PRELIMINARY AND FINAL SITE PLAN

FOR

HSC BERLIN, LLC
PROPOSED TRACTOR SUPPLY COMPANY

BLOCK 1604, LOTS 1, 2, 3, 4, & 5; TAX MAP SHEET #16 - LATEST REV. DATED 08-11-05
901 NJSH ROUTE 73 SOUTH,
TOWNSHIP OF BERLIN
CAMDEN COUNTY, NEW JERSEY

200' PROPERTY OWNERS LIST

TOWNSHIP OF BERLIN

PROPERTY OWNER	BLOCK	LOT
FIBRIANO ASSOCIATES, LLC 1300 ROUTE 38 CHERRY HILL, NJ 08002	1603	1
JACKSON POINTE, LLC C/O PAGLIUSO 334 STOKES ROAD SUITE – 2B MEDFORD, NJ 08055	1604	1
JACKSON POINT, LLC 334 STOKES ROAD SUITE – 2B MEDFORD, NJ 08055	1604	2, 3, 4, 5
JACKSON-TAUNTON-COLLINS LLC 1280 W NEWPORT CENTER DRIVE DEERFIELD BEACH, FL 33442	1606	12
WEST BERLIN ROUTE 73 LLC 1401 BROAD STREET CLIFTON, NJ 07013	1608	6
VERIZON– NJ – C/O DUFF & PHELPS PO BOX 2749 ADDISON, TX 75001	5000	1

ALSO TO BE NOTIFIED:

ATLANTIC CITY ELECTRIC
5100 HARDING HIGHWAY
MAYS LANDING, NJ 08330
ATTN: JOSEPH RIDING

PUBLIC SERVICE ELECTRIC & GAS
80 PARK PLAZA – T6B
NEWARK, NJ 07102

COMCAST CABLE
1250 HADDONFIELD–BERLIN ROAD
CHERRY HILL, NJ

SOUTH JERSEY GAS
ONE SOUTH JERSEY PLAZA, ROUTE 54
FOLSOM, NJ 08037

NEW JERSEY AMERICAN WATER
100 LINCOLN DRIVE
VOORHEES, NJ 08043

BERLIN BOROUGH WATER DEPARTMENT
59 SOUTH WHITE HORSE PIKE
BERLIN, NJ 08009

CAMDEN COUNTY PLANNING BOARD
2311 EGG HARBOR ROAD
LINDENWOLD, NJ 08021

CAMDEN COUNTY MUNICIPAL UTILITIES AUTHORITY
1645 FERRY AVENUE
CAMDEN, NJ 08104

STATE OF NEW JERSEY DEPARTMENT OF TRANSPORTATION
1035 PARKWAY AVENUE
BOX 101
TRENTON, NJ 08625

BERLIN TOWNSHIP CLERK'S OFFICE
135 ROUTE 73 SOUTH
WEST BERLIN, NJ 08091

BERLIN TOWNSHIP CHIEF OF POLICE
135 ROUTE 73 SOUTH\
WEST BERLIN, NJ 08091

NJ DOT
REGION SOUTH PERMIT OFFICE
ONE EXECUTIVE CAMPUS
ROUTE 70 WEST
CHERRY HILL, NJ 08002

NJDOT
BUREAU OF MAJOR ACCESS PERMITS
PO BOX 600
1035 PARKWAY AVENUE
TRENTON, NJ 08625

BOROUGH OF BERLIN

PROPERTY OWNER	BLOCK	LOT
NJ DEPT TRANSPORTATION 1035 PARKWAY AVENUE BOX 616 TRENTON, NJ 08625	99 1602	6 1, 2
SINELNIK, GREGORY (EST) C/O SINELNIK A 70 GARDENS AVENUE BERLIN, NJ 08009	1601	3, 1303

ALSO TO BE NOTIFIED:

ATLANTIC CITY ELECTRIC
R/E & R/W
5100 HARDING HIGHWAY
SUITE 399
MAYS LANDING, NJ 08330

PINELANDS COMMISSION
PO BOX 359
15 SPRINGFIELD ROAD
NEW LISBON, NJ 08064

SOUTH JERSEY GAS COMPANY
1 SOUTH JERSEY PLAZA
FOLSOM, NJ 08037

COMMISSIONER OF TRANSPORTATION
STATE OF NEW JERSEY
1035 PARKWAY AVENUE
PO BOX 101
TRENTON, NJ 08625

CAMDEN COUNTY PLANNING BOARD
CAMDEN COUNTY COMPLEX
2311 EGG HARBOR ROAD
LINDENWOLD, NJ 08021

BOROUGH OF BERLIN
50 SOUTH WHITE HORSE PIKE
BERLIN, NJ 08009

CONSOLIDATED RAIL CORP
REAL ESTATE DEPARTMENT
1000 HOWARD BOULEVARD
4TH FLOOR
MOUNT LAUREL, NJ 08054

TOWNSHIP OF WATERFORD

PROPERTY OWNER	BLOCK	LOT
PROKAPUS JOHN & KAREN 32 HIGH POINT DRIVE MEDFORD, NJ 08055	101	1
UFP EASTERN DIVISION INV 2801 E BELTLINE AVENUE NE GRAND RAPIDS, MI 49525	201	1
NJ DEPT TRANSPORTATION 1035 PARKWAY AVENUE, CN 600 TRENTON, NJ 08625	209	1
CONSOLIDATED RAIL CORP 1000 HOWARD BOULEVARD, 4TH FLOOR MOUNT LAUREL, NJ 08054	210	1

ALSO TO BE NOTIFIED:

ATLANTIC CITY ELECTRIC
R/E & R/W
5100 HARDING HIGHWAY, SUITE 399
MAYS LANDING, NJ 08330

SOUTH JERSEY GAS COMPANY
1 SOUTH JERSEY PLAZA
FOLSOM, NJ 08037

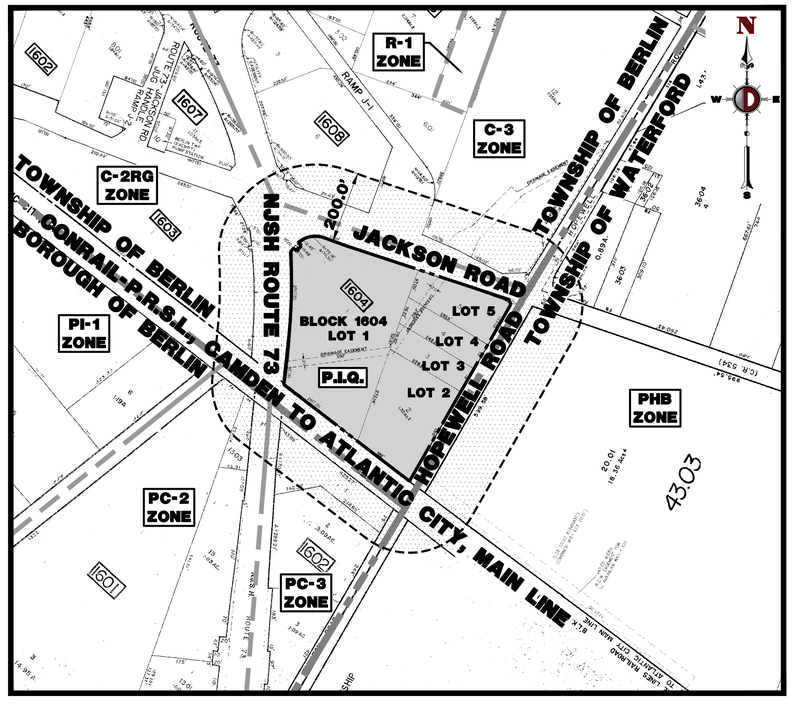
CAMDEN COUNTY PLANNING BOARD
CAMDEN COUNTY COMPLEX
2311 EGG HARBOR ROAD
LINDENWOLD, NJ 08021

PINELANDS COMMISSION
PO BOX 359
15 SPRINGFIELD ROAD
NEW LISBON, NJ 08064

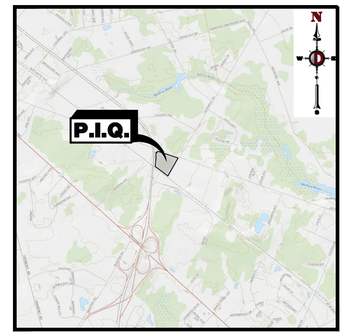
COMMISSIONER OF TRANSPORTATION
STATE OF NEW JERSEY
1035 PARKWAY AVENUE
PO BOX 101
TRENTON, NJ 08625

WATERFORD TOWNSHIP
2131 AUBURN AVENUE
ATCO, NJ 08004

CONSOLIDATED RAIL CORP
REAL ESTATE DEPARTMENT
1000 HOWARD BOULEVARD, 4TH FLOOR
MOUNT LAUREL, NJ 08054



AREA MAP
1" = 200'



KEY MAP
1" = 2000'

DRAWING INDEX

ZONING BOARD APPROVAL

APPROVED BY THE ZONING BOARD OF THE TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

CHAIRMAN — DATE

SECRETARY — DATE

TOWNSHIP ENGINEER — DATE

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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

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PREPARED BY
DYNAMIC ENGINEERING CONSULTANTS, P.C.
1904 MAIN STREET
LAKE COMO, NJ 07719
WWW.DYNAMICEC.COM

Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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F: 732.974.3521
www.dynamicec.com
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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8570

TITLE: COVER SHEET

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: LZ
SCALE: (H) AS (V) SHOWN
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 1 OF 17
CONSTRUCTION CHECK — DATE
CONSTRUCTION CHECK — DATE
DEC Client Code: 2451
Rev. # 6

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

Plotted: 07/27/20 – 3:50 PM, By: kheage, – Product Ver: 23.1s (LMS Tech)
File: P:\DEC\PC PROJECTS\2451 Hix Snedeker\99–012 Berlin\Dwg\Site Plans\02451990125R6.dwg, ---> 01 COVER SHEET

GRAPHIC SCALE

−100 0 50 100 200 400

(IN FEET)
1 INCH = 100 FT.

THE AERIAL IMAGE DEPICTED ON THIS PLAN IS BASED ON IMAGERY PREPARED BY DIGITAL GLOBE, GEO EYE AND USDA FARM SERVICE AGENCY. THIS IMAGERY WAS PROVIDED BY GOOGLE MAPS ON **05/24/16**. THE CONDITIONS OF THE SITE AND SURROUNDING AREAS MAY HAVE CHANGED SINCE THE DATE OF AERIAL PHOTOGRAPHY AND THEREFORE THIS PLAN MAY NOT ACCURATELY REFLECT ALL CURRENT EXISTING CONDITIONS.

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6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/01/19	REV. PER SCD COMMENTS	KJH
1	06/26/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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TITLE: AERIAL MAP

PROJECT: **HSC BERLIN, LLC**
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901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: LZ
SCALE: (H) 1"=100' (V)
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 2 OF 17
CONSTRUCTION CHECK — DATE —
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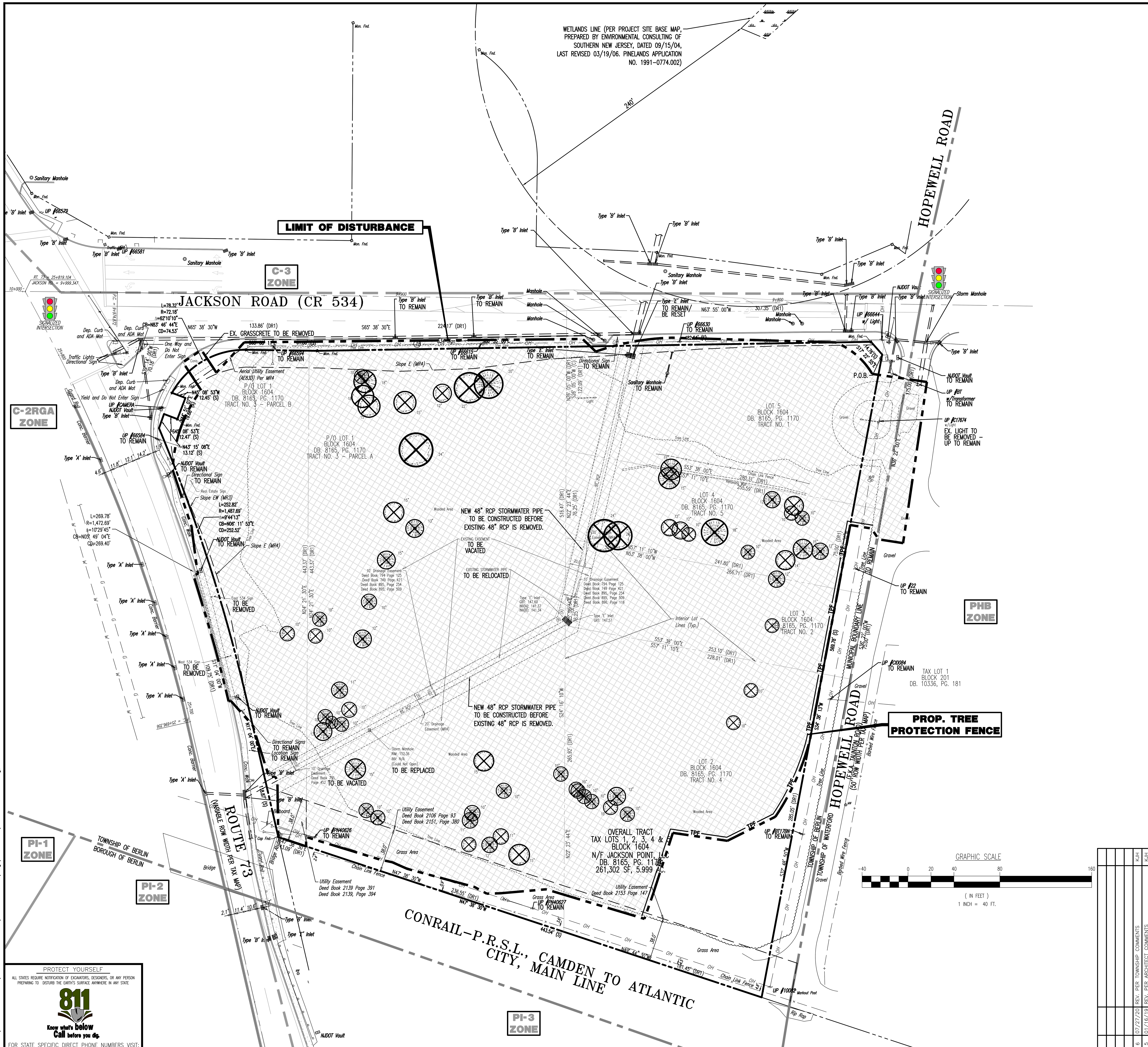

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DEMOLITION NOTES

1. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN STRICT ADHERENCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.
2. PROCEED WITH DEMOLITION IN A SYSTEMATIC MANNER, FROM THE TOP OF THE STRUCTURE(S) TO THE GROUND.
3. COMPLETE DEMOLITION WORK ABOVE EACH FLOOR OR TIER BEFORE DISTURBING ANY OF THE SUPPORTING MEMBERS OF THE LOWER LEVELS.
4. DEMOLISH CONCRETE AND MASONRY IN SMALL SECTIONS.
5. REMOVE STRUCTURAL FRAMING MEMBERS AND LOWER THEM TO THE GROUND BY MEANS OF HOISTS, DERRICKS OR OTHER SUITABLE METHODS.
6. BREAK UP CONCRETE SLABS-ON-GRADE, UNLESS OTHERWISE DIRECTED BY OWNER.
7. LOCATE DEMOLITION EQUIPMENT THROUGHOUT THE STRUCTURE AND REMOVE MATERIALS SO AS TO NOT IMPOSE EXCESSIVE LOADS ON SUPPORTING WALLS, FLOORS, OR FRAMING.
8. PROVIDE INTERIOR AND EXTERIOR SHORING, BRACING AND SUPPORTS TO PREVENT MOVEMENT, SETTLEMENT OR COLLAPSE OF STRUCTURES TO BE DEMOLISHED (AND ADJACENT FACILITIES, IF APPLICABLE).
9. DEMOLISH AND REMOVE ALL FOUNDATION WALLS, FOOTINGS AND OTHER MATERIALS WITHIN THE AREA OF THE DESIGNATED FUTURE BUILDING. ALL OTHER FOUNDATION SYSTEMS, INCLUDING BASEMENTS, SHALL BE DEMOLISHED TO A DEPTH OF NOT LESS THAN ONE FOOT BELOW PROPOSED PAVEMENT OR, BREAK BASEMENT FLOOR SLABS. SEAL ALL OPEN UTILITY LINES WITH CONCRETE. CONTRACTOR TO REVIEW STRUCTURE PRIOR TO DEMOLITION TO DETERMINE IF BASEMENT, CRAWL SPACE OR ANY SUB-STRUCTURE EXISTS. ANY SUB-STRUCTURE, INCLUDING BASEMENTS SHALL BE REMOVED IN ITS ENTIRETY OR AS DIRECTED BY OWNER.
10. ERECT AND MAINTAIN COVERED PASSAGEWAYS IN ORDER TO PROVIDE SAFE PASSAGE FOR PERSONS AROUND THE AREA OF DEMOLITION. CONDUCT ALL DEMOLITION OPERATIONS IN A MANNER THAT WILL PREVENT DAMAGE AND PERSONAL INJURY TO STRUCTURES, ADJACENT BUILDINGS AND ALL PERSONS.
11. REFRAIN FROM USING ANY EXPLOSIVES WITHOUT PRIOR WRITTEN CONSENT OF OWNER AND APPLICABLE GOVERNMENTAL AUTHORITIES.
12. CONDUCT DEMOLITION SERVICES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, WALKS AND OTHER ADJACENT FACILITIES. DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER OCCUPIED FACILITIES WITHOUT PRIOR WRITTEN PERMISSION OF OWNER AND ANY APPLICABLE GOVERNMENTAL AUTHORITIES. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS, IF REQUIRED BY APPLICABLE GOVERNMENTAL REGULATIONS.
13. USE WATERING, TEMPORARY ENCLOSURES AND OTHER SUITABLE METHODS, AS NECESSARY TO LIMIT THE AMOUNT OF DUST AND DIRT RISING AND SCATTERING IN THE AIR. CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. RETURN ALL ADJACENT AREAS TO THE CONDITIONS EXISTING PRIOR TO THE START OF WORK.
14. ACCOMPLISH AND PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
15. COMPLETELY FILL BELOW GRADE AREAS AND VOIDS RESULTING FROM THE DEMOLITION OF STRUCTURES AND FOUNDATIONS WITH SOIL MATERIALS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, CONSISTING OF STONE, GRAVEL AND SAND, FREE FROM DEBRIS, TRASH, FROZEN MATERIALS, ROOTS AND OTHER ORGANIC MATTER. STONES USED WILL NOT BE LARGER THAN 6 INCHES IN DIMENSION. MATERIAL FROM DEMOLITION MAY NOT BE USED AS FILL. PRIOR TO PLACEMENT OF FILL MATERIALS, UNDERTAKE ALL NECESSARY ACTION IN ORDER TO ENSURE THAT AREAS TO BE FILLED ARE FREE OF STANDING WATER, FROST, FROZEN MATERIAL, TRASH, DEBRIS. PLACE FILL MATERIALS IN HORIZONTAL LAYERS NOT EXCEEDING 6 INCHES IN LOOSE DEPTH AND COMPACT EACH LAYER AT PLACEMENT TO 95% OPTIMUM DENSITY. GRADE THE SURFACE TO MEET ADJACENT CONTOURS AND TO PROVIDE SURFACE DRAINAGE.
16. REMOVE FROM THE DESIGNATED SITE, AT THE EARLIEST POSSIBLE TIME, ALL DEBRIS, RUBBISH, SALVAGEABLE ITEMS, HAZARDOUS AND COMBUSTIBLE SERVICES. REMOVED MATERIALS MAY NOT BE STORED, SOLD OR BURNED ON THE SITE. REMOVAL OF HAZARDOUS AND COMBUSTIBLE MATERIALS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PROCEDURES AS AUTHORIZED BY THE FIRE DEPARTMENT OR OTHER APPROPRIATE REGULATORY AGENCIES AND AUTHORITIES.
17. DISCONNECT, SHUT OFF AND SEAL IN CONCRETE ALL UTILITIES SERVING THE STRUCTURE(S) TO BE DEMOLISHED BEFORE THE COMMENCEMENT OF THE DESIGNATED DEMOLITION. MARK FOR POSITION ALL UTILITY DRAINAGE AND SANITARY LINES AND PROTECT ALL ACTIVE LINES. CLEARLY IDENTIFY BEFORE THE COMMENCEMENT OF DEMOLITION SERVICES THE REQUIRED INTERRUPTION OF ACTIVE SYSTEMS THAT MAY AFFECT OTHER PARTIES, AND NOTIFY ALL APPLICABLE UTILITY COMPANIES TO ENSURE THE CONTINUATION OF SERVICE.
18. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL PROCEDURES ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS NECESSARY.

NOTES

1. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM OR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.
3. ALL EXISTING UTILITIES TO BE ABANDONED SHALL BE DISCONNECTED AND CAPPED AT THE MAIN FOR WATER, AT THE CLEAN-OUT FOR SEWER AND THE SHUT-OFF VALVE OR MAIN FOR GAS IN ACCORDANCE WITH MUNICIPAL AND LOCAL UTILITY REQUIREMENTS.
4. ALL EXISTING DEBRIS SHALL BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH MUNICIPAL AND LOCAL UTILITY COMPANY REQUIREMENTS.

DEMOLITION PLAN LEGEND

- PROPOSED LIMIT OF DISTURBANCE LINE
- TPF — TPF — PROPOSED TREE PROTECTION FENCE LINE
- EXISTING IMPROVEMENTS TO BE REMOVED UNLESS OTHERWISE NOTED
- TREES TO REMAIN
- TREES TO BE REMOVED
- TREES TO BE TRANSPLANTED/RELOCATED

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6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
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TITLE: DEMOLITION PLAN

PROJECT: **HSC BERLIN, LLC**
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SHEET No: 3 OF 17

KYLE C. KAVINSKI
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NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

CONSTRUCTION CHECK — DATE —
CONSTRUCTION CHECK — DATE —

DEC Client Code: 2451
Rev. # 6

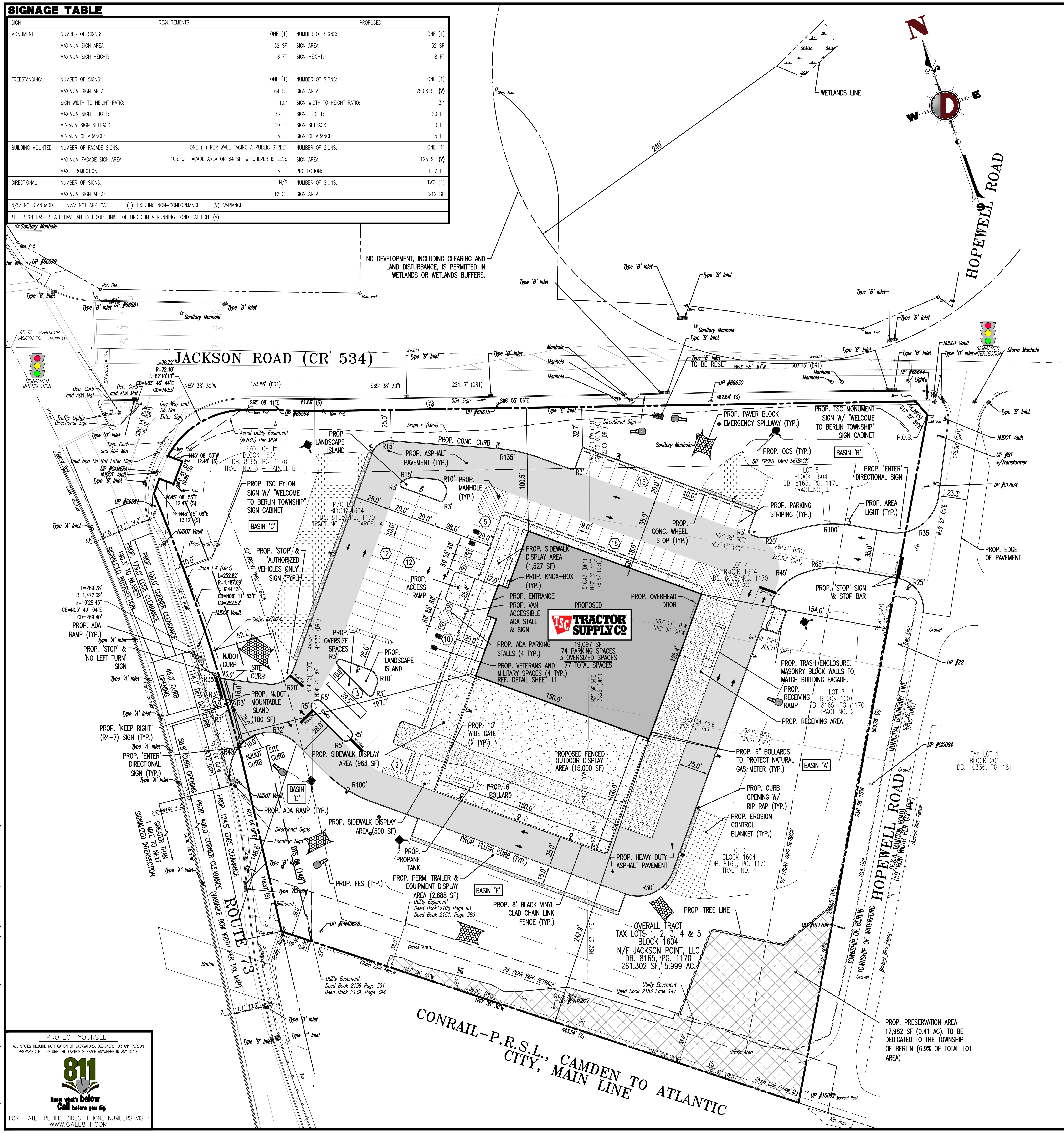
Plotted: 07/27/20 – 3:51 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\D245199012SR6.dwg, ---> 03 DEMOLITION PLAN

SIGNAGE TABLE

SIGN	REQUIREMENTS		PROPOSED	
MONUMENT	NUMBER OF SIGNS:	ONE (1)	NUMBER OF SIGNS:	ONE (1)
	MAXIMUM SIGN AREA:	32 SF	SIGN AREA:	32 SF
	MAXIMUM SIGN HEIGHT:	8 FT	SIGN HEIGHT:	8 FT
FREESTANDING*	NUMBER OF SIGNS:	ONE (1)	NUMBER OF SIGNS:	ONE (1)
	MAXIMUM SIGN AREA:	64 SF	SIGN AREA:	75.08 SF **(V)**
	SIGN WIDTH TO HEIGHT RATIO:	10:1	SIGN WIDTH TO HEIGHT RATIO:	3:1
	MAXIMUM SIGN HEIGHT:	25 FT	SIGN HEIGHT:	20 FT
	MINIMUM SIGN SETBACK:	10 FT	SIGN SETBACK:	10 FT
	MINIMUM CLEARANCE:	6 FT	SIGN CLEARANCE:	15 FT
BUILDING MOUNTED	NUMBER OF FACADE SIGNS:	ONE (1) PER WALL FACING A PUBLIC STREET	NUMBER OF SIGNS:	ONE (1)
	MAXIMUM FACADE SIGN AREA:	10% OF FAÇADE AREA OR 64 SF, WHICHEVER IS LESS	SIGN AREA:	125 SF **(V)**
	MAX. PROJECTION:	3 FT	PROJECTION:	1.17 FT
DIRECTIONAL	NUMBER OF SIGNS:	N/S	NUMBER OF SIGNS:	TWO (2)
	MAXIMUM SIGN AREA:	12 SF	SIGN AREA:	>12 SF

N/S: NO STANDARD N/A: NOT APPLICABLE (E): EXISTING NON-CONFORMANCE (V): VARIANCE

*THE SIGN BASE SHALL HAVE AN EXTERIOR FINISH OF BRICK IN A RUNNING BOND PATTERN. (V)



Plotted: 07/27/20 – 3:51 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\D2451990125XS.dwg, ---> 04 SITE PLAN

GENERAL NOTES

1. THIS PLAN HAS BEEN PREPARED BASED ON REFERENCES INCLUDING:

   BOUNDARY AND TOPOGRAPHIC SURVEY
   DYNAMIC SURVEY, LLC
   1904 MAIN STREET
   LAKE COMO, NJ 07719
   DATED 01/18/2019

2. APPLICANT: HSC BERLIN, LLC
   805 TRIONE STREET
   DAPHNE, AL 36526

3. OWNER: JACKSON POINTE LLC
   343 STOKES ROAD, SUITE-2B
   MEDFORD, NJ 08055

4. PARCEL DATA: BLOCK 1604, LOTS 1-5
   901 NJSH ROUTE 73 SOUTH
   TOWNSHIP OF BERLIN
   CAMDEN COUNTY, NEW JERSEY

5. ZONE: C-2 RGA (REGIONAL GROWTH AREA)

6. EXISTING USE: UNDEVELOPED PARCELS

7. PROPOSED USE: RETAIL (PERMITTED USE) (§340-51)

8. SCHEDULE OF ZONING REQUIREMENTS (§340-55 & §340 ATTACHMENT 1)

ZONE REQUIREMENT	C-2 RGA ZONE	EXISTING	PROPOSED
MINIMUM LOT AREA	20,000 SF (.46 AC)	261,302 SF (5,999 AC)	261,302 SF (5.999 AC)
MINIMUM LOT WIDTH	100 FT	> 100 FT	> 100 FT
MINIMUM LOT FRONTAGE	100 FT	> 100 FT	> 100 FT
MINIMUM LOT DEPTH	150 FT	> 150 FT	> 150 FT
MINIMUM FRONT YARD SETBACK	50 FT	N/A	100.5 FT
MINIMUM REAR YARD SETBACK	25 FT	N/A	233.7 FT
MINIMUM SIDE YARD SETBACK	15 FT	N/A	N/A
MINIMUM SIDE YARD SETBACK (BOTH)	30 FT	N/A	N/A
MAXIMUM BUILDING HEIGHT	35 FT/ 2½ STORIES	N/A	30.67 FT/ 1 STORY
MAXIMUM BUILDING COVERAGE (WITH SEWER HOOKUP)	65%	N/A	7.3% (19,097 SF)
MAXIMUM BUILDING COVERAGE (WITHOUT SEWER)	40%	N/A	N/A
MAXIMUM IMPERVIOUS COVERAGE	N/S	0.5%	43.9%

N/S: NO STANDARD N/A: NOT APPLICABLE (E): EXISTING NON-CONFORMANCE (V): VARIANCE

9. OFF-STREET PARKING REQUIREMENTS
   A. FOR GENERAL BUSINESS, COMMERCIAL AND PERSONAL SERVICE ESTABLISHMENTS NOT SPECIFICALLY COVERED IN THIS SECTION, ONE SPACE FOR EACH 250 SQUARE FEET OF GROSS FLOOR AREA. (§340-95.A.16)

      THEREFORE: (19,097 SF OF GFA)*(1 SPACE/250 SF OF GFA)
      = 77 SPACES REQUIRED
      = 77 SPACES PROVIDED **(COMPLIES)**
   B. ALL PARKING SPACES EXCEPT THOSE FOR SINGLE-FAMILY DETACHED DWELLINGS SHALL BE PAVED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP. PAVED AREAS SHALL BE SURFACED WITH A DURABLE, PERMANENT AND DUSTLESS SURFACE AND PROVIDED WITH DRAINAGE FACILITIES SUBJECT TO REVIEW AND APPROVAL OF THE PLANNING BOARD AND TOWNSHIP ENGINEER. ALL SPACES SHALL BE CLEARLY MARKED, AND TRAFFIC CONTROL MARKINGS SHALL BE INCLUDED IF REQUIRED. (§340-93.B) **(COMPLIES)**
   C. OFF-STREET PARKING AREAS SHALL BE A MINIMUM OF 20 FEET FROM THE ESTABLISHED CURBLINE OR SHOULDER OF ANY STREET. ON ROADS DESIGNATED FOR WIDENING BY THE TOWNSHIP, COUNTY OR STATE, THE PARKING AREA SHALL BE A MINIMUM OF 20 FEET FROM THE FUTURE CURBLINE. (§340-93.F) **(COMPLIES)**
   D. PARKING STALLS AT A 90° ANGLE WITH THE DRIVEWAY SHALL PROVIDE PARKING DIMENSIONS OF 9 FEET IN WIDTH BY 18 FEET IN LENGTH. (§340-93.I.1) **(COMPLIES)**
   E. PARKING AREAS CONTAINING 90° PARKING STALLS SHALL HAVE MINIMUM DRIVEWAY WIDTHS OF 25 FEET FOR BOTH 1-WAY AND 2-WAY TRAFFIC. (§340-93.I.1) **(COMPLIES)**
   F. IN PARKING AREAS CONTAINING 20 OR MORE SPACES, ONLY 90° PARKING SHALL BE PERMITTED UNLESS, BECAUSE OF THE EXCEPTIONAL NARROWNESS, SHAPE OR TOPOGRAPHIC CONDITIONS OF THE LOT, AND THE PLANNING BOARD DETERMINES ANOTHER STALL AND DRIVEWAY ALIGNMENT SHOULD BE UTILIZED. (§340-93.I.2) **(COMPLIES)**
   G. OFF-STREET PARKING AREAS SHALL BE DESIGNED TO PREVENT THE MANEUVERING OF VEHICLES WITHIN ANY PORTION OF AN ENTRANCE DRIVEWAY LANE THAT IS WITHIN 20 FEET OF THE RIGHT-OF-WAY LANE OF THE STREET WHICH PROVIDES INGRESS AND EGRESS. (§340-93.J) **(COMPLIES)**
   H. INTERSECTIONS BETWEEN DRIVEWAYS, AISLES AND ACCESS DRIVES IN PARKING AREAS SHALL BE AS NEARLY AT RIGHT ANGLES AS IS POSSIBLE AND IN NO CASE LESS THAN 60°. (§340-93.K) **(COMPLIES)**
   I. A CURB, BUMPER BLOCK OR SIMILAR ABUTMENT SHALL BE INSTALLED ALONG THE PERIMETER OF ALL PARKING AREAS TO PREVENT EROSION, DAMAGE TO LANDSCAPED AREAS AND ENCROACHMENTS ON SIDEWALKS, STREETS, DRIVEWAYS OR ALLEYS. (§340-93.L) **(COMPLIES)**

10. LOADING REQUIREMENTS
    A. LOADING AND DELIVERY AREAS SHALL NOT BE LOCATED IN AN AREA DESIGNATED TO BE REQUIRED TO MEET THE OFF-STREET PARKING REQUIREMENTS OF THIS CHAPTER AND SHALL NOT BE ENCROACHED UPON OR REDUCED IN ANY MANNER. IN ADDITION, ALL LOADING AND DELIVERY AREAS SHALL BE PAVED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE TOWNSHIP AND SHALL BE SURFACED AND PROVIDED WITH DRAINAGE SUBJECT TO THE REVIEW AND APPROVAL OF THE PLANNING BOARD AND TOWNSHIP ENGINEER. ALL LOADING AREAS SHALL BE CLEARLY MARKED, AND TRAFFIC CONTROL MARKINGS SHALL BE INCLUDED IF REQUIRED. (§340-94.A) **(COMPLIES)**
    B. FOR ALL RETAIL AND BUSINESS USES A MINIMUM OF ONE LOADING AND DELIVERY AREA SHALL BE PROVIDED NOT LESS THAN 12 FEET IN WIDTH, 35 FEET IN LENGTH AND 14 FEET IN HEIGHT. (§340-94.B.1) **(COMPLIES)**

11. REFUSE STATIONS
    A. ALL REFUSE STATIONS IN COMMERCIAL AND INDUSTRIAL ZONES SHALL BE REQUIRED TO USE TRASH DUMPSTERS AND SHALL BE DESIGNED AND LOCATED TO BE CONVENIENT FOR REFUSE REMOVAL AND NOT OFFENSIVE TO THE OCCUPANTS OF ADJACENT UNITS. ALL COMMERCIAL AND INDUSTRIAL USERS SHALL HAVE AT LEAST TWO REFUSE DUMPSTERS WITH ONE FOR RECYCLABLES AND THE OTHER FOR REGULAR TRASH. ALL REFUSE STATION AREAS ARE TO BE ENCLOSED USING THE SAME MATERIAL AS USED IN THE FACADE OF THE BUILDING. THIS IS A PERSPECTIVE SECTION AND WILL BE APPLIED RETROACTIVELY. (§200-109) **(COMPLIES)**

12. STORAGE REQUIREMENTS
    A. THE OUTDOOR STORAGE OF GOODS, ARTICLES, APPLIANCES AND VEHICLES SHALL BE PROHIBITED IN BUSINESS AND INDUSTRIAL DISTRICTS UNLESS ITEMS BEING STORED ARE TO BE SOLD ON THE PREMISES, LOCATED TO THE REAR OF THE FRONT SETBACK LINE AND SCREENED IN A MANNER WHICH PREVENTS THEIR BEING VIEWED FROM ANY PROPERTY. VISIBLE STORAGE OF ANY KIND SHALL NOT BE PERMITTED ON THE PREMISES IN ANY RESIDENTIAL DISTRICT. (§340-16) **(V)**

13. FENCE REQUIREMENTS
    A. FENCES OR WALLS HEREAFTER ERECTED, ALTERED OR RECONSTRUCTED IN ANY ZONE OF THE TOWNSHIP SHALL NOT BE LOCATED WITHIN THE SIGHT TRIANGLE, ESTABLISHED UNDER AASHTO, POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS. (§340-18B) **(COMPLIES)**
       i. ON LOTS WITH MULTIPLE STREET FRONTAGES, THE FRONT YARD SHALL BE CONSTRUED TO BE ALONG THE STREET WHICH CORRESPONDS TO THE STREET ADDRESS. (§340-18B.1) **(COMPLIES)**
       ii. ON LOTS WITH MULTIPLE STREET FRONTAGES, FENCES SHALL NOT BE PLACED IN THE MINIMUM FRONT YARD BUILDING SETBACK ALONG THOSE OTHER STREET FRONTAGES WHICH DO NOT CORRESPOND TO THE STREET ADDRESS; I.E., THEY ARE NOT THE FRONT YARD OF THE BUILDING. (§340-18B.2) **(COMPLIES)**
       iii. FENCES WILL NOT BE PERMITTED WITHIN THE FRONT YARD, BETWEEN THE STREET LINE AND THE FRONT LINE OF THE BUILDING (AND ITS EXTENSIONS) OR THE REQUIRED FRONT YARD BUILDING SETBACK, WHICHEVER IS GREATER. (§340-18B.3) **(COMPLIES)**
    B. NO FENCE OR WALL HEREAFTER ERECTED, ALTERED OR RECONSTRUCTED IN COMMERCIAL ZONES SHALL EXCEED A HEIGHT OF SIX FEET ABOVE GRADE LEVEL. (§340-18.D) **(V)**
    C. FENCES MAY ONLY BE WHITE, BROWN, BEIGE OR WOOD AND/OR WOODGRAIN IN COLOR, EXCEPT METAL FENCES WHICH MAY BE BLACK, SILVER, WHITE OR GREEN. (§340-18G.2) **(COMPLIES)**
    D. ALL FENCES SHALL BE ONE COLOR. MULTICOLORED FENCES ARE PROHIBITED. (§340-18G.3) **(COMPLIES)**
    E. ALL FENCES OR WALLS MUST BE ERECTED WITHIN THE PROPERTY LINES. NO FENCE SHALL BE ERECTED CLOSER THAN THREE INCHES TO THE PROPERTY LINE. IN ADDITION, THE LATERAL PIECES ON THE FENCE SHALL BE ON THE INSIDE SO THAT THEY FACE THE OWNER'S PROPERTY; I.E., THE FINISHED SURFACE OF THE FENCE SHALL FACE THE ADJACENT PROPERTY. SUPPORT POSTS SHALL BE PLACED ON THE INSIDE OF THE FENCE, EXCEPT WHERE THE POSTS ARE AN INTEGRAL PART OF THE FENCE DESIGN, WHICH ENHANCES THE AESTHETIC APPEARANCE OF THE FENCE. (§340-18.I) **(COMPLIES)**

14. THE APPLICANT REQUESTS ANY AND ALL SUBMISSION WAIVERS THAT ARE NOT SPECIFICALLY IDENTIFIED HEREIN. TESTIMONY WILL BE SUPPLIED AT THE PUBLIC HEARING TO SUPPORT SAID SUBMISSION WAIVERS.

15. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
16. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.
17. THE SOILS REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER CONSTRUCTION MANAGER OF ANY DISCREPANCY BETWEEN SOILS REPORT & PLANS.
18. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
19. THE PROPERTY SURVEY SHALL BE CONSIDERED A PART OF THESE PLANS.
20. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.
21. SOLID WASTE TO BE DISPOSED OF BY CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
22. ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
23. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
24. ALL CONTRACTORS MUST CARRY STATUTORY WORKERS COMPENSATION, EMPLOYERS LIABILITY INSURANCE AND APPROPRIATE LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME DYNAMIC ENGINEERING CONSULTANTS, P.C. , ITS SUBCONSULTANTS AS ADDITIONAL INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THE HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH DYNAMIC ENGINEERING CONSULTANTS, P.C. WITH CERTIFICATES OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS DYNAMIC ENGINEERING CONSULTANTS, P.C. AND ITS SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS.
25. NEITHER THE PROFESSIONAL ACTIVITIES OF DYNAMIC ENGINEERING CONSULTANTS, P.C., NOR THE PRESENCE OF DYNAMIC ENGINEERING CONSULTANTS, P.C. OR ITS EMPLOYEES AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. DYNAMIC ENGINEERING CONSULTANTS, P.C. AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOBSITE SAFETY. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.
26. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL REVIEW AND APPROVE OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS, COORDINATION OF THE WORK WITH OTHER TRADES OR CONSTRUCTION SAFETY PRECAUTIONS, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DYNAMIC ENGINEERING'S REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT DYNAMIC ENGINEERING CONSULTANTS, P.C. HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF DYNAMIC ENGINEERING CONSULTANTS, P.C. IN WRITING BY THE CONTRACTOR. DYNAMIC ENGINEERING CONSULTANTS, P.C. SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
27. IN AN EFFORT TO RESOLVE ANY CONFLICTS THAT ARISE DURING THE DESIGN AND CONSTRUCTION OF THE PROJECT OR FOLLOWING THE COMPLETION OF THE PROJECT, DYNAMIC ENGINEERING CONSULTANTS, P.C. AND THE CONTRACTOR MUST AGREE THAT ALL DISPUTES BETWEEN THEM ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE PROJECT SHALL BE SUBMITTED TO NONBINDING MEDIATION UNLESS THE PARTIES MUTUALLY AGREE OTHERWISE.
28. THE CONTRACTOR MUST INCLUDE A MEDIATION PROVISION IN ALL AGREEMENTS WITH INDEPENDENT SUBCONTRACTORS AND CONSULTANTS RETAINED FOR THE PROJECT AND TO REQUIRE ALL INDEPENDENT CONTRACTORS AND CONSULTANTS ALSO TO INCLUDE A SIMILAR MEDIATION PROVISION IN ALL AGREEMENTS WITH THEIR SUBCONTRACTORS, SUBCONSULTANTS, SUPPLIERS AND FABRICATORS, THEREBY PROVIDING FOR MEDIATION AS THE PRIMARY METHOD FOR DISPUTE RESOLUTION BETWEEN THE PARTIES TO ALL THOSE AGREEMENTS.
29. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED THEREON, WITHOUT FIRST OBTAINING PRIOR WRITTEN AUTHORIZATION FOR SUCH DEVIATIONS FROM THE OWNER AND ENGINEER, IT SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS TO CORRECT ANY WORK DONE, ALL FINES OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND IT SHALL INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ALL SUCH COSTS TO CONNECT ANY SUCH WORK AND FROM ALL SUCH FINES AND PENALTIES, COMPENSATION AND PUNITIVE DAMAGES AND COSTS OF ANY NATURE RESULTING THEREFROM.
30. ALL TRAFFIC SIGNS AND STRIPING SHALL FOLLOW THE REQUIREMENTS SPECIFIED IN THE MANUAL ON "UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
31. THE BUILDING SETBACK DIMENSIONS ILLUSTRATED AND LISTED ON THE SITE PLAN DRAWINGS ARE MEASURED FROM THE OUTSIDE SURFACE OF BUILDING WALLS. THESE SETBACK DIMENSIONS DO NOT ACCOUNT FOR ROOF OVERHANGS, ORNAMENTAL ELEMENTS, SIGNAGE OR OTHER EXTERIOR EXTENSIONS UNLESS SPECIFICALLY NOTED.
32. CONTRACTOR ACKNOWLEDGES HE HAS READ AND UNDERSTOOD THE DESIGN PHASE SOIL PERMEABILITY AND GROUNDWATER TEST RESULTS IN THE STORMWATER MANAGEMENT REPORT AND THAT THE CONTRACTORS RESPONSIBILITIES INCLUDE NECESSARY PROVISIONS TO ACHIEVE THE DESIGN PERMEABILITY IN THE FIELD.
33. CONTRACTOR TO BE ADVISED THAT THE ENGINEER WAS NOT PROVIDED WITH FINAL FLOOR PLAN DRAWINGS FOR THE BUILDING AT THE TIME OF SITE PLAN DESIGN. AS A RESULT, ENTRANCE DOOR LOCATIONS AS DEPICTED HEREON MAY NOT BE FINAL AND MUST BE CONFIRMED WITH THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION. THE HANDICAP ACCESSIBLE PARKING SPACES AND THE ASSOCIATED RAMPS AND ACCESSIBLE ROUTE MUST COMPLY WITH NJAC 5:23-7 AND THE HANDICAP PARKING SPACES MUST BE LOCATED AS THE NEAREST SPACES TO THE ENTRANCE. CONTRACTOR TO NOTIFY OWNER AND ENGINEER IMMEDIATELY OF ANY DISCREPANCY PRIOR TO CONSTRUCTION.

PAVEMENT LEGEND

- PROPOSED STANDARD DUTY ASPHALT PAVEMENT
- PROPOSED ASPHALT REPAIR STRIP
- PROPOSED HEAVY DUTY PAVEMENT
- PROPOSED HEAVY DUTY CONCRETE PAVEMENT
  8" BASE
  6" CONCRETE SURFACE COURSE
- PROPOSED STANDARD DUTY CONCRETE PAVEMENT
  6" BASE
  4" CONCRETE SURFACE COURSE

GRAPHIC SCALE

-40 0 20 40 80 160

(IN FEET)
1 INCH = 40 FT.

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6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

DYNAMIC ENGINEERING
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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8570

TITLE: SITE PLAN

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

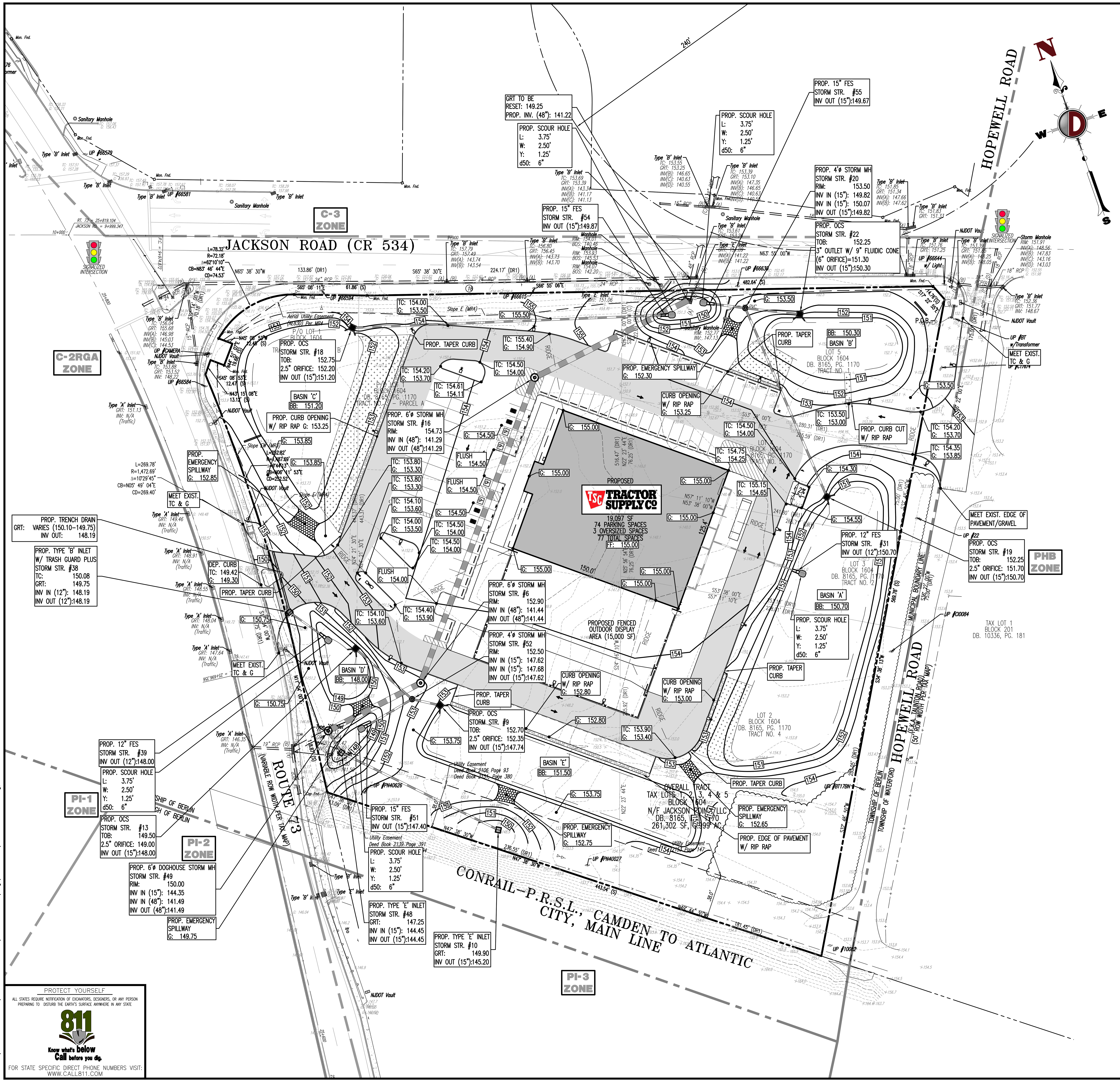
JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) 1"=40' (V)
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 4 OF 17

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

CONSTRUCTION CHECK – DATE –
CONSTRUCTION CHECK – DATE –

DEC Client Code: 2451
Rev. # 6



GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- EXIST. FIBER OPTIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. FUEL LINE
- PROP. FUEL LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- APPROX. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
- EXIST. WELL
- EXIST. WATER SHUT OFF VALVE
- EXIST. TELEPHONE BOX
- EXIST. CABLE TV BOX
- EXIST. UTILITY POLE
- EXIST. GUY WIRE
- EXIST. LIGHT POLE
- EXIST. BUILDING LIGHT
- EXIST. SHOE BOX LIGHT
- EXIST. COBRA LIGHT POLE
- EXIST. TRAFFIC SIGNAL POLE
- EXIST. MANHOLE
- EXIST. "A" INLET
- EXIST. "B" INLET
- EXIST. "E" INLET
- EXIST. YARD INLET
- EXIST. FLARED END SECTION
- EXIST. HEADWALL
- G: 000.00 — PROP. GRADE SPOT ELEV.
- TC: 000.00 / G: 000.00 — PROP. TOP OF CURB & FINISHED GRADE ELEV.
- FF: 000.00 — PROP. FINISHED FLOOR ELEV.
- TW: 000.00 / GL: 000.00 — PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER)
- TC: 000.00 / GH: 000.00 / GL: 000.00 — PROP. TOP OF EXTENDED CURB, (GH) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & (GL) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB
- PROP. DIRECTION OF DRAINAGE FLOW ARROW
- PROP. WATER VALVE
- PROP. GAS VALVE
- PROP. STORM CLEANOUT
- PROP. SANITARY CLEANOUT
- PROP. AREA LIGHT
- PROP. OUTLET CONTROL STRUCTURE
- PROP. DRAINAGE MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. 'A' INLET
- PROP. 'B' INLET
- PROP. 'E' INLET
- PROP. YARD INLET
- PROP. FLARED END SECTION
- PROP. HEADWALL

GRADING NOTES

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D–1557. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED WITHIN THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MIN. SLOPE AGAINST ALL ISLAND GUTTERS, CURBS AND 1.0% ON ALL CONCRETE SURFACES, AND 1–1/2% MIN. ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY EFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MIN. OF 0.75% GUTTER GRADE ALONG CURB FACE. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
4. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
5. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERCEDE IN ALL CASES. CONTRACTOR MUST NOTIFY ENGINEER OF RECORD OF ANY CONFLICT IMMEDIATELY.
7. MAXIMUM CROSS SLOPE OF 2% ON ALL SIDEWALKS.
8. CONTRACTOR TO ENSURE A MAXIMUM OF 2% SLOPE IN ALL DIRECTIONS IN ADA PARKING SPACES AND ADA ACCESS AISLES. CONTRACTOR TO ENSURE A MAXIMUM OF 5% RUNNING SLOPE AND 2% CROSS SLOPE ALONG ALL OTHER PORTIONS OF ACCESSIBLE ROUTE, WITH THE EXCEPTION OF RAMPS AND CURB RAMPS. CONTRACTOR SHALL CLARIFY ANY QUESTIONS CONCERNING CONSTRUCTION IN ADA AREAS WITH THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
9. THE OWNER SHALL RETAIN DYNAMIC EARTH, LLC (908–879–7095) OR ALTERNATE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND ANY FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
10. CONTRACTOR IS TO REMOVE EXISTING UNSUITABLE OR OVERLY COMPACT SOIL OR ROCK AS NEEDED TO ACHIEVE REQUIRED PERMEABILITY AS DIRECTED BY THE OWNERS GEOTECHNICAL ENGINEER, AND NEW FILL, IF NEEDED, SHALL HAVE AN IN PLACE PERMEABILITY GREATER THAN OR EQUAL TO THE DESIGN CRITERIA.
11. CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE OWNER'S GEOTECHNICAL ENGINEER PRIOR TO ONSET OF CONSTRUCTION TO SUBMIT AND CONFIRM THE CONTRACTOR'S PROPOSED MEANS AND MATERIALS AND TO SCHEDULE INSPECTIONS FOR BOTTOM OF BASIN, REMOVAL OF UNSUITABLE SOIL, FILL PLACEMENT, AND FINAL BASIN PERMEABILITY TESTING.
12. THE CONTRACTOR IS RESPONSIBLE FOR AS-BUILT PLANS AND GRADE CONTROL UNLESS DEFINED OTHERWISE ELSEWHERE IN THE CONTRACT DOCUMENTS.

GRAPHIC SCALE

-40 0 20 40 80 160

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3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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TITLE: GRADING PLAN

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451–99–012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) 1"=40' (V)
DESIGNED BY: KCK
CHECKED BY: JMS

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
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– CONSTRUCTION CHECK – DATE
– CONSTRUCTION CHECK – DATE

SHEET No: 5 OF 17

DEC Client Code: 2451
Rev. # 6

Plotted: 07/27/20 – 3:51 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
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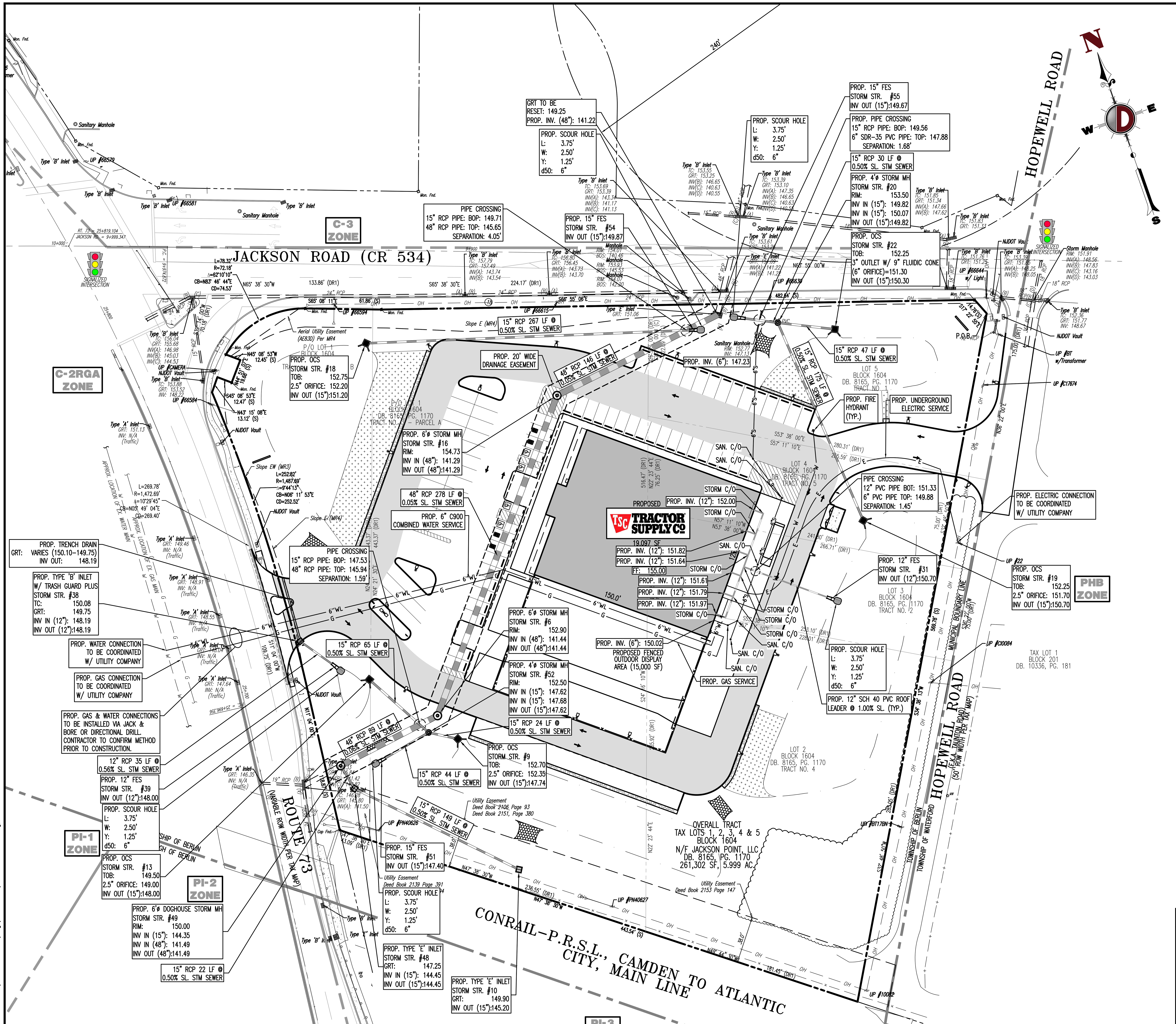

GRADING/UTILITY GRAPHIC LEGEND

- PROPERTY LINE (PARCEL IN QUESTION)
- OFF-SITE PROPERTY LINES
- EXIST. CABLE LINE
- PROP. CABLE LINE
- EXIST. ELECTRIC LINE
- PROP. ELECTRIC LINE
- EXIST. FIBER OPTIC LINE
- PROP. FIBER OPTIC LINE
- EXIST. FUEL LINE
- PROP. FUEL LINE
- EXIST. OVERHEAD WIRES
- PROP. OVERHEAD WIRES
- EXIST. TELEPHONE LINE
- PROP. TELEPHONE LINE
- EXIST. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- PROP. UNDERGROUND ELEC./TELE. SERVICE (NO. & SIZE OF CONDUITS NOT DEFINED)
- EXIST. WATER LINE
- PROP. WATER LINE
- EXIST. SANITARY SEWER LINE
- PROP. SANITARY SEWER LINE
- EXIST. STORM DRAIN LINE
- PROP. STORM DRAIN LINE
- EXIST. MINOR CONTOUR & ELEVATION
- EXIST. MAJOR CONTOUR & ELEVATION
- PROP. FINISH GRADE CONTOUR & ELEVATION
- EXIST. MONITORING WELL
- APPROX. TEST PIT LOCATION
- EXIST. SPOT ELEVATIONS
- EXIST. GUTTER ELEV.
- EXIST. TOP OF CURB ELEV.
- EXIST. FINISH FLOOR ELEV.
- EXIST. GARAGE FLOOR ELEV.
- EXIST. FIRE HYDRANT
- EXIST. WATER VALVE
- EXIST. GAS VALVE
- EXIST. GAS METER
- EXIST. ELECTRIC METER
- EXIST. ELECTRIC BOX
- EXIST. CLEAN OUT
- EXIST. WELL
- EXIST. WATER SHUT OFF VALVE
- EXIST. TELEPHONE BOX
- EXIST. CABLE TV BOX
- EXIST. UTILITY POLE
- EXIST. GUY WIRE
- EXIST. LIGHT POLE
- EXIST. BUILDING LIGHT
- EXIST. SHOE BOX LIGHT
- EXIST. COBRA LIGHT POLE
- EXIST. TRAFFIC SIGNAL POLE
- EXIST. MANHOLE
- EXIST. "A" INLET
- EXIST. "B" INLET
- EXIST. "E" INLET
- EXIST. YARD INLET
- EXIST. FLARED END SECTION
- EXIST. HEADWALL
- PROP. GRADE SPOT ELEV. (G: 000.00)
- PROP. TOP OF CURB & FINISHED GRADE ELEV. (TC: 000.00 / G: 000.00)
- PROP. FINISHED FLOOR ELEV. (FF: 000.00)
- PROP. TOP OF WALL & FINISHED GRADE @ LOW SIDE OF WALL (ACTUAL BOTTOM OF WALL FOOTING TO BE ESTABLISHED BY WALL DESIGNER) (TW: 000.00 / GL: 000.00)
- PROP. TOP OF EXTENDED CURB, (GH) FINISHED GRADE @ HIGH SIDE OF EXTENDED CURB & (GL) FINISHED GRADE @ LOW SIDE OF EXTENDED CURB (TC: 000.00 / GH: 000.00 / GL: 000.00)
- PROP. DIRECTION OF DRAINAGE FLOW ARROW
- PROP. WATER VALVE
- PROP. GAS VALVE
- PROP. STORM CLEANOUT
- PROP. SANITARY CLEANOUT
- PROP. AREA LIGHT
- PROP. OUTLET CONTROL STRUCTURE
- PROP. DRAINAGE MANHOLE
- PROP. SANITARY SEWER MANHOLE
- PROP. 'A' INLET
- PROP. 'B' INLET
- PROP. 'E' INLET
- PROP. YARD INLET
- PROP. FLARED END SECTION
- PROP. HEADWALL

EXISTING UTILITY NOTES

EXISTING WATER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING WATER SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING WATER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL WATER COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL WATER COMPANY PRIOR TO COMPLETION. IF THE EXISTING WATER SERVICE CAN NOT BE UTILIZED, THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL WATER COMPANY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

EXISTING GAS SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING GAS SERVICE CONNECTION IF FEASIBLE. OTHERWISE REMOVE EXISTING GAS SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL GAS COMPANY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL GAS COMPANY PRIOR TO COMPLETION. ANY NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL GAS COMPANY. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

SANITARY SEWER SERVICE NOTE: CONTRACTOR TO LOCATE AND UTILIZE EXISTING SEWER SERVICE CONNECTION IF OF ADEQUATE SIZE AND INTEGRITY AND ACCEPTABLE TO LOCAL SEWER AUTHORITY. OTHERWISE CONTRACTOR TO REMOVE EXISTING SEWER SERVICE LINE AND CAP AT MAIN IN R.O.W. IN ACCORDANCE WITH THE LOCAL SEWER AUTHORITY REQUIREMENTS. TERMINATION AT THE MAIN MUST BE APPROVED BY THE LOCAL SEWER AUTHORITY PRIOR TO COMPLETION. IF EXISTING SEWER SERVICE CAN NOT BE UTILIZED THEN THE NEW SERVICE IS TO BE COORDINATED AND VERIFIED FOR LOCATION WITH THE LOCAL SEWER AUTHORITY. CONTRACTOR SHALL OBTAIN ALL REQUIRED STREET OPENING PERMITS FOR REMOVAL OF EXISTING SERVICE AND INSTALLATION OF NEW SERVICE.

UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO THE ENGINEER. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER & SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, ENGINEER IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME. SERVICE SIZES TO BE DETERMINED BY ARCHITECT.
4. WATER SERVICE MATERIALS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTORS PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
5. ALL WATER MAIN SHALL BE CEMENT-LINED, CLASS 52 DUCTILE IRON PIPE, UNLESS OTHERWISE DESIGNATED.
6. THE MINIMUM DIAMETER FOR DOMESTIC WATER SERVICES SHALL BE 1 INCH.
7. SEWER MAINS SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. WHERE THIS IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SEWER MAIN AT LEAST 18 INCHES BELOW THE WATER MAIN. ALL SEWER MAINS SHALL BE SDR-35 PVC PIPE UNLESS OTHERWISE DESIGNATED.
8. ALL SEWER PIPE INSTALLED WITH LESS THAN 3 FEET OF COVER, GREATER THAN 20 FEET OF COVER OR WITHIN 18 INCHES OF A WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE. ALL DUCTILE IRON SEWER PIPE SHALL BE CEMENT-LINED, CLASS 52 PIPE, FURNISHED WITH SEWER COAT, OR APPROVED EQUAL.
9. WHERE SANITARY SEWER LATERALS ARE GREATER THAN 10' DEEP AT CONNECTION TO THE SEWER MAIN, CONCRETE DEEP LATERAL CONNECTIONS ARE TO BE UTILIZED.
10. LOCATION & LAYOUT OF GAS, ELECTRIC & TELECOMMUNICATION UTILITY LINES AND SERVICES SHOWN ON THESE PLANS ARE SCHEMATIC IN NATURE. ACTUAL LOCATION & LAYOUT OF THESE UTILITIES & SERVICES ARE TO BE PER THE APPROPRIATE UTILITY PROVIDER.
11. ROOF LEADER COLLECTION PIPING ARE CONCEPTUAL IN NATURE AND ARE NOT FOR CONSTRUCTION. ACTUAL ROOF LEADER COLLECTION PIPING IS TO BE COORDINATED W/ ARCHITECTURAL PLANS FOR EACH INDIVIDUAL BUILDING. ALL ROOF LEADER COLLECTION PIPING SHALL BE SCHEDULE 40 PVC UNLESS OTHERWISE DESIGNATED.
12. ALL SEWER AND WATER FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REGULATORY AUTHORITY'S RULES AND REGULATIONS.
13. ALL PROPOSED UTILITIES TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
14. MANUFACTURED REINFORCED CONCRETE STORM PIPE TO CONFORM TO ASTM C-76, CLASS III, UNLESS OTHERWISE DESIGNATED. MANUFACTURED REINFORCED CONCRETE ELLIPTICAL STORM PIPE TO CONFORM TO ASTM C-507, CLASS HE-III, UNLESS OTHERWISE DESIGNATED. REINFORCED CONCRETE STORMWATER PIPE TO BE INSTALLED IN ACCORDANCE WITH AMERICAN CONCRETE PIPE ASSOCIATION INSTALLATION GUIDELINES AND MORTAR OR PREFORMED FLEXIBLE JOINT SEALANTS IN ACCORDANCE WITH ASTM C 990 TO BE UTILIZED TO PROVIDE A SILT-TIGHT JOINT. WHERE SPECIFICALLY INDICATED, REINFORCED CONCRETE STORM PIPE JOINTS SHALL BE WATERTIGHT AND CONFORM TO ASTM C-443.
15. HDPE DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2306. SOLID PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM D3212. PERFORATED PIPE SHALL HAVE GASKETED SILT-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM F2306 AND ASTM F477. HDPE PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HDPE PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURE RECOMMENDATIONS.
16. HP DRAINAGE PIPE SHALL HAVE A SMOOTH WALL INTERIOR WITH ANNULAR EXTERIOR CORRUGATIONS AND CONFORM TO ASTM F2736 (12"–30" PIPE) AND ASTM F2881 (36"–60" PIPE). PIPE SHALL HAVE GASKETED WATER-TIGHT JOINTS MEETING THE REQUIREMENTS OF ASTM D3212 AND ASTM F477. FIELD WATERTIGHTNESS PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED IN ACCORDANCE WITH ASTM F2487. HP PIPE SHALL BE FROM A MANUFACTURER WHO IS AN EASTERN STATES CONSORTIUM (ESC) QUALIFIED MANUFACTURER OF HP STORM PIPE AND INSTALLED IN ACCORDANCE WITH PIPE MANUFACTURER RECOMMENDATIONS.
17. PIPE LENGTHS ON THIS PLAN HAVE BEEN MEASURED AS THE DISTANCE BETWEEN THE CENTER POINT OF THE 2 CONNECTED STRUCTURES. ACTUAL PHYSICAL PIPE LENGTH FOR INSTALLATION IS EXPECTED TO BE LESS AND SHOULD BE ACCOUNTED FOR BY THE CONTRACTOR ACCORDINGLY.

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Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
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Delray Beach, Florida T: 561.921.8570

TITLE: DRAINAGE & UTILITY PLAN

PROJECT: HSC BERLIN, LLC
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
DESIGNED BY: KCK
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SCALE: (H) 1"=40' (V)
CONSTRUCTION CHECK – DATE –
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KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

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PROFESSIONAL ENGINEER
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DEC Client Code: 2451
Rev. # 6

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PLANT SCHEDULE

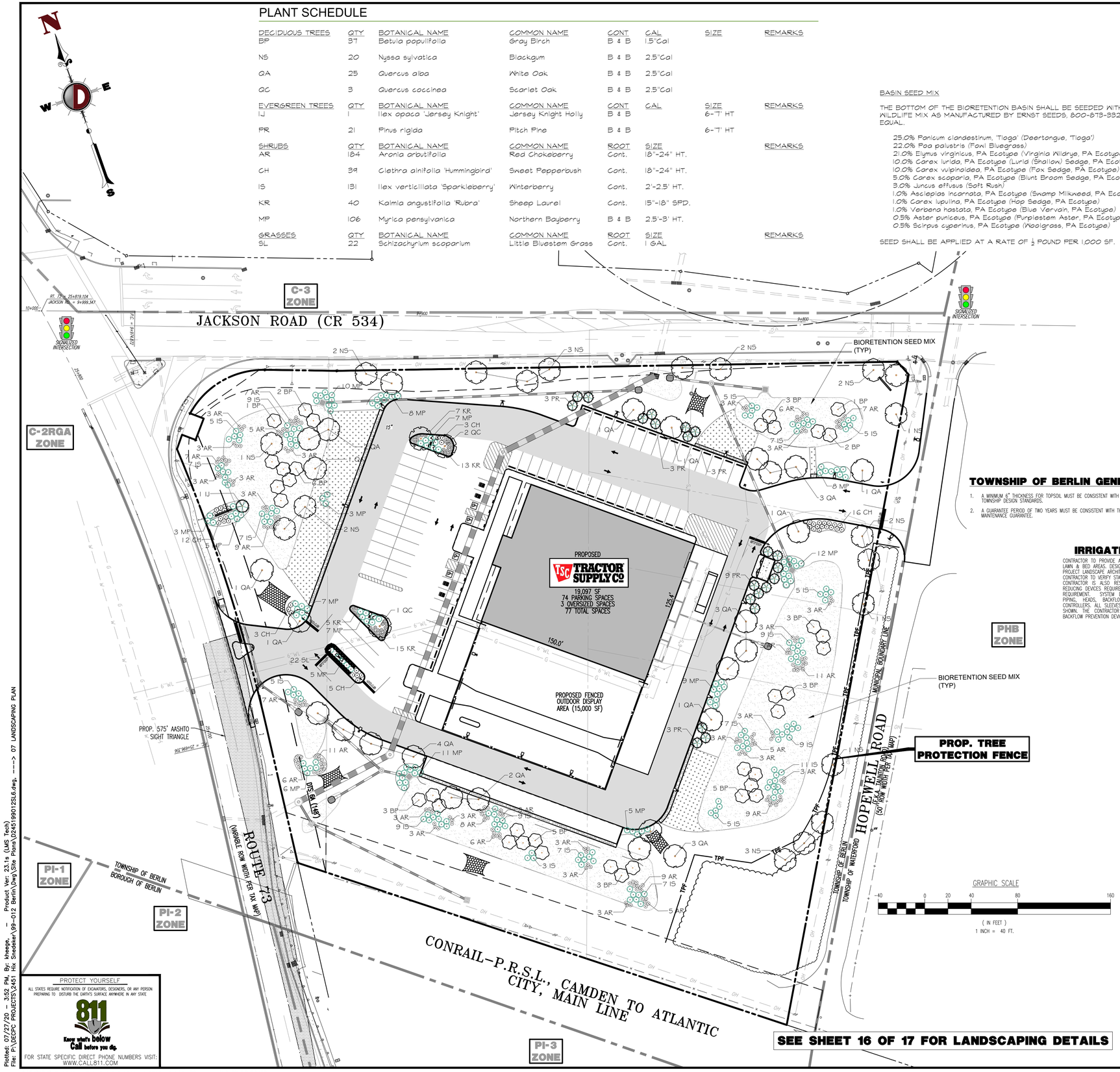
DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
BP	37	Betula populifolia	Gray Birch	B & B	1.5"Cal		
NS	20	Nyssa sylvatica	Blackgum	B & B	2.5"Cal		
QA	25	Quercus alba	White Oak	B & B	2.5"Cal		
QC	3	Quercus coccinea	Scarlet Oak	B & B	2.5"Cal		
EVERGREEN TREES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**CAL**	**SIZE**	**REMARKS**
IJ	1	Ilex opaca 'Jersey Knight'	Jersey Knight Holly	B & B		6'-7' HT	
PR	21	Pinus rigida	Pitch Pine	B & B		6'-7' HT	
SHRUBS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**		**REMARKS**
AR	184	Aronia arbutifolia	Red Chokeberry	Cont.	18"-24" HT.		
CH	39	Clethra alnifolia 'Hummingbird'	Sweet Pepperbush	Cont.	18"-24" HT.		
IS	131	Ilex verticillata 'Sparkleberry'	Winterberry	Cont.	2'-2.5' HT.		
KR	40	Kalmia angustifolia 'Rubra'	Sheep Laurel	Cont.	15"-18" SPD.		
MP	106	Myrica pensylvanica	Northern Bayberry	B & B	2.5'-3' HT.		
GRASSES	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**ROOT**	**SIZE**		**REMARKS**
SL	22	Schizachyrium scoparium	Little Bluestem Grass	Cont.	1 GAL		

BASIN SEED MIX

THE BOTTOM OF THE BIORETENTION BASIN SHALL BE SEEDED WITH "RETENTION BASIN WILDLIFE MIX AS MANUFACTURED BY ERNST SEEDS, 800-873-3321, OR APPROVED EQUAL.

- 25.0% Panicum clandestinum, 'Tioga' (Deertongue, 'Tioga')
- 22.0% Poa palustris (Fowl Bluegrass)
- 21.0% Elymus virginicus, PA Ecotype (Virginia Wildrye, PA Ecotype)
- 10.0% Carex lurida, PA Ecotype (Lurid (Shallow) Sedge, PA Ecotype)
- 10.0% Carex vulpinoidea, PA Ecotype (Fox Sedge, PA Ecotype)
- 5.0% Carex scoparia, PA Ecotype (Blunt Broom Sedge, PA Ecotype)
- 3.0% Juncus effusus (Soft Rush)
- 1.0% Asclepias incarnata, PA Ecotype (Swamp Milkweed, PA Ecotype)
- 1.0% Carex lupulina, PA Ecotype (Hop Sedge, PA Ecotype)
- 1.0% Verbena hastata, PA Ecotype (Blue Vervain, PA Ecotype)
- 0.5% Aster puniceus, PA Ecotype (Purplestem Aster, PA Ecotype)
- 0.5% Scirpus cyperinus, PA Ecotype (Woolgrass, PA Ecotype)

SEED SHALL BE APPLIED AT A RATE OF ½ POUND PER 1,000 SF.



TOWNSHIP OF BERLIN GENERAL NOTES

1. A MINIMUM 6" THICKNESS FOR TOPSOIL MUST BE CONSISTENT WITH THE REQUIRED TOWNSHIP DESIGN STANDARDS.
2. A GUARANTEE PERIOD OF TWO YEARS MUST BE CONSISTENT WITH THE TERMS OF THE MAINTENANCE GUARANTEE.

IRRIGATION NOTE:

CONTRACTOR TO PROVIDE AN IRRIGATION DESIGN FOR BOTH LAWN & BED AREAS. DESIGN IS TO BE SUBMITTED TO THE PROJECT LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR TO VERIFY STATIC PRESSURE PRIOR TO DESIGN. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY PRESSURE REDUCING DEVICES REQUIRED TO MEET MAXIMUM PRESSURE REQUIREMENT. SYSTEM DESIGN TO SHOW ALL VALVES, PIPING, HEADS, BACKFLOW PREVENTION, METERS AND CONTROLLERS. ALL SLEEVES IN PAVEMENT AREAS MUST BE SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BACKFLOW PREVENTION DEVICE INSTALLATION AND PERMITTING.

THIS PLAN TO BE UTILIZED FOR LANDSCAPE PURPOSES ONLY

PLANTING NOTES

1. PLANT MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED; INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT. LAYOUT TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
3. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY; HAVE NORMAL GROWTH HABITS; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE FROM DEFECTS AND INJURIES.
4. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL.
5. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE (1) YEAR FROM THE DATE OF ACCEPTANCE FOR TREES AND SHRUBS. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
6. INSOFAR AS IT IS PRACTICABLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD WILL BE REJECTED.
7. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH ANSI Z60.1 (REV. 2001) "AMERICAN STANDARD FOR NURSERY STOCK" AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
8. ALL PLANTS SHALL BE PLANTED IN AMENDED TOPSOIL THAT IS THOROUGHLY WATERED AND TAMPED AS BACK FILLING PROGRESSES. PLANTING MIX TO BE AS SHOWN ON PLANTING DETAILS. LARGE PLANTING AREAS TO INCORPORATE FERTILIZER AND SOIL CONDITIONERS AS STATED IN PLANTING SPECIFICATIONS.
9. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE BALL ONLY.
10. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION. ALL PLANT MATERIAL SHALL BE SPRAYED WITH 'WILT-PRUF' OR EQUAL AS PER MANUFACTURER'S INSTRUCTIONS.
11. NO PLANT, EXCEPT GROUND COVERS, SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS.
12. SET ALL PLANTS PLUMB AND STRAIGHT. SET AT SUCH LEVEL THAT, A NORMAL OR NATURAL RELATIONSHIP TO THE CROWN OF THE PLANT WITH THE GROUND SURFACE WILL BE ESTABLISHED. LOCATE PLANT IN THE CENTER OF THE PIT.
13. ALL INJURED ROOTS SHALL BE PRUNED TO MAKE CLEAN ENDS BEFORE PLANTING UTILIZING CLEAN, SHARP TOOLS. IT IS ADVISABLE TO PRUNE APPROXIMATELY 1/3 OF THE GROWTH OF LARGE TREES (2" CALIPER AND OVER) BY THE REMOVAL OF SUPERFLUOUS BRANCHES, THOSE WHICH CROSS, THOSE WHICH RUN PARALLEL, ETC. MAIN LEADER OF TREES WILL NOT BE CUT BACK. LONG SIDE BRANCHES, HOWEVER, MUST BE SHORTENED.
14. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH STANDARD HORTICULTURAL PRACTICE TO PRESERVE NATURAL CHARACTER OF PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
15. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES AS A RESULT OF CONSTRUCTION OPERATIONS. ALL EXISTING TREES SHALL BE FERTILIZED WITH A REGULAR GARDEN FERTILIZER (5-10-10) UPON COMPLETION OF WORK. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE TRUNK. CONTRACTOR TO ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH SHARP TOOLS AND FILLED AROUND WITH TOPSOIL. COMPLETELY SATURATE THESE AREAS WITH WATER. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR IS TO PROTECT ALL EXISTING TREES TO REMAIN BY ERECTING TREE PROTECTION FENCE AT THE DRIP LINE. THIS WILL ENSURE NO COMPACTION OF THE ROOT MASS.
16. ALL PLANTING BEDS SHALL BE MULCHED WITH 4" LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH.
17. NEW PLANTING AREAS AND SOD SHALL BE ADEQUATELY IRRIGATED OR WATERED TO ESTABLISH THE PROPOSED PLANTS AND LAWN.
18. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE AS SHOWN ON THE APPROVED LANDSCAPE PLAN MUST BE INSTALLED, INSPECTED AND APPROVED BY THE MUNICIPAL LANDSCAPE ARCHITECT, THE MUNICIPAL ENGINEER AND LANDSCAPE ARCHITECT SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER AS REQUIRED BY OR ASSOCIATED WITH A SUBDIVISION OR SITE PLAN APPROVAL BY THE PLANNING BOARD OR ZONING BOARD OF ADJUSTMENT SHALL BE INSTALLED DURING THE FOLLOWING PLANTING SEASONS:

TYPE	DATES
PLANTS	3/15 TO 12/15
LAWN	3/15 TO 6/15
	9/15 TO 12/1

FURTHERMORE, THE FOLLOWING TREE VARIETIES SHALL NOT BE PLANTED DURING THE FALL PLANTING SEASON DUE TO THE HAZARDS ASSOCIATED WITH DIGGING THESE TREES IN THIS SEASON.

ACER RUBRUM	POPULUS VARIETIES
BETULA VARIETIES	PRUNUS VARIETIES
CARPINUS VARIETIES	PYRUS VARIETIES
CRATAEGUS VARIETIES	QUERCUS VARIETIES
KOELREUTERIA	SALIX WEEPING VARIETIES
LIQUIDAMBAR STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES
PLATANUS ACERFOLIA	

ANY PLANTINGS INSTALLED IN CONFLICT WITH THIS REQUIREMENT MUST RECEIVE THE WRITTEN APPROVAL BY THE MUNICIPAL ENGINEER OR LANDSCAPE ARCHITECT, PRIOR TO PLANTING. FAILURE TO COMPLY WITH THESE REQUIREMENTS WILL REQUIRE THE REMOVAL OF THE PLANTING IN QUESTION. THIS REQUIREMENT DOES NOT APPLY TO SEEDING OR SODDING OR PLANTINGS SPECIFICALLY FOR SOIL STABILIZATION PURPOSES. THE PLANTING ASSOCIATED WITH ANY LOT GIVEN A CERTIFICATE OF OCCUPANCY OUTSIDE THESE PERIODS SHALL BE PROVIDED DURING THE PREVIOUS OR NEXT APPROPRIATE SEASON.

19. ALL DISTURBED AREAS TO BE TREATED WITH TOPSOIL SEED SOD STABILIZATION METHOD.

PLANTING SPECIFICATIONS

1. SCOPE OF WORK
   A. THIS WORK SHALL CONSIST OF PERFORMING, CLEARING AND SOIL PREPARATION, FINISH GRADING, PLANTING AND DRAINAGE, INCLUDING ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT.
2. MATERIALS
   A. GENERAL – ALL MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION (D.O.T.) MANUAL OF ROADWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) OR APPROVED EQUAL.
   B. PLANTS – ALL PLANTS SHALL BE HEALTHY OR NORMAL GROWTH, WELL ROOTED, FREE FROM DISEASE AND INSECTS.
   C. TOPSOIL – LOAMY SILT, HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, pH RANGE BETWEEN 4.5 – 7, BE FREE OF DEBRIS, ROCKS LARGER THAN TWO INCHES (2"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.
   D. MULCH – FOUR (4") INCHES DOUBLE SHREDDED HARDWOOD BARK MULCH.
3. FERTILIZER AND SOIL CONDITIONER – PLANTED AREAS
   A. ORGANIC FERTILIZER – SHALL BE PROCESSED SEWER SLUDGE WITH MINIMAL CONTENT OF 1% NITROGEN AND 2% PHOSPHORIC ACID, EQUAL TO 'NITROHUMS'.
   B. ORGANIC FERTILIZER AND SOIL CONDITIONER – SHALL BE 'GRO-POWER' AND ORGANIC BASE MATERIALS COMPRISED OF DECOMPOSED ANIMAL AND VEGETABLE MATTER AND COMPOSTED TO SUPPORT BIO BACTERIAL CULTURES, CONTAINING NO POULTRY OR HUMAN WASTE. GUARANTEED ANALYSIS (5-3-1): NITROGEN 5%. PHOSPHATE 3%, POTASH 1%. 50% HUMUS AND 15% HUMIC ACIDS.
4. GENERAL WORK PROCEDURES
   A. LANDSCAPE WORK SHALL COMMENCE AS SOON AS THOSE PORTIONS OF THE SITE ARE AVAILABLE. CONTRACTOR TO UTILIZE WORKMANLIKE STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH DAY'S WORK. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STOCKPILED OR DISPOSED OF. ALL PAVED SURFACES SHALL BE SWEPT CLEAN AT THE END OF EACH DAYS WORK.
5. WEEDING
   A. BEFORE AND DURING PRELIMINARY GRADING AND FINISH GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
6. TOPSOILING
   A. CONTRACTOR TO PROVIDE A 4" THICK TOPSOIL LAYER IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO PRODUCE A 4" UNSETTLED THICKNESS. TOPSOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON-SITE TOPSOIL UTILIZED IN ALL PLANTING AREAS. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM.
7. SOIL CONDITIONING:
   A. CULTIVATE ALL AREAS TO BE PLANTED TO A DEPTH OF 6". ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE. SPREAD EVENLY IN ALL PLANTING AREAS AND TILL (2 DIRECTIONS) INTO TOP 4" WITH THE FOLLOWING PER 1,000 SQ. FT.:
      20 POUNDS 'GRO-POWER'
      100 POUNDS AGRICULTURAL GYPSUM
      20 POUNDS NITROFORM (COURSE) 38-0-0 BLUE CHIP

   SOIL MODIFICATIONS:
   A. THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN, WATER AND NUTRIENTS. USE COMPOSTED BARK, RECYCLED YARD WASTE OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE, AVOID MATERIAL WITH A pH HIGHER THAN 7.5.
   B. MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. IMPROVE DRAINAGE IN HEAVY SOILS BY PLANTING ON RAISED MOUNDS OR BEDS AND INCLUDING SUBSURFACE DRAINAGE LINES.
   C. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.
8. PLANTING
   POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.
   A. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACK FILLED WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
      1 PART PEAT MOSS BY VOLUME
      1 PART COW MANURE BY VOLUME
      3 PARTS TOPSOIL BY VOLUME
      21 GRAM 'AGRIFORM' PLANTING TABLETS AS FOLLOWS:
      2 TABLETS PER 1 CAL. PLANT
      3 TABLETS PER 5 CAL. PLANT
      4 TABLETS PER 15 CAL. PLANT
      LARGER PLANTS (2) TWO TABLETS PER 1/2" DIAM. OF TRUNK CALIPER
   B. PREPARED SOIL SHALL BE TAMPED FIRMLY AT BOTTOM OF PIT. FILL PREPARED SOIL AROUND BALL OF PLANT 1/2 WAY, AND INSERT PLANT TABLETS. COMPLETE BACK FILL AND WATER THOROUGHLY.
   C. ALL PLANTS SHALL BE SET SO THAT, THEY BEAR THE SAME RELATION TO THE REQUIRED GRADE AS THEY BORE TO THE NATURAL GRADE BEFORE BEING TRANSPLANTED.
   D. PREPARE RAISED EARTH BASIN AS WIDE AS PLANTING HOLE OF EACH TREE.
   E. WATER IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACK FILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED.
   F. PRUNE ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS TO A MIN. OF 7' BRANCHING HEIGHT.
9. GROUND COVER
   A. ALL GROUND COVER AREAS SHALL RECEIVE A 1/4" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING GROUND COVER.
   B. SPACING AND VARIETY OF GROUND COVER SHALL BE AS SHOWN ON DRAWINGS.
   C. IMMEDIATELY AFTER PLANTING GROUND COVER, CONTRACTOR SHALL THOROUGHLY WATER GROUND COVER.
   D. ALL GROUND COVER AREAS SHALL BE TREATED WITH A PRE-EMERGENT BEFORE FINAL LANDSCAPE INSPECTION. GROUND COVER AREAS SHALL BE WEEDED PRIOR TO APPLYING PRE-EMERGENT. PRE-EMERGENT TO BE APPLIED AS PER MANUFACTURER'S RECOMMENDATION.
10. FINISH GRADING
    A. ALL AREAS WILL BE RECEIVED BY THE CONTRACTOR AT SUBSTANTIALLY PLUS/MINUS .1 FOOT OF FINISH GRADE.
    B. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE, UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT. SOIL AREAS ADJACENT TO THE BUILDINGS SHALL SLOPE AWAY.
    C. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER.
11. GUARANTEE
    A. CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF TWO (2) YEARS FROM ACCEPTANCE OF JOB. OWNER TO SECURE A MAINTENANCE BOND FROM THE CONTRACTOR FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE COMMENCEMENT OF THE GUARANTEE PERIOD AND PASSES A FINAL INSPECTION BY THE OWNER OR OWNERS REPRESENTATIVE.
12. CLEANUP
    A. UPON THE COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
    B. MAINTAIN TREES, SHRUBS AND OTHER PLANTS BY PRUNING, CULTIVATING AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. TIGHTEN AND REPAIR STAKE AND GUY SUPPORTS AND RESET TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITION AS REQUIRED. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY WITH HERBICIDE AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE.
    C. MAINTAIN LAWNS BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.
13. MAINTENANCE (ALTERNATE BID) COST PER MONTH AFTER INITIAL 90-DAY MAINTENANCE PERIOD.

SEE SHEET 16 OF 17 FOR LANDSCAPING DETAILS

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2	08/01/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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Delray Beach, Florida T: 561.921.8370

TITLE: LANDSCAPING PLAN

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE:(H) 1"=40' (V)
DESIGNED BY: KCK
SHEET No: 7 OF 17
CHECKED BY: JMS
CONSTRUCTION CHECK _ DATE _
CONSTRUCTION CHECK _ DATE _
DEC Client Code: 2451
Rev. # 6

KYLE C. KAVINSKI, PROFESSIONAL ENGINEER, NEW JERSEY LICENSE No. 52985
JOSHUA M. SEWALD, PROFESSIONAL ENGINEER, NEW JERSEY LICENSE No. 52908

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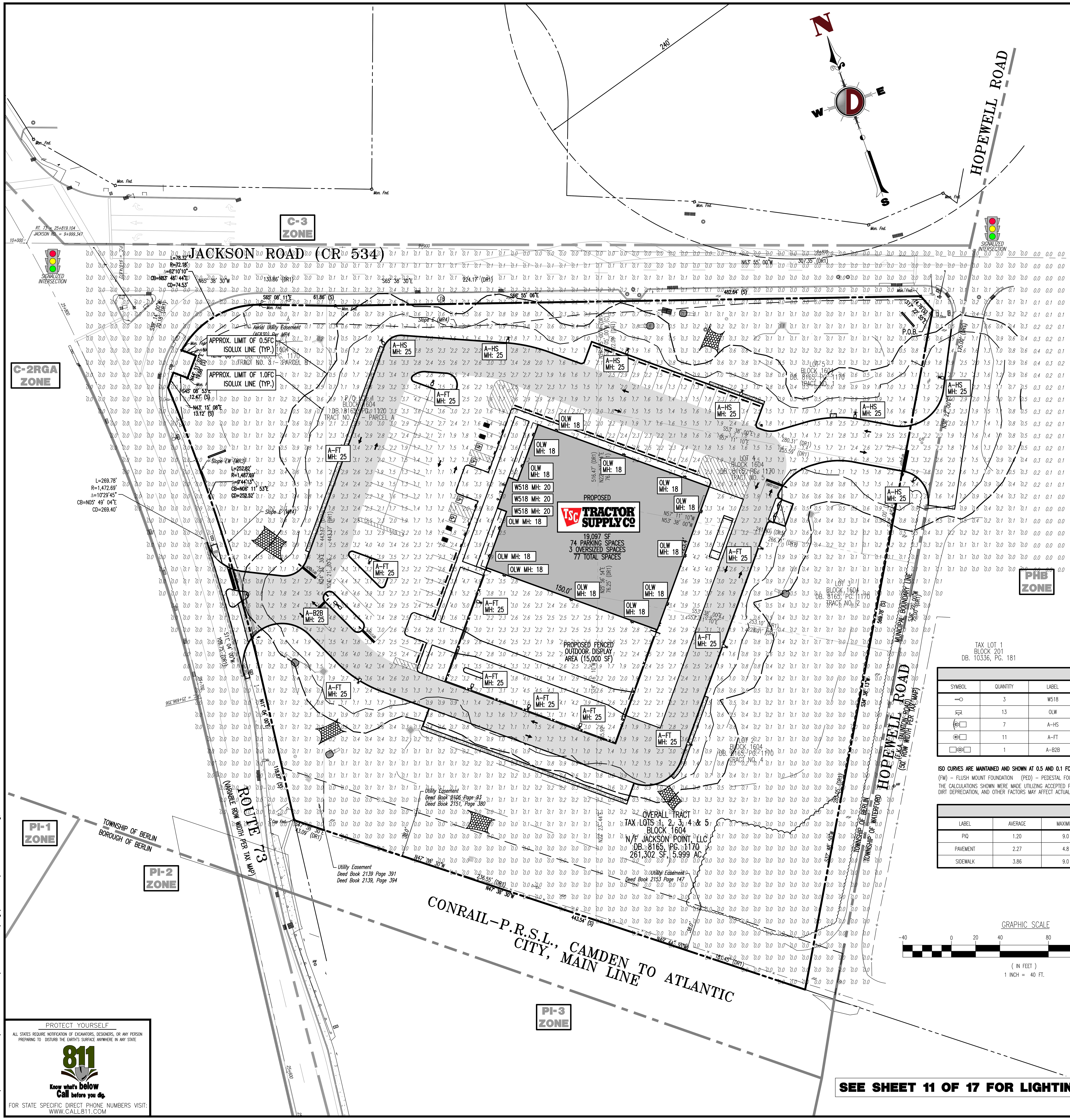
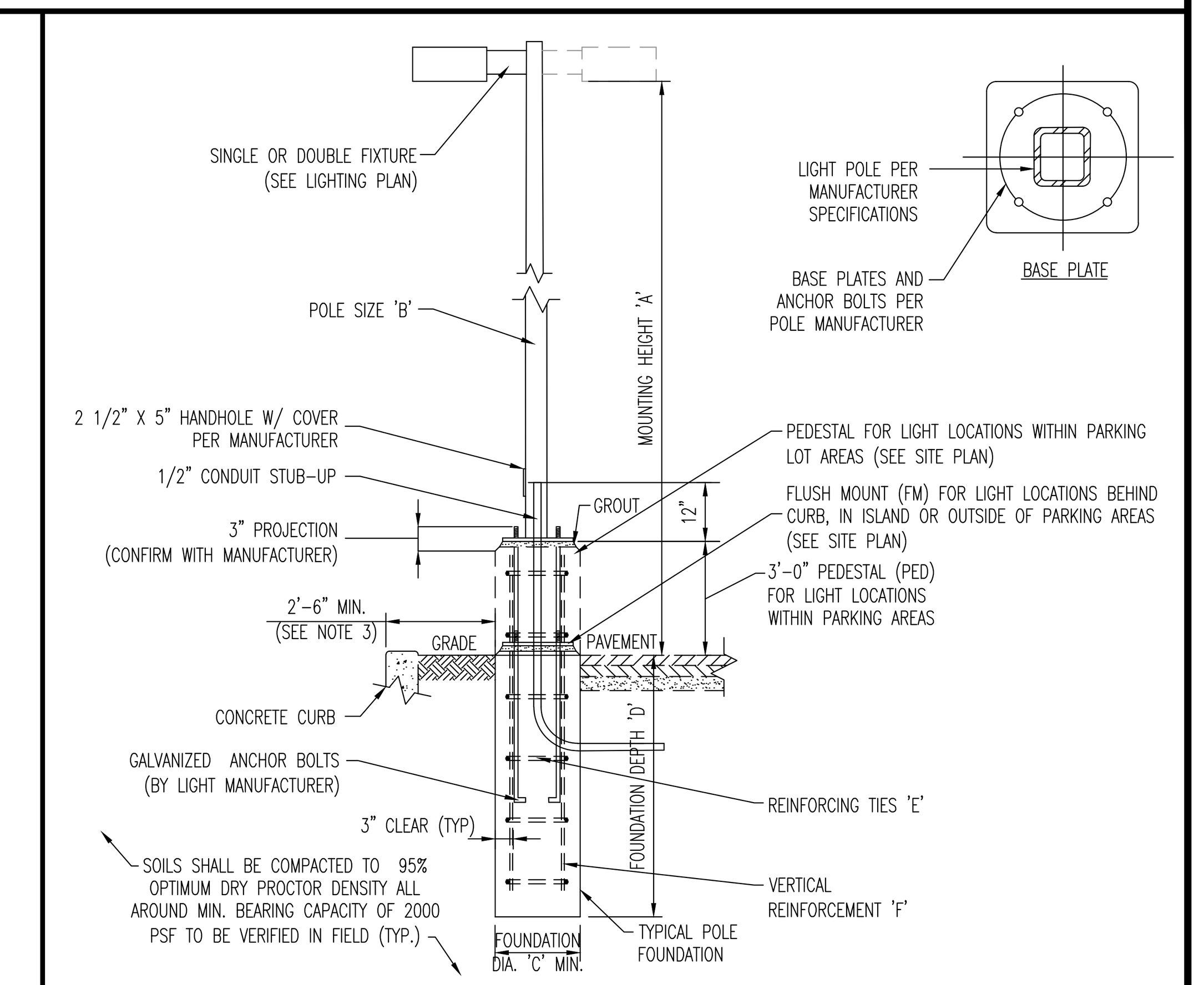


GENERAL NOTES

1. THIS LIGHTING PLAN ILLUSTRATES ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINARIES MAY VARY DUE TO VARIATIONS IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER RELATED VARIABLE FIELD CONDITIONS.
2. ALL EXISTING CONDITIONS LIGHTING LEVELS ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES AND/OR ACTUAL FIELD MEASUREMENTS TAKEN WITH A LIGHT METER. DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC., ACTUAL LIGHTING LEVELS MAY DIFFER AND THE LIGHTING LEVELS DEPICTED ON THIS PLAN SHOULD BE CONSIDERED AS APPROXIMATE.
3. CONDUITS SHALL BE INSTALLED A MINIMUM OF 2 FEET BEHIND GUIDERAIL POSTS.
4. ALL WIRING METHODS AND EQUIPMENT CONSTRUCTION SHALL CONFORM TO THE CURRENT NATIONAL ELECTRICAL CODE.
5. REFER TO ARCHITECTURAL PLANS FOR LIGHTING DIAGRAM.



NOTE:
1. CONTRACTOR TO CONFIRM ALL LIGHT POLE & FIXTURE DIMENSIONS PRIOR TO CONSTRUCTION.
2. PROPOSED POLE IN COMBINATION WITH CONCRETE PEDESTAL TO EQUAL MOUNTING HEIGHT 'A'. ACTUAL POLE HEIGHT TO BE ADJUSTED ACCORDINGLY.
3. PROPOSED CONCRETE FOUNDATION AND POLE TO BE CONSTRUCTED WITHIN SUBJECT PROPERTY UNLESS OTHERWISE NOTED. SETBACK FROM CURB IS PREFERRED BUT TO BE ADJUSTED AS NEEDED TO PREVENT ENCROACHMENT OVER PROPERTY LINE.
4. BASE PLATE & ANCHOR BOLTS PER POLE MANUFACTURER. LARGER FOOTING DIAMETER AND/OR ALTERNATE ARANCEMENT OF REINFORCING STEEL MAY BE REQUIRED TO ACCOMMODATE ANCHOR BOLT CONFIGURATION. CONTRACTOR RESPONSIBLE TO COORDINATE DIMENSIONAL REQUIREMENTS FOR BASE PLATE, ANCHOR BOLTS & REINFORCING STEEL PRIOR TO CONSTRUCTION.

LIGHT POLE FOUNDATION SCHEDULE	
MOUNTING HEIGHT ABOVE GRADE 'A'	25'
POLE DIA. 'B'	6" SQUARE (OR PER MANUFACTURER)
# OF FIXTURES	SINGLE OR DOUBLE
FOUNDATION DIAMETER 'C'	18" DIA. ROUND
FOUNDATION DEPTH 'D'	7.5'
REINFORCING TIES 'E'	#4 @ 12" O.C.
VERTICAL REINFORCEMENT 'F'	(6) #6 BARS EQUALLY SPACED

SOIL NOTES
1. FOOTING DESIGN BASED ON ASSUMED MAXIMUM ALLOWABLE SOILS BEARING CAPACITY OF 2,000 SF PSF. CONTRACTOR RESPONSIBLE TO VERIFY ADEQUACY OF ASSUMED BEARING CAPACITY PRIOR TO CONSTRUCTION. ENGINEER TO BE NOTIFIED IF INCONSISTENCIES EXIST.
2. SUBGRADE TO BE FREE OF ORGANICS AND BE SUITABLE, COMPACTED MATERIAL.

CONCRETE NOTES
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD FOR ALL FOOTINGS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. REINFORCING FRAMEWORK AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS AS WELL AS THE ACI AND UNIFORM BUILDING CODE.

1/6/17 – JGJ

AREA LIGHT DETAIL

NOT TO SCALE

NOTE: ALL SITE LIGHT POLES AND LIGHT FIXTURE HOUSINGS TO BE BLACK.

LIGHTING LUMINAIRE SCHEDULE

SYMBOL	QUANTITY	LABEL	WATTAGE	MOUNTING HEIGHT	ARRANGEMENT	LIGHT LOSS FACTOR	MANUFACTURER	DESCRIPTION	IES FILE
	3	W518	40	18	SINGLE	0.950	ANP LIGHTING	W520 M037 LD N_D W 30K	W520 M037 LD N_D W 30K(1).IES
	13	OLW	44	18	SINGLE	0.950	LITHONIA LIGHTING	OLW-31-M2	OLW_31.IES
	7	A-HS	91.14	25	SINGLE	0.950	LITHONIA LIGHTING	DSX0 LED 40C 700 AMBPC TFTM MVOLT HS	DSX0 LED 40C 700 AMBPC TFTM MVOLT HS.IES
	11	A-FT	91.14	25	SINGLE	0.950	LITHONIA LIGHTING	DSX0 LED 40C 700 AMBPC TFTM MVOLT	DSX0 LED 40C 700 AMBPC TFTM MVOLT.IES
	1	A-B2B	91.14	25	BACK TO BACK	0.950	LITHONIA LIGHTING	DSX0 LED 40C 700 AMBPC TFTM MVOLT	DSX0 LED 40C 700 AMBPC TFTM MVOLT.IES

ISO CURVES ARE MAINTAINED AND SHOWN AT 0.5 AND 0.1 FC.

(FM) – FLUSH MOUNT FOUNDATION (PED) – PEDESTAL FOUNDATION

THE CALCULATIONS SHOWN WERE MADE UTILIZING ACCEPTED PROCEDURES OF THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA. VARIATIONS IN LAMP OUTPUT, BALLAST OUTPUT, LINE VOLTAGE, DIRT DEPRECIATION, AND OTHER FACTORS MAY AFFECT ACTUAL RESULTS. UNLESS OTHERWISE STATED, ALL RESULTS ARE MAINTAINED VALUES, UTILIZING ACCEPTED LIGHT LOSS FACTORS (LLF).

STATISTICAL AREA SUMMARY

LABEL	AVERAGE	MAXIMUM	MINIMUM	AVG./MIN.	MAX./MIN.	DESCRIPTION
PIQ	1.20	9.0	0.0	N/A	N/A	AREA LOCATED WITHIN THE PROPERTY IN QUESTION
PAVEMENT	2.27	4.8	0.5	4.54	9.60	AREA LOCATED IN PAVEMENT
SIDEWALK	3.86	9.0	1.6	2.41	5.63	AREA LOCATED IN SIDEWALK

SEE SHEET 11 OF 17 FOR LIGHTING DETAILS

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TITLE: LIGHTING PLAN

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PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) 1"=40' (V)
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 8 OF 17

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
[illegible]
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

– CONSTRUCTION CHECK – DATE
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DEC Client Code: 2451
Rev. # 6

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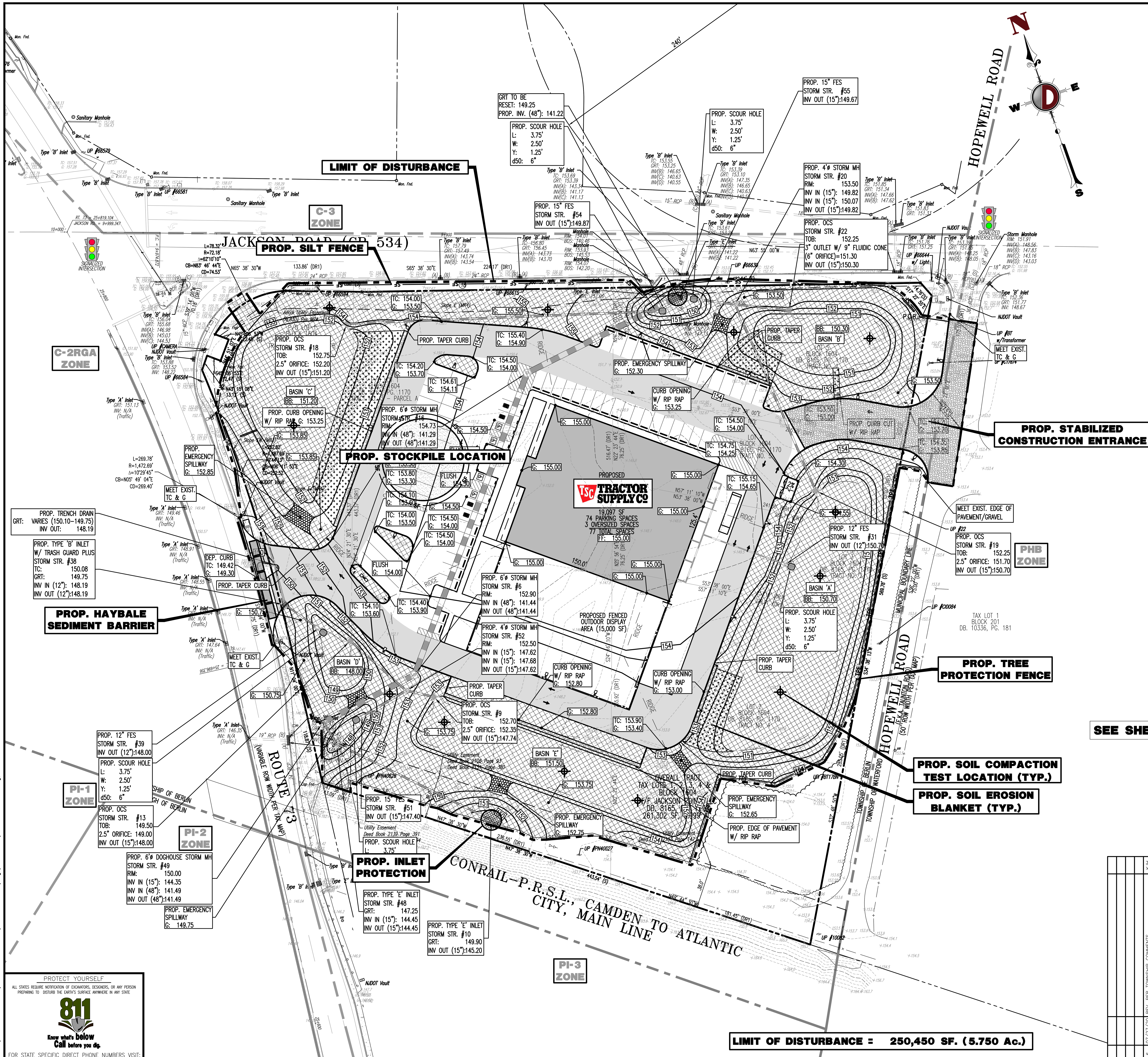

EROSION CONTROL LEGEND

- PROP. LIMIT OF DISTURBANCE LINE
- PROP. SILT FENCE LINE
- PROP. TREE PROTECTION FENCE LINE
- PROP. INLET FILTER
- PROP. HAYBALE SEDIMENT BARRIER
- PROP. PAVEMENT
- PROP. HEAVY DUTY PAVEMENT
- PROP. CONCRETE
- PROP. SOIL COMPACTION TESTING AREAS
- RECOMMENDED SOIL COMPACTION TEST LOCATION (APPROXIMATELY 1 PER/0.5 ACRE)

SEE SHEET 10 OF 17 FOR SOIL EROSION CONTROL NOTES & DETAILS

GRAPHIC SCALE

-40 0 20 40 80 160

(IN FEET)
1 INCH = 40 FT.

LIMIT OF DISTURBANCE = 250,450 SF. (5.750 Ac.)

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ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
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Rev. #	6

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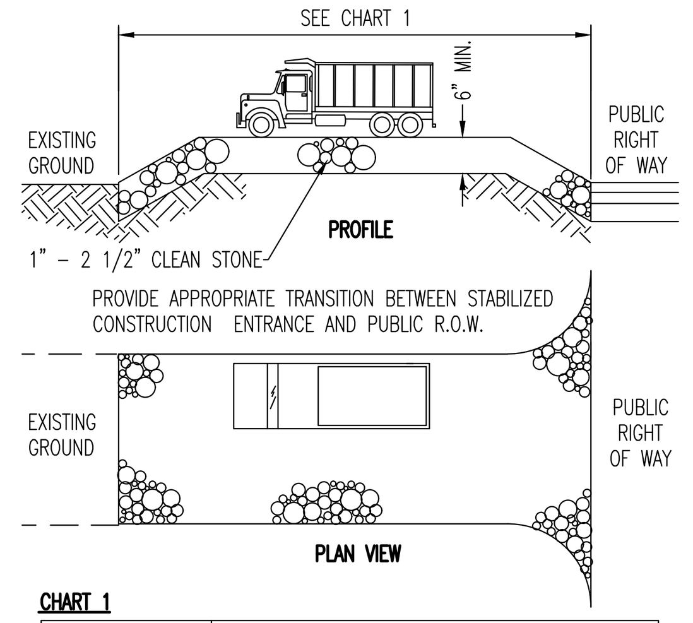


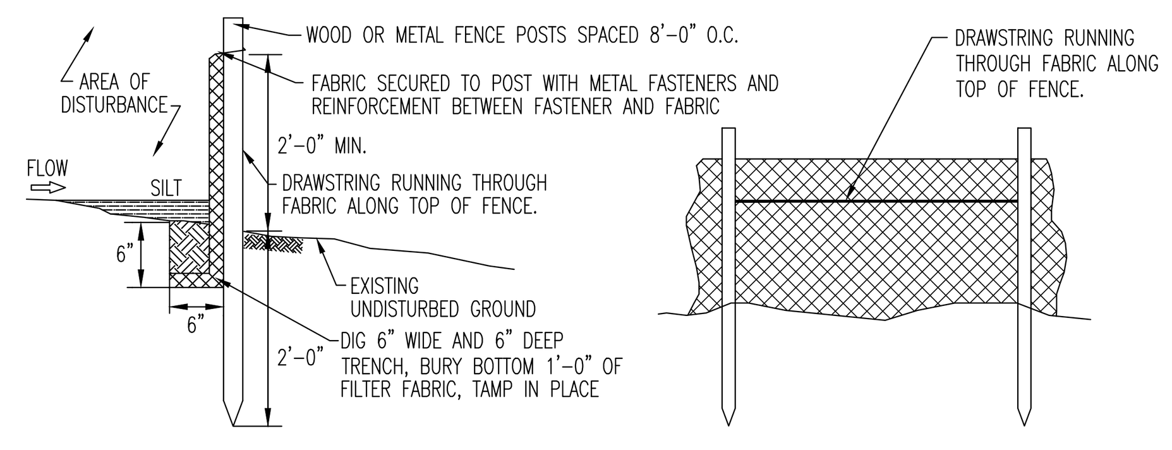
CHART 1

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 ENTRANCE STABILIZED WITH FABC BASE COURSE (1)	

(1) AS PRESCRIBED BY LOCAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

STABILIZED CONSTRUCTION ENTRANCE

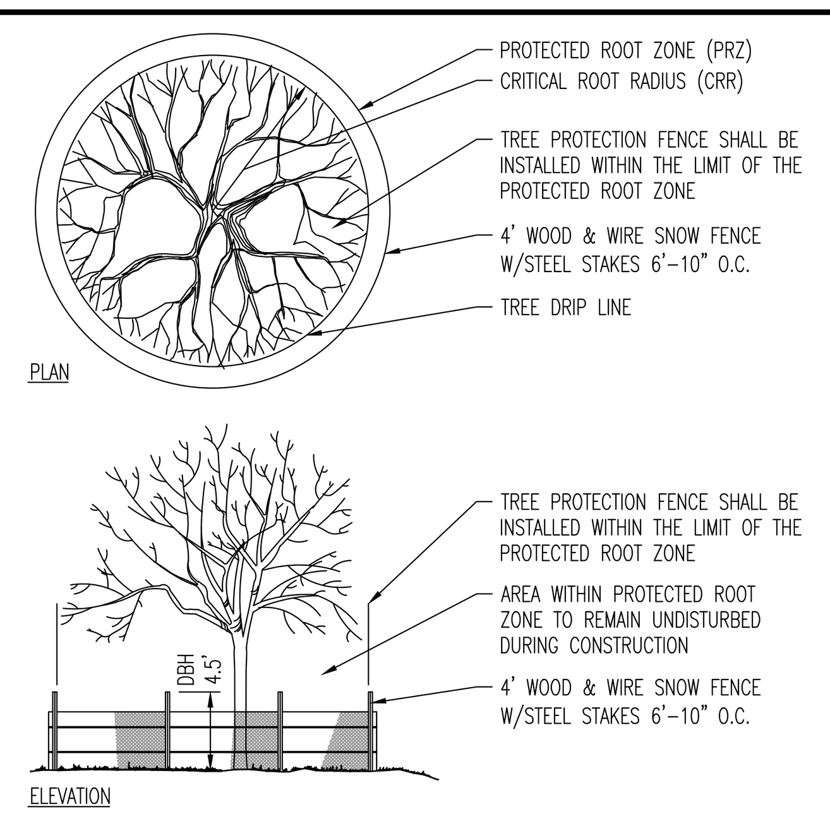
NOT TO SCALE



1. PLACE SILT FENCE AT LOCATIONS AS SHOWN ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
2. THE SLOPE OF THE LAND FOR AT LEAST 30 FEET ADJACENT TO ANY SILT FENCE SHALL NOT EXCEED 5 PERCENT
3. SILT FENCE SHALL BE INSTALLED SO WATER CANNOT BYPASS THE FENCE AROUND THE SIDES.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE AS PROMPTLY AS POSSIBLE.
5. SILT FENCE SHALL REMAIN IN PLACE FOR THE DURATION OF THE PROJECT UNLESS OTHERWISE INSTRUCTED BY THE TOWNSHIP ENGINEER OR SOIL CONSERVATION DISTRICT.
6. THE BARRIER SHALL BE REMOVED WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. FENCE POSTS SHALL BE SPACED 8 FEET CENTER-TO-CENTER OR CLOSER. THEY SHALL EXTEND AT LEAST 2 FEET INTO THE GROUND AND EXTEND AT LEAST 2 FEET ABOVE GROUND. POSTS SHALL BE CONSTRUCTED OF HARDWOOD A MIN. DIAMETER THICKNESS OF 1 1/2 INCHES.
8. A METAL FENCE WITH 6 INCH OR SMALLER OPENINGS AND AT LEAST 2 FEET HIGH MAY BE UTILIZED, FASTENED TO THE FENCE POSTS, TO PROVIDE REINFORCEMENT AND SUPPORT TO THE GEOTEXTILE FABRIC WHERE SPACE FOR OTHER PRACTICES IS LIMITED AND HEAVY SEDIMENT LOADING IS EXPECTED.
9. A GEOTEXTILE FABRIC, RECOMMENDED FOR SUCH USE BY THE MANUFACTURER, SHALL BE BURIED AT LEAST 6 INCHES DEEP IN THE GROUND. THE FABRIC SHALL EXTEND AT LEAST 2 FEET ABOVE GROUND. FABRIC MUST BE SECURELY FASTENED TO THE POSTS USING A SYSTEM CONSISTING OF METAL FASTENERS (NAILS OR STAPLES) AND HIGH STRENGTH REINFORCEMENT MATERIAL (NYLON WEBBING, GROMMETS, WASHERS ETC.) PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC. THE FASTENING SYSTEM SHALL RESIST TEARING AWAY FROM THE POST. THE FABRIC SHALL INCORPORATE A DRAWSTRING IN THE TOP PORTION OF THE FENCE FOR ADDED STRENGTH.

SILT FENCE DETAIL

NOT TO SCALE



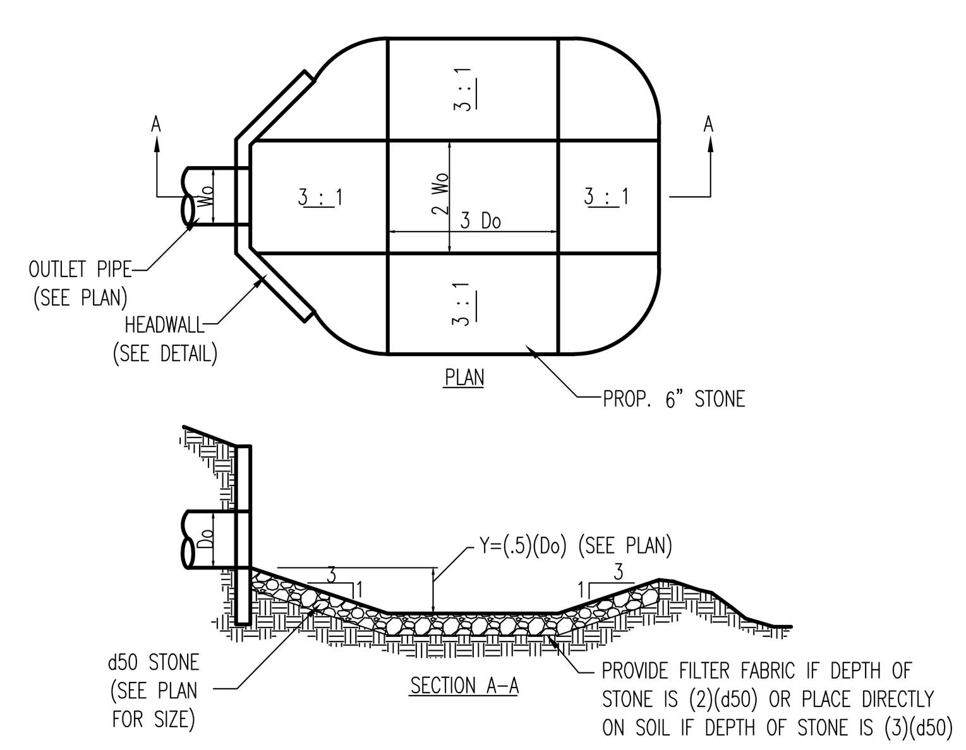
ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR)
1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5' ABOVE GROUND ON THE UPHILL SIDE OF TREE) IN INCHES.
2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET

DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.
DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.

TREE PROTECTION DURING SITE CONSTRUCTION DETAIL

NOT TO SCALE

NOTE: BOTTOM OF THE STONE SCOUR HOLE MUST MAINTAIN A MINIMUM SEPARATION OF TWO FEET TO THE SEASONAL HIGH WATER TABLE.

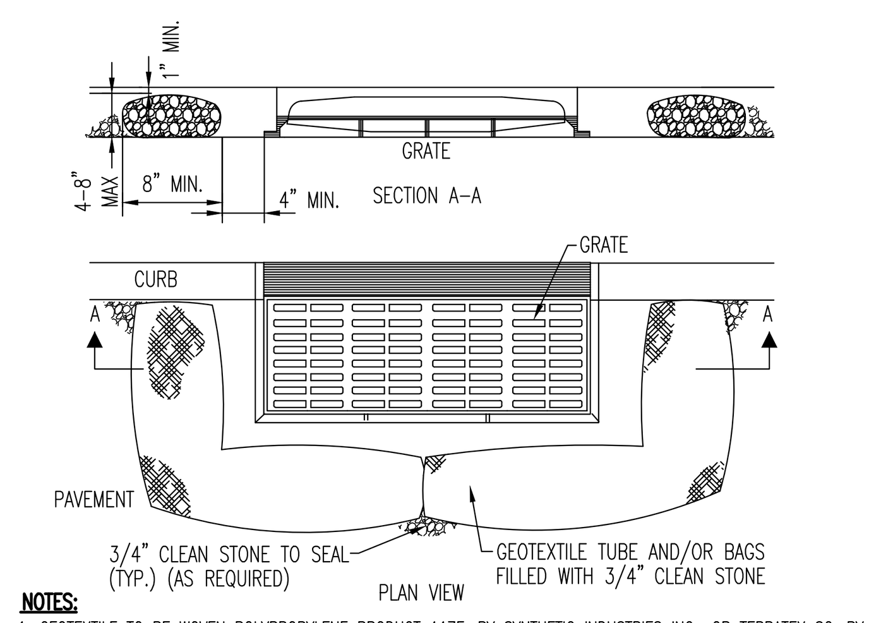


PREFORMED SCOUR HOLE DETAIL

NOT TO SCALE

TOWNSHIP OF BERLIN GENERAL NOTES

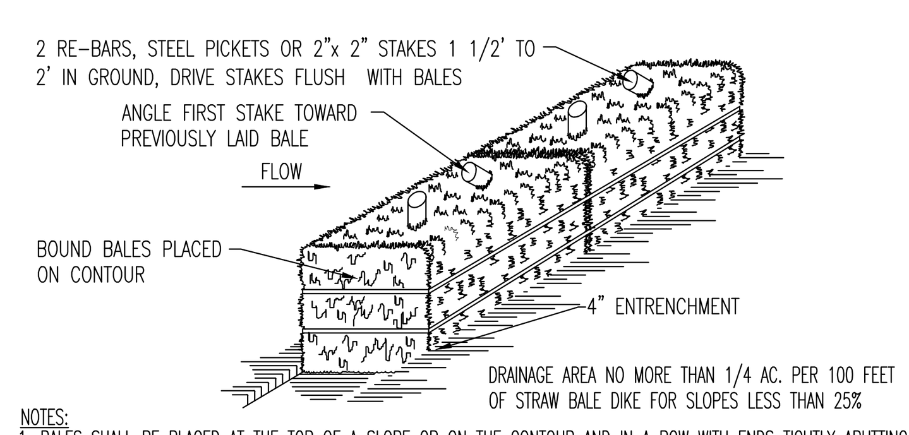
1. A MINIMUM 6" THICKNESS FOR TOPSOIL MUST BE CONSISTENT WITH THE REQUIRED TOWNSHIP DESIGN STANDARDS.



NOTES:
1. GEOTEXTILE TO BE WOVEN POLYPROPYLENE PRODUCT 117F, BY SYNTHETIC INDUSTRIES INC., OR TERRATEX SC, BY WEBTEC INC., OR APPROVED EQUAL.
2. 3/4" CLEAN STONE CORE SHALL BE COMPLETELY CONTAINED WITHIN GEOTEXTILE. SEAMS SHALL BE SEWN OR CLOSED BY SUITABLE MECHANICAL MEANS TO PREVENT LEAKAGE OF STONE.
3. WHERE NO CURB IS PRESENT, BARRIER SHALL COMPLETELY ENCIRCLE THE DRAIN INLET.
4. INLET GRATE OPENING IS TO BE KEPT CLEAR OF OBSTRUCTIONS AT ALL TIMES.
5. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.
6. OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.
7. INSPECTIONS SHALL BE FREQUENT. MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARDS THE INLET HAS BEEN STABILIZED.

INLET FILTER DETAIL

NOT TO SCALE



NOTES:
1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

HAYBALE SEDIMENT BARRIER DETAIL

NOT TO SCALE

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

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.
     - 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 RETILED IN ACCORDANCE WITH THE ABOVE.
   - D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS REFER TO STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, PG. 1-1.

3. SEEDING
   - A. TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTHS

     -COOL SEASON GRASSES:
     (1) PERENNIAL RYEGRASS – 100 LBS / ACRE; PLANT BETWEEN MARCH 1 AND MAY 15 BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 0.5 INCHES.
     (2) SPRING OATS – 86 LBS / ACRE; PLANT BETWEEN MARCH 1 AND MAY 15 BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 1.0 INCHES.
     (3) WINTER BARLEY – 96 LBS / ACRE; PLANT BETWEEN AUGUST 15 AND OCTOBER 1; AT A DEPTH OF 1.0 INCHES.
     (4) ANNUAL RYEGRASS – 100 LBS / ACRE; PLANT BETWEEN MARCH 1 AND JUNE 15 BETWEEN AUGUST 1 AND SEPTEMBER 15; AT A DEPTH OF 0.5 INCHES.
     (5) WINTER CEREAL RYE – 112 LBS / ACRE; PLANT BETWEEN AUGUST 1 AND NOVEMBER 15; AT A DEPTH OF 1.0 INCHES.

     -WARM SEASON GRASSES:
     (1) PEARL MILLET – 20 LBS / ACRE; PLANT BETWEEN MAY 15 AND AUGUST 15; AT A DEPTH OF 1.0 INCHES.
     (2) MILLET (GERMAN OR HUNGARIAN) – 30 LBS / ACRE; PLANT BETWEEN MAY 15 AND AUGUST 15; AT A DEPTH OF 1.0 INCHES.
   - 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. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING 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 IN ACCORDANCE WITH THE STATE STANDARDS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COST.
     1. PEG AND TWINE
     2. MULCH NETTINGS
     3. CRIMPER MULCH ANCHORING COULTER TOOL
     4. LIQUID MULCH-BINDERS
   - B. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PROJECT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
   - C. PELLETIZED MULCH. COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIES IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS./1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

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

SOIL DE-COMPACTION AND TESTING REQUIREMENTS:

SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS **PRIOR TO THE APPLICATION OF TOPSOIL** (SEE PERMANENT SEEDING AND STABILIZATION NOTES FORTOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE **GRAPHICALLY DENOTED** ON THE CERTIFIED SOIL EROSION CONTROL PLAN.
3. **COMPACTION TESTING LOCATIONS** ARE DENOTED ON THE PLAN. A COPY OF THE PLAN OR PORTION OF THE PLAN SHALL BE USED TO MARK LOCATIONS OF TESTS, AND ATTACHED TO THE COMPACTION REMEDIATION FORM, AVAILABLE FROM THE LOCAL SOIL CONSERVATION DISTRICT. THIS FORM MUST BE FILLED OUT AND SUBMITTED PRIOR TO RECEIVING A CERTIFICATE OF COMPLIANCE FROM THE DISTRICT.
4. IN THE EVENT THAT TESTING INDICATES COMPACTION IN EXCESS OF THE MAXIMUM THRESHOLDS INDICATED FOR THE SIMPLIFIED TESTING METHODS (SEE DETAILS BELOW), THE CONTRACTOR/OWNER SHALL HAVE THE OPTION TO PERFORM EITHER (1) COMPACTION MITIGATION OVER THE ENTIRE MITIGATION AREA DENOTED ON THE PLAN (EXCLUDING EXEMPT AREAS), OR (2) PERFORM ADDITIONAL, MORE DETAILED TESTING TO ESTABLISH THE LIMITS OF EXCESSIVE COMPACTION WHEREUPON ONLY THE EXCESSIVELY COMPACTED AREAS WOULD REQUIRE COMPACTION MITIGATION. ADDITIONAL DETAILED TESTING SHALL BE PERFORMED BY A TRAINED, LICENSED PROFESSIONAL.

COMPACTION TESTING METHODS

- A. PROBING WIRE TEST (SEE DETAIL)
- B. HAND-HELD PENETROMETER TEST (SEE DETAIL)
- C. TUBE BULK DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED
- D. NUCLEAR DENSITY TEST (LICENSED PROFESSIONAL ENGINEER REQUIRED)

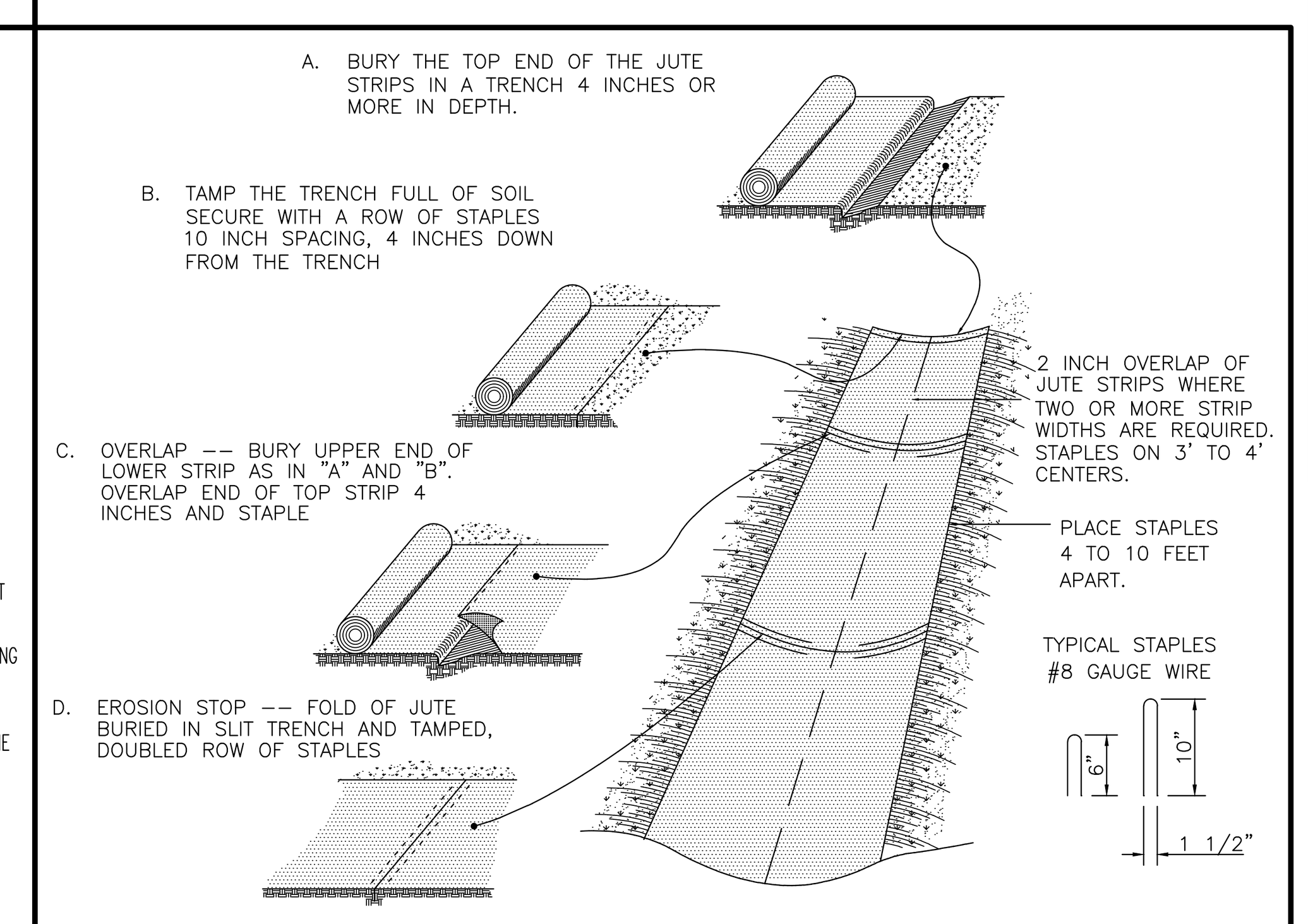
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATIONS, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

SOIL COMPACTION TESTING IS NOT REQUIRED IF/WHEN SUBSOIL COMPACTION REMEDIATION (SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) OR SIMILAR) IS PROPOSED AS PART OF THE SEQUENCE OF CONSTRUCTION.

PROCEDURES FOR SOIL COMPACTION MITIGATION

PROCEDURES SHALL BE USED TO MITIGATE EXCESSIVE SOIL COMPACTION **PRIOR TO PLACEMENT OF TOPSOIL** AND ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.

RESTORATION OF COMPACTED SOILS SHALL BE THROUGH DEEP SCARIFICATION/TILLAGE (6" MINIMUM DEPTH) WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.). IN THE ALTERNATIVE, ANOTHER METHOD AS SPECIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER MAYBE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.



NOTE: LAYER OF MULCH SHALL BE PROVIDED UNDER NETTING IF IT IS NOT INCLUDED WITH THE CHOSEN NETTING

EROSION CONTROL BLANKET DETAIL

NOT TO SCALE

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

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/).
     - FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   - C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

3. SEEDING
   - A. PERMANENT VEGETATIVE MIXTURES & PLANTING RATES

(1)	HARD FESCUE –	175 LBS/ACRE	4 LBS/1000 SQ.FT.
(2)	CHEWING FESCUE –	175 LBS/ACRE	4 LBS/1000 SQ.FT.
(3)	STRONG CREEPING RED FESCUE –	175 LBS/ACRE	4 LBS/1000 SQ.FT.
(4)	PERENNIAL RYEGRASS –	45 LBS/ACRE	1 LBS/1000 SQ.FT.
(5)	KY. BLUEGRASS –	45 LBS/ACRE	1 LBS/1000 SQ.FT.

   - B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.
   - C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
   - D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORTFIBERED 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

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

   - A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1.5 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 85% 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 IN ACCORDANCE WITH THE STATE STANDARDS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COST.
     1. PEG AND TWINE
     2. MULCH NETTINGS
     3. CRIMPER MULCH ANCHORING COULTER TOOL
     4. LIQUID MULCH-BINDERS
   - B. WOOD-FIBER OR PAPER-FIBER MULCH – SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
   - C. PELLETIZED MULCH – COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS, AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/1,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEEDSEED 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.

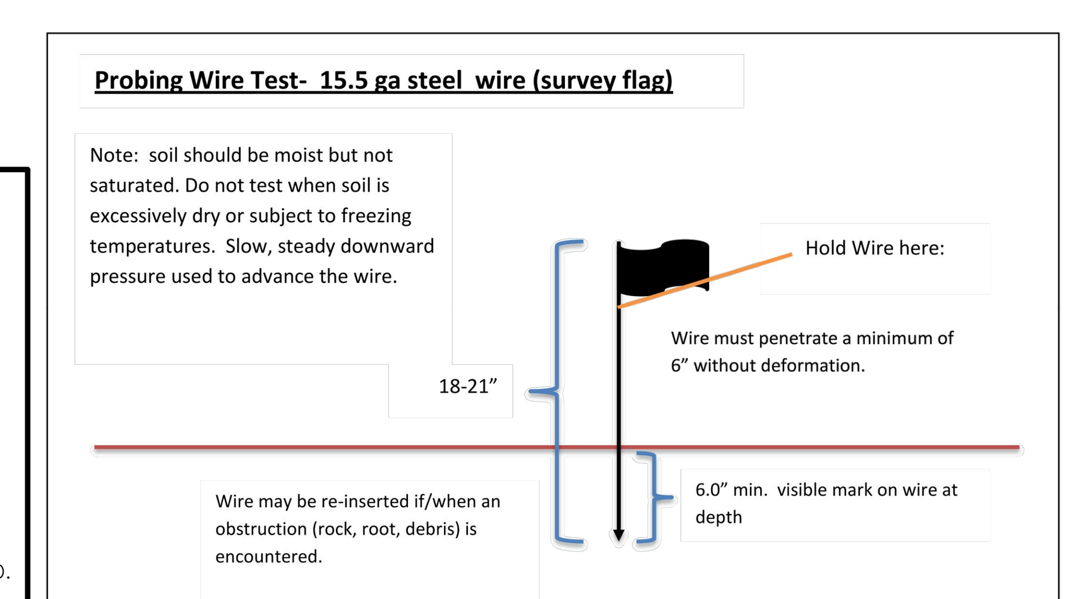
STANDARD FOR STABILIZATION WITH MULCH ONLY

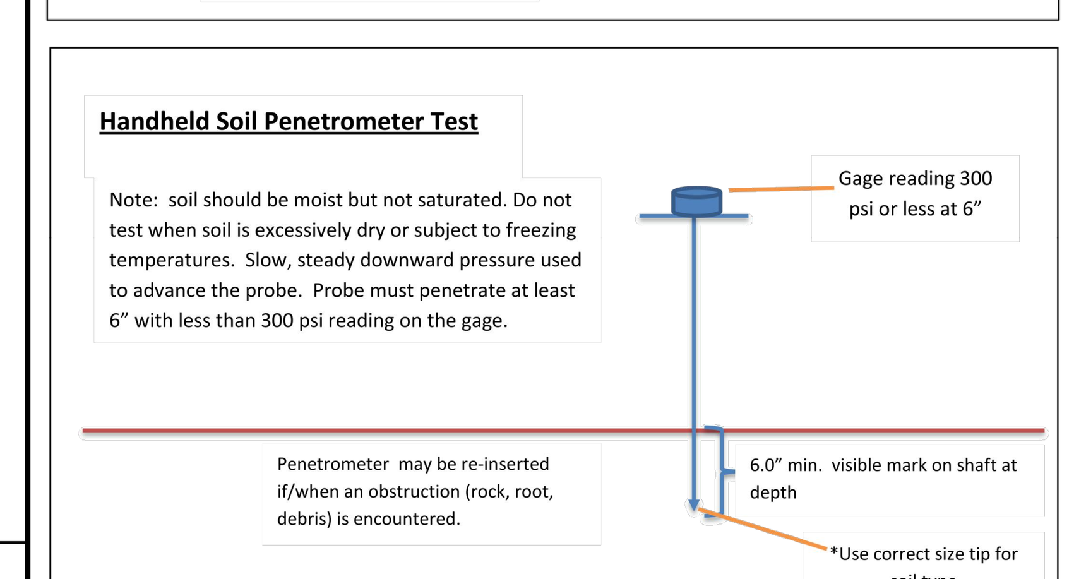
1. SITE PREPARATION
   - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.
   - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR 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 – 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 IN ACCORDANCE WITH THE STATE STANDARDS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
   - A. PEG AND TWINE
   - B. MULCH NETTINGS
   - C. CRIMPER MULCH ANCHORING COULTER TOOL
   - D. LIQUID MULCH-BINDERS

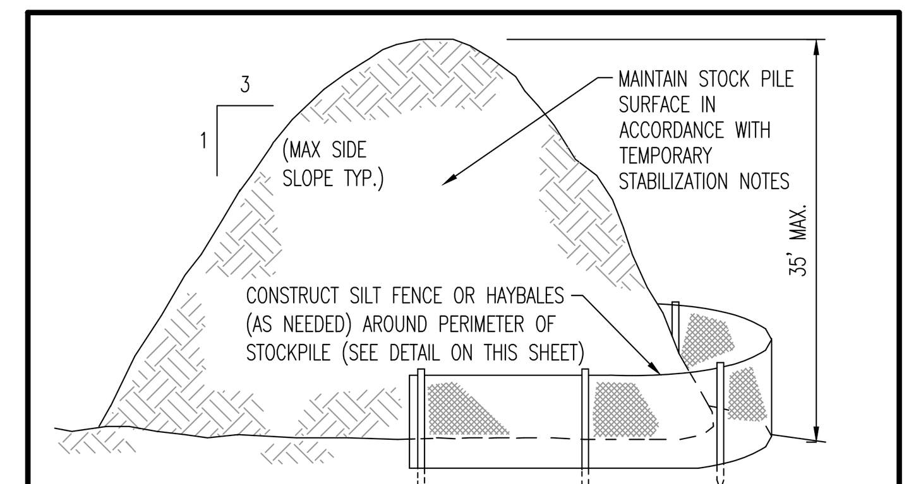
Simplified Testing Methods





CAMDEN COUNTY SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN PLACE PRIOR TO ANY GRADING OPERATION AND/OR INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES.
2. SOIL EROSION AND SEDIMENT CONTROL PRACTICES ON THIS PLAN SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
3. APPLICABLE EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE LEFT IN PLACE UNTIL CONSTRUCTION IS COMPLETED AND/OR THE AREA IS STABILIZED.
4. THE CONTRACTOR SHALL PERFORM ALL WORK, FURNISH ALL MATERIALS AND INSTALL ALL MEASURES REQUIRED TO REASONABLY CONTROL SOIL EROSION RESULTING FROM CONSTRUCTION OPERATIONS AND PREVENT EXCESSIVE FLOW OF SEDIMENT FROM THE CONSTRUCTION SITE.
5. ANY DISTURBED AREA THAT IS TO BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING AND FERTILIZATION IN ACCORDANCE WITH THE NEW JERSEY STANDARDS AND THEIR RATES SHOULD BE INCLUDED IN THE NARRATIVE. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREAS WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
6. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO PROVIDE CONFIRMATION OF LIME, FERTILIZER AND SEED APPLICATION AND RATES OF APPLICATION AT THE REQUEST OF THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT.
7. ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NEW JERSEY STANDARDS IMMEDIATELY FOLLOWING ROUGH GRADING.
8. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
9. ALL SEDIMENTATION STRUCTURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS AND AFTER EVERY STORM EVENT.
10. A CRUSHED STONE, TIRE CLEANING PAD WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS EXISTS. THE STABILIZED PAD WILL BE INSTALLED ACCORDING TO THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS
11. ALL DRIVEWAYS MUST BE STABILIZED WITH 2 ½" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
12. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
13. ALL CATCH BASIN INLETS WILL BE PROTECTED ACCORDING TO THE CERTIFIED PLAN.
14. ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
15. ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA. THE SEDIMENT FILTER SHOULD BE COMPOSED OF A SUITABLE SEDIMENT FILTER FABRIC. (SEE DETAIL) THE BASIN MUST BE DEWATERED TO NORMAL POOL WITHIN 10 DAYS OF THE DESIGN STORM.
16. NJSA 4:24-39, ET SEQ. REQUIRES THAT NO CERTIFICATE OF OCCUPANCY BE ISSUED BEFORE ALL PROVISIONS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES. ALL SITE WORK FOR THE PROJECT MUST BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE AS A PREREQUISITE TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE MUNICIPALITY.
17. MULCHING IS REQUIRED ON ALL SEEDED AREAS TO INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED TO PROMOTE EARLIER VEGETATION COVER.
18. OFFSITE SEDIMENT DISTURBANCE MAY REQUIRE ADDITIONAL CONTROL MEASURES TO BE DETERMINED BY THE EROSION CONTROL INSPECTOR.
19. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE MAINTAINED ON THE PROJECT SITE DURING CONSTRUCTION.
20. THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY LAND DISTURBANCE.
21. ANY CONVEYANCE OF THIS PROJECT PRIOR TO ITS COMPLETION WILL TRANSFER FULL RESPONSIBILITY FOR COMPLIANCE WITH THE CERTIFIED PLAN TO ANY SUBSEQUENT OWNERS.
22. IMMEDIATELY AFTER THE COMPLETION OF STRIPPING AND STOCKPILING OF TOPSOIL, THE STOCKPILE MUST BE STABILIZED ACCORDING TO THE STANDARD FOR TEMPORARY VEGETATIVE COVER. STABILIZE TOPSOIL PILE WITH STRAW MULCH FOR PROTECTION IF THE SEASON DOES NOT PERMIT THE APPLICATION AND ESTABLISHMENT OF TEMPORARY SEEDING. ALL SOIL STOCKPILES ARE NOT TO BE LOCATED WITHIN FIFTY (50) FEET OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY AND THE BASE MUST BE PROTECTED WITH A SEDIMENT BARRIER.
23. ANY CHANGES TO THE SITE PLAN WILL REQUIRE THE SUBMISSION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN TO THE CAMDEN COUNTY SOIL CONSERVATION DISTRICT. THE REVISED PLAN MUST BE IN ACCORDANCE WITH THE CURRENT NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL.
24. METHODS FOR THE MANAGEMENT OF HIGH ACID PRODUCING SOILS SHALL BE IN ACCORDANCE WITH THE STANDARDS. HIGH ACID PRODUCING SOILS ARE THOSE FOUND TO CONTAIN IRON SULFIDES OR HAVE A pH OF 4 OR LESS.
25. TEMPORARY AND PERMANENT SEEDING MEASURES MUST BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS, AND MULCHED WITH SALT HAY OR EQUIVALENT AND ANCHORED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS (I.E. PEG AND TWINE, MULCH NETTING OR LIQUID MULCH BINDER).
26. MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT BE CONSTRUCTED STEEPER THAN 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
27. DUST IS TO BE CONTROLLED BY AN APPROVED METHOD ACCORDING TO THE NEW JERSEY STANDARDS AND MAY INCLUDE WATERING WITH A SOLUTION OF CALCIUM CHLORIDE AND WATER.
28. ADJOINING PROPERTIES SHALL BE PROTECTED FROM EXCAVATION AND FILLING OPERATIONS ON THE PROPOSED SITE.
29. USE STAGED CONSTRUCTION METHODS TO MINIMIZE EXPOSED SURFACES, WHERE APPLICABLE.
30. ALL VEGETATIVE MATERIAL SHALL BE SELECTED IN ACCORDANCE WITH AMERICAN STANDARDS FOR NURSERY STOCK OF THE AMERICAN ASSOCIATION OF THE NURSERYMEN AND IN ACCORDANCE WITH THE NEW JERSEY STANDARDS.
31. NATURAL VEGETATION AND SPECIES SHALL BE RETAINED WHERE SPECIFIED ON THE LANDSCAPE PLAN.
32. THE SOIL EROSION INSPECTOR MAY REQUIRE ADDITIONAL SOIL EROSION MEASURES TO BE INSTALLED, AS DIRECTED BY THE DISTRICT INSPECTOR.



TEMPORARY STOCKPILE DETAIL

NOT TO SCALE

SEQUENCE OF CONSTRUCTION:

- PHASE 1: INSTALL STONE ANTI-TRACKING PAD AND OTHER SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING DOWN SLOPE PERIMETER HAYBALES, SILT FENCING AND TREE PROTECTION FENCING. (1-2 WEEKS)
- PHASE 2: CLEAR AND ROUGH GRADE FOR NEW BUILDING SITE AND OTHER STRUCTURES REQUIRING EXCAVATION. NEW 48" RCP STORMWATER PIPE TO BE CONSTRUCTED BEFORE EXISTING 48" RCP IS REMOVED. (1-2 MONTHS)
- PHASE 3: EXCAVATION, CONSTRUCTION, AND STABILIZATION OF DETENTION BASIN(S), EXCAVATE AND INSTALL UNDERGROUND PIPING AND DRAINAGE STRUCTURES. (1-2 MONTHS)
- PHASE 4: EXCAVATE FOR BUILDING FOUNDATION. (2-3 WEEKS)
- PHASE 5: COMPLETE BUILDING CONSTRUCTION. (3-4 MONTHS)
- PHASE 6: EXCAVATE AND INSTALL ON-SITE IMPROVEMENTS INCLUDING CURBING, UNDERGROUND PIPING, AND DRAINAGE STRUCTURES. (1-2 MONTHS)
- PHASE 7: FINAL GRADING ON SITE. (2-4 WEEKS)
- PHASE 8: INSTALL PAVING, CONCRETE, AND FINAL VEGETATION INCLUDING SEEDING AND LANDSCAPING. (1-2 MONTHS)
- PHASE 9: REMOVE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING DOWN SLOPE PERIMETER HAYBALES, SILT FENCING AND TREE PROTECTION FENCING. (1-2 WEEKS)

Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

DYNAMIC ENGINEERING
LAND DEVELOPMENT CONSULTING • PERMITTING • GEOTECHNICAL • ENVIRONMENTAL • SURVEY • PLANNING & ZONING
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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8570

TITLE: SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) AS (V) SHOWN
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 10 OF 17

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

– CONSTRUCTION CHECK – DATE
– CONSTRUCTION CHECK – DATE

DEC Client Code: 2451
Rev. # 6

Plotted: 07/27/20 – 3:53 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\D2451990125D6.dwg, ---> 10 SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS

LITHONIA LIGHTING®

Catalog Number	OLW-31-M2
Notes	
Type	K

FEATURES & SPECIFICATIONS

INTENDED USE

Provides maintenance-free general illumination for outdoor use in residential and commercial applications such as retail, education, multi-unit housing and storage. Ideal for lighting building facades, parking areas, walkways, garages, loading areas and any other outdoor space requiring reliable security lighting.

CONSTRUCTION

Sturdy weather-resistant aluminum housing with a dark bronze finish.

High performance LEDs are powered by an MVOLT driver providing 2720 and 3970 delivered lumens at 5000K. 100,000 hours LED lifespan based on IESNA LM-80-08 results and calculated per IESNA TM-21-11 methodology. Fixture is maintenance-free.

Rated for outdoor installations -40°C minimum ambient.

Adjustable Dusk-to-Dawn, photocell standard automatically turns light on at dusk and off at dawn for convenience and energy savings.

Photocell can be disabled by rotating the photocell cover.

OPTICS

Precision-molded acrylic lenses provide optimal luminaire spacing with Type 3 distribution.

Nighttime Friendly™ full cutoff above 90° angle, standard.

INSTALLATION

Wall or arm mount (mounting arm sold separately).

All mounting hardware included.

LISTINGS

UL Certified to US safety standards. C-UL Certified to Canadian safety standards. Wet location listed.

Tested in accordance with IESNA LM-79 and LM-80 standards. DLC qualified product.

WARRANTY

5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

NOTE: Specifications are subject to change without notice.

Outdoor General Purpose

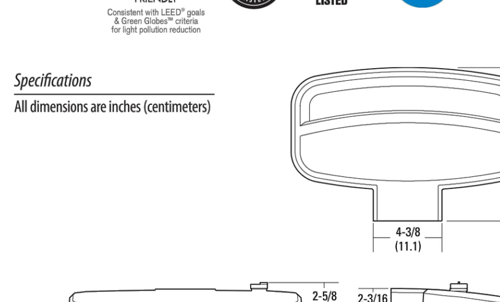
OLW

LED WALL PACK

NIGHTTIME FRIENDLY Consistent with LEED® goals & Green Globes™ criteria for light pollution reduction

Specifications

All dimensions are inches (centimeters)



ORDERING INFORMATION For shortest lead times, configure products using **bolded options.** **Example:** OLW 23

Series	Lumens / Color temperature (CCT)	Voltage	Features	Finish
OLW LED Wall Light	23 2720 delivered lumens / 5000K[1] 31 3970 delivered lumens / 5000K[1]	(blank) MVOLT (120V-277V)	(blank) Photocell included	(blank) DDB Dark Bronze

Accessories: *Order as separate catalog number.*	
OMA DDB M6	14" Steel mounting arm

Notes

1 Correlated Color Temperature (CCT) shown is nominal per ANSI C78,377-2008.

OLW LED Wall Light

PHOTOMETRICS

Full photometric data report available within 2 weeks from request. Consult factory.
Tested in accordance with IESNA LM-79 and LM-80 standards.

lighting facts® A Program of the U.S. DOE — Lithonia Lighting

Light Output (Lumens)	2716
Watts	32.8
Lumens per Watt (Efficacy)	82
Color Accuracy (Color Rendering Index (CRI))	68
Light Color (Correlated Color Temperature (CCT))	5039 (Daylight)

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: NJSM-ZCWOMN (1/27/2014)
Model Number: OLW 23 (UPGRADE 12/05/2013)
Type: Luminaire - Area/Roadway

lighting facts® A Program of the U.S. DOE — Lithonia Lighting

Light Output (Lumens)	3967
Watts	45.1
Lumens per Watt (Efficacy)	87
Color Accuracy (Color Rendering Index (CRI))	68
Light Color (Correlated Color Temperature (CCT))	4969 (Daylight)

All results are according to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting. The U.S. Department of Energy (DOE) verifies product test data and results.

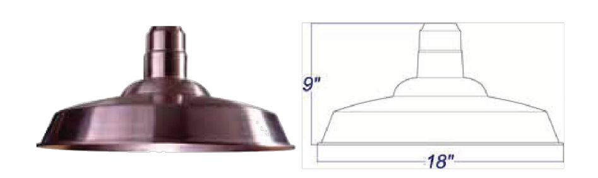
Visit www.lightingfacts.com for the Label Reference Guide.

Registration Number: NJSM-B6IQIS (1/24/2014)
Model Number: OLW 31 (Upgrade : 12/5/2013)
Type: Luminaire - Area/Roadway

LITHONIA LIGHTING® An AcuityBrands Company

ANP Lighting INNOVATIVE SITE LIGHTING — Specifications W518

Project: Tractor Supply Company



W518 18" Warehouse Shade

RLM Shades manufactured using 1100 aluminum alloy, typically .08-.125 thickness

Catalog Logic: W518 (RLM Style) M021LD (Light Source & Wattage) N (Dimming/No Dimming) W (Distribution) 40K (CCT) RTC (Driver Housing) E6 (Mounting) PC (Accessories) 41 (Finish)

1	2	3	4	5	6	7	8
W518 M021LD	N	W	40K	RTC	E1		

1 LIGHT SOURCE & WATTAGES

Wattage	Catalog #
GU24 socket option	
9w	M009LD
13w	M013LD
21w	M021LD

2 DIMMING/NO DIMMING

- N (No Dimming)
- D (Dimming)
- S (Sunset - Dims smoothly from 2700K to 1800K)

3 DISTRIBUTION

- W (T5 Wide Distribution with Dome LED Lens)
- N (T5 Narrow Distribution with Flat LED Lens)

4 COLOR TEMPERATURE (CCT)

CCT	Catalog#
2700K	27K
3000K	30K
3500K	35K
4000K	40K

5 DRIVER HOUSING

- RTC (Driver Canopy)
- RTCNC (Driver Canopy/No Spun Cover)

6 MOUNTING SOURCES

Arm Mounts (Come Standard with CB)

E1 E2 E3 E4 E5 E6 E7
E8 E9 E10 E11 E12 E13
E15 E16 E17 E18
E18SC E19 E20 E21 E22 E23 E25 E26

Wall Mounts

WM35
WM40 (driver housing not required)
WM55
WM55SC
WM75 (driver housing not required)
WM318 (requires remote driver)
WM85 (requires remote driver)
WM85SC (requires remote driver)
WM85BP (requires remote driver)
WM85SCBP (requires remote driver)

Post Mounts

PM10
PM20
PM30
PM40
PM50

Pendant Mounts

BLC (black cord - includes canopy and 8' cord)
WHC (white cord - includes canopy and 8' cord)
1/2" stems (Comes Standard with STC)
2ST6 2ST12 2ST18 2ST24 2ST36 2ST48 2ST60
2ST72 2ST96
3/4" stems (Comes Standard with STC)
3ST6 3ST12 3ST18 3ST24 3ST36 3ST48
3ST60 3ST72 3ST96

7 ACCESSORIES

- CB (Cast back plate)
- CBC (Cast back plate Spun Alum Cover)
- GR18 (18" Wire Grill)
- PC (Button Photo Cell) Remote Only
- SC (Scroll for Arms)
- SLC (Sloped Ceiling Mount)
- SQ (Square Back Plate)
- STC (Flat Ceiling Stem Canopy)
- SWL (Swivel)

villa LIGHTING

 1-800-548-3227 ANPlighting.com

ANP Lighting — Specifications W518

Project: Tractor Supply Company

8 FINISH

STANDARD

Standard	Marine	Colors
44	107	White
77	127	Textured White
13	132	Putty
56	109	Silver
78	124	Textured Silver
49		Painted Galvanized
70	118	Painted Chrome
11	131	Cantaloupe
46	123	Sunny Yellow
43	114	Bright Red
10	130	Aspen Green
47	120	Aqua Green
42	102	Forest Green
52	104	Patina Verde
61	106	Black Verde
45	112	Bright Blue
50	111	Navy
53	100	Copper Clay
71	105	Painted Copper
51	103	Architectural Bronze
76	112	Textured Architectural Bronze
41	101	Black
72	108	Textured Black
73	105	Matte Black

PREMIUM

Standard	Marine	Colors
48		Polished Aluminum
55		Brushed Aluminum
81	129	Extreme Chrome
80	117	Textured Desert Stone
67	119	Butterscotch
66	115	Caramel
64	116	Candy Apple Red
65	122	Cobalt Blue
82	128	Graystone
69	113	Gunmetal Gray
68	126	Black Silver

Consult factory for additional paint charges and availability of metal finishes.

The Colors of ANP Lighting

All of our products are painted at a TIGER Drylac® approved facility, and are finished in our polyester powder coat for exceptional durability and color retention. Products undergo an intensive five-step process in which they are cleansed, treated with iron phosphate, and sealed to pre-treat the metal surface for maximum paint adhesion. Whether applied as a textured coat or a smooth gloss, our high quality finish is electro-statically applied and baked at 430° for maximum hardness and wear. The end result is a tough, attractive, durable, scratch resistant, and cost-effective product.

Optional Marine Grade Finish

For lighting fixtures exposed to more extreme conditions, such as those found in coastal regions or industrial environments, we offer a marine grade finish that provides superior salt, humidity, and UV protection. This specialty powder coating, available for an additional charge, withstands up to 3000 hours of continuous salt spray, comes with a 5-year warranty and is available in either a textured or gloss surface. Consult with our factory for additional paint charges.

villa LIGHTING

 1-800-548-3227 ANPlighting.com

ANP Lighting — Specifications W518

Project: Tractor Supply Company

MODULE SPECIFICATION:

- Efficacy ranges from 97-108 lumens per watt
- Dimmable 5% - 100%
- Life: L70 50,000 hours
- Color temp: 2700K,3000K,3500K and 4000K
- CRI: >90

MODULE DRIVER SPECIFICATION:

- Operates at 440mA to 940mA
- Built in surge protection
- Constant current output 50/60HZ
- Driver Efficiency > 81% power factor above 90%
- 120 – 277 volts

MODULE LISTINGS

- Fully compliant with the RoHS Directive
- Certifications: CE/UL/ETL

WARRANTY

See terms and conditions for complete fixture warranty.
LED warranty information
- 5 year limited warranty*
- Life: L70 -50,000 hours
- Ease of maintenance and future upgrades with our independent heat sink technology

*5 year limited Warranty: LED modules will be warranted for a period of 5 years from date of installation. A typical year is defined as 4380 hours of operation. Failure defined as more than 8% of the total module not operating. The driver will also be covered under the same 5 year warranty

LED MODULE

LED Wattage	CCT	Lumens	System Wattage	Efficacy
9w	2700K	850	11w	97
9w	3000K	850	11w	97
9w	3500K	850	11w	97
9w	4000K	850	11w	97
13w	2700K	1250	16w	97
13w	3000K	1250	16w	97
13w	3500K	1250	16w	97
13w	4000K	1250	16w	97
21w	2700K	2000	25w	97
21w	3000K	2000	25w	97
21w	3500K	2000	25w	97
21w	4000K	2000	25w	97

villa LIGHTING

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D-Series Size 0 LED Area Luminaire

Catalog Number

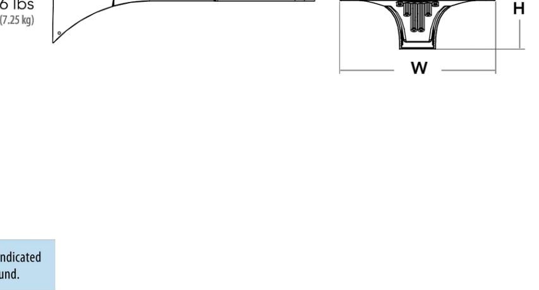
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA:	0.95 ft² (.09 m²)
Length:	26" (66.0 cm)
Width:	13" (33.0 cm)
Height:	7" (17.8 cm)
Weight (max):	16 lbs (7.25 kg)



A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is A+ Certified when ordered with DTL® controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocontrol interoperability1
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background[1]

To learn more about A+, visit www.acuitybrands.com/aplus.

1. See ordering tree for details.
2. A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately: Link to Roam; Link to DTL DLL

A+ Capable options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

Series	LEDs	Color temperature	Distribution	Voltage	Mounting
DSX0 LED	Forward optics: P1, P2, P3, P4, P5, P6, P7 Rotated optics: P10[1], P11[1], P12[1], P13[1]	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted[2]	T1S Type I short T2S Type II short T2M Type II medium T3S Type III short T3M Type III medium T4M Type IV medium TFTM Forward throw medium T5VS Type V very short T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control[2,3] LCCO Left corner cutoff[2,3] RCCO Right corner cutoff[2,3]	MVOLT[4,5] 120[6] 208[5,6] 240[5,6] 277[6] 347[5,6,7] 480[5,6,7]	Shipped included: SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPUMBA Square pole universal mounting adaptor[8] RPUMBA Round pole universal mounting adaptor[8] Shipped separately: KMA8 DDBXD U Mast arm mounting bracket adaptor (specify finish)[9]

Control options		Other options	Finish (required)
Shipped installed NLTAIR2 nLight AIR generation 2 enabled[10] PER NEMA twist-lock receptacle only (control ordered separate)[11] PER5 Five-wire receptacle only (control ordered separate)[11,12] PER7 Seven-wire receptacle only (control ordered separate)[11,12] DMG 0-10V dimming extend out back of housing for external control (control ordered separate) PIR Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 5fc[5,13,14] PIRH Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 5fc[5,13,14] PIRHN Network, Bi-Level motion/ambient sensor[15] PIR1FC3V Bi-level, motion/ambient sensor, 8-15' mounting height, ambient sensor enabled at 1fc[5,13,14]	PIRH1FC3V Bi-level, motion/ambient sensor, 15-30' mounting height, ambient sensor enabled at 1fc[5,13,14] BL30 Bi-level switched dimming, 30%[5,16,17] BL50 Bi-level switched dimming, 50%[5,16,17] PNMTDD3 Part night, dim till dawn[5,18] PNMT5D3 Part night, dim 5 hrs[5,18] PNMT6D3 Part night, dim 6 hrs[5,18] PNMT7D3 Part night, dim 7 hrs[5,18] FAO Field adjustable output[19]	Shipped installed HS House-side shield[20] SF Single fuse (120, 277, 347V)[6] DF Double fuse (208, 240, 480V)[6] L90 Left rotated optics[1] R90 Right rotated optics[1] DDL Diffused drop lens[20] Shipped separately BS Bird spikes[21] EGS External glare shield[21]	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

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Ordering Information

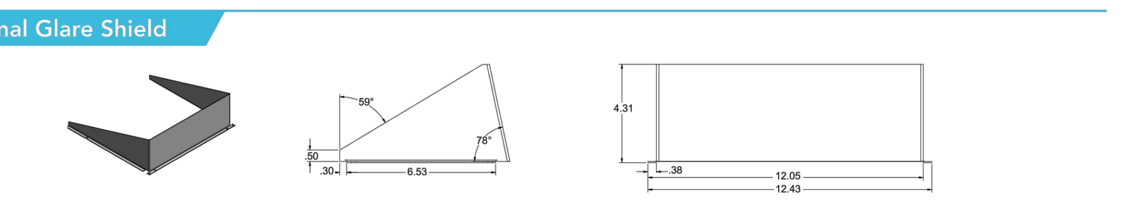
Accessories — Ordered and shipped separately.

DLL127F 1.5 JU	Photocell - SSL twist-lock (120-277V)[22]
DLL347F 1.5 CUL JU	Photocell - SSL twist-lock (347V)[22]
DLL480F 1.5 CUL JU	Photocell - SSL twist-lock (480V)[22]
DSHORT SBK U	Shorting cap[22]
DSX0HS 20C U	House-side shield for 20 LED unit[20]
DSX0HS 30C U	House-side shield for 30 LED unit[20]
DSX0HS 40C U	House-side shield for 40 LED unit[20]
DSX0DDL U	Diffused drop lens (polycarbonate)[20]
PUMBA DDBXD U*	Square and round pole universal mounting bracket adaptor (specify finish)[23]
KMA8 DDBXD U	Mast arm mounting bracket adaptor (specify finish)[9]

For more control options, visit DTL and ROAM online.

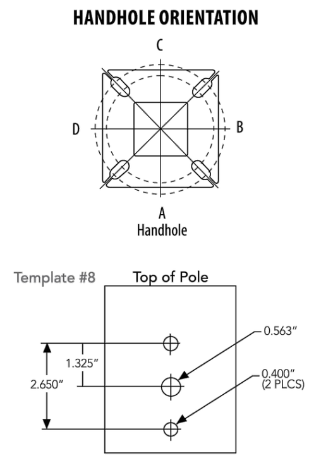
NOTES
1 P10, P11, P12 and P13 and rotated options (L90 or R90) only available together.
2 AMBPC is not available with BLC, LCCO, RCCO, P4, P7 or P13.
3 Not available with HS or DDL.
4 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
5 Any PIRx with BL30, BL50 or PNMT, is not available with 208V, 240V, 347V, 480V or MVOLT. It is only available in 120V or 277V specified.
6 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
7 Not available in P4, P7 or P13. Not available with BL30, BL50 or PNMT options.
8 Existing drilled pole only. Available as a separate combination accessory; for retrofit use only: PUMBA (finish) U; 1.5 G vibration load rating per ANCI C136.31.
9 Must order fixture with SPA mounting. Must be ordered as a separate accessory; see Accessories information. For use with 2-3/8" mast arm (not included).
10 Must be ordered with PIRHN.
11 Photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included.
12 If ROAM® node required, it must be ordered and shipped as a separate line item from Acuity Brands Controls. Shorting Cap included.
13 Reference Motion Sensor table on page 3.
14 Reference PER Table on page 3 to see functionality.
15 Must be ordered with NLTAIR2. For more information on nLight Air 2 visit this link.
16 Requires (2) separately switched circuits.
17 Not available with 347V, 480V or PNMT. For PER5 or PER7 see PER Table on page 3. Requires isolated neutral.
18 Not available with 347V, 480V, BL30 and BL50. For PER5 or PER7 see PER Table on page 3. Separate Dusk to Dawn required.
19 Not available with other dimming controls options.
20 Not available with BLC, LCCO and RCCO distribution. Also available as a separate accessory; see Accessories information.
21 Must be ordered with fixture for factory pre-drilling.
22 Requires luminaire to be specified with PER, PER5 or PER7 option. See PER Table on page 3.
23 For retrofit use only.

External Glare Shield



Drilling

HANDHOLE ORIENTATION



Tenon Mounting Slipfitter **

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole drilling nomenclature: # of heads at degree from handhole (default side A)

DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D

Note: Review luminaire spec sheet for specific nomenclature

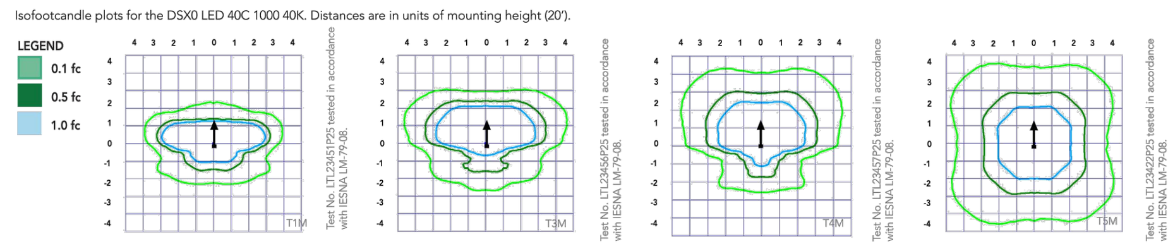
Pole top or tenon O.D.	4.5" @ 90°	4" @ 90°	3.5" @ 90°	3" @ 90°	4.5" @ 120°	4" @ 120°	3.5" @ 120°	3" @ 120°
DSX SPA	Y	Y	Y	N	-	-	-	-
DSX RPA	Y	Y	N	N	Y	Y	Y	Y
DSX SPUMBA	Y	N	N	N	-	-	-	-
DSX RPUMBA	N	N	N	N	Y	Y	Y	N

*3 fixtures @120 require round pole top/tenon.

Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's D-Series Area Size 0 homepage.

Isofootcandle plots for the DSX0 LED 40C 1000 40K. Distances are in units of mounting height (20').



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Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient		Lumen Multiplier
0°C	32°F	1.04
5°C	41°F	1.04
10°C	50°F	1.03
15°C	50°F	1.02
20°C	68°F	1.01
25°C	**77°F**	**1.00**
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97

Electrical Load

	Performance Package	LED Count	Drive Current	Wattage	120	208	240	277	347	480
Forward Optics (Non-Rotated)	P1	20	530	38	0.32	0.18	0.15	0.15	0.10	0.08
	P2	20	700	49	0.41	0.23	0.20	0.19	0.14	0.11
	P3	20	1050	71	0.60	0.37	0.32	0.27	0.21	0.15
	P4	20	1400	92	0.77	0.45	0.39	0.35	0.28	0.20
	P5	40	700	89	0.74	0.43	0.38	0.34	0.26	0.20
	P6	40	1050	134	1.13	0.65	0.55	0.48	0.39	0.29
	P7	40	1300	166	1.38	0.80	0.69	0.60	0.50	0.37
Rotated Optics (Requires L90 or R90)	P10	30	530	53	0.45	0.26	0.23	0.21	0.16	0.12
	P11	30	700	72	0.60	0.35	0.30	0.27	0.20	0.16
	P12	30	1050	104	0.88	0.50	0.44	0.39	0.31	0.23
	P13	30	1300	128	1.08	0.62	0.54	0.48	0.37	0.27

(Current (A) columns: 120, 208, 240, 277, 347, 480)

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a **25°C ambient**, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).
To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	25000	50000	100000
Lumen Maintenance Factor	0.96	0.92	0.85

Motion Sensor Default Settings

Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIR or PIRH	3V (37%) Output	10V (100%) Output	Enabled @ 5FC	5 min	3 sec	5 min
*PIR1FC3V or PIRH1FC3V	3V (37%) Output	10V (100%) Output	Enabled @ 1FC	5 min	3 sec	5 min

*for use with Inline Dusk to Dawn or timer.

PER Table

Control	PER (3 wire)	PER5 (5 wire)		PER7 (7 wire)		
			Wire 4/Wire5		Wire 4/Wire5	Wire 6/Wire7
Photocontrol Only (On/Off)	✓	⚠	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM	🚫	✓	Wired to dimming leads on driver	⚠	Wired to dimming leads on driver	Wires Capped inside fixture
ROAM with Motion (ROAM on/off only)	🚫	⚠	Wires Capped inside fixture	⚠	Wires Capped inside fixture	Wires Capped inside fixture
Future-proof*	🚫	⚠	Wired to dimming leads on driver	✓	Wired to dimming leads on driver	Wires Capped inside fixture
Future-proof* with Motion	🚫	⚠	Wires Capped inside fixture	✓	Wires Capped inside fixture	Wires Capped inside fixture

✓ Recommended
🚫 Will not work
⚠ Alternate

*Future-proof means: Ability to change controls in the future.

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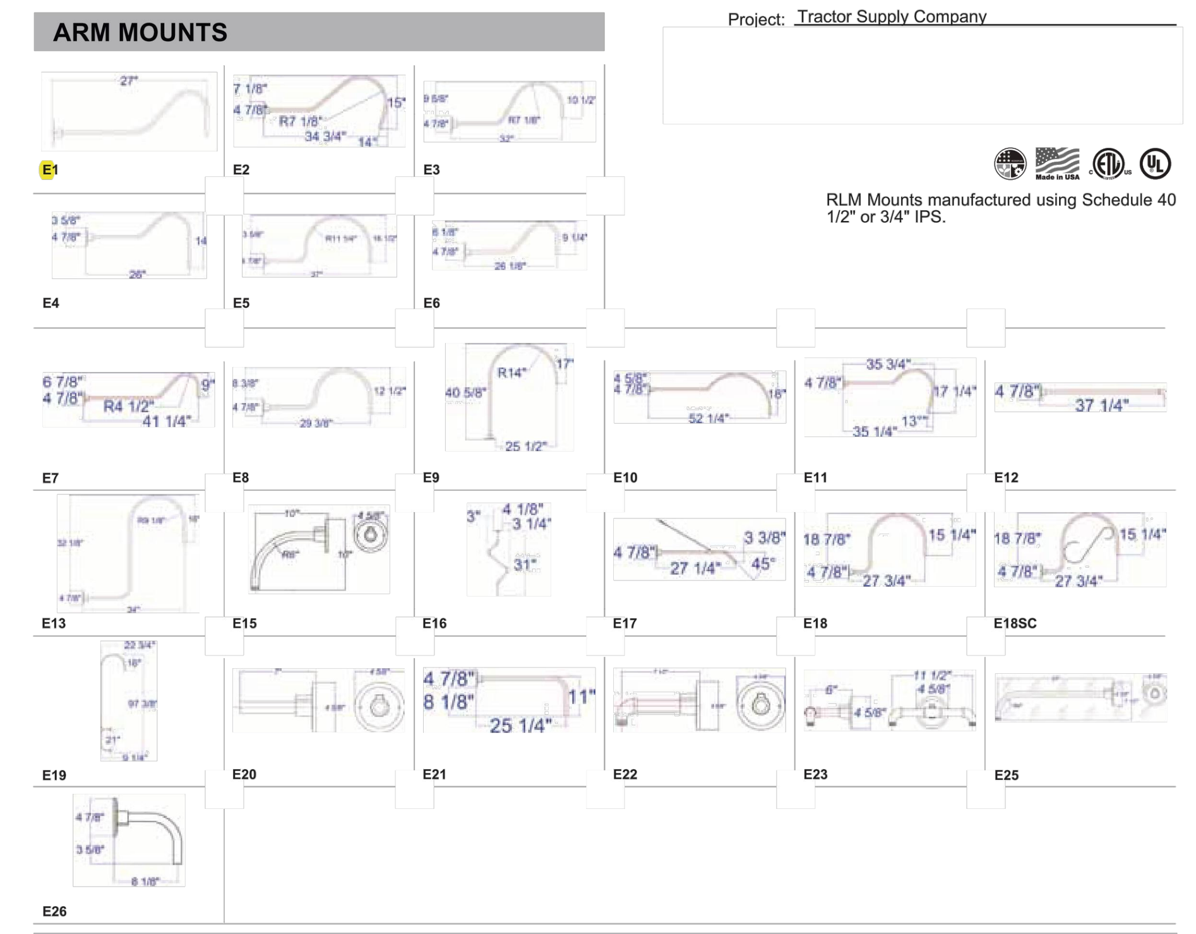
ANP Lighting — Specifications W518

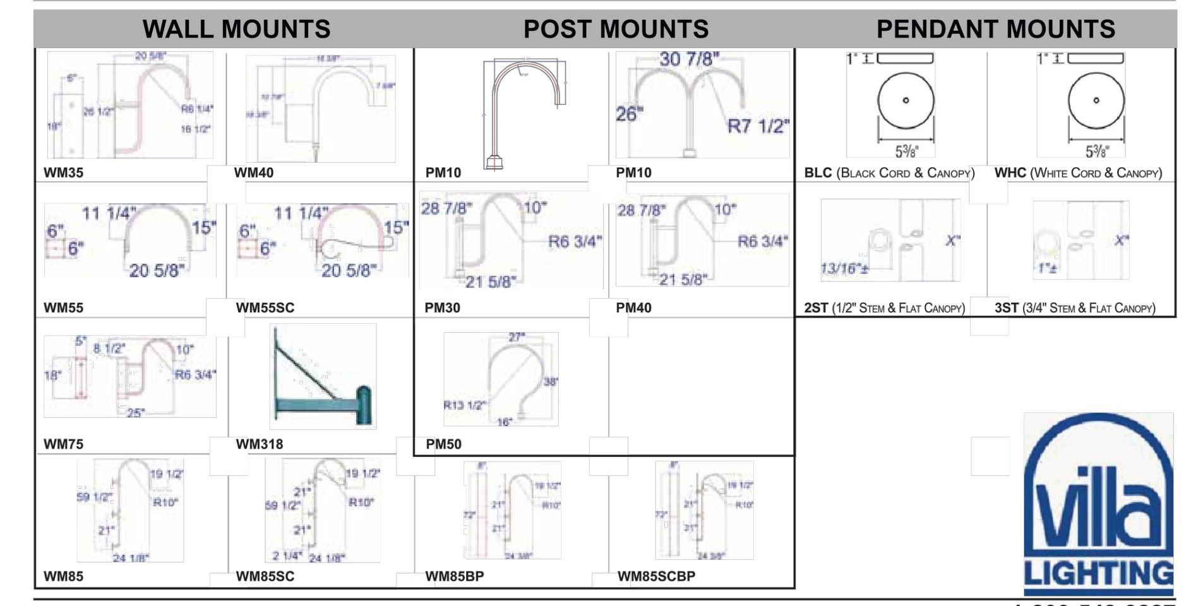
Project: Tractor Supply Company

RLM Mounts manufactured using Schedule 40 1/2" or 3/4" IPS.

ARM MOUNTS



WALL MOUNTS / POST MOUNTS / PENDANT MOUNTS



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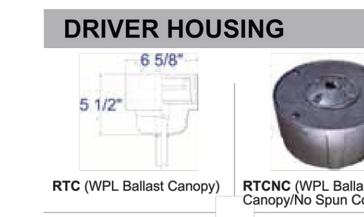
ANP Lighting — Specifications W518

Project: Tractor Supply Company

DRIVER HOUSING



RTC (WPL Ballast Canopy)
RTCNC (WPL Ballast Canopy/No Spun Cover)

ACCESSORIES

CB (Cast Back Plate)
CBC (Cast Back Plate Spun Alum. Cover)
GR18 (18" Wire Grill)
PC Button Photo Cell (Remote Only)
SC (Scroll for Arm)
SLC (Sloped Ceiling Mount)
SQ (Square Back Plate)
STC (Flat Ceiling Stem Canopy)
SWL (Swivel)

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NOTE: ALL SITE LIGHT POLES AND LIGHT FIXTURE HOUSINGS TO BE BLACK.

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8570

TITLE: CONSTRUCTION DETAILS

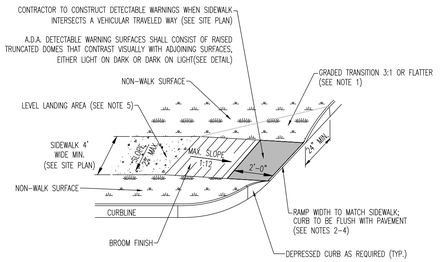
PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

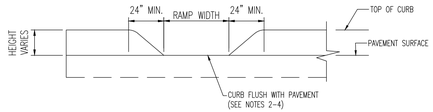
JOB No:	2451-99-012
DATE:	03/20/19
DRAWN BY:	KJH
SCALE:	(H) AS (V) SHOWN
DESIGNED BY:	KCK
CHECKED BY:	JMS
CONSTRUCTION CHECK – DATE –	
CONSTRUCTION CHECK – DATE –	
SHEET No:	11 OF 17
DEC Client Code:	2451
Rev. #	6

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
[illegible]
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

Plotted: 07/27/20 – 3:53 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\D245199012SD6.dwg, ---> 11 CONSTRUCTION DETAILS





TYPICAL ELEVATION FOR DEPRESSED CURB

NOTES:

1.) WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARE SIDES SHALL BE PROVIDED AT A SLOPE NO STEEPER THEN 1:10.

2.) CONSTRUCT DEPRESSED CURB FOR CURB RAMPS FLUSH TO ADJACENT PAVEMENT. GRADE FLOW LINE TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING. FOR LEVEL TURNING SPACES BEHIND DEPRESSED CURB, ADJUST SLOPES TO PROVIDE POSITIVE DRAINAGE.

3.) CURB RAMPS MAY NOT EXTEND INTO ANY PORTION OF THE PARKING SPACE OR ASSOCIATED STRIPED ISLAND.

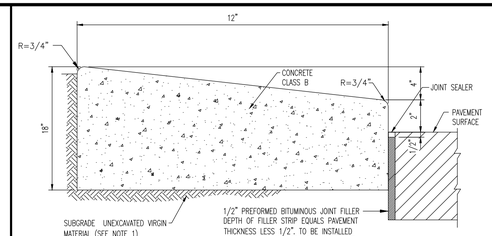
4.) COUNTER SLOPES OF ADJOINING GUTTERS AND PAVEMENT SHALL NOT BE STEEPER THAN 1:20 WITH A MAX. CROSS SLOPE OF 2%.

5.) A LEVEL LANDING AREA (MAX. SLOPE 2% IN ANY DIRECTION) SHALL BE PROVIDED AT THE TOP OF THE RAMP. THE LANDING CLEAR LENGTH SHALL BE 36" MIN AND THE CLEAR WIDTH SHALL BE AS WIDE AS THE RAMP.

6.) CURB RAMPS, PAVEMENT MARKINGS & APPLICABLE SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.D.A. ACCESSIBILITY GUIDELINES.

A.D.A. PERPENDICULAR CURB RAMP DETAIL (W/OUT FLARE SIDES)

NOT TO SCALE



NOTES:

1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE. ALL SUBGRADES SHALL BE APPROVED BY THE TOWNSHIP ENGINEER PRIOR TO POURING.

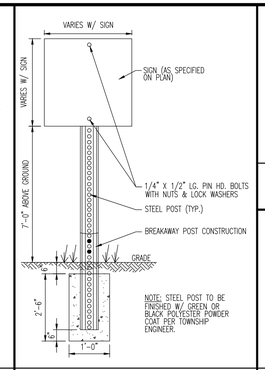
2. 1/2 INCH PREFORMED EXPANSION JOINT FILLER, BITUMINOUS TYPE, TO BE INSTALLED BETWEEN THE CURB AND CONCRETE PAVEMENT OR CONCRETE BASE COURSE.

3. TRANSVERSE JOINTS 1/2 INCH WIDE SHALL BE INSTALLED IN THE CURB 20 FEET APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT RECESSED 1/4 INCH IN FROM FRONT FACE AND TOP OF CURB.

4. EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

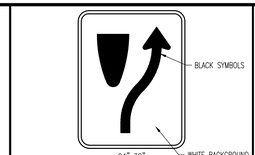
CONCRETE SLOPED CURB DETAIL

NOT TO SCALE



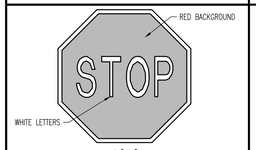
SIGN POST & FOOTING DETAIL

NOT TO SCALE



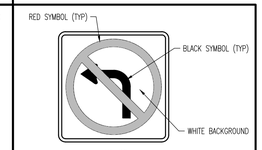
R4-7 SIGN DETAIL

NOT TO SCALE



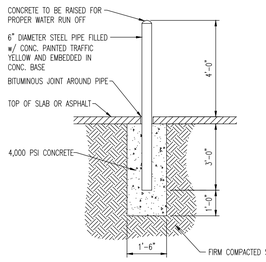
R1-1 SIGN DETAIL

NOT TO SCALE



R3-2 SIGN DETAIL

NOT TO SCALE

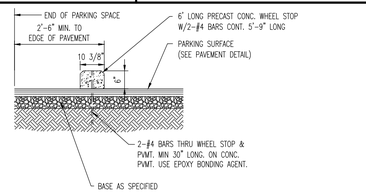


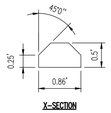
NOTES:
1. BOLLARD MUST RESIST A FORCE OF 12,000 POUNDS APPLIED 30" ABOVE THE DRIVING SURFACE.
2. BOLLARDS REQUIRED AS DEPICTED ON SITE PLAN DRAWINGS. TYPICALLY LOCATED AT BUILDING CORNERS, TRANSFORMERS, FIRE HYDRANTS, EXTERIOR WATER METER, GAS METER, FIRE DEPARTMENT CONNECTIONS, AND TRASH ENCLOSURES.

DWN - DWG

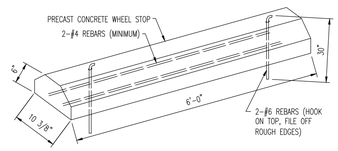
6" BOLLARD DETAIL

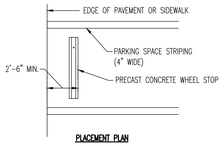
NOT TO SCALE





X-SECTION



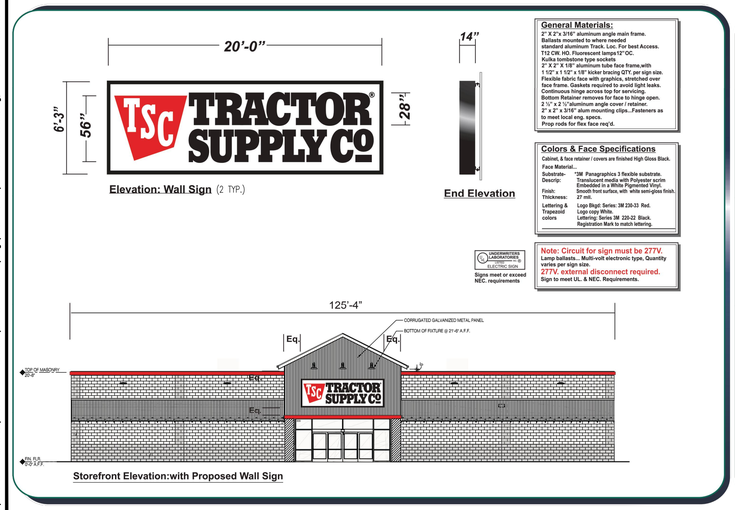


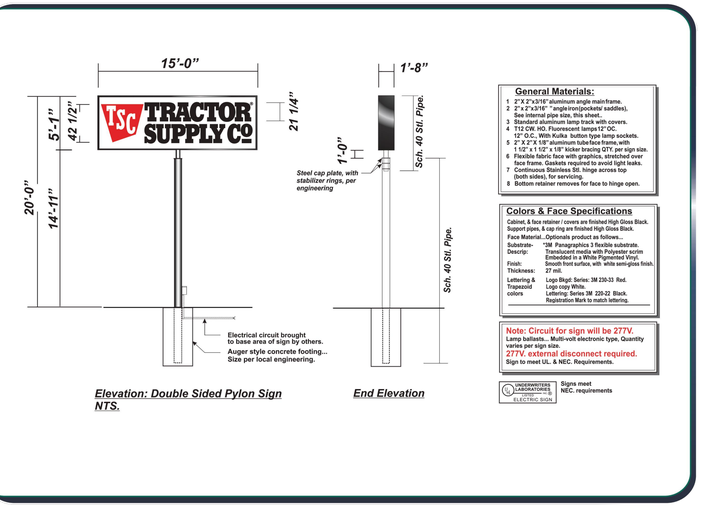
PLACEMENT PLAN

NOTE: WHEEL STOP TO BE USED ONLY WHERE SHOWN ON PLANS.

PRECAST CONCRETE WHEEL STOP DETAIL

NOT TO SCALE





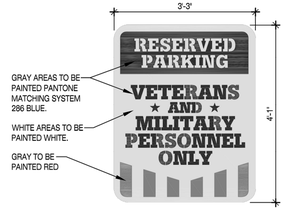
Elevation: Double Sided Pylon Sign NTS.

End Elevation

EPOXY ANCHORS INTO PAVEMENT PER MANUFACTURER'S SPECIFICATIONS

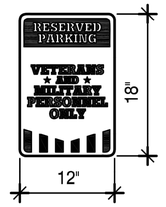
VERTICAL SIGNAGE

NOT TO SCALE



VETERAN PARKING PAVEMENT DECAL

NOT TO SCALE



RESERVED PARKING SIGN

NOT TO SCALE

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TITLE: CONSTRUCTION DETAILS

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE:(H) AS (V) SHOWN
DESIGNED BY: KCK
CHECKED BY: JMS
CONSTRUCTION CHECK DATE
CONSTRUCTION CHECK DATE
SHEET No: 12 OF 17
DEC Client Code: 2451
Rev. # 6

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

Rev.	Date	Comments	By
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1	06/26/19	REV. PER PINELANDS & SCD COMMENTS	KJH

Plotted: 07/27/20 – 3:53 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
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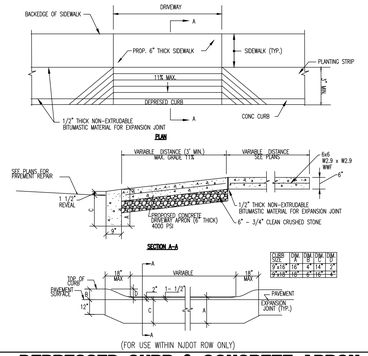
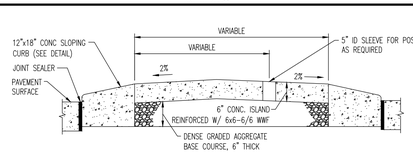


(FOR USE WITHIN NJDOT ROW ONLY)

DEPRESSED CURB & CONCRETE APRON AT DRIVEWAY DETAIL

NOT TO SCALE



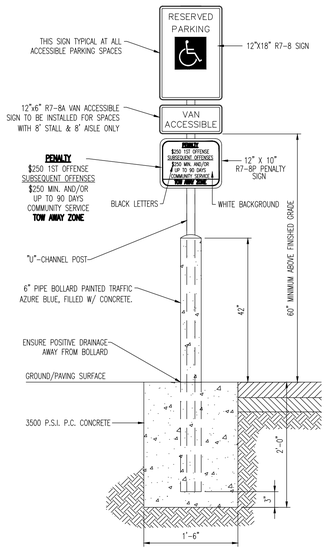
MOUNTABLE CONCRETE ISLAND 6" THICK

NOT TO SCALE

NOTE: ARROWS AND WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULT. ALL PAINT TO BE THERMOPLASTIC.

PAINTED MARKING DETAILS

NOT TO SCALE

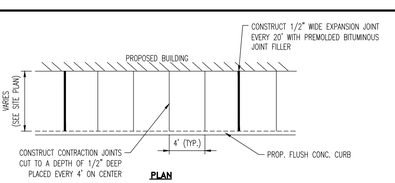


NOTES:
1.) IF AT THE TIME OF CONSTRUCTION THE STATE OF NEW JERSEY HAS APPROVED FINES/PENALTIES DIFFERENT THAN THOSE INDICATED ON THIS DETAIL, CONTRACTOR IS TO PROVIDE SIGNAGE INDICATING THE CURRENT FINES/PENALTIES AS APPROVED BY THE STATE OF NEW JERSEY.

2.) VAN ACCESSIBLE SIGN SHALL BE 60" MINIMUM ABOVE FINISHED GRADE WHERE APPLICABLE. WHEN VAN ACCESSIBLE IS NOT REQUIRED, R7-8 SIGN SHALL BE SET AT 60" MINIMUM ABOVE FINISHED GRADE.

A.D.A. PARKING SIGN ON BOLLARD DETAIL

NOT TO SCALE

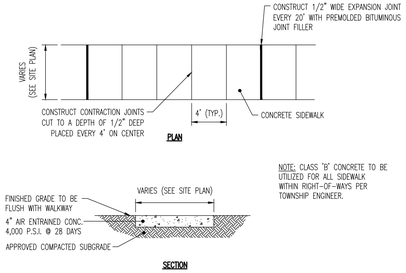


NOTE:
1. MAX. CROSS SLOPE 1/4" PER FOOT PITCHED AWAY FROM BUILDING.
2. PROVIDE 1/2" WIDE PREMOLDED BITUMINOUS EXPANSION JOINT AT 20' INTERVALS.
3. REFER TO SITE PLAN FOR SIDEWALK WIDTH.
4. PROVIDE A BROOM FINISH TO PROVIDE A SLIP RESISTANT WEARING SURFACE IN ACCORDANCE WITH A.D.A. REGULATIONS. FINISH THE EDGES OF THE GROOVES USING AN EDGING TOOL WITH A 1/4" RADIUS.

12/06/17 - WLG

FLUSH CURB AND WALK DETAIL AT BUILDING

NOT TO SCALE



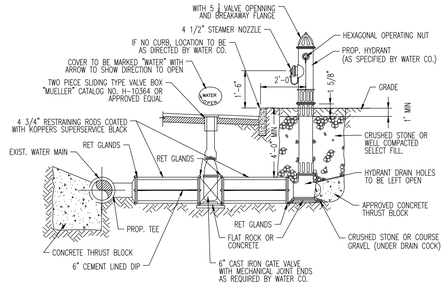
NOTE: CLASS "B" CONCRETE TO BE UTILIZED FOR ALL SIDEWALK WITHIN RIGHT-OF-WAYS PER TOWNSHIP ENGINEER.

NOTE:
1. MAX. CROSS SLOPE 1/4" PER FOOT PITCHED TOWARDS ROADWAY.
2. PROVIDE 1/2" WIDE PREMOLDED BITUMINOUS EXPANSION JOINT AT 20' INTERVALS.
3. REFER TO SITE PLAN FOR SIDEWALK WIDTH.
4. PROVIDE A BROOM FINISH TO PROVIDE A SLIP RESISTANT WEARING SURFACE IN ACCORDANCE WITH A.D.A. REGULATIONS. FINISH THE EDGES OF THE GROOVES USING AN EDGING TOOL WITH A 1/4" RADIUS.

12/01/19 - WLG

SIDEWALK DETAIL

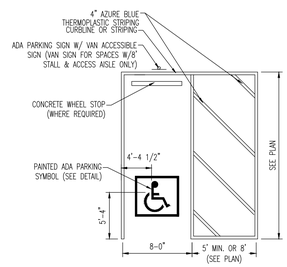
NOT TO SCALE



NOTE: REFER TO WATER COMPANY SPECIFICATIONS FOR VALVE/HYDRANT SPECIFICATIONS.

TYPICAL HYDRANT & VALVE INSTALLATION

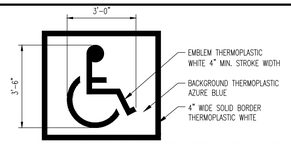
NOT TO SCALE



NOTES:
1. PAVEMENT STRIPING FOR ALL ADA PARKING SPACES SHALL BE THERMOPLASTIC AZURE BLUE.
2. WHERE AN ADA PARKING STALL MEETS A STANDARD PARKING STALL, AN AZURE BLUE AND WHITE PAVEMENT STRIPE SHALL BE PAINTED.
3. ALL PAVEMENT STRIPING, MARKINGS AND SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADA ACCESSIBILITY GUIDELINES.

ADA STALL MARKINGS DETAIL

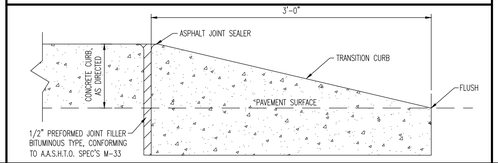
NOT TO SCALE



NOTE: ALL PAVEMENT STRIPING, MARKINGS & APPLICABLE SIGNAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST A.D.A. ACCESSIBILITY GUIDELINES.

PAINTED A.D.A. PARKING SYMBOL DETAIL

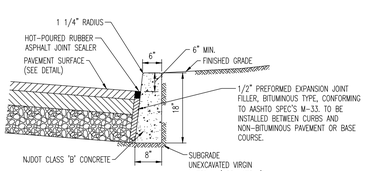
NOT TO SCALE



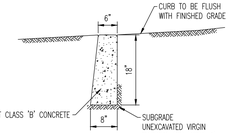
NOTE: SEE CURB DETAIL FOR MATERIAL SPECIFICATIONS, BEDDING REQUIREMENTS, ETC.

VERTICAL CURB TAPER DETAIL

NOT TO SCALE



6" CURB REVEAL

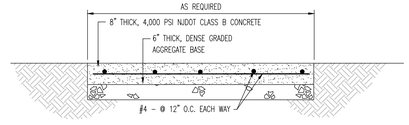


FLUSH CURB

NOTES:
1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE. ALL SUBGRADES SHALL BE APPROVED BY THE TOWNSHIP ENGINEER PRIOR TO POURING.
2. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WITH PREFORMED, BITUMINOUS-IMPREGNATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTOM-213, RECESSED 1/4" FROM THE FRONT FACE AND TOP OF THE CURB.
3. DUMMY JOINTS (FORMED) SHALL BE INSTALLED MIDWAY BETWEEN EXPANSION JOINTS.
4. WIDTH OF JOINT FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT LESS 1/2".
5. THESE SPECIFICATIONS ALSO MEET RSIS DESIGN STANDARDS.

CONCRETE CURB DETAIL

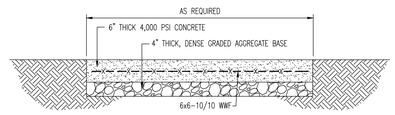
NOT TO SCALE



NOTES:
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED, (6% WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. REINFORCING STEEL BARS SHALL BE A MINIMUM ASTM A615, GRADE 60, AND SHALL BE FIELD WIRED IN PLACE.
5. ALL FRAMEWORK, AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS, AS WELL AS THE ACI AND UNIFORM BUILDING CODE.
6. EXPANSION JOINTS 1/2" WIDE OF PREMOULDED BITUMINOUS MATERIALS SHALL BE INSTALLED.

HEAVY DUTY CONCRETE PAD DETAIL

NOT TO SCALE



NOTES:
1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD FOR ALL FOOTINGS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED, (6% WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
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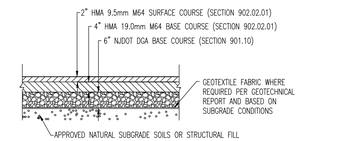
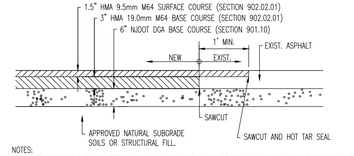


NOTES:
1. ALL PAVEMENT SECTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2019.
2. OWNER SHALL CONTACT AND ENGAGE DYNAMIC EARTH, LLC. TO INSPECT AND TEST SUBGRADE SOILS. CONTRACTOR SHALL CONTACT DYNAMIC EARTH, LLC. AT (908) 879-7095 (WWW.DYNAMIC-EARTH.COM) AT ONSET OF CONSTRUCTION TO CONFIRM REQUIREMENTS AND COORDINATE INSPECTIONS.
3. SUBGRADE SOILS SHALL BE APPROVED BY DYNAMIC EARTH, LLC. APPROVED NATURAL SOILS SHALL BE COMPACTED AND PROOFROLLED WITH A LOADED TANDEM AXLE TRUCK TO A FIRM AND UNYIELDING CONDITION. UNSUITABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL OR STABILIZED AS DIRECTED BY DYNAMIC EARTH, LLC. ANY STRUCTURAL FILL AT OR BELOW PAVEMENT SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM-D1557.
4. CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT SECTION DESCRIPTION.

HEAVY DUTY PAVEMENT SECTION

NOT TO SCALE



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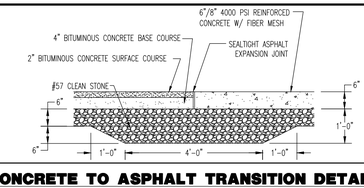
4. CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR FINAL PAVEMENT SECTION DESCRIPTION.

STANDARD PAVING DETAIL

NOT TO SCALE



CONCRETE TO ASPHALT TRANSITION DETAIL

NOT TO SCALE

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CONSTRUCTION CHECK _____ DATE _____
CONSTRUCTION CHECK _____ DATE _____

DEC Client Code: 2451
Rev. # 6

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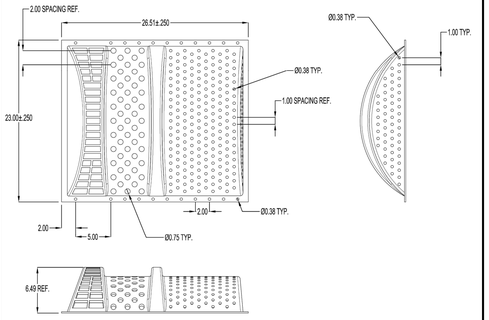
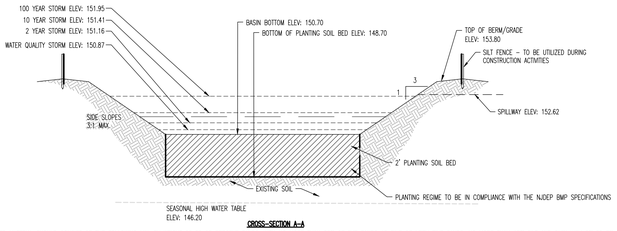


SEPT 2015 REV

ACF ENVIRONMENTAL

TRASHGUARD PLUS 23"
TGRD23X24

FOR ADDITIONAL INFORMATION PLEASE CONTACT: ACF ENVIRONMENTAL, 1-800-448-3636, www.acfenvironmental.com

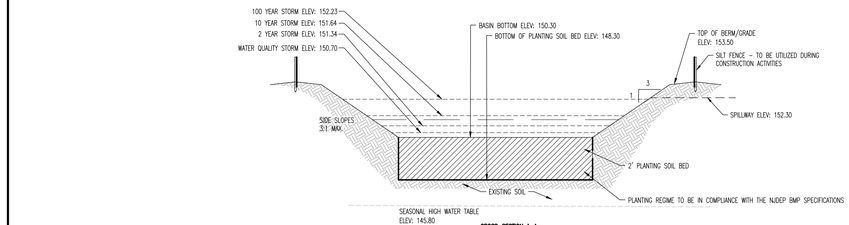


CROSS-SECTION A-A

NOTES:
1. THE PLANTING BED MATERIAL SHOULD CONSIST OF THE FOLLOWING MIX, BY WEIGHT: 85 TO 95 PERCENT SANDS, WITH NO MORE THAN 25% OF THE SANDS AS FINE OR VERY FINE SANDS; NO MORE THAN 15% SILT AND CLAY WITH 2% TO 5% CLAY CONTENT. THE ENTIRE MIX SHALL THEN BE AMENDED WITH 3 TO 7% ORGANICS. THE MIX MUST BE CERTIFIED BY EITHER THE VENDOR WHO PREMIXES THE SOIL OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY PRESENT DURING ANY ONSITE SOIL MATERIAL MIXING. THE MATERIAL'S pH SHOULD RANGE FROM 5.5 TO 6.5. THE MATERIAL SHALL BE PLACED IN 12 TO 18 INCH LIFTS. ADDITIONAL MATERIAL MAY BE NECESSARY TO ACCOUNT FOR THE SUBSEQUENT SETTLING OF THE MATERIAL OVER TIME.
2. BASIN CONSTRUCTION MUST NOT COMPACT SOILS BELOW BASIN BOTTOM.
3. CONTRACTOR OR OWNER TO ENGAGE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
4. TOPSOIL AND UNSUITABLE MATERIALS ARE TO BE STRIPPED FROM BASIN BOTTOM AREA AND REPLACED WITH SUITABLE MATERIAL PROVIDING PERMEABILITY RATES CONSISTENT WITH THAT OF THE SUBSURFACE SOILS ZONE OF INFILTRATION. CONTRACTOR SHALL PROVIDE A RECORD OF THE REPLACEMENT MATERIAL USED AND ITS CORRESPONDING PERMEABILITY RATE. REFER TO THE TEST PIT AND/OR SOIL BORING RECORDS AND STORMWATER MANAGEMENT REPORT TO CONFIRM THE DEPTH OF THE ZONE OF INFILTRATION.
5. BASIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES MANUAL, CHAPTER 9.1–BIORETENTION SYSTEMS (FEBRUARY 2009)
6. SAND LAYER SHALL CONSIST OF CLEAN MEDIUM AGGREGATE CONCRETE SAND (AASHTO M-6/ASTM C-33)
7. GRAVEL LAYER SHALL CONSIST OF 0.5 TO 1.5 INCH CLEAN BROKEN STONE OR PEA GRAVEL (AASHTO M-43)

BIORETENTION BASIN 'A' DETAIL

NOT TO SCALE

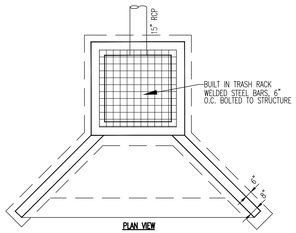


CROSS-SECTION A-A

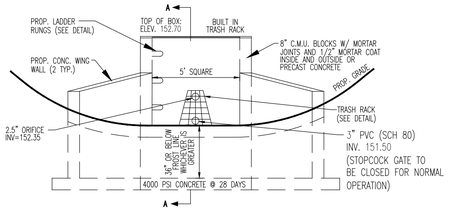
NOTES:
1. THE PLANTING BED MATERIAL SHOULD CONSIST OF THE FOLLOWING MIX, BY WEIGHT: 85 TO 95 PERCENT SANDS, WITH NO MORE THAN 25% OF THE SANDS AS FINE OR VERY FINE SANDS; NO MORE THAN 15% SILT AND CLAY WITH 2% TO 5% CLAY CONTENT. THE ENTIRE MIX SHALL THEN BE AMENDED WITH 3 TO 7% ORGANICS. THE MIX MUST BE CERTIFIED BY EITHER THE VENDOR WHO PREMIXES THE SOIL OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY PRESENT DURING ANY ONSITE SOIL MATERIAL MIXING. THE MATERIAL'S pH SHOULD RANGE FROM 5.5 TO 6.5. THE MATERIAL SHALL BE PLACED IN 12 TO 18 INCH LIFTS. ADDITIONAL MATERIAL MAY BE NECESSARY TO ACCOUNT FOR THE SUBSEQUENT SETTLING OF THE MATERIAL OVER TIME.
2. BASIN CONSTRUCTION MUST NOT COMPACT SOILS BELOW BASIN BOTTOM.
3. CONTRACTOR OR OWNER TO ENGAGE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
4. TOPSOIL AND UNSUITABLE MATERIALS ARE TO BE STRIPPED FROM BASIN BOTTOM AREA AND REPLACED WITH SUITABLE MATERIAL PROVIDING PERMEABILITY RATES CONSISTENT WITH THAT OF THE SUBSURFACE SOILS ZONE OF INFILTRATION. CONTRACTOR SHALL PROVIDE A RECORD OF THE REPLACEMENT MATERIAL USED AND ITS CORRESPONDING PERMEABILITY RATE. REFER TO THE TEST PIT AND/OR SOIL BORING RECORDS AND STORMWATER MANAGEMENT REPORT TO CONFIRM THE DEPTH OF THE ZONE OF INFILTRATION.
5. BASIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES MANUAL, CHAPTER 9.1–BIORETENTION SYSTEMS (FEBRUARY 2009)
6. SAND LAYER SHALL CONSIST OF CLEAN MEDIUM AGGREGATE CONCRETE SAND (AASHTO M-6/ASTM C-33)
7. GRAVEL LAYER SHALL CONSIST OF 0.5 TO 1.5 INCH CLEAN BROKEN STONE OR PEA GRAVEL (AASHTO M-43)

BIORETENTION BASIN 'B' DETAIL

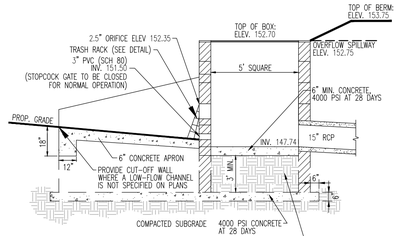
NOT TO SCALE



PLAN VIEW



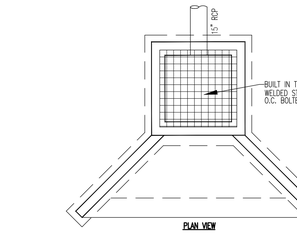
FRONT ELEVATION



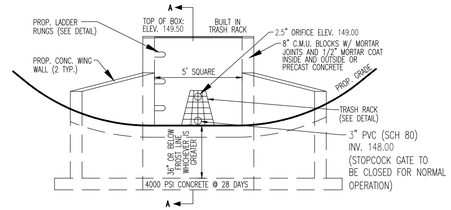
SECTION A-A

OUTLET CONTROL STRUCTURE DETAIL #9 (BASIN E)

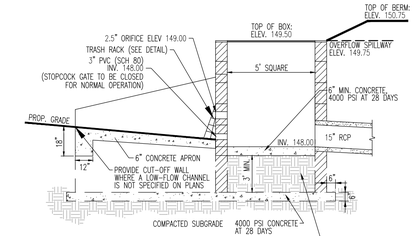
NOT TO SCALE



PLAN VIEW



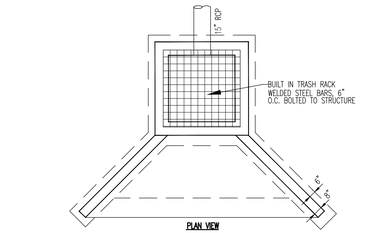
FRONT ELEVATION



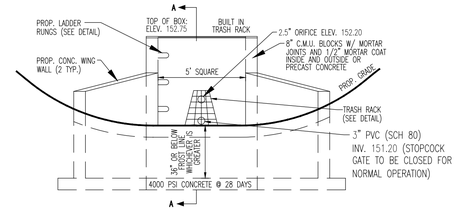
SECTION A-A

OUTLET CONTROL STRUCTURE DETAIL #13 (BASIN D)

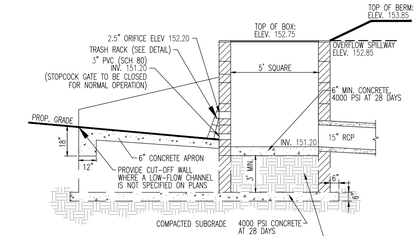
NOT TO SCALE



PLAN VIEW



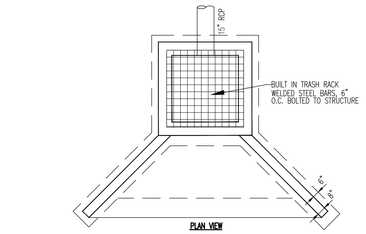
FRONT ELEVATION



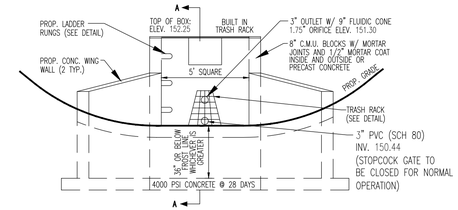
SECTION A-A

OUTLET CONTROL STRUCTURE DETAIL #18 (BASIN C)

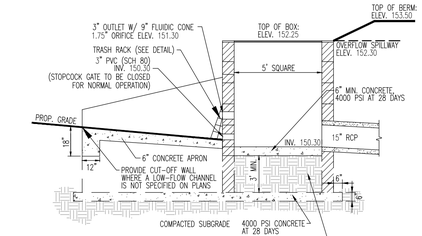
NOT TO SCALE



PLAN VIEW



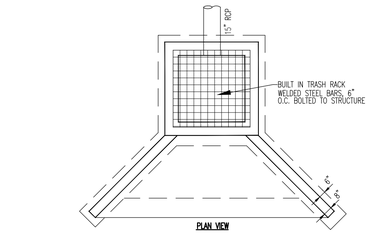
FRONT ELEVATION



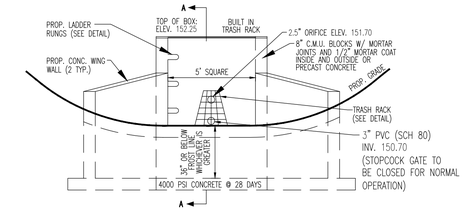
SECTION A-A

OUTLET CONTROL STRUCTURE DETAIL #22 (BASIN B)

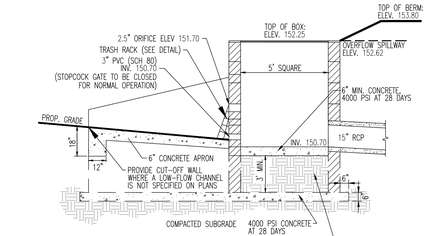
NOT TO SCALE



PLAN VIEW



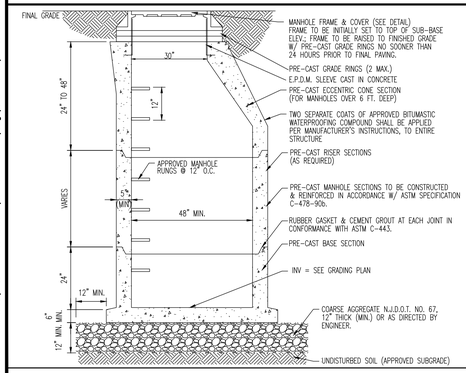
FRONT ELEVATION



SECTION A-A

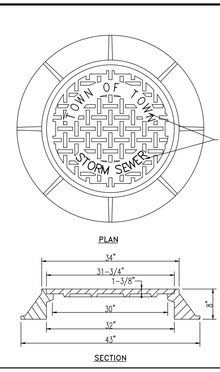
OUTLET CONTROL STRUCTURE DETAIL #19 (BASIN A)

NOT TO SCALE



TYPICAL PRECAST STORM MANHOLE

NOT TO SCALE



NOTES:

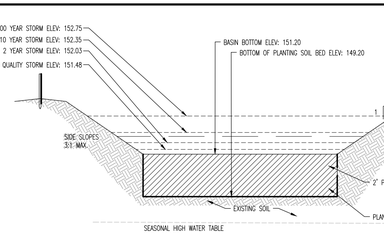
1. STANDARD MANHOLE FRAMES & COVERS SHALL BE USED ON ALL MANHOLES NOT LOCATED WITHIN EASEMENTS UNLESS DIRECTED OTHER-WISE BY THE ENGINEER OR TOWNSHIP REPRESENTATIVE.

2. STANDARD MANHOLE FRAME & COVER SHALL BE CAMPBELL FOUNDRY PATTERN # 1012B, OR APPROVED EQUAL, WITH NON-PENETRATING PICK HOLES.

3. WATERTIGHT MANHOLE COVERS SHALL BE USED ON MANHOLES LOCATED WITHIN EASEMENTS, IN UNPAVED AREAS, AND OUTSIDE OF THE CENTERLINE OF PAVED ROADS AS DIRECTED BY ENGINEER OR TOWNSHIP REPRESENTATIVE.

STORM MANHOLE FRAME DETAIL

NOT TO SCALE



CROSS-SECTION A-A

NOTES:
1. THE PLANTING BED MATERIAL SHOULD CONSIST OF THE FOLLOWING MIX, BY WEIGHT: 85 TO 95 PERCENT SANDS, WITH NO MORE THAN 25% OF THE SANDS AS FINE OR VERY FINE SANDS; NO MORE THAN 15% SILT AND CLAY WITH 2% TO 5% CLAY CONTENT. THE ENTIRE MIX SHALL THEN BE AMENDED WITH 3 TO 7% ORGANICS. THE MIX MUST BE CERTIFIED BY EITHER THE VENDOR WHO PREMIXES THE SOIL OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY PRESENT DURING ANY ONSITE SOIL MATERIAL MIXING. THE MIX MUST BE CERTIFIED BY EITHER THE VENDOR WHO PREMIXES THE SOIL OR BY A PROFESSIONAL ENGINEER LICENSED BY THE STATE OF NEW JERSEY PRESENT DURING ANY ONSITE SOIL MATERIAL MIXING. THE MATERIAL'S pH SHOULD RANGE FROM 5.5 TO 6.5. THE MATERIAL SHALL BE PLACED IN 12 TO 18 INCH LIFTS. ADDITIONAL MATERIAL MAY BE NECESSARY TO ACCOUNT FOR THE SUBSEQUENT SETTLING OF THE MATERIAL OVER TIME.
2. BASIN CONSTRUCTION MUST NOT COMPACT SOILS BELOW BASIN BOTTOM.
3. CONTRACTOR OR OWNER TO ENGAGE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
4. TOPSOIL AND UNSUITABLE MATERIALS ARE TO BE STRIPPED FROM BASIN BOTTOM AREA AND REPLACED WITH SUITABLE MATERIAL PROVIDING PERMEABILITY RATES CONSISTENT WITH THAT OF THE SUBSURFACE SOILS ZONE OF INFILTRATION. CONTRACTOR SHALL PROVIDE A RECORD OF THE REPLACEMENT MATERIAL USED AND ITS CORRESPONDING PERMEABILITY RATE. REFER TO THE TEST PIT AND/OR SOIL BORING RECORDS AND STORMWATER MANAGEMENT REPORT TO CONFIRM THE DEPTH OF THE ZONE OF INFILTRATION.
5. BASIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES MANUAL, CHAPTER 9.1–BIORETENTION SYSTEMS (FEBRUARY 2009)
6. SAND LAYER SHALL CONSIST OF CLEAN MEDIUM AGGREGATE CONCRETE SAND (AASHTO M-6/ASTM C-33)
7. GRAVEL LAYER SHALL CONSIST OF 0.5 TO 1.5 INCH CLEAN BROKEN STONE OR PEA GRAVEL (AASHTO M-43)

BIORETENTION BASIN 'C' DETAIL

NOT TO SCALE

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	11/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
2	08/07/19	REV. PER SCD COMMENTS	KJH
1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

DYNAMIC ENGINEERING
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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8370

TITLE: CONSTRUCTION DETAILS

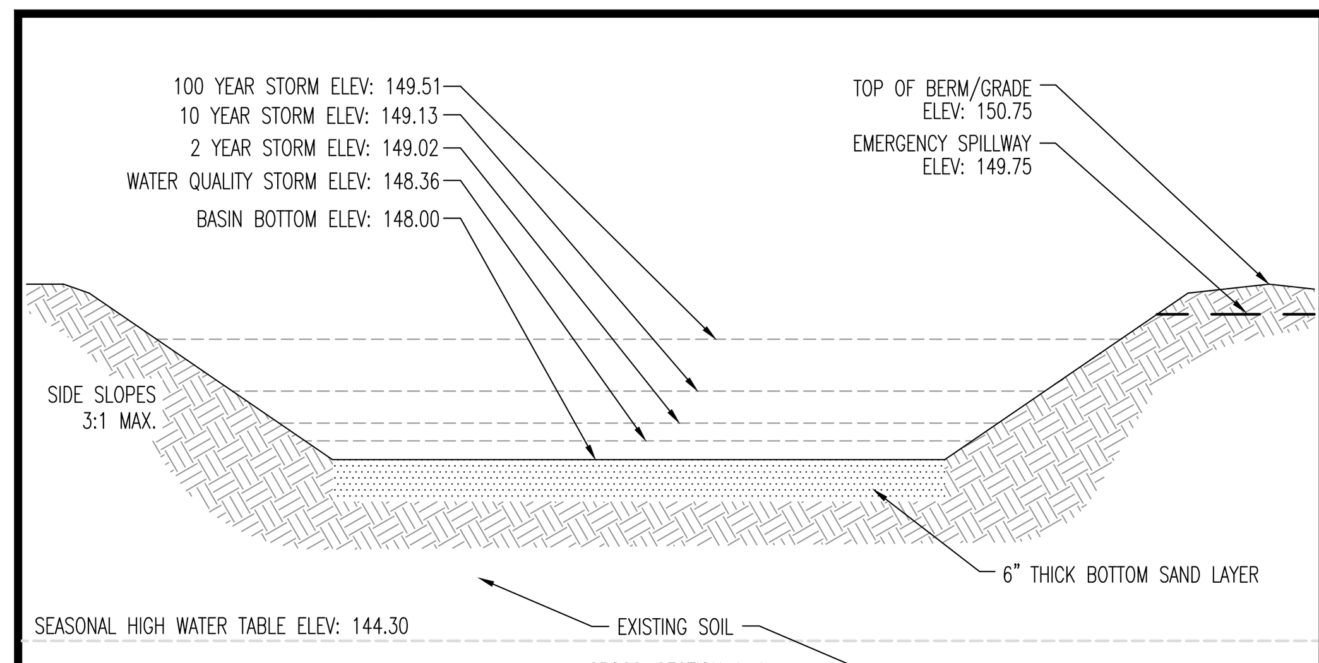
PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE:(H) AS (V) SHOWN
DESIGNED BY: KCK
SHEET No: 14 OF 17
CHECKED BY: JMS
CONSTRUCTION CHECK DATE
CONSTRUCTION CHECK DATE
DEC Client Code: 2451
Rev. # 6

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

Plotted: 07/27/20 – 3:54 PM, By: kheege, – Product Ver: 23.1a (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hik Snedeker\99-012 Berlin\Dwg\Site Plans\0245199012SD6.dwg, ---> 14 CONSTRUCTION DETAILS



NOTES:
1. CONTRACTOR OR OWNER TO ENGAGE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
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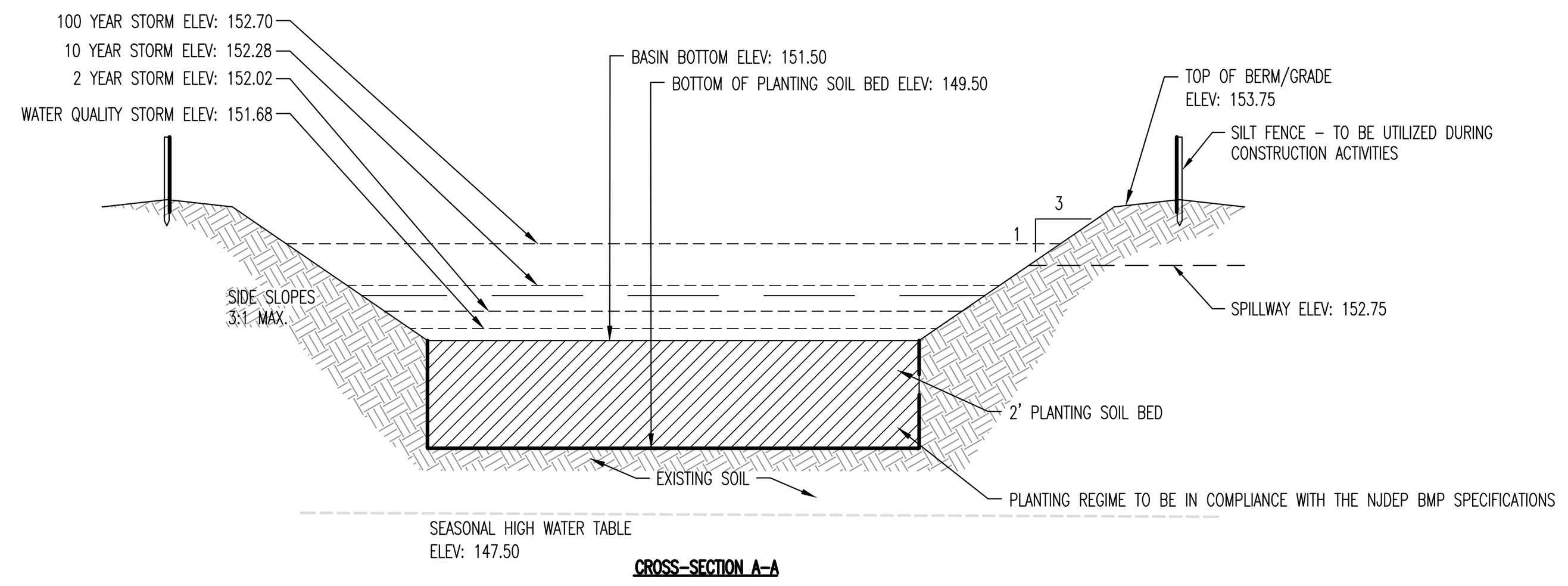
3. BOTTOM SAND LAYER MUST CONSIST OF K5 SAND WITH A MAXIMUM OF 15% FINES AND A MINIMUM PERMEABILITY RATE OF 20 INCHES PER HOUR. SOIL TO BE CERTIFIED BY A NEW JERSEY LICENSED PROFESSIONAL ENGINEER.
4. BASIN CONSTRUCTION MUST NOT COMPACT SOILS BELOW BASIN BOTTOM.

INFILTRATION BASIN (SAND) 'D' DETAIL
NOT TO SCALE



NOTES:
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3. CONTRACTOR OR OWNER TO ENGAGE QUALIFIED GEOTECHNICAL ENGINEER TO TEST SOIL PERMEABILITY AND PROVIDE CONSTRUCTION PHASE INSPECTIONS OF THE BASIN BOTTOM SOILS AND FILL MATERIALS WITHIN ANY PROPOSED INFILTRATION OR RETENTION BASIN TO COMPARE RESULTS TO DESIGN CRITERIA.
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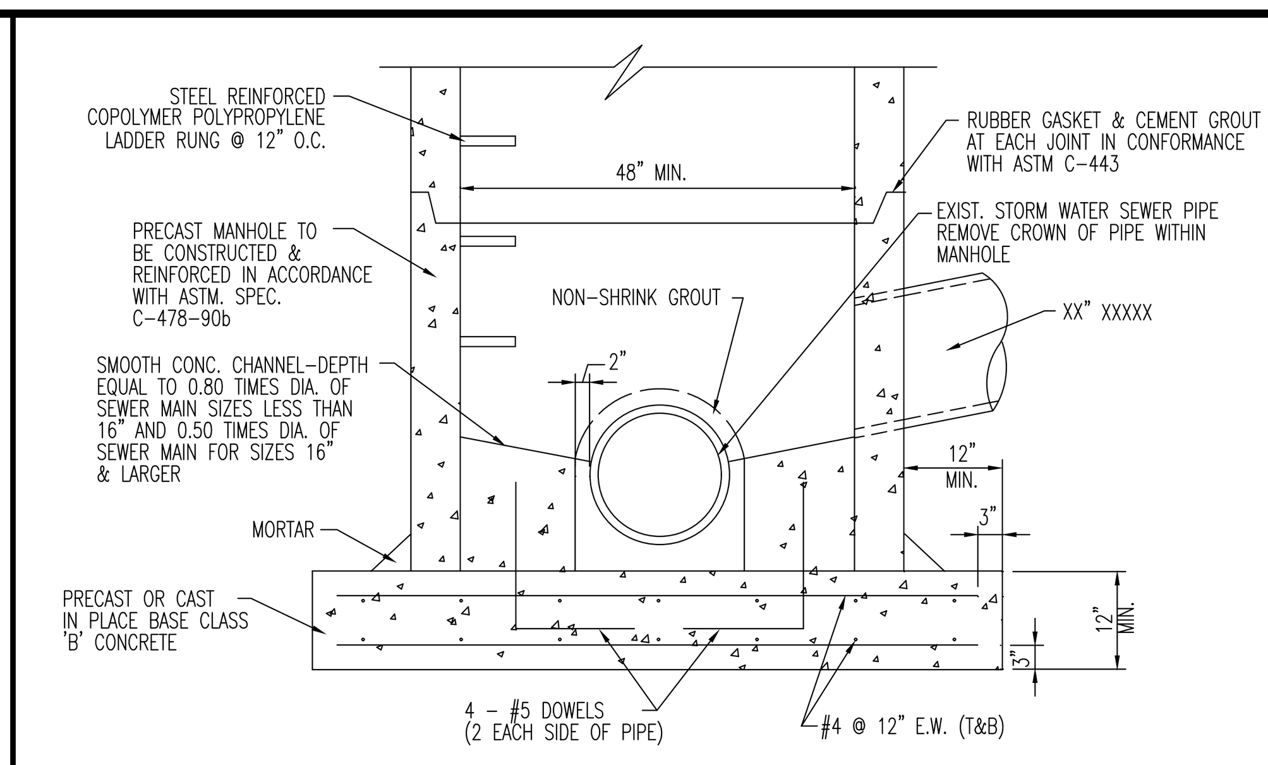
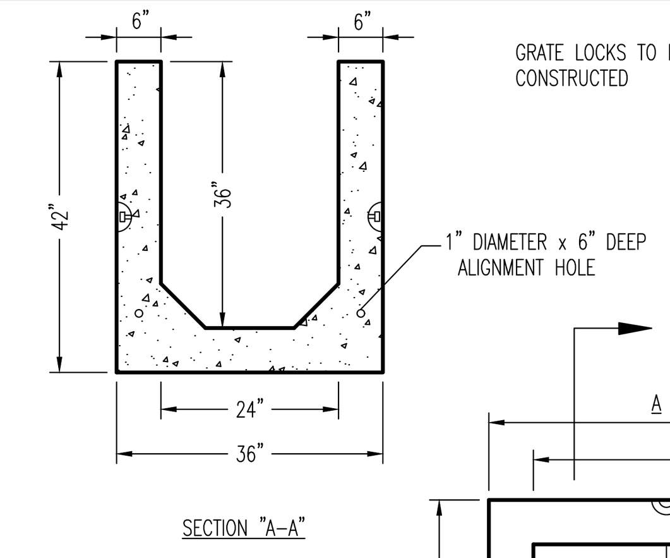
7. GRAVEL LAYER SHALL CONSIST OF 0.5 TO 1.5 INCH CLEAN BROKEN STONE OR PEA GRAVEL (AASHTO M-43)

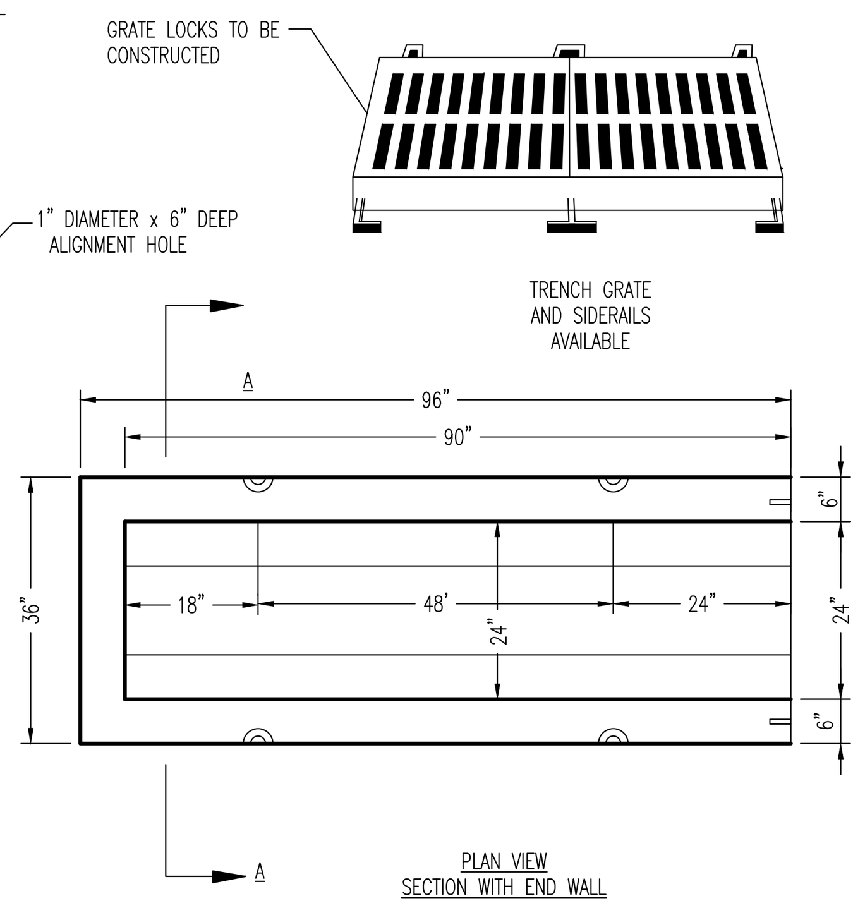
BIORETENTION BASIN 'E' DETAIL
NOT TO SCALE



NOTES: 1. TWO SEPARATE COATS OF APPROVED BITUMASTIC WATERPROOFING COMPOUND SHALL BE APPLIED PER MANUFACTURERS INSTRUCTIONS TO THE ENTIRE EXTERIOR OF STRUCTURE
2. TWO SEPARATE COATS OF APPROVED TWO-PART EPOXY COATING SHALL BE APPLIED PER MANUFACTURERS INSTRUCTIONS TO THE ENTIRE INTERIOR OF STRUCTURE
3. MANHOLES TO 8' DEEP SHALL BE SINGLE WALL CONSTRUCTION (6") MANHOLES 8' TO 12' DEEP SHALL BE DOUBLE WALL CONSTRUCTION (12")

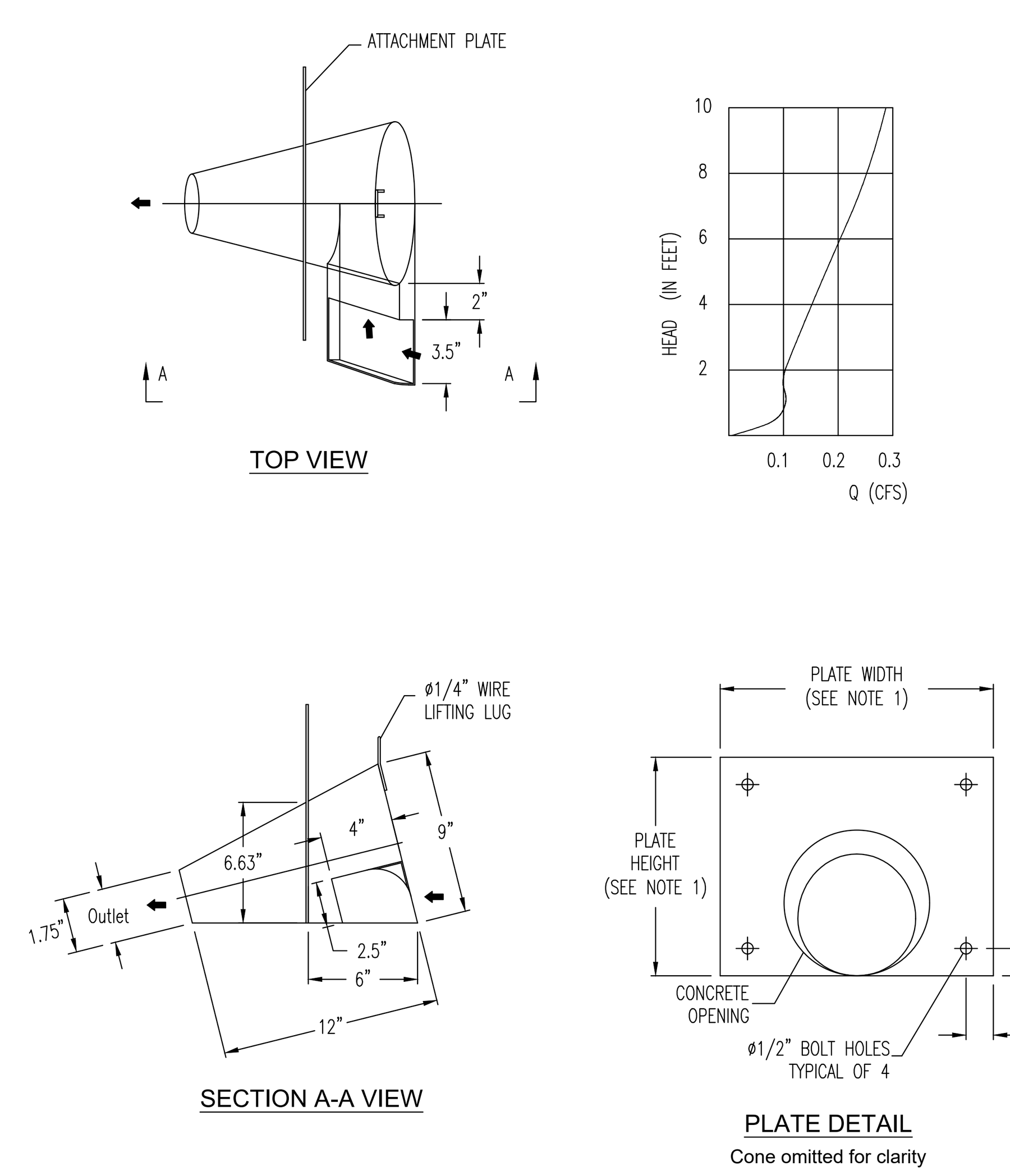
DOGHOUSE MANHOLE DETAIL
NOT TO SCALE





NOTES
1. ANY ALTERATION TO THIS DRAWING MUST BE MADE TO GSP IN WRITING PRIOR TO PRODUCTION.
2. CONSTRUCTION PER ASTM C-913.

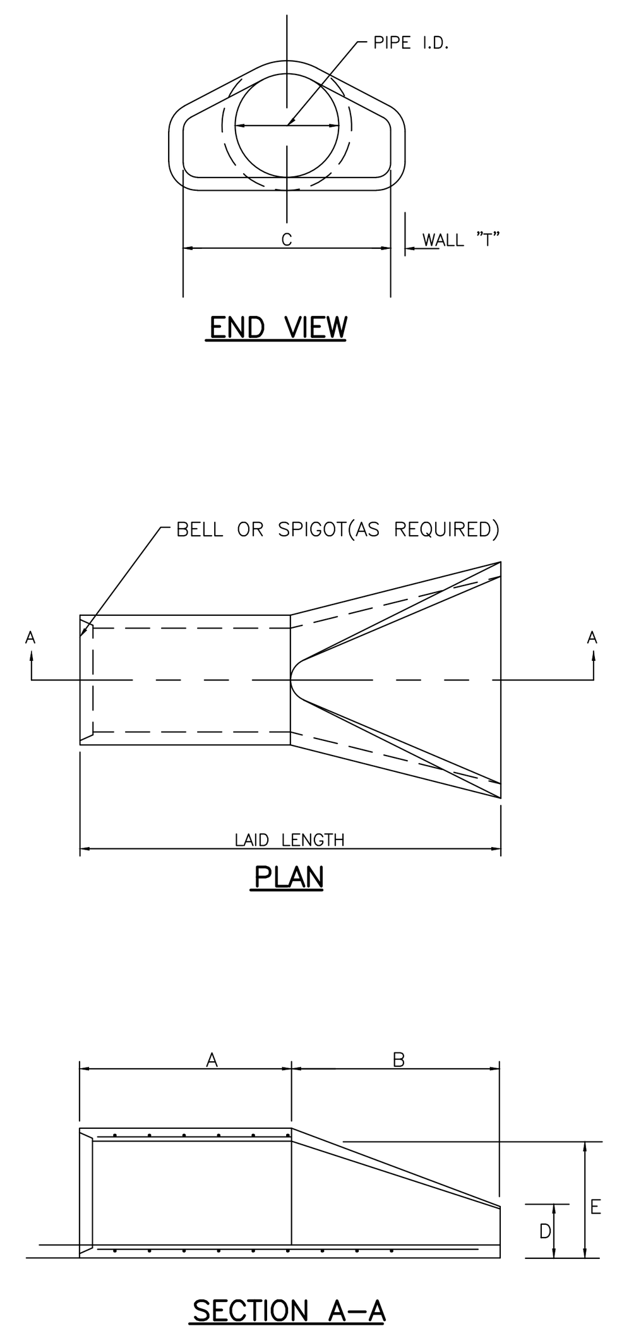
TRENCH DRAIN DETAIL
NOT TO SCALE



NOTES
1. ATTACHMENT PLATE WIDTH AND HEIGHT VARIES BASED ON CONCRETE OPENING SIZE
2. OUTLET SIZE = ø3" MINIMUM
3. ALL WELDS CONTINUOUS UNLESS NOTED OTHERWISE MATERIALS: 12 GA. 304L STAINLESS STEEL

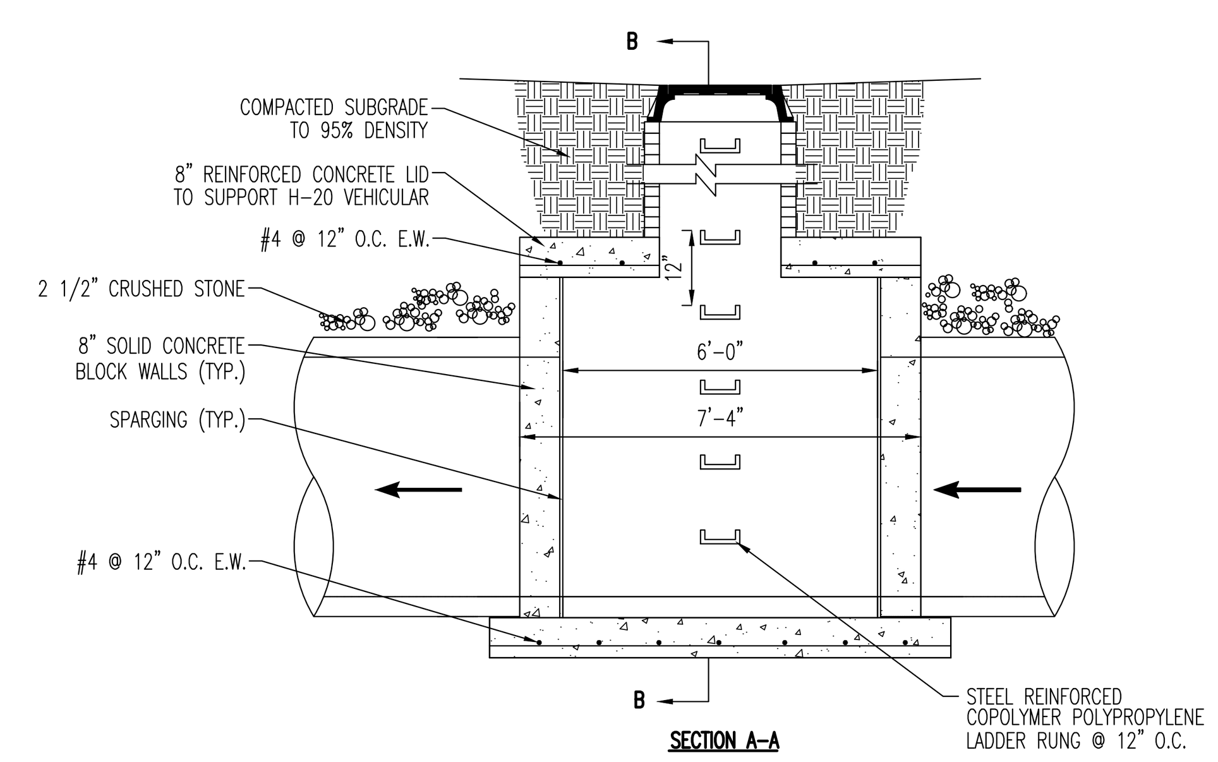
7/8/16 - EW/JCS

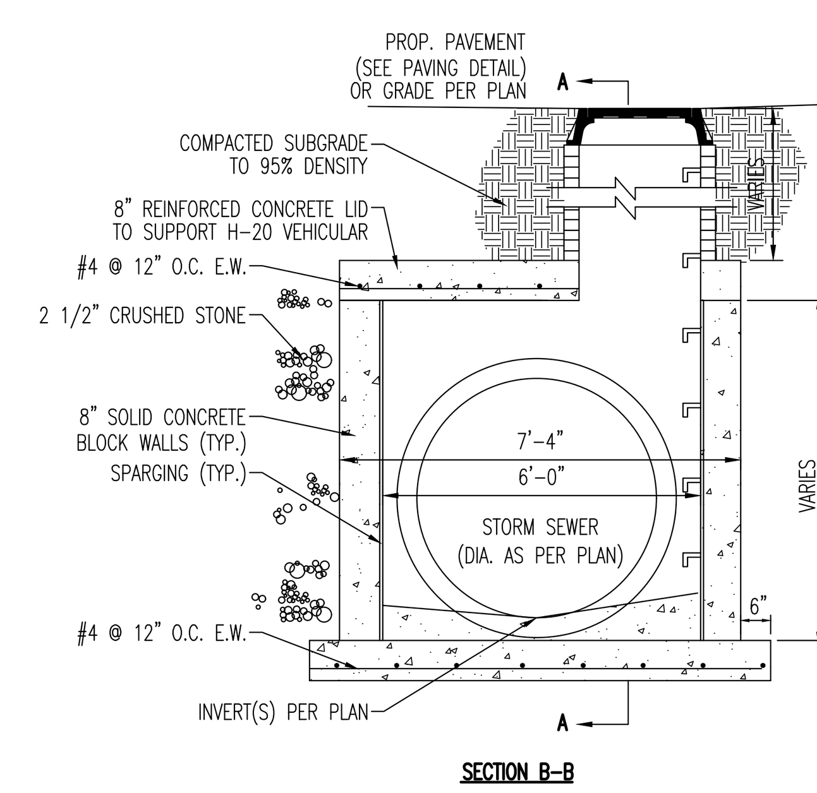
CONTECH FLUIDIC-CONE HYDROBRAKE MODEL FC9B WITH PLATE ATTACHMENT & BOX INLET
NOT TO SCALE

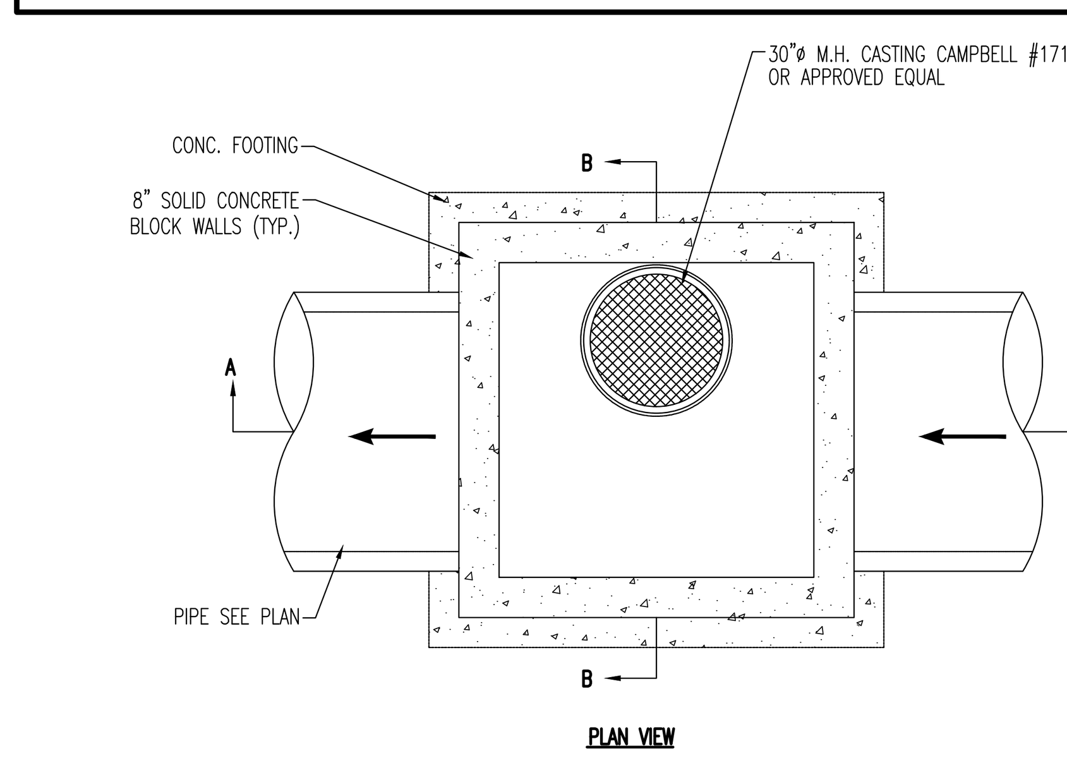


INSIDE DIA. IN.	A IN.	B IN.	C IN.	D IN.	E IN.	LAID LENGTH FT.	WEIGHT	WALL 'T' IN.
12	49	24	24	4	13	6.00	530	2
15	46	27	30	6	16	6.08	740	2 1/4
18	46	27	36	9	19	6.08	990	2 1/2
21	38	35	42	9	22	6.08	1280	2 3/4
24	30	44	48	9 1/2	25	6.17	1520	3
27	26	48	54	10 1/2	28	6.17	1930	3 1/4
30	20	54	60	12	31	6.17	2190	3 1/2
36	35	63	72	15	37	8.17	4100	4
42	35	63	72	21	43	8.17	5380	4 1/2
48	26	72	84	24	49	8.17	6550	5
54	35	65	90	27	55	8.33	8040	5 1/2
60	39	60	96	30	61	8.25	8750	6

CONCRETE FLARED END SECTIONS
NOT TO SCALE

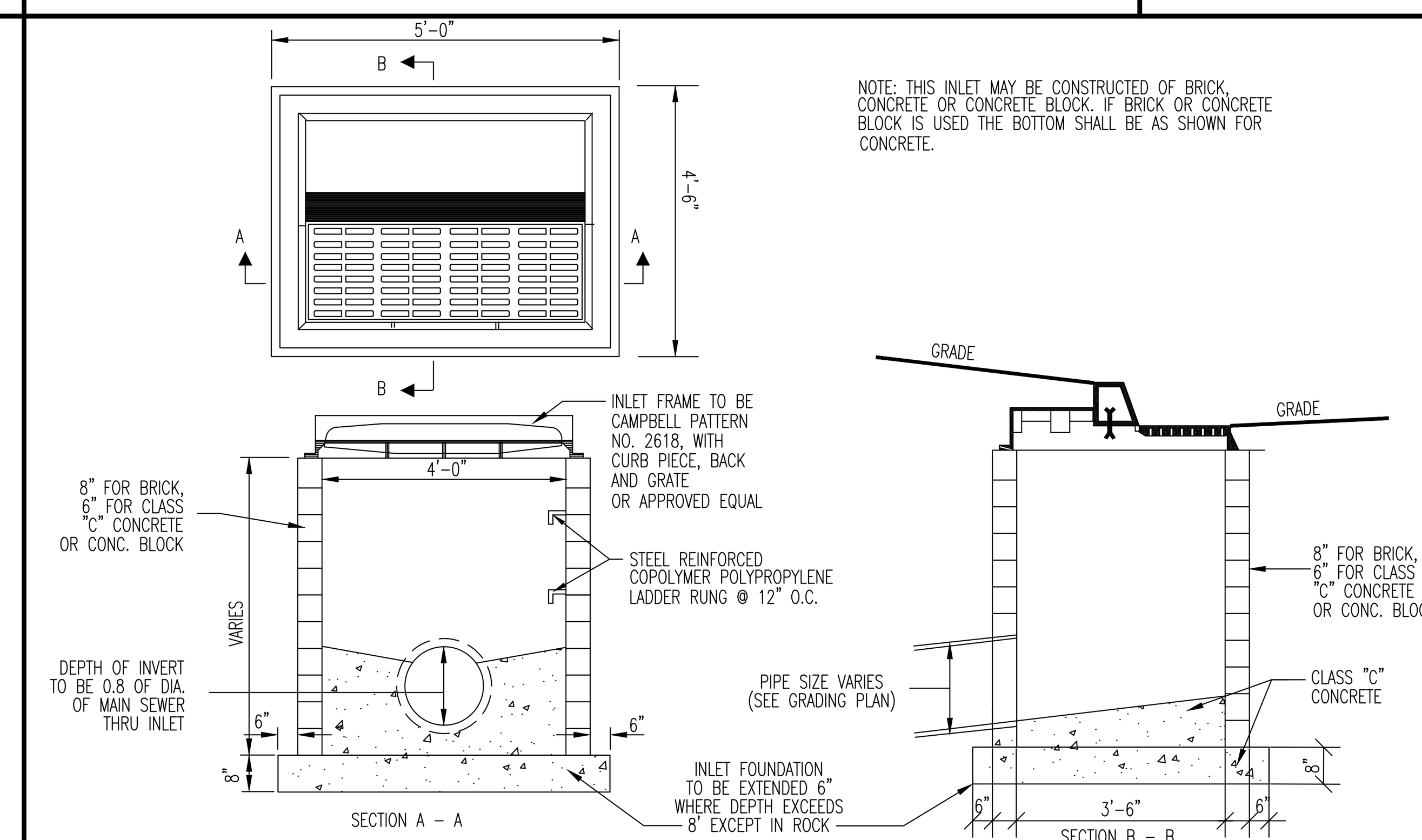






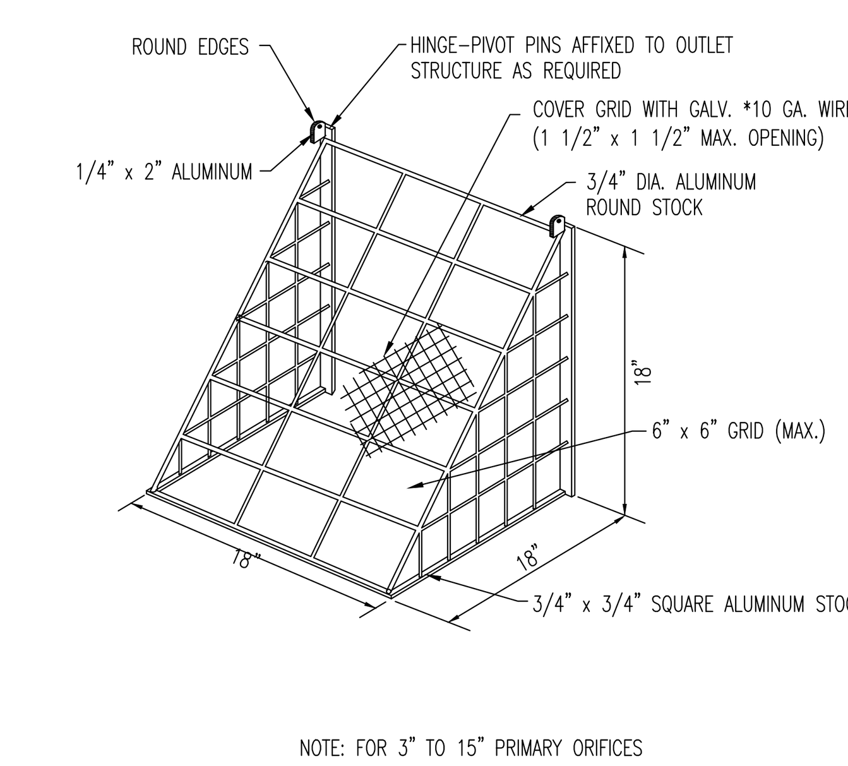
NOTES: 1. CONSTRUCTION SHALL BE 8" SOLID CONCRETE BLOCK WALL OR PRECAST CONCRETE.
2. ALL CONCRETE SHALL BE A MINIMUM 4,000 PSI UNLESS NOTED OTHERWISE.

6' x 6' STORM SEWER MANHOLE DETAIL
NOT TO SCALE



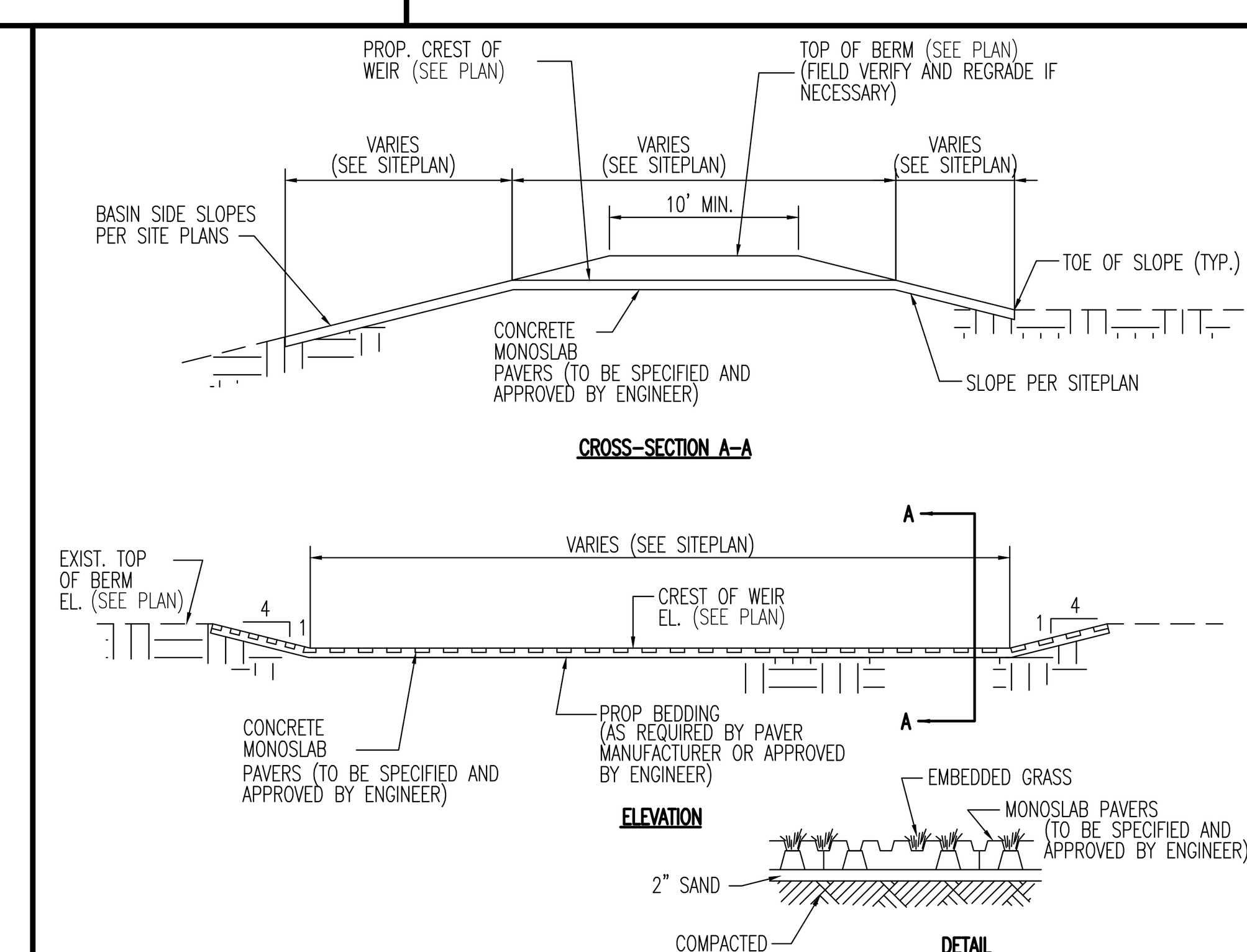
NOTE: THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE.

TYPE B INLET DETAIL
NOT TO SCALE

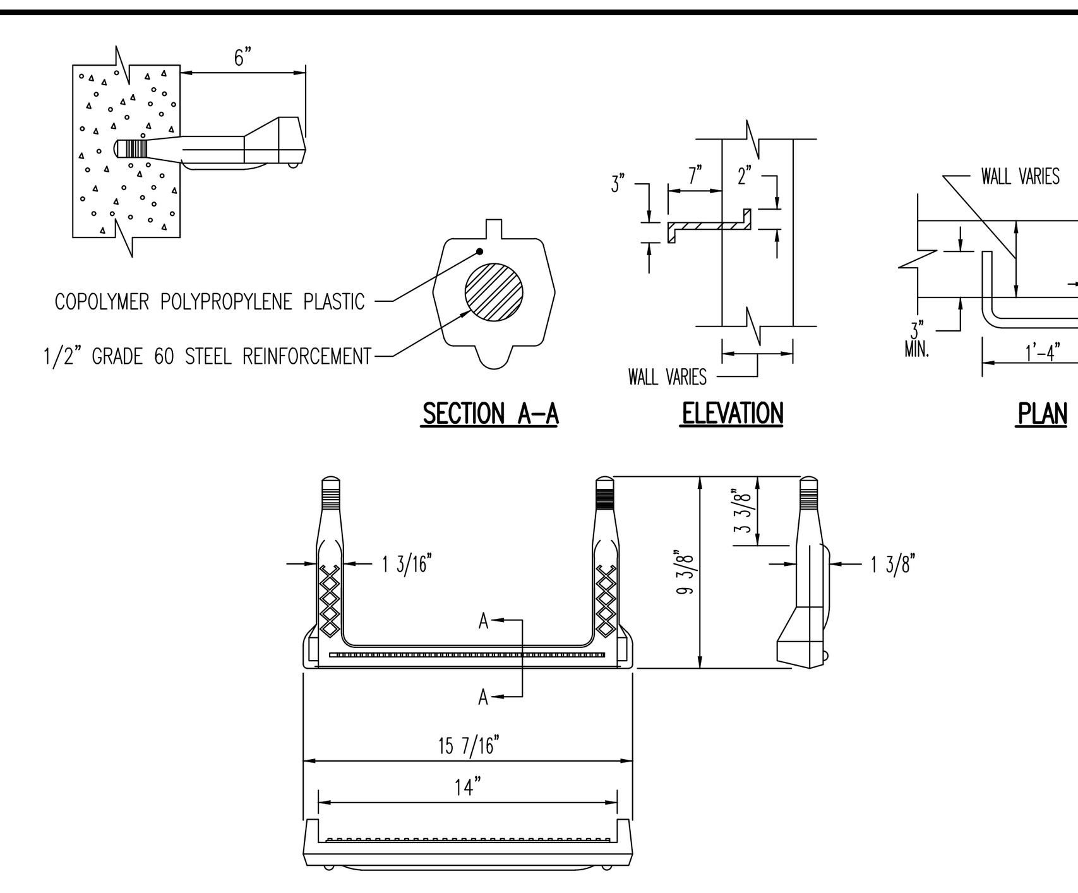


NOTE: FOR 3" TO 15" PRIMARY ORIFICES

TRASH RACK DETAIL
NOT TO SCALE



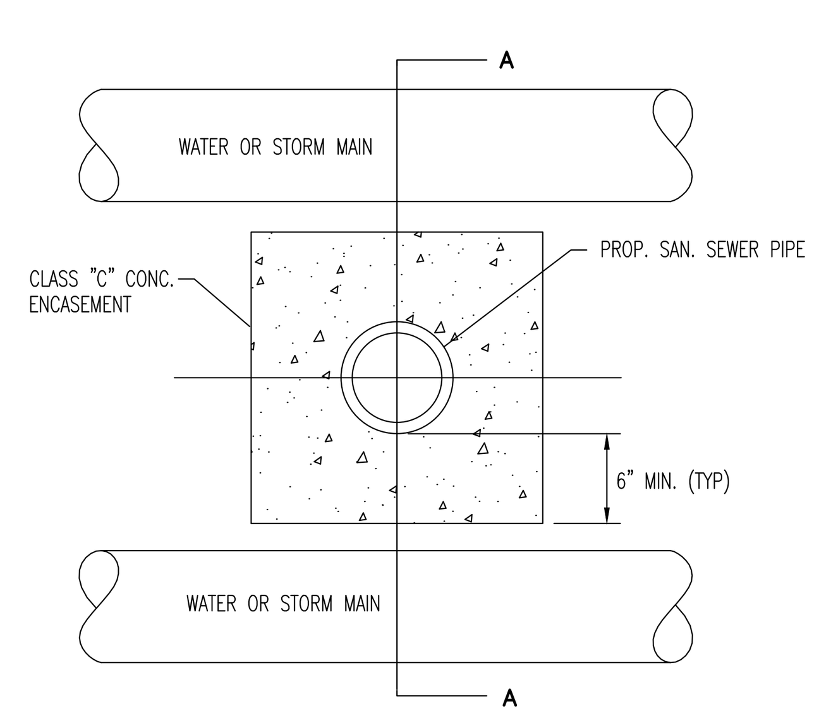
PAVER-BLOCK EMERGENCY SPILLWAY DETAIL
NOT TO SCALE



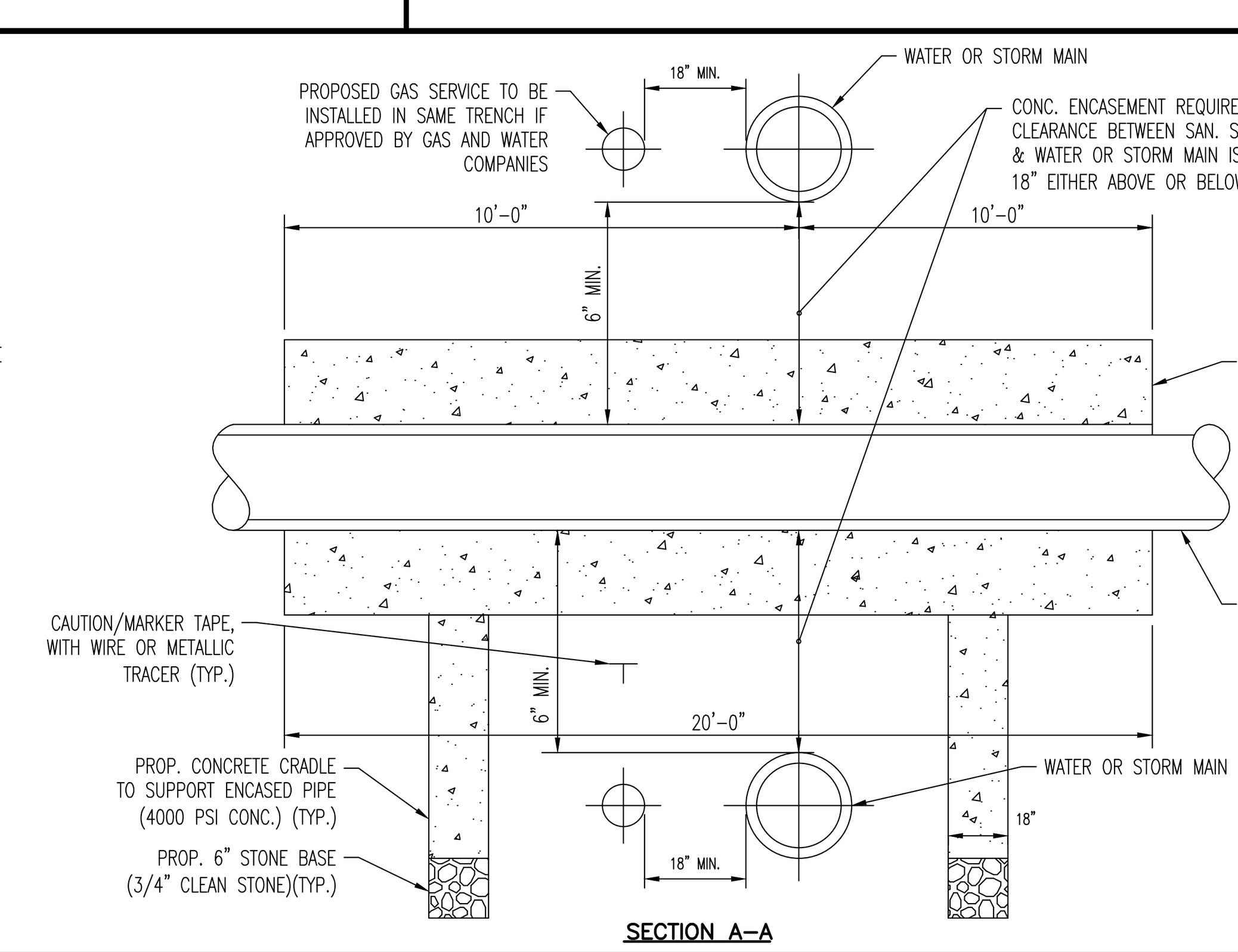
STEEL REINFORCED COPOLYMER POLYPROPYLENE LADDER RUNG

NOTE: LADDER RUNGS FACING TRAFFIC 12" C TO C

LADDER RUNG DETAIL
NOT TO SCALE



NOTE: CONTRACTOR TO CONFIRM CROSSING REQUIREMENTS WITH ALL UTILITY COMPANIES AFFECTED.



8/26/15 - EW/JCS

UTILITY CROSSING DETAIL
NOT TO SCALE

THIS PLAN SET IS FOR PERMITTING PURPOSES ONLY AND MAY NOT BE USED FOR CONSTRUCTION

Rev.	Date	Comments	By
6	07/27/20	REV. PER TOWNSHIP COMMENTS	KJH
5	01/16/19	REV. PER ARCHITECT COMMENTS	KJH
4	10/14/19	REV. PER PINELANDS & NJDOT COMMENTS	KJH
3	09/17/19	REV. PER PINELANDS COMMENTS	KJH
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1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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Delray Beach, Florida T: 561.921.8570

TITLE: CONSTRUCTION DETAILS

PROJECT: HSC BERLIN, LLC
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) AS (V) SHOWN
DESIGNED BY: KCK
CHECKED BY: JMS

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

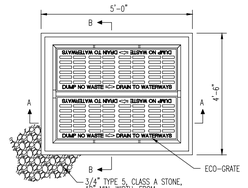
JOSHUA M. SEWALD
[illegible]
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

– – CONSTRUCTION CHECK DATE
– – CONSTRUCTION CHECK DATE

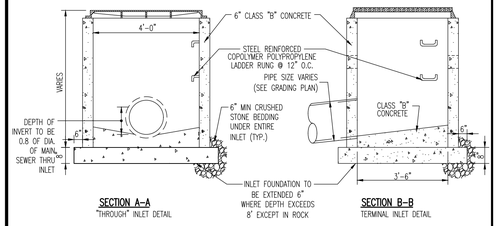
SHEET No: 15 OF 17

DEC Client Code: 2451
Rev. # 6

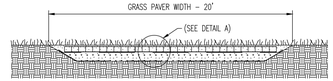
Plotted: 07/27/20 - 3:54 PM, By: kheege, - Product Ver: 23.1s (LMS Tech)
File: P:\DECPC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\D2451990125D6.dwg, ---> 15 CONSTRUCTION DETAILS

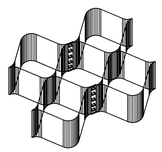


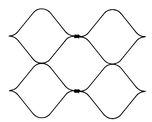
NOTES
1. FOOTING TO BE N.J.D.O.T. CLASS "B" CONCRETE.
2. INVERT & WALLS TO BE N.J.D.O.T. CLASS "B" CONCRETE.
3. WALLS SHALL BE PRECAST CONCRETE ONLY.
4. FRAME AND GRATE TO BE CAMPBELL FOUNDARY CO., NO. 3425 BICYCLE SAFE ECO-GRATE SET IN CONC.
5. STEEL REINFORCED COPOLYMER POLYPROPYLENE LADDER RUNG @ 12" O.C.
6. WHEN ADDITIONAL DEPTH IS SCHEDULED, WALLS BELOW 8'-0" MEASURED FROM GRATE TO INVERT SHALL BE 12" THICK AND EXTEND 12" BEYOND OUTSIDE OF WALL.

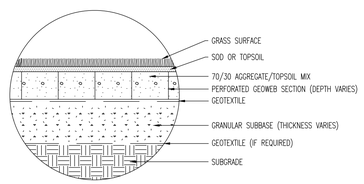


TYPE 'E' INLET
NOT TO SCALE

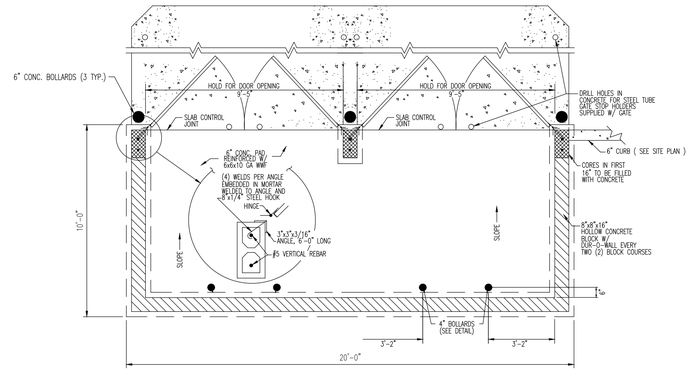




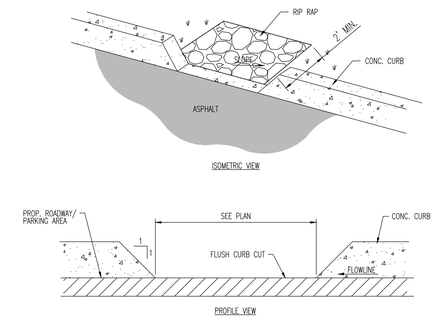




TYPICAL GRASS PAVER DETAILS
NOT TO SCALE



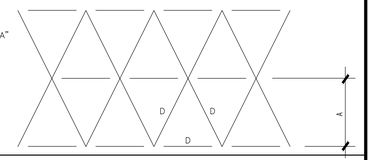
MASONRY TRASH/CHAIN LINK GATE ENCLOSURE DETAIL
NOT TO SCALE



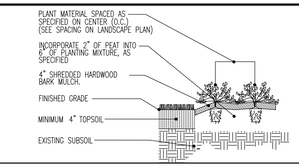
NOTE: SEE SITE PLAN FOR LOCATION & NUMBER OF CURB CUTS

TYPICAL CURB CUT TAPER DETAIL W/ RIP RAP
NOT TO SCALE

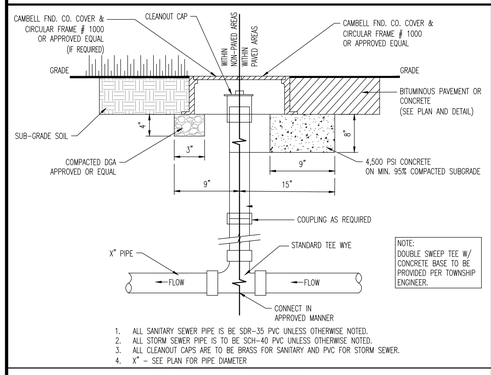
SPACING "D"	SPACING "A"
6" O.C.	5.20"
8" O.C.	6.93"
10" O.C.	8.66"
12" O.C.	10.40"
15" O.C	13.00"
18" O.C.	15.60"
24" O.C.	20.80"
30" O.C.	26.00"
36" O.C.	30.00"



PERENNIAL GROUNDCOVER/SPACING DETAIL
NOT TO SCALE



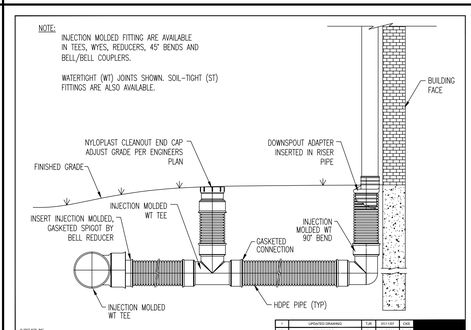
PERENNIAL/GROUND COVER PLANTING DETAIL
NOT TO SCALE



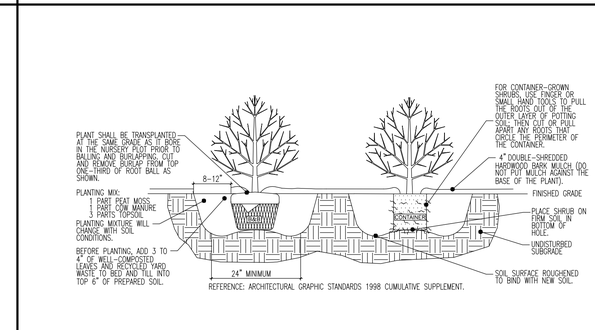
NOTE: DOUBLE SWEEP TEE W/ CONCRETE BASE TO BE PROVIDED PER TOWNSHIP ENGINEER.

1. ALL SANITARY SEWER PIPE IS BE SDR-35 PVC UNLESS OTHERWISE NOTED.
2. ALL STORM SEWER PIPE IS TO BE SCH-40 PVC UNLESS OTHERWISE NOTED.
3. ALL CLEANOUT CAPS ARE TO BE BRASS FOR SANITARY AND PVC FOR STORM SEWER.
4. X" - SEE PLAN FOR PIPE DIAMETER

CLEANOUT DETAIL
NOT TO SCALE



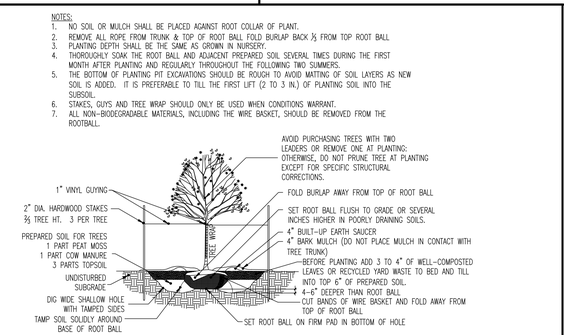
ROOF DRAIN W/TEE CLEANOUT DETAIL
NOT TO SCALE



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

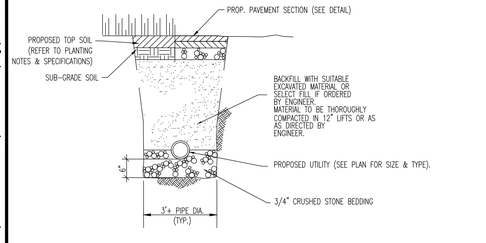
DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL
NOT TO SCALE

NOTES:
1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. REMOVE ALL ROPE FROM TRUNK & TOP OF ROOT BALL FOLD BURLAP BACK ⅓ FROM TOP ROOT BALL
3. PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4. THOROUGHLY SOAK THE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.
6. STAKES, GUYS AND TREE WRAP SHOULD ONLY BE USED WHEN CONDITIONS WARRANT.
7. ALL NON-BIODEGRADABLE MATERIALS, INCLUDING THE WIRE BASKET, SHOULD BE REMOVED FROM THE ROOTBALL.



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

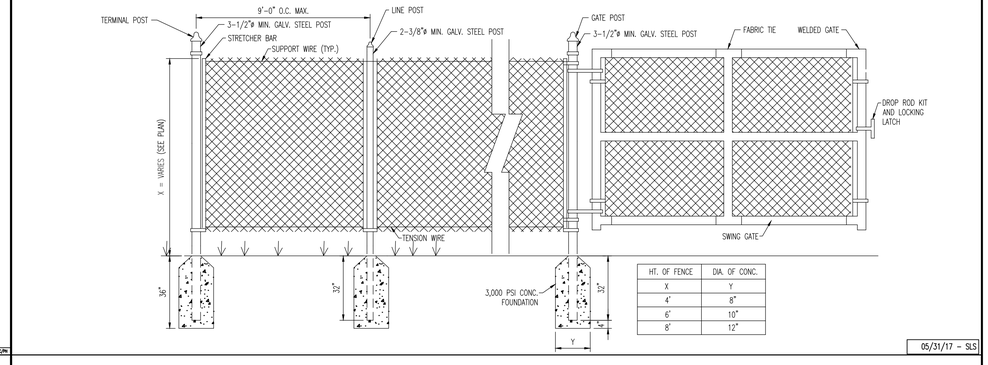
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



NOTES:
1) PAVEMENT SECTION SHALL BE PER ASPHALT PAVING DETAIL, OR TO MATCH ADJOINING EXISTING PAVEMENT SECTION.

11/6/14 - KJH

UTILITY SERVICE TRENCH DETAIL
NOT TO SCALE



HT. OF FENCE	DIA. OF CONC.
X	Y
4'	8"
6'	10"
8'	12"

05/31/17 - SLS

CHAIN LINK FENCE W/GATE DETAIL
NOT TO SCALE

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4	10/14/19	REV. PER PINELANDS & NJDEP COMMENTS	KJH
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1	06/28/19	REV. PER PINELANDS & SCD COMMENTS	KJH

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Allen, Texas T: 972.534.2100 | Austin, Texas T:512.646.2646 | Houston, Texas T: 281.789.6400
Delray Beach, Florida T: 561.921.8570

TITLE: CONSTRUCTION DETAILS

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) AS (V) SHOWN
DESIGNED BY: KCK
CHECKED BY: JMS
SHEET No: 16 OF 17

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

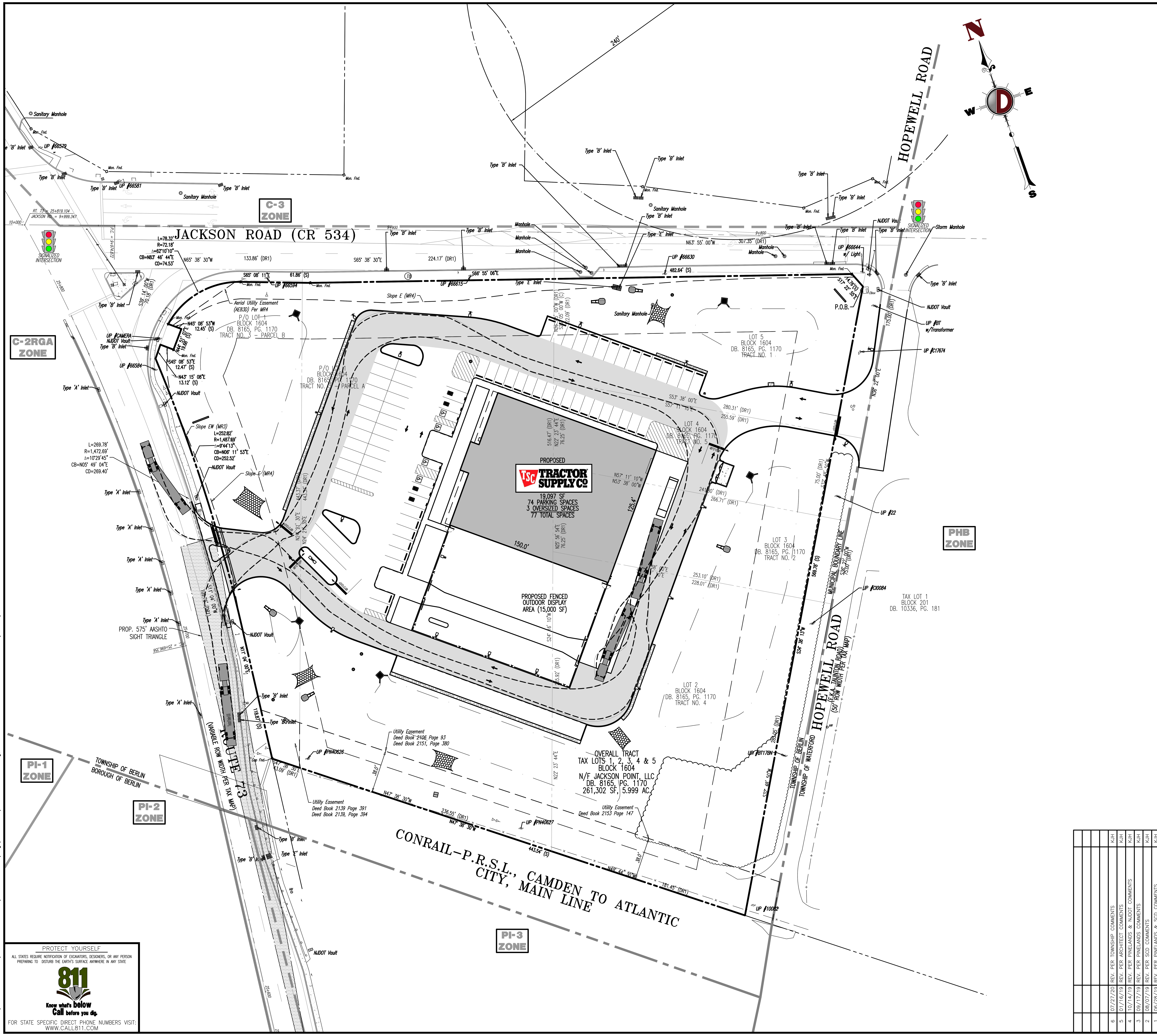
JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

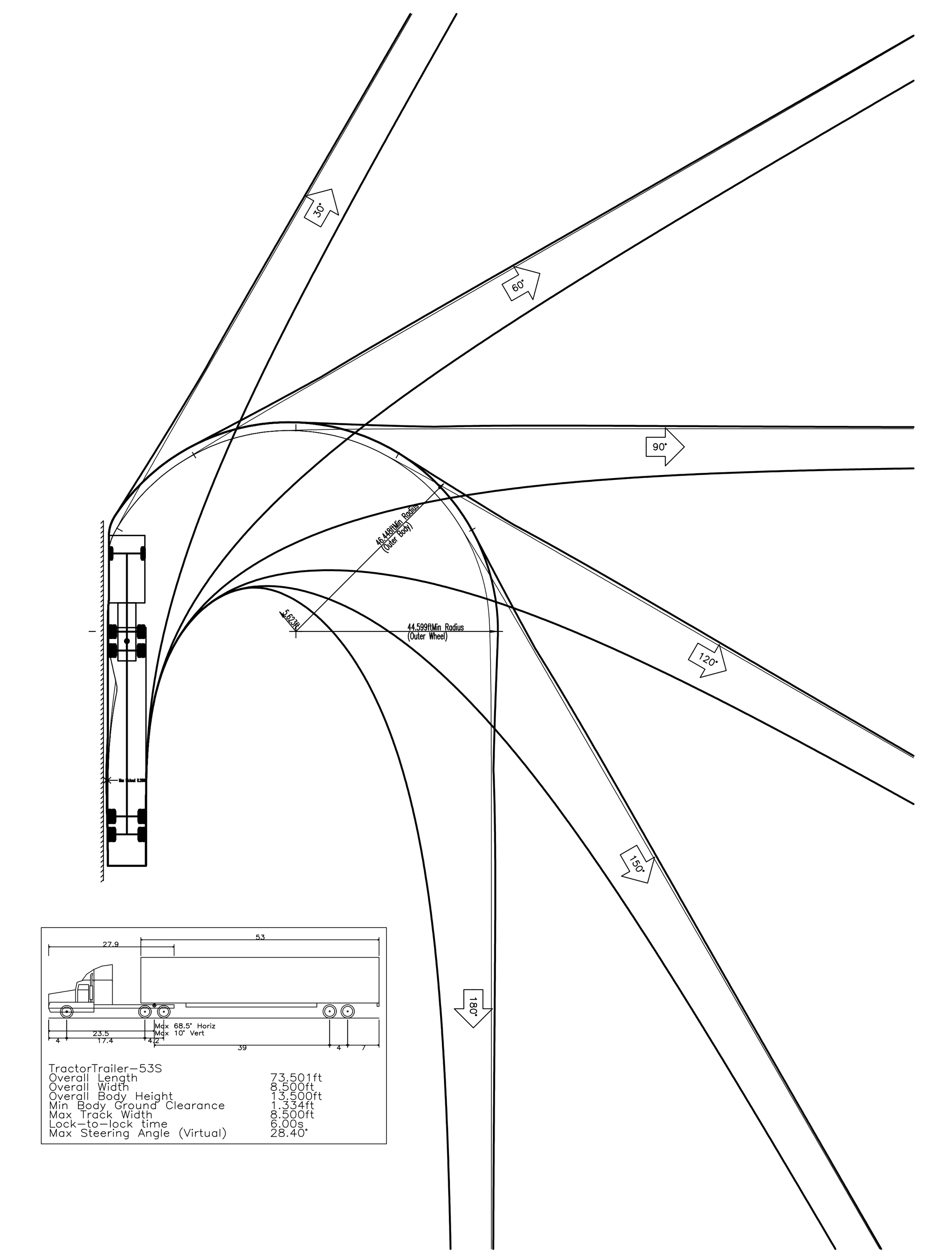
CONSTRUCTION CHECK _____ DATE _____
CONSTRUCTION CHECK _____ DATE _____

DEC Client Code: 2451
Rev. # 6

Plotted: 07/27/20 – 3:54 PM, By: kheage, – Product Ver: 23.1s (LMS Tech)
File: P:\DEC\PC PROJECTS\2451 Hix Snedeker\99-012 Berlin\Dwg\Site Plans\02451990125D6.dwg, ---> 16 CONSTRUCTION DETAILS

THIS PLAN TO BE UTILIZED FOR VEHICLE CIRCULATION PURPOSES ONLY





GRAPHIC SCALE

−40 0 20 40 80 160

(IN FEET)
1 INCH = 40 FT.

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TITLE: VEHICLE CIRCULATION PLAN (WB-67)

PROJECT: **HSC BERLIN, LLC**
PROPOSED TRACTOR SUPPLY COMPANY
BLOCK 1604, LOTS 1, 2, 3, 4 & 5
901 NJSH ROUTE 73 SOUTH
TOWNSHIP OF BERLIN, CAMDEN COUNTY, NEW JERSEY

JOB No: 2451-99-012
DATE: 03/20/19
DRAWN BY: KJH
SCALE: (H) 1"=40' (V)
DESIGNED BY: KCK
CHECKED BY: JMS

KYLE C. KAVINSKI
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52985

JOSHUA M. SEWALD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 52908

– – CONSTRUCTION CHECK DATE
– – CONSTRUCTION CHECK DATE

DEC Client Code: 2451

SHEET No: 17 OF 17

Rev. # 6

Plotted: 07/27/20 – 3:54 PM, By: kheege, – Product Ver: 23.1s (LMS Tech)
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