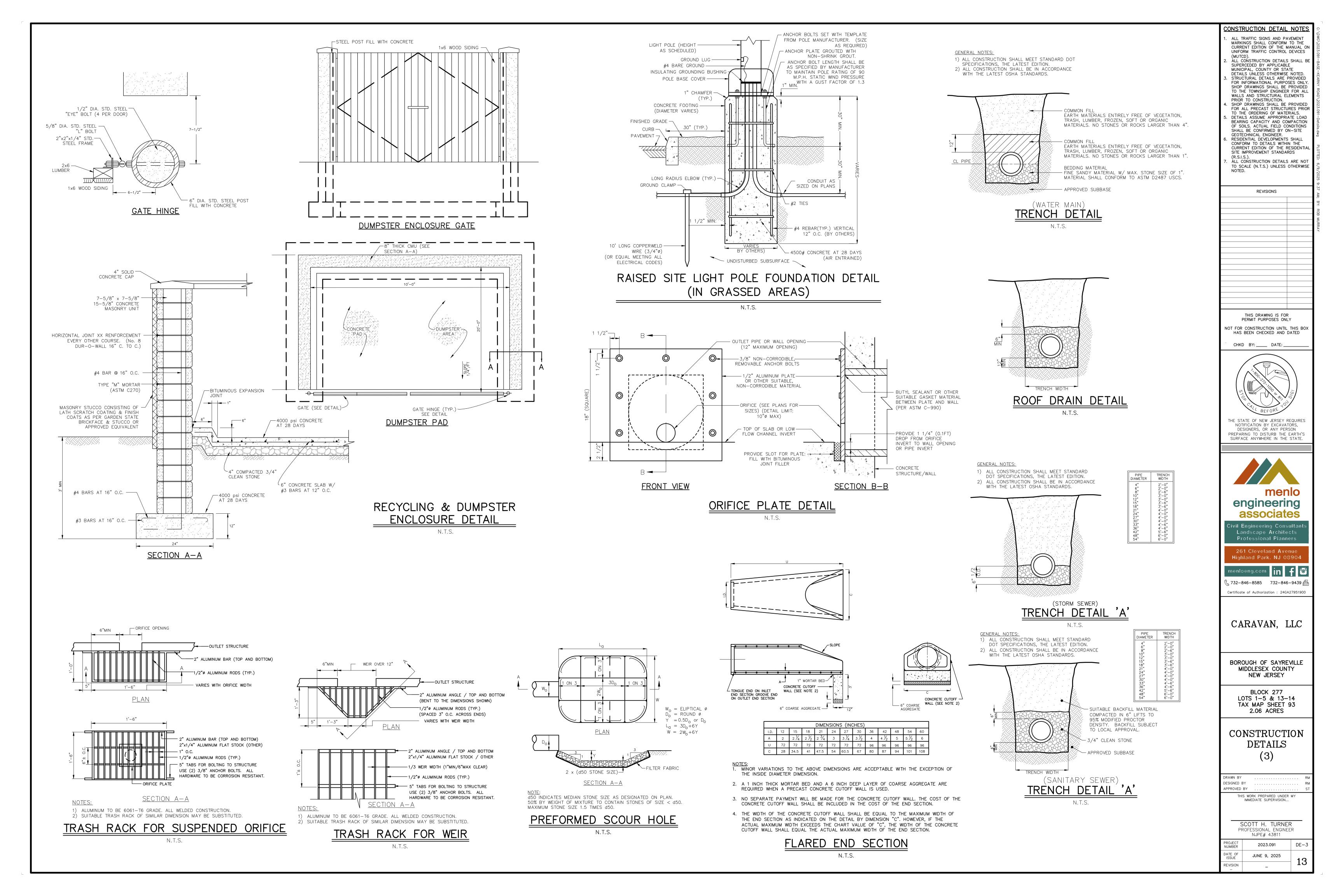
THIS WORK PREPARED UNDER MY IMMEDIATE SUPERVISION...

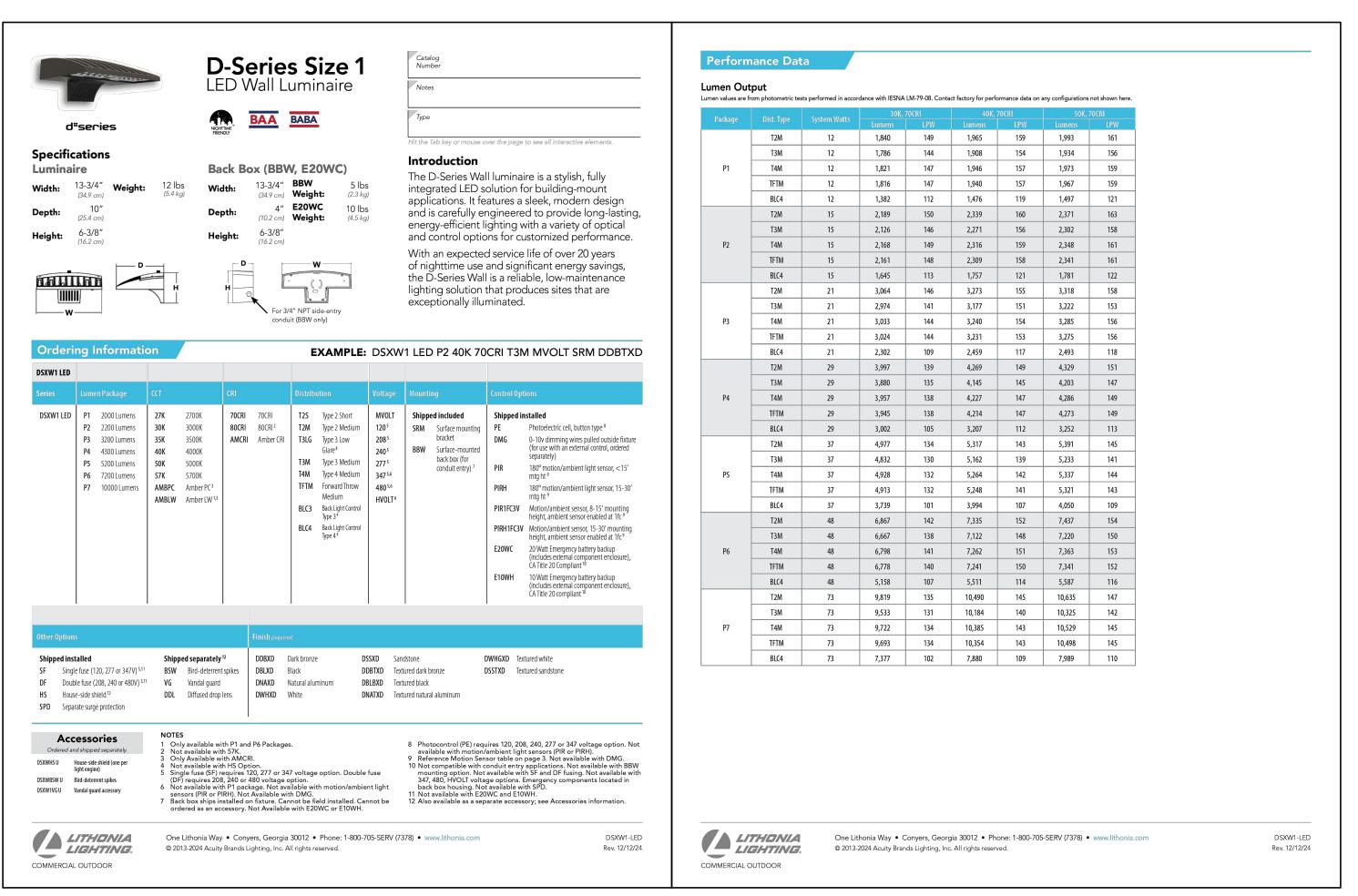
SCOTT H. TURNER PROFESSIONAL ENGINEER NJPE# 43811 2023.091 DE-1

DATE OF ISSUE JUNE 9, 2025 REVISION

CURB DRAIN WHERE REQUIRED -(TYPICAL BOTH SIDES) 1. ALL MATERIALS AND METHODS TO BE IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS.

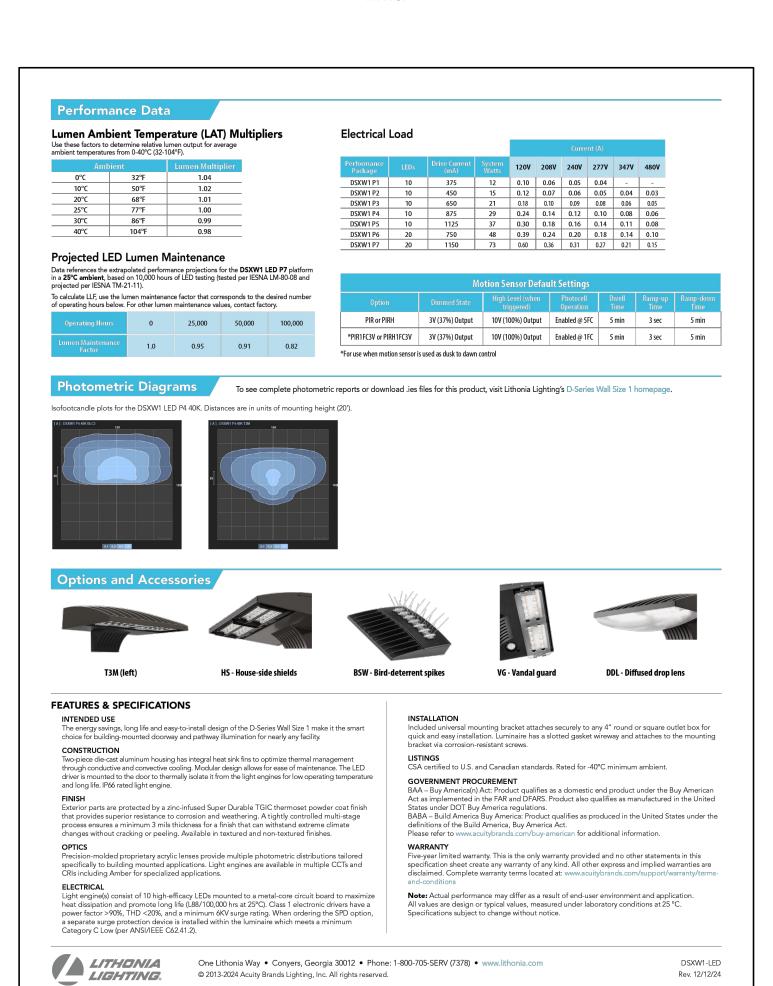






# WL LIGHT FIXTURE DETAILS-1

N.T.S.



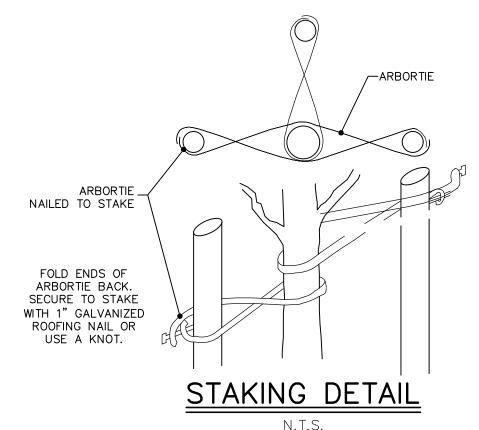
# WL LIGHT FIXTURE DETAILS-3

# WL LIGHT FIXTURE DETAILS-2

N.T.S.



# ERNMX-181-1 NATIVE STEEP SLOPE SEED MIX



# SOIL OUTSIDE OF THE PLANTING HOLE. -TREE DRAIN TO BE USED UNDISTURBED MOUND OF 3" OF COMPACTED SOIL. -WHERE SOIL CONDITIONS DECIDUOUS TREE PLANTING DETAIL NOTES: -HARDWOOD STAKE 1) CONTRACTOR SHALL PARTIALLY FILL WITH WATER. A REPRESENTATIVE # OF PITS IN EACH AREA OF THE PROJECT PRIOR TO PLANTING TO DETERMINE IF THERE IS ADEQUATE PERCOLATION. IF PIT DOESN'T PERCOLATE, MEASURE MUST BE TAKEN ASSURE PROPER DRAINAGE BEFORE PLANTING. 2) CONTRACTOR SHALL REMOVE STAKING, ARBOR TREE TIES AND LDPE TREE GUARD AT END C GUARANTEE PERIOD. ALL PLANTING MUST BE GUARANTEED FOR ONE FULL GROWING SEASON FROM TIME OF FINAL ACCEPTANCE BY THE TOWNSHIP LANDSCAPE ARCHITECT. 3) TREES SHALL BE PROVIDED WITH TREEGATOR" TM WATERING RINGS OR EQUAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WATER TO TREES UNTIL FINAL ACCEPTANCE NOTE: ON SLOPES, PLACE - CENTER LEADER SHALL NOT BE CUT

1) CONTRACTOR SHAL

PARTIALLY FILL WITH WATER, A REPRESENTATIVE # OF

PITS IN EACH AREA OF THE

PROJECT PRIOR TO PLANTIN
TO DETERMINE IF THERE IS

ADEQUATE PERCOLATION, IF

DRAINAGE BEFORE PLANTING

) CONTRACTOR SHALL REMOVE

STAKING, ARBOR TREE TIES

ALL PLANTING MUST BE

ARCHITECT.

GROWING SEASON FROM TIMI

OF FINAL ACCEPTANCE BY

IE TOWNSHIP LANDSCAPE

TREES SHALL BE PROVIDED

WATERING BAGS OR EQUAL

THE CONTRACTOR SHALL B

WATER TO TREES UNTIL

HDPE TREE DRAIN TO STORM WATER SYSTEM

WITH CLEAN CRUSHED

VARIES

OR DAMAGED.

-STAKES TO BE 1/2 TO 1/3 HEIGHT OF THE TREE MEASURED FROM GROUND.

- INSTALL STAKES WITH "ARBOR

BE LIGHTLY FITTING.

-3" EARTH SAUCER

THE PLANTING HOLE.

CONDITIONS WARRANT.

TREE-TIES" OR APPROVED EQUAL.

(3) STAKES PER TREE. TIES SHALL

-CUT AND REMOVE TWINE AND BURLAP

BASKET AROUND ROOT BALL: CUT AND

3" SHREDDED HARDWOOD BARK MULCH

COVERING ENTIRE PLANTING BED. DO

FROM TOP 1/3 OF THE ROOT BALL

REMOVE BASKET FROM ROOT BALL.

NOT PLACE MULCH AGAINST STEM.

BASED ON SOIL TEST AND CULTURAL

BE WATERED 12" AT A TIME, WHILE

- DRIVE STAKE 2' MINIMUM INTO

UNDISTURBED SOIL OUTSIDE OF

Fø FLEXIBLE PERFORATED HDPE TREE

DRAIN TO STORM WATER SYSTEM WITH

CLEAN CRUSHED STONE AND FILTER

FABRIC WRAPPED ON ALL SIDES. TREE DRAIN TO BE USED WHERE SOIL

STONE AND FILTER FABRIC

FINISHED GRADE.

WRAPPED ON ALL SIDES.

- 4"ø FLEXIBLE PERFORATED

RESPONSIBLE FOR PROVIDING

PIT DOESN'T PERCOLATE MEASURE MUST BE TAKEN TO ASSURE PROPER

PRUNE DAMAGED AND CONFLICTING -

INSTALL CORRUGATED LDPE TREE GUARD -

STAKES TO BE 1/2 TO 1/3 HEIGHT OF THE -

TREE MEASURED FROM THE GROUND. INSTALL

STAKES WITH "ARBOR TREE-TIES" OR EQUAL.

(3) STAKES PER TREE SHALL BE LIGHTLY

TRUNK FLARE SHALL BE VISIBLE. TREE SHALL

IT BORE TO THE GRADE IN NURSERY. TOP OF

CUT AND REMOVE BURLAP FROM TOP 1/3

OF ROOT BALL AS SHOWN. ALL WIRE AND

PLASTIC SHALL BE CUT AND COMPLETELY

DO NOT PLACE MULCH AGAINST STEM.

SOIL TEST AND CULTURAL REQUIREMENT OF

DRIVE STAKE 2' MINIMUM INTO UNDISTURBED -

PLANT. BACKFILL SHALL BE WATERED 12" AT A

BEAR SAME RELATION TO FINISHED GRADE AS

3" DOUBLE SHREDDED HARDWOOD BARK MULCH. —

BACKFILL MIXTURE TO BE SPECIFIED BASED ON

FINISHED GRADE-

STAKES TO BE NOTCHED TO RECEIVE -

"ARBOR TREE-TIES" OR EQUAL -

ROOT BALL SHALL NOT BE BURIED.

REMOVED FROM ROOT BALL.

4" EARTH SAUCER ---

TIME, WHILE PLANTING.

ARRORTIF .

NAILED TO

STAKE

AS SOON AS POSSIBLE AFTER PLANTING.

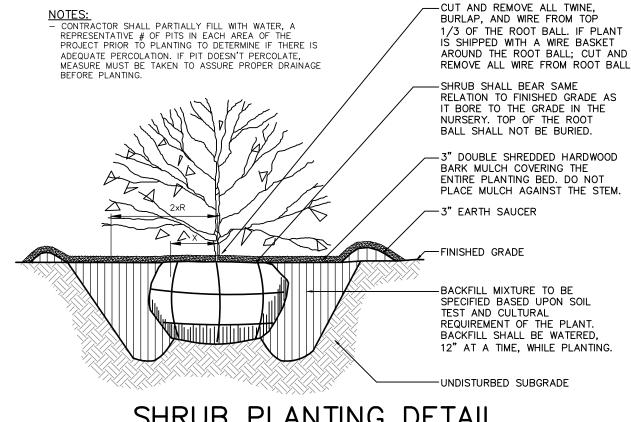
BRANCHES MAINTAINING NORMAL

TRUNK OR LEADER.

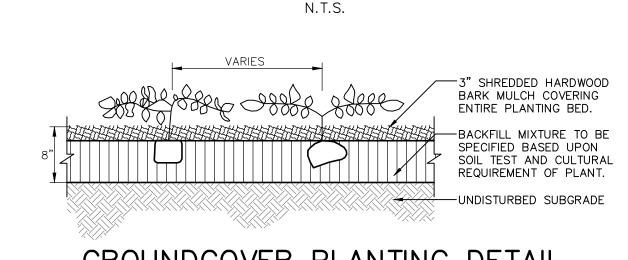
ARBOR TIES.

TREE SHAPE. NEVER CUT CENTRAL

# (UP TO 10' HT.) EVERGREEN TREE PLANTING DETAI N.T.S.



# SHRUB PLANTING DETAIL



# GROUNDCOVER PLANTING DETAIL

# PLANTING NOTES

THE FOLLOWING RECOMMENDED PLANTING PERIODS SHOULD BE ADHERED TO WHENEVER POSSIBLE: 1) BROADLEAF AND CONIFEROUS EVERGREEN TREES, SHRUBS, VINES AND GROUND COVERS SHALL BE PLANTED BETWEEN AUGUST 15th AND SEPTEMBER 15th AND BETWEEN APRIL 15th AND MAY 15th. DECIDUOUS TREES, SHRUBS, VINES, GROUND COVERS AND PERENNIALS SHALL BE PLANTED BETWEEN OCTOBER 15th AND NOVEMBER 15th AND BETWEEN MARCH 15th AND MAY 15th. THESE PLANTING SEASONS MAY BE EXTENDED OR SHORTENED ACCORDING TO PREVAILING WEATHER CONDITIONS, SOIL CONDITIONS, AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE.

2) THE PLANTING OPERATION INCLUDES ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, SHIPPING, INCIDENTALS AND CLEANUP BY THE CONTRACTOR FOR THE INSTALLATION OF THE ENTIRE

3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT.

4) THE CONTRACTOR WILL EXAMINE ALL FIELD CONDITIONS FOR EXACT LOCATIONS OF UTILITIES. DRAINAGE SYSTEMS AND IRRIGATION SYSTEMS AND ADJUST PROPOSED PLANTINGS ACCORDINGLY. THE LANDSCAPE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROPER DEPTH OF TOPSOIL IN ALL AREAS AND THE PROVISION OF POSITIVE DRAINAGE. THE CONTRACTOR SHALL NOTIFY THE CLIENT, ENGINEER, AND/OR LANDSCAPE ARCHITECT OF ANY DETRIMENTAL DRAINAGE HAZARD, INCLUDING BUT NOT LIMITED TO INSUFFICIENT TOPSOIL, ETC. PRIOR TO THE INSTALLATION OF ANY MATERIALS, INCLUDING

5) THE CONTRACTOR WILL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. STATE CONDITION AND SUBMIT A PROPOSAL FOR CORRECTION IF FEASIBLE.

6) PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES. QUALITY AND SIZE OF PLANTS, SPREAD OR ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH THE MOST RECENT ANSI 760 "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.

7) PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.

8) <u>GUARANTEE OF PLANT GROWTH:</u> ALL PLANTS AND TREES SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE (1) YEAR FOR TREES AND SHRUBS FROM THE DATE OF FINAL ACCEPTANCE OR AS REQUIRED BY THE TOWNSHIP. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THE ABOVE STATED.

9) INSOFAR AS IT IS PRACTICAL, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT THE STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE (3) DAY PERIOD AFTER

10) IF PLANT AVAILABILITY IS RESTRICTED, SUBSTITUTIONS MAY BE MADE WITHIN PLANT TYPE TO MÁINTAIN SIMILAR GROWTH AND ORNAMENTAL QUALITIES UPON NOTIFICATION AND APPROVAL BY THE

11) PLANT LOCATIONS SHOWN ARE DIAGRAMMATIC. ALL PLANTS ARE SHOWN AT A SEMI-MATURE SIZE ON THE PLANS. THE STAKING LAYOUT OF ALL PLANTINGS WILL BE INSPECTED BY THE LANDSCAPE ARCHITECT PRIOR INSTALLATION AS REQUESTED BY THE OWNER.

12) AREAS DISTURBED BY LANDSCAPE OPERATIONS SHALL BE GRADED TO MATCH EXISTING. TOPSOIL AND SEED OR SOD AS REQUIRED.

13) NO PLANT, EXCEPT GROUND COVERS AND FOUNDATIONS PLANTS SHALL BE PLANTED LESS THAN TWO (2) FEET FROM EXISTING STRUCTURES AND SIDEWALKS.

14) ALL PLANTS SHALL BE PLANTED IN TOPSOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACKFILLING PROGRESSES. NOTHING BUT SUITABLE TOPSOIL FREE OF DRY SOD, STIFF CLAY, LITTER, STONES IN EXCESS OF 1"Ø, ANY TOXINS, ETC., SHALL BE USED FOR PLANTING.

15) SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH A LEVEL THAT, AFTER SETTLEMENT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE THE PLANT IN THE CENTER OF THE TREE PIT.

16) IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3 OF THE GROWTH OF LARGE TREES (2" CALIPER AND OVER) BY THE REMOVAL OF SUPERFLUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. THE MAIN LEADER TO TREES MUST NOT BE CUT BACK. LONG SIDE BRANCHES, HOWEVER, MUST BE SHORTENED. TREES WITH THE CENTRAL LEADER PRUNED WILL BE REJECTED.

17) EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF THE PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.

18) ALL TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING. ALL TREES SIX (6) INCHES REQUIREMENT OF PLANT BACKFILL. SHALL AND OVER IN CALIPER SHALL BE GUYED, WHILE SMALLER TREES SHALL BE STAKED. ARBOR TREE TIES AND STAKES SHALL BE INSTALLED AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ARBOR TREE TIES ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.

> 19) THE TRUNKS OF ALL TREES SHALL HAVE CORRUGATED LDPE TREE GUARDS INSTALLED AS SOON AS POSSIBLE AFTER PLANTING ACCORDING TO STANDARD PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF CORRUGATED LDPE TREE GUARDS ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.

20) MULCH FOR PLANTING BEDS SHALL BE DOUBLE SHREDDED HARDWOOD BARK MULCH UNLESS OTHERWISE SPECIFIED ON THE PLANS AND SHALL HAVE NO LEAVES, YOUNG GREEN GROWTH, BRANCHES, TWIGS GREATER IN DIAMETER OF 1/2" WEEDS, SHAVINGS OR FOREIGN MATERIAL SUCH AS STONES, ETC. SHALL BE MIXED WITH THE MULCH. ALL SHRUB MASSES SHALL BE PLANTED IN CONTINUOUS MULCHED BEDS WITH A COMPACTED DEPTH OF 3". NO MULCH SHALL BE PLACED AGAINST THE PLANT STEMS.

21) WATER APPLIED TO SEEDED OR SODDED AREAS, PLANTS OR PLANTED AREAS SHALL BE FREE FROM IMPURITIES INJURIOUS TO VEGETATION AND APPLIED AT A RATE OF FIVE GALLONS OF WATER PER SQUARE YARD OF PLANT PIT.

22) FALL PLANTING HAZARDS: IT IS VERY RISKY TO TRANSPLANT THE FOLLOWING LIST OF TREES, BARE ROOT OR B&B IN THE

PLATANUS ACERIFOLIA PRUNUS-ALL STONE FRUITS CARPINUS VARIETIES CORNUS FLORIDA & VARS CRATAEGUS VARIETIES KOELREUTERIA

LANDSCAPE ARCHITECT.

BETULA VARIETIES PYRUS-ALL PEARS QUERCUS-ALL OAKS SALIX-WEEPING VARIETIES STYRAX JAPONICA TILIA TOMENTOSA 7FLKOVA VARIFTIES LIRIODENDRON TULIPIFERA

LIQUIDAMBAR STYRACIFLUA THE CONTRACTOR ASSUMES RESPONSIBILITY FOR PLANT SURVIVAL OF THESE MATERIALS IF MOVED DURING THE FALL SEASON.

23) TREES TO REMAIN ON-SITE TO BE SELECTIVELY THINNED AND PRUNED REMOVING ALL DEAD AND DISEASED LIMBS WHILE PROTECTED BY FENCING DURING CONSTRUCTION (SEE DETAIL). FENCE TO BE MAINTAINED DURING CONSTRUCTION BY CONTRACTOR.

24) THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE SHOULD ANY PLANT QUANTITY DISCREPANCIES OCCUR.

25) ALL STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESS SHOULD NOT BE BRANCHED LOWER THAN 7'-0" ABOVE GRADE. ALL PLANT MATERIAL LOCATED WITHIN ANY SIGHT TRIANGLE EASEMENTS AND PARKING LOT ISLANDS SHALL NOT EXCEED A MATURE HEIGHT OF 30" ABOVE THE ELEVATION OF THE ADJACENT CURB. ALL STREET TREES PLANTED IN ANY SIGHT TRIANGLE SHALL BE PRUNED AS MENTIONED ABOVE.

26) SEE DETAIL DRAWINGS FOR TYPICAL PLANTING DETAILS.

27) ALL SHADE TREES, EVERGREENS, AND FLOWERING TREES SHALL BE PROVIDED WITH "TREEGATOR ORIGINAL OR JR. PRO" TM WATERING BAGS, RINGS OR APPROVED EQUAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WATER TO ALL PLANTINGS AND LAWN AREAS UNTIL FINAL ACCEPTANCE.

CONSTRUCTION DETAIL NOTES ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES ÀLL COŃSTRUCTION DETAILS SHALL B SUPERCEDED BY APPLICABLE MUNICIPAL, COUNTY OR STATE DETAILS UNLESS OTHERWISE NOTED STRUCTURAL DETAILS ARE PROVIDED

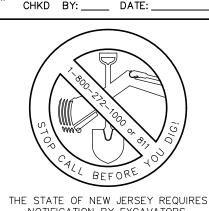
FOR INFORMATIONAL PURPOSES ONLY SHOP DRAWINGS SHALL BE PROVIDED TO THE TOWNSHIP ENGINEER FOR ALL WALLS AND STRUCTURAL ELEMENTS PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL BE PROVIDED FOR ALL PRECAST STRUCTURES PRIOR TO THE ORDERING OF MATERIALS. DETAILS ASSUME APPROPRIATE LOAD BEARING CAPACITY AND COMPACTION OF SOILS. ACTUAL FIELD CONDITIONS

SHALL BE CONFIRMED BY ON-SITE GEOTECHNICAL ENGINEER. RESIDENTIAL DEVELOPMENTS SHALL CONFORM TO DETAILS WITHIN THE CURRENT EDITION OF THE RESIDENTIA SITE IMPROVEMENT STANDARDS

> ÀLL CONSTRUCTION DETAILS ARE NOT TO SCALE (N.T.S.) UNLESS OTHERWISE

> > REVISIONS

THIS DRAWING IS FOR PERMIT PURPOSES ONLY OT FOR CONSTRUCTION UNTIL THIS BOX HAS BEEN CHECKED AND DATED



NOTIFICATION BY EXCAVATORS. DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE.



ivil Engineering Consultar Landscape Architects Professional Planners 261 Cleveland Avenue Highland Park, NJ 08904

ູ 732–846–8585 732–846–9439 🗐

Certificate of Authorization: 24GA27951900

CARAVAN, LLC

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** 

> BLOCK 277 LOTS 1-5 & 13-14 TAX MAP SHEET 93 2.06 ACRES

CONSTRUCTION **DETAILS** 

(4)RAWN BY

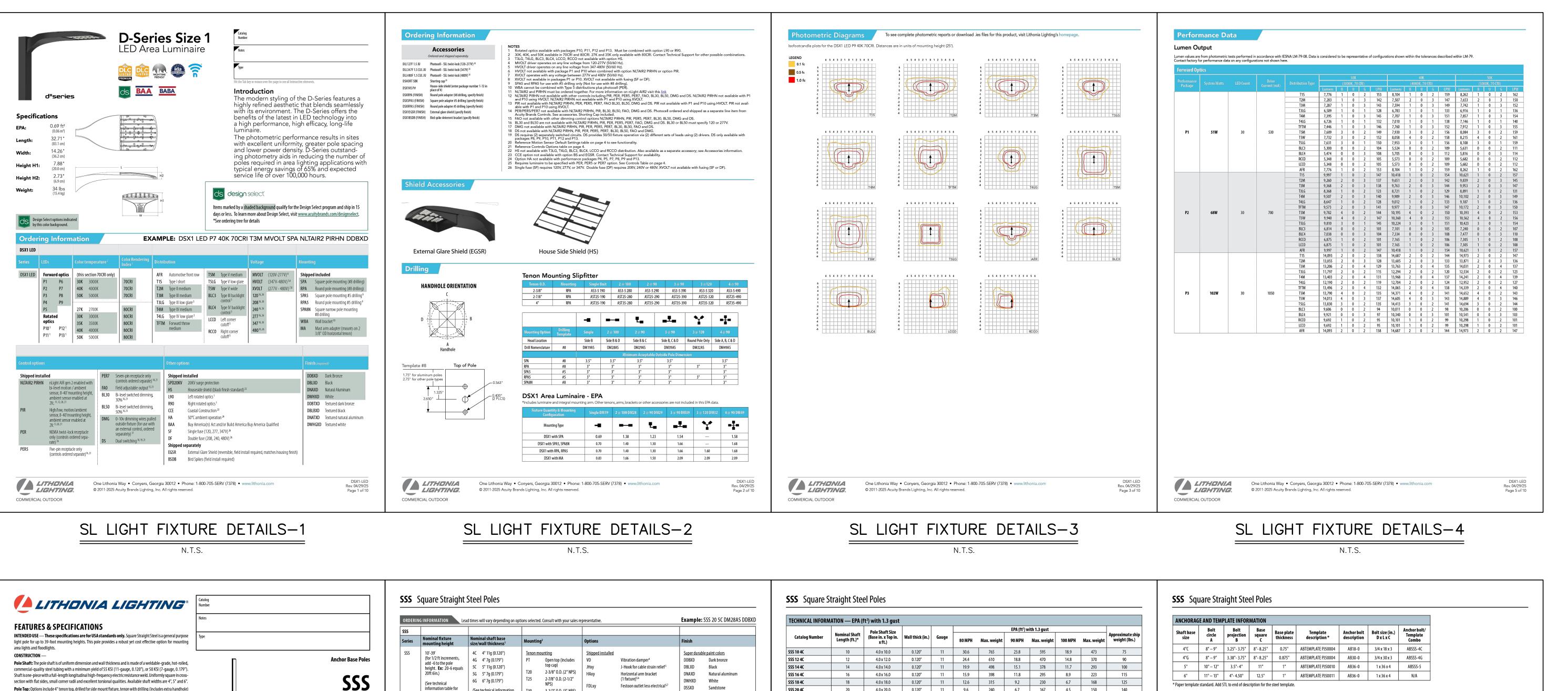
DESIGNED BY

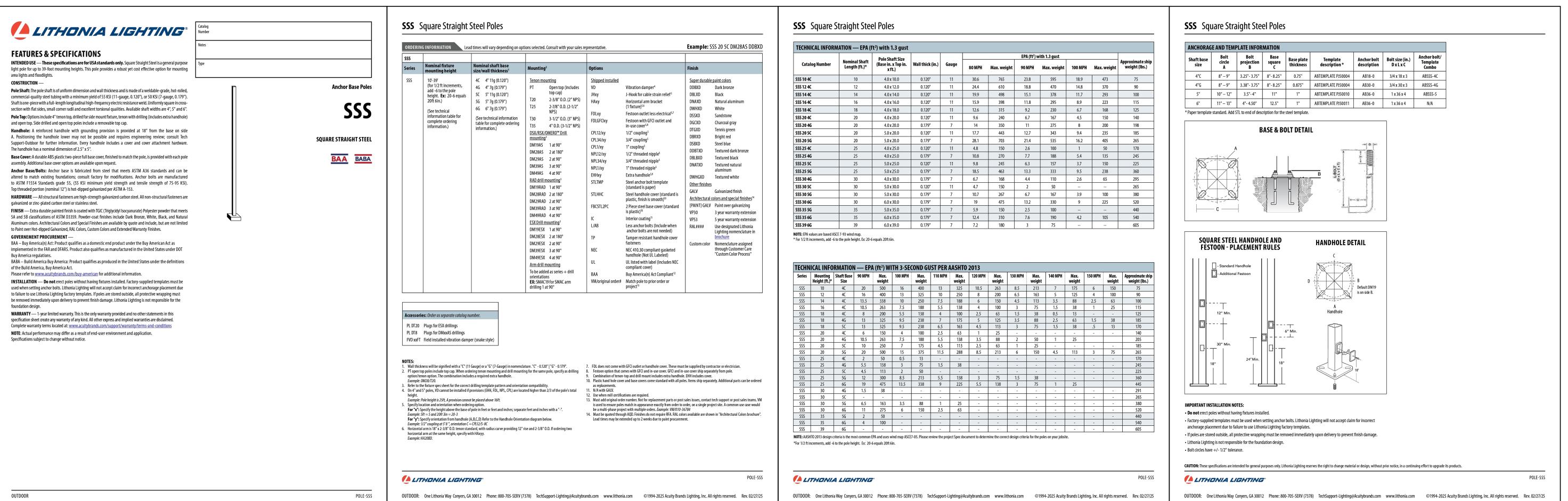
PPROVED BY THIS WORK PREPARED UNDER MY IMMEDIATE SUPERVISION...

KENNETH R. GRISEWOOD LANDSCAPE ARCHITECT NJ LICENSE #ASOO007 DE-4 2023.091

ATE OF JUNE 9, 2025 REVISION

COMMERCIAL OUTDOOR





SL LIGHT POLE DETAILS-3

N.T.S.

SL LIGHT POLE DETAILS-2

N.T.S.

SL LIGHT POLE DETAILS-1

Certificate of Authorization: 24GA27951900 CARAVAN, LLC BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** BLOCK 277 LOTS 1-5 & 13-14 TAX MAP SHEET 93 2.06 ACRES CONSTRUCTION DETAILS RAWN BY DESIGNED BY PPROVED BY THIS WORK PREPARED UNDER MY IMMEDIATE SUPERVISION... SCOTT H. TURNER PROFESSIONAL ENGINEER SL LIGHT POLE DETAILS-4 NJPE# 43811 2023.091 DE-5 N.T.S. ATE OF JUNE 9, 2025 REVISION

CONSTRUCTION DETAIL NOTES ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

ALL CONSTRUCTION DETAILS SHALL BE

DETAILS UNLESS OTHERWISE NOTED

STRUCTURAL DETAILS ARE PROVIDED

FOR INFORMATIONAL PURPOSES ONLY

SHOP DRAWINGS SHALL BE PROVIDED

TO THE TOWNSHIP ENGINEER FOR ALL

WALLS AND STRUCTURAL ELEMENTS

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engineering

associates

Civil Engineering Consultan Landscape Architects Professional Planners

261 Cleveland Avenue

Highland Park, NJ 08904

k 732-846-8585 732-846-9439 🗐

CHKD BY: \_\_\_\_ DATE: \_\_\_

TO THE ORDERING OF MATERIALS

FOR ALL PRECAST STRUCTURES PRIOR

SUPERCEDED BY APPLICABLE

PRIOR TO CONSTRUCTION.

GEOTECHNICAL ENGINEER.

MUNICIPAL, COUNTY OR STATE

(MUTCD).

NOTED.