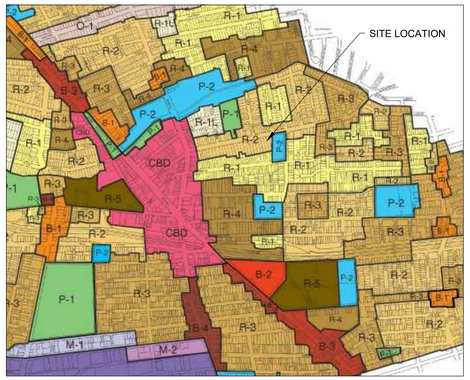
PRELIMINARY AND FINAL SITE PLAN APPROVAL
REMOTE PARKING LOT

FOR

MADISON AVE ELEMENTARY SCHOOL
164 ORANGE AVENUE
BLOCK 78 / LOT 26
IRVINGTON, ESSEX COUNTY, NEW JERSEY

FIRM MAP - ZONE X
MAP 34013C0151F # 151/200
JUNE 4, 2007

ZONING MAP
R2 - TWO FAMILY RESIDENTIAL

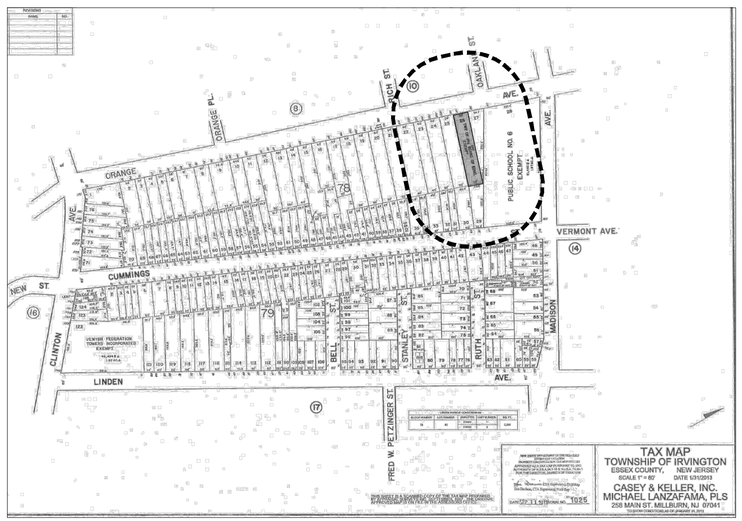


GENERAL NOTES

1. ALL CONSTRUCTION AND DEMOLITION SHALL CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. CONTRACTOR HAS SOLE RESPONSIBILITY FOR SITE SAFETY; WAYS, MEANS, AND METHODS OF CONSTRUCTION; AND SHALL CONFORM TO AND ABIDE BY ALL CURRENT OSHA STANDARDS OR REGULATIONS. SAFE CONSTRUCTION PRACTICES REMAIN THE OBLIGATION OF THE CONTRACTOR. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE FEDERAL, STATE, AND LOCAL PERMITS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL PERFORM THE WORK IN A FINISHED AND WORKMANLIKE MANNER TO THE SATISFACTION OF THE OWNER AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
3. ALL CONTRACTORS MUST CALL THE NEW JERSEY ONE CALL SYSTEM (1-800-272-1000) TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO ANY DEMOLITION, CONSTRUCTION, ABANDONMENT, SOILS INVESTIGATION, AND/OR EXCAVATIONS.
4. EXISTING UTILITY INFORMATION AS SHOWN HEREON IS BASED UPON PROVIDED UTILITY MARK-OUTS WHICH WERE OFFSITE AT THE TIME OF THE TOPOGRAPHIC SURVEY.
5. THE OWNER AND CONTRACTOR ARE DIRECTED TO THE FACT THAT THE APPROXIMATE LOCATIONS OF UTILITY STRUCTURES AND FACILITIES (INCLUDING BUT NOT LIMITED TO SANITARY SEWERS, STORM SEWERS, POTABLE WATER LINES AND APPURTENANCES, NATURAL GAS LINES, ELECTRIC, TELEPHONE AND CATV LINES AND UNDERGROUND STORAGE TANKS) THAT MAY BE ENCOUNTERED WITHIN AND ADJACENT TO THE LIMITS OF THE WORK ARE SHOWN ON THE PLANS. THE ACCURACY AND COMPLETENESS OF THIS INFORMATION IS NOT GUARANTEED BY THE ENGINEER, AND THE OWNER AND CONTRACTOR ARE ADVISED TO VERIFY (IN THE FIELD) ALL THE FACTS CONCERNING THE LOCATION AND ELEVATION OF THESE UTILITIES OR OTHER CONSTRUCTION OBSTACLES IMPACTED BY NEW CONSTRUCTION PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER, IN WRITING, PRIOR TO CONSTRUCTION, OF ANY DISCREPANCIES WHICH MAY AFFECT THE PROJECT DESIGN.
6. THE ENGINEER HAS NOT PERFORMED ANY SUBSURFACE INVESTIGATION TO IDENTIFY UNDERGROUND STRUCTURES AND/OR ANY SUBSURFACE CONTAMINATION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE CLEANUP WITHIN THE CONSTRUCTION AREA AND SHALL DISPOSE OF DEBRIS IN ACCORDANCE WITH ANY LOCAL, STATE, AND FEDERAL REGULATIONS.
8. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION; UNLESS OTHERWISE SUPERSEDED BY PROJECT DETAILS AND SPECIFICATIONS. ALL MATERIAL, AND LABOR COSTS SHALL BE FIXED FOR THE DURATION OF THE CONSTRUCTION CONTRACT.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS INCLUDING ROAD OPENING PERMITS, PREPARATION OF TRAFFIC CONTROL PLANS, INSTALLATION AND MAINTENANCE OF TRAFFIC CONTROL, AND COORDINATION OF ALL INSPECTIONS REQUIRED BY THE TOWNSHIP OF IRVINGTON, COUNTY OF ESSEX, IRVINGTON WATER AND SEWER, PUBLIC SERVICE ELECTRIC & GAS, AND ANY OTHER APPLICABLE AGENCY HAVING JURISDICTION OVER THE PROJECT.
10. ANY DAMAGE TO PUBLIC STREETS, CURBS, SIDEWALKS AND UTILITIES AS A RESULT OF SITE CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR.
11. CONSTRUCTION MAY REQUIRE MULTIPLE MOBILIZATIONS, CONTRACTOR SHALL COORDINATE PROPOSED WORK SCHEDULE AND APPROACH WITH OWNER.
12. ON GOING OPERATIONS MAY CONTINUE WITHIN PORTIONS OF THE FACILITY. CONTRACTOR SHALL MAINTAIN ACCESS AS APPROPRIATE AND SHALL COORDINATE WITH OWNER.
13. ALL INTERRUPTIONS TO UTILITY SERVICE, ACCESS, OR OPERATIONS OF ANY KIND REQUIRE PRIOR NOTIFICATION AND APPROVAL BY OWNER.
14. THE CONTRACTOR SHALL PROVIDE NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES AS MAY BE NECESSARY WITHIN THE PROJECT FOR THE PROTECTION AND THE SAFETY OF THE PUBLIC AND MAINTAIN THROUGHOUT CONSTRUCTION.

LOCATION MAP
NJ-GEOGRAPHICAL INFORMATION NETWORK - SCALE: 1"=100'

TAX MAP / 200' RADIUS
SHEET 15 - TOWNSHIP OF IRVINGTON



164 ORANGE AVENUE, IRVINGTON NJ				
ZONE R2 - 2 FAMILY RESIDENTAIL				
REGULATION	PERMITTED	EXISTING	PROPOSED	(V) / (W)
USE	1 & 2 FAMILY DWELLING	2 STORY DWELLING	COMMERCIAL OFF-STREET PARKING FACILITY	(V)
MAX DWELLING (D.U./AC)	20	N/A	N/A	OK
MIN LOT AREA (SF)	NOTE 1	12,500 SF (0.287 AC)	12,500 SF (0.287 AC)	OK
MAX COVERAGE (%)	NOTE 1	48%	89%	OK
MIN LOT WIDTH (FT)	NOTE 1	50 FT	50	OK
FRONT YARD (FT)	15 FT	33.1 FT	N/A	OK
SIDE (FT)	0/0	6 FT	N/A	OK
REAR (FT)	15 FT	180 FT	N/A	OK
MAX STORIES	2.5 STY	2.0	N/A	OK
MAX HEIGHT (FT)	35 FT	N/A	N/A	OK
MIN DRIVEWAY WIDTH	10 FT	N/A	20 FT	OK

NOTE 1: NO SUCH REGULATION EXIST FOR A PARKING LOT

1	G100	TITLE SHEET
2	V101	TOPOGRAPHIC SURVEY
3	C100	DEMOLITION & SITE CLEARING
4	C101	SITE DIMENSION PLAN
5	C102	LANDSCAPING PLAN
6	C103	GRADING, DRAINAGE & UTILITY PLAN
7	C104	LIGHTING PLAN
8	C105	SOIL EROSION & SEDIMENT CONTROL PLAN
9	C106	SOIL EROSION & SEDIMENT CONTROL NOTES
10	C107	CONSTRUCTION DETAILS

SHEET INDEX

200' PROPERTY OWNER LIST

BLOCK	LOT	PROPERTY LOCATION	OWNER'S NAME	OWNER'S ADDRESS
			BLOCK 78 LOT 26	
46	18	7-11 OAKLAND ST	BEASLEY,JOHN & BEASLEY, CLARA J	5 OAKLAND ST. IRVINGTON N.J.07111
46	19	3 OAKLAND ST	MONTGOMERY,MICHELLE R	3 OAKLAND ST. IRVINGTON N.J.07111
46	20	167 ORANGE AVENUE	FUQUA,DAISY	167 ORANGE AVENUE, IRVINGTON N.J.07111
46	21	165 ORANGE AVENUE	MCNAIR,LOTTIE M	2720 ALLEN AVE. UNION NJ 07083
46	22	161 ORANGE AVENUE	BROWN MCCOY, CARMELIA	161 ORANGE AVE. IRVINGTON N.J.07111
46	23	159 ORANGE AVENUE	NOEL,LEO & CHARPENTER, RUTHE	159 ORANGE AVE. IRVINGTON N.J.07111
46	24	157 ORANGE AVENUE	THOMAS, MELODY A & THOMAS, JUANITA C	155-157 ORANGE AVE. IRVINGTON N.J.07111
46	25	155 ORANGE AVENUE	THOMAS, MELODY A & THOMAS, JUANITA C	155-157 ORANGE AVE. IRVINGTON N.J.07111
46	26	151 ORANGE AVENUE	FLOWERS,ALBERT & TRACEY	151 ORANGE AVE. IRVINGTON N.J.07111
47	21	181 ORANGE AVENUE	TOLPO MAC	181 ORANGE AVE. IRVINGTON N.J.07111
47	22	177-179 ORANGE AVENUE	GLOVER,THOMAS & MICHELE	177-179 ORANGE AVE. IRVINGTON N.J.07111
47	23	175 ORANGE AVENUE	GREEN, WILLA D	175 ORANGE AVE. IRVINGTON N.J.07111
47	24	10 OAKLAND ST.	CAP, EMILIA	10-12 OAKLAND STREET,IRVINGTON N.J.07111
78	21	144-46 ORANGE AVENUE	SHAREEF, SALEEM	144-46 ORANGE AVE. IRVINGTON N.J.07111
78	22	148-150 ORANGE AVENUE	HUNTER, MARKLAND C	148-150 ORANGE AVE. IRVINGTON N.J.07111
78	23	152 ORANGE AVENUE	LARMONY, LEONARD & JACQUELINE	154 ORANGE AVE. IRVINGTON N.J.07111
78	24	156-158 ORANGE AVENUE	BURNETT,M & R C/O AUGUSTINE, ELIZABETH	156 ORANGE AVE. IRVINGTON N.J.07111
78	25	160 ORANGE AVENUE	THOMPSON,TERRY	160 ORANGE AVE. IRVINGTON N.J.07111
78	26	164 ORANGE AVENUE	IRVINGTON BOARD OF EDUCATION	1 UNIVERSITY PLACE 4TH FL. IRVINGTON N.J.07111
78	27	168-170 ORANGE AVENUE	JAMES, KWAME	168-170 ORANGE AVE. IRVINGTON N.J.07111
78	28	173 MADISON AVE	IRVINGTON BOARD OF EDUCATION	1 UNIVERSITY PLACE 4TH FL. IRVINGTON N.J.07111
78	29	115 CUMMINGS ST	HARDING ERLA	115 CUMMINGS ST. IRVINGTON N.J.07111
78	30	111-113 CUMMINGS ST	PERDOMO, LUIS & ENCARNACION, CLARA	113 CUMMINGS ST. IRVINGTON N.J.07111
78	31	109 CUMMINGS ST	TUCKER, PARILEE	109 CUMMINGS ST. IRVINGTON N.J.07111
78	32	107 CUMMINGS ST	GOMEZ, LOPEZ, CINTYA V	107 CUMMINGS ST. IRVINGTON N.J.07111
78	33	99-101CUMMINGS ST	HOUCHENS, HARRY L. JR., & SHELIA A	99-101 CUMMINGS ST. IRVINGTON N.J.07111
78	34	97 CUMMINGS ST	RASCOE, ROBERT N & ANNIE L	97 CUMMINGS ST. IRVINGTON N.J.07111
78	35	93-95 CUMMINGS ST	HOLLOWAY, JAZMINE	93 CUMMINGS ST. IRVINGTON N.J.07111

UTILITY COMPANY LIST

Municipal Sanitary Sewers, Municipal Storm Sewers

Township of Irvington
Department of Public Works
Civic Square
Irvington, N.J.07111 973-399-6690

County Roads, County Storm Sewers

County of Essex
900 Bloomfield Avenue
Verona, N.J. 07044 973-226-8506

Sanitary Sewer Treatment Facility, Sanitary Trunk Sewer

Joint meeting of Essex and Union County Sewers
500 South First St
Elizabeth, N.J. 07202 908-353-1313
Garden State Parkway P.O. 5050
Woodbridge, N.J. 07095 732-442-8600

TITLE SHEET NOTES

1. THIS PROJECT CONSISTS OF THE DEMOLITION OF AN EXISTING 2 STORY FRAME DWELLING ON A 12,500 SF LOT FOR CONVERSION TO A PARKING LOT FOR THE NEWLY ESTABLISHED MADISON ELEMENTARY SCHOOL IN IRVINGTON NEW JERSEY.
2. PROJECT SITE KNOWN AND DESIGNATED AS BLOCK 78, LOT 26, AS SHOWN ON THE CURRENT TAX ASSESSMENT MAP (SHEET 15) OF THE TOWNSHIP OF IRVINGTON NEW JERSEY, CONTAINING 12,500 SQUARE FEET (0.287 ACRES) OF LAND.
3. HORIZONTAL DATUM: DEED. VERTICAL DATUM: NAVD 88.
4. THESE PLANS HAVE BEEN PREPARED FOR THE PURPOSE OF SITE PLAN REVIEW AND APPROVAL. THE PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL FINAL APPROVALS HAVE BEEN OBTAINED, AND ALL CONDITIONS OF THE APPROVALS HAVE BEEN SATISFIED.
5. THIS PLAN CONSISTS OF TEN (10) SHEETS. INDIVIDUAL PAGES SHALL NOT BE UTILIZED FOR CONSTRUCTION ON THEIR OWN AS NOTES AND INFORMATION PROVIDED ON OTHER SHEETS MAY IMPACT WORK REQUIREMENTS. CONTRACTOR SHALL REVIEW AND UTILITIES ENTIRE PLAN SET FOR CONSTRUCTION.
6. CENTER SITE COORDINATES: 691,529.28 N, 567,138.09 E, PER THE NJ STATE PLANE COORDINATE SYSTEM.
7. THE PROJECT IS NOT LOCATED IN AN AREA DETERMINED TO BE WITHIN 100 YEAR FLOODPLAIN, PURSUANT TO THE PRELIMINARY FLOOD INSURANCE RATE MAP (FIRM) #34013C0151F, DATED JUNE 4, 2007, PANEL #151F OF 200.
8. NO WETLANDS OR WETLAND TRANSITION APPEAR TO EXIST ONSITE.
9. NO HAZARDOUS MATERIALS ARE PROPOSED ON-SITE.
10. NEW CURBS AND SIDEWALK ARE REQUIRED AT THE PROPERTY FRONTAGES. ALL WORK SHALL CONFORM TO CITY STANDARDS AND SHALL BE REPLACED IN KIND (GRANITE CURBS ARE REQUIRED AT FRONTAGES).
11. A SOIL EROSION AND SEDIMENT CONTROL PERMIT MUST BE OBTAINED PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY AT THE SITE.
12. A STREET AND/OR OCCUPANCY PERMIT MUST BE OBTAINED FROM THE DIVISION OF TRAFFIC AND SIGNALS PRIOR TO ANY WORK IN OR OCCUPANCY OF THE PUBLIC RIGHT OF WAY.
13. A SIDEWALK CONSTRUCTION PERMIT MUST BE OBTAINED FROM THE DIVISION OF TRAFFIC AND SIGNALS PRIOR TO SUCH WORK.

OWNER'S CERTIFICATION

I HEREBY CERTIFY THAT THE APPLICANT, IRVINGTON BOARD OF EDUCATION, IS EITHER THE OWNER OF THE LAND OR THE CONTRACT PURCHASER OF THE LAND ON WHICH THE SUBJECT APPLICATION IS BEING DEVELOPED.

OWNER DATE

NAME (PRINT) TITLE (PRINT)

THIS APPLICATION No. _____ IS APPROVED BY THE IRVINGTON ZONING BOARD OF ADJUSTMENT.

BOARD CHAIRMAN DATE

BOARD SECRETARY DATE

BOARD ENGINEER DATE

ARCHITECT: N/A

OWNER / APPLICANT
IRVINGTON BOARD OF EDUCATION

DRAWING DISCLAIMER:
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REV#	REV DATE	DESCRIPTION
1	10/2/19	PLAN SET RESUBMISSION (STORMWATER & DRAINAGE)

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

SIGNATURE & SEAL

GRANT ENGINEERING & CONSTRUCTION GROUP LLC

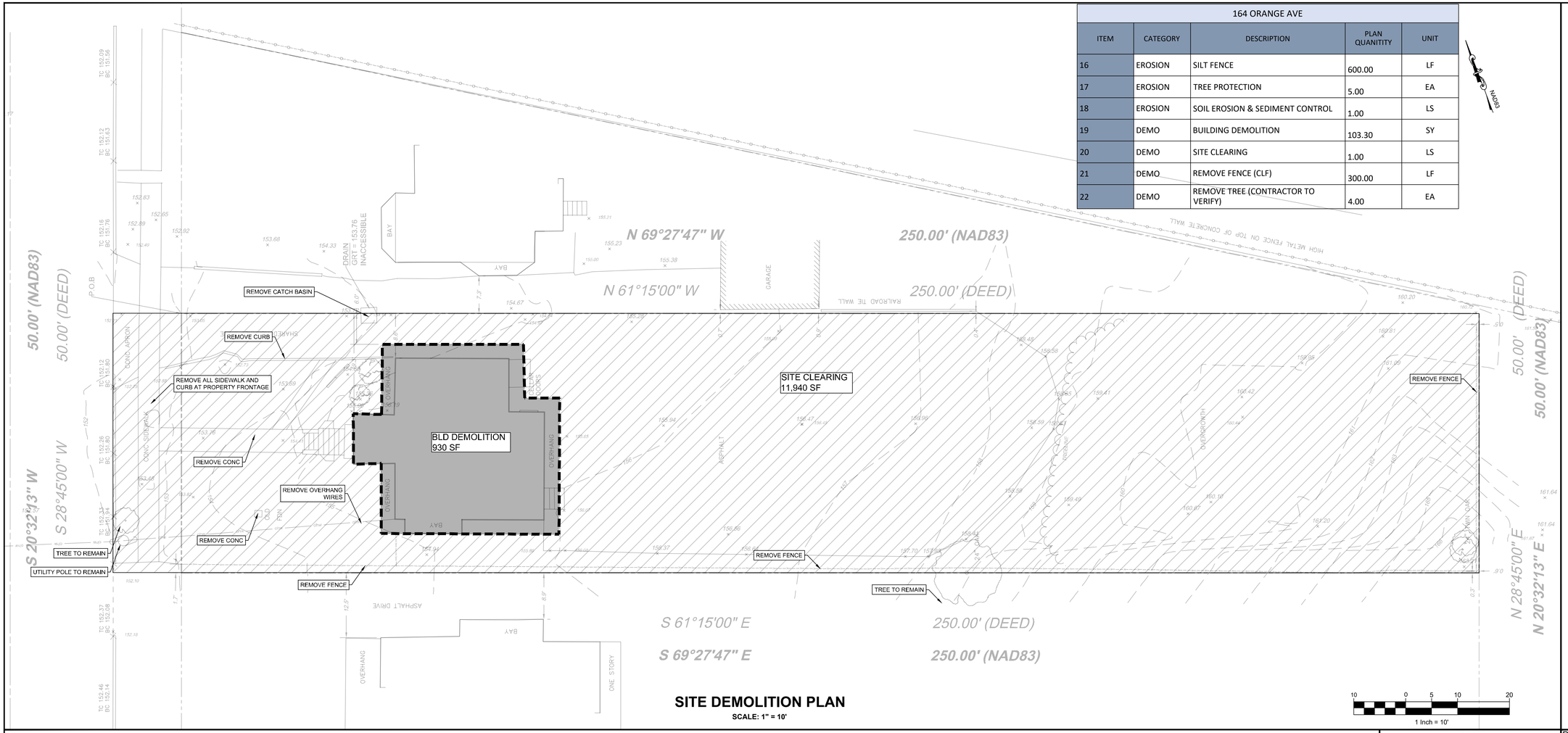
BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:
REMOTE PARKING LOT
PRELIMINARY AND FINAL
SITE PLAN APPROVAL

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON — COUNTY OF ESSEX — NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	G100
GECG PROJECT #:	190.329	SHEET #:	1 OF 10

164 ORANGE AVE				
ITEM	CATEGORY	DESCRIPTION	PLAN QUANITITY	UNIT
16	EROSION	SILT FENCE	600.00	LF
17	EROSION	TREE PROTECTION	5.00	EA
18	EROSION	SOIL EROSION & SEDIMENT CONTROL	1.00	LS
19	DEMO	BUILDING DEMOLITION	103.30	SY
20	DEMO	SITE CLEARING	1.00	LS
21	DEMO	REMOVE FENCE (CLF)	300.00	LF
22	DEMO	REMOVE TREE (CONTRACTOR TO VERIFY)	4.00	EA



SITE DEMOLITION PLAN

SCALE: 1" = 10'

1 Inch = 10'

ARTICLE II: DEMOLITION OF BUILDINGS

200-6. EXTERMINATION OF BUILDINGS.

NO BUILDING OR STRUCTURE WITHIN THE TOWNSHIP OF IRVINGTON MAY BE DEMOLISHED OR REMOVED UNLESS THE SAME IS FIRST COMPLETELY EXTERMINATED IN ACCORDANCE WITH § 449-4 OF THIS CODE TO RID THE PREMISES OF INFESTATION OF VERMIN AND RATS. THE BUILDING INSPECTOR SHALL REQUIRE A CERTIFICATION IN WRITING FROM A REPUTABLE EXTERMINATING COMPANY THAT IT HAS TREATED THE BUILDING AND PREMISES FOR THE EXTERMINATION OF VERMIN AND RATS. THE CERTIFICATION SHALL SET FORTH THE DATE ON WHICH THE BUILDINGS AND PREMISES WERE TREATED, AND A MINIMUM PERIOD OF SEVEN DAYS MUST ELAPSE FROM THE TIME PREMISES WERE TREATED BEFORE A DEMOLITION PERMIT WILL BE ISSUED.

200-7. NOTIFICATION OF UTILITY COMPANIES.

BEFORE A BUILDING OR STRUCTURE MAY BE DEMOLISHED OR MOVED, THE OWNER OR AGENT SHALL NOTIFY ALL UTILITIES HAVING SERVICE CONNECTIONS WITHIN THE BUILDING, SUCH AS WATER, ELECTRIC, GAS, SEWER AND OTHER CONNECTIONS. A PERMIT TO DEMOLISH OR REMOVE A BUILDING SHALL NOT BE ISSUED UNTIL A RELEASE IS OBTAINED FROM THE UTILITIES STATING THAT THEIR RESPECTIVE SERVICE CONNECTIONS AND APPURTENANT EQUIPMENT, SUCH AS METERS AND REGULATORS, HAVE BEEN REMOVED OR SEALED AND PLUGGED IN A SAFE MANNER.

200-8. DUST AND WINDBORNE MATTER.

IN DEMOLISHING ANY BUILDING OR STRUCTURE OR PART THEREOF, ALL BRICKS, TIMBERS AND OTHER PARTS OF EACH STORY SHALL BE LOWERED TO THE GROUND IMMEDIATELY AFTER DISPLACEMENT. THE MATERIAL TO BE REMOVED SHALL BE PROPERLY WET TO LAY THE DUST INCIDENT TO ITS REMOVAL.

- FRONT YARD. 2 STORY FRAME DWELLING TO BE DEMOLISHED
- CENTERLINE OF DRIVEWAY IS PROPERTY BOUNDARY
- CURB, PAVEMENT, CONCRETE WALKS TO BE REMOVED

- FRONT YARD. TREE AND UTILITY POLE AND SIGN TO REMAIN
- CHAIN-LINK FENCE TO BE REMOVED
- SIDEWALK AND CURB AT PROPERTY FRONTAGE TO BE REMOVED

- FRONT YARD. INCLUDED IN SITE CLEARING.
- TREE TO BE REMOVED
- CHAIN-LINK FENCE TO BE REMOVED
- BUILDING TO BE DEMOLISHED

- FRONT YARD. INCLUDED IN SITE CLEARING.
- TREE TO BE REMOVED
- CHAIN-LINK FENCE TO BE REMOVED
- BUILDING TO BE DEMOLISHED

- SIDE YARD EAST. CENTERLINE PAVEMENT IS PROPERTY MEETS
- SHARED DRIVEWAY WILL AS SHARED

- REAR YARD PARKING LOT TO BE DEMOLISHED
- HOUSE TO BE DEMOLISHED

- REAR YARD PARKING LOT TO BE DEMOLISHED

- REAR YARD. UPHILL, OVERGROWN, FALLEN TREES.
- INTERIOR TREES TO BE REMOVED.

- REAR YARD WEST. ALL PAVEMENT TO BE REMOVED

- SIDE YARD WEST. VIEW FROM REAR YARD
- CHAIN-LINK FENCE TO BE REMOVED
- HOUSE TO BE DEMOLISHED

GENERAL LEGEND:

- CATCH BASIN/STORM INLET
- MANHOLE
- TELECOMMUNICATION MANHOLE
- ELECTRICAL MANHOLE
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- ELECTRIC METER
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- SIGN
- LIGHT POLE
- UTILITY POLE
- EXISTING TREE
- CLEANOUT
- DOWNSPOUT
- BOLLARD
- WATER LINE
- GAS LINE
- UNDERGROUND ELECTRIC
- ELECTRIC/TELEPHONE/CABLE LINE
- SANITARY SEWER LATERAL
- OVERHANG WIRES
- SANITARY SEWER LINE
- PROPERTY LINE
- CHAIN-LINK FENCE (CLF)
- PROPOSED FENCE
- 12.64 EXISTING SPOT ELEVATION
- TC 10.50 / BC 10.00 TOP CURB / BOTTOM CURB

CALL BEFORE YOU DIG
1-800-272-1000
It's THE LAW
NEW JERSEY ONE CALL Dig Safely.

CONTRACTOR TO CALL AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION WORK.

DRAWING DISCLAIMER:

REV#	REV DATE	DESCRIPTION

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

GRANT
ENGINEERING & CONSTRUCTION GROUP LLC

SIGNATURE & SEAL

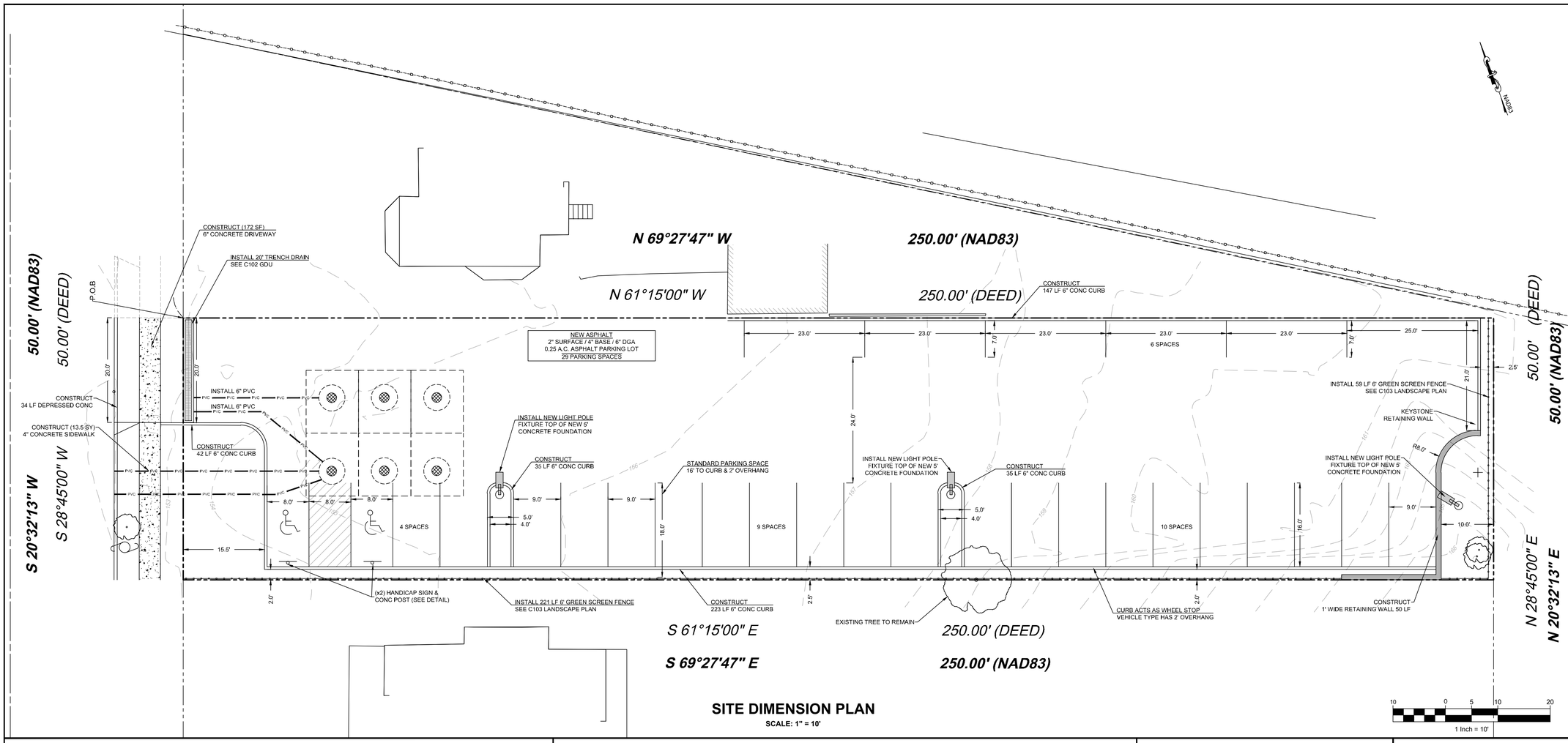
BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:

DEMOLITION PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON — COUNTY OF ESSEX — NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C100
GECG PROJECT #:	190.329	SHEET #:	3 OF 10



SITE DIMENSION PLAN

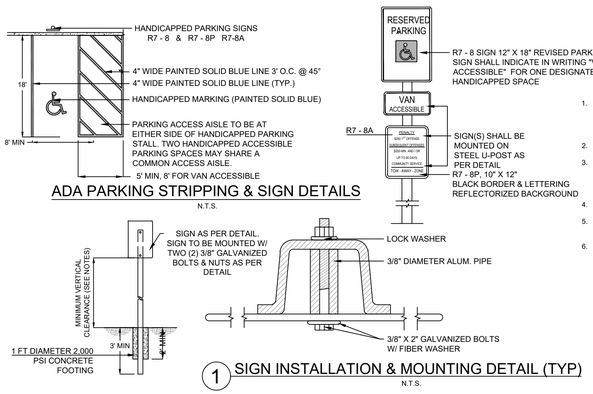
SCALE: 1" = 10'

CONTRACTOR NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS NECESSARY FOR CONSTRUCTION IN ACCORDANCE WITH THE EXISTING LOCAL, COUNTY, OR STATE REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION IN THESE MATTERS.
2. THE CONTRACTOR IS RESPONSIBLE FOR AND SHALL VERIFY ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.
3. ALL GRADING OPERATIONS SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND STRUCTURES AND SHALL ELIMINATE PONDING AREAS. ALL RE-GRADED AREAS AT THE SITE WHICH ARE NOT DESIGNATED AS PAVED OR GRAVEL AREAS SHALL BE TOP SOILED AND SEEDED AND SHALL BE STABILIZED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY IAND THE CONTRACT SPECIFICATIONS.
4. THE CONTRACTOR SHALL MAKE ALL NECESSARY INVESTIGATIONS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS PRIOR TO BIDDING WORK.
5. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THE LOCATION OF THE UTILITIES WITH THE UTILITY COMPANIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY NEW JERSEY ONE CALL 1-800-272-1000 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION ACTIVITIES.
6. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN MEANS OF INGRESS AND EGRESS TO RESIDENTS THROUGHOUT THE COURSE OF THE WORK AND TO PROVIDE ADEQUATE MAINTENANCE AND PROTECTION OF TRAFFIC.
7. THE CONTRACTOR'S LICENSED SURVEYOR SHALL PROVIDE THE CONSTRUCTION STAKEOUT FOR THE PROJECT.
8. THE CONTRACTOR SHALL TAKE EVERY PRECAUTION NECESSARY TO PRECLUDE DAMAGE TO EXISTING STRUCTURES, FACILITIES, AND UTILITIES DUE TO LOSS OF LATERAL SUPPORT AND/OR CONSTRUCTION LOADINGS. SPECIFIC DETAILS NECESSARY TO ACCOMPLISH SAME SHALL BE SUBMITTED BY THE CONTRACTOR FOR REVIEW AND APPROVAL PRIOR TO COMMENCING CONSTRUCTION.
9. ALL WORK BY THE CONTRACTOR SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE NEW JERSEY STATUTE KNOWN AS CHAPTER 249 OF THE LAWS OF 1948, BEING SECTIONS 34:6-47.1 TO 47.9, INCLUSIVE OF THE REVISED STATUTES OF NEW JERSEY, 1937, AND IN ACCORDANCE WITH THE RULES AND REGULATIONS CONCERNING PRECAUTIONS TO BE TAKEN IN THE PROXIMITY OF HIGH-VOLTAGE LINES FOR THE PREVENTION OF ACCIDENTS PROMULGATED BY THE COMMISSIONER OF THE DEPARTMENT OF LABOR AND INDUSTRY OF THE STATE OF NEW JERSEY,EFFECTIVE DECEMBER 28,1948,ALL AS AMENDED AND SUPPLEMENTED, AND IN ACCORDANCE WITH THE PROVISIONS OF THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND OF SUBPART N,PARAGRAPH 1926.550 OF THE RULES AND REGULATIONS ISSUED UNDER SAID ACT.
10. THE CONTRACTOR IS HEREIN ADVISED THAT ALL WORK TO BE PERFORMED SHALL BE GOVERNED BY THE LOCAL MUNICIPAL ORDINANCES. THIS SHALL INCLUDE THE PROVISIONS IN THEIR CODES WHICH SET FORTH PERMITTED HOURS OF CONSTRUCTION WITHIN THE MUNICIPALITY.
11. THE CONTRACTOR IS ADVISED THAT THEY ARE RESPONSIBLE TO PAY FOR, ACQUIRE AND COMPLY WITH ANY ROAD OPENING PERMITS IF REQUIRED IN CONJUNCTION WITH THE PROPOSED IMPROVEMENTS.
12. THE CONTRACTOR SHALL COMPLY WITH THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES BY THE USDOT.
13. THE CONTRACTOR IS ADVISED THAT HE MUST MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES AND MUST COMPLETELY BACKFILL ALL TRENCHES PRIOR TO NON-DAYLIGHT HOURS.
14. IN ORDER TO MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION, THE CONTRACTOR MAY FIND IT NECESSARY TO UTILIZE STEEL PLATES OVER TRENCHES AT NO ADDITIONAL COST TO THE OWNER.
15. THE HUDSON-ESSEX-PASSAIC COUNTY SOIL CONSERVATION DISTRICT GOVERNS SOIL EROSION AND SEDIMENT CONTROL MEASURES WITHIN THE PROJECT AREA. ACCORDINGLY ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AS PER THE REQUIREMENTS OF THE GOVERNING SOIL CONSERVATION DISTRICT AND AS DIRECTED BY THE ENGINEER.
16. AT CERTAIN TIMES THE SITE MAY BE OCCUPIED BY SEVERAL CONTRACTORS AND IT IS THEREFORE REQUIRED FOR ANY AND ALL CONTRACTORS OCCUPYING THE SITE TO COOPERATE WITH ONE ANOTHER. NO DELAYS RESULTING FROM MULTIPLE CONTRACTORS WORKING ON THE SITE WILL BE CONSIDERED.
17. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE STATE OF NEW JERSEY WORKER HEALTH AND SAFETY ACT IN,J.A.C.12:110 ET SEQI AS AMENDED AND THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT «OSHAI129 CFR 19101, AS AMENDED WITH REGARD TO WORKER AND JOBSITE SAFETY.
18. THE CONTRACTOR SHALL NOTIFY ALL RESIDENTS AND/OR PROPERTY OWNERS AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF THE START OF CONSTRUCTION.
25. NEW CURBS AND SIDEWALK ARE REQUIRED AT THE PROPERTY FRONTAGES. ALL WORK SHALL CONFORM TO TOWNSHIP STANDARDS AND SHALL BE REPLACED IN KIND)
26. A SOIL EROSION AND SEDIMENT CONTROL PERMIT MUST BE OBTAINED FROM THIS OFFICE PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY AT THE SITE.
27. A STREET AND/OR OCCUPANCY PERMIT MUST BE OBTAINED FROM THE DIVISION OF TRAFFIC AND SIGNALS PRIOR TO ANY WORK IN OR OCCUPANCY OF THE PUBLIC RIGHT OF WAY.
28. A SIDEWALK CONSTRUCTION PERMIT MUST BE OBTAINED FROM THE DIVISION OF TRAFFIC AND SIGNALS PRIOR TO SUCH WORK.

164 ORANGE AVE

ITEM	CATEGORY	DESCRIPTION	PLAN QUANITITY	UNIT
1	STORM	INSTALL 6" PVC	92.00	LF
2	STORM	INSTALL 20' TRENCH DRAIN	1.00	EA
3	STORM	INSTALL PRECAST SEPAGE TANK	6.00	EA
4	SITE	DEPRESSED CONC CURB	30.00	LF
5	SITE	6" CONC CURB	465.00	LF
6	SITE	4" CONC SIDEWALK (NJDOT CLASS B)	13.50	SY
7	SITE	6" CONC DRIVEWAY	19.00	SY
8	SITE	1' WIDE RETAINING WALL	53.00	LF
9	SITE	DENSE GRADED AGGREGATE BASE COURSE (6" THICK)	1,208.00	SY
10	SITE	HMA 19M64 BASE COURSE (4" THICK)	208.70	TON
11	SITE	HMA 9.5 M64 SURFACE COURSE (2" THICK)	144.96	TON
12	LANDSCAPING	ARBORVITAE	9.00	EA
13	LANDSCAPING	BOXWOOD SHRUBS	6.00	EA
14	LIGHTING	INSTALL NEW LIGHT POLE FIXTURE	3.00	EA
15	LIGHTING	INSTALL NEW POLE FOUNDATION (CONC)	3.00	EA



DETAIL NOTES

1. ALL POST SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREET & HIGHWAYS".
2. STEEL POST SHALL BE EMBEDDED 3" - 6" MAXIMUM.
3. ALL STEEL POST & BRACKETS SHALL BE CUT, BENT AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATIONS A - 123.
4. SIGN PANEL SIZE SHALL DETERMINE POST TYPE.
5. BOLTS SHALL NOT PROTRUDE MORE THAN 3/4" BEYOND THE NUT WHEN TIGHT, BUT SHALL ENGAGE ALL THREADS IN THE NUT.
6. THE MINIMUM VERTICAL CLEARANCE REQUIREMENTS FOR SIGNS ARE: EDGE OF PAVEMENT TO BOTTOM OF SIGN AS PER SECTION 2A-23 OF THE "MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREET & HIGHWAYS". FINISH GRADE TO BOTTOM OF SIGN SHALL BE 7 FEET MINIMUM FOR SINGLE POST INSTALLATIONS. THE MINIMUM DISTANCE FROM FINISH GRADE TO TOP OF SIGN MUST BE 9 FEET. THE FINAL HEIGHT OF ALL SIGNS MUST MEET OR EXCEED ALL OF THE ABOVE REQUIREMENTS.

NOTES FOR ADA COMPLIANCE

1. CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAPPED) ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDED, BUT ARE NOT LIMITED TO THE FOLLOWING:
   a. PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN ANY DIRECTION
   b. CURB RAMPS - SLOPES SHALL NOT EXCEED 1:12 (8.3%) FOR A MAXIMUM OF SIX (6) FEET. CURB RAMPS SHALL NOT RISE MORE THAN 6" WITHOUT A HANDICAP RAMP.
   c. LANDINGS - SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) CROSS SLOPE.
   d. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL, (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH), THE SLOPE SHALL BE NO GREATER THAN 1:20 (5.0% OR 5/6" PER FOOT) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET, SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HANDRAILS AND "LEVEL" LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE.
   e. DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE UP THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA SHALL BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE APPLICABLE CODE SECTIONS).
2. IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO COMMENCING WORK.
3. AT ALL CROSSWALKS, GC IS TO MAINTAIN A MAXIMUM 2% CROSS SLOPE AND MAXIMUM 5% RUNNING SLOPE. NOTIFY ENGINEER OF ANY DISCREPANCIES IN FIELD.
4. CONTRACTOR SHALL ENSURE A MAXIMUM OF 1/4" VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP OF 1/4" CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.
5. OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN 1/2".

GENERAL LEGEND:

- CATCH BASIN/STORM INLET
- MANHOLE
- TELECOMMUNICATION MANHOLE
- ELECTRICAL MANHOLE
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- ELECTRIC METER
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- SIGN
- LIGHT POLE
- UTILITY POLE
- EXISTING TREE
- CLEANOUT
- DOWNSPOUT
- BOLLARD
- WATER LINE
- GAS LINE
- UNDERGROUND ELECTRIC
- ELECTRIC/TELEPHONE/CABLE LINE
- SANITARY SEWER LATERAL
- OVERHANG WIRES
- SANITARY SEWER LINE
- PROPERTY LINE
- CHAIN-LINK FENCE (CLF)
- PROPOSED FENCE
- 12.64 EXISTING SPOT ELEVATION
- TC 10.50 / BC 10.00 TOP CURB / BOTTOM CURB

CALL BEFORE YOU DIG 1-800-272-1000 It's THE LAW NEW JERSEY ONE CALL Dig Safely.

CONTRACTOR TO CALL AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION WORK.

DRAWING DISCLAIMER:

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REV#	REV DATE	DESCRIPTION

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

GRANT ENGINEERING & CONSTRUCTION GROUP LLC

SIGNATURE & SEAL

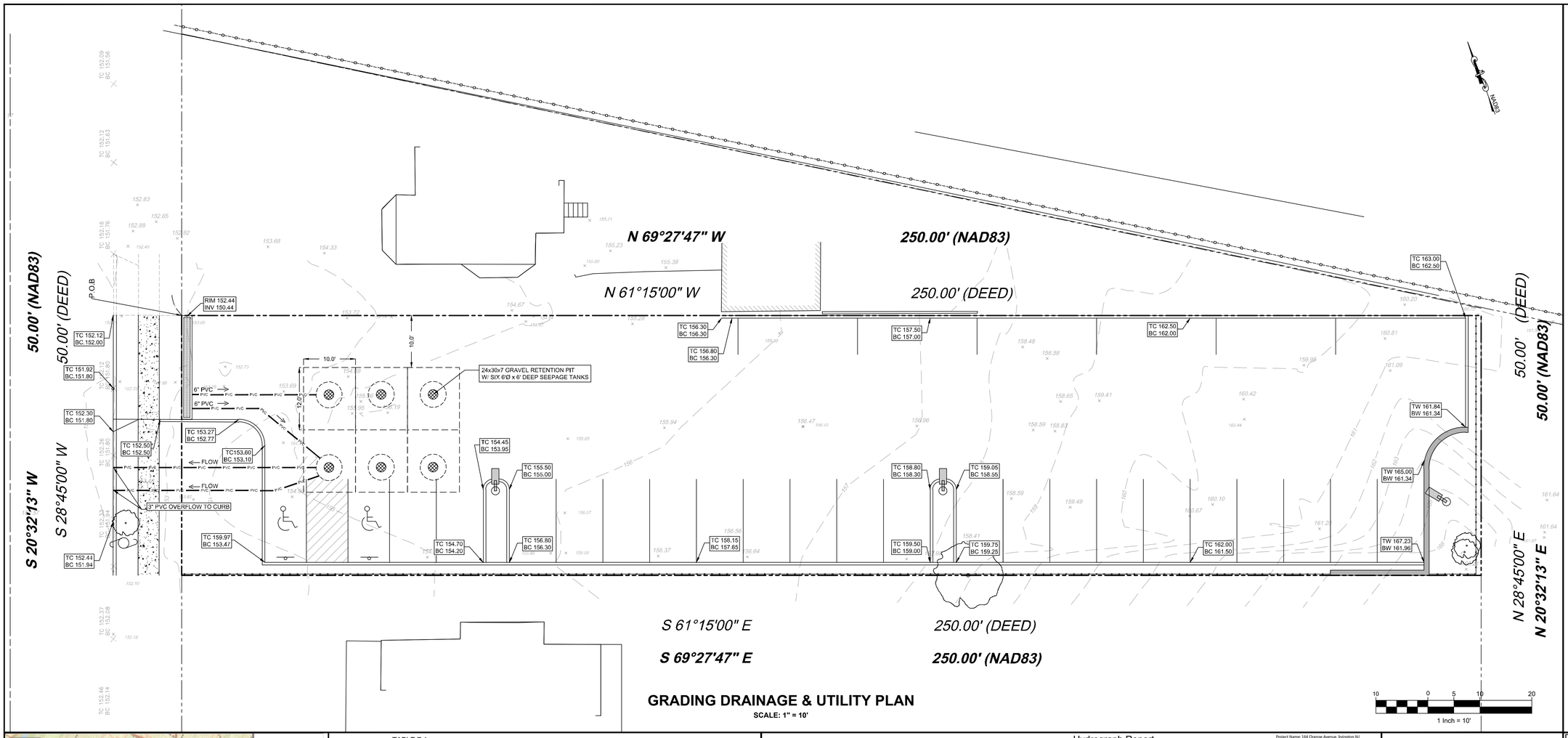
BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:

SITE DIMENSION PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON — COUNTY OF ESSEX — NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C101
GECG PROJECT #:	190.329	SHEET #:	4 OF 10



a) Select location
Move crosshair or double click

b) Click on station icon
Show stations on map

Location information:
Name: Irvington, New Jersey, USA*
Latitude: 40.7316°
Longitude: -74.2255°
Elevation: 156.15 ft **

* Source: ESRI Maps
** Source: USGS

SOIL PARAMETERS

PDS-based precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

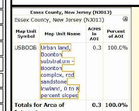
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.00 (3.66-4.39)	4.76 (4.37-5.23)	5.66 (5.18-6.22)	6.29 (5.74-6.90)	7.08 (6.42-7.75)	7.62 (6.88-8.35)	8.17 (7.33-8.95)	8.65 (7.73-9.49)	9.30 (8.22-10.2)	9.76 (8.57-10.8)
10-min	3.19 (2.92-3.50)	3.81 (3.49-4.18)	4.52 (4.12-4.96)	5.01 (4.56-5.50)	5.61 (5.06-6.16)	6.04 (5.43-6.62)	6.46 (5.80-7.07)	6.83 (6.10-7.49)	7.29 (6.44-8.02)	7.61 (6.68-8.39)
15-min	2.66 (2.43-2.92)	3.18 (2.91-3.49)	3.80 (3.47-4.17)	4.22 (3.84-4.62)	4.74 (4.30-5.19)	5.09 (4.60-5.58)	5.43 (4.92-5.95)	5.74 (5.14-6.30)	6.12 (5.41-6.74)	6.37 (5.59-7.02)
30-min	1.81 (1.66-1.99)	2.19 (2.01-2.41)	2.69 (2.45-2.95)	3.04 (2.77-3.34)	3.50 (3.17-3.83)	3.82 (3.45-4.19)	4.15 (3.72-4.54)	4.44 (3.97-4.87)	4.84 (4.28-5.32)	5.12 (4.50-5.65)
60-min	1.13 (1.03-1.24)	1.37 (1.26-1.51)	1.73 (1.57-1.89)	1.98 (1.80-2.17)	2.32 (2.11-2.55)	2.58 (2.33-2.83)	2.85 (2.56-3.12)	3.11 (2.78-3.41)	3.46 (3.06-3.81)	3.73 (3.27-4.11)
2-hr	0.692 (0.630-0.762)	0.842 (0.768-0.929)	1.07 (0.971-1.18)	1.24 (1.13-1.37)	1.49 (1.34-1.63)	1.69 (1.51-1.86)	1.89 (1.68-2.08)	2.11 (1.88-2.31)	2.42 (2.10-2.65)	2.64 (2.28-2.92)
3-hr	0.514 (0.470-0.566)	0.625 (0.572-0.690)	0.794 (0.724-0.875)	0.925 (0.844-1.02)	1.11 (1.01-1.22)	1.26 (1.14-1.38)	1.41 (1.26-1.55)	1.57 (1.39-1.72)	1.79 (1.57-1.97)	1.97 (1.71-2.17)
6-hr	0.332 (0.304-0.366)	0.404 (0.369-0.444)	0.511 (0.466-0.562)	0.597 (0.543-0.654)	0.721 (0.650-0.793)	0.824 (0.734-0.899)	0.934 (0.824-1.02)	1.05 (0.925-1.15)	1.22 (1.06-1.35)	1.36 (1.17-1.49)
12-hr	0.205 (0.187-0.226)	0.248 (0.227-0.273)	0.316 (0.288-0.347)	0.372 (0.339-0.407)	0.455 (0.410-0.498)	0.527 (0.472-0.573)	0.603 (0.533-0.655)	0.688 (0.601-0.748)	0.813 (0.698-0.884)	0.920 (0.775-1.00)
24-hr	0.116 (0.107-0.128)	0.140 (0.130-0.152)	0.179 (0.166-0.195)	0.213 (0.197-0.232)	0.265 (0.240-0.288)	0.309 (0.281-0.336)	0.358 (0.322-0.388)	0.413 (0.367-0.448)	0.496 (0.433-0.539)	0.567 (0.488-0.616)
2-day	0.068 (0.063-0.074)	0.082 (0.076-0.090)	0.105 (0.097-0.115)	0.124 (0.114-0.135)	0.153 (0.139-0.166)	0.176 (0.160-0.192)	0.203 (0.182-0.221)	0.231 (0.206-0.253)	0.274 (0.240-0.301)	0.309 (0.267-0.341)
3-day	0.048 (0.044-0.052)	0.058 (0.053-0.063)	0.074 (0.068-0.080)	0.087 (0.080-0.094)	0.106 (0.097-0.116)	0.122 (0.111-0.132)	0.139 (0.126-0.151)	0.158 (0.141-0.172)	0.186 (0.163-0.203)	0.209 (0.181-0.230)
4-day	0.039 (0.036-0.041)	0.046 (0.042-0.050)	0.059 (0.053-0.063)	0.069 (0.063-0.074)	0.082 (0.076-0.089)	0.094 (0.086-0.102)	0.107 (0.097-0.117)	0.121 (0.109-0.132)	0.142 (0.125-0.155)	0.158 (0.138-0.174)
7-day	0.025 (0.024-0.027)	0.031 (0.028-0.033)	0.038 (0.035-0.041)	0.044 (0.041-0.047)	0.053 (0.049-0.057)	0.060 (0.055-0.065)	0.068 (0.062-0.073)	0.076 (0.069-0.083)	0.088 (0.078-0.096)	0.098 (0.086-0.107)
10-day	0.020 (0.019-0.022)	0.024 (0.022-0.026)	0.030 (0.028-0.032)	0.034 (0.032-0.037)	0.041 (0.038-0.044)	0.046 (0.043-0.049)	0.051 (0.047-0.055)	0.057 (0.052-0.062)	0.065 (0.059-0.071)	0.072 (0.065-0.078)
20-day	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.019 (0.018-0.021)	0.022 (0.021-0.023)	0.025 (0.024-0.027)	0.028 (0.026-0.030)	0.030 (0.028-0.033)	0.033 (0.031-0.036)	0.037 (0.033-0.040)	0.039 (0.036-0.043)
30-day	0.011 (0.011-0.012)	0.013 (0.013-0.014)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.020 (0.019-0.021)	0.021 (0.020-0.023)	0.023 (0.022-0.025)	0.025 (0.023-0.026)	0.027 (0.025-0.029)	0.028 (0.026-0.030)
45-day	0.010 (0.009-0.010)	0.011 (0.011-0.012)	0.013 (0.012-0.014)	0.014 (0.014-0.015)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.019 (0.018-0.020)	0.020 (0.019-0.021)	0.021 (0.020-0.023)	0.022 (0.021-0.024)
60-day	0.009 (0.008-0.009)	0.010 (0.010-0.011)	0.012 (0.011-0.012)	0.013 (0.012-0.013)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.019 (0.017-0.020)

RAINFALL INTENSITY CHART

TABLE 7.1
TYPICAL RUNOFF COEFFICIENTS (C VALUES) FOR 100 YEAR FREQUENCY STORM

TABLE 7.1
TYPICAL RUNOFF COEFFICIENTS (C VALUES) FOR 100 YEAR FREQUENCY STORM

Land Use Description		Hydrologic Soil Group A	B	C	D
Cultivated land:					
without conservation treatment		0.49	0.67	0.81	0.88
with conservation treatment		0.27	0.43	0.61	0.67
Pasture or range land:					
poor condition		0.38	0.63	0.78	0.84
good condition		NA	NA	0.51	0.65
Meadow: good condition		NA	NA	0.44	0.61
Wood or forest land:					
thin stand, poor cover, no mulch		NA	NA	0.59	0.79
good cover		NA	NA	0.45	0.59
Open spaces, lawns, parks, golf courses, cemeteries:					
good condition, grass cover on 75% or more of area		NA	0.25	0.51	0.65
fair condition, grass cover on 50-75% of area		NA	0.45	0.63	0.74
Commercial and business areas (85% impervious)		0.84	0.90	0.93	0.96
Industrial districts (72% impervious)		0.67	0.81	0.88	0.92
Residential:					
Average lot size	Average impervious				
¼ acre	65%	0.59	0.76	0.86	0.90
⅓ acre	38%	0.25	0.55	0.70	0.80
½ acre	30%	NA	0.49	0.67	0.78
¾ acre	25%	NA	0.45	0.65	0.76
1 acre	20%	NA	0.41	0.63	0.74
Paved parking lots, roofs, driveways, etc.		0.99	0.99	0.99	0.99
Streets and roads:					
paved with curbs and storm sewers		0.99	0.99	0.99	0.99
gravel		0.57	0.76	0.84	0.88
dirt		0.49	0.69	0.80	0.84



USDA SOIL MAP

STORM DRAINAGE SYSTEM DESIGN: MAJOR DEVELOPMENT

THIS STORM DRAINAGE SYSTEM IS DESIGNED TO RETAIN A 100 YEAR STORM FOR THE AREA OF PARCEL A. THE STORM DURATION EQUALS 10 TO 360 MIN. AND THE TIME OF CONCENTRATION FOR THE STORM IS 10 MINUTES. THE STORM DRAINAGE RETENTION SYSTEM IS LOCATED IN THE DRIVEWAY SECTION OF THE LOT. THE CALCULATION FOR THIS SYSTEM IS DESIGNED TO RETAIN THE DIFFERENCE BETWEEN THE PRE & POST DEVELOPED CONDITIONS OF THE SITE.

THIS PROPERTY IS LOCATED IN FLOOD HAZARD ZONE X (SHADED) AND DOES NOT REQUIRE A NJDEP PERMIT.

STORM DRAINAGE CALCULATION PARAMETERS

C VALUE
C VALUE FOR ASPHALT PAVING = .99
C VALUE FOR BUILDING = .99
C VALUE FOR LANDSCAPE = .63

TOTAL LOT AREA (A) = 12,500 S.F. = 0.287 AC.

PRE-DEVELOPED
BUILDING AREA (A) = 0.0 S.F. = 0.0 AC.
PAVED SURFACE AREA (A) = 0.0 S.F. = 0.0 AC.
LANDSCAPE AREA (A) = 12,500 S.F. = 0.287 AC.

PRE-DEVELOPED C = .63

POST-DEVELOPED
BUILDING AREA (A) = 0 S.F. = 0 AC.
PAVED SURFACE AREA (A) = 11,185.0 S.F. = 0.256 AC.
LANDSCAPE AREA (A) = 1,315 S.F. = 0.03 AC.

POST C(EQ) = .95

PROPOSED STORM WATER RETENTION PARAMETERS:
- 10'x12'x7' GRAVEL PIT (GROSS) = 840 CF
- 6.5'Ø, 6' PRECAST SEEPAGE PIT (STO. CAP.) = 130 CF (SPEC)
- 6.5'Ø, 6' PRECAST SEEPAGE PIT (PHYS. VOL.) = 199.0 CF
- GRAVEL VOID RATIO = 40%

PROPOSED STORM WATER RETENTION STORAGE CAPACITY:
- NET GRAVEL VOLUME = 840-199 = 641 CF
- GRAVEL VOID/WATER STORAGE = 641*40% = 256.4 CF

PROP. RETENTION STO. CAP. = 256.4 + 130 = 386.4 CF x SIX TANKS = 2318.4 CF > 2244 CF

STORM WATER DESIGN CONCLUSION:
THE PROPOSED STORM WATER RETENTION SYSTEM PROVIDED EXCEEDS THE REQUIRED STORAGE CAPACITY SYSTEM FOR THE 10 YEAR STORM EVENT. THIS SEEPAGE PIT WILL HAVE A 24"Ø SOLID ACCESS COVER FOR MAINTENANCE.

REFERENCE: SEE STORM WATER MANAGEMENT REPORT FOR PRELIMINARY & FINAL SITE PLAN, DATED 9/30/19 FOR ADDITIONAL INFORMATION & CALCULATIONS

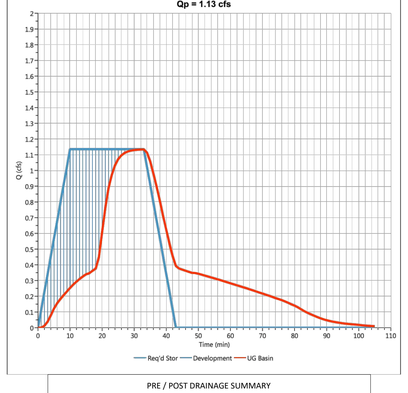
Hydrograph Report
Project Name: 164 Orange Avenue, Irvington NJ
Hydrology Studio v 3.0.0.13
09-30-2019

UG Basin **Hyd. No. 3**

Hydrograph Type	= Pond Route	Peak Flow	= 1.134 cfs
Storm Frequency	= 100-yr	Time to Peak	= 0.55 hrs
Time Interval	= 1 min	Hydrograph Volume	= 2,244 cuft
Inflow Hydrograph	= 2 - Development	Max. Elevation	= 153.65 ft
Pond Name	= UG Basin	Max. Storage	= 821 cuft

Pond Routing by Storage Indication Method *Center of mass detention time = 16 min*

Qp = 1.13 cfs



PRE / POST DRAINAGE SUMMARY				
ITEM	PRE COVERAGE		POST COVERAGE	
BLD IMPERVIOUS	930.00	7%	0	0%
LOT IMPERVIOUS	5,127.00	41%	11,185.00	89%
PERVIOUS	6,443.00	52%	1,315.00	11%

GENERAL LEGEND:

- CATCH BASIN/STORM INLET
- MANHOLE
- TELECOMMUNICATION MANHOLE
- ELECTRICAL MANHOLE
- STORM SEWER MANHOLE
- SANITARY SEWER MANHOLE
- ELECTRIC METER
- GAS METER
- GAS VALVE
- FIRE HYDRANT
- WATER METER
- WATER VALVE
- SIGN
- LIGHT POLE
- UTILITY POLE
- EXISTING TREE
- CLEANOUT
- DOWNSPOUT
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- SL SANITARY SEWER LATERAL
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- CHAIN-LINK FENCE (CLF)
- PROPOSED FENCE
- 12.64 EXISTING SPOT ELEVATION
- TC 10.50 BC 10.00 TOP CURB / BOTTOM CURB

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CONTRACTOR TO CALL AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION WORK.

Essex County, New Jersey

USBOOB--Urban land, Boonton substratum - Boonton complex, red sandstone lowland, 0 to 8 percent slopes

Map Unit Setting
- *National map unit symbol:* w9c3
- *Mean annual precipitation:* 30 to 64 inches
- *Mean annual air temperature:* 46 to 79 degrees F
- *Frost-free period:* 131 to 178 days
- *Farmland classification:* Not prime farmland

Map Unit Composition
- *Urban land, boonton red sandstone lowland substratum:* 60 percent
- *Boonton, red sandstone lowland, and similar soils:* 30 percent
- *Minor components:* 10 percent
- *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Urban Land, Boonton Red Sandstone Lowland Substratum

Setting
- *Landform:* Ground moraines
- *Landform position (three-dimensional):* Lower third of mountainflank
- *Down-slope shape:* Linear
- *Across-slope shape:* Linear
- *Parent material:* Surface covered by pavement, concrete, buildings, and other structures underlain by disturbed and natural soil material

Typical profile
- *H1 - 0 to 12 inches:* material
- *H2 - 12 to 67 inches:* gravelly loam
- *2CB - 67 to 83 inches:* gravelly sandy loam

Interpretive groups
- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 8s
- *Hydric soil rating:* Unranked

Description of Boonton, Red Sandstone Lowland

Setting
- *Landform:* Ground moraines
- *Down-slope shape:* Convex
- *Across-slope shape:* Linear
- *Parent material:* Coarse-loamy till derived from sandstone and shale

Typical profile
- *Oi - 0 to 1 inches:* slightly decomposed plant material
- *A - 1 to 3 inches:* silt loam
- *BE - 3 to 10 inches:* loam
- *Bw - 10 to 27 inches:* gravelly loam
- *Bx1 - 27 to 40 inches:* gravelly fine sandy loam
- *Bx2 - 40 to 67 inches:* gravelly fine sandy loam
- *BCx - 67 to 83 inches:* gravelly sandy loam

Properties and qualities
- *Slope:* 3 to 8 percent
- *Depth to restrictive feature:* 20 to 36 inches to fragipan
- *Natural drainage class:* Well drained
- *Runoff class:* Medium
- *Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)
- *Depth to water table:* More than 80 inches
- *Frequency of flooding:* None
- *Frequency of ponding:* None
- *Available water storage in profile:* Low (about 4.8 inches)

Interpretive groups
- *Land capability classification (irrigated):* None specified
- *Land capability classification (nonirrigated):* 2e
- *Hydrologic Soil Group:* C
- *Hydric soil rating:* No

Minor Components

Udorthents, boonton red sandstone lowland substratum
- *Percent of map unit:* 10 percent
- *Landform:* Ground moraines
- *Landform position (three-dimensional):* Lower third of mountainflank
- *Down-slope shape:* Convex
- *Across-slope shape:* Linear
- *Hydric soil rating:* No

DRAINAGE NOTE: A PERCOLATION TEST IS REQUIRED TO BE PERFORMED PRIOR TO THE INSTALLATION OF THE SEEPAGE PITS. RESULTS OF THE TEST MUST BE FORWARDED TO THE ENGINEER FOR APPROVAL.

REV#	REV DATE	DESCRIPTION

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

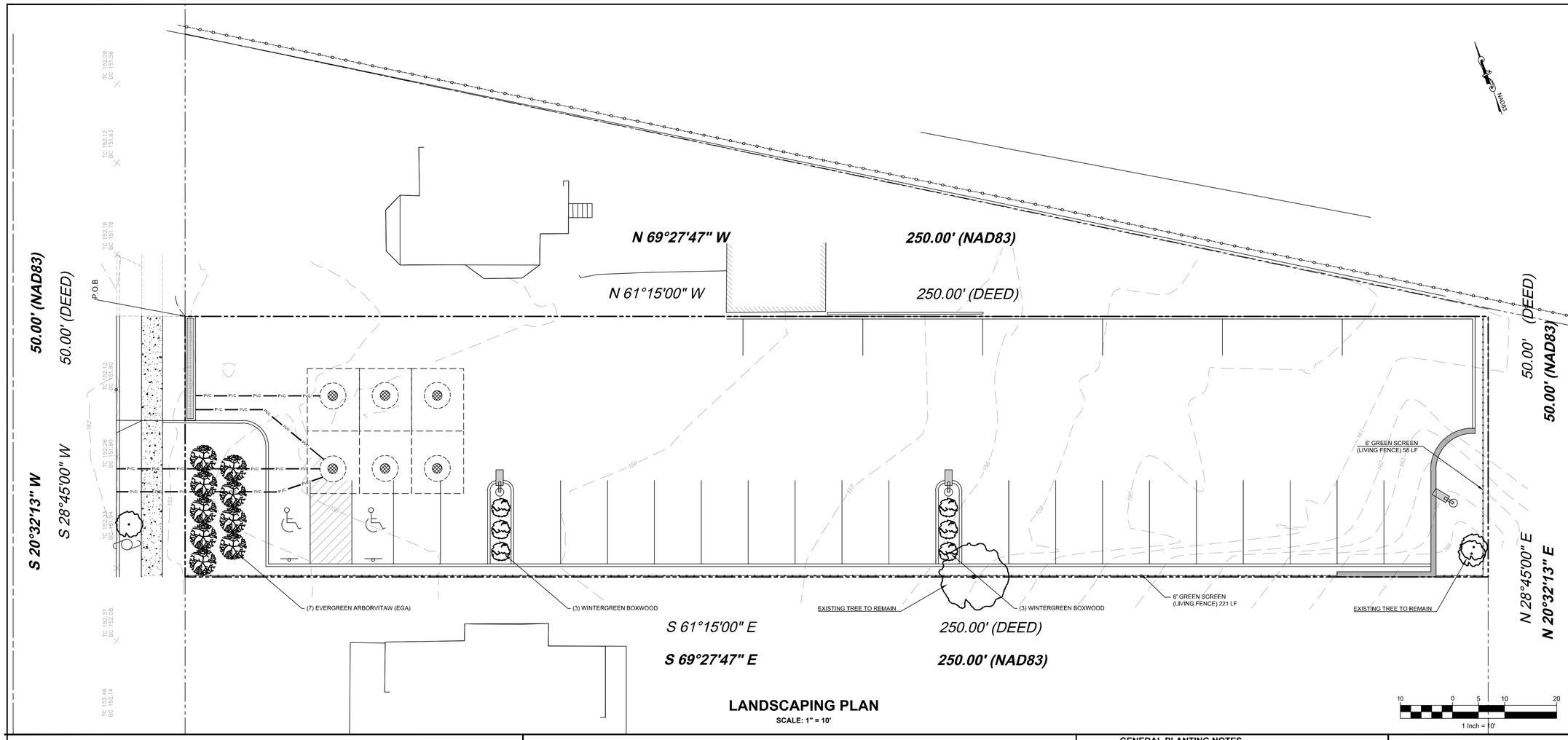
SIGNATURE & SEAL

BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:
GRADING, DRAINAGE & UTILITY PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON COUNTY OF ESSEX NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C102
GECG PROJECT #:	190.329	SHEET #:	5 OF 10



LANDSCAPING PLAN

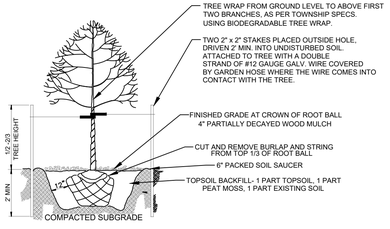
SCALE: 1" = 10'

PLANTING NOTES – ARBORVITAE TREE (FGA)

1. PLANTING: IT'S IMPORTANT TO PLANT EVERGREEN TREES WHERE THE POTENTIAL FOR DRYING OUT IN THE WINTER IS MINIMIZED. CONIFEROUS NEEDLES HAVE A WAXY COATING THAT HELPS THEM CONSERVE WATER, BUT WINTER SUN AND WIND CAN DRY THE NEEDLES, TAKING MOISTURE FROM THE TREE. TYPICALLY, EVERGREEN TREES PREFER FULL SUN IN THE SUMMER, AND SHADE IN THE WINTER. USUALLY IT'S POSSIBLE TO FULFILL BOTH REQUIREMENTS BY PLANTING THEM ON THE NORTH SIDE OF THE PROPERTY. THEY SHOULD GENERALLY BE PLANTED IN WELL-DRAINED SOIL; ACIDIC SOIL CONDITIONS ARE OPTIMAL.
2. MULCHING AND WATERING: SOIL MOISTURE NEEDS TO BE MAINTAINED FOR EVERGREEN TREES TO WITHSTAND WINTER OR DROUGHT CONDITIONS. MULCHING WITH COARSE WOOD CHIPS OR SHREDDED BARK, WITHIN THE DRIPLINE -- THE EXTENT OF THE CANOPY – SLOWS EVAPORATION FROM THE SOIL. MIX SOME ORGANIC MATTER, SUCH AS COMPOST, WITH THE MULCH TO ADD NUTRIENTS TO THE SOIL. MAKE SURE THE TREE IS WATERED DURING DRY PERIODS IN THE SUMMER AND FALL, AND IF YOU LIVE AN AREA WHERE THE GROUND DOESN'T FREEZE, WATER IN THE WINTER MONTHS AS WELL.
3. FERTILIZING: EVERGREEN TREES DON'T REQUIRE FERTILIZING AS MUCH AS DECIDUOUS SPECIES, BUT IF NEW GROWTH IS SLOW, OR THE COLOR OR SIZE OF THE NEEDLES ISN'T NORMAL FOR THE SPECIES, FERTILIZING COULD BE BENEFICIAL. USE A COMPLETE FERTILIZER, WITH MORE NITROGEN THAN PHOSPHORUS OR POTASSIUM. FERTILIZE BETWEEN EARLY APRIL AND MID-SUMMER; FOLLOWING RECOMMENDATIONS FOR THE PRODUCT. AFTER MID-SUMMER, ONLY A SLOW-RELEASE FERTILIZER SHOULD BE USED. DONT FERTILIZE IN DROUGHT CONDITIONS, BUT CONTINUE TO WATER REGULARLY.
4. PRUNING: EVERGREEN TREES GENERALLY ONLY NEED CORRECTIVE PRUNING, TO REMOVE DEAD, DISEASED OR DAMAGED BRANCHES, OR TO ESTABLISH A LEADER -- THE VERTICAL STEM AT THE TOP. USUALLY, EVERGREEN TREES HAVE DOMINANT LEADERS, BUT IF THERE ARE TWO LEADERS, REMOVE ONE. PRUNE OUTSIDE THE BRANCH COLLAR, AND NOT FLUSH TO THE TRUNK; THE BRANCH COLLAR WILL PREVENT DECAY FROM PENETRATING THE TRUNK. AVOID PRUNING IN LATE SUMMER AND EARLY FALL, AS NEW GROWTH MAY BE STIMULATED, WITHOUT TIME TO HARDEN OFF BEFORE WINTER.

PLANTING - WINTERGREEN BOXWOODS (WGB)

1. SPREAD 3 INCHES OF ORGANIC MULCH OVER THE ROOT AREA OF BOXWOOD SHRUBS TO PREVENT WEED GROWTH AND HOLD MOISTURE IN THE SOIL. START THE MULCH SIX INCHES FROM THE SHRUB STEM TO PREVENT MOISTURE BUILDUP THAT MIGHT DAMAGE THE WOOD.
2. WATER "WINTERGREEN" BOXWOOD ONCE A WEEK DURING PERIODS OF LOW RAIN. YELLOW LEAVES ON THE "WINTERGREEN" BOXWOOD ARE A SIGN THE SHRUB IS NOT RECEIVING ENOUGH WATER. USE CAUTION WHEN WATERING TO PREVENT STANDING WATER AROUND THE PLANT STEM, AS IT CAN ENCOURAGE ROOT ROT.
3. APPLY A BALANCED SHRUB FERTILIZER, SUCH AS 10-10-10, IN EARLY SPRING, BEFORE THE SHRUB BEGINS GROWTH, AT A RATE OF 1 POUND FOR EVERY 100 FEET OF PLANTING AREA. AVOID SPREADING FERTILIZER WITHIN 6 INCHES OF THE MAIN STEM TO PREVENT BURNING THE WOOD.
4. MONITOR THE LEAVES FOR THE PRESENCE OF LEAF MINERS, SPIDER MITES OR PSYLLIDS. SPRAY SHRUBS INFESTED WITH LEAF MINER WITH AN INSECTICIDE, ONCE THE LARVAE HAVE HATCHED. SPRAY BOXWOODS INFESTED WITH PSYLLIDS WITH AN INSECTICIDE IN SPRING TO CONTROL DAMAGE FROM THE ADULT INSECT. SPRAY SHRUBS WITH SIGNS OF SPIDER MITES WITH WATER TO REMOVE THE PESTS, SEVERAL TIMES A WEEK, UNTIL THE PROBLEM IS ELIMINATED.
5. PRUNE "WINTERGREEN" BOXWOOD AFTER THE SPRING FLUSH OF GROWTH. CREATE THE DESIRED SHAPE DURING THE FIRST TWO YEARS OF GROWTH. PRUNE THE PLANT TIPS MINIMALLY THE FOLLOWING YEARS ONLY TO MAINTAIN THE DESIRED SHAPE. REMOVE DEAD OR DISEASED BRANCHES AS THEY APPEAR ON THE PLANT.

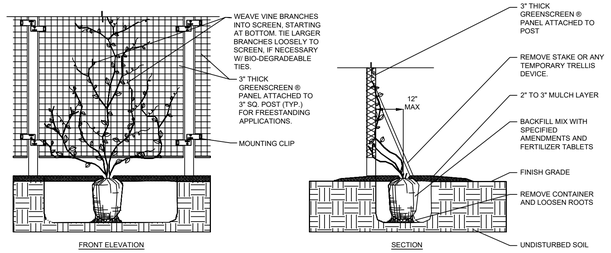


1 TREE & SHRUB PLANTING DETAIL

N.T.S.

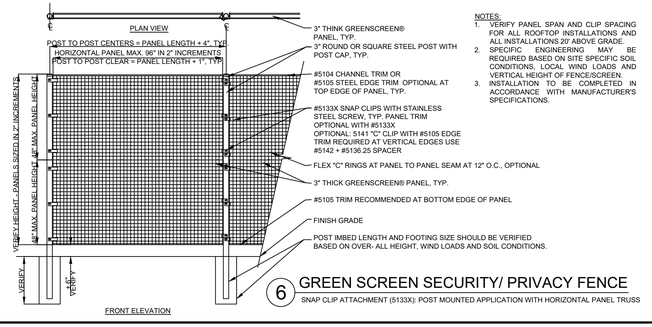
PLANT SCHEDULE

SYMBOL		TYPE DESCRIPTION	SPACING (FT)	HEIGHT (FT)	CALIPER	QTY
	TREE	EXISTING TREES	N/A	VARIES	VARIES	03 EA
	TCM	EVERGREEN ARBORVITAE *(Thuja occidentalis 'Emerald Green')*	5 FT O.C.	8 - 12 FT	3"-3½"	09 EA
	WGB	WINTERGREEN BOXWOODS	4 FT O.C.	3 - 4 FT	NONE	06 EA
	GREEN	GREEN SCREEN (LIVING FENCE)	N/A	6 FT	N/A	280 LF



3 VINE PLANTING POST MOUNTED DETAIL

N.T.S.



NOTES:
1. VERIFY PANEL SPAN AND CLIP SPACING FOR ALL ROOFTOP INSTALLATIONS AND ALL INSTALLATIONS 20' ABOVE GRADE.
2. SPECIFIC ENGINEERING MAY BE REQUIRED BASED ON SITE SPECIFIC SOIL CONDITIONS, LOCAL WIND LOADS AND VERTICAL HEIGHT OF FENCE/SCREEN.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

6 GREEN SCREEN SECURITY/ PRIVACY FENCE

SNAP CLIP ATTACHMENT (5133X): POST MOUNTED APPLICATION WITH HORIZONTAL PANEL TRUSS

GENERAL PLANTING NOTES

1. ALL MATERIAL TO BE TYPE AND SIZE AS LISTED UNLESS OTHERWISE APPROVED.
2. TREES TO BE IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS REGARDING SIZE AND QUALITY.
3. CALIPER MEASURED 1 FT. ABOVE TRUNK CROWN.
4. PLANTS ARE TO BE PLANTED UPRIGHT IN A DIRECTION SO AS TO PROVIDE BEST APPEARANCE IN RELATIONSHIP TO ADJACENT AREAS.
5. TREES SHALL BE SUPPORTED IMMEDIATELY AFTER PLANTING, (REFER TO DETAILS).
6. PLANTING PITS ARE TO BE PREPARED TO A MINIMUM DEPTH OF 12" AND PITS ARE TO HAVE A MINIMUM OF 9" OF GOOD TOPSOIL. LAWN AREAS ARE TO HAVE A MINIMUM OF 6" (4" FOR SOD) OF TOPSOIL.
7. TREE PITS, PLANT BEDS, AND GROUND COVER AREAS SHALL BE MULCHED WITH A MINIMUM DEPTH OF 3" (AFTER SETTLEMENT) OF SHREDDED HARDWOOD MULCH.
8. PROVIDE NEW OR AMENDED TOPSOIL BACK FILL FOR ALL NEWLY PLANTED MATERIAL ORGANIC MATTER CONTENT=5% MINIMUM. PH RANGE BETWEEN 5.0 - 6.5 INCLUSIVE. FREE OF STONES 1" OR GREATER AND FREE OF ALL DEBRIS AND EXTRANEOUS MATERIALS.
9. CHEMICAL FERTILIZERS TO BE DERIVED FROM ORGANIC SOURCES AND APPLIED IN ACCORDANCE WITH MANUFACTURE'S SPECIFICATIONS.
10. ALL OPEN SPACES SHALL BE SEEDED OR SODDED AS NOTED ON PLAN.
11. LANDSCAPING PLAN IS DIAGRAMMATIC, PLANT LOCATIONS MAY BE ADJUSTED FOR FIELD CONDITIONS WITH PRIOR APPROVAL.
12. THE CONTRACTORS MUST VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY IMPLEMENTATION.
13. ANY DISCREPANCIES AND/OR INCONSISTENCIES ARE TO BE BROUGHT TO THE CITY FOR REVIEW AND RESOLUTION.
14. ALL LANDSCAPING NOT SURVIVING FOR A PERIOD OF ONE YEAR SHALL BE REPLACED WITH THE SAME OR EQUIVALENT SIZE SPECIES.
15. STREET TREES SHALL BE BRANCHED AT 7 FT.
16. ALL LANDSCAPE SHALL BE MAINTAINED BY OWNER.
17. TREES SHALL BE PLANTED AT A MIN. INITIAL SIZE OF 3" - 3-1/2" CALIPER BALLED AND BURLAP.

LANDSCAPING NOTES

18. ALL GRAVEL TO BE INSTALLED ON TOP OF FELT FILTER FABRIC.
19. THE DEVELOPER SHALL REPLACE ANY PLANTINGS WHICH DO NOT SURVIVE FOR A PERIOD OF TWO YEARS AFTER INSTALLATION WITH THE SAME OR SIMILAR SPECIES AND SIZE.
20. ALL SITE AREAS WHICH ARE NOT PAVED OR PLANTED ARE TO RECEIVE SEEDING AFTER FINAL GRADING.
21. ALL STAKING AND GUY WIRES ATTACHED TO THE TREES WILL BE REMOVED BY THE DEVELOPER AFTER ONE YEAR FROM INITIAL PLANTING.
22. ALL TREE PITS SHALL HAVE A 5' X 5' OPENING IN PAVEMENT, WITH THE TOP LAYER OF EARTH COVERED WITH SAND AND CONCRETE BRICK PAVERS LEVEL W/ SIDEWALK, PROVIDING 16" SQUARE OPENING FOR TRUNK. TREES SHALL BE BRANCHED AT 7 FEET.
23. CHOOSING THE APPROPRIATE PLANT MATERIAL FOR GREENSCREEN®REQUIRES CAREFUL CONSIDERATION OF CLIMATE ZONE, SUN AND WIND EXPOSURE, SOIL TYPE, WATER AND NUTRIENT NEEDS, AND DESIRED VISUAL EFFECT.
24. GREENSCREEN® RECOMMENDS THAT A LANDSCAPE ARCHITECT, LANDSCAPE DESIGNER, OR A HORTICULTURIST BE CONSULTED FOR EACH SPECIFIC APPLICATION.
25. PLANT VINES PER LANDSCAPE PLANS. TYPICAL SPACING VARIES FROM 1' TO 4' O.C. DEPENDING UPON VINE SPECIES AND CONTAINER SIZE.
26. IRRIGATION WILL BE REQUIRED IN MOST CLIMATE ZONES. INSTALL PER LANDSCAPE PLANS.
27. GREENSCREEN® DOES NOT SUPPLY PLANT MATERIAL.
28. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
29. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.

GENERAL LEGEND:

- CATCH BASIN/STORM INLET
- MANHOLE
- TELECOMMUNICATION MANHOLE
- ELECTRICAL MANHOLE
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ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

GRANT ENGINEERING & CONSTRUCTION GROUP LLC

SIGNATURE & SEAL

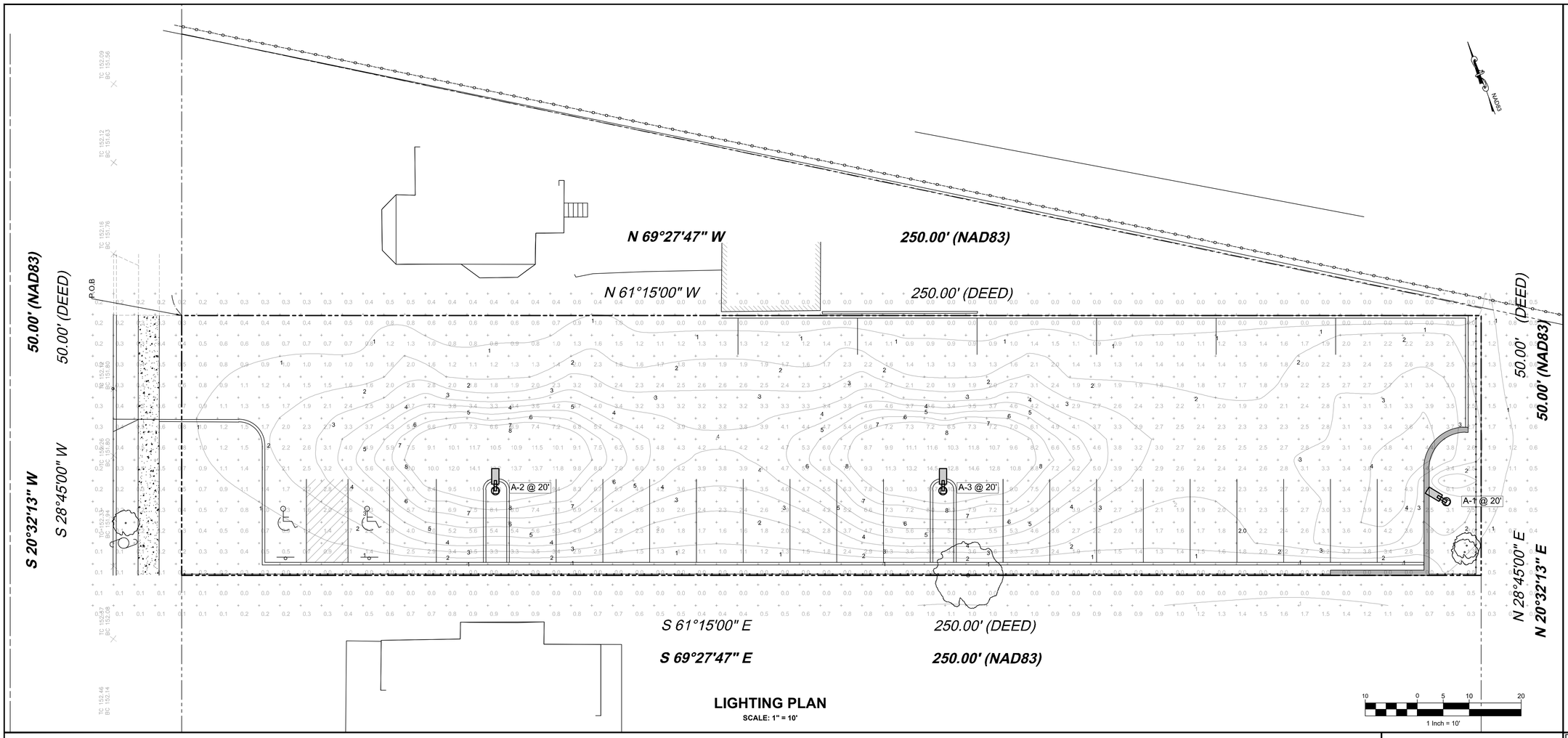
BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:

LANDSCAPING PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
TOWNSHIP OF IRVINGTON	COUNTY OF ESSEX NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C103
GECG PROJECT #:	190.329	SHEET #:	6 OF 10



LIGHTING PLAN

SCALE: 1" = 10'

LIGHTING NOTES

1. THE LIGHTING LEVELS DEPICTED WITHIN THE PLAN SET ARE CALCULATED UTILIZING DATA OBTAINED FROM THE LISTED MANUFACTURER. ACTUAL ILLUMINATION LEVELS AND PERFORMANCE OF ANY PROPOSED LIGHTING FIXTURE MAY VARY DUE TO UNCONTROLLABLE VARIABLES SUCH ARE WEATHER, VOLTAGE SUPPLY, LAMP TOLERANCE, EQUIPMENT SERVICE LIFE AND OTHER VARIABLE FIELD CONDITIONS.
2. WHERE APPLICABLE, THE EXISTING LIGHT LEVELS DEPICTED WITHIN THE PLAN SET SHALL BE CONSIDERED APPROXIMATE. THE EXISTING LIGHT LEVELS ARE BASED ON FIELD OBSERVATIONS AND THE MANUFACTURER'S DATA OF THE ASSUMED OR MOST SIMILAR LIGHTING FIXTURE MODEL.
3. UNLESS NOTED ELSEWHERE WITHIN THIS PLAN SET, THE LIGHT LOSS FACTORS USED IN THE LIGHTING ANALYSIS ARE AS FOLLOWS:
   a. LIGHT EMITTING DIODES (LED): 0.85
   b. HIGH PRESSURE SODIUM (HPS) 0.72
   c. METAL HALIDE (MH) 0.72
4. THE CONTRACTOR IS RESPONSIBLE TO PREPARE A WIRING PLAN AND PROVIDE ELECTRIC SERVICE TO ALL PROPOSED LIGHTING FIXTURES. THE CONTRACTOR IS REQUIRED TO PREPARE AN AS-BUILT PLAN OF WIRING AND PROVIDE COPIES TO THE OWNER AND GRANT ENGINEERING & CONSTRUCTION GROUP, LLC
5. OUTDOOR LIGHTING WILL BE CONTROLLED VIA POWERCELL
6. LIGHT LEVELS AT THE PROPERTY LINE ALONG THE STREET ARE RESULT OF THE EXISTING STREET LIGHTS. THESE LIGHT POLES HAVE BEEN INCLUDED IN THE CALCULATION OF PROPOSED SITE LIGHTING.
7. EXISTING STREET LIGHTS WILL REMAIN IN SERVICE.
8. LUMINARIES LOCATION TABLE COLUMN Z SPECIFIES LIGHT FIXTURE HEIGHT.

Schedule

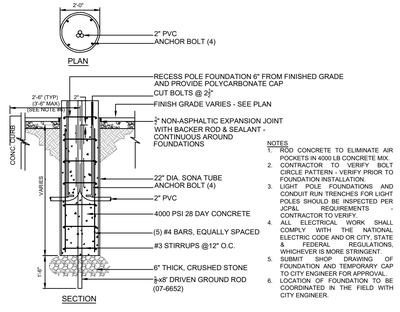
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	C	0	RAB LIGHTING INC.	SLIM12N	CAST BROWN PAINTED FINNED METAL HOUSING, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL LENS FRAME.	ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), AIMED 20-DEGREES FROM VERTICAL BASE-UP POSITION. SLIM12Y. ACTUAL PERFORMANCE MAY VARY. Area, Canopy, Dock, Educational, Facade, Government, Healthcare, Hospitality, Hotel, Industrial, Institutional, Library, Manufacturing, Marine, Medical, Office, Parking, Parks, Pathway Pedestrian, Pool, Recreation, Residential, Retail, Site, Tunnel, Underpass, Utility, Walkway Warehouse, Water Treatment, Direct, Emergency, Security	1	rab02338mod40.ies	1981	1	15.8

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
1	A	242.94	14.32	20.00	20.00	300.00	45.00	225.62	24.32	0.00
2	A	60.42	16.22	20.00	20.00	0.00	0.00	60.42	16.22	0.00
3	A	146.53	16.22	20.00	20.00	0.00	0.00	146.53	16.22	0.00

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	2.3 fc	14.6 fc	0.0 fc	N/A	N/A



1 POURED CONCRETE LIGHT FOUNDATION

5 FEET ABOVE GRADE

PS4-11-15WT (15' POLE)

Square steel poles with welded tenon included for use with floodlights. Designed for ground mounting. Poles are stocked nationwide for quick shipment. Protective packaging ensures poles arrive at the job site good as new.

Color: Bronze Weight: 106.0 lbs

ALED2T125N/D10/WS4

Specification grade area lights with multi-level motion sensor available in IES Type II distribution. For use in parking lots, roadways, pathways and general area lighting. Patent pending thermal management system. 5 Year Warranty.

Color: Bronze Weight: 32.0 lbs

GENERAL LEGEND:

- CATCH BASIN/STORM INLET
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BRIAN S. GRANT
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NJ LICENSE # 24GE04284500

DRAWING TITLE:

LIGHTING PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
TOWNSHIP OF IRVINGTON	COUNTY OF ESSEX NEW JERSEY

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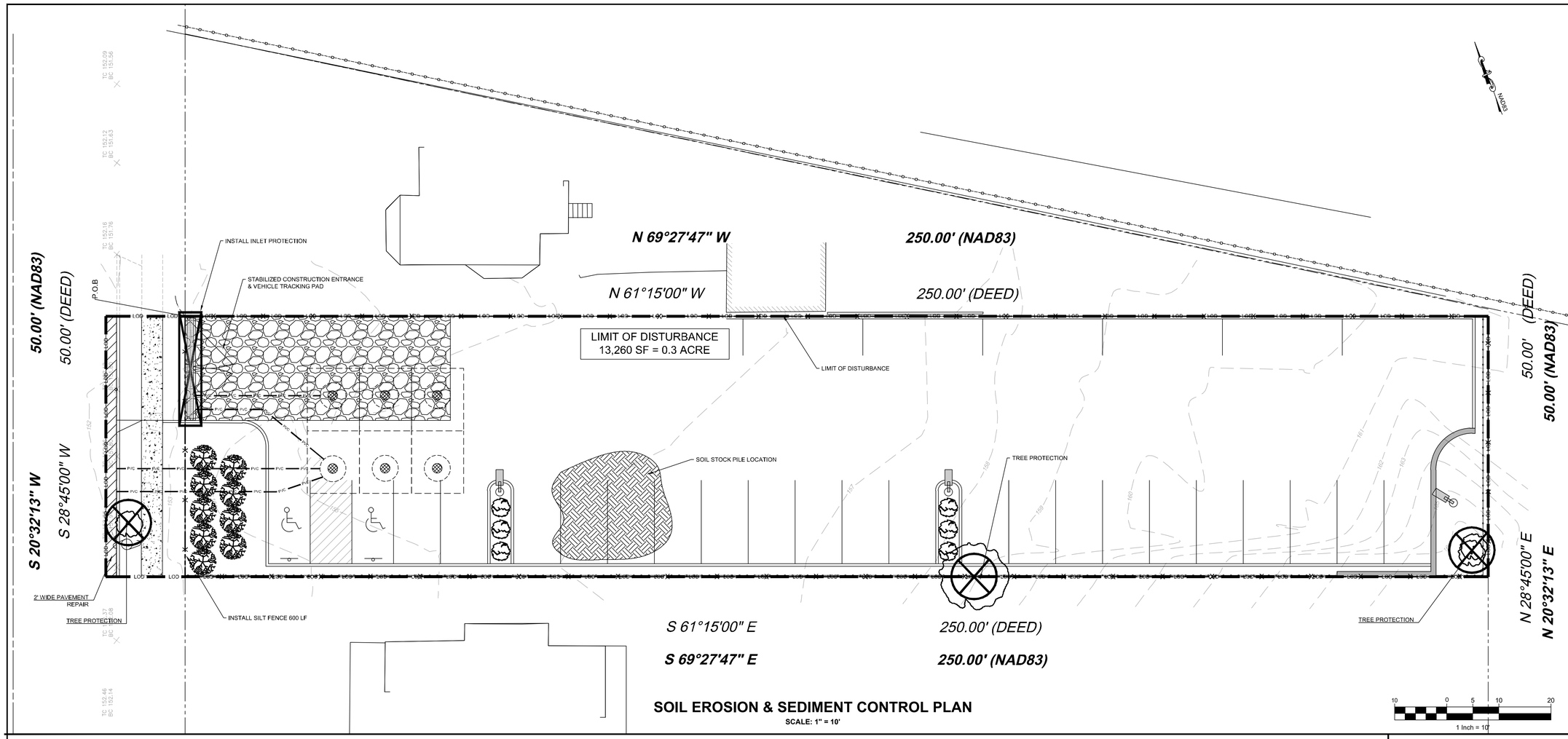
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C104
GECG PROJECT #:	190.329	SHEET #:	7 OF 10



SOIL EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 10'

SOIL EROSION AND SEDIMENT CONTROL PLAN NOTES

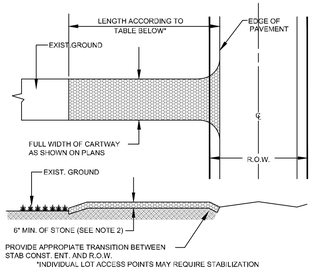
1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
2. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
3. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO LOCAL CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, RE-GRADING, AND RE-STABILIZATION SHALL BE PERFORMED IMMEDIATELY.
4. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
5. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE LOCAL CONSERVATION DISTRICT.
6. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE LOCAL CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
7. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
8. THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
10. THE E&S CONTROL PLAN MAPPING MUST DISPLAY A PA ONE CALL SYSTEM INCORPORATED SYMBOL INCLUDING THE SITE IDENTIFICATION NUMBER. (THIS IS A NUMBERED SYMBOL NOT A NOTE.)
11. ONLY LIMITED DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO ORANGE AVENUE FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE BMP'S.
12. EROSION AND SEDIMENT BMP'S MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
13. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
14. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE NEW JERSEY ONE CALL SYSTEM INCORPORATED AT 1-800-272-1000 FOR BURIED UTILITIES LOCATIONS.
15. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
16. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES, DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
17. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.

SEDIMENT BASINS

18. BAFFLES MUST BE INSTALLED TO ALLOW BASIN MAINTENANCE AND CLEAN OUT.
19. UPON INSTALLATION OF THE TEMPORARY SEDIMENT BASIN RISER(S), AN IMMEDIATE INSPECTION OF THE RISER(S) SHALL BE CONDUCTED BY A QUALIFIED SITE REPRESENTATIVE AND LOCAL CONSERVATION DISTRICT SHALL BE NOTIFIED IN WRITING THAT THE RISER IS SEALED.
20. SEDIMENT BASINS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.
21. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.

TEMPORARY STABILIZATION & PERMANENT STABILIZATION

22. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
23. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
24. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
25. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, RE-MULCHING, AND RE-NETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
26. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOOD-PLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
27. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET DEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

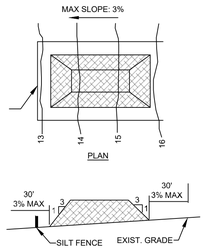


STABILIZED CONSTRUCTION ENTRANCE NOTES:

1. PLACE STABILIZED CONSTRUCTION ENTRANCE AT LOCATION(S) AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. STONE SIZE SHALL BE ASTM C-33 SIZE No.2 OR 3, CRUSHED ANGULAR STONE. CRUSHED CONCRETE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE. STONE THICKNESS SHOWN ABOVE IS FOR STONE CONSTRUCTION ENTRANCE ONLY (TYP.).
3. THE THICKNESS OF THE STAB CONST. ENTRANCE SHALL NOT BE LESS THAN 6".
4. THE WIDTH AT THE EXIST. PAVEMENT SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS AND EGRESS.
5. THE STAB CONST. ENT. SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE R.O.W./PAVEMENT THIS REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR, AND/OR CLEAN OUT OF ANY MEASURE USES TO TRAP SEDIMENT. 6. ALL SEDIMENT SPILLED DROPPED WASHED OR TRACKED ONTO THE PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
6. LENGTH SHALL BE 50 FEET MINIMUM WHERE THE SOILS ARE COARSE GRAINED (SANDS OR GRAVELS) OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY, THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UPSLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE SESC STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE AS SHOWN IN TABLE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5 %, A STABILIZED BASE COURSE OF FINE AGGREGATE BITUMINOUS CONCRETE (FABC) SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE FABC AND USE OF A DENSE GRADED AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

Percent Slope of Roadway	Length of Stone Required	
	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 hot-mix asphalt base course Mix I-2 As prescribed by local ordinance or other governing authority.	

STABILIZED CONSTRUCTION ENTRANCE



SILT FENCE

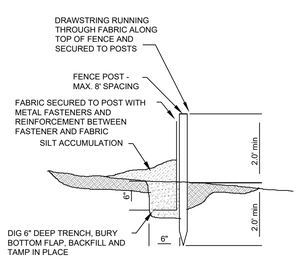
NOTES:
1. PLACE STOCKPILES AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. ALL SIDE SLOPE SHALL BE 3 TO 1 OR FLATTER.
3. STOCKPILE SHALL RECEIVE A VEGETATIVE COVER IN ACCORDANCE WITH MINIMUM STABILIZATION REQUIREMENTS.
4. SILT FENCE SHALL BE INSTALLED AS DETAILED HEREON.

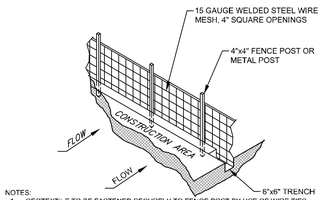
SITE TOPSOIL STOCKPILE

LIMIT OF DISTURBANCE = 13,260 SF = 0.3 AC

SESC LEGEND:

- X — X — SILT FENCE
- LOD — LOD — LIMIT OF DISTURBANCE
- TREE PROTECTION
- INLET PROTECTION



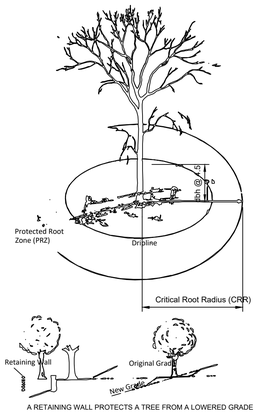


NOTES:
1. GEOTEXTILE TO BE FASTENED SECURELY TO FENCE POST BY USE OF WIRE TIES OR HOG RINGS; THREE FASTENERS PER POST.
2. BURY BOTTOM 12" OF GEOTEXTILE AND TAMP IN PLACE.
3. ENDS OF INDIVIDUAL ROLLS OF GEOTEXTILE SHALL BE SECURELY FASTENED TO A COMMON POST BY WRAPPING EACH END OF THE GEOTEXTILE AROUND THE POST TWICE AND ATTACHING AS SPECIFIED IN NOTE 1 ABOVE. SPLICING OF INDIVIDUAL ROLLS SHALL NOT OCCUR AT LOW POINTS.

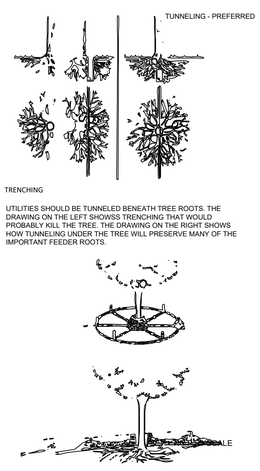
SILT FENCE DETAIL

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 THE TREE) IN INCHES.
2. MULTIPLY THE 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.



A RETAINING WALL PROTECTS A TREE FROM A LOWERED GRADE



TREE PROTECTION DETAILS

GENERAL LEGEND:

- ---- CATCH BASIN/STORM INLET
- ---- MANHOLE
- ---- TELECOMMUNICATION MANHOLE
- ---- ELECTRICAL MANHOLE
- ---- STORM SEWER MANHOLE
- ---- SANITARY SEWER MANHOLE
- ---- ELECTRIC METER
- ---- GAS METER
- ---- GAS VALVE
- ---- FIRE HYDRANT
- ---- WATER METER
- ---- WATER VALVE
- ---- SIGN
- ---- LIGHT POLE
- ---- UTILITY POLE
- ---- EXISTING TREE
- ---- CLEANOUT
- ---- DOWNSPOUT
- ---- BOLLARD
- ---- WATER LINE
- ---- GAS LINE
- ---- UNDERGROUND ELECTRIC
- ---- ELECTRIC/TELEPHONE/CABLE LINE
- ---- SANITARY SEWER LATERAL
- ---- OVERHANG WIRES
- ---- SANITARY SEWER LINE
- ---- PROPERTY LINE
- ---- CHAIN-LINK FENCE (CLF)
- ---- GREEN SCREEN FENCE
- 2.64 ---- EXISTING SPOT ELEVATION
- TC 10.50 BC 10.00 ---- TOP CURB / BOTTOM CURB

CALL BEFORE YOU DIG 1-800-272-1000 It's THE LAW NEW JERSEY ONE CALL Dig Safely.

CONTRACTOR TO CALL AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION WORK.

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REV#	REV DATE	DESCRIPTION

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SIGNATURE & SEAL

BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:

SOIL EROSION & SEDIMENT CONTROL PLAN

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON — COUNTY OF ESSEX — NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C105
GECG PROJECT #:	190.329	SHEET #:	8 OF 10

STANDARD FOR
PERMANENT VEGETATIVE COVER
FOR SOIL STABILIZATION

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

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

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

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

METHODS AND MATERIALS
1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING .
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
   D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.

2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/).
   B. 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.
   C. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   D. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

3. SEEDING
   A. THE SEED MIXTURE TO BE UTILIZED FOR PERMANENT VEGETATION SHALL BE MIX #12 FROM TABLE 4-3 TURF TYPE ALL FESCUE. THE SEEDING RATE SHALL BE 350 POUNDS PER ACRE, OR 8 POUNDS PER 1,000 SQUARE FEET AS SPECIFIED IN TABLE 4-3 OF JANUARY 2014 EDITION OF THE NEW JERSEY SOIL EROSION AND SEDIMENT CONTROL STANDARDS. 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.
   B. 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.
   C. 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.
   D. 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.
   E. 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.
   F. 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.
   G. 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 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.

4. MULCHING
   A. MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILLPROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
   B. 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.
   C. 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.
   D. 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.
   E. 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.
   F. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING INAREAS TO BE MOWED.
   G. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLYDESIGNED 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.
   H. 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 BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

         NOTES: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

   I. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH ORGERMINATION 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 USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
   J. 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 WITHTHE 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 TO0.4 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 SEEDBED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

5. IRRIGATION (WHERE FEASIBLE)
   IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

6. TOPDRESSING
   SINCE SOIL ORGANIC MATTER CONTENT AND SLOW RELEASE NITROGEN FERTILIZER (WATER INSOLUBLE) ARE PRESCRIBED IN SECTION 2A-SEEDBED PREPARATION IN THIS STANDARD, NO FOLLOW-UP OF TOPDRESSING IS MANDATORY. AN EXCEPTION MAYBE MADE WHERE GROSS NITROGEN DEFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT I NSTANCE, TOPDRESS WITH 10-10-10 OR EQUIVALENT AT 300 POUNDS PER ACRE OR7 POUNDS PER1,000 SQUARE FEET EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

7. ESTABLISHING PERMANENT VEGETATIVE STABILIZATION
   THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEED BED, 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.

TEMPORARY VEGETATIVE
COVER FOR SOIL STABILIZATION

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

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

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

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

METHODS AND MATERIALS
1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING, PG. 19-1.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
   C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).

2. SEEDBED PREPARATION
   A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE OF 2 TONS/ACRE UNLESS SOIL TESTING INDICATES OTHERWISE. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
   B. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRINGTOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED IN ACCORDANCE WITH THE ABOVE.
   D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID
   E. PRODUCING SOILS, PG. 1-1.

3. SEEDING
   A. SELECT SEED FROM RECOMMENDATIONS IN TABLE 7-2. (SOURCE: NJ SESC JANUARY 2014 STANDARDS)
      a. SEEDING RATE FOR WARM SEASON GRASS, SELECTIONS 5 - 7 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.
      b. MAY BE PLANTED THROUGHOUT SUMMER IF SOIL MOISTURE IS ADEQUATE OR SEEDED AREA CAN BE IRRIGATED.
      c. PLANT HARDINESS ZONE (SEE FIGURE 7-1, PG. 7-4.)
      d. 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 HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION IV MULCHING) HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. POOR SEED TO SOIL CONTACT OCCURS REDUCING SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
   D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE 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.

4. MULCHING
   MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.
   A. STRAW OR HAY. 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 CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTINGS. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING TOOL). A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH-BINDERS. – MAY BE USED TO ANCHOR HAY OR STRAW MULCH.
   a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM IN APPEARANCE.
   b. USE ONE OF THE FOLLOWING:
      (1. ORGANIC AND VEGETABLE BASED BINDERS – NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
      (2. SYNTHETIC BINDERS – HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN IT SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS. NOTE: ALL NAMES GIVE ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION 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 PONDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH 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, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEE 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.

STANDARD FOR MANAGEMENT OF
HIGH ACID-PRODUCING SOILS

DEFINITION
HIGH ACID-PRODUCING SOILS ARE SOILS WITH A PH OF 4.0 OR LESS OR CONTAIN IRON SULFIDE.

PURPOSE
TO PREVENT OR LIMIT EXPOSURE AREA, TIME, AND SPREADING BY EQUIPMENT OR RAINFALL ON- AND OFF-SITE AND TO MINIMIZE EROSION, SEDIMENTATION AND ACID LEACHATE-RELATED DAMAGES. HIGH ACID-PRODUCING SOIL MAY BE EXPOSED DURING EXCAVATION AND LAND GRADING ACTIVITIES, OR MAY BE INTRODUCED IN DREDGED SEDIMENT, SOILS AND SEDIMENT CONTAINING IRON SULFIDE, CHARACTERIZED BY PYRITE OR MARCASITE NUGGETS OR GREEN SANDS, ARE CHEMICALLY OXIDIZED WHEN EXPOSED TO AIR, PRODUCING SULFURIC ACID AND RESULT IN SOIL PH LEVELS FALLING TO PH 4.0 AND LOWER. MOST VEGETATION IS INCAPABLE OF GROWTH AT THIS PH LEVEL. ADJACENT LAND AND RECEIVING WATERS WILL BE NEGATIVELY IMPACTED BY THE ACID LEACHATE. CALCIUM-CONTAINING MATERIALS SUCH AS SIDEWALKS, CULVERTS AND OTHER STRUCTURES AND SOME METALLIC MATERIALS ARE ALSO SUSCEPTIBLE TO DEGRADATION. AGRICULTURAL LIMESTONE MATERIALS APPLIED AT RATES OF 8 TONS PER ACRE HAVE RESULTED IN ONLY A TEMPORARY BUFFERING EFFECT, AND "LIMING-ONLY" IS THEREFORE NOT CONSIDERED AN ACCEPTABLE MITIGATION PRACTICE.

WATER QUALITY ENHANCEMENT
PROTECTS ONSITE SOILS AND OFFSITE STREAMS AND LAKES FROM SULFURIC ACID LEACHATE THAT CREATES SOIL PH CONDITIONS UNSUITABLE FOR GROWTH OF VEGETATION.

WHERE APPLICABLE
THIS PRACTICE IS APPLICABLE TO ANY HIGH ACID-PRODUCING SOIL MATERIALS. SUCH MATERIALS HAVE BEEN FOUND IN THE COASTAL PLAIN AREAS OF BURLINGTON, CAMDEN, CUMBERLAND, GLOUCESTER, MERCER, MIDDLESEX, MONMOUTH, OCEAN, SALEM AND SOMERSET COUNTIES.

PLANNING CRITERIA
EARLY RECOGNITION AND BURIAL, REMOVAL OR DISPOSAL OF HIGH ACID-PRODUCING SOILS IS ESSENTIAL FOR LIMITING THE AMOUNT OF ACIDIC MATERIAL PRODUCED. REVIEW A SURFACE GEOLOGY MAP FOR THE PROPOSED SITE TO INVESTIGATE THE PRESENCE OF GEOLOGIC FORMATIONS WHICH COMMONLY CONTAIN HIGH ACID-PRODUCING DEPOSITS. THE GEOLOGIC FORMATIONS ARE AS FOLLOWS:

CHEESEQUAKE MEMBER	MANASQUAN	RED BANK,	SANDY HOOK
ENGLISHTOWN SAND	MARSHALLTOWN		SHARK RIVER
HORNERSTOWN	MERCHANTVILLE		TINTON
KIRKWOOD	NAVESINK		WENONAH
MAGOTHY	RARITAN		WOODBURY CLAY

FIGURE 1-1 OF THE NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL (JANUARY 2014 EDITION) SHOWS AREAS WHERE THESE DEPOSITS MAY BE PRESENT.

CONTACT THE LOCAL SOIL CONSERVATION DISTRICT TO DETERMINE THE HISTORICAL PRESENCE OF HIGH ACID-PRODUCING SOILS IN THE VICINITY OF THE PROPOSED DEVELOPMENT SITE.

HIGH ACID-PRODUCING SOILS MAY BE PRESENT IN UNDISTURBED SOILS AT VARYING DEPTHS, INCLUDING NEAR THE SOIL SURFACE TO EXCAVATIONS OR DEEP DISTURBANCES. ITS PRESENCE ON A SITE MAY BE SIGNIFICANT OR LIMITED IN THE SOIL PROFILE. HIGH ACID PRODUCING SOILS ARE COMMONLY BLACK, DARK BROWN, GRAY OR GREENISH WITH SILVERY PYRITE OR MARCASITE NUGGETS OR FLAKES. ALTERNATIVELY, SANDY SOILS OR REDDISH, YELLOWISH OR LIGHT TO MEDIUM BROWN SOIL MATERIALS ARE USUALLY FREE OF HIGH ACID-PRODUCING DEPOSITS.

METHODS AND MATERIALS
1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID-PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.
5. HIGH ACID-PRODUCING SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A PH OF 5.0 OR MORE EXCEPT AS FOLLOWS:
   a. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A PH OR 5 OR MORE.
   b. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

STANDARD FOR TOPSOILING

DEFINITION
TOP SOILING ENTAILS THE DISTRIBUTION OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

PURPOSE
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 CONVEYANCES.

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

METHODS AND MATERIALS
1. MATERIALS
   A. TOPSOIL SHOULD BE FRIABLE, LOAMY, 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). TOPSOIL HAULED IN FROM OFFSITE SHOULD 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.
1. 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.

2. STRIPPING AND STOCKPILING
   A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
   B. STRIPPING SHOULD 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. IN LIEU OF SOIL TESTS, SEE LIME RATE GUIDE IN SEEDBED PREPARATION FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, PG. 4-1.
   D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
   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.

3. SITE PREPARATION
   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 THE ESSENCE.
   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. IMMEDIATELY PRIOR TO TOPSOILING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS WILL HELP INSURE A GOOD BOND BETWEEN THE TOPSOIL AND SUBSOIL. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.).
   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 A DEPTH OF 5 INCHES (UNSETTLED) IS RECOMMENDED. 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).

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 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.
   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 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
   F. 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.
3. MULCH ANCHORING
   A. 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.
   B. 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.
   C. MULCH NETTINGS - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
   D. 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.
4. LIQUID MULCH BINDERS
   A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   B. USE ONE OF THE FOLLOWING:
   B.1. 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.2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER.IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

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

SEED SELECTIONS	SEEDING RATE (POUNDS)	OPTIMUM SEEDING DEOTH (INCHES)				
	PER ACRE	PER 1000 SQ FT	ZONE 5A,6A	ZONE 6A	ZONE 7A, B	
COOL SEASON GRASSES						
1. PERENNIAL RYEGRASS	100	1.0000	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	0.5000
2. SPRING OATS	86	2.0000	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	1.0000
3. WINTER BARLEY	96	2.2000	8/1-9/15	8/15-10/1	8/15-10/15	0.5000
4. ANNUAL RYEGRASS	100	1.0000	3/15-6/1 8/1-9/15	3/15-6/1 8/1-9/15	2/15-5/1 8/15-10/15	1.0000
5. WINTER CEREAL RYE	112	2.8000	8/1-11/1	8/1-11/15	8/1-12/15	1.0000
WARM SEASON GRASSES						
6. PEARL MILLET	20	0.5000	6/1-8/1	5/115-8/15	5/1-9/1	1.0000
7. MILLET (GERMAN OR HUNGARIAN)	30	0.7000	6/1-8/1	5/15-8/15	5/1-9/1	1.0000

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN WILL BE CONSTRUCTED IN ACCORDANCE WITH THE "NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL" 7TH EDITION LAST REVISED DECEMBER 2017. THESE MEASURES WILL BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

2. ALL SOIL TO BE EXPOSED OR STOCKPILED FOR A PERIOD OF GREATER THAN 14 DAYS, AND NOT UNDER ACTIVE CONSTRUCTION, WILL BE TEMPORARILY SEEDED AND HAY MULCHED OR OTHERWISE PROVIDED WITH VEGETATIVE COVER. THIS TEMPORARY COVER SHALL BE MAINTAINED UNTIL SUCH TIME WHEREBY PERMANENT RESTABILIZATION IS ESTABLISHED.

3. SEEDING DATES: THE FOLLOWING SEEDING DATES ARE RECOMMENDED TO BEST ESTABLISH PERMANENT VEGETATIVE COVER WITHIN MOST LOCATIONS IN THE HEPSCD: SPRING - 3/1-5/15 AND FALL – 8/15 – 10/1

4. SEDIMENT FENCES ARE TO BE PROPERLY TRENCHED AND MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED

5. ALL STORM DRAINAGE INLETS SHALL BE PROTECTED BY ONE OF THE PRACTICES ACCEPTED IN THE STANDARDS, AND PROTECTION SHALL REMAIN UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED. STORM DRAINAGE OUTLET POINTS SHALL BE PROTECTED AS REQUIRED BEFORE THEY BECOME FUNCTIONAL.

6. MULCH MATERIALS SHALL BE UN-ROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 70 TO 90 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.

7. ALL EROSION CONTROL DEVICES SHALL BE PERIODICALLY INSPECTED, MAINTAINED AND CORRECTED BY THE CONTRACTOR. ANY DAMAGE INCURRED BY EROSION SHALL BE RECTIFIED IMMEDIATELY.

8. THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT WILL BE NOTIFIED IN WRITING AT LEAST 48 HOURS PRIOR TO ANY SOIL DISTURBING ACTIVITIES.
FAX - (862) 333-4507 OR EMAIL – INFORMATION@HEPSCD.ORG

9. THE APPLICANT MUST OBTAIN A DISTRICT ISSUED REPORT-OF-COMPLIANCE PRIOR TO APPLYING FOR THE CERTIFICATE OF OCCUPANCY OR TEMPORARY CERTIFICATE OF OCCUPANCY FROM THE RESPECTIVE MUNICIPALITY, NJ - DCA OR ANY OTHER CONTROLLING AGENCY. CONTACT THE DISTRICT AT 862-333-4505 TO REQUEST A FINAL INSPECTION, GIVING ADVANCED NOTICE UPON COMPLETION OF THE RESTABILIZATION MEASURES. A PERFORMANCE DEPOSIT MAY BE POSTED WITH THE DISTRICT WHEN WINTER WEATHER OR SNOW COVER PROHIBITS THE PROPER APPLICATION OF SEED, MULCH, FERTILIZER OR HYDRO-SEED.

10. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES. DO NOT UTILIZE A FIRE OR GARDEN HOSE TO CLEAN ROADS UNLESS THE RUNOFF IS DIRECTED TO A PROPERLY DESIGNED AND FUNCTIONING SEDIMENT BASIN. WATER PUMPED OUT OF THE EXCAVATED AREAS CONTAINS SEDIMENTS THAT MUST BE REMOVED PRIOR TO DISCHARGING TO RECEIVING BODIES OF WATER USING REMOVABLE PUMPING STATIONS, SUMP PITS, PORTABLE SEDIMENTATION TANKS AND/OR SILT CONTROL BAGS.

11. ALL SURFACES HAVING LAWN OR LANDSCAPING AS FINAL COVER ARE TO BE PROVIDED TOPSOIL PRIOR TO RE-SEEDING, SODDING OR PLANTING. A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED, AS PER THE STANDARDS FOR TOPSOILING AND LAND GRADING, LAST REVISED DECEMBER 2017.

12. ALL PLAN REVISIONS MUST BE SUBMITTED TO THE DISTRICT FOR PROPER REVIEW AND APPROVAL.

13. A CRUSHED STONE WHEEL CLEANING TRACKING-PAD IS TO BE INSTALLED AT ALL SITE EXITS USING 2 ½ -1"CRUSHED ANGULAR STONE (ASTM 2 OR 3) TO A MINIMUM LENGTH OF 50 FEET AND MINIMUM DEPTH OF 6". ALL DRIVEWAYS MUST BE PROVIDED WITH CRUSHED STONE UNTIL PAVING IS COMPLETE.

14. STEEP SLOPES INCURRING DISTURBANCE MAY REQUIRE ADDITIONAL STABILIZATION MEASURES. THESE "SPECIAL" MEASURES SHALL BE DESIGNED BY THE APPLICANT'S ENGINEER AND BE APPROVED BY THE SOIL CONSERVATION DISTRICT.

15 THE HUDSON-ESSEX-PASSAIC SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED, IN WRITING, FOR THE SALE OF ANY PORTION OF THE PROJECT OR FOR THE SALE OF INDIVIDUAL LOTS. NEW OWNERS' INFORMATION SHALL BE PROVIDED. ADDITIONAL MEASURES DEEMED NECESSARY BY DISTRICT OFFICIALS SHALL BE IMPLEMENTED AS CONDITIONS WARRANT.

REV#	REV DATE	DESCRIPTION

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

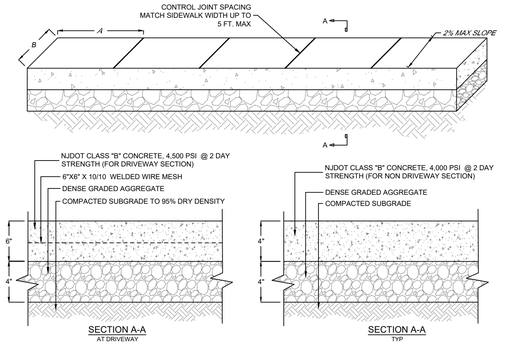
GRANT
ENGINEERING & CONSTRUCTION GROUP LLC

SIGNATURE & SEAL
BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:
SOIL EROSION & SEDIMENT CONTROL NOTES

PROJECT TITLE: REMOTE PARKING LOT
PROJECT OWNER: IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION: 164 ORANGE AVENUE
BLOCK: 78 LOT: 26
TOWNSHIP OF IRVINGTON COUNTY OF ESSEX NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C106
GECG PROJECT #:	190.329	SHEET #:	9 OF 10

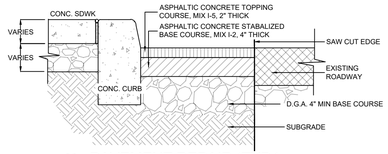


1 CONCRETE SIDEWALK (TYP.)
N.T.S.

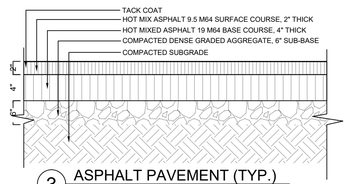
DIMENSION	SPECIFICATION
A	MATCH "B" UP TO 5 FT. (GREATER THAN 5 FT, USE 4 FT MAX SPACING
B	4' - 5' STANDARD (OR MATCH EXISTING)

DETAIL NOTES

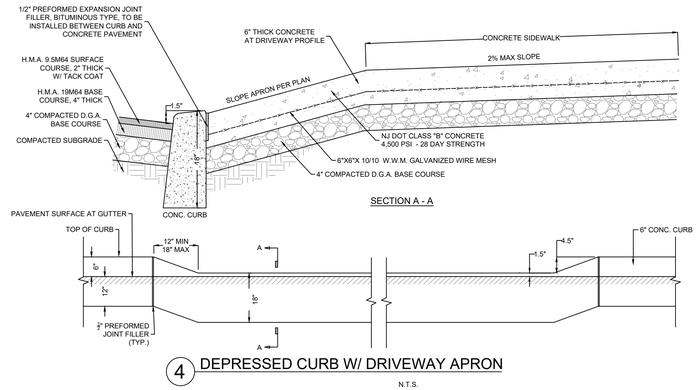
1. CONCRETE MATERIAL SHALL BE NJDOT CLASS "B" W/ 28 DAY COMPRESSIVE STRENGTH OF 4 KSI TO 4.5 KSI OR GREATER.
2. FINISH SHALL BE A LIGHT BROOM FINISH.
3. CONTROL JOINTS SHALL BE 1/4 " THE THICKNESS OF CONCRETE SLAB, WITH A MAX 1 ¼" DEPTH. JOINTS TO BE SAW-CUT, OR TOOLED WITH 1/2" MAX RADIUS FOR TOOLED JOINTS.
4. EXPANSION JOINTS SHALL BE MADE OF FIBER MATERIAL. THE TOP OF THE EXPANSION SHALL BE SET FLUSH, OR RECESSED 1/4" BELOW THE TOP OF THE SIDEWALK.
5. SUBGRADE TO BE COMPACTED TO 95% MAX DRY DENSITY AS DETERMINED BY MODIFIED PROCT.
6. DENSE GRADED AGGREGATE (D.G.A.) SHOULD BE UTILIZED WHERE REQUIRED FOR PROPER DRAINAGE AND SUPPORT OF SIDEWALK. D.G.A. SHOULD BE COMPACTED AS TIGHTLY AS POSSIBLE.
7. ALL CONCRETE SIDEWALKS SHOULD HAVE MAXIMUM CROSS SLOPE OF 1/4" PER FOOT (2% SLOPE) TOWARD THE CURB LINE.



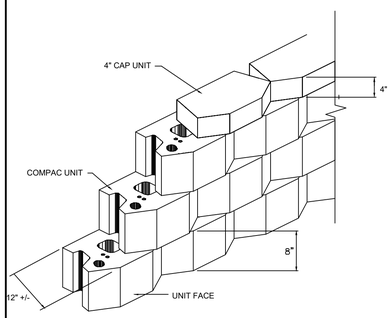
2 PAVEMENT REPAIR (TYP.)
N.T.S.

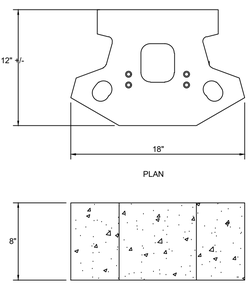


3 ASPHALT PAVEMENT (TYP.)
N.T.S.

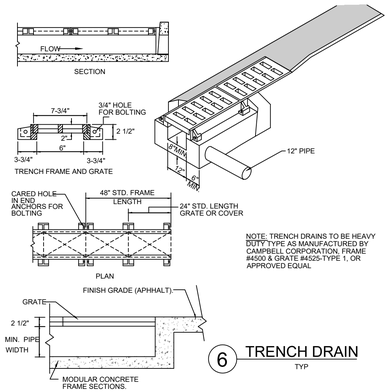


4 DEPRESSED CURB W/ DRIVEWAY APRON
N.T.S.



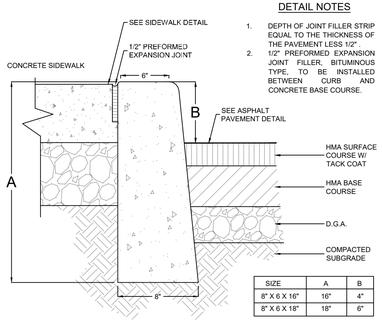


5 KEYSTONE COMPACT UNIT
RETAINING WALL



NOTE: TRENCH DRAINS TO BE HEAVY DUTY TYPE AS MANUFACTURED BY CAMPBELL CORPORATION, FRAME #4500 & GRATE #4525-TYPE 1, OR APPROVED EQUAL

6 TRENCH DRAIN
TYP



DETAIL NOTES

1. DEPTH OF JOINT FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT LESS 1/2" .
2. 1/2" PREFORMED EXPANSION JOINT FILLER, BITUMINOUS TYPE, TO BE INSTALLED BETWEEN CURB AND CONCRETE BASE COURSE.

SIZE	A	B
6" X 6 X 16"	16"	4"
8" X 6 X 18"	18"	6"

7 CONCRETE CURB DETAIL (TYP.)
N.T.S.

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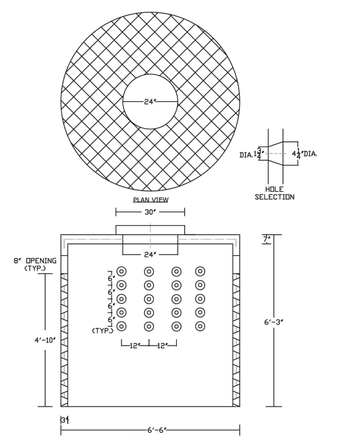
PEERLESS CONCRETE PRODUCTS CO.
SINCE 1959



SECTION VIEW

6' SEEPAGE PIT WITH RESIDENTIAL TRAFFIC TOP
(AS BUILT BY PEERLESS)

NOTES:

- RESIDENTIAL TRAFFIC ONLY
- CONCRETE 4,500PSI @ 28 DAYS
- REINFORCING: DETAILS FURNISHED UPON REQUEST
- CAPACITY: 1000 GALLONS/ 130 CUBIC FEET
- WEIGHT: 7000LBS ±
- SCALE: 1/2"=1'-0"

6 PRECAST SEEPAGE PIT

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DRAWING DISCLAIMER:

REV#	REV DATE	DESCRIPTION

ENGINEER (CIVIL):
GRANT ENGINEERING AND CONSTRUCTION GROUP, LLC
211 WARREN STREET, SUITE 209
NEWARK, NJ 07103
PH: 973-358-5020
FX: 732-377-8612
EMAIL: CLIENTSERVICES@GRANTECG.COM
CERT. OF AUTHORIZATION #: 24GA28146200

GRANT
ENGINEERING & CONSTRUCTION GROUP, LLC

SIGNATURE & SEAL

BRIAN S. GRANT
PROFESSIONAL ENGINEER
NJ LICENSE # 24GE04284500

DRAWING TITLE:

CONSTRUCTION DETAILS

PROJECT TITLE:	REMOTE PARKING LOT
PROJECT OWNER:	IRVINGTON BOARD OF EDUCATION
PROJECT LOCATION:	164 ORANGE AVENUE BLOCK: 78 LOT: 26
	TOWNSHIP OF IRVINGTON — COUNTY OF ESSEX — NEW JERSEY

DESIGNED BY:	BSG	DATE:	8/12/19
DWN BY: KJH	CKD BY: BSG	SCALE:	1" = 10'
CLIENT PROJECT #:	---------	DRAWING #:	C107
GECG PROJECT #:	190.329	SHEET #:	10 OF 10