PRELIMINARY/FINAL PLAT MAJOR SITE PLAN

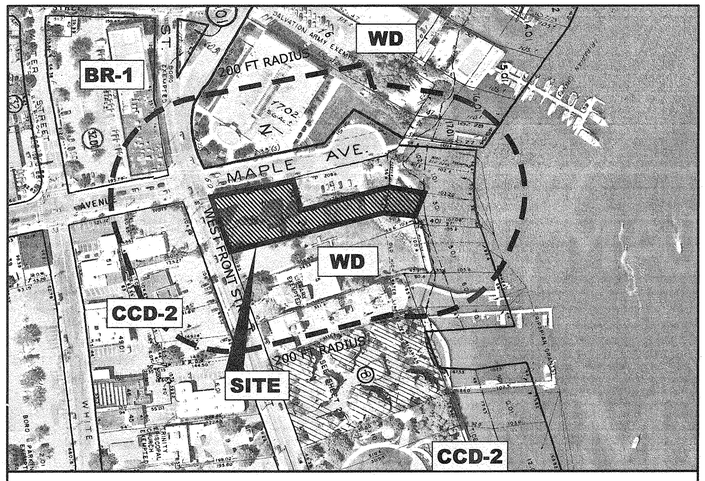
PREPARED FOR:

THE RIVERMARK AT MAPLE COVE

LOTS 2 & 3 IN BLOCK 8, BOROUGH OF RED BANK
MONMOUTH COUNTY, NEW JERSEY
TAX MAP SHEET 2

BLOCK	LOT	ADDRESS
7	16	SPRINGPOINT @ THE ATRIUM, INC 4814 OUTLOOK DR, SUITE #201 WALL TOWNSHIP, NJ 07753
7	17.02	K HOVNANIAN PROP I/F RED BANK, INC BOX 500, 110 W FRONT ST RED BANK, NJ 07701
8	1	BOROUGH OF RED BANK 90 MONMOUTH ST RED BANK, NJ 07701
8	1.02	BOROUGH OF RED BANK 90 MONMOUTH ST RED BANK, NJ 07701
8	2	K. HOVNANIAN AT MAPLE AVE. L.L.C. 110 FIELDCREST AVENUE EDISON, NJ 08837
8	3	K. HOVNANIAN AT MAPLE AVE. L.L.C. 110 FIELDCREST AVENUE EDISON, NJ 08837
8	4.02	RED BANK BORO 90 MONMOUTH ST RED BANK, NJ 07701
8	4.03	RED BANK BOROUGH 90 MONMOUTH ST RED BANK, NJ 07701
8	5	BOROUGH OF RED BANK 84 W FRONT STREET RED BANK, NJ 07701
8	6	HUBER, DAVID R & ELLEN 78A WEST FRONT STREET RED BANK, NJ 07701
8	6	CIESLARCZYK, JOHN & VOLKER, MARY C 78B W FRONT ST RED BANK, NJ 07701
8	6	CHACHKO, PAUL 78C W FRONT ST RED BANK, NJ 07701
8	6	HEALEY, THOMAS J 78D W FRONT STREET RED BANK, NJ 07701
8	6	KERNAN, BARBARA C. TRUSTEE 2905 LEONARDO AVE NAPLES, FL 34119
8	6	YOUNAN FAMILY LIMITED PARTNERSHIP 78F WEST FRONT STREET RED BANK, NJ 07701
8	8	THE BLUFFS CONDO ASSOC 711 SYCAMORE AVE RED BANK, NJ 07701
8	8.12	RYAN, NANCY 72A W FRONT ST RED BANK, NJ 07701
30	1.01	THE SOUTHLAND CORP/ADV P.O. BOX 2440 SPOKANE, WA 99210
30	3	RED BANK INVESTMENT, L.L.C. P.O. BOX 757 RED BANK, NJ 07701
30	4.01	RED BANK INVESTMENT COMPANY P.O. BOX 757 RED BANK, NJ 07701
30	49.01	64-68 WHITE ST LTD P.O. BOX 757 RED BANK, NJ 07701
30	51	RED BANK INVESTMENT CO PO BOX 757 RED BANK, NJ 07701
32.01	1.01	CITY CENTRE PLAZA, LLC P.O. BOX 757 RED BANK, NJ 07701

200' PROPERTY OWNERS



LOCATION MAP

APPROX. SCALE: 1" = 100'
2017 AERIAL IMAGERY TAKEN FROM NEARMAP IMAGES

ZONING SUMMARY - BLOCK 8, LOTS 2 & 3 WATERFRONT DEVELOPMENT IN AFFORDABLE HOUSING DISTRICT (WD)			
DESCRIPTION	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA	30,000 S.F.	26,568 S.F. (0.610 AC.)	26,568 S.F. (0.610 AC.)
MINIMUM LOT FRONTAGE	100 FT.		
W. FRONT ST.		113.6 FT.	113.6 FT.
MAPLE AVE.		164.8 FT.	164.8 FT.
MAXIMUM LOT COVERAGE	35%	16.0%	24.3%
MINIMUM UNOCCUPIED OPEN SPACE	15%	60.8%	39.5%
MAXIMUM BUILDING HEIGHT	ELEVATION OF 75 FT. (USC & GS DATUM, MSL=0)	<ELEV. 75 FT.	ELEV. 75 FT. (i)
MAXIMUM FLOOR AREA RATIO (FAR)	1	< 1	0.92 (iii), (iv)
MINIMUM SETBACK REQUIREMENTS			
FRONT YARD SETBACK	35 FT.	W. FRONT ST: 3.49 *	W. FRONT ST.: 5 FT.
		MAPLE AVE: 0 FT.*	MAPLE AVE: 5.5 FT.
DISTANCE FROM STREET CENTERLINE	40 FT.	W. FRONT ST: 30.9 FT.*	W. FRONT ST : 40.5 FT (ii)
		MAPLE AVE: 30.12 FT.*	MAPLE AVE: 41.2 FT (ii)
REAR YARD SETBACK	25 FT.	249 FT.	274 FT.
SIDE YARD SETBACK	10 FT.	3.3 FT.*	7.4 FT.
COMBINED SIDE SETBACK	20 FT.	N/A	N/A

VARIANCE REQUIRED :

* - EXISTING CONDITION
(i) - BUILDING HEIGHT MEASUREMENT TAKEN TO FLAT ROOF ELEVATION. (EXCLUDES DECORATIVE ARCHITECTURAL ELEMENTS AND 30" PARAPET). AVERAGE PROPOSED ELEVATION FOR ALL CORNERS OF BUILDING IS TAKEN AS 33.0 FT, BUILDING HEIGHT OF 42.0 FT.
(ii) - AVERAGE DISTANCE FROM ROADWAY CENTERLINE TO FRONTAGE OF BUILDING
(iii) - (FAR) TAKEN FROM ARCHITECTURAL PLANS ENTITLED "PROPOSED NEW BUILDING FOR 96-98 FRONT ST" PREPARED BY MICHAEL JAMES MONROE REVISED THROUGH FEBRUARY 15, 2018. TOTAL ABOVE GRADE FLOOR AREAS (4 FLOORS) = 24,522 SF
(iv) - BELOW GRADE PARKING GARAGE DOES NOT EXCEED FAR AND IS PERMITED AN FAR BONUS OF 2.0 PER 490-115, F PARKING GARAGE IS THEREFORE EXCLUDED FROM CALCULATIONS.

PARKING SUMMARY

- AS PER TOWNSHIP ORDINANCE 490-98 - OFF STREET PARKING:
  OFFICE
  5 SPACES PER 1,000 SF OF GROSS FLOOR AREA
- PARKING REQUIRED:
  FIRST FLOOR COMMERCIAL
  6,134 SF * 5 / 1,000 SF = 31 SPACES
  RESIDENTIAL
  (6) - 2 BR UNITS * 2.0 SPACES/UNIT = 12 SPACES
  (2) - 3 BR UNITS * 2.1 SPACES/UNIT = 4.2 SPACES
  TOTAL= 48 SPACES
- PARKING PROVIDED: 41 - 9' X 18' (MIN.) PARKING STALLS
  2 - BARRIER FREE SPACES
  TOTAL: 43 SPACES (INCL. 2 BARRIER FREE)

INDEX OF SHEETS

CERTIFICATION:

PRELIMINARY/FINAL PLAT MAJOR SITE PLAN APPROVED BY THE BOROUGH OF

RED BANK PLANNING BOARD ON _____.

_____ BOARD ENGINEER

_____ CHAIRPERSON

ATTEST:

_____ SECRETARY

_____ DATE

GENERAL NOTES:

1. PROPERTY BEING KNOWN AS LOTS 2 & 3 IN BLOCK 8 AS SHOWN ON SHEET 2 OF THE CURRENT OFFICIAL TAX MAP OF THE BOROUGH OF RED BANK, DATED APRIL,1983.
2. THE SUBJECT PROPERTY IS LOCATED WITHIN THE WD ZONE AND AFFORDABLE HOUSING DISTRICT. A COMMERCIAL BUILDING IS PERMITTED IN THE WD ZONE.
3. BOUNDARY & TOPOGRAPHY SURVEY INFORMATION SHOWN HEREON TAKEN FROM "BOUNDARY & TOPOGRAPHY SURVEY, BLOCK 8 LOTS 2, 3, BOROUGH OF RED BANK, MONMOUTH COUNTY, NEW JERSEY" PREPARED BY NAJARIAN ASSOCIATES DATED 10/30/17
4. THE SUBJECT PROPERTY IS LOCATED IN ZONE X & ZONE AE AS DESIGNATED ON THE FLOOD INSURANCE RATE MAP COMMUNITY- PANEL NUMBER 34025C0177G DATED PRELIMINARY JANUARY 30, 2015.
5. PROPERTY OWNER
   K. HOVNANIAN AT MAPLE AVE, LLC
   110 FIELDCREST AVENUE
   EDISON, NJ 08837

   APPLICANT
   MARK FORMAN
   THE RIVERMARK AT MAPLE COVE, LLC
   3 KENNEDY DRIVE
   MARLBORO, NJ 07746
6. UTILITIES:
   WATER SERVICE: BOROUGH OF RED BANK WATER & SEWER
   SEWER SERVICE: BOROUGH OF RED BANK WATER & SEWER
   TELEPHONE SERVICE: VERIZON
   ELECTRIC SERVICE: JCP&L
   CABLE TELEVISION: COMCAST CABLEVISION OF MONMOUTH COUNTY
   GAS SERVICE: NEW JERSEY NATURAL GAS COMPANY

PROJECT ARCHITECT:
MICHAEL MONROE, RA
12 BROAD STREET
RED BANK, NJ 07701
(732) 219-9227

PROJECT SURVEYOR:
NAJARIAN ASSOCIATES
ONE INDUSTRIAL WAY WEST
EATONTOWN, NJ 07724
(732) 389-0220

PROJECT ATTORNEY:
KENNETH L. PAPE, ESQ
HEILBRUNN PAPE
516 HIGHWAY 33
MILLSTONE TOWNSHIP, NJ 08535
(732) 679-8844

4/20/18	REVISED PER BOROUGH REVIEW	KS
2/16/18	REVISED PER BOROUGH REVIEW	AC

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

TITLE SHEET

1 OF 8

FILENAME: TS-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

GENERAL CONSTRUCTION NOTES

1. ALL WORK TO CONFORM WITH THE LATEST EDITION OF THE FOLLOWING:
   NJDOT SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   MONMOUTH COUNTY DESIGN STANDARDS
   MUNICIPAL DESIGN STANDARDS
   CURRENT MANUFACTURERS SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
   CURRENT, PREVAILING UTILITY COMPANY OR AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
2. ALL BARRIER FREE CONSTRUCTION TO BE IN ACCORDANCE WITH THE NJ UNIFORM CONSTRUCTION CODE, SUBCHAPTER 7: BARRIER FREE SUBCODE. AND CURRENT ADA REGULATIONS, WHERE NECESSARY.
3. CONTRACTOR IS RESPONSIBLE FOR ALL WORKER SAFETY, TRAINING, AND SAFETY DEVICE USAGE FOR AND DURING THE CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THIS PLAN.
4. THE CONTRACTOR IS DESIGNATED AS THE RESPONSIBLE PARTY DURING CONSTRUCTION OF THE IMPROVEMENTS SHOWN HEREON. AS SUCH, CONTRACTOR WILL PROVIDE ADEQUATE SAFETY TRAINING, EQUIPMENT, AND OVERSIGHT.
5. CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED PERMITS AND APPROVALS FOR CONSTRUCTION OF THE DEPICTED SITE IMPROVEMENTS.
6. ALL DISTURBED AREAS ON SITE TO BE STABILIZED IN ACCORDANCE WITH THE FREEHOLD SOIL CONSERVATION DISTRICT STANDARDS.
7. ALL AREAS NOT COVERED BY IMPERVIOUS SURFACE SHALL BE SEEDED OR OTHERWISE STABILIZED IN ACCORDANCE WITH SOIL EROSION CONTROL SPECIFICATIONS.
8. CONTRACTOR IS ADVISED THAT UNKNOWN AND UNMARKED UTILITIES MIGHT BE ENCOUNTERED DURING THE CONSTRUCTION SHOWN ON THIS PLAN. AS SUCH CONTRACTOR IS ADVISED TO INCLUDE PRIVATE UTILITY LOCATION SERVICES AS PART OF BID. OWNER SHALL NOT BE RESPONSIBLE FOR THE LOCATION OF SUCH UTILITIES. THE COST OF ABANDONMENT, RELOCATION, AND/OR REPLACEMENT OF EXISTING UTILITIES SHALL BE INCLUDED IN THE BASE BID FOR THIS PROJECT.
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15. ANY DAMAGE TO EXISTING STRUCTURES AS A RESULT OF THIS DEVELOPMENT, SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR.
16. DURING R.O.W. WORK, TRAFFIC TO BE PROTECTED AND MAINTAINED IN ACCORDANCE WITH MUTCD PART VI.
17. CONTRACTOR TO MATCH EXISTING PAVEMENT SPECIFICATIONS FOR ALL PAVEMENT REPAIR TO EXISTING ROADWAYS AND/OR PARKING AREAS.
18. CONCRETE SHALL BE NJDOT CLASS "B" UNLESS OTHERWISE STATED HEREON OR WITHIN THE CONSTRUCTION DETAILS.
19. ALL IMPROVEMENTS SHOWN HEREON "TO BE REMOVED" SHALL BE DISPOSED OF IN A MANNER NOT CONTRARY TO LOCAL OR STATE ORDINANCES.
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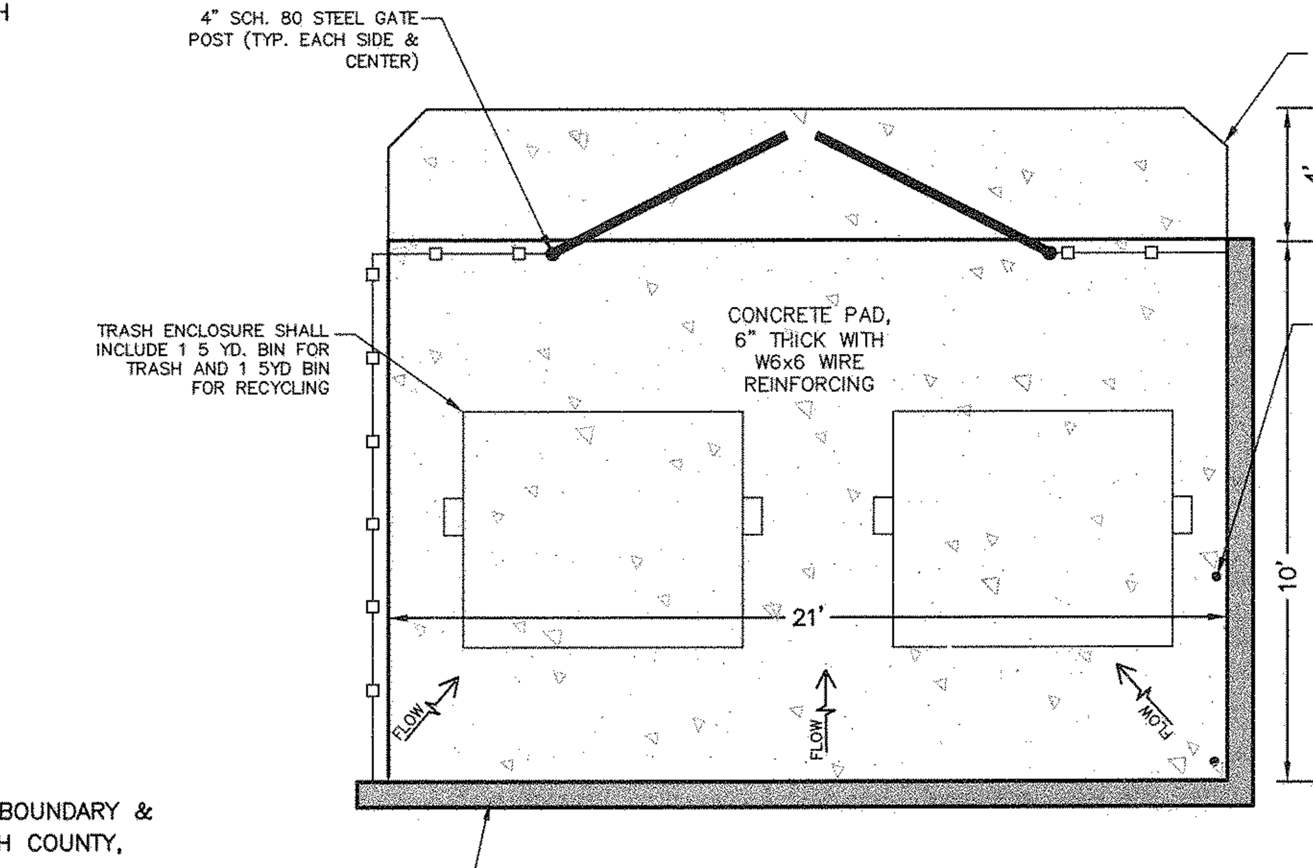
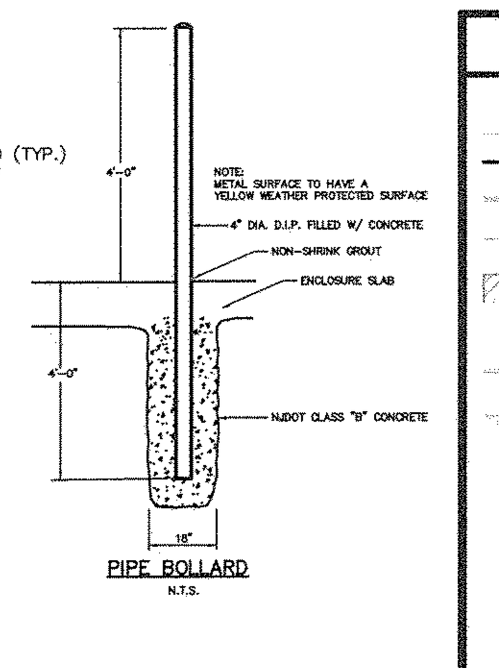


TRASH ENCLOSURE DETAIL
NOT TO SCALE

NOTES:
1. CONTRACTOR TO ENSURE POSITIVE DRAINAGE FROM STRUCTURE.
2. 6" COMPACTED 3/4" CLEAN STONE TO BE PROVIDED UNDER REFUSE ENCLOSURE CONCRETE PAD.
3. GATE POST TO EXTEND TO BASE OF FOOTING.



PIPE BOLLARD
N.T.S.

MAGNETIC REFERENCE N

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

LEGEND

EXISTING		PROPOSED
	CONTOUR	
	LOT LINE	
	DRAINAGE PIPE	
	FENCE	
	STRUCTURE	
	BUILDING SETBACK LINE	
	CONCRETE CURB	
	SAN. SEWER MAIN PIPE	—S—
	SAN. SEWER LATERAL	
	SEWER MANHOLE	
	DRAINAGE MANHOLE	
	CONC. SIDEWALK	
	DRAINAGE INLET	
x 98.4	SPOT GRADE	+ 98.4
	LOCAL ROADWAY REPAIR	
	DEPRESSED CURBING	
	LIGHT POLE	
—W—W—	WATER SUPPLY	—W—W—
—G—G—	GAS LINE	—G—G—
—ETC—ETC—	ELETRIC/TELEPHONE	—ETC—ETC
	CLEANOUT	● CO
	WATER VALVE	WV

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

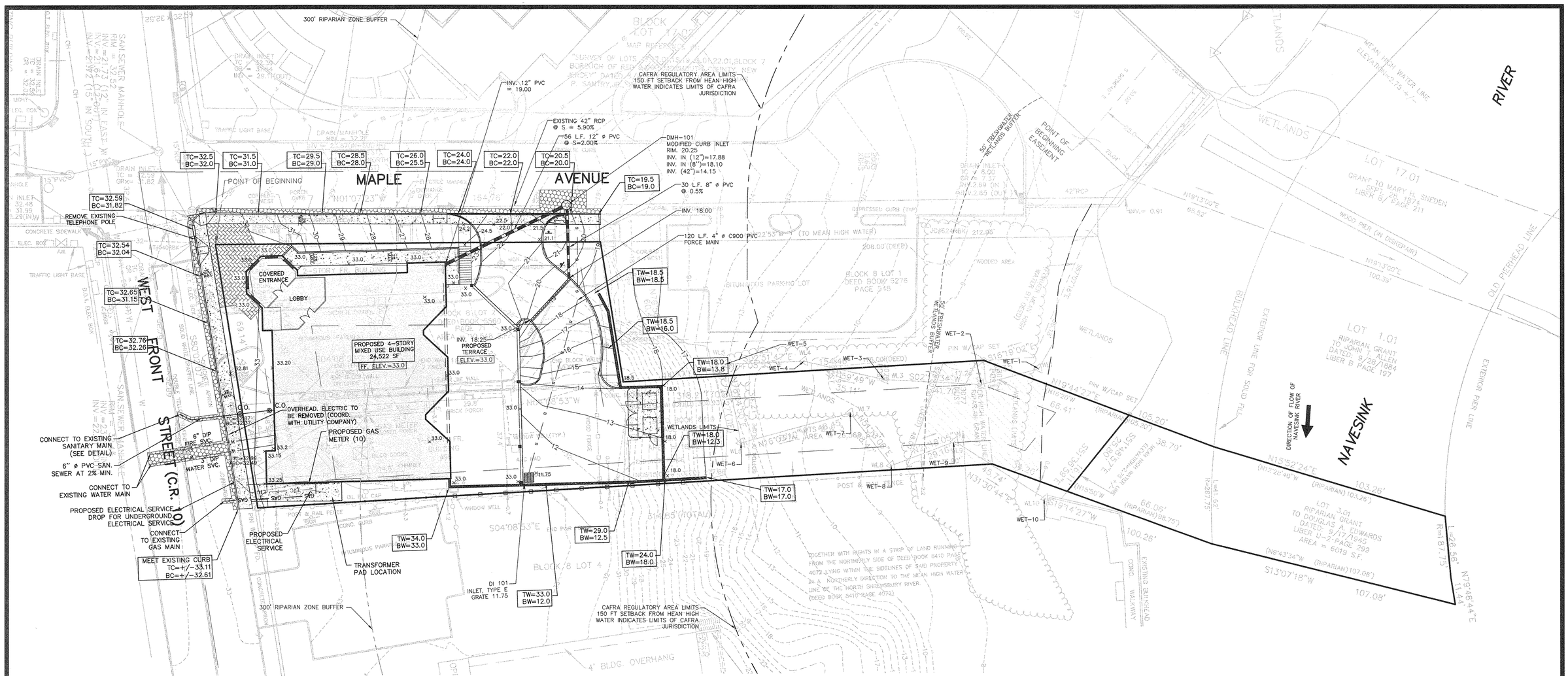
TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

SITE LAYOUT PLAN

FILENAME: SP-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275



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MAGNETIC REFERENCE

GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 ft.

LEGEND

EXISTING		PROPOSED
	CONTOUR	
	LOT LINE	
	DRAINAGE PIPE	
	FENCE	
	STRUCTURE	
	BUILDING SETBACK LINE	
	CONCRETE CURB	
S	SAN. SEWER MAIN PIPE	S
	SAN. SEWER LATERAL	
S	SEWER MANHOLE	S
	DRAINAGE MANHOLE	
	CONC. SIDEWALK	
	DRAINAGE INLET	
+ 98.4	SPOT GRADE	+ 98.4
	LOCAL ROADWAY REPAIR	
	DEPRESSED CURBING	
	LIGHT POLE	
W	WATER SUPPLY	W
G	GAS LINE	G
ETC	ELETRIC/TELEPHONE	ETC
CO	CLEANOUT	CO
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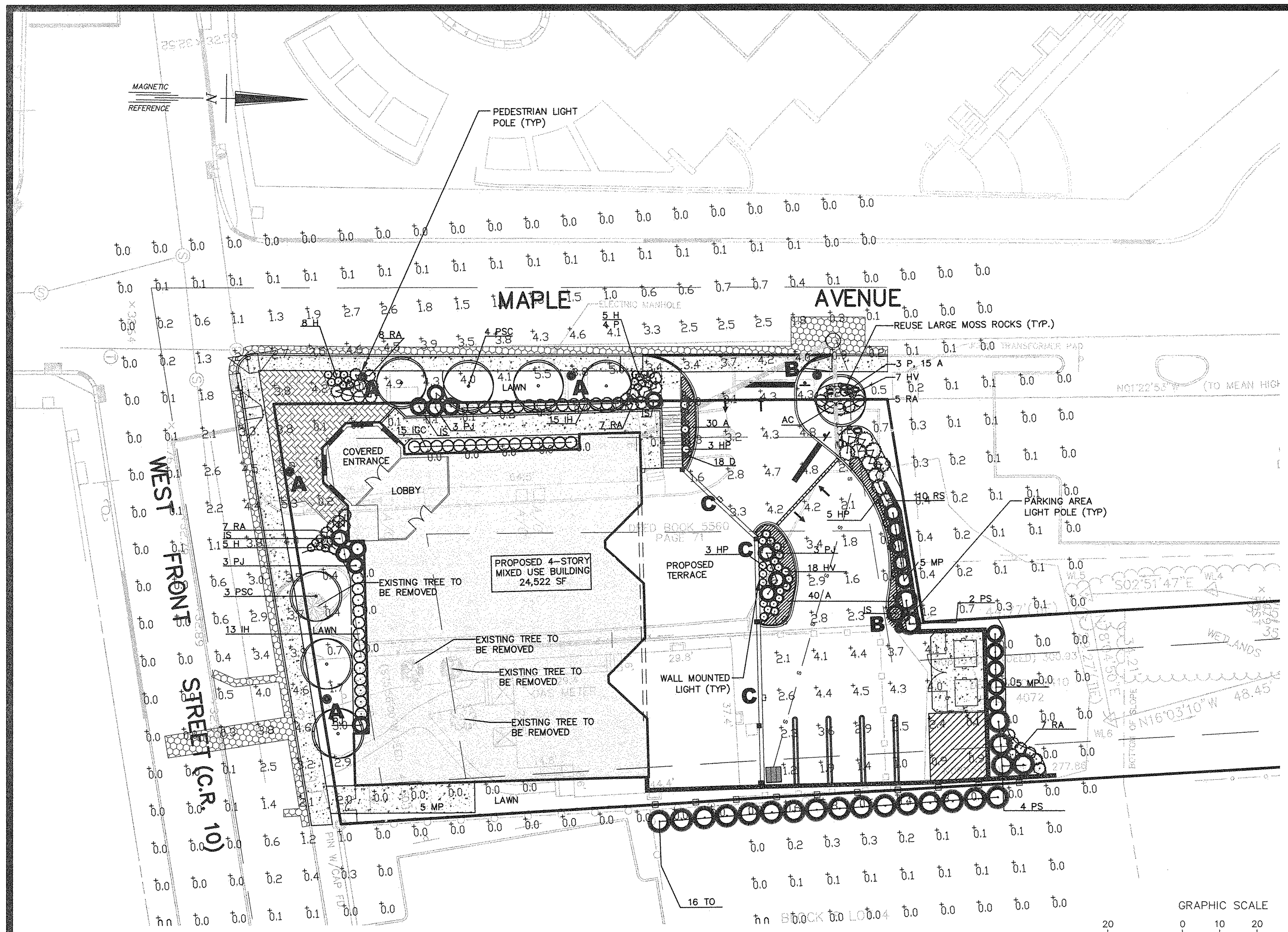
GRADING & UTILITY PLAN

3 OF 8

FILENAME: GU-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275



GRAPHIC SCALE

20 0 10 20 40

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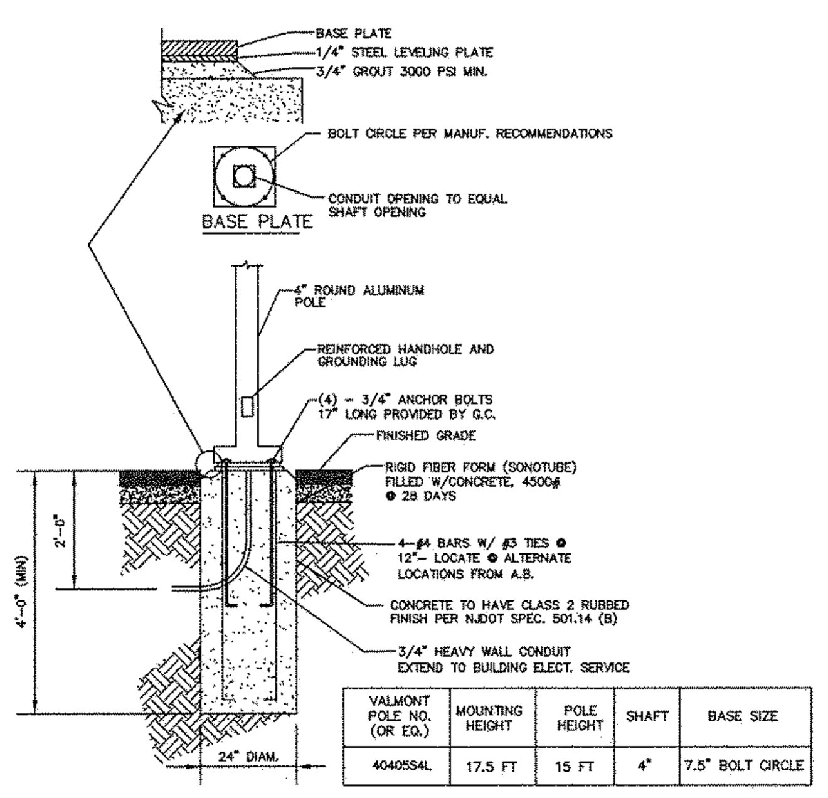
PLANTING SCHEDULE

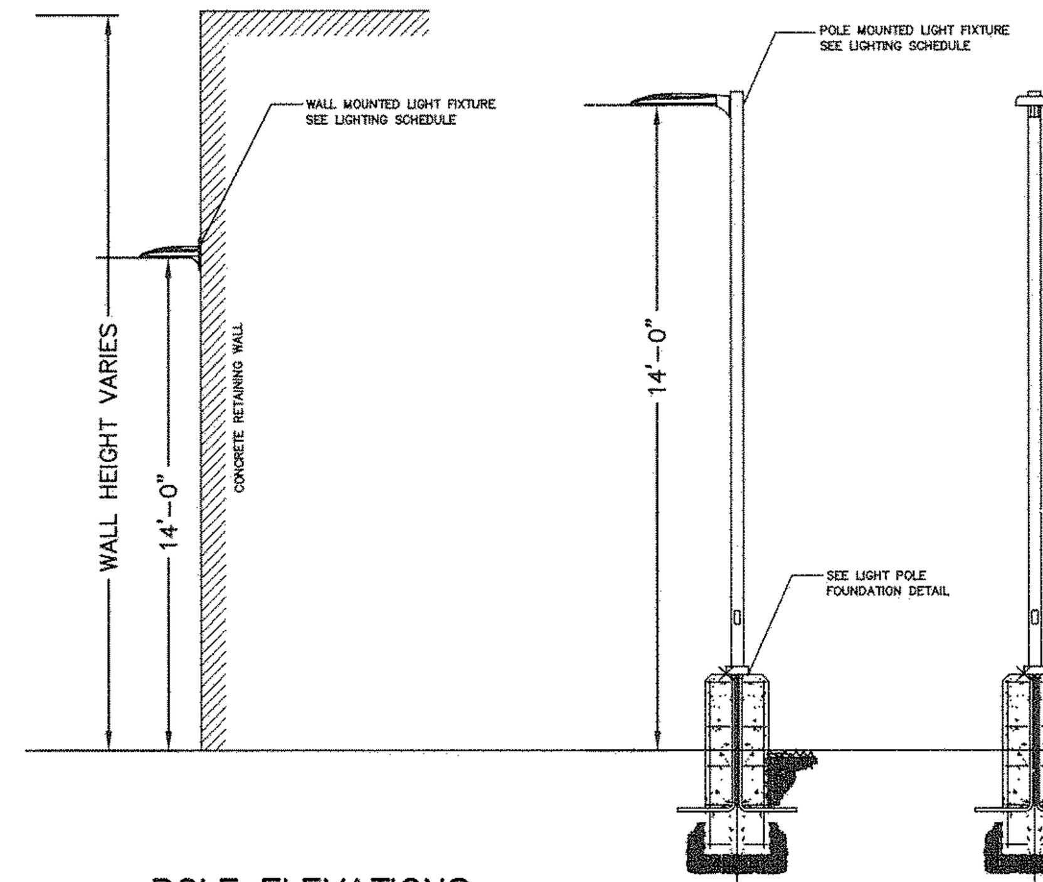
SYMBOL	QTY.	LATIN NAME	COMMON NAME	DBH.*	HT.	ROOT	COMMENTS
		SHADE & ORNAMENTAL TREES					
AC	1	Amelanchier canadensis	Downy Shadblow		8'-10'	B&B	3 stem min.
PSC	7	Prunus sargentii columnaris	Columnar Sargent Cherry	2"-2 1/2"	8'-10'	B&B	
TO	16	Thuja occidentalis 'Smaragd'	Emerald Green Arborvitae		6'-7'	B&B	Full furnished to the ground
		SHRUBS					
IGC	15	Ilex glabra `Shamrock'	Shamrock Inkberry Holly		24"-30"	#5 Gal.	Full Plants, 4' O.C.
IH	28	Ilex helleri `Soft Touch'	Soft Touch Japanese Holly		24"-30"	#7 Gal.	Full Plants, 4' O.C.
IS	4	Ilex `Steeds'	Steeds Holly		48"-54"	B&B	Full Plants
MP	10	Myrica pennsylvanica	Northern Bayberry		30"-36"	B&B	Full Plants, 4' O.C.
PJ	10	Pierus japonica `Dorothy Wycoff'	Dorothy Wycoff Andromeda		24"-30"	#5 Gal.	Full Plants, 4' O.C.
PS	6	Prunus schipkaensis	Skip Laurel		4'-5'	B&B	Full Plants, 5' O.C.
RA	34	Rosa `Flower carpet Amber"	Amber Flower CarpetRose		18"-24"	#2 Gal.	Full Plants, 3' O.C.
RS	10	Rosa `Sunny'	Sunny Knockout Rose		18"-24"	#3 Gal.	Full Plants, 4' O.C.
		GROUND COVER, PERENNIALS & GRASSES, VINES & FERNS					
A	85	Ajuga `Chocolate Chip'	Chocolate Chip Ajuga			1 Pint.	Full Plants, 1' O.C.
D	18	Dryopteris erythrosora	Autumn Fern			1 Gal.	Full Plants, 2' O.C.
H	18	Hemerocallis `Little Grapette'	Little Grapette Daylilly			1 Gal.	Full Plants, 1' O.C.
HV	25	Heuchera varieties	Coral Bell varieties			1 Gal.	Full Plants, 1' O.C.
HP	11	Hydrangea petiolaris	Climbing Hydrangea		24"-30"	5 Gal.	Full Plants.
P	7	Perovskia `Little Spire'	Littlespire Russian Sage			1 Gal.	Full Plants, 1' O.C.

NOTES:
—*IN ACCORDANCE WITH ORD. SECTION 490–81.C.(8), PROPOSED TREES SHALL BE MEASURE IN DIAMETER AT BREAST HEIGHT (DBH)



VALMONT POLE NO. (OR EQ.)	MOUNTING HEIGHT	POLE HEIGHT	SHAFT	BASE SIZE
40405S4L	17.5 FT	15 FT	4"	7.5" BOLT CIRCLE

LIGHT STANDARD DETAIL
NTS



POLE ELEVATIONS
NOT TO SCALE

LANDSCAPE PLAN NOTES

1. GENERAL NOTES:

A. THIS PLAN TO BE USED ONLY FOR THE PURPOSES OF LANDSCAPING.

B. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, STRUCTURES, ETC. NOTIFY THE UNDERSIGNED PROFESSIONAL IMMEDIATELY, IN WRITING, IN REFERENCE TO DISCREPANCIES OR LOCATION CONFLICTS.

C. IN THE EVENT THAT PLANT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANTING SCHEDULE, THE PLAN SHALL SUPERSEDE.

D. ALL PLANTING MATERIALS AND METHODS SHALL MEET OR EXCEED THE THE REQUIREMENTS OF THE MUNICIPAL ORDINANCES OF THE BOROUGH OF RED BANK, AND THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. IN THE EVENT OF CONFLICT BETWEEN A.A.N. AND MUNICIPAL STANDARDS, THE MUNICIPAL REQUIREMENTS SHALL SUPEPSEDE.

E. ALL LANDSCAPING SHALL BE PLANTED SO AS TO NOT INTERFERE WITH UTILITY LINES, SIGHT TRIANGLES, UNDERGROUND UTILITIES OR PUBLIC WALKWAYS OR OTHER EXISTING OR PROPOSED STRUCTURES. ALL PLANT MATERIAL PROPOSED WITHIN THE REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLES ARE SELECTED SO AS TO NOT EXCEED A MATURE HEIGHT GREATER THAN 30" ABOVE THE ELEVATION OF THE ADJACENT ROADWAY. STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESSES, OR WITHIN REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLE EASEMENTS SHALL NOT BE BRANCHED ANY LOWER THAN 8'-0" ABOVE GRADE, AND MUST BE APPROPRIATELY PRUNED. NO WOODY PLANTS, EXCEPT GROUNDCOVERS, ARE TO HAVE THEIR CENTERS CLOSER THAN 36" TO THE BACK OF THE CURB.

2. PLANT MATERIAL:

A. NO PLANT SUBSTITUTION SHALL BE ALLOWED WITH REGARD TO SIZE, SPECIES, NAMED VARIETY OR CULTIVAR, WITHOUT PRIOR PERMISSION FROM THE SHADE TREE COMMISSION AND THE BOARD ENGINEER.

SUBSTITUTIONS AND FINAL LOCATION OF ALL PLANT MATERIAL IS TO BE APPROVED BY THE BOROUGH ENGINEER PRIOR TO ANY DEVIATION FROM THE APPROVED PLAN.

B. ALL PLANTS SHALL BE DUG, PACKED, TRANSPORTED AND HANDLED WITH THE UTMOST CARE TO ENSURE ADEQUATE PROTECTION FROM INJURY AND DESICCATION.

C. ALL PLANTS SHALL BE FREE FROM DISEASE AND INFESTATION, AND ALL LEGALLY REQUIRED AGRICULTURAL CERTIFICATIONS.

D. ALL PLANTS SHALL BE PRUNED TO ENHANCE VIGOR PRIOR TO, OR UPON INSTALLATION, WHILE RETAINING NATURAL GROWTH HABIT OF THE CENTRAL LEADER SHALL NOT BE CUT; PLANTS PLANTS. THE PROVIDED IN THIS CONDITION SHALL NOT BE ACCEPTED. DAMAGED, BROKEN OR CONFLICTING BRANCHES SHALL BE PRUNED CLEANLY, FLUSH WITH THE MAIN TRUNK OR BRANCH.

E. ALL PLANTS SHALL BE NURSERY–GROWN AND TAGGED WITH A DURABLE LABEL INDICATING THE GENUS, SPECIES AND SPECIFIED VARIETY OR CULTIVAR.

F. IN ACCORDANCE WITH ORD. SECTION 490–81.C.(8), PROPOSED TREES SHALL BE MEASURED IN DIAMETER AT BREAST HEIGHT (DBH).

3. PLANTING:

A. SOIL MUST BE FROST–FREE, FRIABLE AND NOT MUDDY AT THE TIME OF PLANTING.

B. BACKFILL MATERIAL FOR PLANTING PITS SHALL BE COMPOSED OF 70% TOPSOIL, 20% FULLY COMPOSTED COW OR HORSE MANURE AND 10% PEAT MOSS. TOPSOIL SHALL BE SELECT MATERIAL WITH IN EXCESS OF 3% ORGANIC MATERIAL, SECTION 909.10, AND MAY BE FROM ON–SITE OR SELECT IMPORTED SOURCES. SOIL SHALL CONTAIN NO ACIDIC MARL, NOR ANY IMPORTED SOURCES.

C. PLANTS SHALL BE SET TO ULTIMATE FINISHED GRADE SO THAT THEY WILL BE LEFT IN THE RELATIONSHIP TO THE SURROUNDING GROUND AS THEY HAD, PRIOR TO BEING DUG. IF EVIDENCE OF SATURATED SOILS IS ENCOUNTERED DURING EXCAVATION OF THE PLANTING PITS, UPON DIRECTION BY THE ENGINEER, PLANTS SHALL BE SET SO THAT THEIR ROOT CROWNS ARE APPROXIMATELY THREE INCHES ABOVE THE FINAL GRADE, WITH TOPSOIL AND MULCH GENTLY MOUNDED TO AVOID EXCESSIVE DRYING AT THE SURFACE. UNDER NO CIRCUMSTANCES SHALL PLANTINGS AT RELATIVELY DRY LOCATIONS BE PERFORMED IN A MOUNDED MANNER.

D. THE CORD BINDING THE BALL OF ALL BALLED AND BURLAPPED (B&B) PLANTS SHALL BE CUT AND REMOVED, AND BURLAP ON THE UPPER 1/3 OF THE ROOT BALL SHALL BE REMOVED. PLANTS WITH SYNTHETIC NON–DEGRADABLE ROOT BALL WRAPS SHALL NOT BE ACCEPTABLE.

E. ALL PROPOSED TREES SHALL BE SET IN BEDS AS SHOWN OR MULCHED TO THE LIMIT OF THEIR PLANTING PITS. ALL PROPOSED SHRUBS SHALL BE SET IN CONTINUOUS, MASSED PLANTING BEDS, RATHER THAN ISOLATED INDIVIDUALS. ALL TREE AND SHRUB BEDS SHALL RECEIVE A 3" THICK APPLICATION OF HARDWOOD BARK MULCH.

F. A ROOT BARRIER PRODUCT SHOULD BE ADDED TO THE PLANTING PITS OF ALL TREES PROPOSED FOR INSTALLATION WITHIN 10 FEET OF NEW OR EXISTING CONCRETE CURB, SIDEWALK, BUILDING FOUNDATIONS OR BLACKTOP PAVEMENT AREAS.

4. MAINTENANCE

A. ALL PLANTINGS SHALL BE WATERED AS NECESSARY FOR SOUND HORTICULTURAL PRACTICE DURING THE FIRST GROWING SEASON, TO ENSURE THEIR PROPER ESTABLISHMENT.

B. IN GENERAL SHRUBS ARE TO BE PLANTED AT INTERVALS WHICH WILL ALLOW THEM TO FULLY DEVELOP INTO CONTINUOUS MASSES OF THE INDIVIDUAL SPECIES. THEREFORE, NO PRUNING TO SHAPE OR SHEARING IS REQUIRED OR DESIRABLE. WHERE DEAD OR CONFLICTING BRANCHING DEVELOPS, IT SHOULD BE PRUNED OUT.

C. ALL GUY WIRES, PLANT STAKES AND THE LIKE SHALL BE REMOVED ONE YEAR AFTER INSTALLATION.

D. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWO YEARS FROM THE DATE OF THE PERFORMANCE BOND RELEASE.

E. ALL DEAD TREES AND LIMBS SHALL BE REMOVED AND DISPOSED OFFSITE.

5. SOD BED PREPARATION

1. ROUGH GRADING: REMOVE FROM THE SURFACE ALL STONES 1" OR LARGER, AS WELL AS: WIRE, WOOD, ROOTS, CONCRETE, CLODS, LUMPS AND ANY OTHER UNSUITABLE MATERIAL.

2. FINE GRADING: A MINIMUM OF 3" OF SCREENED TOPSOIL SHALL BE SPREAD BY RAKE OR MECHANICALLY RAKED OVER ALL AREAS TO RECEIVE EITHER SEED OR SOD. THE SOIL SHOULD BE SMOOTH OF RUTS, FREE OF UNSUITABLE OBJECTS AND GENERALLY GRADED TO PROVIDE FOR POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS.

3. BED INSPECTION: PRIOR TO SEEDING OR SODDING, THE BED SHALL BE INSPECTED FOR NEWLY CREATED RUTS OR EXTENSIVE TRAFFIC COMPACTION, AND THE AFFECTED AREAS REPAIRED ACCORDINGLY.

4. LIMING/FERTILIZING: APPLY PELLETIZED LIMESTONE AND FERTILIZER TO SOIL TEST RECOMMENDATIONS OR AS FOLLOWS:

A. LIME TO BE APPLIED AT THE RATE OF 600 LBS. PER ACRES, OR AS PER MANUFACTURER'S RECOMMENDATION.

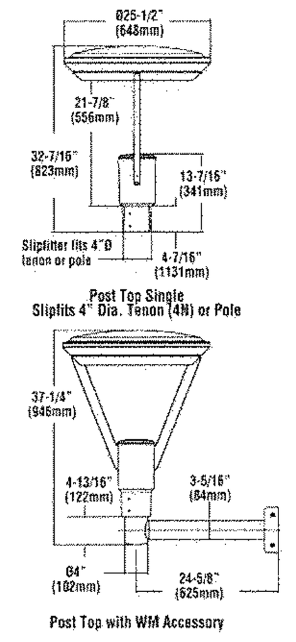
B. STARTER FERTILIZER, SPECIFIED AS 10–20–10, IS TO BE APPLIED AT 500 LBS. PER ACRE.

Luminaire Schedule

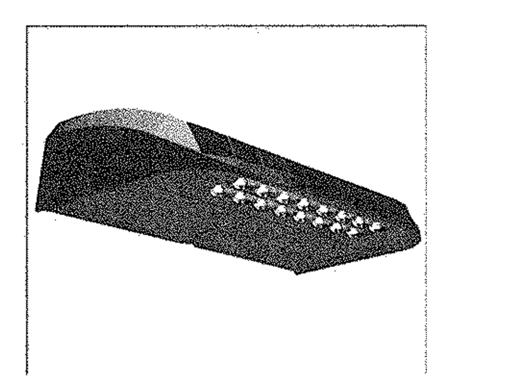
Symbol	Arrangement	Qty	Type	Manufacturer	Product Code	Lum. Watts	Arr. Watts	Lum. Lumens	LLF
●	SINGLE	4	A	LSI INDUSTRIES	XCN4–2–LED–10L–30–VOLTS–FINISH–IL–MWS–DIM w/ 4RPSF–S11G–12'–FINISH–GBC–4" (MOUNTED AT 14' AFF)	75	75	6473	0.900
●	SINGLE	2	B	LSI INDUSTRIES	XCN4–FT–LED–10L–30–VOLTS–FINISH–IL–MWS–DIM w/ 4RPSF–S11G–12'–FINISH–GBC–4" (MOUNTED AT 14' AFF)	75	75	6817	0.900
▭	SINGLE	3	C	LSI INDUSTRIES	XWM–FT–LED–04–30–VOLTS–FINISH–DIM (MOUNTED AT 14' AFF)	38	38	4206	0.900

Calculation Summary

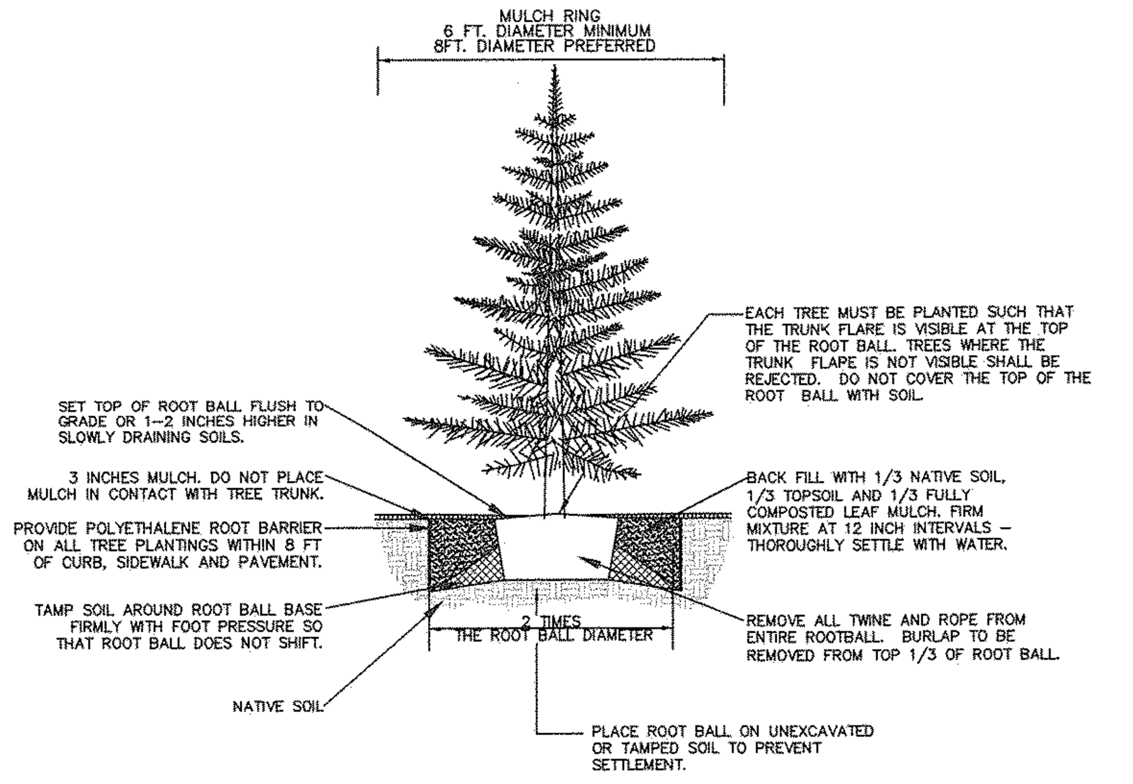
Label	CalcType	Units	Avg	Max	Min	Max/Min	Avg/Min
PARKING LOT	Illuminance	Fc	3.00	4.8	0.8	6.00	3.75



PEDESTRIAN AND PARKING AREA LIGHT POLE (LIGHTING TYPES 'A' AND 'B')
NOT TO SCALE

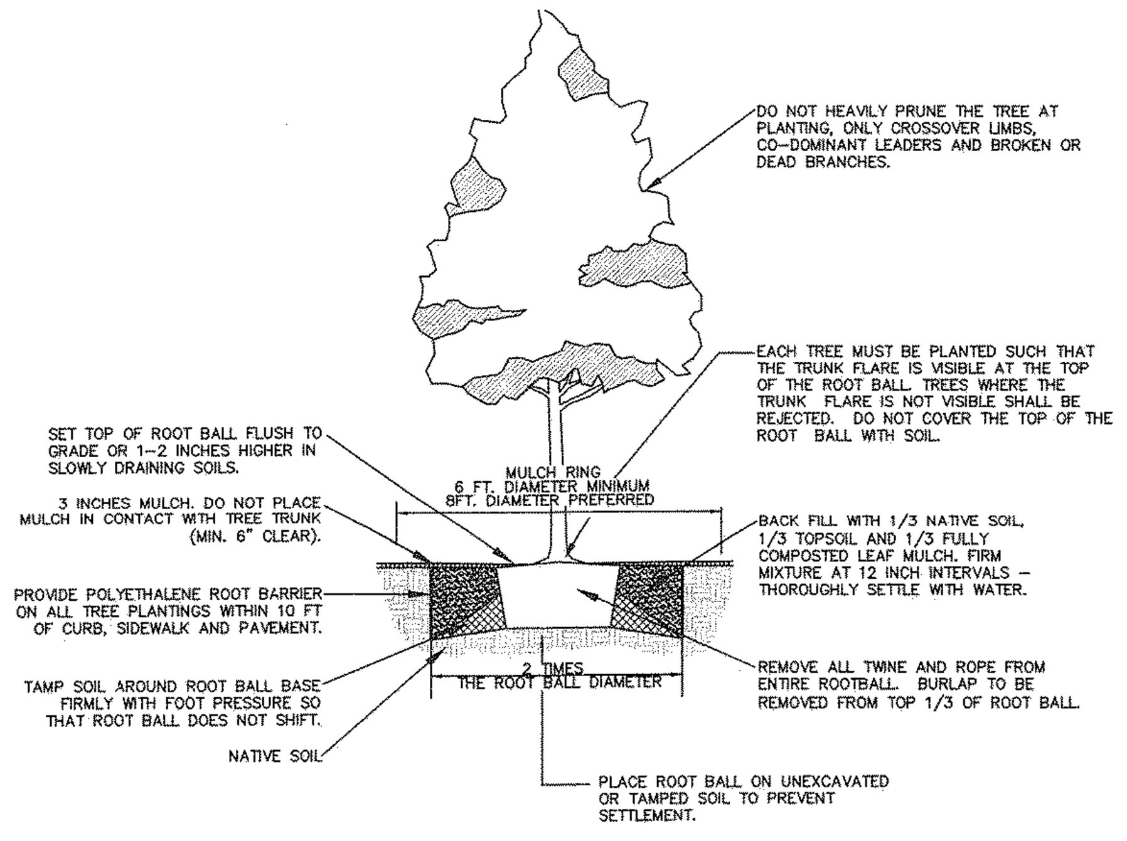


MOUNTED WALL SCONCE (LIGHTING TYPE 'C')
NOT TO SCALE



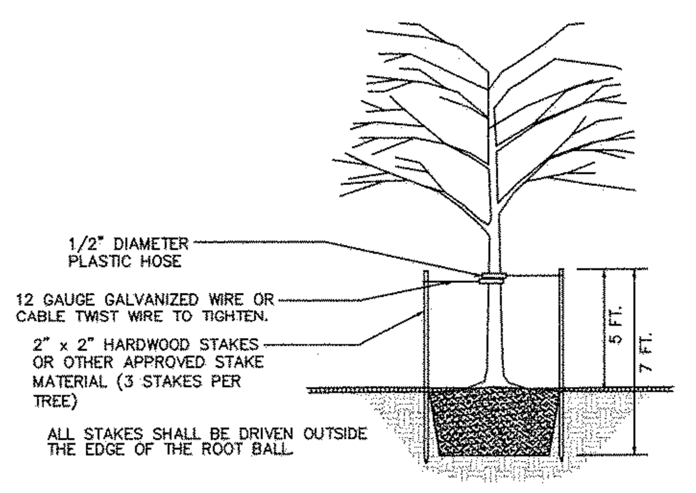
NOTE:
1.) STAKE TREES IF REQUIRED BY THE MUNICIPALITY OR IF ONE OF THE CONDITIONS LISTED IN TREE STAKING DETAIL IS PRESENT.

TYPICAL EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE



NOTE:
1.) STAKE TREES IF REQUIRED BY THE MUNICIPALITY OR IF ONE OF THE CONDITIONS LISTED IN TREE STAKING DETAIL IS PRESENT.
2.) WRAP TREES ONLY UPON THE APPROVAL OF THE ENGINEER OR LANDSCAPE ARCHITECT.

TYPICAL DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 1/2".

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN 24 MONTHS AFTER PLANTING.

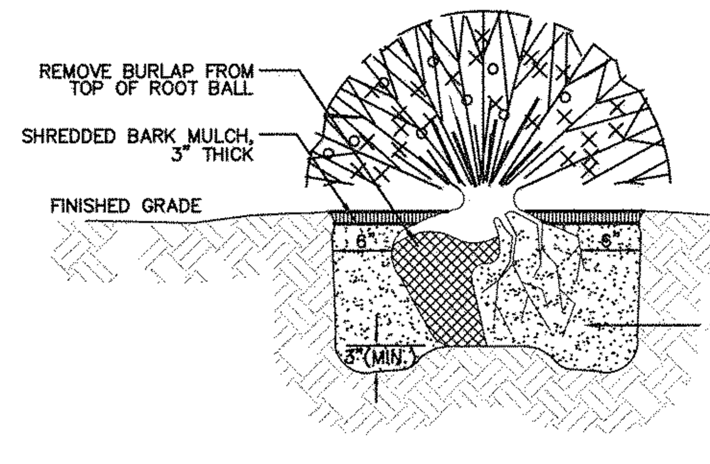
TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

STAKE TREES ONLY AS REQUIRED BY THE MUNICIPALITY AND IN THE FOLLOWING CONDITIONS:

- ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL.
- TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS.

EVERGREEN OR DECIDUOUS TREE STAKING DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

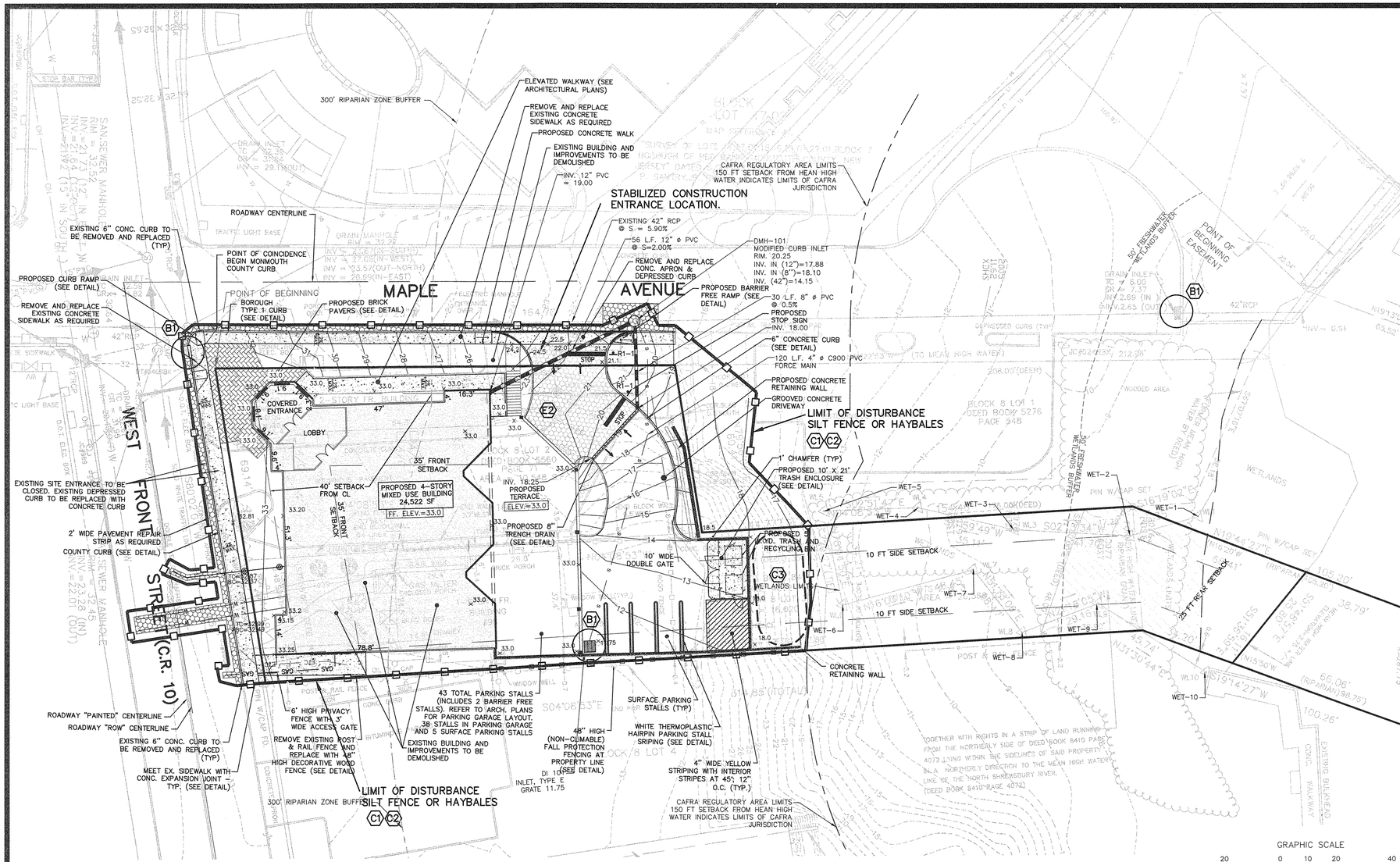
TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

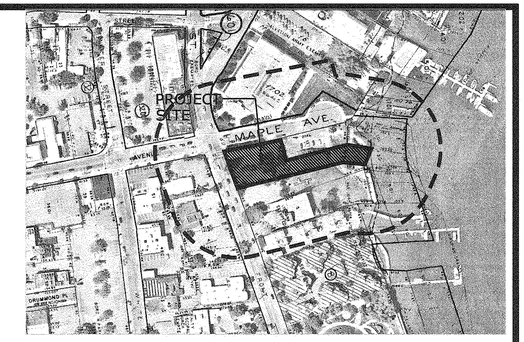
LIGHTING & LANDSCAPING PLAN

FILENAME: LL-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275



TOTAL LIMIT OF DISTURBANCE = 25,510 SF (0.586 ACRES)



SITE LOCATION MAP
NO SCALE

SOIL EROSION AND SEDIMENT CONTROL NOTES

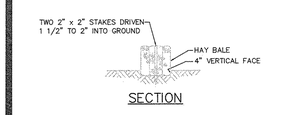
1. The Freehold Soil Conservation District shall be notified forty-eight (48) hours in advance of any soil disturbing activity.
2. All Soil Erosion and Sediment Control practices are to be installed prior to soil disturbance, or in their proper sequence, and maintained until permanent protection is established.
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 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 State Standard for Stabilization with Mulch Only.
6. Immediately following initial disturbance or rough grading, all critical areas subject to erosion (i.e. 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 entrance 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/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.
14. 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.
15. 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 of 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.

Freehold Soil Conservation District
4000 Kozloski Road, Freehold, NJ 07728-5033, (732) 683-8500, fax (732) 683-9140, Email: info@freeholdscd.org
Revised March 2014

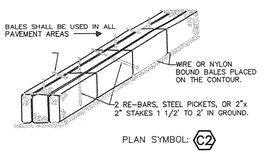
SOIL EROSION LEGEND

- LIMIT OF DISTURBANCE AND SILTFENCE/HAYBALE.
- INLET PROTECTION (B1)
- SILT FENCE (C1)
- HAY BALE (C2)
- STOCKPILE AREA (C3)
- STABILIZED CONSTRUCTION ENTRANCE (PAVED) (E2)

CONTRACTOR SHALL USE (C1) ON PERVIOUS SURFACES AND (C2) ON IMPERVIOUS SURFACES.



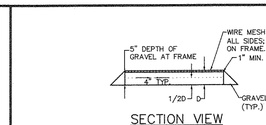
SECTION



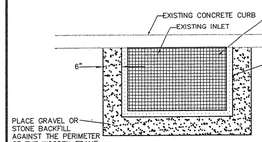
PLAN SYMBOL: (C2)

STRAW BALE BARRIER DETAIL
NOT TO SCALE

NOTES:
1. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
2. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
3. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



SECTION VIEW

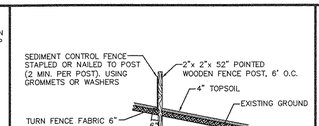


PLAN VIEW

PLAN SYMBOL: (B1)

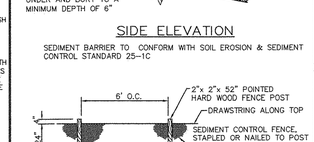
INLET FILTER
NOT TO SCALE

NOTES:
1. CONTRACTOR TO SECURE WIRE SCREENING TO THE TOP OF THE FRAME. SCREEN PERFORATIONS SHALL RANGE FROM 1/8" TO 1/4".
2. CONTRACTOR TO CLEAN INLET FILTER AND REPLACE COMPONENTS AS NECESSARY AFTER EACH STORM.
3. CONTRACTOR TO MODIFY INLET PROTECTION FOR INLETS WITHOUT CURBING.



SIDE ELEVATION

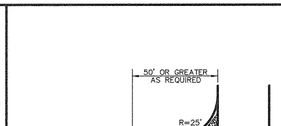
SEDIMENT BARRIER TO CONFORM WITH SOIL EROSION & SEDIMENT CONTROL STANDARD 25-1C



FRONT ELEVATION

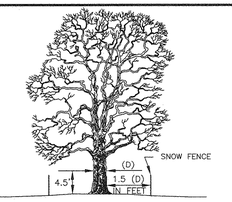
PLAN SYMBOL: (C1)

SILT FENCE
NOT TO SCALE

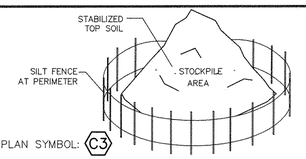


PLAN SYMBOL: (E2)

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



TREE PROTECTION DURING CONSTRUCTION
NOT TO SCALE



PLAN SYMBOL: (C3)

TOPSOIL STOCKPILE AREA
NOT TO SCALE

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

SOIL EROSION & SEDIMENT CONTROL PLAN

5 OF 8

FILENAME: SEC-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION

ESTABLISHMENT OF TEMPORARY VEGETATIVE COVER ON SOILS EXPOSED FOR PERIODS OF TWO TO 6 MONTHS WHICH ARE NOT BEING GRADED, NOT UNDER ACTIVE CONSTRUCTION, OR NOT SCHEDULED FOR PERMANENT SEEDING WITHIN 60 DAYS.

PURPOSE

TO TEMPORARILY STABILIZE THE SOIL AND REDUCE DAMAGE FROM WIND AND WATER EROSION UNTIL PERMANENT STABILIZATION IS ACCOMPLISHED.

WATER QUALITY ENHANCEMENT

PROVIDES TEMPORARY PROTECTION AGAINST THE IMPACTS OF WIND AND RAIN, SLOWS THE OVER LAND MOVEMENT OF STORMED WATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE THE POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

- **I. 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, P. 19-1.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.

C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

- **II. SEEDBED PREPARATION**

A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRES UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.

B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLY UNIFORM SEEDBED IS PREPARED.

C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AS ABOVE.

D. SOILS HIGH ON SULFIDES OR HAVING A pH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS PG. 1-1.

- **III. SEEDING**

A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2.

SPECIES	SEEDING RATES (POUNDS) /1 PER ACRE	SEEDING RATES (POUNDS) /1 PER 1,000 SQ. FEET	OPTIMUM SEEDING DATE BASED ON PLANT HARDINESS ZONE 3/ ZONE 5	ZONE 6	ZONE 7	OPTIMUM SEED DEPTH 2/ (INCHES)
COOL SEASON GRASSES						
PERENNIAL RYEGRASS	100	1.0	3/15 TO 6/1 8/1 TO 9/15	3/1 TO 5/15 8/15 TO 10/1	2/15 TO 5/1 8/15 TO 10/15	0.5
SPRING OATS	86	2.0	3/15 TO 6/1 8/1 TO 9/15	3/1 TO 5/15 8/15 TO 10/1	2/15 TO 5/1 8/15 TO 10/15	1.0
WINTER BARLEY	96	2.2	8/1 TO 9/15	8/15 TO 10/1	8/15 TU 10/15	1.0
ANNUAL RYEGRASS	100	1.0	3/15 TO 6/1 8/1 TO 9/15	3/15 TO 6/1 8/1 TO 9/15	2/15 TO 5/1 8/15 TO 10/15	0.5
WINTER CEREAL RYE	112	2.8	8/1 TO 11/1	8/1 TO 10/15	8/1 TO 12/15	1.0
COOL SEASON GRASSES						
PEARL MILLET	20	0.5	6/1 TO 8/1	5/15 TO 8/15	5/1 TO 9/1	1.0
MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1 TO 8/1	5/15 TO 8/15	5/1 TO 9/1	1.0

RECOMMENDED SEED MIXTURE

1. SEEDING RATE FOR WARM SEASON GRASS SHALL BE ADJUSTED TO REFLECT THE AMOUNT OF PURE LINE SEED (PLS) AS DETERMINED BY A GERMINATION TEST RESULT. NO ADJUSTMENT IS REQUIRED FOR COOL SEASON GRASSES.

2. MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDED AREA CAN BE IRRIGATED.

3. PLANT HARDINESS ZONE (SEE FIG. 7.1)

ZONE 5 – PORTIONS OF SUSSEX AND WARREN COUNTIES
ZONE 6 – PORTIONS OF BERGEN, CAMDEN, ESSEX AND GLOUCESTER, ALL OF HUNTERDON, PORTIONS OF MERCER AND MIDDLESEX, ALL OF MORRIS AND PASSAIC, PORTIONS OF SOMERSET, SUSSEX, UNION AND WARREN COUNTIES.
ZONE 7 – ATLANTIC, PORTION OF BERGEN, ALL OF BURLINGTON, CAPE MAY AND CUMBERLAND, PORTIONS OF ESSEX AND GLOUCESTER, ALL OF HUDSON, PORTION OF MIDDLESEX, ALL OF MONMOUTH, OCEAN AND SALEM AND PORTION OF UNION COUNTY.

4. TWICE THE DEPTH FOR SANDY SOILS

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 HYDRCSEEDER FOLLOWING SEEDING (ALSO SEE SECTION IV MULCHING). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.

- ***IV. MULCHING***

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

SEE MULCHING STANDARDS UNDER PERMANENT VEGETATIVE STABILIZATION.

• PROPOSED CONSTRUCTION SEQUENCE

1. FIRST WEEK OF CONSTRUCTION APPLY PROPER MEASURES FOR THE CONTROL OF SOIL EROSION AND SEDIMENT CONTROL.
2. SITE CLEARING WILL TAKE APPROXIMATELY ONE WEEK.
3. STEMPORARY STABILIZATION OF AREAS INITIALLY DISTURBED. STABILIZATION TO BE ACCOMPLISHED BY USE OF TEMPORARY SEEDING AND/OR STRAW MULCHING OR EQUIVALENT MATERIAL AT A RATE OF TWO TONS PER ACRE, ACCORDING TO STATE STANDARDS WILL TAKE APPROXIMATELY ONE WEEK.
4. SITE DEMOLITION, EXCAVATION, REMOVAL OF EXISTING STRUCTURES, BUILDINGS, AND UTILITIES, WILL TAKE APPROXIMATELY TWO WEEKS.
5. ROUGH GRADING WILL TAKE APPOXIMATELY ONE WEEK.
6. INSTALLATION AND PROTECTION OF STORMWATER PIPING, SANITARY SEWER CONNECTION, AND OTHER UTILITY CONNECTIONS WILL TAKE APPROXIMATELY 2 TO 4 WEEKS.
7. PAVEMENT, CURBING, AND SIDEWALK CONSTRUCTION WILL TAKE APPROXIMATELY 2 TO 4 WEEKS.
8. BUILDING CONSTRUCTION WILL TAKE APPROXIMATELY 4 TO 6 MONTHS.
9. CONTINUOUS MAINTENANCE OF SOIL EROSION PROCEDURES.
10. INSTALLATION OF LANDSCAPING MATERIALS WILL TAKE APPROXIMATELY ONE WEEK.
11. REMOVAL OF SOIL EROSION AND SEDIMENT CONTROL DEVICES AFTER ESTABLISHED VEGETATIVE GROWTH HAS OCCURRED.

TOTAL DURATION OF PROJECT EXPECTED TO BE 8 – 10 MONTHS.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION

ESTABLISHMENT OF PERMANENT VEGETATIVE COVER ON EXPOSED SOILS WHERE PERENNIAL VEGETATION IS NEEDED FOR LONG TERM PROTECTION.

PURPOSE

TO PERMANENTLY STABILIZE THE SOIL, ENSURING CONSERVATION OF SOIL AND WATER, AND TO ENHANCE THE ENVIRONMENT.

WATER QUALITY ENHANCEMENT

SLOWS THE OVER-LAND MOVEMENT OF STORMWATER RUNOFF, INCREASES INFILTRATION AND RETAINS SOIL AND NUTRIENTS ON SITE, PROTECTING STREAMS OR OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

ON EXPOSED SOILS THAT HAVE A POTENTIAL FOR CAUSING OFF-SITE ENVIRONMENTAL DAMAGE.

METHODS AND MATERIALS

I. SITE PREPARATION

- A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SURFACE SHOULD 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 DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITE. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.

D. INSTALL NEEDED EROSION CONTROL PRACTICES AND FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

II. 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 SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.

C. HIGH ACID PRODUCING SOIL.
SOILS HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A pH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

III. SEEDING

- A. SELECT A MIXTURE FROM TABLE 4-3 OR USE 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 4-3, MIXTURES 1 TO 7. PLANTING RATES FOR WARM-SEASON GRASSES SHALL BE THE AMOUNT OF PURE LIVE SEED (PLS) AS DETERMINED BY GERMINATION TESTING RESULTS.

3. COOL-SEASON MIXTURES ARE GRASSES AND LEGUMES WHICH MAXIMIZE GROWTH AT TEMPERATURES BELOW 85°F. MANY GRASSES BECOME ACTIVE AT 65°F. SEE TABLE 4-3, MIXTURES 8-20. ADJUSTMENT OF PLANTING RATES TO COMPENSATE FOR THE AMOUNT OF PLS IS NOT REQUIRED FOR COOL SEASON GRASSES.

B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE TEXTURED SOIL.

C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE 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 IV MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED 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.

SOILS, SEED MIXTURES, AND DATES FOR PERMANENT SEEDINGS FOR SOIL STABILIZATION

RECOMMENDED SEED MIXTURE

SOIL AND SITES	SEED MIXTURE 1/	MINIMUM SEEDING RATES 2/ (POUNDS)		OPTIMUM SEEDING DATES BASED ON PLANT HARDINESS ZONE 3		
A. EXCESSIVELY DRAINED	REFER TO SEED MIXES TABLE 4-2 & TABLE 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5b ZONE 6a	ZONE 6b	ZONE 7a ZONE 7b
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TURF) PERENNIAL RYEGRASS WHITE CLOVER	265 20 5	6 5 0.1	3/15-5/31	3/1-4/30	2/1-4/30
2. POND AND CHANNEL BANKS, DIKES, BERMS & DAMS	TALL FESCUE (TURF) PERENNIAL RYEGRASS WHITE CLOVER	265 20 5	6 5 0.1	3/15-5/31	3/1-4/30	2/1-4/30
3. DRAINAGE DITCH SWALE OR BASIN	SWITCHGRASS REDTOP	20 1	.45 0.1	3/15-5/31	3/1-4/30	2/1-4/30
B. WELL TO MODERATELY WELL DRAINED	REFER TO SEED MIXES TABLE 4-2 & TABLE 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5b ZONE 6a	ZONE 6b	ZONE 7a ZONE 7b
1. RESIDENTIAL & COMMERCIAL LOTS	TALL FESCUE (TURF) TREENAIL RYEGRASS WHITE CLOVER	265 20 5	6 5 0.1	3/15-5/31	3/1-4/30	2/1-4/30
2. POND AND CHANNEL BANKS, DIKES, BERMS & DAMS	DEERTONGUE REDTOP WILD RYE (ELYMUS) SWITCHGRASS	20 2 15 25	.45 .05 .35 .60	3/15-5/31	3/1-4/30	2/1-4/30
3. DRAINAGE DITCH SWALE OR BASIN	DEERTONGUE REDTOP WILD RYE (ELYMUS) SWITCHGRASS	20 2 15 25	.45 .05 .35 .60	3/15-5/31	3/1-4/30	2/1-4/30
C. SOMEWHAT POORLY TO POORLY DRAINED	REFER TO SEED MIXES TABLE 4-2 & TABLE 4-3	PER ACRE	PER 1,000 SQ. FT.	ZONE 5b ZONE 6a	ZONE 6b	ZONE 7a ZONE 7b
1. RESIDENTIAL & COMMERCIAL LOTS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	90 130	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30
2. POND AND CHANNEL BANKS, DIKES, BERMS & DAMS	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	90 130	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30
3. DRAINAGE DITCH SWALE OR BASIN	ROUGH BLUEGRASS STRONG CREEPING RED FESCUE	90 130	2.0 3	8/1-10/01	8/15-10/15	8/15-10/30

- **NOTES:**

1. SEEDING MIXTURES AND/OR RATES NOT LISTED ABOVE MAY BE USED IF RECOMMENDED BY THE LOCAL SOIL CONSERVATION DISTRICT, SOIL CONSERVATION SERVICE; RECOMMENDATIONS OF THE COOPERATIVE EXTENSION SERVICE MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. LEGUMES (FLATPEA, CROWNVETCH, TREFOIL, LESPEDEZA) SHOULD BE MIXED WITH PROPER INOCULANT PRIOR TO PLANTING.

2. GRASS SEED MIXTURES CHECKED BY THE CHIEF OF THE BUREAU OF SEED CERTIFICATION, NEW JERSEY DEPARTMENT OF AGRICULTURE, TRENTON, NEW JERSEY, WILL ASSURE THE PURCHASER THAT THE MIXTURE OBTAINED IS THE MIXTURE ORDERED.

3. PLANT HARDINESS ZONE (SEE MAP, P. 4-15)

ZONE 5 – PORTIONS OF SUSSEX AND WARREN COUNTIES
ZONE 6 – PORTIONS OF BERGEN, CAMDEN, ESSEX AND GLOUCESTER, ALL OF HUNTERDON, PORTIONS OF MERCER AND MIDDLESEX, ALL OF MORRIS AND PASSAIC, PORTIONS OF SOMERSET, SUSSEX, UNION AND WARREN COUNTIES
ZONE 7 – ATLANTIC, PORTION OF BERGEN, ALL OF BURLINGTON, CAPE MAY AND CUMBERLAND, PORTIONS OF ESSEX AND GLOUCESTER, ALL OF HUDSON, PORTION OF MIDDLESEX, ALL OF MONMOUTH, OCEAN AND SALEM AND PORTION OF UNION COUNTY.

- ***IV. 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% (95% FOR TEMPORARY STABILIZATION) 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 MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

- ***V. IRRIGATION*** *(where feasible)*

IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDINGS 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.

- ***VI. TOPDRESSING***

SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) IS PRESCRIBED IN SECTION II-A – SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAY BE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS 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..

- ***VII. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION***

THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-3 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UP TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

STANDARD FOR STABILIZATION WITH MULCH ONLY

DEFINITION

STABILIZING EXPOSED SOILS WITH NON-VEGETATIVE MATERIALS EXPOSED FOR PERIODS LONGER THAN 14 DAYS..

PURPOSE

TO PROTECT EXPOSED SOL 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

- **I. 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.

- **II. 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 APPROVAL RATES ABOVE HAVE BEEN MET WHEN MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.

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

C. 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.

D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.

E. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2" MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WAS THEM INTO AN INLET AND FLUG IT.

F. GRAVEL, CRUSHED STONE, OR SLAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQUARE FEET APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM C-33) IS RECOMMENDED.

- **III. MULCH ANCHORING**

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 IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-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 A DEGRADABLE NETTING IN AREAS TO 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 USED 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 BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

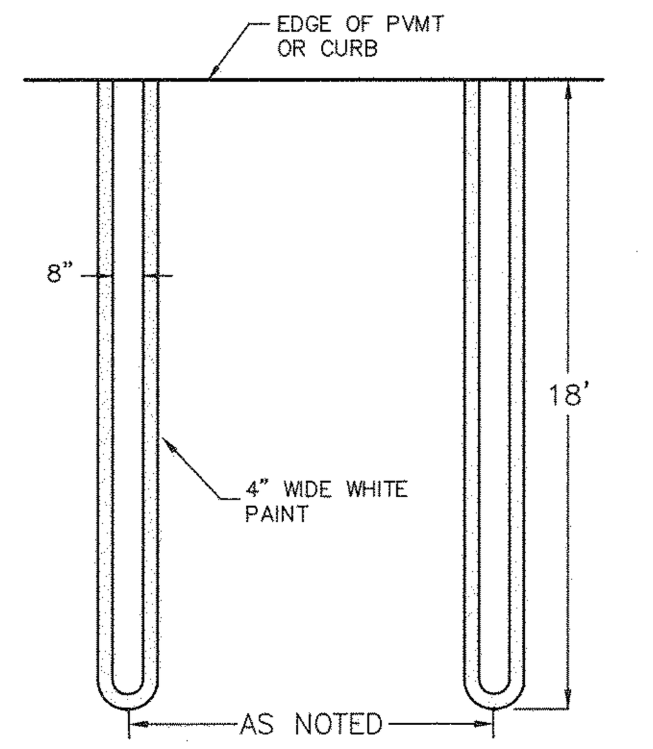
TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

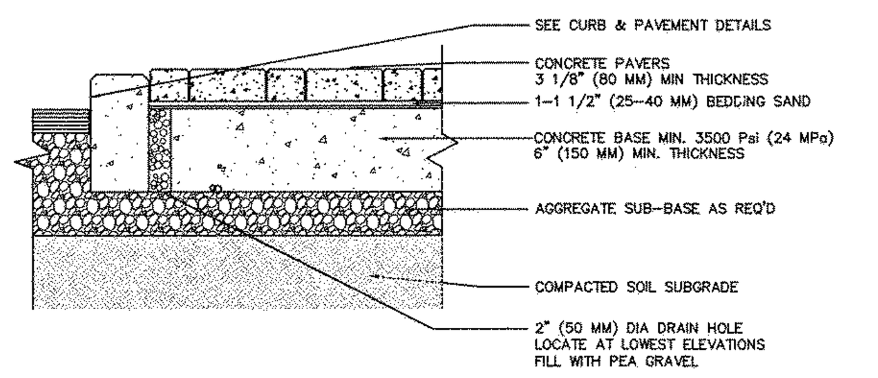
SOIL EROSION CONTROL NOTES

FILENAME: SEC-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

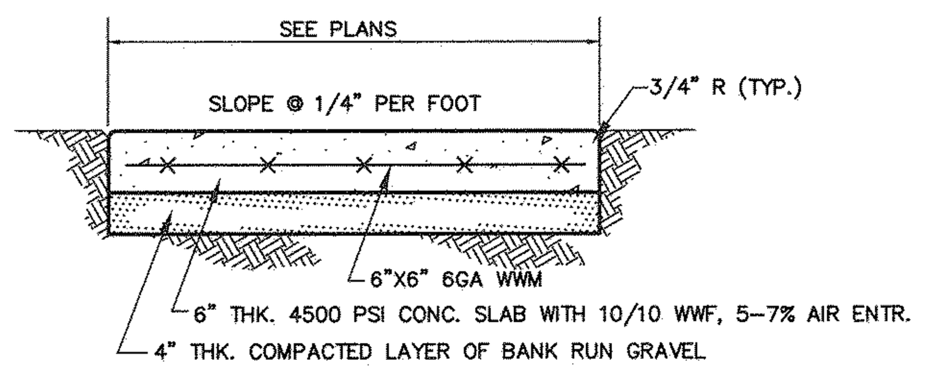


HAIRPIN STRIPING
NOT TO SCALE



PAVERS ON CONCRETE BASE
NOT TO SCALE

NOTES:
1. CONCRETE BASE MINIMUM 2% SLOPE FROM CENTER LINE TO CURB.
2. DO NOT USE DRAIN HOLES WHEN WATER TABLE IS LESS THAN 2' (0.6 M) FROM TOP OF SUBGRADE.
3. PAVERS SHALL BE BARRIER-FREE COMPLIANT.



CONCRETE PAD
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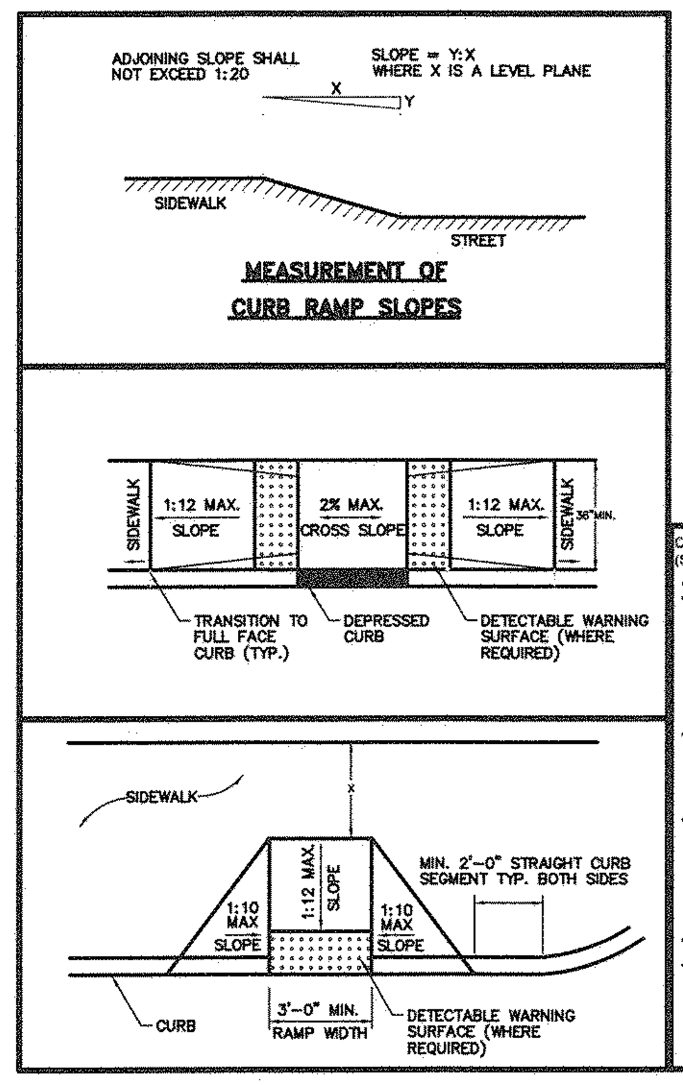
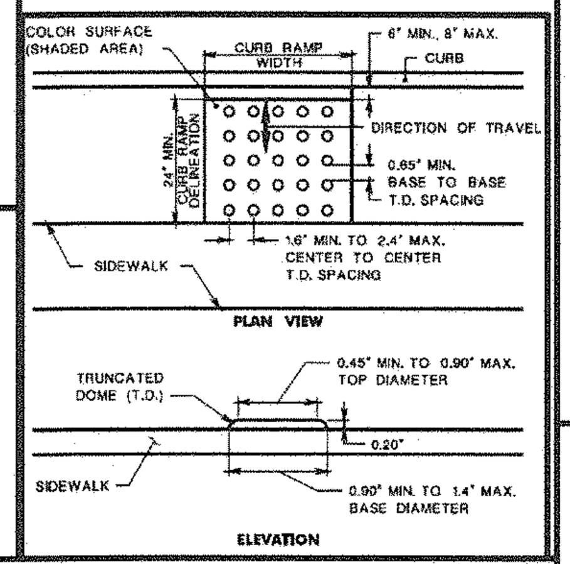
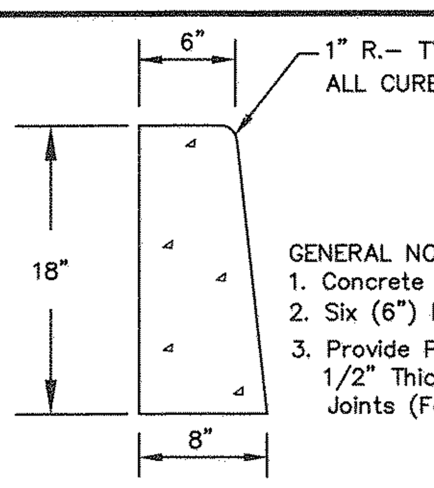




BARRIER FREE CURB RAMPS
NOT TO SCALE

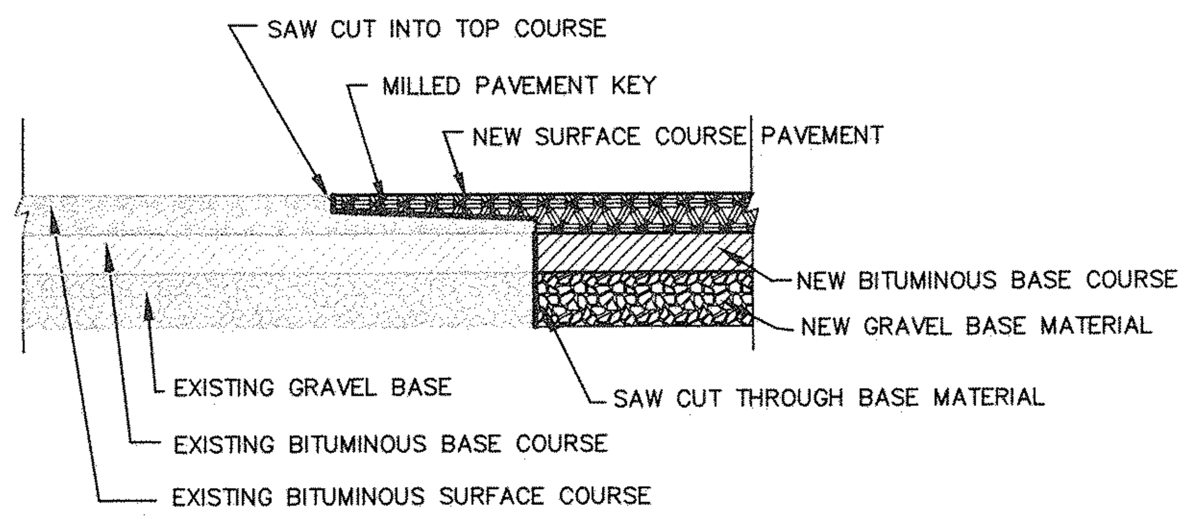
NOTES
1. SEE PLANS FOR RAMP TYPE.
2. ALL RAMPS TO CONFORM TO NJ BARRIER FREE SUBCODE & ADA REQUIREMENTS WHERE APPLICABLE.
3. LANDINGS SHALL HAVE A MAXIMUM OF 2% CROSS SLOPE.
4. FOR NEW RAMPS, X = 36" (MINIMUM).
5. FOR ALTERATIONS, IF X IS LESS THAN 36", THEN THE SLOPE OF THE FLARED SIDE SHALL NOT EXCEED 1:12 RATHER THAN 1:10.
6. PROVIDE DETECTABLE WARNING SURFACE WHERE REQUIRED.

DETECTABLE WARNING SURFACE
NOT TO SCALE



GENERAL NOTES:
1. Concrete To Be NJDOT Class "B"(4,500 PSI)
2. Six (6") Inch Face To Be On Type I Curb
3. Provide Preformed Bituminous Fiber Expansion Joints, 1/2" Thick At 20'0" (Max.) Intervals. Provide Dummy Joints (Formed) Midway Between Expansion Joints.

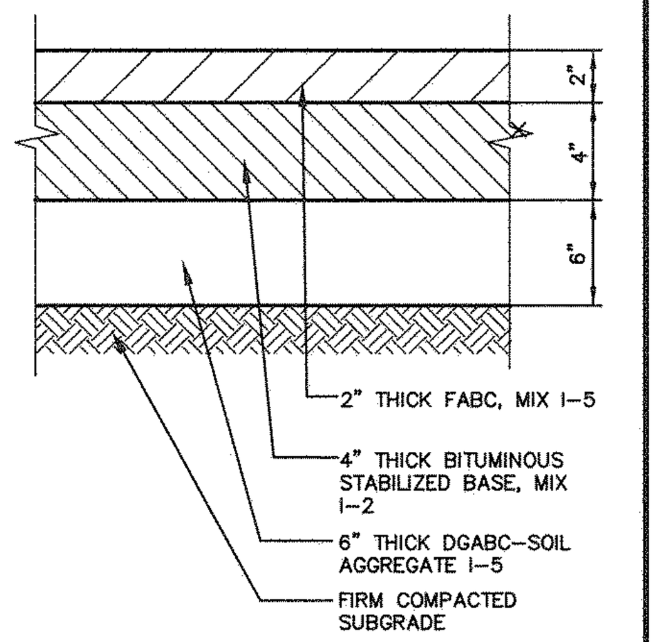
TYPE I CURB
NOT TO SCALE



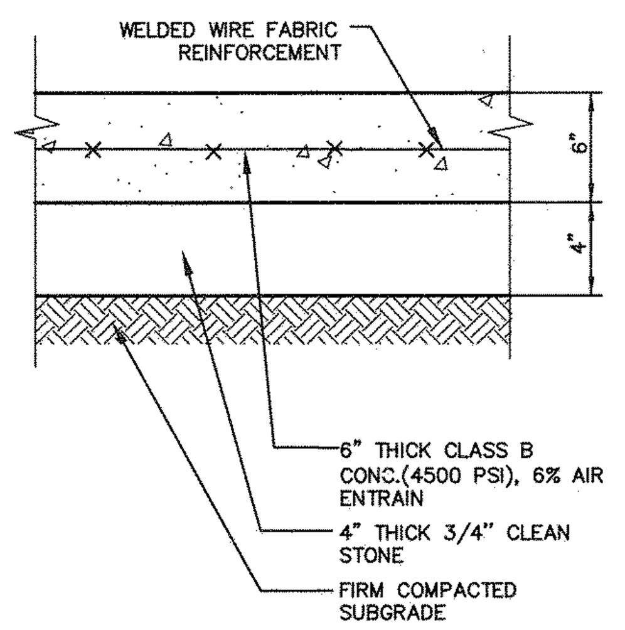
NOTE: KEY SHALL BE CONSTRUCTED AT ALL PAVEMENT LIMITS WHERE PROPOSED PAVEMENT MEETS EXISTING

PAVEMENT KEY DETAIL
N.T.S.

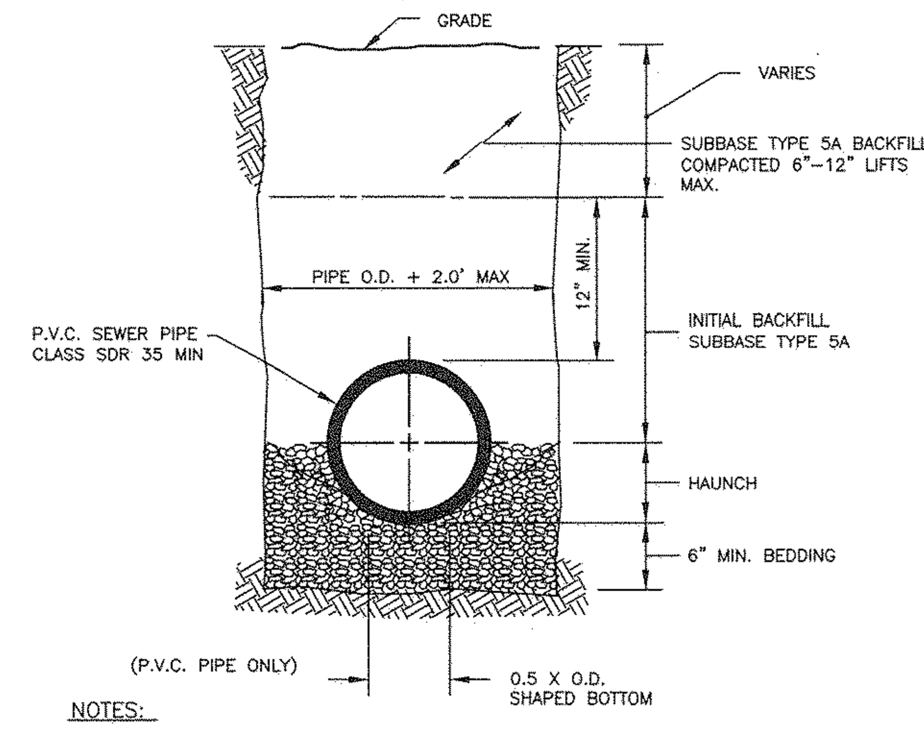
BITUMINOUS



CONCRETE

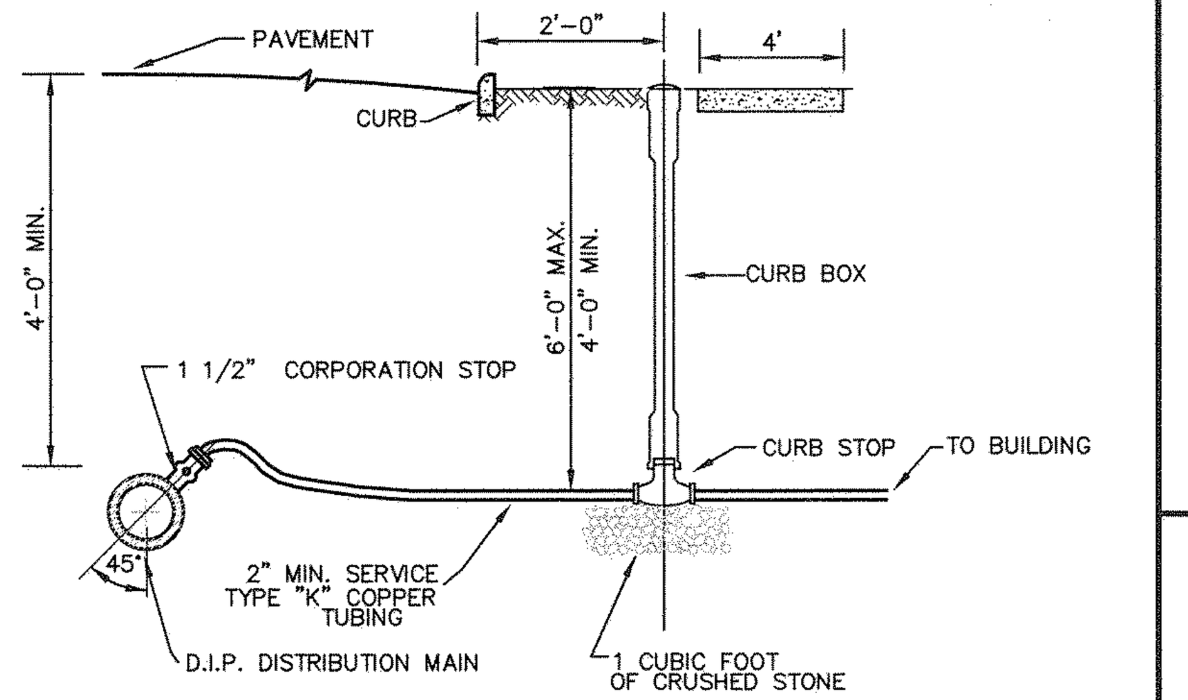


SITE PAVEMENT
NOT TO SCALE

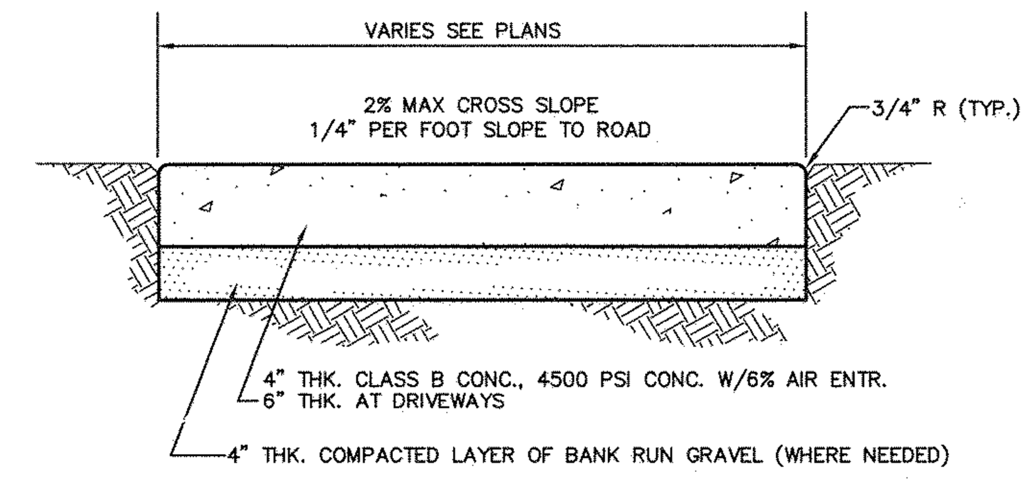


NOTES:
1. HAUNCH & BEDDING 3/4" CLEAN CRUSHED STONE OR GRAVEL
2. HYDROHAMMERS ARE NOT TO BE USED 3' OR LESS FROM TOP OF PIPE.

STANDARD PIPE BEDDING FOR P.V.C. PIPE
NOT TO SCALE

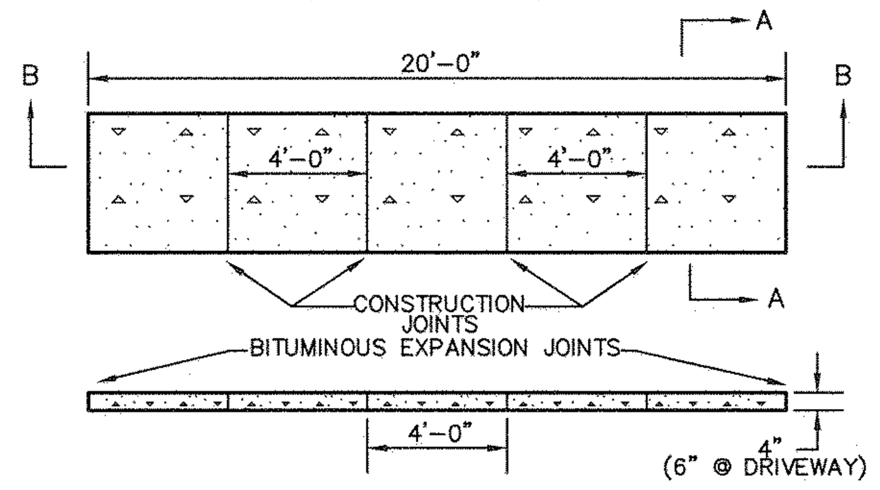


WATER SERVICE CONNECTION
NOT TO SCALE



SECTION A-A

TYPICAL SIDEWALK DETAIL
NOT TO SCALE



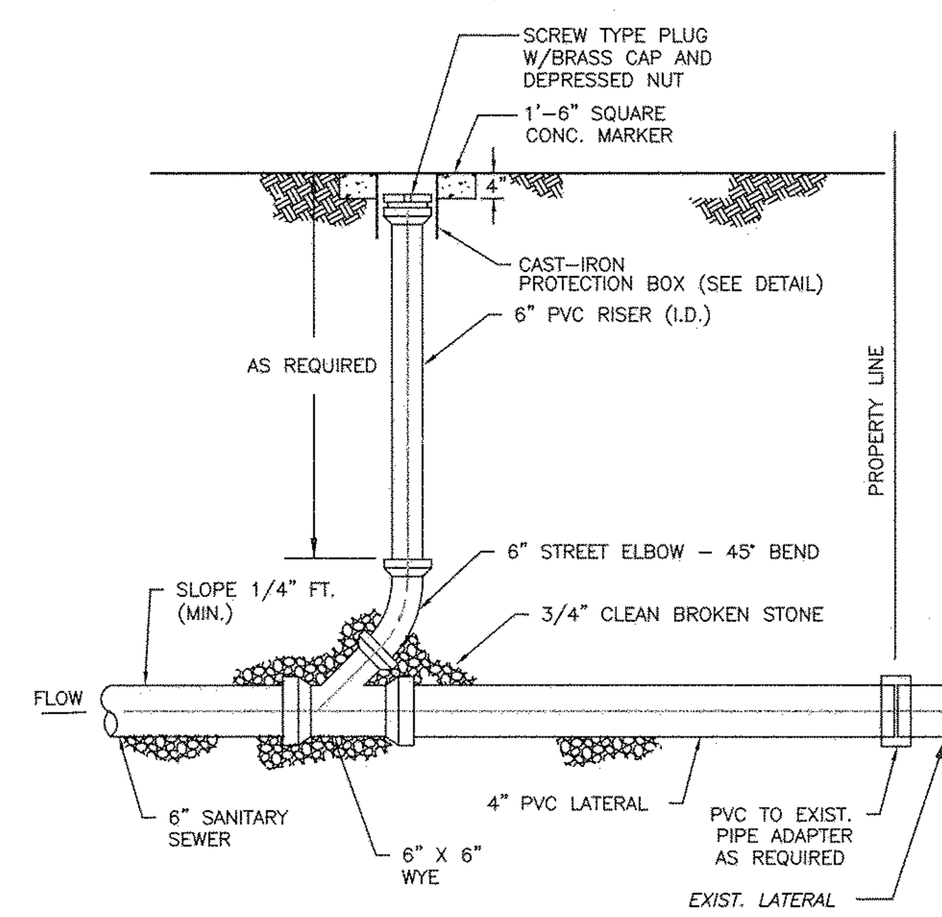
SECTION B-B

CONSTRUCTION NOTES:

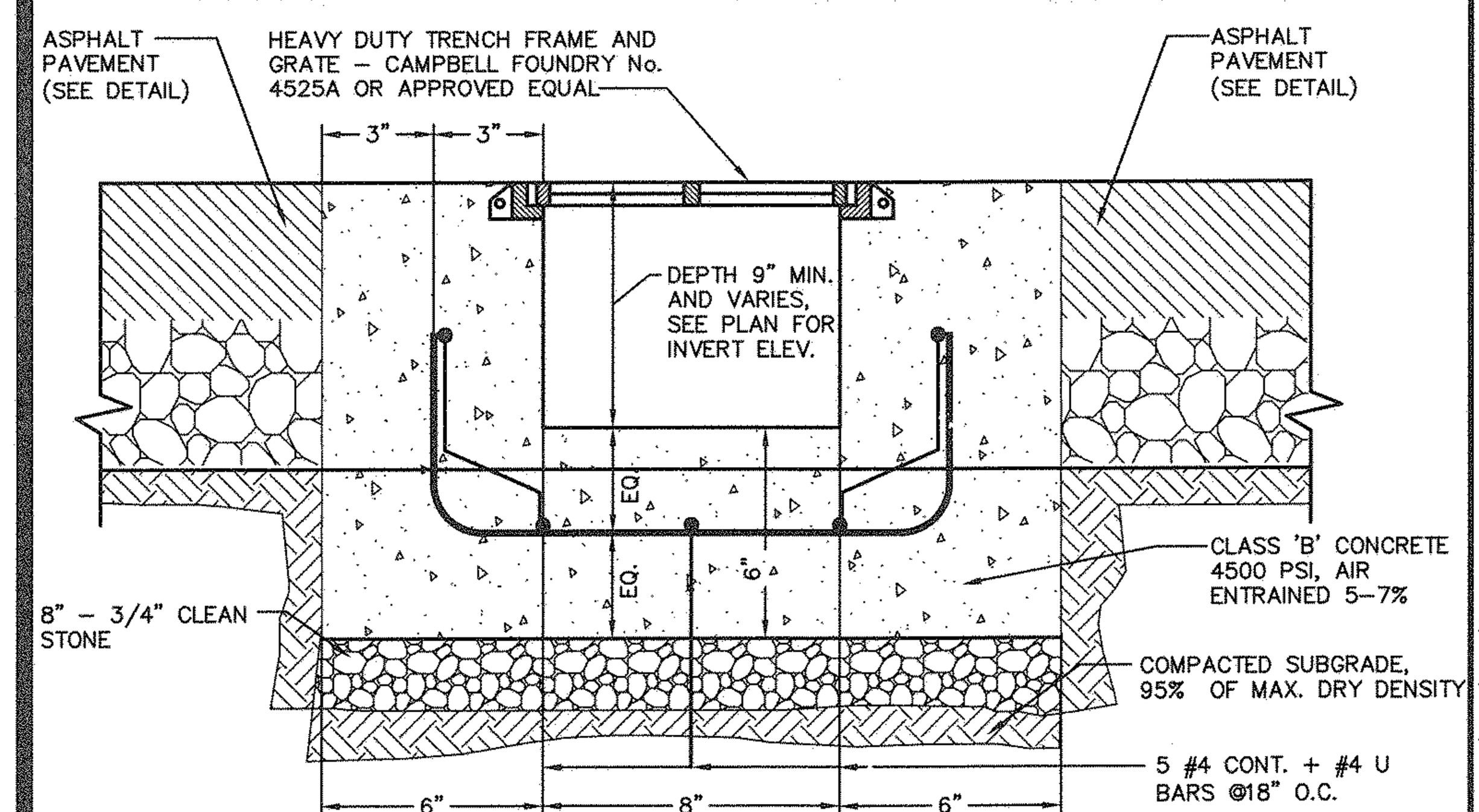
A PREFORMED, BITUMINOUS EXPANSION JOINT 1/2" THICK, 4" WIDE, AND EXTENDING THE FULL WIDTH OF THE WALK, UNBROKEN, SHALL BE INSTALLED EVERY TWENTY (20) FEET.

CONSTRUCTION JOINTS SHALL BE INSTALLED EVERY FOUR (4) FEET THE FULL WALK WIDTH.

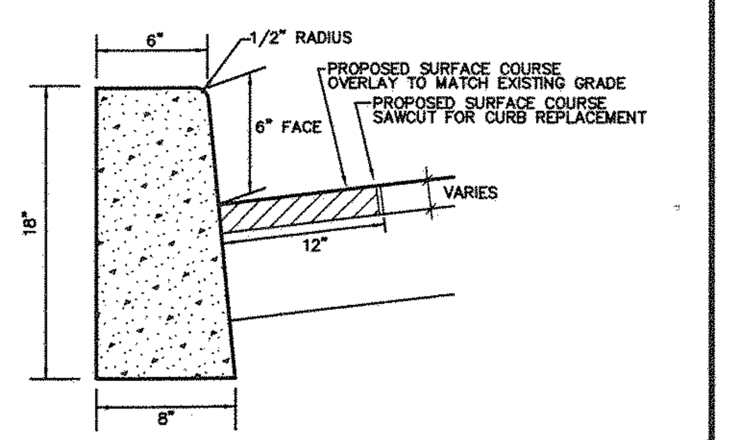
THERE SHALL BE A FLOAT FINISH WITH THE EDGES FINISHED WITH A SUITABLE TOOL.



STANDARD CLEANOUT DETAIL
NOT TO SCALE

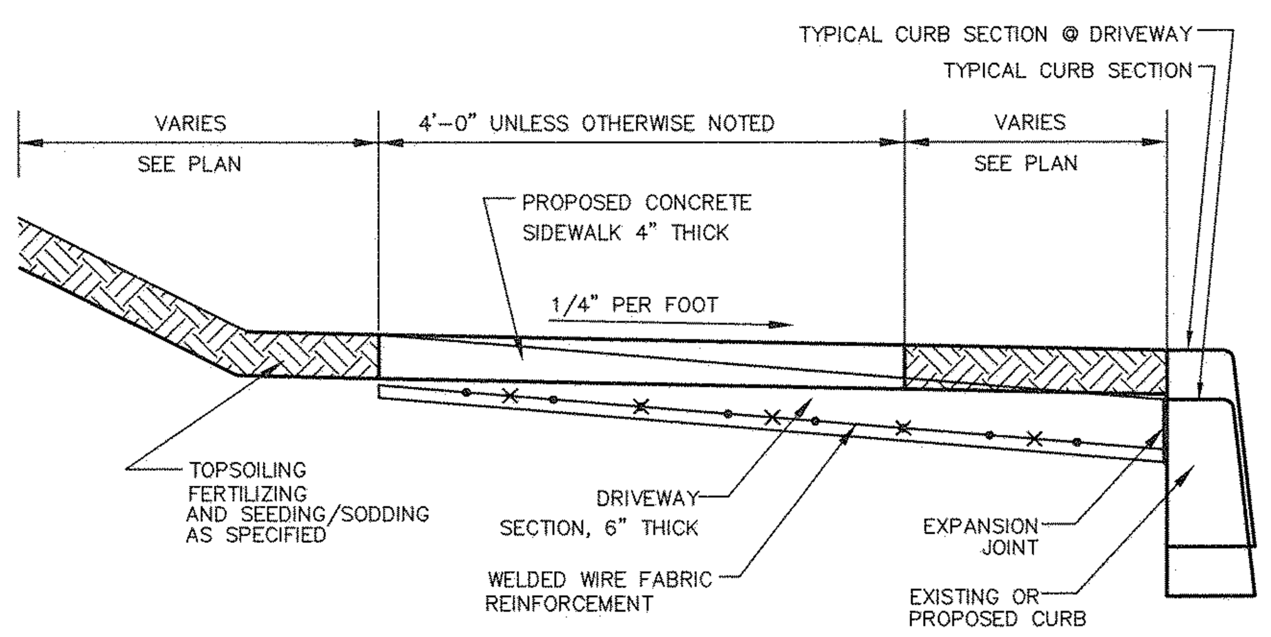


CAST-IN-PLACE TRENCH DRAIN DETAIL
NOT TO SCALE



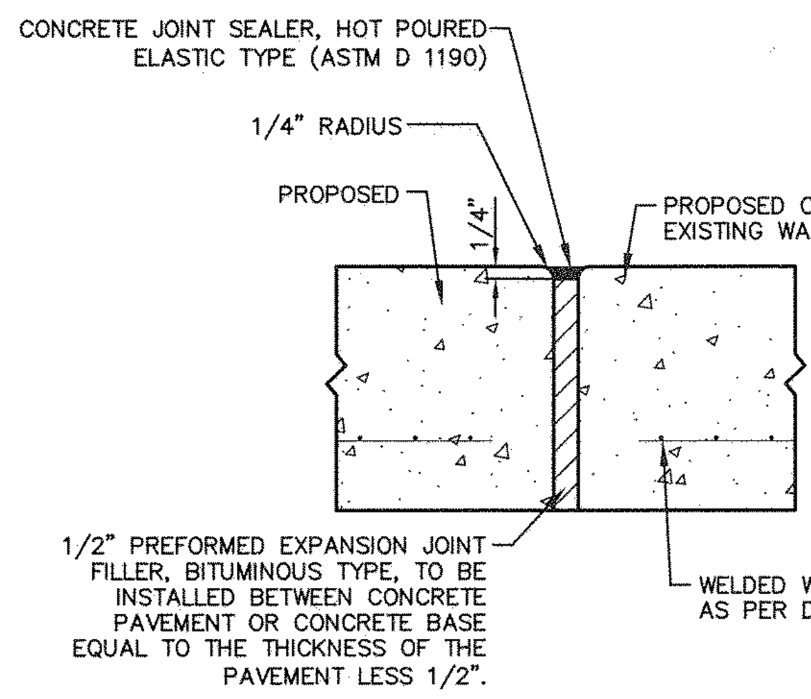
CONSTRUCTION NOTES:
1. ALL CONCRETE SHALL BE N.J.D.O.T. CLASS "B".
2. PROVIDE PREFORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THICK AT 20'-0" (MAXIMUM) INTERVALS. PROVIDE DUMMY JOINTS (FORMED) BETWEEN EXPANSION JOINTS.
3. ALL WORK AND MATERIAL TO BE IN ALITORDANCE WITH NJSHD "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRCUCTION" CURRENT EDITION.
4. EXISTING CURB TO BE REMOVED. SAWCUT EXISTING SURFACE COURSE ONLY, FACE FORM PROPOSED CURB, THEN CONSTRUCT SURFACE COURSE OVERLAY TO MATCH EXISTING GRADE AGAINST FACE OF CURB.

BOROUGH PAVEMENT REPAIR SECTION
NOT TO SCALE



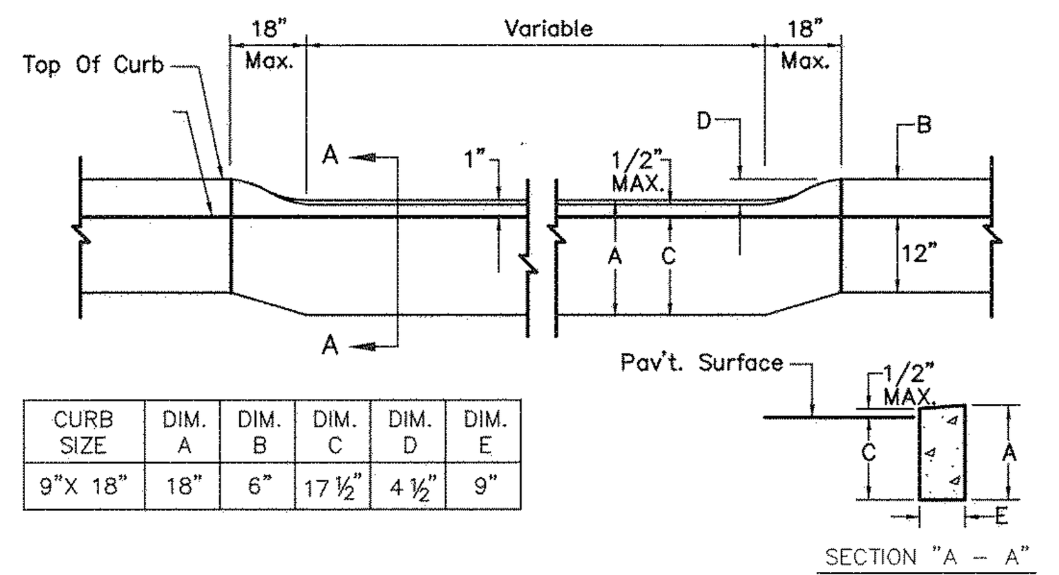
CONSTRUCTION NOTES:
1. ALL SIDEWALK AND DRIVEWAY APRON CONCRETE TO BE N.J.D.O.T. CLASS "B", 4,500 PSI, AIR ENTRAINED
2. PROVIDE PREFORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THICK, AT 20'-0" (MAXIMUM) INTERVALS. PROVIDE DUMMY JOINTS AT INTERVALS EQUAL TO THE SIDEWALK WIDTH BETWEEN EXPANSION JOINTS.
3. PROVIDE WELDED WIRE FABRIC REINFORCEMENT, TYPE 6 x 6 - W2.9 x W2.9, AT DRIVEWAY APRONS.

CONCRETE SIDEWALK AND DRIVEWAY APRON
NOT TO SCALE



NOTES:
1. REFER TO CONCRETE DETAILS FOR CONCRETE DEPTH AND STRENGTH.

EXPANSION JOINT DETAIL
NOT TO SCALE

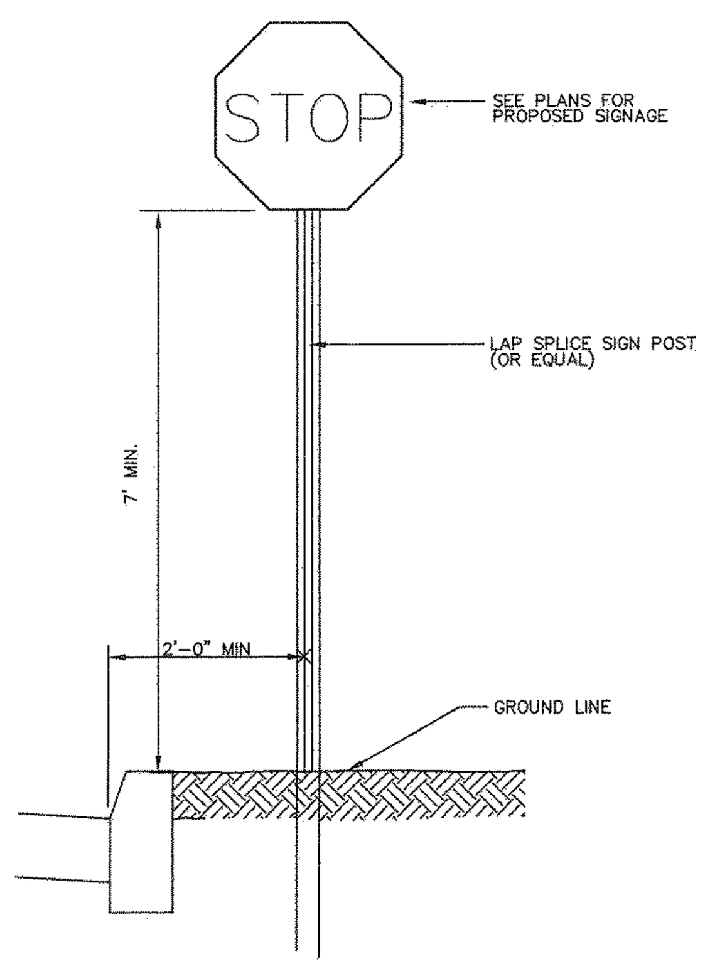


CURB SIZE	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E
9"X 18"	18"	6"	17 ½"	4 ½"	9"

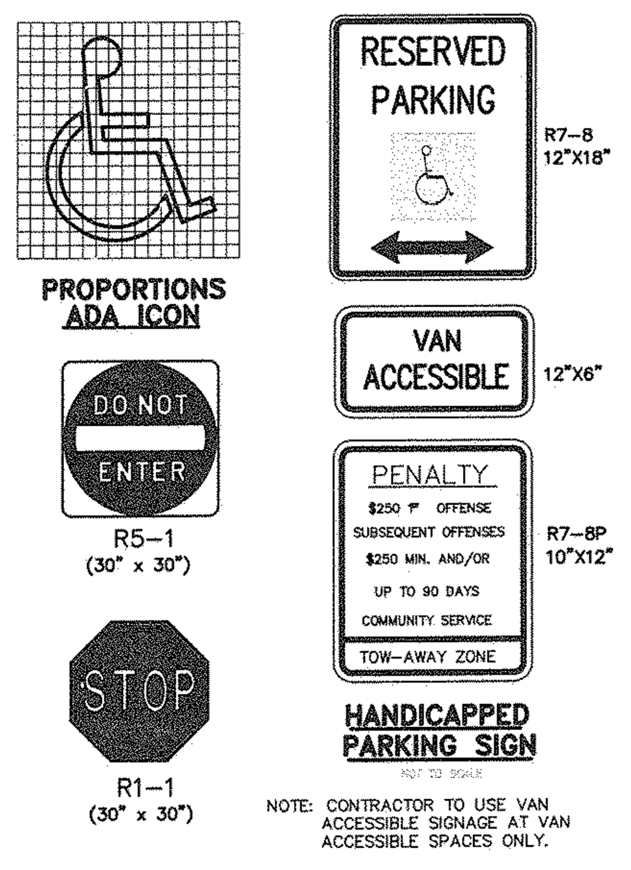
SECTION "A - A"

METHOD OF DEPRESSING CURB
NOT TO SCALE

NOTE: DEPRESSED CURB TO BE FLUSH WITH PAVEMENT AT BARRIER FREE RAMPS.

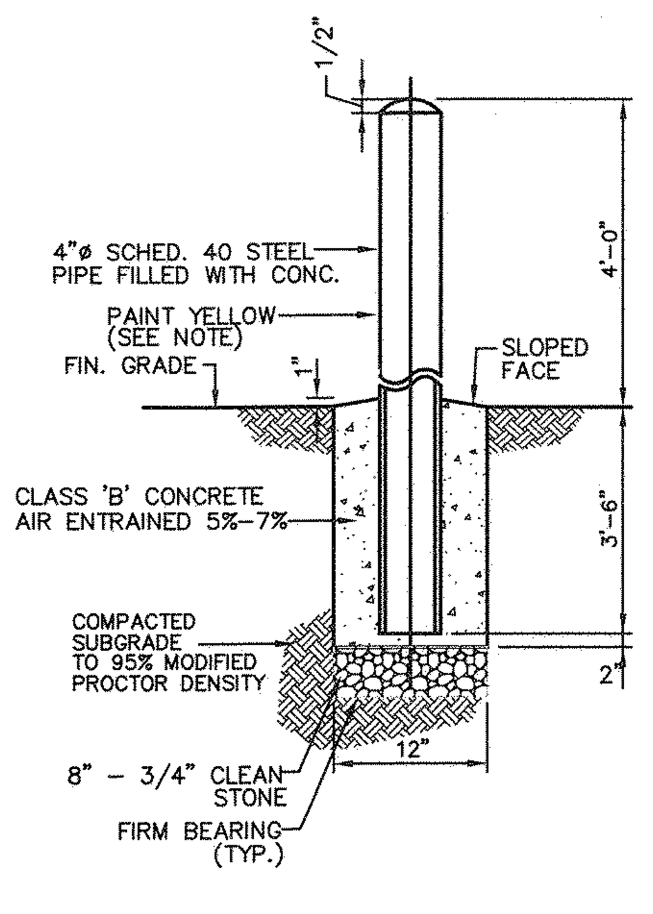


SIGN MOUNTING DETAIL
NOT TO SCALE



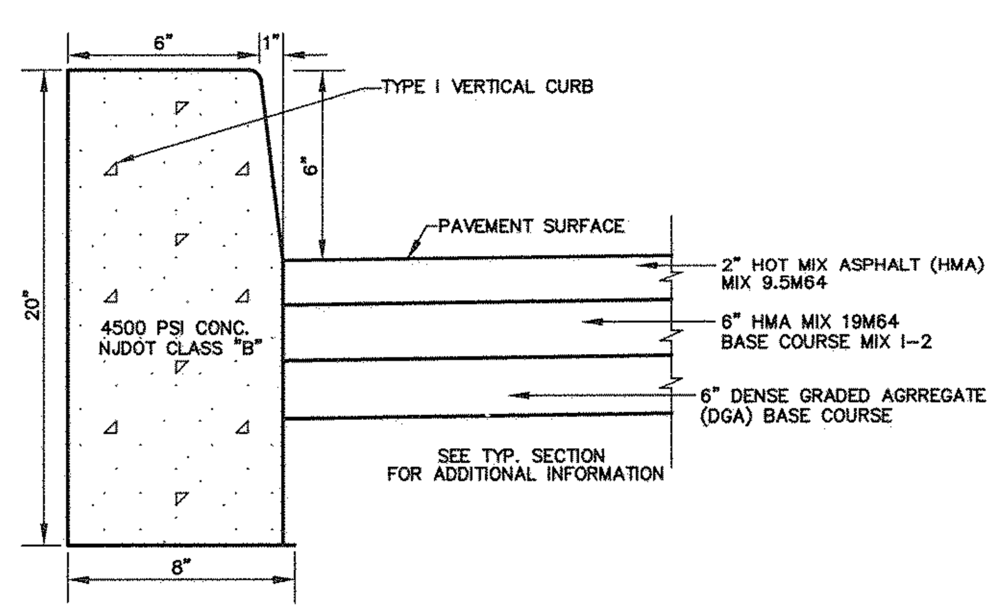
NOTE: CONTRACTOR TO USE VAN ACCESSIBLE SIGNAGE AT VAN ACCESSIBLE SPACES ONLY.

SIGNAGE DETAILS
NOT TO SCALE

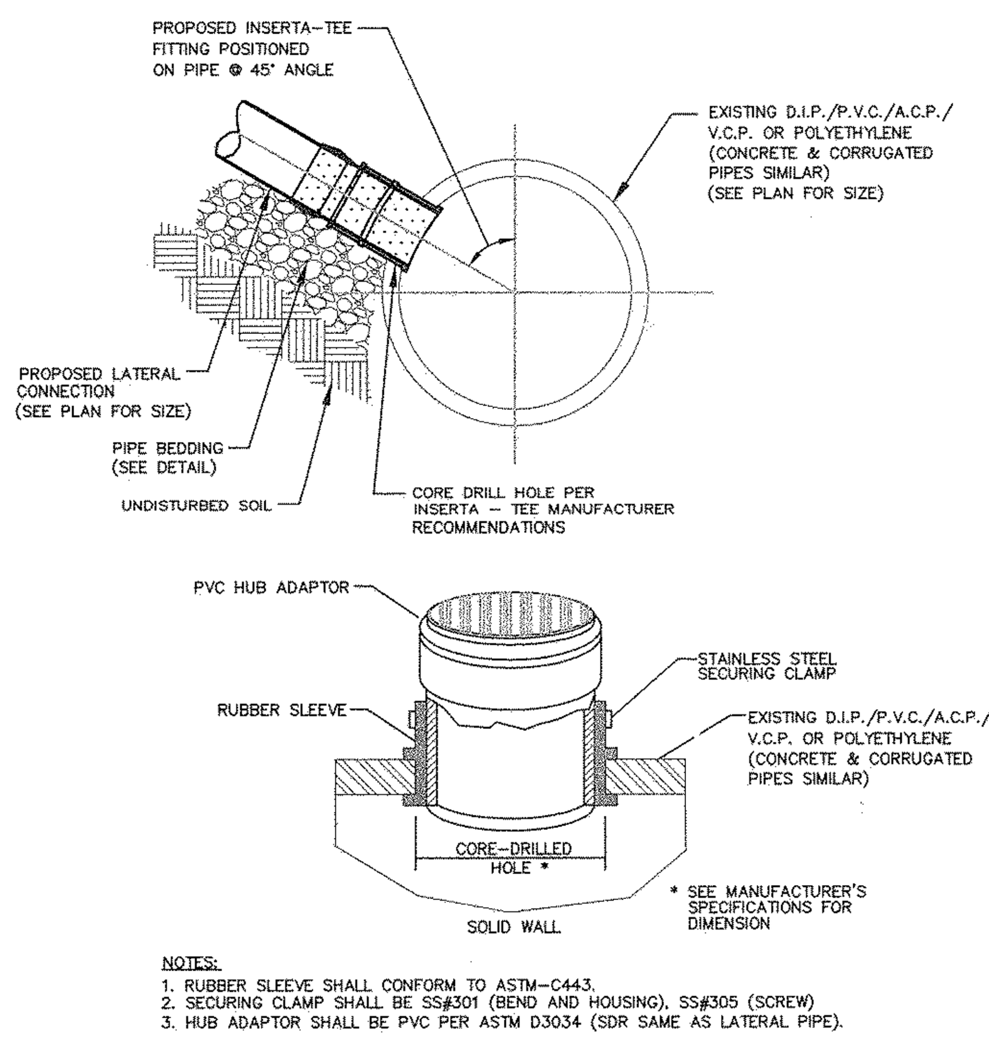


4" BOLLARD DETAIL
NOT TO SCALE

NOTE:
PAINT SHALL BE:
PRIMER 1989 NJDOT SPEC. O. 912.15
YELLOW PAINT 1989 NJDOT SPEC. NO. 912.31
(OR EQUAL)



COUNTY CONCRETE VERTICAL CURB AND PAVEMENT SECTION
NOT TO SCALE



NOTES:
1. RUBBER SLEEVE SHALL CONFORM TO ASTM-C443.
2. SECURING CLAMP SHALL BE SS#301 (BEND AND HOUSING), SS#305 (SCREW)
3. HUB ADAPTOR SHALL BE PVC PER ASTM D3034 (SDR SAME AS LATERAL PIPE).

DETAIL OF INSERTA TEE CONNECTION
N.T.S.

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

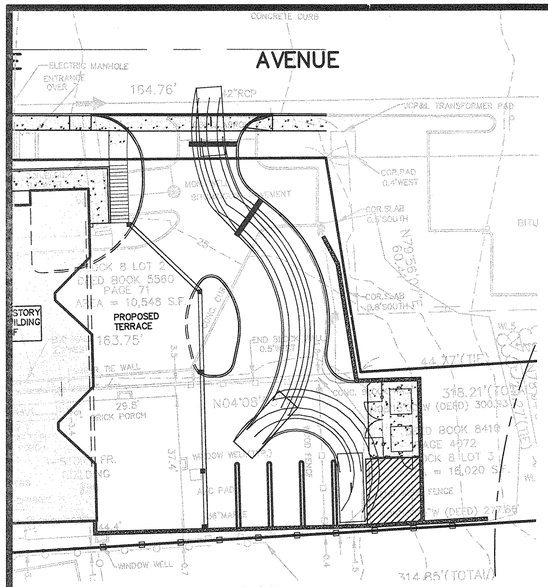
TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY – NEW JERSEY

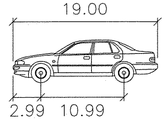
KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

CONSTRUCTION DETAILS

FILENAME: CD-1
DRAWN BY: KTS
DATE: 12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275

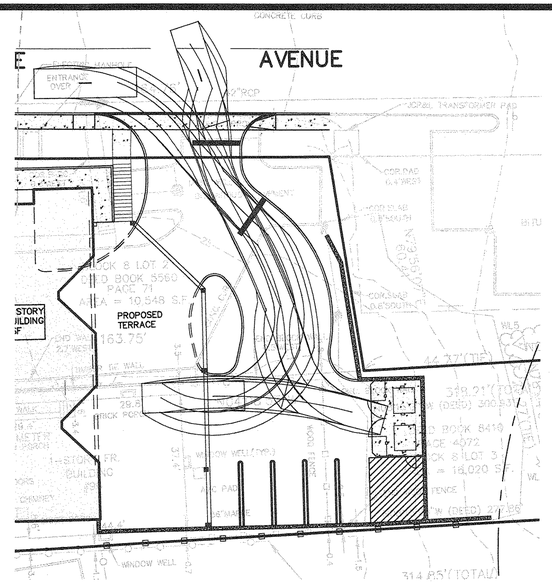


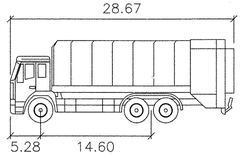


PM feet

Width	: 6.99
Track	: 6.00
Lock to Lock Time	: 6.0
Steering Angle	: 31.6

CAR PARKING STALL TURNING TEMPLATE AND PROFILE

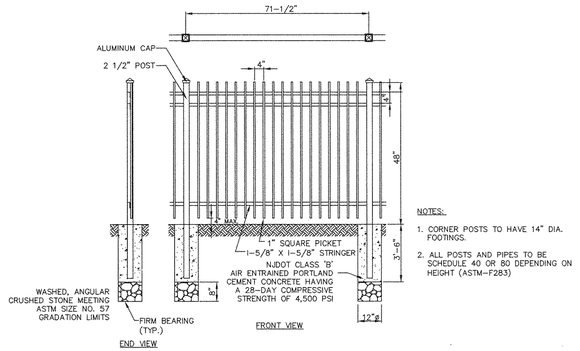




REFUSE 3AXLE feet

Width	: 8.20
Track	: 8.20
Lock to Lock Time	: 6.0
Steering Angle	: 35.3

GARBAGE TRUCK TURNING TEMPLATE AND PROFILE

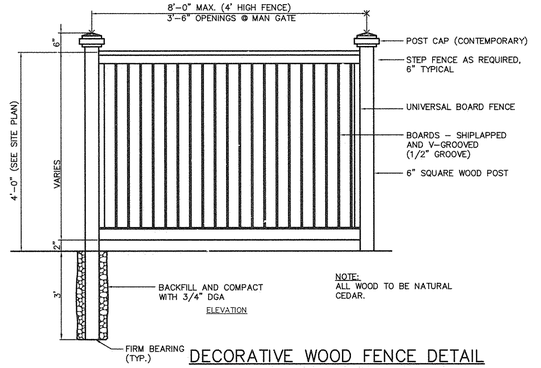


NOTES:

1. CORNER POSTS TO HAVE 14" DIA. FOOTINGS.
2. ALL POSTS AND PIPES TO BE SCHEDULE 40 OR 80 DEPENDING ON HEIGHT (ASTM-F283)

48" ALUMINUM FENCE DETAIL (FALL PROTECTION)

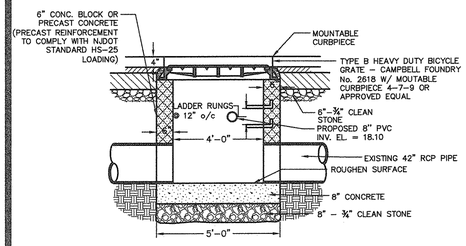
NOT TO SCALE



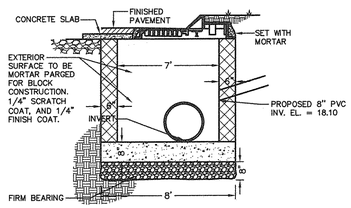
NOTE:
ALL WOOD TO BE NATURAL CEDAR.

DECORATIVE WOOD FENCE DETAIL

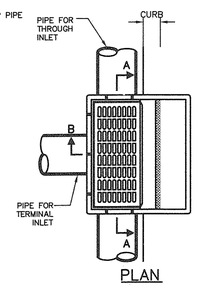
NOT TO SCALE



SECTION A-A FOR THROUGH INLET



SECTION B-B FOR THROUGH INLET



PLAN

NOTES:

1. ALL PRECAST CONCRETE STRUCTURES, CONCRETE BLOCK, OR FORM-IN-PLACE CONCRETE SHALL BE MADE OF NJDOT CLASS 'B', AIR ENTRAINED PORTLAND CEMENT CONCRETE HAVING A 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI.
2. ALL MATERIALS SHALL BE SUITABLY COMPACTED
3. LADDER RUNGS SHALL BE PROVIDED IN ALL STRUCTURES EVERY 12" STARTING A MAXIMUM OF 12" FROM THE TOP OF THE CONCRETE INFILL TO WITHIN NO MORE THAN 24" FROM THE GRATE.
4. INSTALL LADDER RUNGS ON SIDE FACING TRAFFIC.
5. LADDER RUNGS TO COMPLY WITH ASTM C478 OR SPECIFIED DETAIL.
6. STRUCTURE SHALL BE INSTALLED ON 8" THICK PAD OF ¾" CLEAN STONE INSTALLED ON FIRM BEARING.
7. PRIOR TO ORDERING, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL FOR ALL STRUCTURES, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE, INDICATING THAT THE STRUCTURE IS DESIGNED FOR HS-25 LOADING.
8. STRUCTURE SHALL BE INSTALLED ON 8" THICK PAD OF ¾" CLEAN STONE INSTALLED ON FIRM BEARING.

TYPE 'B' MODIFIED INLET DETAIL

NOT TO SCALE

4/20/18	REVISED PER BOROUGH REVIEW	KS

PRELIMINARY/FINAL MAJOR SITE PLANS

THE RIVERMARK AT MAPLE COVE

TAX MAP LOTS 2 & 3 IN BLOCK 8
BOROUGH OF RED BANK
MONMOUTH COUNTY - NEW JERSEY

KCE
COA 24GA28049700
Kennedy Consulting Engineers, LLC
211 Maple Avenue
Red Bank, New Jersey 07701
732.212.9393 TEL • 732.212.9399 FAX

CONSTRUCTION DETAILS

8 OF 8

FILENAME:	CD-2
DRAWN BY:	KTS
DATE:	12/15/17

JAMES A. KENNEDY, P.E.
NEW JERSEY PROFESSIONAL ENGINEER NO. 41275