1251 JUMPING BROOK ROAD
PRELIMINARY AND FINAL SITE PLAN APPLICATION
BLOCK 128.03, LOT 47
BOROUGH OF TINTON FALLS, MONMOUTH COUNTY, NEW JERSEY

CERTIFIED PROPERTY OWNER'S LIST
BOROUGH OF TINTON FALLS, NJ
BLOCK 128.03, LOTS 47 AND 1.11

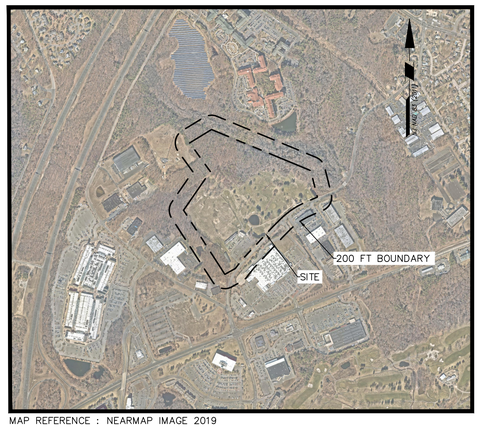
BLK. NO.	LOT NO.	PROP ADDRESS	OWNER NAME / ADDRESS
128.03	1.01	405 Essex Road	TDK-Lambda Americas Inc 405 Essex Road Tinton Falls, NJ 07753
128.03	1.02	Essex Road	TDK-Lambda Americas Inc 405 Essex Road Tinton Falls, NJ 07753
128.03	1.03	Essex Road	WCS Group, LLC C/O Sitar 1 Philadelphia Blvd. Sea Girt, NJ 08750
128.03	1.04	371 Essex Road	Bethel Community Church Int'l., Inc 371 Essex Road Tinton Falls, NJ 07753
128.03	1.05	359 Essex Road	89 Highway 35, LLC 216 Borden Road Middletown, NJ 07748
128.03	1.07	349 Essex Road	Longo, Danette 349 Essex Road Tinton Falls, NJ 07753
128.3	1.1	309 Essex Road	International Development Corp 465 Lewelen Circle Englewood, NJ 07631
128.03	4	Essex Road	Pinnacle Towers Inc PMB353 4017 Washington Road McMurray, PA 15317
128.03	4	Essex Road	Pinnacle Towers Inc PMB353 4017 Washington Road McMurray, PA 15317
128.03	19.04	Essex Road	TF Campus LLC C/O Altus Group PO Box 92129 Southlake, TX 76092
128.03	19.05	3000-3006 Essex Road	TF Campus LLC C/O Altus Group PO Box 92129 Southlake, TX 76092
135	1.02	1 Premium Outlets Blvd	CPG Tinton Falls Urban Renewal, LLC PO Box 6120 Indianapolis, IN 46206

TOWNSHIP OF NEPTUNE, NJ
BLOCK 128.03, LOT 47

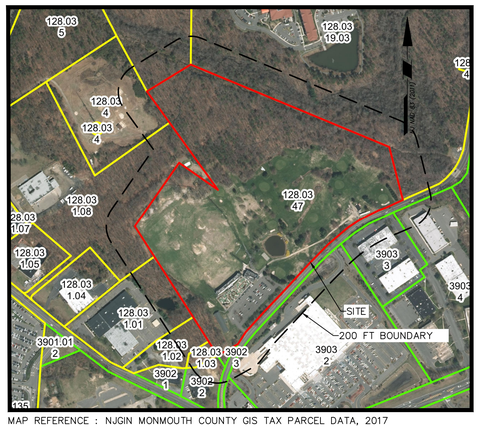
BLK. NO.	LOT NO.	PROP ADDRESS	OWNER NAME / ADDRESS
3902	1	500 Essex Road	TDK-Lambda Americas Inc 405 Essex Road Tinton Falls, NJ 07724
3902	2	600 Essex Road	WCS Group, LLC C/O Sitar 1 Philadelphia Blvd Sea Girt, NJ 08750
3903	3	Jumping Brook Road	Sitar, William 1 Philadelphia Blvd Sea Girt, NJ 08750
3903	1	3585-3595 Route 66	Red Baron Prop Res c/o National Real 3 Manhattanville Road, Suite 202 Purchase, NY 10577
3903	2	355-3575 Route 66	Wal-Mart Real Estate Business Trust P.O. Box 8050 MS 0555 Bentonville, AR 72712
3903	3.01	1200 Jumping Brook Road	3535, LLC 3535 Route 66, Suite 7 Neptune, NJ 07753
3903	3.02	1400 Jumping Brook Road	Fifth Venture, LLC 1195 Route 70, Suite 2000 Lakewood, NJ 08701
3903	4	3535 Route 66	Neptune Park for Industry C/O EI Realty 8 Ridgedale Avenue Cedar Knolls, NJ 07927
3903	5	1600 Jumping Brook Road	Township of Neptune PO Box 1125 Neptune, NJ 07753
3903	5.01	1800 Jumping Brook Road	Township of Neptune PO Box 1125 Neptune, NJ 07753

UTILITY CONTACTS

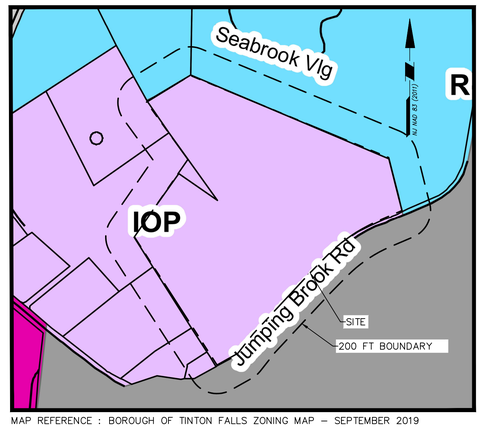
WATER:	NEW JERSEY AMERICA WATER COMPANY, INC. ATTN: DONNA SHORT, GIS SUPERVISOR 1025 LAUREL OAK RD VOORHEES, NJ 08043
ELECTRIC:	JERSEY CENTRAL POWER & LIGHT COMPANY ATTN: LAND USE MATTERS 300 MADISON AVENUE MORRISTOWN, NJ 07960
TELEPHONE:	VERIZON– NEW JERSEY 9 GATE AVENUE MONTCLAIR, NJ 07042–3301
CABLE:	MONMOUTH CABLEVISION ATTN: LAND USE MATTERS 1501 18TH AVENUE WALL TOWNSHIP, NJ 07719
GAS:	NEW JERSEY RESOURCES CORP. ATTN: RIGHT OF WAY DEPARTMENT 1415 WYCKOFF ROAD WALL, NJ 07719
SEWER:	TOWNSHIP OF NEPTUNE SEWERAGE AUTHORITY 634 OLD CORLIES AVE. NEPTUNE, NJ 07753



MAP REFERENCE : NEARMAP IMAGE 2019



MAP REFERENCE : NJGIN MONMOUTH COUNTY GIS TAX PARCEL DATA, 2017



MAP REFERENCE : BOROUGH OF TINTON FALLS ZONING MAP – SEPTEMBER 2019

PROJECT LOCATION
SCALE: 1" = 1,000'

TAX MAP
SCALE: 1" = 500'

ZONING MAP
SCALE: 1" = 500'

ZONING TABLE

Zone: IOP - Industrial Office Park

Bulk Regulations		Required Schedule B - District Bulk Regulation	Proposed	Complies
Use		Light Industrial facilities such as warehousing, shipping and receiving, fabrication and assembly operations within an enclosed building.	Warehouse (Shipping and Receiving)	Yes
Min. Lot Area (AC)		2	50.7	Yes
Min. Lot Width (FT)		225	431.6	Yes
Min. Lot Depth (FT)		225	1,073.1	Yes
Min. Front Yard (FT)		70, but not less than 3X bldg. height (120 FT)	301.3	Yes
Min. Side Yard (FT)		30, but not less than 2X bldg. height (80 FT)	154.6	Yes
Min. Side Yard - Both (FT)		-	-	N/A
Min. Rear Yard (FT)		30, but not less than 2X bldg. height	231.2	Yes
Max. Building Coverage (%)		-	-	N/A
Max. Lot Coverage (%)		60	33.9%	Yes
Max. Building Height (FT)		40	40	Yes
Max. FAR		0.3	0.05	Yes
Maximum Density		-	-	N/A
Loading Requirements				
Min. Parking Setback		15 FT (If located adjacent to residential district)	None proposed	Yes
Min. Number of Loading Docks		1 space for the first 5,000 SF and an additional space for each additional 40,000 SF. (4 loading docks required)	11	Yes
Off-Street Parking Requirements				
Min. Size of Parking Space		9 FT x 18 FT	9 FT X 20 FT	Yes
Min. Aisle Width for Two Way 90 Degree Parking		24 FT	24 FT	Yes
Min. Parking Setback		25 FT from lot line or street R.O.W	25 FT	Yes
Min. Number of Parking Spaces		Office: 1 Space per 250 SF of total floor area (35 spaces) Shipping and Receiving: 1 Space per 5000 SF of total floor area (21 spaces required) Fleet Vehicles: 511 Total= 567 spaces	231 car parking spaces 658 van parking spaces Total = 889 parking spaces	Yes
Landscaping		A min. of 10% of any parking surface facility other than single family homes shall be landscaped and shall include one shade tree for every 5 parking spaces.	No landscaped area proposed every 5 parking spaces	**No**
Signage Requirements				
Wall Sign	Location	The lowest part of the sign shall be at least 8 FT above the walkway.	> 8 FT	Yes
	Size	Shall not project more than 15 inches.	5 IN	Yes
	Size	Wall signs up to 10 SF per separate office tenant on the premises shall be permitted but total wall signs shall not exceed 25 SF.	182 SF	**No**
Ground Sign	Amount	1	2	**No***
	Max. Size	30 SF	30 SF	Yes
	Max. Height	6 FT	6 FT	Yes
	Setback	20 FT away from all property lines	20 FT	Yes
Directional Sign	Amount	2	16	**No**
	Max. Size	2 SF	20 SF	**No**
Illumination		Permitted	Proposed	Yes

* Existing non-conformance.

Requested Variances / Waivers

1. Relief is requested from Ordinance Section 40-33.D.5.n for the height of the proposed retaining wall. The ordinance permits a maximum height of 6 FT. The proposed maximum height of the retaining wall is 11 FT.
2. Relief is requested from Ordinance Section 40-26.G.7 for the number of driveways . The ordinance permits 2 driveways per lot frontage. Three driveways have been proposed.
3. Relief is requested from Ordinance Section 40-29.D.2 for the disturbance of an area with slopes in excess of 15%, as well as filling of existing freshwater wetlands.
4. Relief is requested from Ordinance Section 40-35.G.1 for maximum lot area for warehouses. The ordinance permits a maximum lot area of 10 AC for warehouses. The lot area for the proposed warehouse is 50 AC.
5. Relief is requested from Ordinance Section 40-26.N.1(e) for maximum height of freestanding lights. The ordinance permits a maximum height of 18 FT. The proposed maximum height is 25 FT.
6. Relief is requested from Ordinance Section 40-26.N.1(h) for maximum illumination at property lines. The ordinance permits a maximum illumination of 0.1 FC at property lines. The proposed maximum illumination is 3.2 FC.
7. Relief is requested from Ordinance Section 40-26.N.1(j) for maximum light intensity. The proposed maximum on any location of 7.2 FC and maximum average entire area of 3.0 FC exceeds the requited footcandles of 4.0 FC and 2.0 FC respectively.
8. Relief is requested from Ordinance Section 40-26.R.3 for loading space size. The ordinance requires loading spaces to be 15 feet wide by 60 feet long. The proposed loading spaces are 12 feet wide by 60 feet long.

GENERAL NOTES

1. BOUNDARY AND TOPOGRAPHIC INFORMATION FOR BLOCK 128.03, LOT 41 SHOWN HEREON WERE OBTAINED FROM PLAN TITLED "ALTA/NSPS LAND TITLE SURVEY" PREPARED BY LANGAN ENGINEERING, DATED 06/24/2020.
2. THE MERIDIAN SHOWN IS REFERENCED TO NEW JERSEY STATE PLANE COORDINATE SYSTEM NAD 83 (2011) PER GPS METHODS.
3. ELEVATIONS SHOWN ARE REFERENCED TO NAVD 88 PER GPS METHODS.
4. APPLICANT OR TENANT SHALL CONTRACT OUT SOLID WASTE DISPOSAL WITH PRIVATE CONTRACTING FIRM.
5. ALL CONSTRUCTION SHOWN HEREON SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE BOROUGH OF TINTON FALLS EXCEPT WHERE NOTED.
6. THE SITE SHALL BE CONSTRUCTED IN ACCORDANCE WITH TENANT DESIGN STANDARDS VERSION 1.4, ISSUED 03/03/2020.
7. ALL SANITARY SEWERS AND WATER MAINS SHOWN HEREON SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RULES AND REGULATIONS OF THE NJDEP, APPLICABLE UTILITY AUTHORITIES, NEW JERSEY AMERICAN WATER, AND THE BOROUGH OF TINTON FALLS.
8. ALL ON–SITE SANITARY SEWER SHOWN HEREON SHALL BE PVC–SDR 35 SEWER PIPE WITH RING TIGHT FITTINGS UNLESS OTHERWISE SPECIFIED.
9. ALL WATER MAINS SHOWN HEREON SHALL BE CLASS 52 CEMENT LINED DUCTILE IRON PIPE OR C900 PVC, AS SPECIFIED ON THE CONTRACT DOCUMENTS. PRIOR TO WET TAP, CONTRACTOR SHALL CONSULT NEW JERSEY AMERICAN WATER FOR COORDINATION.
10. GAS, ELECTRIC, AND TELECOM SERVICE NETWORKS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER, ARCHITECT, AND MEP ENGINEER TO DETERMINE ACTUAL LOCATION AND SERVICE SIZE. CONCRETE ENCASEMENT SHALL BE PROVIDED, AS REQUIRED, IN ACCORDANCE WITH THE UTILITY CROSSING DETAILS.
11. EXISTING UTILITIES:
    A. OWNER AND CONTRACTOR ARE HEREBY NOTIFIED THAT EXISTING UTILITIES ARE PRESENT IN THE VICINITY OF THE PROJECT. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION.
    B. THE CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITIES ALONG THE LINE OF THE PROPOSED WORK THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION. CONTRACTORS SHALL NOT PROCEED WITH WORK IN STREETS WHERE UTILITIES HAVE NOT BEEN LOCATED.
    C. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTION, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS AND SIZES, SUCH THAT CONFLICTS MAY BE AVOIDED. THESE TEST PITS SHALL BE EXCAVATED AT THE START OF CONSTRUCTION, PRIOR TO THE CONSTRUCTION OF ANY UTILITIES. THE CONTRACTOR WILL NOTIFY LANGAN 48 HOURS PRIOR TO THE TEST PIT EXCAVATION AND WILL PROVIDE LANGAN WITH THE RESULTS OF THESE EXPLORATIONS WITHIN 24 HOURS OF THEIR COMPLETION.
12. LOCATION AND SIZE OF ROOF LEADER CONNECTION AND SANITARY SEWER, WATER, ELECTRIC, TELEPHONE AND GAS SERVICES INTO BUILDING ARE APPROXIMATE AND MUST BE COORDINATED WITH ARCHITECT AND RESPECTIVE UTILITY COMPANIES. WHERE CONFLICTS EXIST BETWEEN THESE PLANS AND ARCHITECTURAL PLANS, CONTRACTOR TO NOTIFY THE ENGINEER BEFORE CONSTRUCTION.
13. ELECTRIC, TELEPHONE, GAS AND CABLE TO BE PROVIDED BY RESPECTIVE UTILITY COMPANY IN ACCORDANCE WITH THEIR B.P.U. CHARTERS.
14. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING 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 APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
15. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF APPLICABLE GOVERNING AUTHORITIES.
16. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY ENGINEER IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION.
17. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE APPLICABLE BOROUGH OF TINTON FALLSSTANDARD DETAILS.
18. ALL NEW UTILITIES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND UNLESS OTHERWISE SPECIFIED.
19. THESE PLANS REPRESENT THE OVERALL SITEWORK IMPROVEMENTS REQUIRED FOR PROJECT CONSTRUCTION. THE CONTRACTOR SHALL FURNISH, INSTALL, TEST AND COMPLETE ALL WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION; AS SUCH, THESE PLANS DO NOT COMPLETELY REPRESENT, NOR ARE THEY INTENDED TO REPRESENT, ALL SPECIFIC INSTRUCTIONS REQUIRED FOR SITEWORK CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT ALL IMPROVEMENTS DEPICTED ON THESE PLANS IN ACCORDANCE WITH ALL APPLICABLE RULES, REGULATIONS AND LAWS IN EFFECT AT THE TIME OF CONSTRUCTION.
20. CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE PLANS IS SUBJECT TO THE REQUIREMENTS DESCRIBED IN THE PROJECT GEOTECHNICAL ENGINEERING REPORT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF THAT REPORT.
21. CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THESE PLANS IS SUBJECT TO THE REQUIREMENTS SET FORTH BY THE ENVIRONMENTAL REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS.
22. THE CONTRACTOR SHALL ACCEPT THE SITE AS IS. THE CONTRACTOR SHALL ASSESS CONDITIONS, AND THE KIND, QUALITY AND QUANTITY OF WORK REQUIRED. THE OWNER MAKES NO GUARANTEE IN REGARD TO THE ACCURACY OF ANY AVAILABLE INFORMATION WHICH WAS OBTAINED DURING INVESTIGATIONS. THE CONTRACTOR SHALL MAKE A THOROUGH SITE INSPECTION IN ORDER TO FIELD CHECK EXISTING SITE CONDITIONS, CORRELATE CONDITIONS WITH THE DRAWINGS, AND RESOLVE ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE OWNER AND ENGINEER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL MAKE ADDITIONAL TOPOGRAPHIC SURVEYS HE DEEMS NECESSARY, PROVIDED THEY ARE COORDINATED WITH THE OWNER. ANY CONDITIONS DETERMINED BY THE CONTRACTOR THAT DIFFER FROM THE INFORMATION SHOWN ON THE DRAWINGS THAT ARE NOT BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER PRIOR TO THE START OF WORK SHALL NOT BE CONSIDERED GROUNDS FOR ADDITIONAL PAYMENT OR CHANGES TO THE CONTRACT DURATION, OR ANY OTHER CLAIMS AGAINST THE OWNER OR OWNER'S ENGINEER.
23. THE CONTRACTOR SHALL, WHEN THEY DEEM NECESSARY, PROVIDE WRITTEN REQUESTS FOR INFORMATION (RFIS) TO THE OWNER AND ENGINEER PRIOR TO THE CONSTRUCTION OF ANY SPECIFIC SITEWORK ITEM. THE RFI SHALL BE IN A FORM ACCEPTABLE TO OWNER AND ENGINEER AND SHALL ALLOW FOR A MINIMUM OF TWO WORK DAYS OR ADDITIONAL REASONABLE TIME FOR A WRITTEN REPLY. RFIS SHALL BE NUMBERED CONSECUTIVELY BY DATE SUBMITTED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITEWORK ITEMS CONSTRUCTED DIFFERENTLY THAN INTENDED OR AS DEPICTED ON THE PLANS.
24. INFORMATION RELATED TO ELEVATIONS AND PROPOSED UTILITIES (SUCH AS ROADWAY GRADES, INVERT ELEVATIONS, RIM ELEVATIONS, GRATE ELEVATIONS, BUILDING FINISHED FLOOR ELEVATIONS, ETC.) MAY BE FOUND IN MORE THAN ONE LOCATION IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL SUFFICIENTLY REVIEW ALL PLANS, PROFILES AND ANY OTHER INFORMATION IN THE CONTRACT DOCUMENTS FOR CONSISTENCY PRIOR TO CONSTRUCTION. ANY INCONSISTENCIES OR DISCREPANCIES THAT ARE FOUND BY THE CONTRACTOR OR HIS ASSIGNS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER IN WRITING, IN THE FORMAT OF AN RFI PRIOR TO CONSTRUCTION.
25. THERE ARE ADDITIONAL NOTES, SPECIFICATIONS AND REQUIREMENTS CONTAINED THROUGHOUT THE PLAN SET AS WELL AS REFERENCES TO SPECIFICATIONS FROM APPLICABLE GOVERNING AUTHORITIES AND INDUSTRY STANDARDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, REVIEW AND ADHERE TO ALL THESE DOCUMENTS.
26. ALL OPERATIONS SHALL BE CONDUCTED SO AS NOT TO DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF ANY ADJACENT BUILDINGS, ROADWAYS, ACTIVE UTILITIES, AND RAILROADS.
27. MATERIALS GENERATED DURING CONSTRUCTION SHALL BE HANDLED IN CONFORMANCE WITH ENVIRONMENTAL REQUIREMENTS FOR THE SITE.
28. FINAL MONUMENT, WALL, AND DIRECTIONAL SIGNAGE DETAILS SHALL BE SUBMITTED TO LANGAN FOR REVIEW AND APPROVAL OF COLORS AND MATERIALS PRIOR TO FABRICATION.

CIVIL SHEET INDEX

DRAWING NO.	TITEL
GI101	COVER SHEET
CD100	DEMOLITION PLAN
CS100	OVERALL SITE PLAN
CS101	PARTIAL SITE PLAN 1
CS102	PARTIAL SITE PLAN 2
CS103	PARTIAL SITE PLAN 3
CS110	PAVEMENT PLAN
CS701	SITE CIRCULATION PLAN
CS702	EMERGENCY VEHICLE SITE CIRCULATION PLAN
SS101	PARTIAL STRIPING AND SIGNAGE PLAN 1
SS102	PARTIAL STRIPING AND SIGNAGE PLAN 2
SS103	PARTIAL STRIPING AND SIGNAGE PLAN 3
SS501	STRIPING AND SIGNAGE DETAILS
CG100	OVERALL GRADING AND DRAINAGE PLAN
CG101	PARTIAL GRADING AND DRAINAGE PLAN 1
CG102	PARTIAL GRADING AND DRAINAGE PLAN 2
CG103	PARTIAL GRADING AND DRAINAGE PLAN 3
CG201	STORM PROFILES 1
CG202	STORM PROFILES 2
CG203	STORM PROFILES 3
CU100	OVERALL UTILITY PLAN
CU101	PARTIAL UTILITY PLAN 1
CU102	PARTIAL UTILITY PLAN 2
CU103	PARTIAL UTILITY PLAN 3
CU201	SANITARY SEWER PROFILES
CE100	OVERALL SOIL EROSION AND SEDIMENT CONTROL PLAN
CE101	PARTIAL SOIL EROSION AND SEDIMENT CONTROL PLAN 1
CE102	PARTIAL SOIL EROSION AND SEDIMENT CONTROL PLAN 2
CE103	PARTIAL SOIL EROSION AND SEDIMENT CONTROL PLAN 3
CE501	SOIL EROSION AND SEDIMENT CONTROL DETAILS
CE201	SOIL DECOMPACTION AND RESTORATION PLAN 1
CE202	SOIL DECOMPACTION AND RESTORATION PLAN 2
CE203	SOIL DECOMPACTION AND RESTORATION PLAN 3
LD100	TREE REMOVAL PLAN
LP100	OVERALL LANDSCAPE PLAN
LP101	PARTIAL LANDSCAPE PLAN 1
LP102	PARTIAL LANDSCAPE PLAN 2
LP103	PARTIAL LANDSCAPE PLAN 3
LP501	LANDSCAPE DETAILS 1
LP502	LANDSCAPE DETAILS 2
LL100	OVERALL LIGHTING PLAN
LL101	PARTIAL LIGHTING PLAN 1
LL102	PARTIAL LIGHTING PLAN 2
LL103	PARTIAL LIGHTING PLAN 3
LL501	LIGHTING DETAILS
CS501	SITE DETAILS 1
CS502	SITE DETAILS 2
CS503	SITE DETAILS 3
CS504	SITE DETAILS 4
CS505	SITE DETAILS 5

SURVEY SHEET INDEX

DRAWING NO.	TITEL
VL101	ALTA/NSPS LAND TITLE SURVEY
VL102	ALTA/NSPS LAND TITLE SURVEY
VL103	ALTA/NSPS LAND TITLE SURVEY
VL104	ALTA/NSPS LAND TITLE SURVEY
VL105	ALTA/NSPS LAND TITLE SURVEY
VL106	ALTA/NSPS LAND TITLE SURVEY

SIGNATURE OF OWNER / APPLICANT DATE
(SIGNATURE TO BE NOTARIZED)

PROJECT CONTACTS

APPLICANT / OWNER:
W&M ASSOCIATES, LLC
1481 OAK TREE ROAD,
ISELIN, NJ 08830

ARCHITECT:
PROGRESSIVE AE
18811 4 MILE ROAD NE
GRAND RAPIDS, MI 49525
TEL: (616) 8361-1493

CIVIL ENGINEER/SURVEYOR:
LANGAN
300 KIMBALL DRIVE
PARSIPPANY, NJ 07054
(973) 560-4900
NJ Certificate of Authorization No: 24GA27996400

APPROVED BY BOROUGH OF TINTON FALLS PLANNING BOARD PRELIMINARY & FINAL SITE PLAN

CHAIRMAN OF THE PLANNING BOARD

SECRETARY OF THE PLANNING BOARD

BOROUGH ENGINEER

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
COVER SHEET

Project No.	100775501
Date	06/25/2020
Drawn By	RY
Checked By	RB

Drawing No.
GI101
Sheet 1 of 50

LANGAN
PROJECT NO. 100775501

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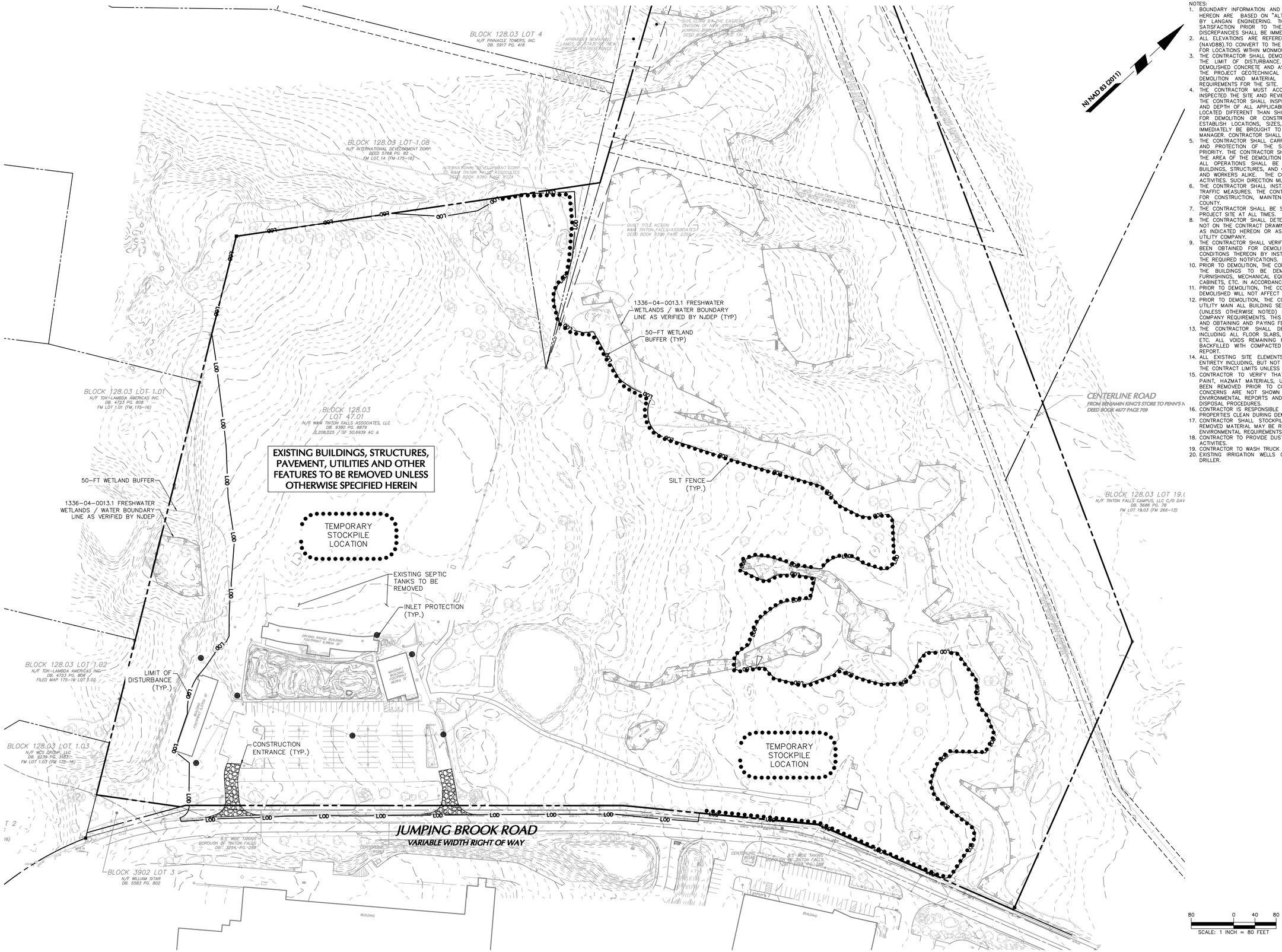
Date: 1/6/2021 Time: 21:24 User: ryemerou Style Table: Langan.stb Layout: GI101 Document Code: 100775501-0102-GI001-0101



NOTES:

1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).TO CONVERT TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, ADD 1.5 FEET FOR LOCATIONS WITHIN MONMOUTH COUNTY.
3. THE CONTRACTOR SHALL DEMOLISH ALL BUILDINGS, PAVEMENT, ETC WHERE INDICATED WITHIN THE LIMIT OF DISTURBANCE. EDGES OF PAVEMENT DEMOLITION SHALL BE SAW CUT. DEMOLISHED CONCRETE AND ASPHALT SHALL BE CRUSHED TO THE DIMENSIONS INDICATED IN THE PROJECT GEOTECHNICAL REPORT AND STOCKPILED FOR REUSE AS SITE FILL. ALL DEMOLITION AND MATERIAL REUSE SHALL BE IN ACCORDANCE WITH ENVIRONMENTAL REQUIREMENTS FOR THE SITE.
4. THE CONTRACTOR MUST ACCEPT THE SITE AS IS AND SHALL BE DEEMED TO HAVE INSPECTED THE SITE AND REVIEWED ALL CONTRACT DOCUMENTS PRIOR TO SUBMITTING A BID. THE CONTRACTOR SHALL INSPECT THE SITE THOROUGHLY AND FIELD VERIFY THE LOCATION AND DEPTH OF ALL APPLICABLE EXISTING UTILITIES. SOME UNDERGROUND UTILITIES MAY BE LOCATED DIFFERENT THAN SHOWN ON THIS PLAN. ALL CONTRACTORS USING THESE PLANS FOR DEMOLITION OR CONSTRUCTION SHALL CONFIRM ALL UTILITIES IN THE FIELD TO ESTABLISH LOCATIONS, SIZES, MATERIALS, AND ELEVATIONS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND THE CONSTRUCTION MANAGER. CONTRACTOR SHALL PROTECT AND MAINTAIN UTILITIES AS NOTED.
5. THE CONTRACTOR SHALL CARRY OUT THE WORK OF THIS CONTRACT PLACING THE SAFETY AND PROTECTION OF THE SURROUNDING COMMUNITY AND PROPERTY AT THE HIGHEST PRIORITY. THE CONTRACTOR SHALL ENSURE FREE AND SAFE PASSAGE OF PERSONS AROUND THE AREA OF THE DEMOLITION AS DIRECTED BY THE GOVERNING AGENCIES AND THE OWNER. ALL OPERATIONS SHALL BE CONDUCTED SO AS TO PREVENT DAMAGE TO ADJACENT BUILDINGS, STRUCTURES, AND OTHER FACILITIES AND INJURY TO PERSONS, BOTH PEDESTRIAN AND WORKERS ALIKE. THE CONSULTANT DOES NOT HAVE THE RIGHT TO STOP DEMOLITION ACTIVITIES. SUCH DIRECTION MUST COME FROM THE OWNER.
6. THE CONTRACTOR SHALL INSTALL AND MAINTAIN CONSTRUCTION SIGNAGE AND ASSOCIATED TRAFFIC MEASURES. THE CONTRACTOR SHALL FOLLOW THE WORK ZONE SAFETY GUIDELINES FOR CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS REQUIRED BY GLOUCESTER COUNTY.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING THE SECURITY OF THE PROJECT SITE AT ALL TIMES.
8. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF ALL UTILITIES, WHETHER SHOWN OR NOT ON THE CONTRACT DRAWING, AND SHALL ABANDON, REMOVE, OR PROTECT THE UTILITIES AS INDICATED HEREON OR AS DIRECTED BY THE OWNER, SUBCONSULTANT, OR INTERESTED UTILITY COMPANY.
9. THE CONTRACTOR SHALL VERIFY THAT A SOIL EROSION AND SEDIMENT CONTROL PERMIT HAS BEEN OBTAINED FOR DEMOLITION ACTIVITIES. CONTRACTOR SHALL COMPLY WITH THE CONDITIONS THEREON BY INSTALLING AND MAINTAINING ALL SESC MEASURES AND MAKING THE REQUIRED NOTIFICATIONS.
10. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL CONTENTS OF THE BUILDINGS TO BE DEMOLISHED INCLUDING, BUT NOT NECESSARILY LIMITED TO, FURNISHINGS, MECHANICAL EQUIPMENT, RESERVOIR TANKS, PLUMBING FIXTURES, FURNITURE, CABINETS, ETC. IN ACCORDANCE WITH ENVIRONMENTAL REQUIREMENTS FOR THE SITE.
11. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THAT THE UTILITY SERVICES TO BE DEMOLISHED WILL NOT AFFECT OTHER SERVICES OUTSIDE THE CONTRACT LIMIT.
12. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL DISCONNECT AND CAP/TERMINATE AT THE UTILITY MAIN ALL BUILDING SERVICES, E.G. WATER, SEWER, GAS, ELECTRIC, TELEPHONE, ETC. (UNLESS OTHERWISE NOTED) IN ACCORDANCE WITH ALL LOCAL REGULATION AND UTILITY COMPANY REQUIREMENTS. THIS WORK SHALL INCLUDE COORDINATION WITH UTILITY COMPANIES AND OBTAINING AND PAYING FEES FOR ALL STREET AND SIDEWALK OPENING PERMITS.
13. THE CONTRACTOR SHALL DEMOLISH AND REMOVE THE BUILDINGS WHERE INDICATED, INCLUDING ALL FLOOR SLABS, PITS, WALLS, FOOTINGS, GRADE BEAMS, COLUMNS, UTILITIES ETC. ALL VOIDS REMAINING FROM THE REMOVAL OF SUBSURFACE ELEMENTS SHALL BE BACKFILLED WITH COMPACTED MATERIAL AS PER THE FINAL GEOTECHNICAL ENGINEERING REPORT.
14. ALL EXISTING SITE ELEMENTS SLATED FOR DEMOLITION SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING, BUT NOT LIMITED TO, ASPHALT, BUSHES, TREES, PLANTERS, ETC. WITHIN THE CONTRACT LIMITS UNLESS OTHERWISE NOTED.
15. CONTRACTOR TO VERIFY THAT ALL ENVIRONMENTAL CONCERNS (ASBESTOS, LEAD BASED PAINT, HAZMAT MATERIALS, UNDERGROUND STORAGE TANKS, TRANSFORMERS, ETC.) HAVE BEEN REMOVED PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES. THESE POTENTIAL CONCERNS ARE NOT SHOWN ON THIS PLAN. THE CONTRACTOR SHALL REFER TO THE ENVIRONMENTAL REPORTS AND DOCUMENTS FOR ENVIRONMENTAL CONCERN LOCATIONS AND DISPOSAL PROCEDURES.
16. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL ADJACENT RIGHT-OF-WAYS AND ADJACENT PROPERTIES CLEAN DURING DEMOLITION.
17. CONTRACTOR SHALL STOCKPILE REMOVED ASPHALT AND CONCRETE IN SEPARATE PILES. REMOVED MATERIAL MAY BE REUSED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AND ENVIRONMENTAL REQUIREMENTS.
18. CONTRACTOR TO PROVIDE DUST CONTROL MEASURES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
19. CONTRACTOR TO WASH TRUCK TIRES BEFORE EXITING THE CONSTRUCTION SITE.
20. EXISTING IRRIGATION WELLS ONSITE SHALL BE DECOMMISSIONED BY NJ LICENSED WELL DRILLER.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
12/16/20	PER TOWNSHIP COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
DEMOLITION PLAN

Project No.	Drawing No.
100775501	CD100
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 2 of 50

LANGAN
PROJECT NO. 100775501

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NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
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3. ALL CURBS TO BE 6 INCHES UNLESS OTHERWISE SPECIFIED.
4. ALL CURB RADII ARE 4.5 FEET UNLESS OTHERWISE SPECIFIED.
5. REFER TO ARCHITECTURAL FOR DETAILED BUILDING DIMENSIONS.
6. ALL REGULATORY SIGNS AND TRAFFIC MARKINGS SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. THE SIZE AND SHAPES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

NJ NAD 83 (2011)

SHEET 101

SHEET 102

SHEET 103

BLOCK 128.03 LOT 4
N/F PINNACLE TOWERS, INC.
DB. 5917 PG. 418

APPARENT REMAINING LANDS OF STATE OF NEW JERSEY PER REFERENCE 1

QUIET TITLE ACTION BY THE EASTERN DIVISION OF NEW JERSEY JUMPING BROOK, INC. DEED BOOK 4677 PAGE 191

BLOCK 128.03 LOT 1.08
N/F INTERNATIONAL DEVELOPMENT CORP.
DEED 5768 PG. 82
FM LOT 1A (FM-175-16)

INTERNATIONAL DEVELOPMENT CORP. TO W&M TINTON FALLS ASSOCIATES DEED BOOK 9380 PAGE 9224

30-FT SIDE YARD SETBACK

80-FT REAR YARD SETBACK

LANDSCAPED BERM

60 QUEUING SPACES

231.2-FT

11 LOADING DOCK SPACES

QUIET TITLE ACTION W&M TINTON FALLS ASSOCIATES DEED BOOK 9389 PAGE 2159

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP (TYP)

50-FT WETLAND BUFFER (TYP)

154.6-FT

204-FT

554-FT

BASIN 1

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 808
FM LOT 1.01 (FM. 175-16)

80-FT SIDE YARD SETBACK

BLOCK 128.03 LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 / SF 50.6939 AC ±

CANOPY
550 FT X 80 FT

50-FT WETLAND BUFFER

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP

PROPOSED DELIVERY STATION
BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

573 VAN PARKING SPACES

BASIN 2

LANDSCAPED BERM

LANDSCAPED BERM

OFFICE AREA= 8,606 SF ±

60 UTR / VAN LOADING SPACES

BLOCK 128.03 LOT 19.03
N/F TINTON FALLS CAMPUS, LLC C/O DAVID DODD
DB. 5686 PG. 78
FM LOT 19.03 (FM 266-13)

CENTERLINE ROAD
FROM BENJAMIN KING'S STORE TO PENN'S NECK
DEED BOOK 4677 PAGE 709

BLOCK 128.03 LOT 1.02
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 808
FILED MAP 175-16 LOT 1.02

80-FT SIDE YARD SETBACK

231 CAR PARKING SPACES

LANDSCAPED BERM

85 VAN PARKING SPACES

BASIN 5

80-FT SIDE YARD SETBACK

BLOCK 128.03 LOT 1.03
N/F WCS GROUP, LLC
DB. 9239 PG. 3183
FM LOT 1.03 (FM 175-16)

MUNICIPAL LINE, PER DEED BOOK 5747 PAGE 397

MUNICIPAL LINE PER FILED MAP 163-24

S 81°12'07" W (D)
S 81°13'00" W (S)
153.65' (D)

120-FT FRONT YARD SETBACK

BASIN 3

BASIN 4

835.64'

S 45°37'24" W (D)
S 45°36'24" W (S)

368.69'

S 45°37'24" W (D)
S 45°36'24" W (S)

301.3-FT

JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY

25-FT PARKING SETBACK

8.5' WIDE TAKING BOROUGH OF TINTON FALLS DB. 3294, PG. 288

CENTERLINE ROAD

8.5' WIDE TAKING BOROUGH OF TINTON FALLS DB. 3294, PG. 288

LANDSCAPED BERM

120-FT FRONT YARD SETBACK

S 27°39'24" W (D)
S 27°46'24" W (S)
9.74'

P.O.B.

BLOCK 3902 LOT 3
N/F WILLIAM STAR
DB. 5583 PG. 802

S 27°39'24" W (D)
S 27°46'24" W (S)
10.41'

S 27°39'24" W (D)
S 27°46'24" W (S)
1290.86'

S 67°20'36" E (D)
S 67°13'36" E (S)
532.86'

80 0 40 80
SCALE: 1 INCH = 80 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED

RICHARD BURROW
PROFESSIONAL ENGINEER
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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL SITE PLAN

Project No.	Drawing No.
100775501	CS100
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 3 of 50

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LANGAN
PROJECT NO. 100775501

Date: 1/6/2021 Time: 21:24 User: ryemerou Style Table: Langan.stb Layout: CS100 Document Code: 100775501-0102-CS001-0101

NJ NAD 83 (2011)

NOTES:
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6. ALL REGULATORY SIGNS AND TRAFFIC MARKINGS SHALL COMPLY WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. THE SIZE AND SHAPES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

30-FT SIDE YARD SETBACK

80-FT REAR YARD SETBACK

22.0-FT

6 INCH CONCRETE CURB (TYP)

LANDSCAPED BERM

RETAINING WALL (BY OTHERS)

231.2-FT

R150-FT

60 QUEUING SPACES

23.3-FT

12-FT

48-FT

40-FT

84-FT

24-FT

R50-FT

60-FT

50-FT

6-FT ORNAMENTAL FENCE

BOLLARDS (TYP)

REFER TO STRIPING AND SIGNAGE PLANS FOR SIGN DETAILS (TYP)

30-FT

RETAINING WALL (BY OTHERS)

6 INCH CONCRETE CURB (TYP)

11 LOADING DOCK SPACES

R50-FT

R30-FT

60-FT

FLUSH CURB

DUMPSTER ENCLOSURE

130-FT

70-FT

R15-FT 60 FT CONCRETE APRON

60-FT (TYP)

12-FT (TYP)

STOP BAR (TYP)

30-FT

R10-FT

R20-FT

R15-FT

R4.5-FT (TYP)

SPEED BUMP (TYP)

FLUSH CURB

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP (TYP)

50-FT WETLAND BUFFER (TYP)

DIRECTIONAL ARROW TO DEMONSTRATE SITE CIRCULATION (TYP)

154.6-FT

R200-FT

37-FT

5-FT WIDE SIDEWALK

START TRANSITION FROM FULL CURB TO PAVEMENT

REFER TO STRIPING AND SIGNAGE PLANS FOR SIGN DETAILS (TYP)

27-FT (TYP)

11-FT (TYP)

STAIRS (TYP.)

DOCK DOOR (TYP.)

MAN DOOR (TYP)

OVERHEAD DOOR (TYP)

204-FT

554-FT

DIRECTIONAL ARROW TO DEMONSTRATE SITE CIRCULATION (TYP)

6 INCH CONCRETE CURB (TYP)

BASIN 1

24-FT

60 UTR. / VAN LOADING SPACES

6 INCH CONCRETE CURB (TYP)

18 FT CONCRETE APRON

FIRE LANE STRIPING (TYP) INSTALL PER DETAIL ON SHEET SS501

4-FT WIDE CONCRETE STRIP (TYP)

BOLLARDS (TYP)

6 INCH CONCRETE CURB (TYP)

15-FT

80-FT SIDE YARD SETBACK

10 FT WIDE GRAVEL BASIN ACCESS PATH

REFER TO STRIPING AND SIGNAGE PLANS FOR SIGN DETAILS (TYP)

RAIN GARDEN (TYP)

CANOPY COLUMN (TYP)

37-FT

CANOPY 550 FT X 80 FT

5 FT WIDE CONCRETE SIDEWALK

R10-FT

30-FT

MOUNTABLE CURB

573 VAN PARKING SPACES

STOP BAR (TYP)

BOLLARDS (TYP)

MATCHLINE SHEET 102

R35-FT

R4.5-FT (TYP)

FLUSH CURB

R4.5-FT (TYP)

PROPOSED DELIVERY STATION

BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

MATCHLINE SHEET 102

50-FT WETLAND BUFFER

12-FT X 38.25-FT VAN LOADING SPACE (TYP)

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP

30-FT

27-FT (TYP)

11-FT (TYP)

BOLLARDS (TYP)

SCALE: 1 INCH = 40 FEET

BLOCK 128.03 LOT 1.08
N/F INTERNATIONAL DEVELOPMENT CORP.
DEED 5768 PG. 82
FM LOT 1A (FM 175-16)

INTERNATIONAL DEVELOPMENT CORP. TO W&M TINTON FALLS ASSOCIATES DEED BOOK 9380 PAGE 8774

QUIET TITLE ACTION W&M TINTON FALLS ASSOCIATES DEED BOOK 9389 PAGE 2359

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 808
FM LOT 1.01 (FM 175-16)

BLOCK 128.03 LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 / SF 50.6939 AC ±

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SITE PLAN 1

Project No.	Drawing No.
100775501	CS101
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 4 of 50

PROJECT NO. 100775501

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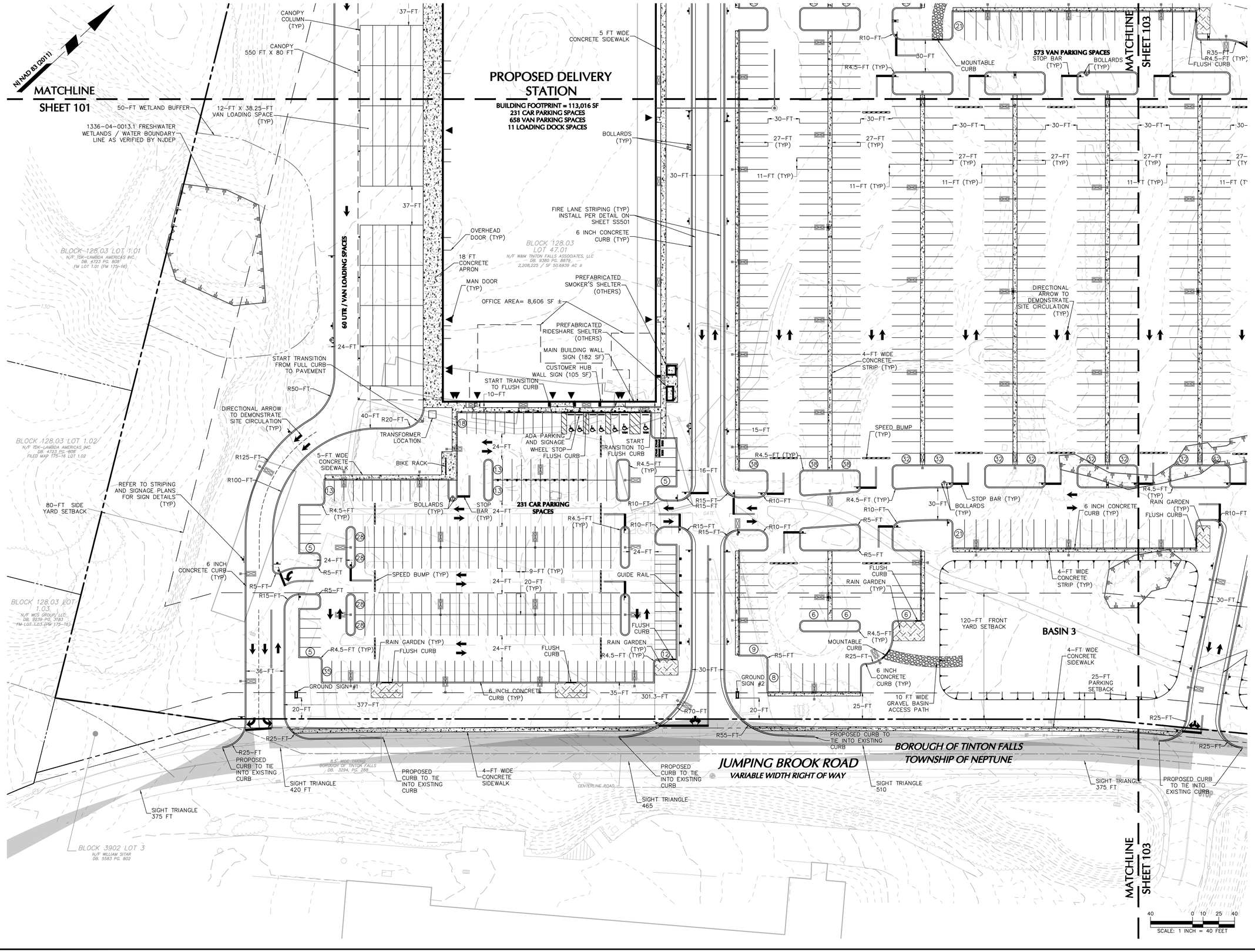
Date: 1/6/2021 Time: 21:25 User: ryemercu Style Table: Langan.stb Layout: CS101 Document Code: 100775501-0102-CS101-0101



NOTES:

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7. THE SIZE AND SHAPES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SITE PLAN 2

Project No.	Drawing No.
100775501	CS102
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	

Sheet 5 of 50

PROJECT NO. 100775501

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Date: 1/6/2021 Time: 21:25 User: ryemerou Style Table: Langan.stb Layout: CS102 Document Code: 100775501-0102-CS101-0102

573 VAN PARKING SPACES
STOP BAR (TYP)
BOLLARDS (TYP)
MATCHLINE SHEET 102
MOUNTABLE CURB
10 FT WIDE GRAVEL BASIN ACCESS PATH
R35-FT
R4.5-FT (TYP)
FLUSH CURB
30-FT
27-FT (TYP)
11-FT (TYP)
BASIN 2
LANDSCAPED BERM
50-FT WETLAND BUFFER (TYP)
DIRECTIONAL ARROW TO DEMONSTRATE SITE CIRCULATION (TYP)
RAIN GARDEN (TYP)
1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP (TYP)
WETLANDS
4-FT WIDE CONCRETE STRIP (TYP)
6 INCH CONCRETE CURB (TYP)
R215-FT
R45-FT
R15-FT
R10-FT
R185-FT
85 VAN PARKING SPACES
BOLLARDS (TYP)
STOP BAR (TYP)
BASIN 5
RAIN GARDEN (TYP)
DIRECTIONAL ARROW TO DEMONSTRATE SITE CIRCULATION (TYP)
10 FT WIDE GRAVEL BASIN ACCESS PATH
REFER TO STRIPING AND SIGNAGE PLANS FOR SIGN DETAILS (TYP)
BASIN 3
BASIN 4
FIRE LANE STRIPING (TYP) INSTALL PER DETAIL ON SHEET SS501
SPEED BUMP (TYP)
4-FT WIDE CONCRETE SIDEWALK
25-FT PARKING SETBACK
R25-FT
SIGHT TRIANGLE 375 FT
PROPOSED CURB TO TIE INTO EXISTING CURB
SIGHT TRIANGLE 420 FT
CENTERLINE ROAD
8.5' WIDE TAKING BOROUGH OF TINTON FALLS DB. 3294, PG. 288
JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY
BOROUGH OF TINTON FALLS
TOWNSHIP OF NEPTUNE
120-FT FRONT YARD SETBACK
80-FT SIDE YARD SETBACK
CENTERLINE ROAD
FROM BENJAMIN KING'S STORE TO PENN'S NECK
DEED BOOK 4677 PAGE 709
BLOCK 128.03 LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 4380 PG. 6879
2,208,225 ± SF 50.6939 AC ±
BLOCK 128.03 LOT 19.03
N/F TINTON FALLS CAMPUS, LLC C/O DAVID DODD
DB. 5686 PG. 78
FM LOT 19.03 (FM 266-13)
N/ NAD 83 (2011)

NOTES:
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7. THE SIZE AND SHAPES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.

SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SITE PLAN 3

Project No.	Drawing No.
100775501	CS103
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 6 of 50

PROJECT NO. 100775501

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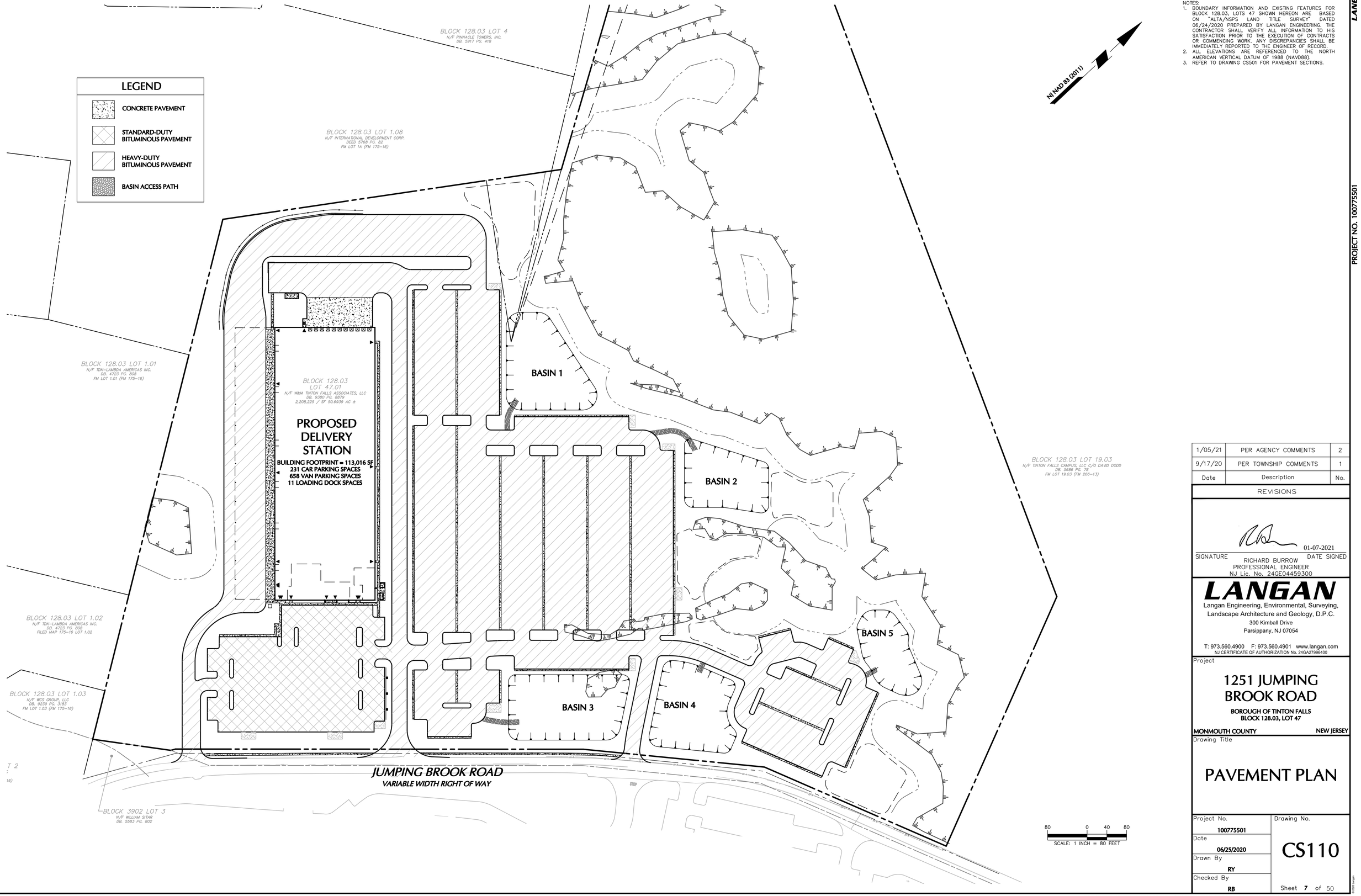

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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. REFER TO DRAWING CS501 FOR PAVEMENT SECTIONS.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PAVEMENT PLAN

Project No.	Drawing No.
100775501	CS110
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	

Sheet 7 of 50

PROJECT NO. 100775501

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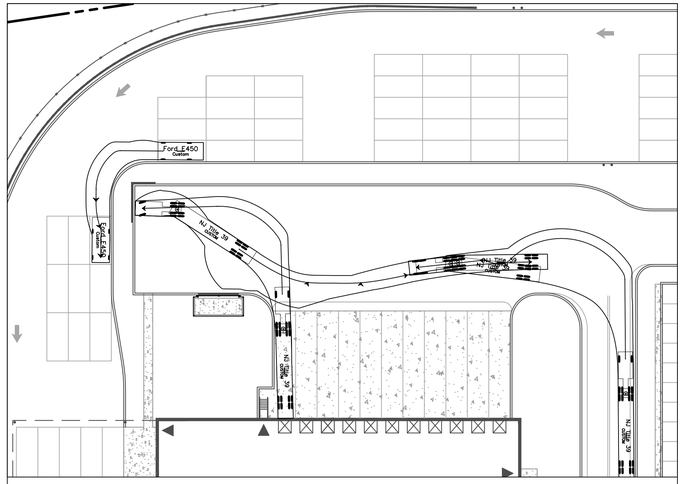
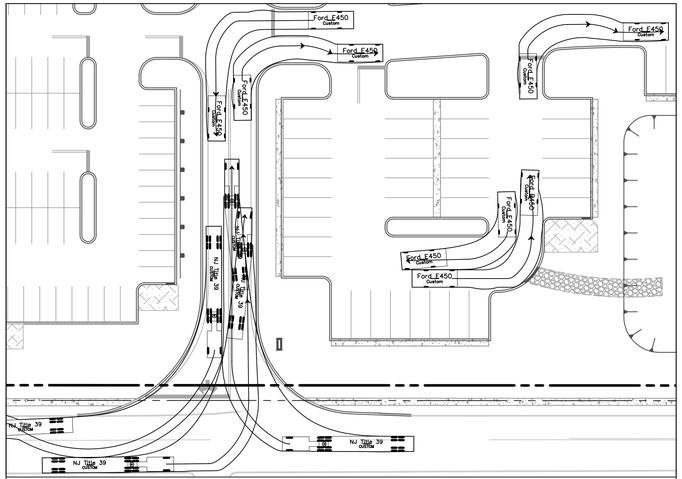
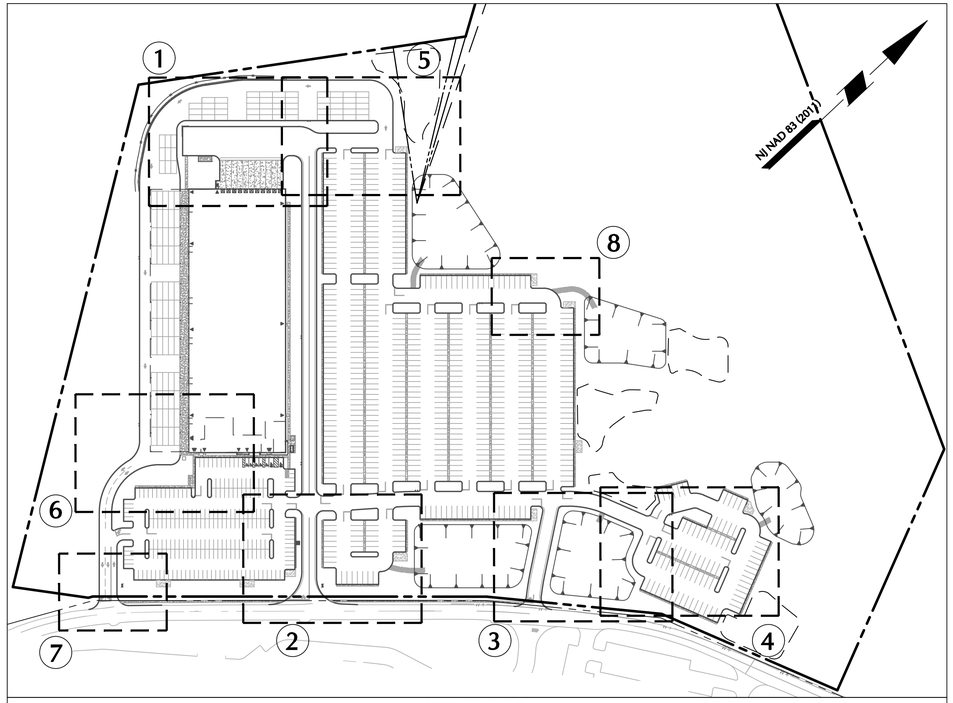


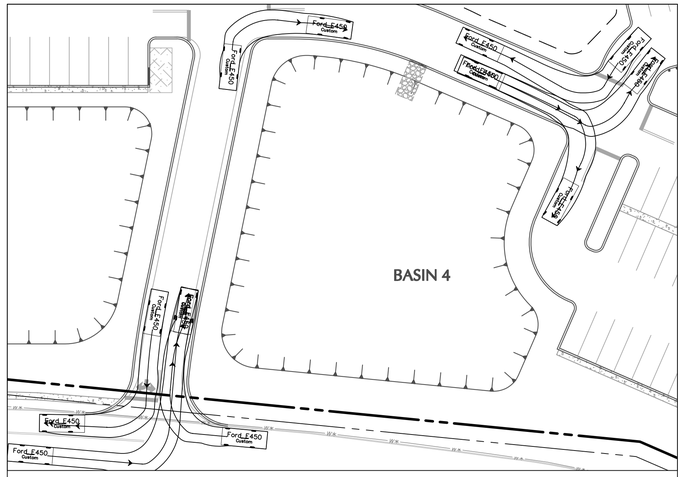
TURNING AREA 1



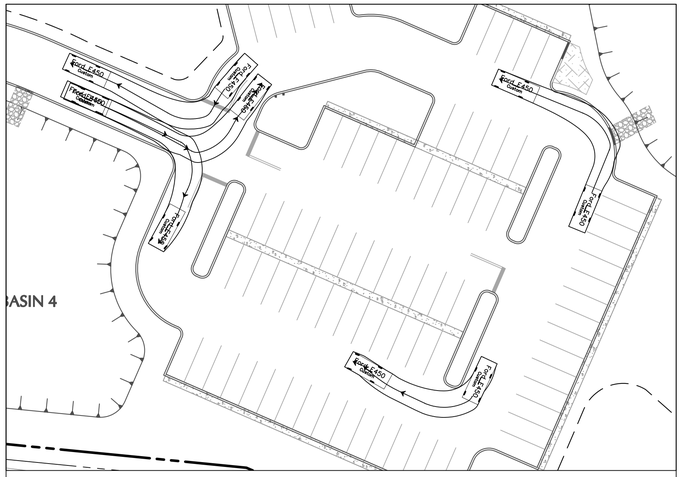
TURNING AREA 2



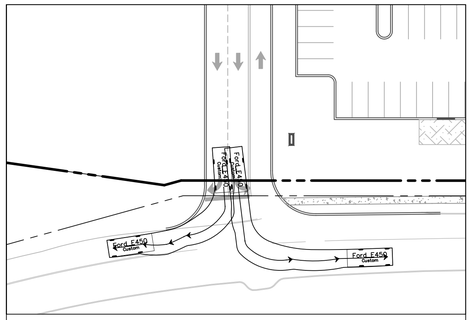
KEY MAP
SCALES 1 INCH = 150 FEET



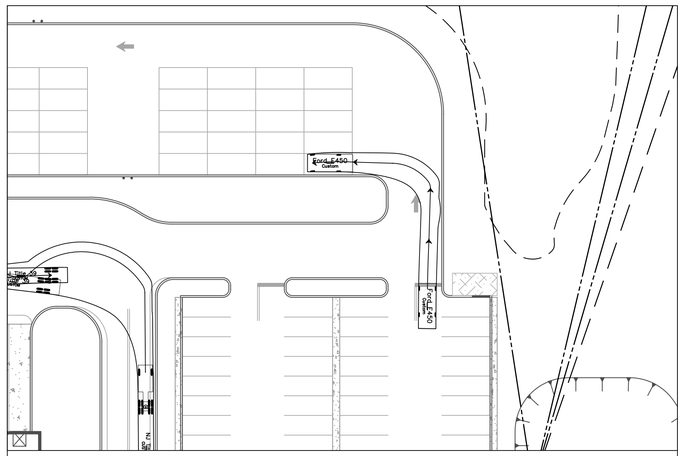
TURNING AREA 3



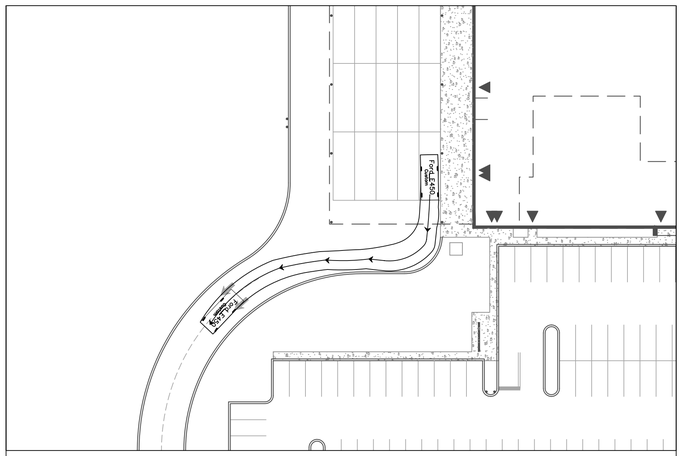
TURNING AREA 4



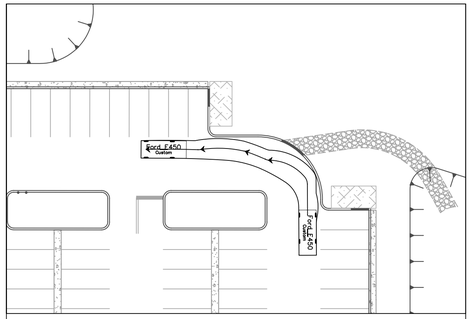
TURNING AREA 7



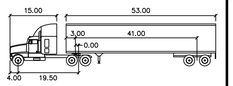
TURNING AREA 5



TURNING AREA 6



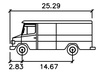
TURNING AREA 8



NJ Title 39

feet

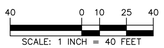
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 25.2
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



Ford E450

feet

Width	: 9.75
Track	: 9.75
Lock to Lock Time	: 6.0
Steering Angle	: 34.3



SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SITE CIRCULATION PLAN

Project No. 100775501	Drawing No. CS701
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 8 of 50

LANGAN
PROJECT NO. 100775501

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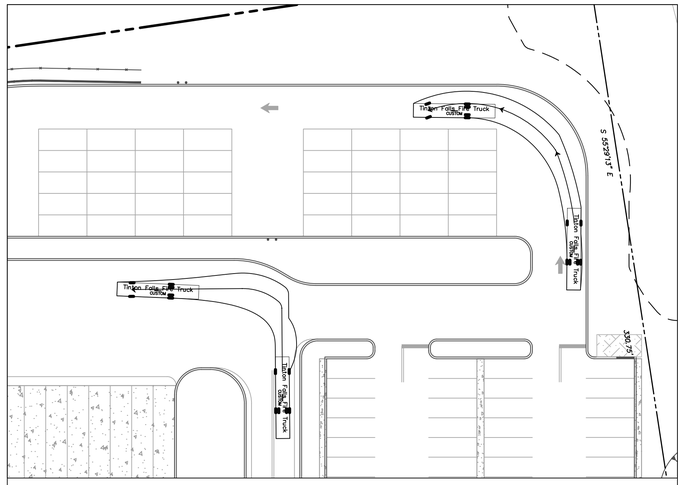
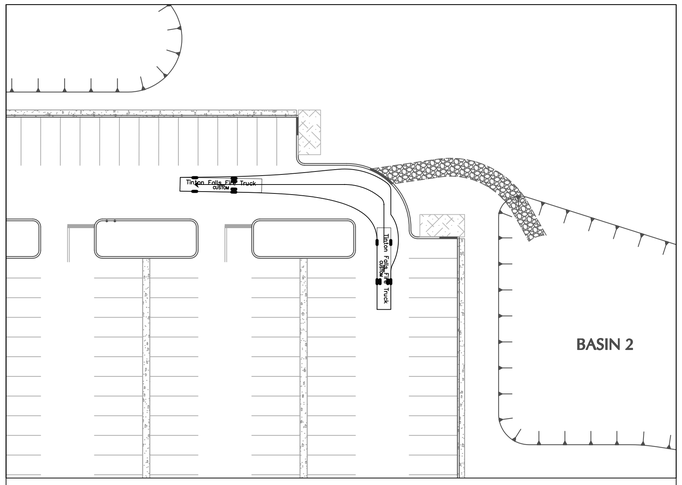
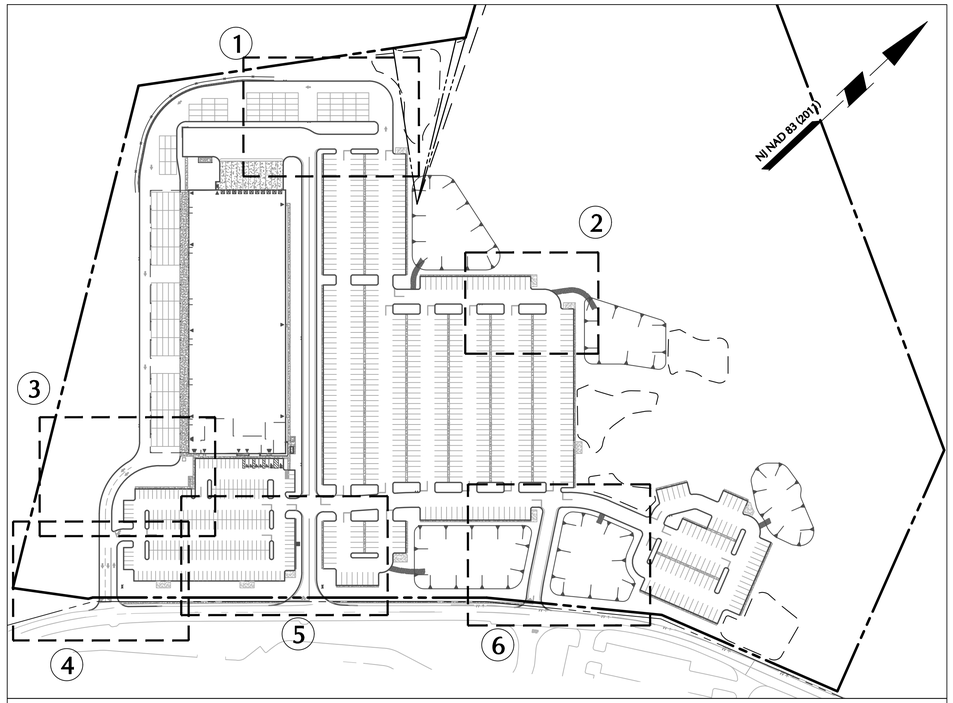


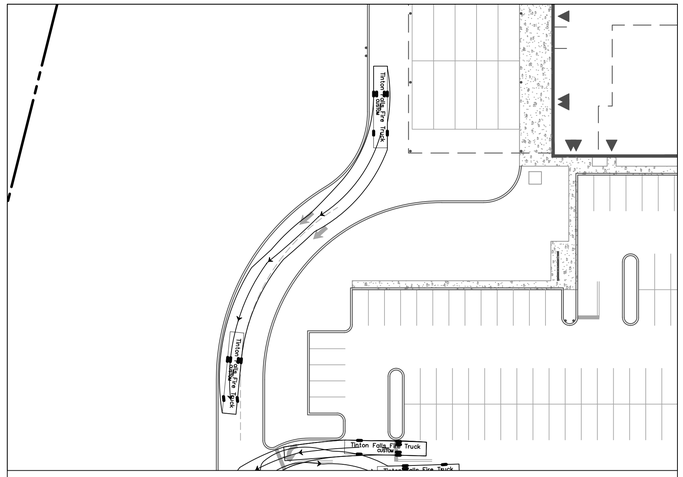
TURNING AREA 1



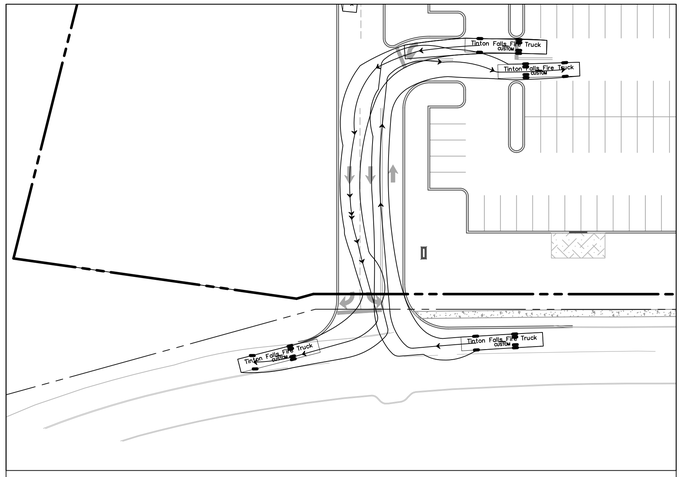
TURNING AREA 2



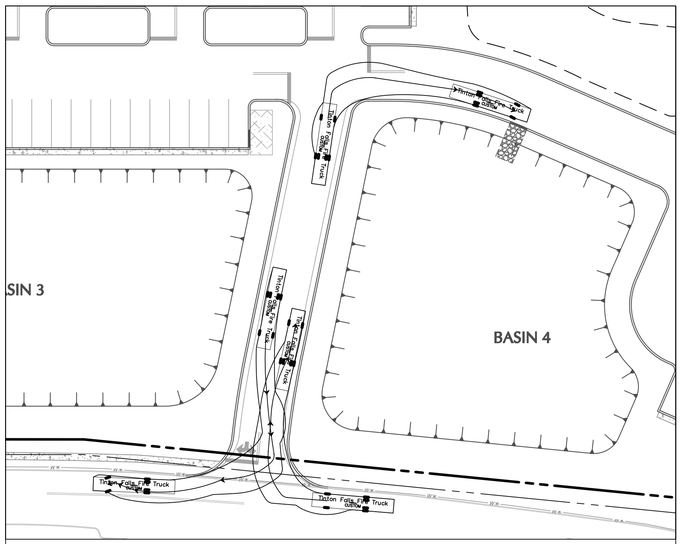
KEY MAP
SCALES 1 INCH = 150 FEET



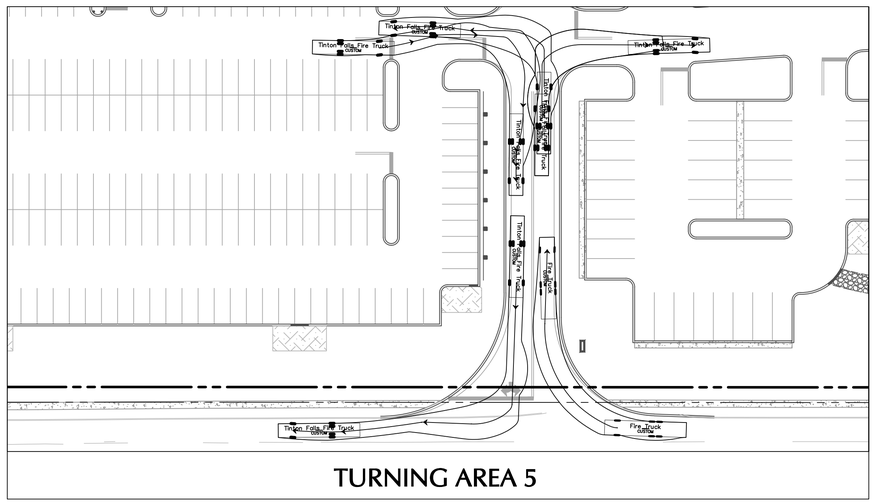
TURNING AREA 3



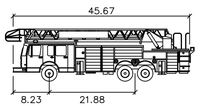
TURNING AREA 4



TURNING AREA 7

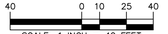


TURNING AREA 5



Tinton Falls Fire Truck
feet

Width	: 7.69
Track	: 9.00
Lock to Lock Time	: 6.0
Steering Angle	: 45.0



Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
EMERGENCY VEHICLE SITE CIRCULATION

Project No.	Drawing No.
100775501	CS702
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 9 of 50

PROJECT NO. 100775501

Sign Face Legend

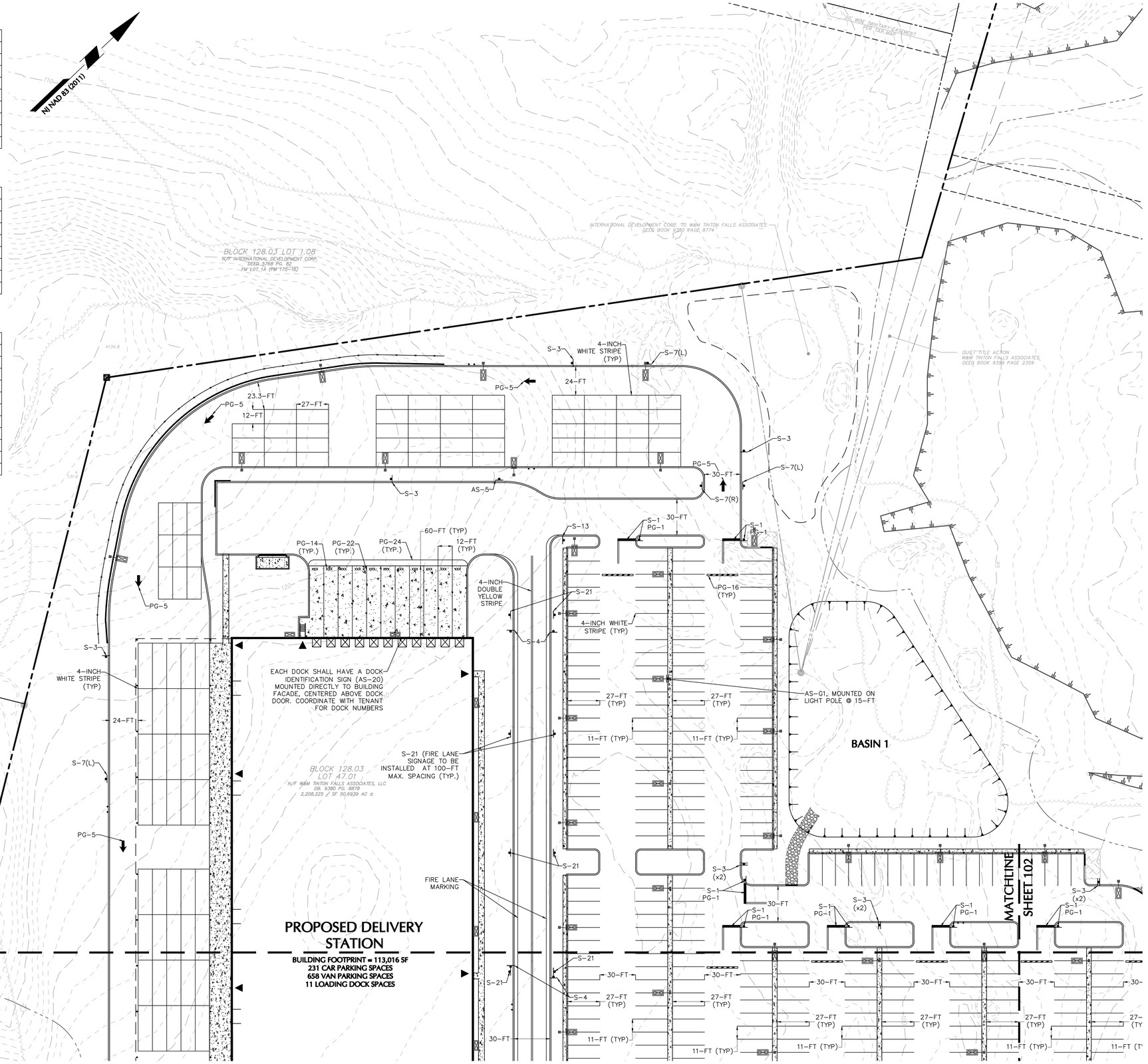
SYMBOL	SIGN TYPE
S-1	Stop Sign
S-2	Do Not Enter
S-3	Speed Limit, 5 MPH
S-4	Speed Limit, 10 MPH
S-7	One Way, Left Arrow (S-7 Opp.)
S-13	Trucks Prohibited
S-15	ADA Accessible Car Parking
S-16	ADA Accessible Van Parking
S-21	No Parking Fire Lane

Tenant Sign Face Legend

SYMBOL	SIGN TYPE
AS-5	Yard Rules
AS-16	Wayfinding
AS-20	Dock Numbers
AS-24	Visitor Parking
AS-25	Vendor Parking
AS-30	Non-Smoking Area
AS-31	Customer Parking
AS-G#	Parking Location

Pavement Graphic Legend

SYMBOL	GRAPHIC TYPE
PG-1	Stop Bar
PG-5	Straight Arrow
PG-6	Left Turn Arrow (PG-6R OPP.)
PG-8	Left or Right Turn Arrows
PG-10	18" Striping Outline and Fill at 45 Degrees
PG-14	Trailer Space Numbering
PG-16	Speed Bump
PG-17	ADA Accessible Car Parking
PG-18	ADA Accessible Van Parking
PG-22	Tractor Dock Parking
PG-24	Warning Line



NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL SIGNAGE, STRIPING, AND OTHER TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. ALL STRIPING SHALL BE LONG LIFE EPOXY RESIN AND 4 INCH WIDE UNLESS OTHERWISE NOTED ALL PAVEMENT GRAPHICS SHALL BE HOT-APPLIED THERMOPLASTIC (REFLECTIVE).
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6. ADDITIONAL SIGNAGE NOT SHOWN ON GRAPHICS PLAN MAY BE REQUIRED PER LOCAL CODE AND/OR AHJ. SUB-CONTRACTOR SHALL COORDINATE WITH LOCAL AHJ AND PROVIDE AS REQUIRED.
7. MOUNT SIGNAGE ACCORDING TO LOCAL CODES.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL STRIPING AND SIGNAGE PLAN 1

Project No.	Drawing No.
100775501	SS101
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 10 of 50

PROJECT NO. 100775501

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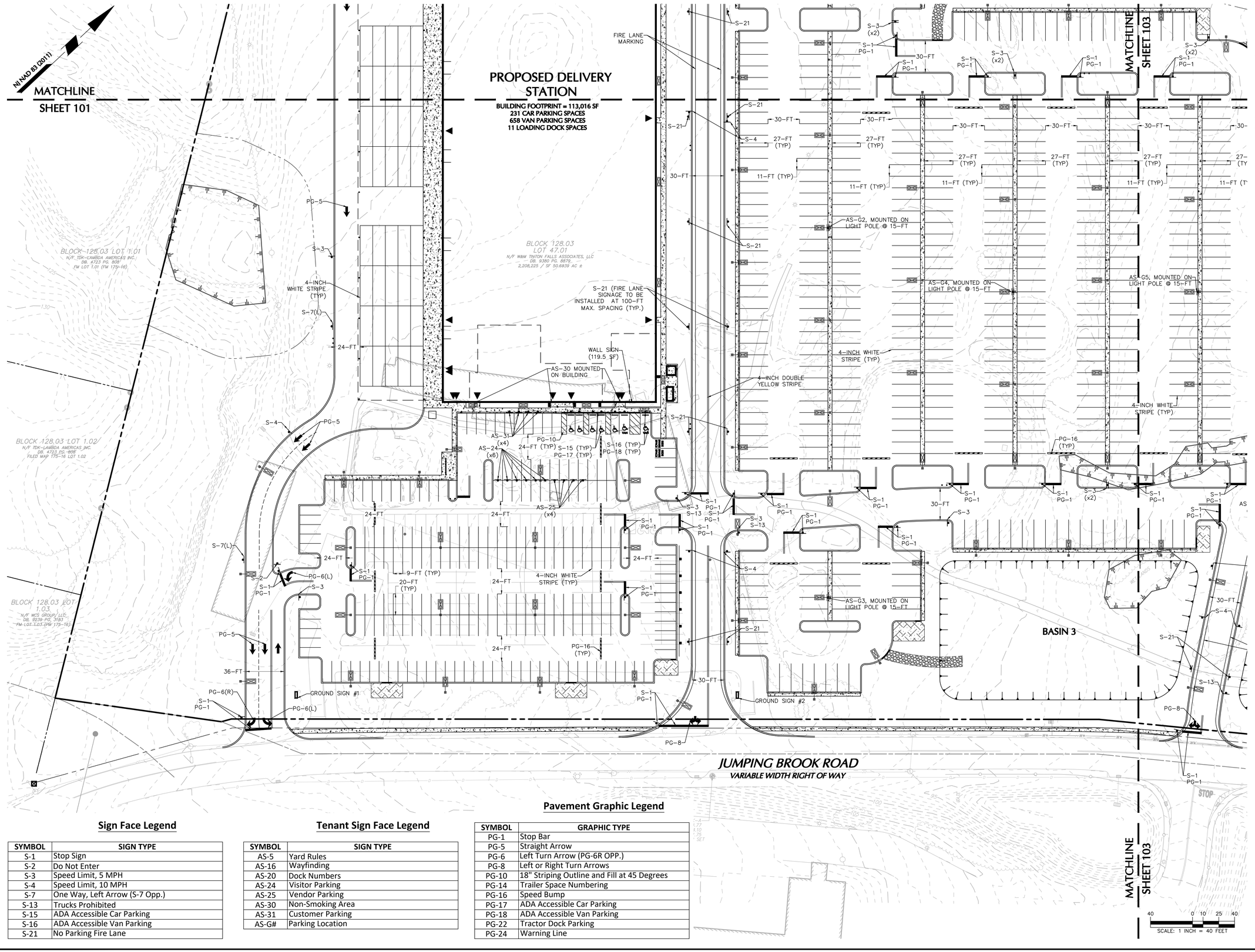

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7. MOUNT SIGNAGE ACCORDING TO LOCAL CODES.

Sign Face Legend

SYMBOL	SIGN TYPE
S-1	Stop Sign
S-2	Do Not Enter
S-3	Speed Limit, 5 MPH
S-4	Speed Limit, 10 MPH
S-7	One Way, Left Arrow (S-7 Opp.)
S-13	Trucks Prohibited
S-15	ADA Accessible Car Parking
S-16	ADA Accessible Van Parking
S-21	No Parking Fire Lane

Tenant Sign Face Legend

SYMBOL	SIGN TYPE
AS-5	Yard Rules
AS-16	Wayfinding
AS-20	Dock Numbers
AS-24	Visitor Parking
AS-25	Vendor Parking
AS-30	Non-Smoking Area
AS-31	Customer Parking
AS-G#	Parking Location

Pavement Graphic Legend

SYMBOL	GRAPHIC TYPE
PG-1	Stop Bar
PG-5	Straight Arrow
PG-6	Left Turn Arrow (PG-6R OPP.)
PG-8	Left or Right Turn Arrows
PG-10	18" Striping Outline and Fill at 45 Degrees
PG-14	Trailer Space Numbering
PG-16	Speed Bump
PG-17	ADA Accessible Car Parking
PG-18	ADA Accessible Van Parking
PG-22	Tractor Dock Parking
PG-24	Warning Line

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL STRIPING AND SIGNAGE PLAN 2

Project No.	Drawing No.
100775501	SS102
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 11 of 50

PROJECT NO. 100775501

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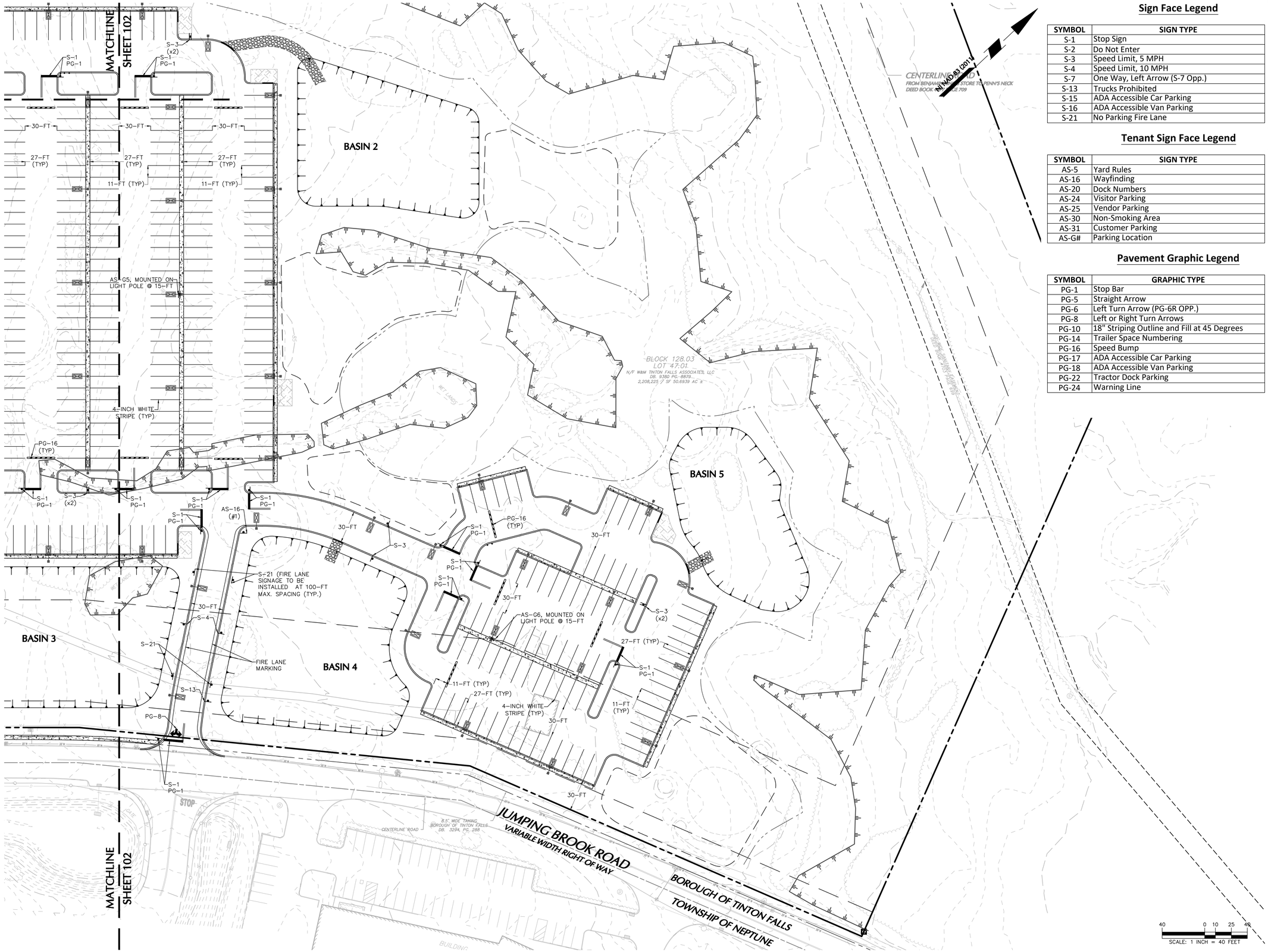

Sign Face Legend

SYMBOL	SIGN TYPE
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Tenant Sign Face Legend

SYMBOL	SIGN TYPE
AS-5	Yard Rules
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Pavement Graphic Legend

SYMBOL	GRAPHIC TYPE
PG-1	Stop Bar
PG-5	Straight Arrow
PG-6	Left Turn Arrow (PG-6R OPP.)
PG-8	Left or Right Turn Arrows
PG-10	18" Striping Outline and Fill at 45 Degrees
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PG-24	Warning Line

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Date	Description	No.
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9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL STRIPING AND SIGNAGE PLAN 3

Project No. 100775501	Drawing No. SS103
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 12 of 50

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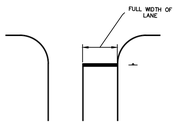
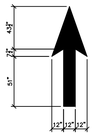
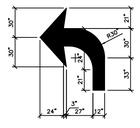
LANGAN
PROJECT NO. 100775501



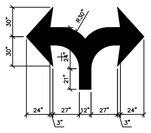
PG-1
STOP BAR
WIDTH OF LANE X 2'-0"
THERMAL-APPLIED WHITE STRIPE



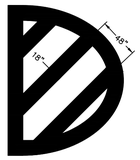
PG-5
3'-0" x 8'-6"
THERMAL-APPLIED
WHITE GRAPHIC



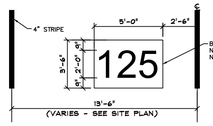
PG-6L (PG-6R OPP.)
8'-0" X 8'-0"
THERMAL-APPLIED WHITE
GRAPHIC



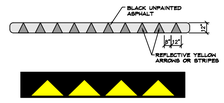
PG-8
10'-0" X 8'-0"
THERMAL-APPLIED WHITE
GRAPHIC



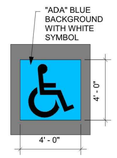
PG-10
18" STRIPING OUTLINE @ 48"
O.C. FILL @ 45°
THERMAL-APPLIED YELLOW
STRIPE



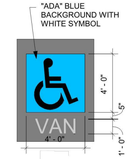
PG-14
TRAILER AND DOCK DOOR NUMBERING
5'-0" x 3'-6" (24" NUMBERS)



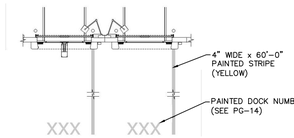
PG-16
12'-0" x 1'-0"
PAVEMENT GRAPHICS- SPEED BUMP.
USED TO CONTROL SPEED AT
INTERIOR DRIVE AISLES.
THERMAL APPLIED REFLECTIVE
YELLOW ARROWS.
REMOVABLE HEAVY DUTY RUBBER
SPEED BUMPS NOT ALLOWED.



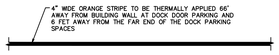
PG-17
ADA PARKING
4'-0" X 4'-0"
THERMAL-APPLIED WHITE
SYMBOL WITH BLUE
BACKGROUND



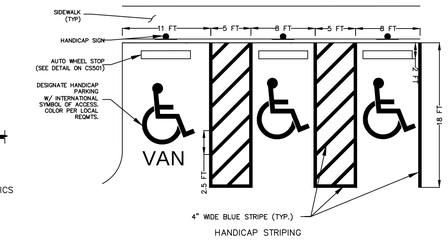
PG-18
ADA VAN PARKING
4'-0" X 5'-5 1/2"
THERMAL-APPLIED WHITE
SYMBOL WITH BLUE
BACKGROUND



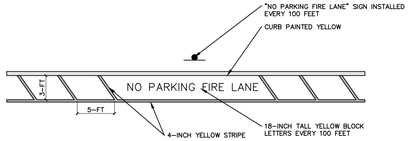
PG-22
LOADING DOCK STRIPING
12'-0" x 60'-0"
(4" YELLOW STRIPE)



PG-24
WARNING LINE
4" WIDE STRIPE ORANGE PANTONE 021C LINE AND GRAPHICS



HANDICAP STRIPING



FIRE LANE MARKINGS

NOTES:

1. TWO COAT APPLICATION REQUIRED FOR ALL PAVEMENT GRAPHICS.
2. FIRE LANE MARKINGS AND SIGNAGE SHALL BE LOCATED AS DEPICTED ON THE SITE PLAN AND APPROVED BY FIRE OFFICIAL.

PAVEMENT GRAPHICS

S-1
30" x 30"
MUTCD: R1-1

S-2
30" x 30"
MUTCD: R5-1

S-3
30" x 36"
MUTCD: R2-1

S-4
30" x 36"
MUTCD: R2-1

S-7
36" x 18"
MUTCD: R6-1

S-13
24" x 24"
MUTCD: R14-5

S-15
12" x 18"
MUTCD: R7-8

S-16
12" x 18"
MUTCD: R7-8p

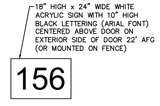
ADA PENALTY SIGN
10" x 8"

S-21
12" x 18"

SITE SIGNAGE

AS-5
48" x 60"
DOUBLE (U-2) POST
COUNT = 1

AS-16 (#1)
48" x 50"
WAYFINDING
DOUBLE (U-2) POST
COUNT = 1



AS-20
24" x 18"
DOCK NUMBERS

AS-24
12" x 18"
COUNT = 6

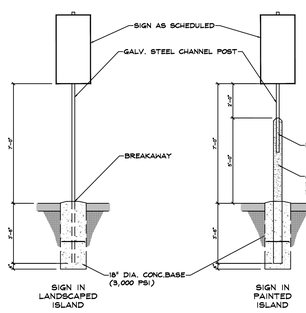
AS-25
12" x 18"
COUNT = 4

AS-30
12" x 18"

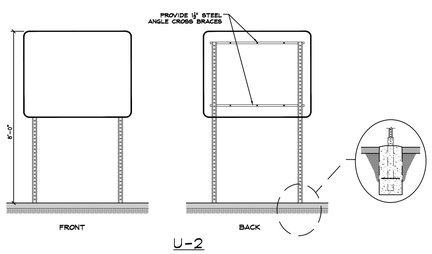
AS-31
12" x 18"
COUNT = 4

AS-G#
24" x 24"
COUNT = 6

TENANT SPECIFIC SIGNAGE

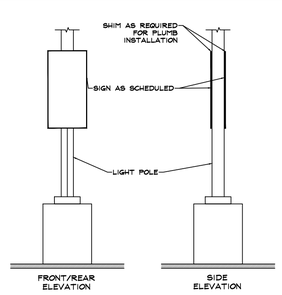


U-1e U-1c



U-2

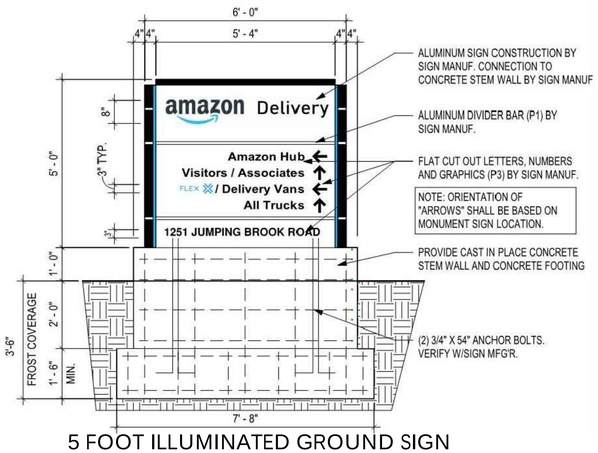
SIGN POSTS



LIGHT POLE SIGNS

NOTES:

1. SEE ATTACHED PLANS FOR SIGN LOCATIONS.
2. "U1-E" LABEL DESIGNATES SIGNS ON TOP OF COMPACTED EARTH. "U1-C" LABEL DESIGNATES SIGNS ON TOP OF CONCRETE OR ASPHALTIC PAVING. "U-2" LABEL DESIGNATES SIGNS WITH DOUBLE SUPPORTS.
3. FOR U-1E SIGNS, PROVIDE A 36" MOUNTING TUBE (2 1/4" SQUARE STEEL POST) DRIVEN TO 1" TO 2" ABOVE GRADE. THE MOUNTING TUBE IS TO BE PAIRED WITH AN 18" BREAKAWAY SUPPORT TUBE (2 1/4" SQUARE STEEL POST). THE SIGN POST SINKS TO BASE OF THE ANCHOR TUBE AND BREAKAWAY SUPPORT WITH AN ANGLE BOLT.
4. FOR U-1C SIGNS, A PEDESTAL BASE IS TO BE MARRIED TO A 2" POST. THE BASE IS SHIMMED FOR PLUMB INSTALLATION OF THE POST AND PANEL. BASE FASTENS TO CONCRETE PAVING WITH MASONRY ANCHORS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
5. U-1E AND U-1C SIGN PANELS IS TO BE INSTALLED AT 7' A.F.G. WITH THE POST EXTENDING WITHIN 2" OF THE TOP OF THE SIGN PANEL. TOP OF THE U-2 SIGN PANEL SHALL BE AT 8' A.F.G. INSTALLATION SHALL BE PLUMB, LEVEL, AND STRAIGHT.
6. SUPPORTS ARE TO BE SUFFICIENT FOR SECURE MOUNTING OF SIGN ON LIGHT POLE.
7. ALL HARDWARE SHALL BE NON-CORROSIVE. IF ADDITIONAL THICKNESS OF MATERIAL OR ADDITIONAL INTERNAL BRACING IS REQUIRED FOR SECURE INSTALLATION OR TO PROVIDE STABILITY ON LIGHT POLE, ALTERATIONS SHALL BE REFLECTED IN SHOP DRAWINGS. WIND LOADING AND DURABILITY SHALL BE TAKEN INTO ACCOUNT IN THE ENGINEERING OF THE SIGN.
8. GRAPHICS AND TYPOGRAPHY SIGN GRAPHICS ARE TO BE HEAVY DUTY '3M' REFLECTIVE VINYL FOR SIGNS ON LIGHT POLE.



5 FOOT ILLUMINATED GROUND SIGN

FACING EAST

FACING EAST

FACING WEST
GROUND SIGN 1

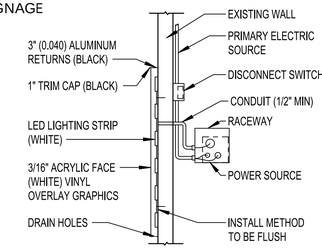
FACING WEST
GROUND SIGN 2

MAIN BUILDING SIGNAGE

CUSTOMER HUB SIGNAGE

SIGN SPECIFICATIONS:

1. ILLUMINTED CHANNEL LETTER SIGN
   A. ALUMINUM BACK
   B. 3" BLACK RETURNS
   C. ILLUMINTED BY WHITE LED
   D. WALL MOUNTED
2. COLORS:
   A. LETTERS: 3/16" WHITE PLASTIC FACE WITH PERFORATED BLACK VINYL.
   B. LOGO: 3/16" WHITE PLASTIC FACE WITH TRANSLUCENT VINYL - MATCH PMS #2995C



BUILDING / WALL SIGNAGE

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
STRIPING AND SIGNAGE DETAILS

Project No.	Drawing No.
100775501	SS501
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 13 of 50

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PROJECT NO. 100775501

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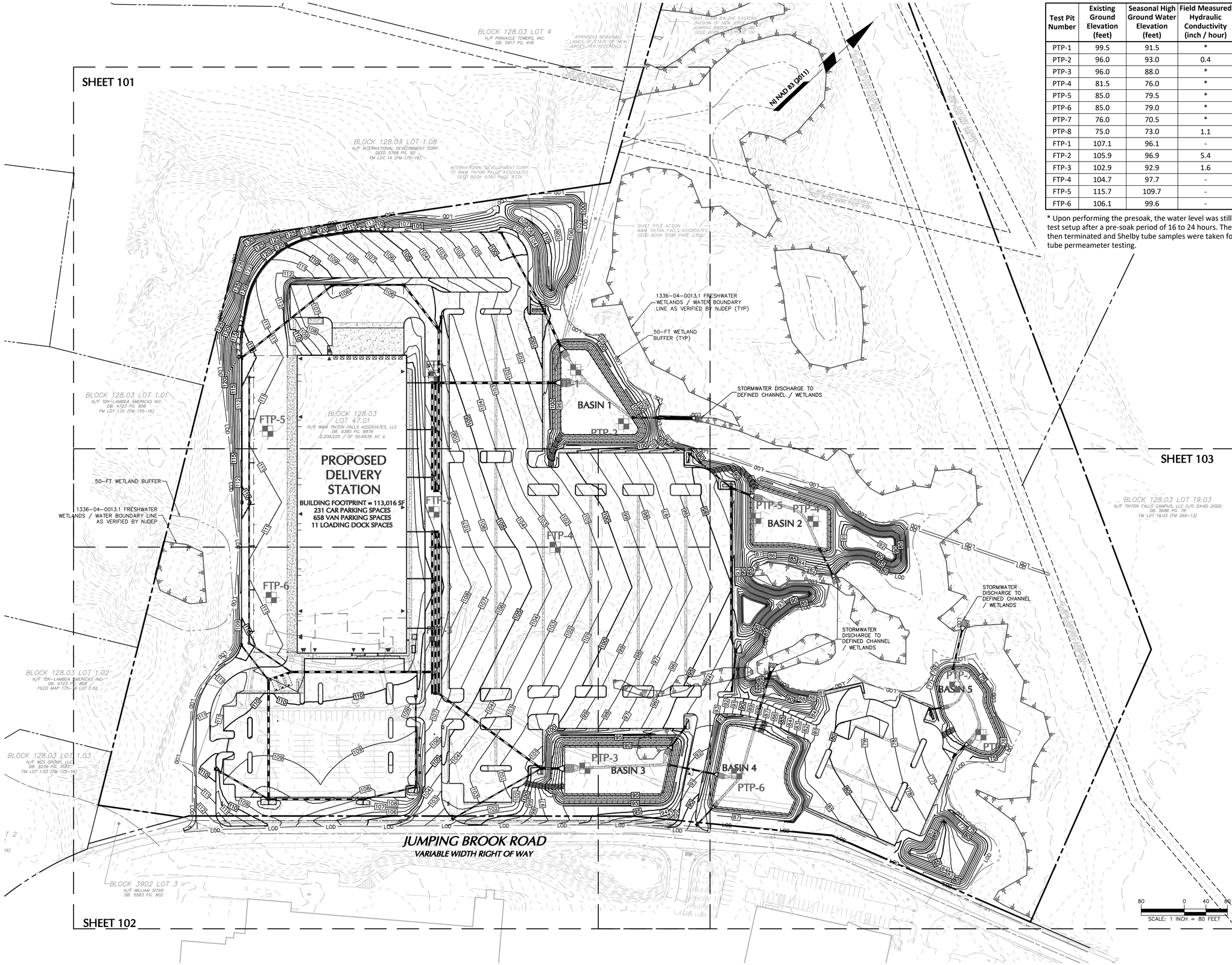

Test Pit Number	Existing Ground Elevation (feet)	Seasonal High Ground Water Elevation (feet)	Field Measured Hydraulic Conductivity (inch / hour)	Laboratory Hydraulic Conductivity (inch / hour)
PTP-1	99.5	91.5	*	0.1
PTP-2	96.0	93.0	0.4	0.0
PTP-3	96.0	88.0	*	1.8
PTP-4	81.5	76.0	*	1.4
PTP-5	85.0	79.5	*	0.4
PTP-6	85.0	79.0	*	0.1
PTP-7	76.0	70.5	*	1.6
PTP-8	75.0	73.0	1.1	0.2
FTP-1	107.1	96.1	-	8.8
FTP-2	105.9	96.9	5.4	0.5
FTP-3	102.9	92.9	1.6	0.9
FTP-4	104.7	97.7	-	0.0
FTP-5	115.7	109.7	-	7.2
FTP-6	106.1	99.6	-	0.0

* Upon performing the presoak, the water level was still present in the test setup after a pre-soak period of 16 to 24 hours. The tests were then terminated and Shelby tube samples were taken for laboratory tube permeameter testing.

NOTES:
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4. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
5. CONTRACTOR TO CONFIRM ALL STRUCTURE INVERTS AND NOTIFY ENGINEER OF ANY INCONSISTENCIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO BEGIN PIPE NETWORK CONSTRUCTION AT TIE-IN LOCATION (DOWNSTREAM) AND BUILD UPSTREAM.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT ROOF LEADER CONNECTION LOCATIONS. WHERE CONFLICTS EXIST BETWEEN THESE PLANS AND ARCHITECTURAL PLANS, CONTRACTOR TO NOTIFY THE ENGINEER BEFORE CONSTRUCTION.
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12. ALL AREAS SHALL BE WELL GRADED TO MINIMIZE FLAT AREAS, TO PROVIDE PROPER DRAINAGE, AND TO PREVENT LOCALIZED PONDING.
13. ALL SLOPES SHALL BE EQUAL TO OR LESS THAN 3:1. WHERE SLOPES ARE GREATER THAN 3H:1V, EROSION CONTROL MATTING SHALL BE USED.
14. ALL STORMWATER MANAGEMENT FEATURES ON THE PROPERTY SHALL BE INSPECTED AND CLEANED/REPAIRED UNDER THE SUPERVISION OF THE TOWNSHIP ENGINEER AT THE TIME OF CONSTRUCTION.
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16. THE SIZES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
17. ALL REINFORCED CONCRETE PIPES SHALL HAVE RUBBER O-RING GASKETS.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL GRADING AND DRAINAGE PLAN

Project No.	Drawing No.
100775501	CG100
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 14 of 50

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PROJECT NO. 100775501

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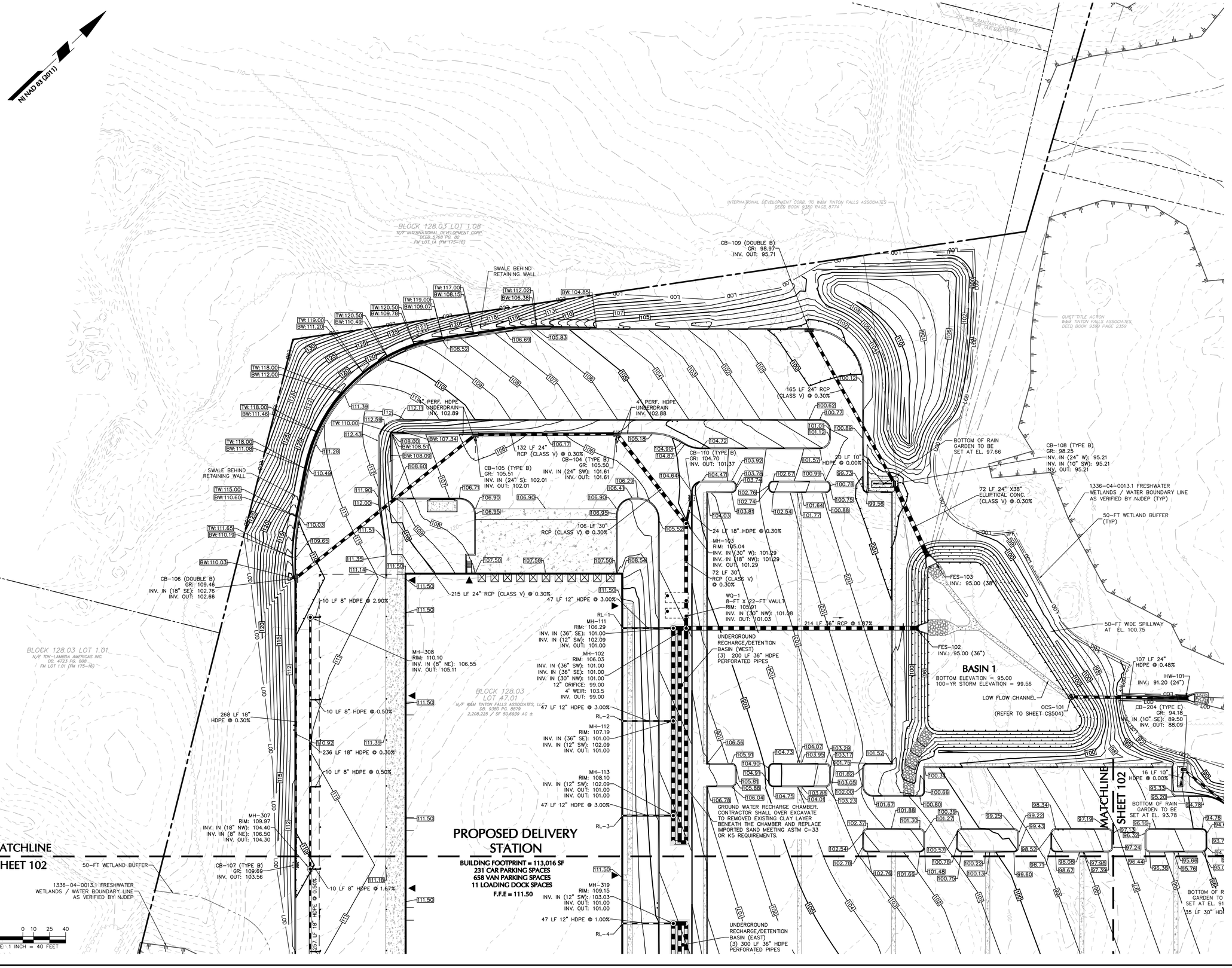
Date: 1/6/2021 Time: 21:27 User: ryemerou Style Table: Langan.stb Layout: CG100 Document Code: 100775501-0102-CG001-0101



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Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL GRADING AND DRAINAGE PLAN 1

Project No.	100775501
Date	06/25/2020
Drawn By	RY
Checked By	RB

Drawing No. CG101

Sheet 15 of 50

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PROJECT NO. 100775501

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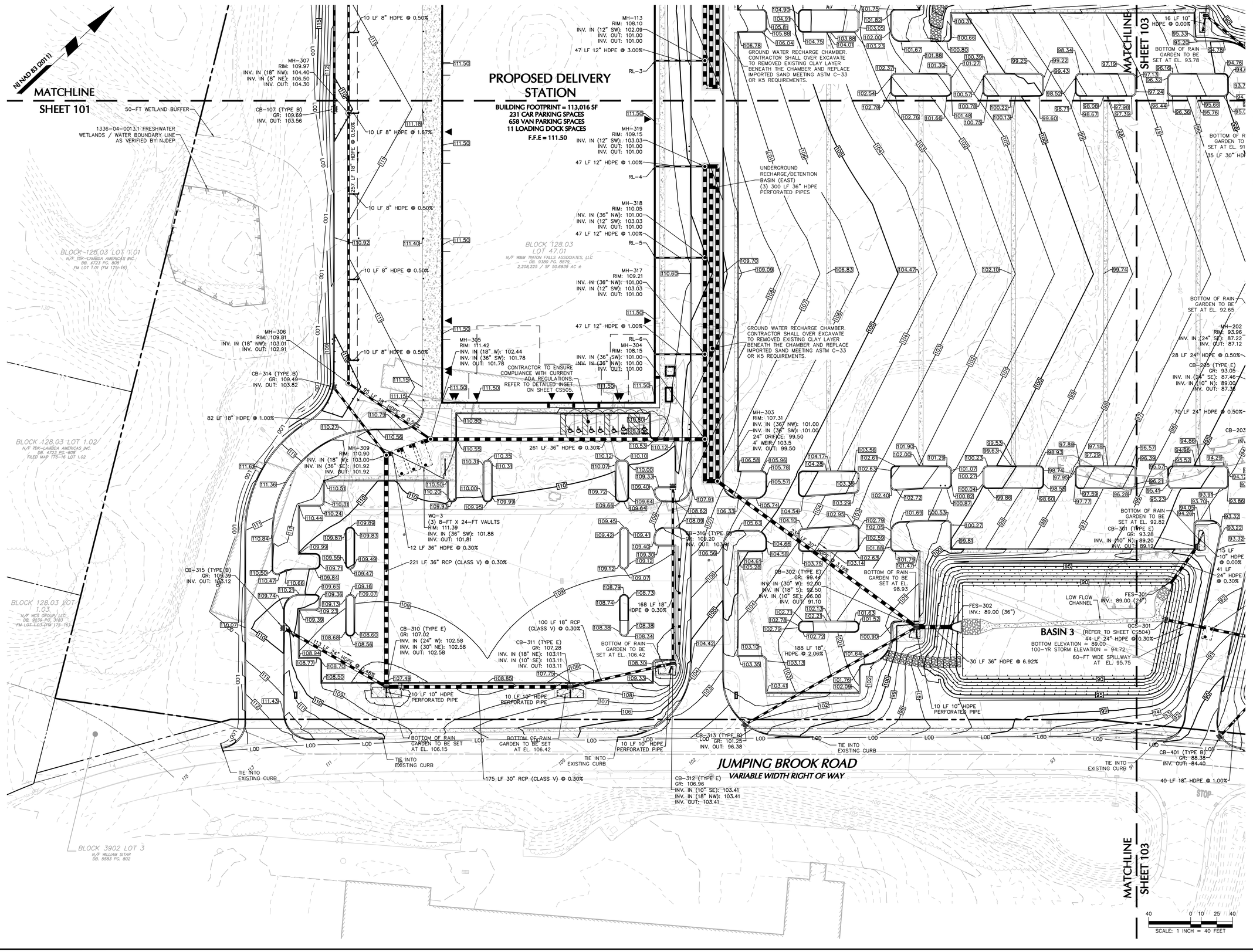

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Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
10/16/20	PER NJDEP COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL GRADING AND DRAINAGE PLAN 2

Project No.	100775501
Date	06/25/2020
Drawn By	RY
Checked By	RB

Drawing No. CG102

Sheet 16 of 50

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PROJECT NO. 100775501

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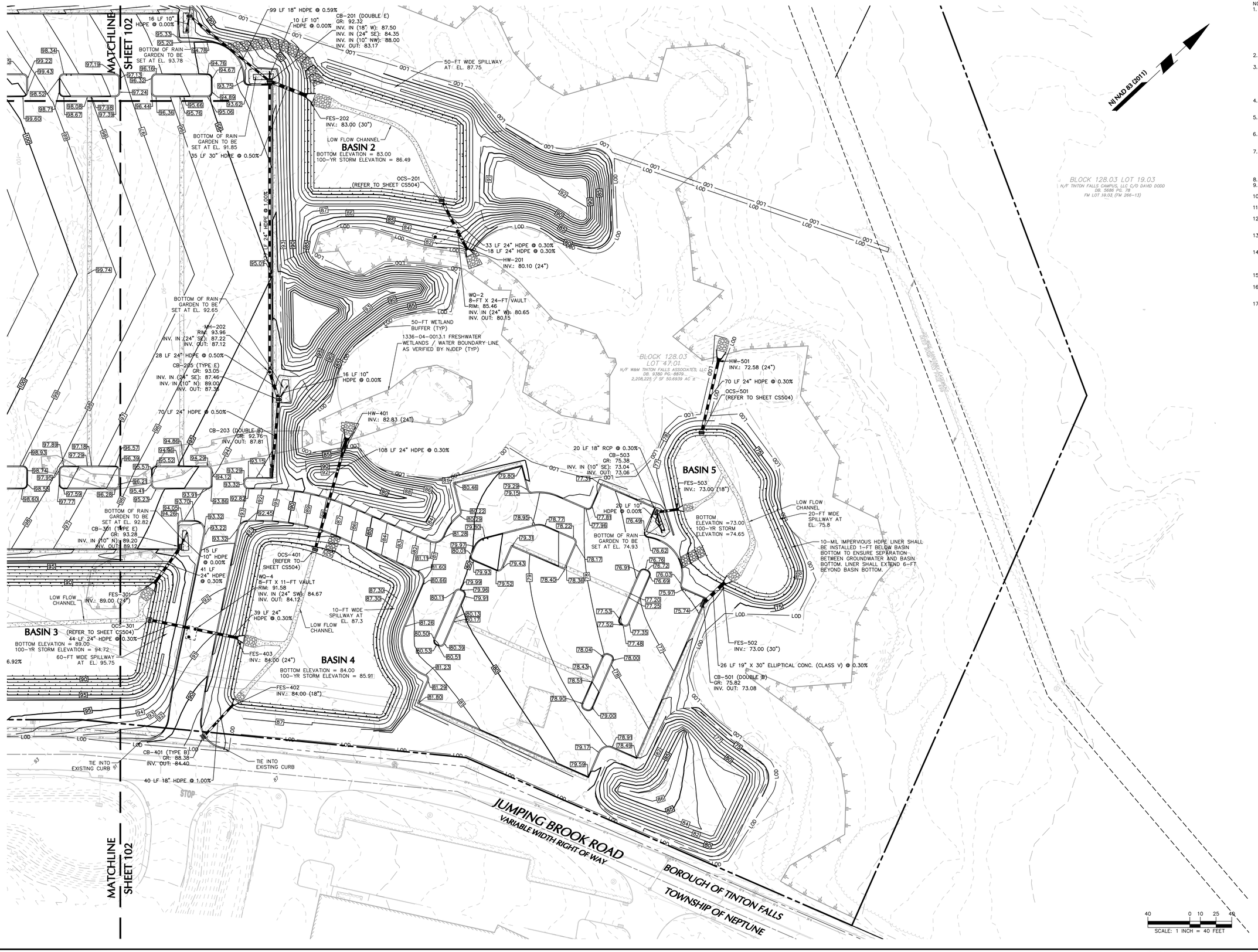

NOTES:

1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE FILL MATERIAL, PLACEMENT OF FILL, COMPACTION REQUIREMENTS AND THE COMPACTION TESTING REQUIREMENTS ARE DEFINED IN THE GEOTECHNICAL REPORT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.
5. CONTRACTOR TO CONFIRM ALL STRUCTURE INVERTS AND NOTIFY ENGINEER OF ANY INCONSISTENCIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR TO BEGIN PIPE NETWORK CONSTRUCTION AT TIE-IN LOCATION (DOWNSTREAM) AND BUILD UPSTREAM.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT ROOF LEADER CONNECTION LOCATIONS. WHERE CONFLICTS EXIST BETWEEN THESE PLANS AND ARCHITECTURAL PLANS, CONTRACTOR TO NOTIFY THE ENGINEER BEFORE CONSTRUCTION.
8. ALL PIPES SHALL BE HDPE UNLESS OTHERWISE NOTED.
9. ALL INLETS SHALL BE TYPE B OR TYPE E UNLESS OTHERWISE NOTED.
10. PROPOSED PIPE CONNECTIONS TO STRUCTURES ARE TO BE EQUIPPED WITH WATER-TIGHT JOINTS.
11. SPOT GRADES REPRESENT PAVEMENT GRADES OR BOTTOM OF CURB UNLESS OTHERWISE NOTED.
12. ALL AREAS SHALL BE WELL GRADED TO MINIMIZE FLAT AREAS, TO PROVIDE PROPER DRAINAGE, AND TO PREVENT LOCALIZED PONDING.
13. ALL SLOPES SHALL BE EQUAL TO OR LESS THAN 3:1. WHERE SLOPES ARE GREATER THAN 3H:1V, EROSION CONTROL MATTING SHALL BE USED.
14. ALL STORMWATER MANAGEMENT FEATURES ON THE PROPERTY SHALL BE INSPECTED AND CLEANED/REPAIRED UNDER THE SUPERVISION OF THE TOWNSHIP ENGINEER AT THE TIME OF CONSTRUCTION.
15. ALL STORMWATER INLETS ON THE PROPERTY AND ALONG ITS FRONTAGES SHALL BE EQUIPPED "N-ECO" GRATES.
16. THE SIZES OF THE PROPOSED BERMS ARE SCHEMATICALLY SHOWN AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS.
17. ALL REINFORCED CONCRETE PIPES SHALL HAVE RUBBER O-RING GASKETS.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
10/16/20	PER NJDEP COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL GRADING AND DRAINAGE PLAN 3

Project No. 100775501	Drawing No. CG103
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 17 of 50

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PROJECT NO. 100775501

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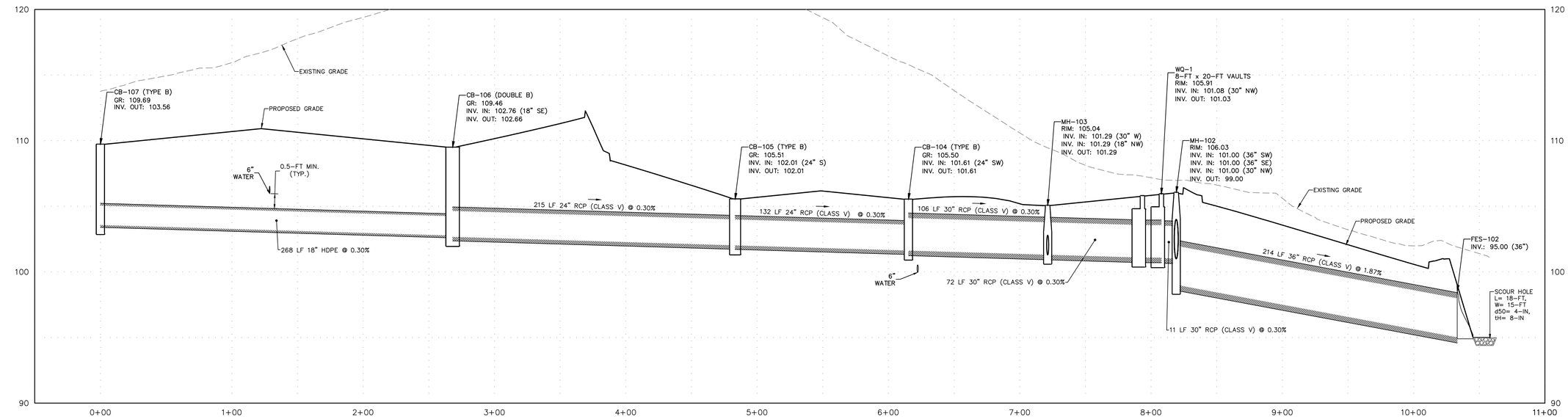
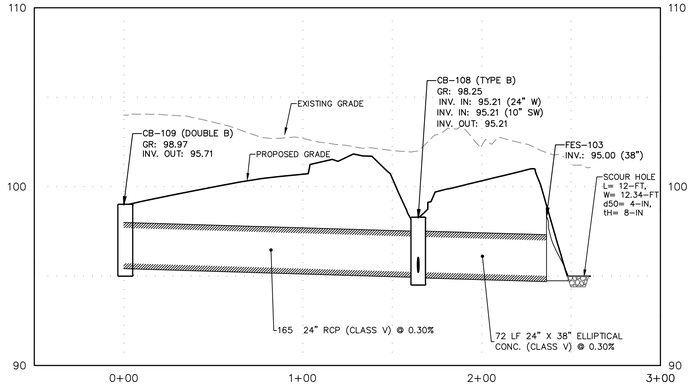


CB-107 TO FES-102 PROFILE



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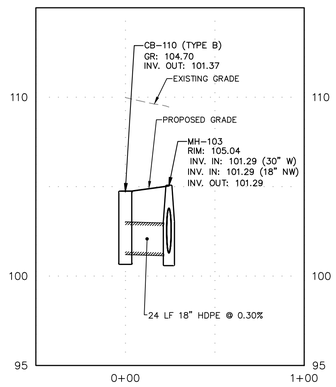
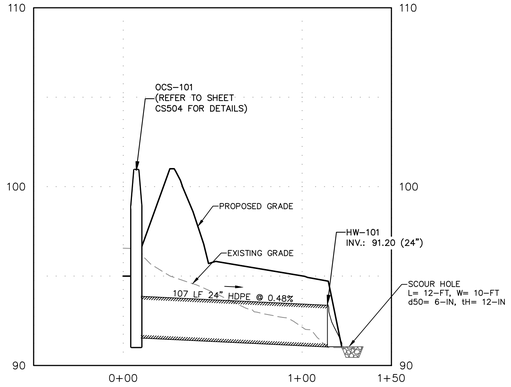
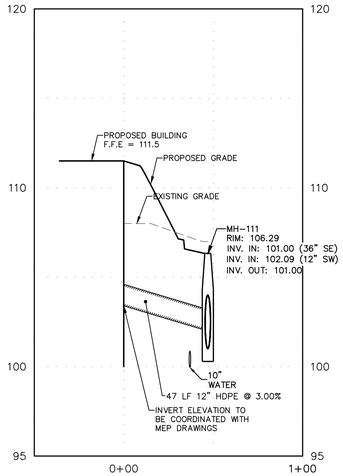


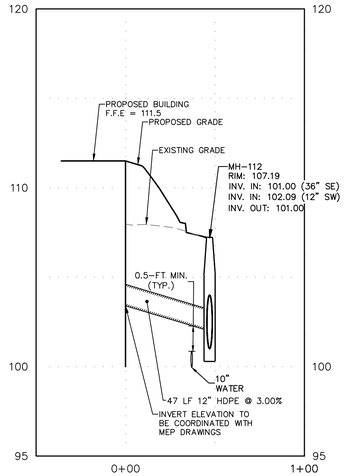
CB-110 TO CB-108 PROFILE



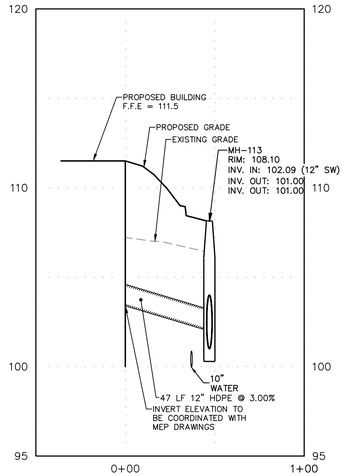
OCS-101 TO HW-101 PROFILE



BLDG TO MH-111 PROFILE



BLDG TO MH-112 PROFILE



BLDG TO MH-113 PROFILE

NOTES:
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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. CONTRACTOR TO CONFIRM ALL STRUCTURE INVERTS AND NOTIFY ENGINEER OF ANY INCONSISTENCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO BEGIN PIPE NETWORK CONSTRUCTION AT TIE-IN LOCATION (DOWNSTREAM) AND BUILD UPSTREAM.
5. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT ROOF LEADER CONNECTION LOCATIONS. WHERE CONFLICTS EXIST BETWEEN THESE PLANS AND ARCHITECTURAL PLANS, CONTRACTOR TO NOTIFY THE ENGINEER BEFORE CONSTRUCTION.
6. ALL PIPES SHALL BE HDPE UNLESS OTHERWISE NOTED.
7. ALL INLETS SHALL BE TYPE B OR TYPE E UNLESS OTHERWISE NOTED.
8. PROPOSED PIPE CONNECTIONS TO STRUCTURES ARE TO BE EQUIPPED WITH WATER-TIGHT JOINTS.
9. ALL STORMWATER INLETS ON THE PROPERTY AND ALONG ITS FRONTAGES SHALL BE EQUIPPED "N-ECO" GRATES.

SCALE: 1 INCH = 4 FEET
VERTICAL SCALE

SCALE: 1 INCH = 40 FEET
HORIZONTAL SCALE

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

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SIGNATURE DATE SIGNED
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PROFESSIONAL ENGINEER
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
STORM SEWER PROFILES 1

Project No.	Drawing No.
100775501	CG201
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 18 of 50

PROJECT NO. 100775501

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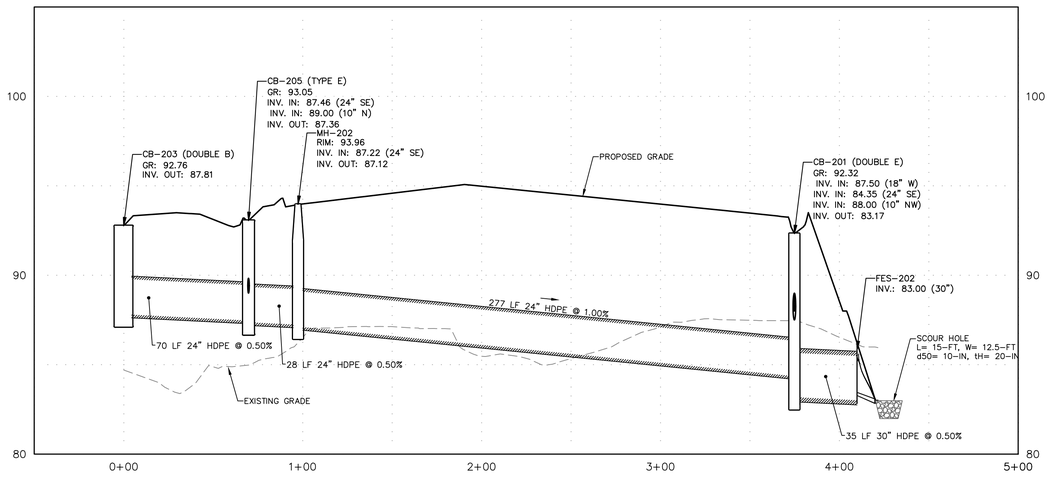
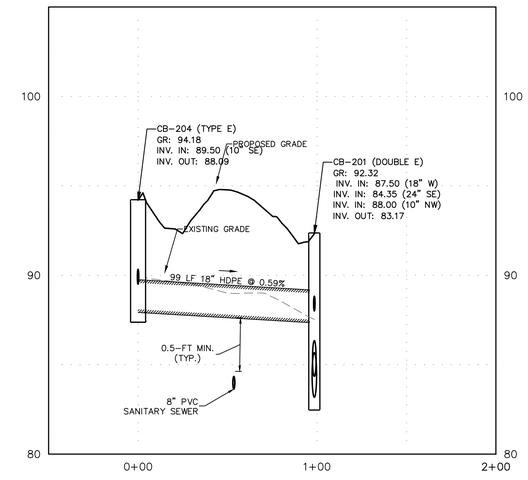
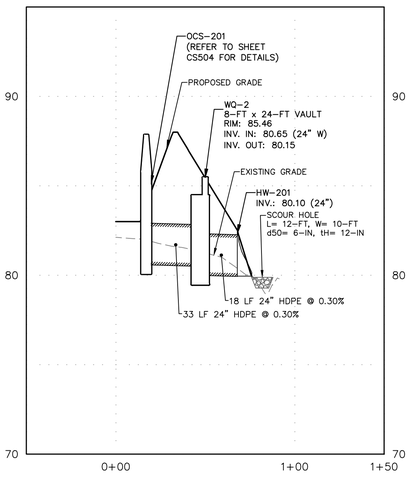


CB-203 TO FES-202 PROFILE



CB-204 TO CB-201 PROFILE



OCS-201 TO HW-201 PROFILE

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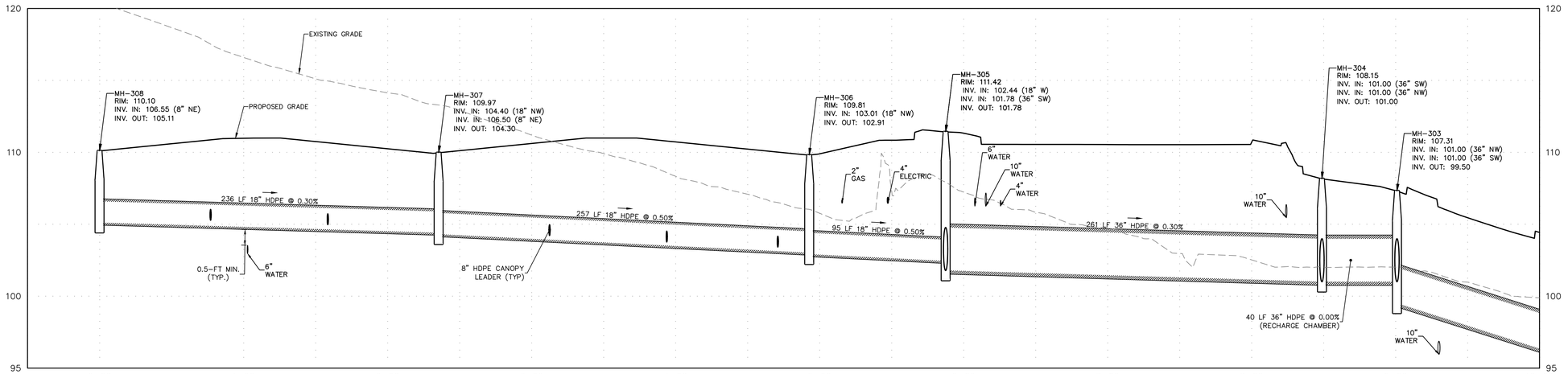
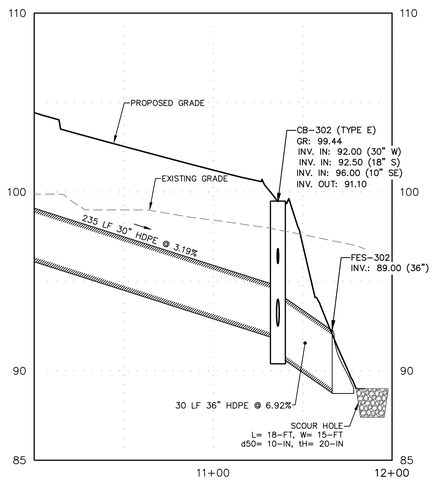
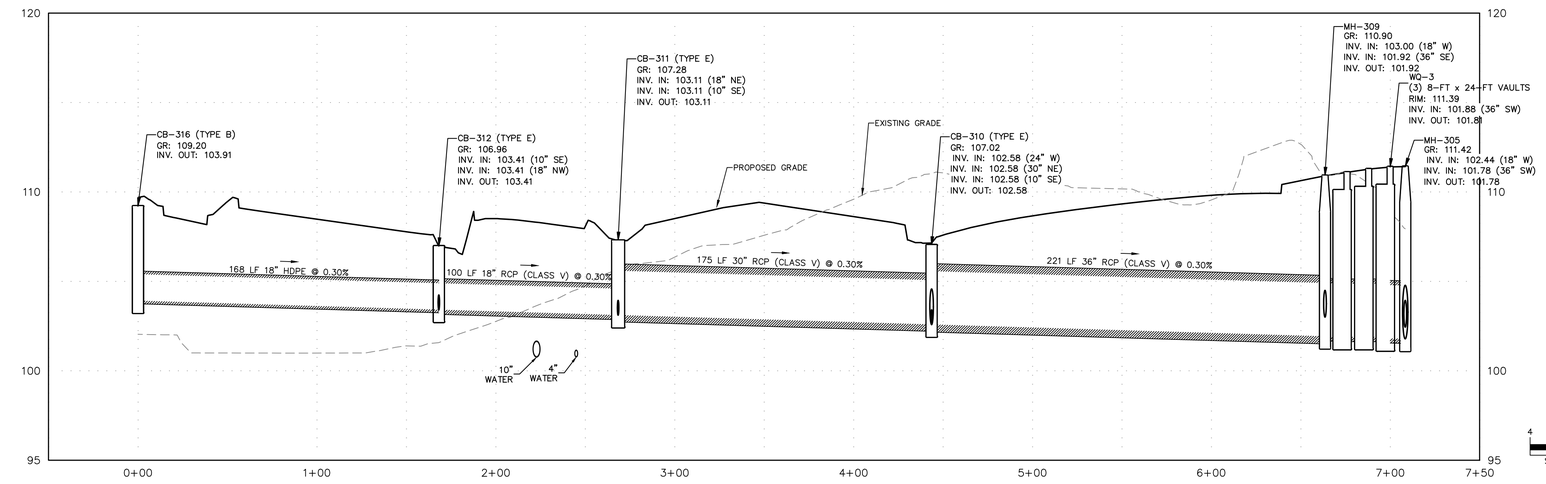


MH-308 TO MH-303 PROFILE



MH-303 TO FES-302 PROFILE



CB-312 TO MH-305 PROFILE

SCALE: 1 INCH = 4 FEET
VERTICAL SCALE

SCALE: 1 INCH = 40 FEET
HORIZONTAL SCALE

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE — DATE SIGNED

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PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY — **NEW JERSEY**

Drawing Title
STORM SEWER PROFILES 2

Project No.	Drawing No.
100775501	CG202
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 19 of 50

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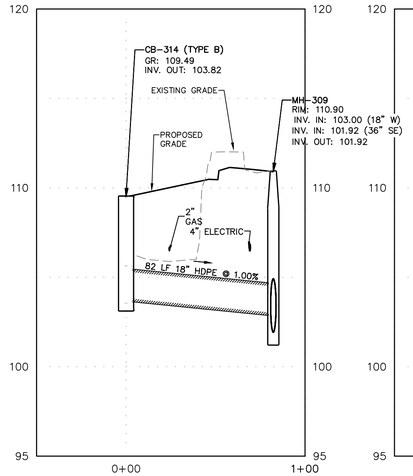
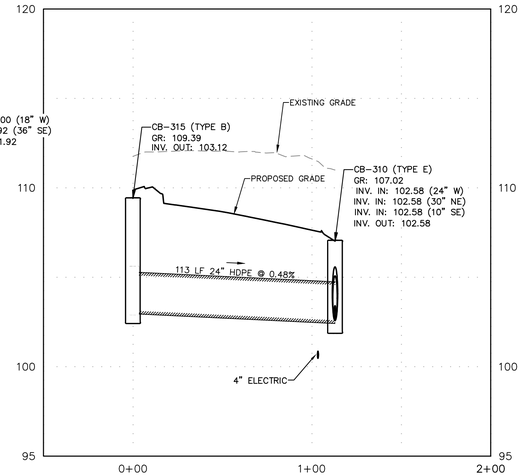
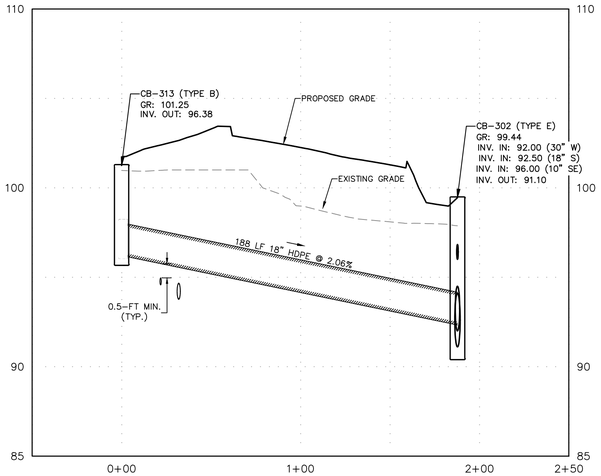
LANGAN
PROJECT NO. 100775501



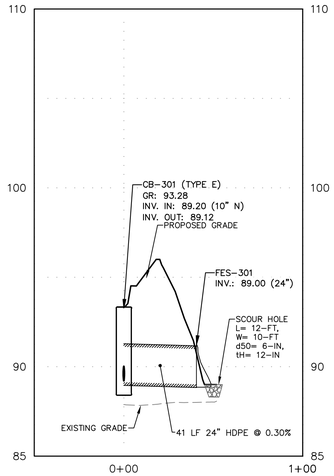
CB-314 TO MH-309 PROFILE



CB-315 TO CB-310 PROFILE



CB-313 TO CB-302 PROFILE



CB-301 TO FES-301 PROFILE

NOTES:
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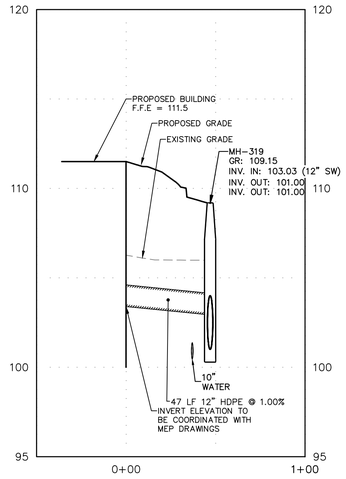
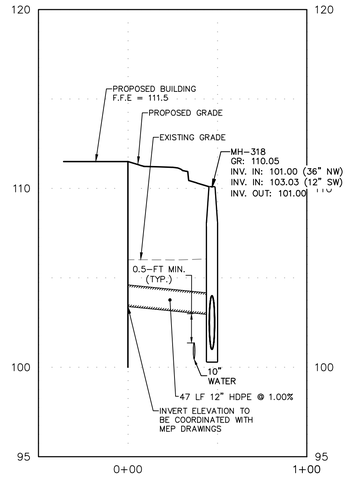
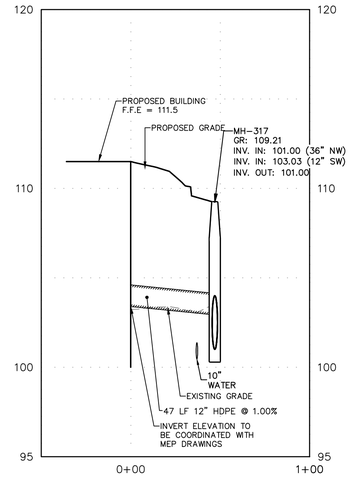


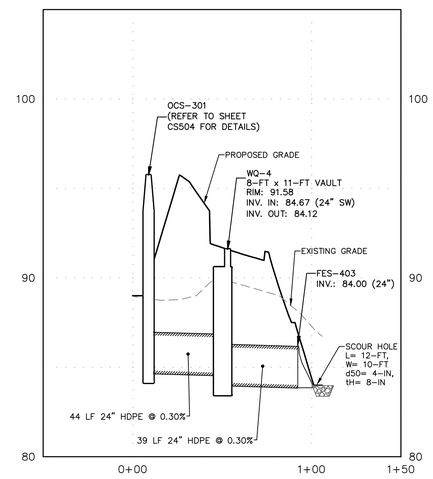
BLDG TO MH-319 PROFILE



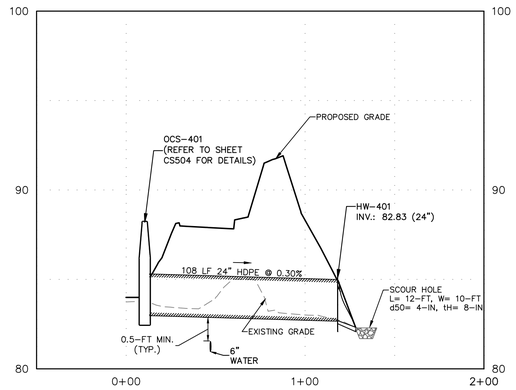
BLDG TO MH-318 PROFILE



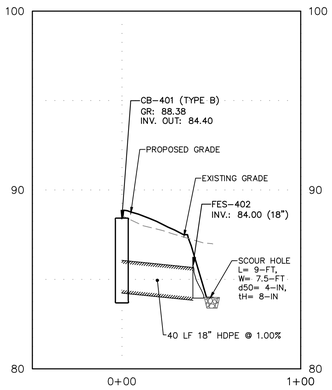
BLDG TO MH-317 PROFILE



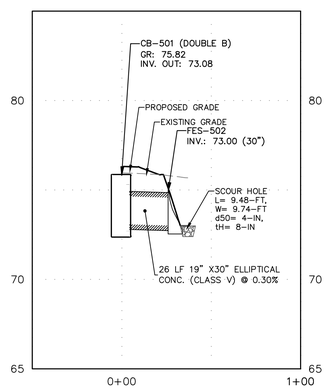
OCS-301 TO FES-403 PROFILE



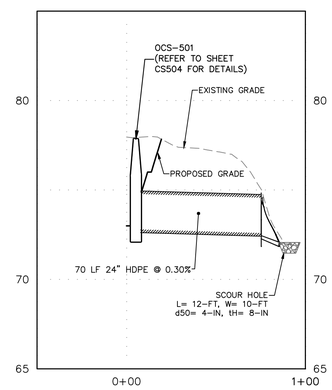
OCS-401 TO HW-401 PROFILE



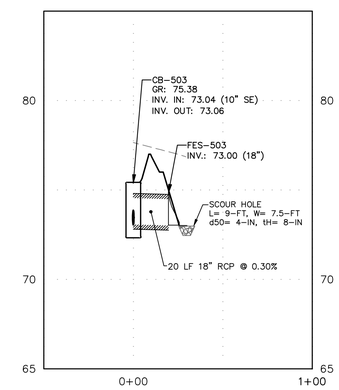
CB-401 TO FES-402 PROFILE



CB-501 TO FES-502 PROFILE



OCS-501 TO HW-501 PROFILE



CB-503 TO FES-503 PROFILE

SCALE: 1 INCH = 4 FEET
VERTICAL SCALE

SCALE: 1 INCH = 40 FEET
HORIZONTAL SCALE

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
10/16/20	PER NJDEP COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
STORM SEWER PROFILES 3

Project No.	Drawing No.
100775501	CG203
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 20 of 50

PROJECT NO. 100775501

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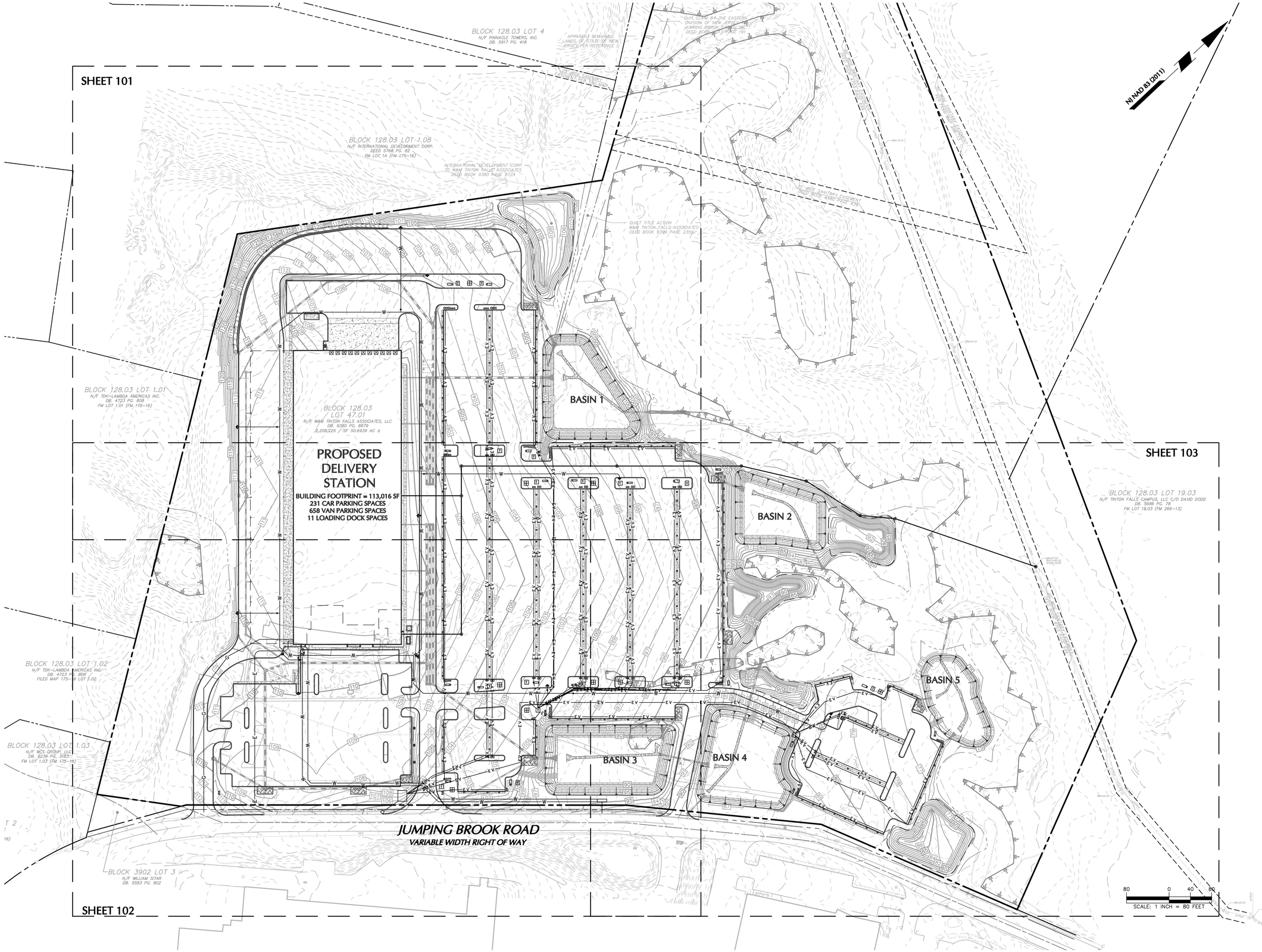

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4. CONTRACTOR TO BEGIN PIPE NETWORK CONSTRUCTION AT TIE-IN LOCATION AND BUILD UPSTREAM.
5. GAS, ELECTRIC, AND TELECOM SERVICE NETWORKS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER, ARCHITECT, AND MEP ENGINEER TO DETERMINE ACTUAL LOCATION AND SERVICE SIZE. CONCRETE ENCASEMENT SHALL BE PROVIDED, AS REQUIRED, IN ACCORDANCE WITH THE UTILITY CROSSING DETAILS.
6. THERE SHALL BE A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES BETWEEN SANITARY SEWERS AND WATER LINES, UNLESS OTHERWISE SPECIFIED. IN AREAS WHERE THIS VERTICAL SEPARATION DISTANCE IS NOT FEASIBLE, SANITARY SEWER SHALL BE CONCRETE ENCASED. ENCASEMENT SHALL EXTEND A MINIMUM OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, THERE SHALL BE A MINIMUM HORIZONTAL SEPARATION DISTANCE OF 10 FEET BETWEEN SANITARY SEWERS AND WATER LINES.
7. ALL WATER LINES SHALL HAVE A MINIMUM 4-FT COVER.
8. ALL SANITARY LATERAL CLEANOUTS AND MANHOLES SHALL BE HEAVY DUTY AND TRAFFIC RATED.
9. ALL SANITARY SEWER LATERALS SHALL BE PVC (SDR 35) UNLESS OTHERWISE SPECIFIED.
10. WHERE APPLICABLE, HYDRANTS SHALL BE INSTALLED A MINIMUM OF 2.5 FEET FROM FROM BACK OF CURB.
11. ALL WATER LINES SHALL BE C900 UNLESS OTHERWISE SPECIFIED.
12. PRIVATE FIRE MAINS SHALL CONFORM TO NFPA24. CONCRETE ENCASEMENT SHALL BE PROVIDED, AS REQUIRED, IN ACCORDANCE WITH THE UTILITY CROSSING DETAILS.
13. ALL WATER LINES SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITY'S REQUIREMENTS.
14. FINAL FIRE DESIGN WILL BE BASED ON FIRE PROTECTION DRAWINGS.
15. CONTRACTOR SHALL COORDINATE GAS SERVICE WITH THE GOVERNING AUTHORITY.
16. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021

SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Parsippany, NJ 07054
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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

1251 JUMPING BROOK ROAD

BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47

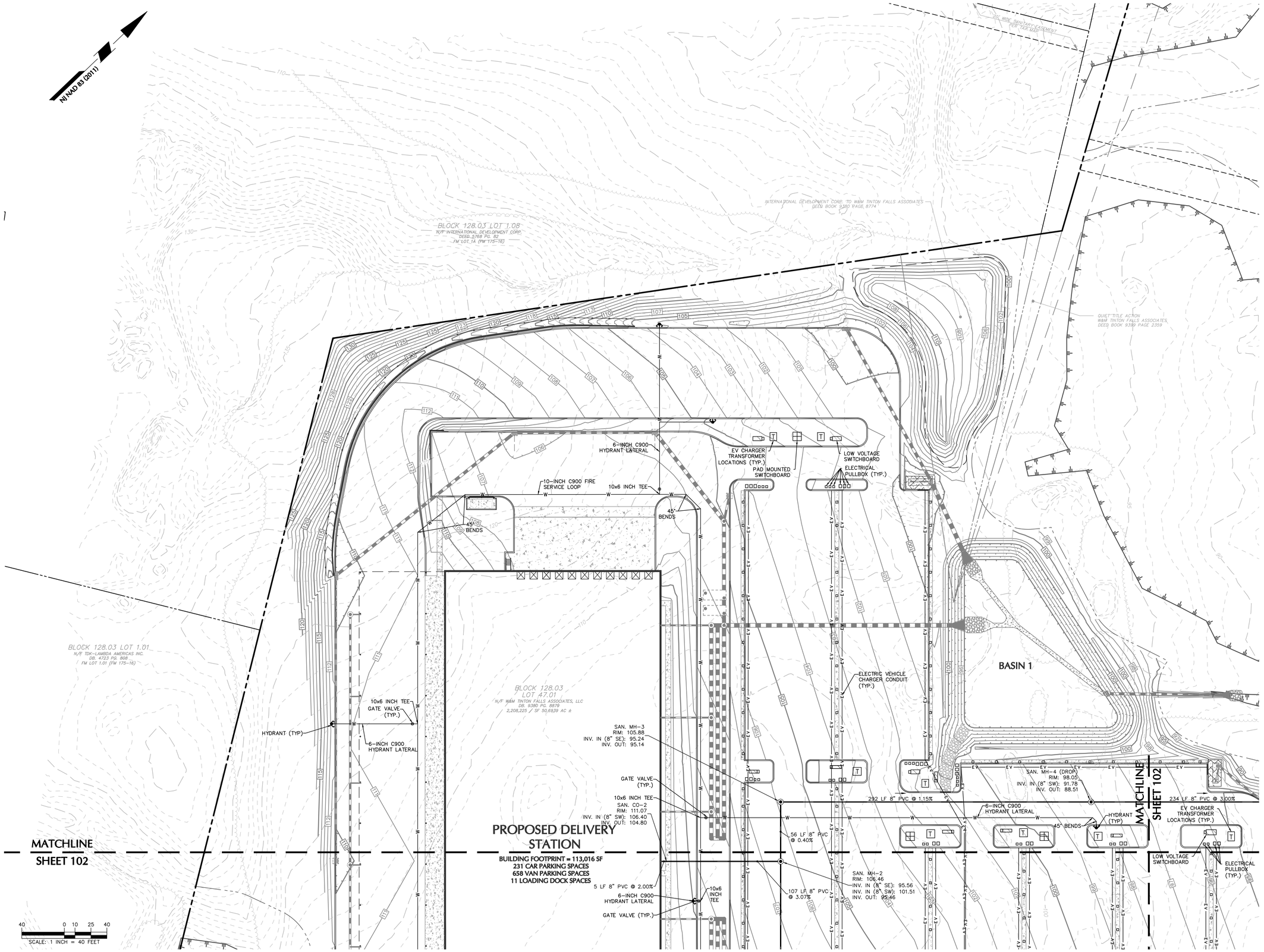
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title

OVERALL UTILITY PLAN

Project No. 100775501	Drawing No. CU100
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 21 of 50

LANGAN
PROJECT NO. 100775501



NOTES:
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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. CONTRACTOR TO CONFIRM ALL STRUCTURE INVERTS AND NOTIFY ENGINEER OF ANY INCONSISTENCIES PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO BEGIN PIPE NETWORK CONSTRUCTION AT TIE-IN LOCATION AND BUILD UPSTREAM.
5. GAS, ELECTRIC, AND TELECOM SERVICE NETWORKS ARE SHOWN FOR SCHEMATIC PURPOSES ONLY. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDER, ARCHITECT, AND MEP ENGINEER TO DETERMINE ACTUAL LOCATION AND SERVICE SIZE. CONCRETE ENCASEMENT SHALL BE PROVIDED, AS REQUIRED, IN ACCORDANCE WITH THE UTILITY CROSSING DETAILS.
6. THERE SHALL BE A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES BETWEEN SANITARY SEWERS AND WATER LINES, UNLESS OTHERWISE SPECIFIED. IN AREAS WHERE THIS VERTICAL SEPARATION DISTANCE IS NOT FEASIBLE, SANITARY SEWER SHALL BE CONCRETE ENCASED. ENCASEMENT SHALL EXTEND A MINIMUM OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, THERE SHALL BE A MINIMUM HORIZONTAL SEPARATION DISTANCE OF 10 FEET BETWEEN SANITARY SEWERS AND WATER LINES.
7. ALL WATER LINES SHALL HAVE A MINIMUM 4-FT COVER.
8. ALL SANITARY LATERAL CLEANOUTS AND MANHOLES SHALL BE HEAVY DUTY AND TRAFFIC RATED.
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9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL UTILITY PLAN 1

Project No.	100775501
Date	06/25/2020
Drawn By	RY
Checked By	RB

Drawing No. **CU101**
Sheet **22** of 50

PROJECT NO. 100775501

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NJ NAD 83 (2011)

MATCHLINE SHEET 101

MATCHLINE SHEET 103

PROPOSED DELIVERY STATION

BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 805
FM LOT 1.01 (FM 175-16)

BLOCK 128.03 LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 / SF 50.6939 AC ±

BLOCK 128.03 LOT 1.02
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 805
FILED MAP 175-16 LOT 1.02

BLOCK 128.03 LOT 1.03
N/F WCS GROUP, LLC
DB. 9239 PG. 3183
FM LOT 1.03 (FM 175-16)

BLOCK 3902 LOT 3
N/F WILLIAM STAR
DB. 5583 PG. 802

GATE VALVE (TYP.)
10x6 INCH TEE
SAN. CO-2
RIM: 111.07
INV. IN (8" SW): 106.40
INV. OUT: 104.80
5 LF 8" PVC @ 2.00%
6-INCH C900 HYDRANT LATERAL
10x6 INCH TEE
GATE VALVE (TYP.)
10-INCH C900 FIRE SERVICE LOOP
HYDRANT (TYP)
10x6 INCH TEE
GATE VALVE (TYP.)
6-INCH C900 HYDRANT LATERAL
FIRE DEPARTMENT CONNECTION
45° BENDS
10x10 INCH TEE
10x6 INCH TEE
GATE VALVE (TYP)
HYDRANT (TYP)
6-INCH C900 HYDRANT LATERAL
GAS SERVICE TO BUILDING
ELECTRIC SERVICE TO TRANSFORMER. COORDINATE LOCATION WITH FINAL MEP PLANS.
10-INCH C900 FIRE WATER SERVICE TO PUMP ROOM
4-INCH DOMESTIC WATER SERVICE INTO BUILDING
45° BENDS
GAS SERVICE INTO BUILDING.
ELECTRIC SERVICE INTO BUILDING
ELECTRIC TRANSFORMER
10-INCH C900 FIRE WATER SERVICE TO PUMP ROOM
10-INCH C900 WATER LINE OUT TO SERVICE LOOP
4-INCH DOMESTIC WATER SERVICE INTO BUILDING
SAN. MH-1
RIM: 107.07
INV. IN (8" SW): 96.70
INV. OUT: 96.60
SAN. CO-1
RIM: 111.13
INV. IN (8" SW): 99.13
INV. OUT: 97.13
5 LF 8" PVC @ 2.00%
10x6 INCH TEE
45° BENDS
10x10 INCH TEE
56 LF 8" PVC @ 0.40%
SAN. MH-2
RIM: 106.46
INV. IN (8" SE): 95.56
INV. IN (8" SW): 101.51
INV. OUT: 95.46
107 LF 8" PVC @ 3.07%
280 LF 8" PVC @ 0.40%
107 LF 8" PVC @ 0.40%
ELECTRIC VEHICLE CHARGER CONDUIT (TYP.)
ELECTRICAL PULLBOX (TYP.)
PAD MOUNTED SWITCHBOARD
LOW VOLTAGE SWITCHBOARD
6-INCH C900 HYDRANT LATERAL
HYDRANT (TYP)
GATE VALVE (TYP.)
10x6 INCH TEE
EV CHARGER TRANSFORMER LOCATIONS (TYP.)
45° BENDS
APPROXIMATE LOCATION FOR ELECTRICAL BANK FOR EV CHARGING CONDUITS.
EXISTING HYDRANT TO REMAIN
EXISTING UTILITY POLE TO BE RELOCATED. RELOCATION TO BE COORDINATED WITH UTILITY COMPANY.
CONNECT ELECTRIC SERVICE TO EXISTING POLE. COORDINATE WITH UTILITY PROVIDER.
CONNECT TO GAS SERVICE IN JUMPING BROOK ROAD. CONNECTION TO BE COORDINATED WITH UTILITY COMPANY.
BENCHMARK-A
N: 607474.71
E: 607814.10
EL: 101.75
PIN & CAP SET
SAN. MH-4 (DROP)
RIM: 98.05
INV. IN (8" SW): 91.78
INV. OUT: 88.51
232 LF 8" PVC @ 1.15%
234 LF 8" PVC @ 3.00%
6-INCH C900 HYDRANT LATERAL
45° BENDS
HYDRANT (TYP)
EV CHARGER TRANSFORMER LOCATIONS (TYP.)
LOW VOLTAGE SWITCHBOARD
ELECTRICAL PULLBOX (TYP.)
10x6 INCH REDUCER
6-INCH C900 PVC
BASIN 3
ABOVE GROUND HEATED ENCLOSURE FOR WATER SERVICE. METER AND BACKFLOW DEVICES TO BE IN ACCORDANCE WITH NJ AMERICAN WATER REQUIREMENTS.
12-INCH PVC SERVICE TO HOT BOX
EXISTING HYDRANT TO REMAIN
CONNECT TO EXISTING 12" MAIN FOR DOMESTIC WATER SERVICE AND FIRE SERVICE. COORDINATE CONNECTION WITH NJ AMERICAN WATER.
JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY
STOP

SCALE: 1 INCH = 40 FEET

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9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL UTILITY PLAN 2

Project No.	Drawing No.
100775501	CU102
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 23 of 50

LANGAN
PROJECT NO. 100775501

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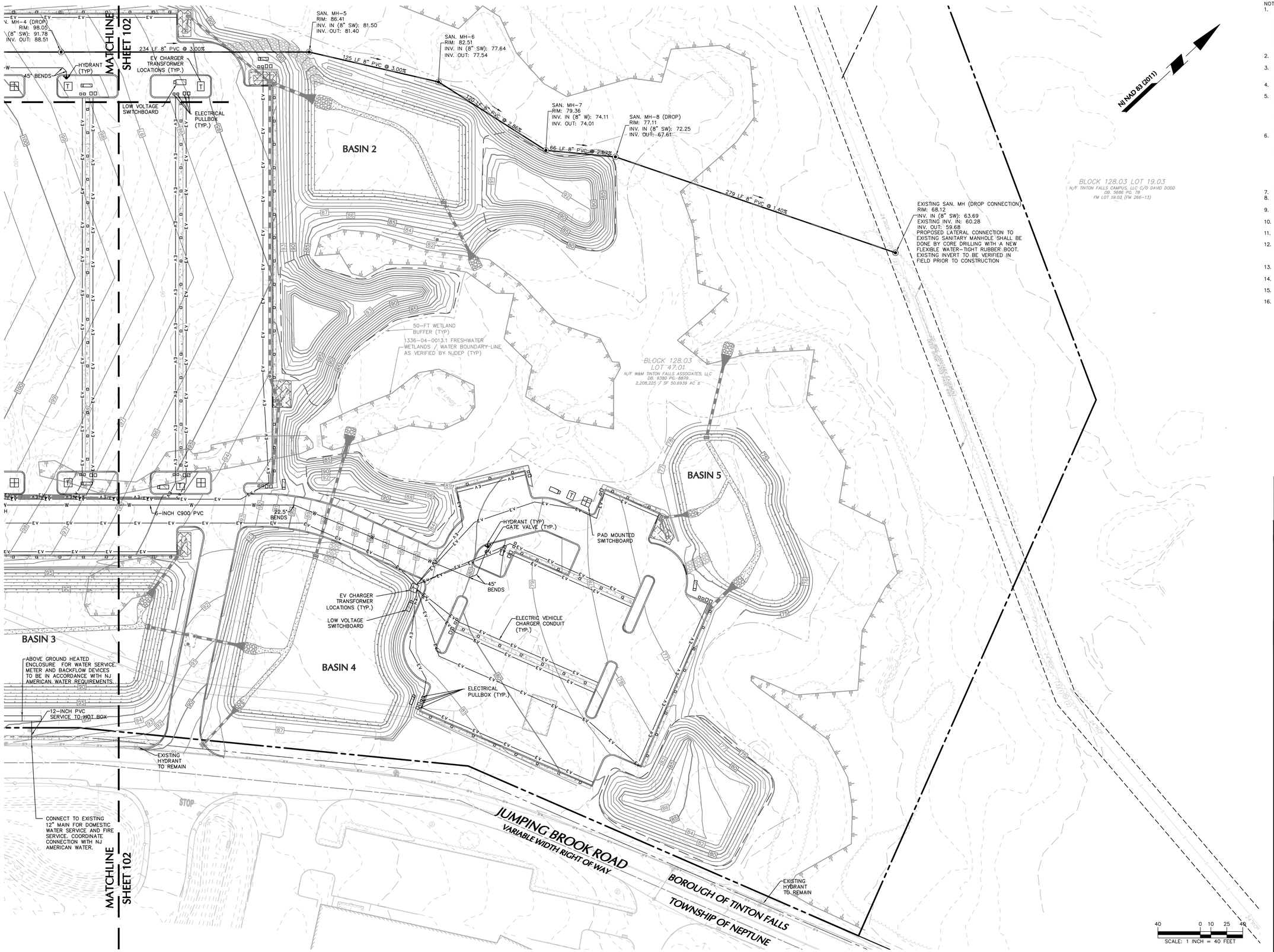

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No.	Description	Date
2	PER AGENCY COMMENTS	1/05/21
1	PER TOWNSHIP COMMENTS	9/17/20

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL UTILITY PLAN 3

Project No.	Drawing No.
100775501	CU103
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 24 of 50

PROJECT NO. 100775501

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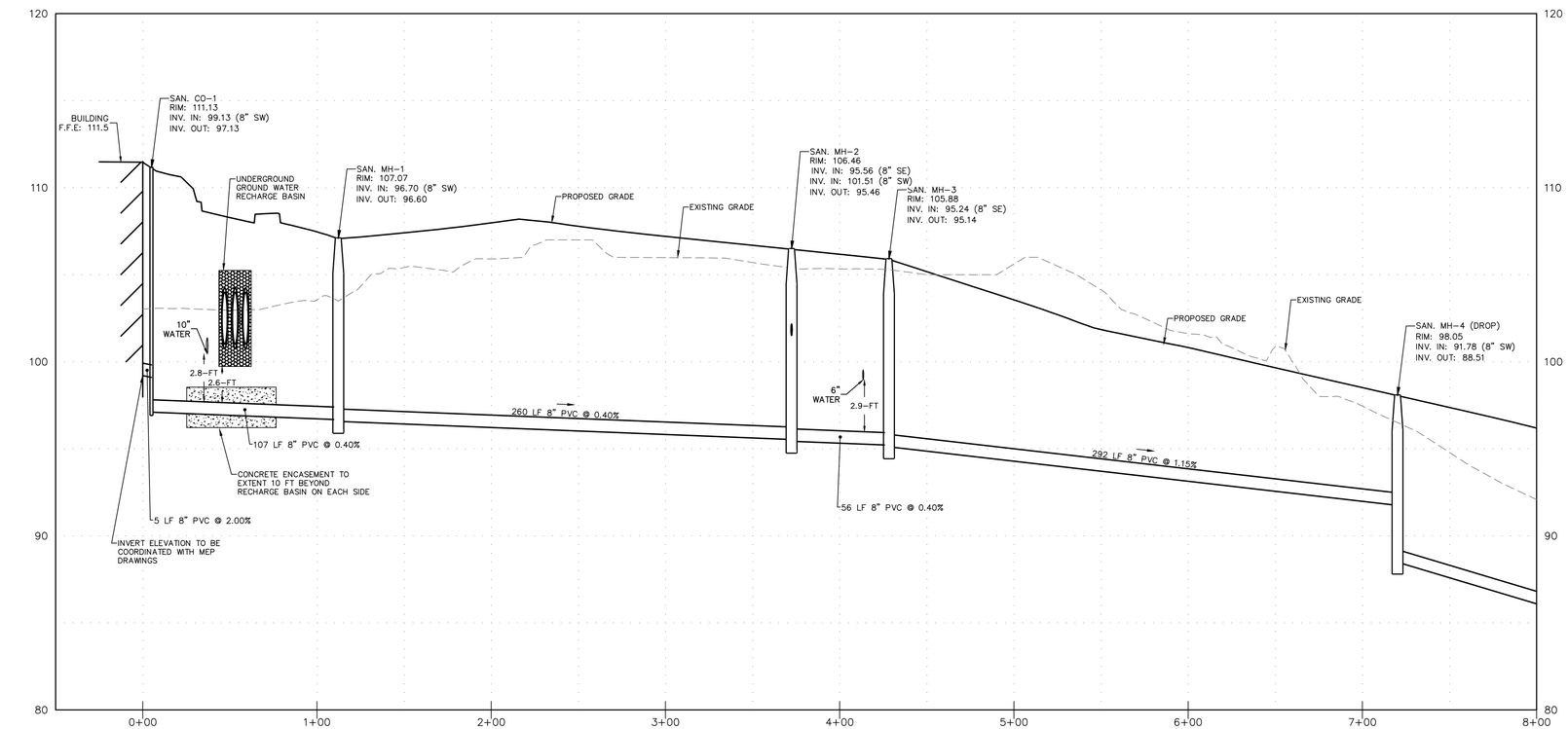
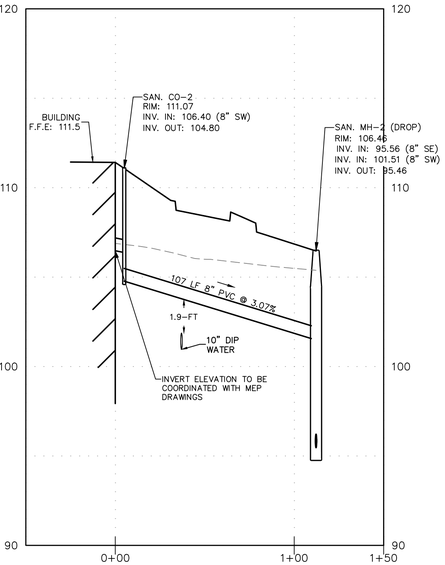
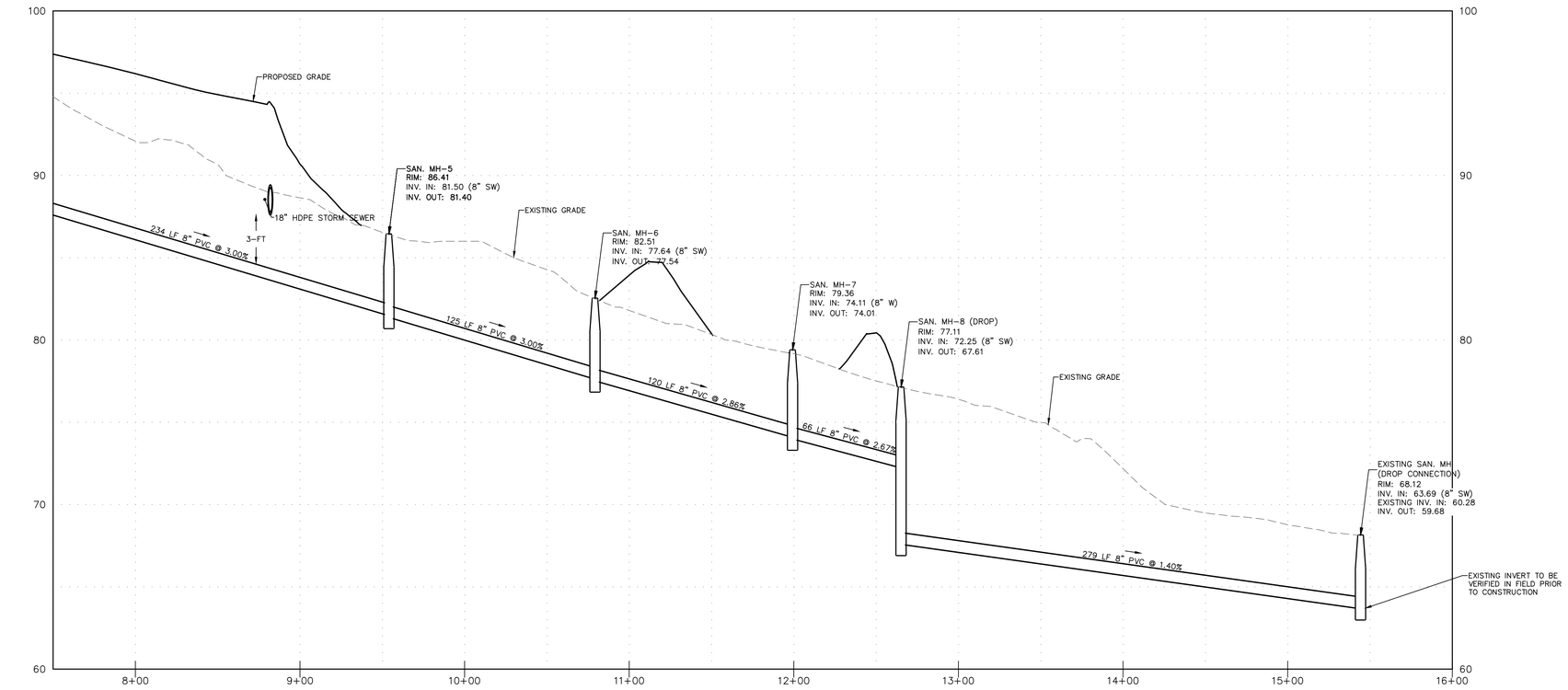


BLDG-CONNECTION TO SAN. MH-3 PROFILE



SAN. CO-2 TO SAN. MH-2 PROFILE



SAN. MH-3 TO EXISTING SAN. MH PROFILE

SCALE: 1 INCH = 4 FEET
VERTICAL SCALE

SCALE: 1 INCH = 40 FEET
HORIZONTAL SCALE

NOTES:
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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. PLAN VIEW OF PROFILES CAN BE FOUND ON THE UTILITY PLAN AND/OR DRAINAGE PLAN.
4. PIPE LENGTHS REPRESENT THE HORIZONTAL DISTANCE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
5. PIPE INVERT ELEVATIONS REPRESENT THE THEORETICAL ELEVATIONS OF THE PIPE AT THE CENTER OF STRUCTURE.
6. MANHOLES AND CATCH BASINS SHOWN IN THE PROFILES ARE GRAPHICAL REPRESENTATIONS AND ARE NOT INTENDED TO SPECIFY A SIZE OR TYPE OF STRUCTURE.
7. THERE SHALL BE A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES BETWEEN SANITARY SEWERS AND WATER LINES, UNLESS OTHERWISE SPECIFIED. IN AREAS WHERE THIS VERTICAL SEPARATION DISTANCE IS NOT FEASIBLE, SANITARY SEWER SHALL BE CONCRETE ENCASED. ENCASEMENT SHALL EXTEND A MINIMUM OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, THERE SHALL BE A MINIMUM HORIZONTAL SEPARATION DISTANCE OF 10 FEET BETWEEN SANITARY SEWERS AND WATER LINES.
8. ALL WATER LINES SHALL HAVE A MINIMUM 4-FT COVER.
9. THE PROFILES ARE NOT INTENDED TO BE USED FOR CALCULATION EARTHWORK QUANTITIES.
10. CONTRACTOR TO CONFIRM ALL STRUCTURE INVERTS AND NOTIFY ENGINEER OF ANY INCONSISTENCIES PRIOR TO CONSTRUCTION.
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
SANITARY SEWER PROFILES

Project No.	Drawing No.
100775501	CU201
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 25 of 50

PROJECT NO. 100775501

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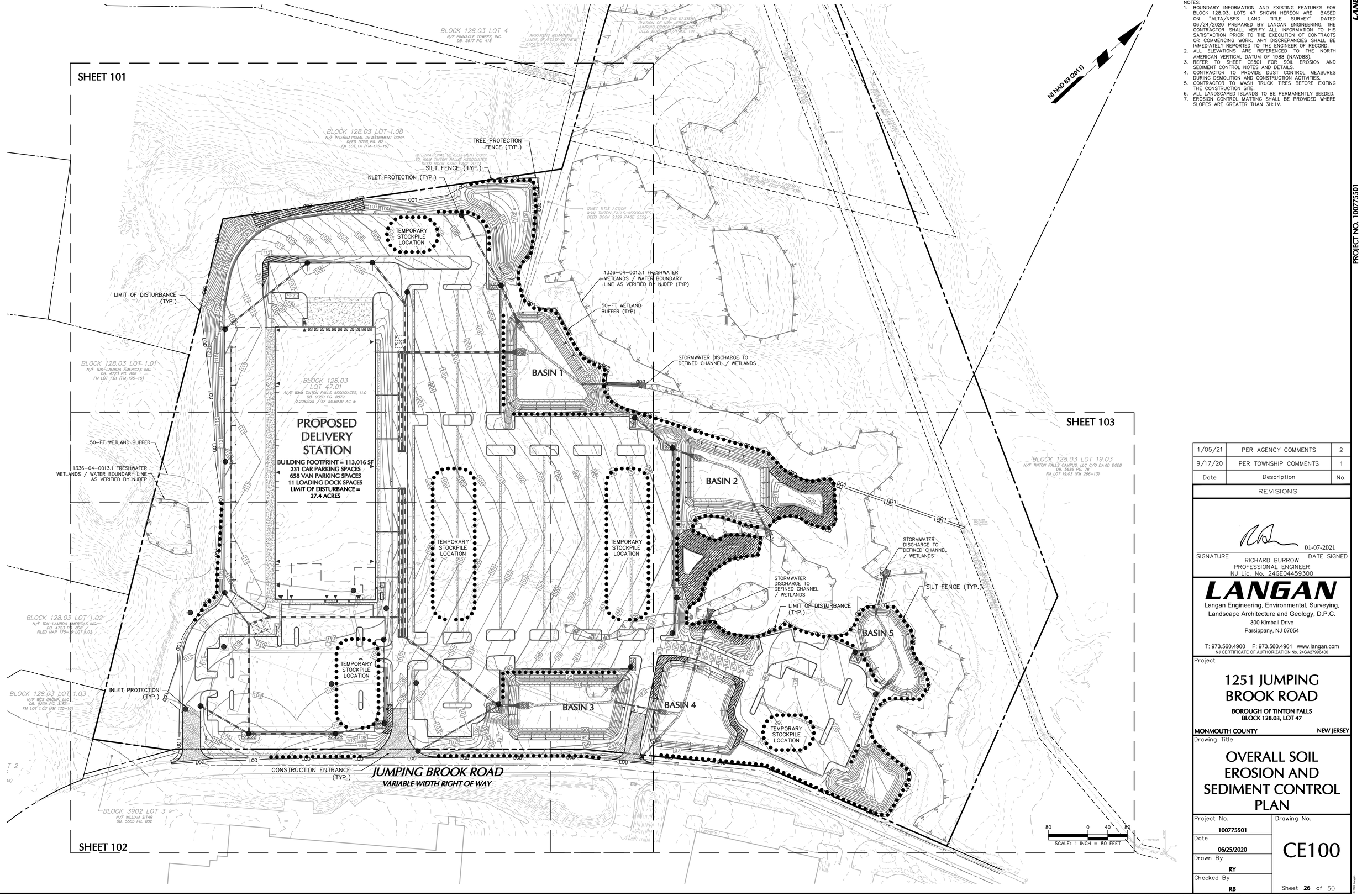

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3. REFER TO SHEET CE501 FOR SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
4. CONTRACTOR TO PROVIDE DUST CONTROL MEASURES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
5. CONTRACTOR TO WASH TRUCK TIRES BEFORE EXITING THE CONSTRUCTION SITE.
6. ALL LANDSCAPED ISLANDS TO BE PERMANENTLY SEEDED.
7. EROSION CONTROL MATTING SHALL BE PROVIDED WHERE SLOPES ARE GREATER THAN 3H:1V.

Date	Description	No.
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL SOIL EROSION AND SEDIMENT CONTROL PLAN

Project No. 100775501	Drawing No. CE100
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 26 of 50

LANGAN
PROJECT NO. 100775501

NJ NAD 83 (2011)

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7. EROSION CONTROL MATTING SHALL BE PROVIDED WHERE SLOPES ARE GREATER THAN 3H:1V.

BLOCK 128.03 LOT 1.08
N/F INTERNATIONAL DEVELOPMENT CORP.
DEED 5768 PG. 82
FM LOT 1A (FM 175-16)

INTERNATIONAL DEVELOPMENT CORP. TO W&M TINTON FALLS ASSOCIATES
DEED BOOK 9380 PAGE 8774

SILT FENCE (TYP.)

INLET PROTECTION (TYP.)

PROVIDE EROSION CONTROL MATTING WHERE SLOPES ARE GREATER THAN 3H:1V

SWALE BEHIND RETAINING WALL

TREE PROTECTION FENCE (TYP.)

QUIET TITLE ACTION
W&M TINTON FALLS ASSOCIATES
DEED BOOK 9380 PAGE 2359

TEMPORARY STOCKPILE LOCATION

SCOUR HOLE
L= 12-FT, W= 12.34-FT
d50= 4-IN, tH= 8-IN

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP (TYP)

50-FT WETLAND BUFFER (TYP)

SWALE BEHIND RETAINING WALL

LIMIT OF DISTURBANCE (TYP.)

INLET PROTECTION (TYP.)

FES-103
INV.: 95.00 (38")

SCOUR HOLE
L= 12-FT, W= 10-FT
d50= 6-IN, tH= 12-IN

TREE PROTECTION FENCE (TYP.)

SCOUR HOLE
L= 18-FT, W= 15-FT
d50= 4-IN, tH= 8-IN

FES-102
INV.: 95.00 (36")

BASIN 1

TEMPORARY FLOATING RISER

HW-101
INV.: 91.20 (24")

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 808
FM LOT 1.01 (FM 175-16)

BLOCK 128.03
LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 / SF 50.6939 AC ±

PROPOSED DELIVERY STATION
BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

LIMIT OF DISTURBANCE = 27.4 ACRES

MATCHLINE SHEET 102

MATCHLINE SHEET 102

50-FT WETLAND BUFFER

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN 1

Project No.	Drawing No.
100775501	CE101
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 27 of 50

PROJECT NO. 100775501

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Date: 1/6/2021 Time: 21:30 User: ryemercou Style Table: Langan.stb Layout: CE101 Document Code: 100775501-0102-CE101-0101

NJ NAD 83 (2011)

MATCHLINE SHEET 101

MATCHLINE SHEET 103

50-FT WETLAND BUFFER

1336-04-0013.1 FRESHWATER WETLANDS / WATER BOUNDARY LINE AS VERIFIED BY NJDEP

PROPOSED DELIVERY STATION

BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

LIMIT OF DISTURBANCE = 27.4 ACRES

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 805
FM LOT 1.01 (FM 175-16)

BLOCK 128.03 LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 ± SF 50.6939 AC ±

BLOCK 128.03 LOT 1.02
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 805
FILED MAP 175-16 LOT 1.02

BLOCK 128.03 LOT 1.03
N/F WCS GROUP, LLC
DB. 9239 PG. 3183
FM LOT 1.03 (FM 175-16)

BLOCK 3902 LOT 3
N/F WILLIAM SITAR
DB. 5583 PG. 802

TEMPORARY STOCKPILE LOCATION

TEMPORARY STOCKPILE LOCATION

TEMPORARY STOCKPILE LOCATION

LIMIT OF DISTURBANCE (TYP.)

INLET PROTECTION (TYP.)

INLET PROTECTION (TYP.)

PROVIDE EROSION CONTROL MATTING WHERE SLOPES ARE GREATER THAN 3H:1V

PROVIDE EROSION CONTROL MATTING WHERE SLOPES ARE GREATER THAN 3H:1V

SCOUR HOLE
L= 12-FT,
W= 10-FT
d50= 6-IN,
tH= 12-IN

SCOUR HOLE
L= 12-FT,
W= 10-FT
d50= 4-IN,
tH= 8-IN

FES-301
INV.: 89.00 (24")

FES-302
INV.: 89.00 (36")

BASIN 3

SCOUR HOLE
L= 18-FT,
W= 15-FT
d50= 10-IN,
tH= 20-IN

LOD

CONSTRUCTION ENTRANCE (TYP.)

CONSTRUCTION ENTRANCE (TYP.)

CONSTRUCTION ENTRANCE (TYP.) STOP

SILT FENCE (TYP.)

JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY

BENCHMARK-A
N:507474.77
E:607814.10
EL:101.12
PIN & CAP SET

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. REFER TO SHEET CE501 FOR SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
4. CONTRACTOR TO PROVIDE DUST CONTROL MEASURES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
5. CONTRACTOR TO WASH TRUCK TIRES BEFORE EXITING THE CONSTRUCTION SITE.
6. ALL LANDSCAPED ISLANDS TO BE PERMANENTLY SEEDED.
7. EROSION CONTROL MATTING SHALL BE PROVIDED WHERE SLOPES ARE GREATER THAN 3H:1V.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN 2

Project No.	Drawing No.
100775501	CE102
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 28 of 50

PROJECT NO. 100775501

LANGAN

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MATCHLINE SHEET 102

SCOUR HOLE
L= 15-FT, W= 12.5-FT
d50= 10-IN, tH= 20-IN

FES-202
INV.: 83.00 (30")

BASIN 2

TEMPORARY
FLOATING RISER

PROVIDE EROSION CONTROL MATTING
WHERE SLOPES ARE GREATER THAN
3H:1V

LOD

HW-201
INV.: 80.10 (24")

SCOUR HOLE
L= 12-FT, W= 10-FT
d50= 6-IN, tH= 12-IN

TEMPORARY
STOCKPILE
LOCATION

50-FT WETLAND
BUFFER (TYP)

1336-04-0013.1 FRESHWATER
WETLANDS / WATER BOUNDARY LINE
AS VERIFIED BY NJDEP (TYP)

PROVIDE EROSION
CONTROL MATTING
WHERE SLOPES ARE
GREATER THAN 3H:1V

BLOCK 128.03
LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 4380 PG. 6679
2,208,225 ± SF 50.6939 AC ±

SCOUR HOLE
L= 12-FT, W= 10-FT
d50= 4-IN, tH= 8-IN

HW-501
INV.: 72.58 (24")

TEMPORARY
FLOATING RISER

SILT FENCE (TYP.)

SCOUR HOLE
L= 12-FT, W= 10-FT
d50= 4-IN, tH= 8-IN

LIMIT OF DISTURBANCE
(TYP.)

HW-401
INV.: 82.83 (24")

PROVIDE EROSION
CONTROL MATTING
WHERE SLOPES ARE
GREATER THAN 3H:1V

BASIN 5

SCOUR HOLE
L= 9-FT,
W= 7.5FT
d50= 4-IN,
tH= 8-IN

FES-503
INV.: 73.00 (18")

PROVIDE EROSION
CONTROL MATTING
WHERE SLOPES ARE
GREATER THAN 3H:1V

SCOUR HOLE
L= 12-FT,
W= 10-FT
d50= 6-IN,
tH= 12-IN

INLET PROTECTION (TYP.)

TEMPORARY
FLOATING
RISER

FES-301
INV.: 89.00 (24")

SCOUR HOLE
L= 12-FT,
W= 10-FT
d50= 4-IN,
tH= 8-IN

LIMIT OF DISTURBANCE = 27.4 ACRES

SCOUR HOLE
L= 9.48-FT,
W= 9.74-FT
d50= 4-IN,
tH= 8-IN

BASIN 3

BASIN 4

FES-403
INV.: 84.00 (24")

FES-502
INV.: 73.00 (30")

TEMPORARY
STOCKPILE
LOCATION

SCOUR HOLE
L= 9-FT,
W= 7.5-FT
d50= 4-IN,
tH= 8-IN

FES-402
INV.: 84.00 (18")

CONSTRUCTION
ENTRANCE
(TYP.) STOP

MATCHLINE SHEET 102

CENTERLINE ROAD

8.5' WIDE TAKING
BOROUGH OF TINTON FALLS
DB. 3294, PG. 288

JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY

BOROUGH OF TINTON FALLS

TOWNSHIP OF NEPTUNE

CENTERLINE ROAD
FROM BENJAMIN KING'S STORE TO PENN'S NECK
DEED BOOK 4677 PAGE 709

BLOCK 128.03 LOT 19.03
N/F TINTON FALLS CAMPUS, LLC C/O DAVID DODD
DB. 5686 PG. 78
FM LOT 19.03 (FM 266-13)

NJ NAD 83 (2011)

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. REFER TO SHEET CE501 FOR SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.
4. CONTRACTOR TO PROVIDE DUST CONTROL MEASURES DURING DEMOLITION AND CONSTRUCTION ACTIVITIES.
5. CONTRACTOR TO WASH TRUCK TIRES BEFORE EXITING THE CONSTRUCTION SITE.
6. ALL LANDSCAPED ISLANDS TO BE PERMANENTLY SEEDED.
7. EROSION CONTROL MATTING SHALL BE PROVIDED WHERE SLOPES ARE GREATER THAN 3H:1V.

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL SOIL EROSION & SEDIMENT CONTROL PLAN 3

Project No.	Drawing No.
100775501	CE103
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 29 of 50

PROJECT NO. 100775501

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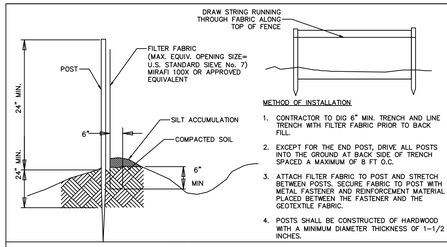
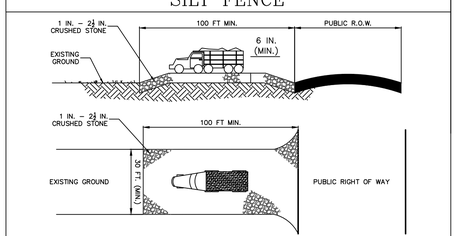


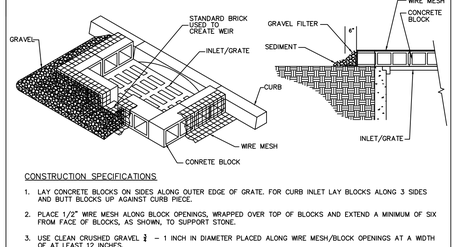
METHOD OF INSTALLATION

1. CONTRACTOR TO DIG 6" MIN. TRENCH AND LINE TRENCH WITH FILTER FABRIC PRIOR TO BACK FILL.
2. EXCEPT FOR THE END POST, DRIVE ALL POSTS INTO THE GROUND AT BACK SIDE OF TRENCH SPACED A MAXIMUM OF 8 FT O.C.
3. ATTACH FILTER FABRIC TO POST AND STRETCH BETWEEN POSTS. SECURE FABRIC TO POST WITH METAL FASTENER AND REINFORCEMENT MATERIAL PLACED BETWEEN THE FASTENER AND THE GEOTEXTILE FABRIC.
4. POSTS SHALL BE CONSTRUCTED OF HARDWOOD WITH A MINIMUM DIAMETER THICKNESS OF 1–1/2 INCHES.

SILT FENCE



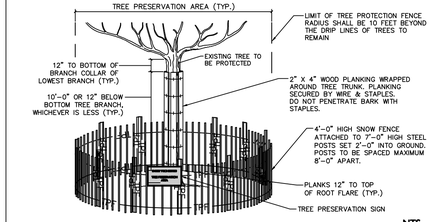
CONSTRUCTION ENTRANCE



CONSTRUCTION SPECIFICATIONS

1. LAY CONCRETE BLOCKS ON SIDES ALONG OUTER EDGE OF GRATE. FOR CURB INLET LAY BLOCKS ALONG 3 SIDES AND BUTT BLOCKS UP AGAINST CURB PIECE.
2. PLACE 1/2" WIRE MESH ALONG BLOCK OPENINGS, WRAPPED OVER TOP OF BLOCKS AND EXTEND A MINIMUM OF SIX FROM FACE OF BLOCKS, AS SHOWN, TO SUPPORT STONE.
3. USE CLEAN CRUSHED GRAVEL ¾ – 1 INCH IN DIAMETER PLACED ALONG WIRE MESH/BLOCK OPENINGS AT A WIDTH OF AT LEAST 12 INCHES.
4. USING STANDARD BRICK CREATE WEIR ALONG FRONT FACE, AS SHOWN, TO ALLOW FLOW FROM STORM EVENTS GREATER THAN THE 1 YR–24 HR STORM TO PASS FREELY.
5. CLEAN SEDIMENT DEPOSITS AFTER EVERY STORM.

INLET PROTECTION



NTS

NOTES:

1. ALL EXISTING TREES WITHIN THE LIMITS OF TREE PROTECTION FENCING SHALL BE PROTECTED THROUGHOUT THE DURATION OF WORK. THE LIMIT OF TREE PROTECTION FENCE SHALL BE 10 FT BEYOND THE DRIP LINES, UNLESS CONDITIONS WARRANT THE FENCE TO BE LOCATED CLOSER TO THE TREE. THE PROJECT LANDSCAPE ARCHITECT TO APPROVE THE LOCATION OF ALL FENCING PRIOR TO EXCAVATION.
2. TREE PROTECTION PLANKING SHALL BE INSTALLED ON ALL EXISTING TREES WHERE WORK IS TO BE DONE WITHIN THE LIMIT OF TREE PROTECTION FENCING. REFER TO DETAIL ON THIS SHEET.
3. IF TREE PROTECTION FENCING NEEDS TO BE MOVED OR BREACHED DUE TO TEMPORARY CONSTRUCTION ACTIVITY WITHIN THE TREE PROTECTION ZONE, THE FENCING WILL BE RESET TO ITS ORIGINAL LOCATION IMMEDIATELY AFTER CONSTRUCTION WITHIN THE TREE PROTECTION ZONE IS COMPLETE.
4. TREE PROTECTION FENCING SHALL BE MAINTAINED TO PROTECT TREES AT ALL TIMES. ANY DAMAGED FENCING SHALL BE IMMEDIATELY REPLACED WHEN DAMAGED.
5. DEMOLITION WORK WITHIN THE TREE PROTECTION FENCE OF PROTECTED TREES SHALL BE PERFORMED BY NON–MECHANICAL METHODS. CONTRACTOR TO PROTECT ROOT MASS AGAINST DAMAGE DURING EXCAVATION. ANY TREE ROOTS THAT ARE DISTURBED, BROKEN, OR CUT SHALL BE PRUNED BACK WITH CLEAN SHARP TOOLS.
6. ALL TEMPORARILY EXPOSED TREE ROOTS SHALL BE COVERED WITH 2 INCHES OF SHREDDED HARDWOOD MULCH AND THOROUGHLY IRRIGATED ON A DAILY BASIS AS DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT.
7. ALL WORK TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF EITHER THE OWNER'S REPRESENTATIVE OR THE PROJECT LANDSCAPE ARCHITECT.

TREE PROTECTION FENCING

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY–EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE–CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24–39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT–BY–LOT OR SECTION–BY–SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB–BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB–BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT–OF–WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON–VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/1,000 SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12'OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24'WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY MULCH SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT
4000 KOZLOSKI ROAD,
FREEHOLD, NJ 07728–5033,
PHONE (732) 683–8500, FAX (732) 683–9140

STABILIZATION NOTES

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH "STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY"

THE FOLLOWING SEEDING SCHEDULE SHOULD BE USED FOR PERMANENT SEEDING (UNLESS OTHERWISE NOTED):

A. APPLY TOPSOIL TO A DEPTH OF 4".

B. 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. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10–10–10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE–HALF THE RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE–HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.

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

D. SEED – LAWN AREAS – STANDARD SEED MIX 15
HARD FESCUE – 2.70 lbs/1,000 sf
PERENNIAL RYEGRASS – 0.70 lbs/1,000 sf
KENTUCKY BLUEGRASS – 0.90 lbs/1,000 sf
OPTIMAL PLANTING PERIOD BETWEEN MARCH 1 AND MAY 31

E. SEED – MEADOW AREAS – STANDARD SEED MIX 5
SWITCHGRASS – 0.35 lbs/1,000 sf
BIG BLUESTEM – 0.10 lbs/1,000 sf
LITTLE BLUESTEM – 0.10 lbs/1,000 sf
SAND LOVEGRASS – 0.10 lbs/1,000 sf
COASTAL PANICGRASS – 0.25 lbs/1,000 sf
& WILDFLOWER MIX 605 BY APPLEWOOD OR APPROVED EQUAL.
WILDFLOWER MIX 605 – 10 lbs/acre

F. SEED – DETENTION BASINS & SPILLWAYS – STANDARD SEED MIX 9
STRONG CREEPING RED FESCUE – 2.8 lbs/1,000 sf
KENTUCKY BLUEGRASS – 1.8 lbs/1,000 sf
PERENNIAL RYEGRASS – 0.5 lbs/1,000 sf
OR
REDTOP– 0.25 lbs/1,000 sf
PLUS WHITE CLOVER – 0.25 lbs/1,000 sf
OPTIMAL PLANTING PERIOD BETWEEN MARCH 1 AND APRIL 30
OR BETWEEN AUGUST 15 AND NOVEMBER 15. ACCEPTABLE PLANTING PERIOD BETWEEN MAY 1 AND AUGUST 14

G. MULCH – SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 lbs/1,000 sf. TO BE APPLIED ACCORDING TO NEW JERSEY STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (i.e. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDING).

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DISTURBED AREAS SHALL BE MAINTAINED IN A ROUGH GRADED CONDITION AND SEEDED AND HAY MULCHED (OR HYDROSEEDED) UNTIL PROPER WEATHER EXISTS FOR THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER. THE FOLLOWING SEEDING SCHEDULE SHALL BE USED FOR TEMPORARILY SEEDING:

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

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

C. SEED – PERENNIAL RYEGRASS – 100 lbs/acre PLANT BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1.

D. MULCH – SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 lbs/1,000 sf; TO BE APPLIED ACCORDING TO NEW JERSEY STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (i.e. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDING).

STABILIZATION WITH MULCH ONLY

NON–GROWING STABILIZATION MEASURES SHALL BE USED WHERE THE SEASON & OTHER CONDITIONS MAY NOT BE SUITABLE FOR GROWING AN EROSION RESISTANT COVER OR WHERE STABILIZATION IS NEEDED FOR A SHORT PERIOD UNTIL MORE MORE SUITABLE PROTECTION CAN BE APPLIED.

SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 90 TO 115 LBS/1000 SF TO BE APPLIED ACCORDING TO THE NEW JERSEY STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (i.e. PEG AND TWINE, LIQUID MULCH BINDER, OR MULCH NETTING).

SCHEDULE OF CONSTRUCTION OPERATIONS

	ACTIVITY DURATION
1. NOTIFY THE FREEHOLD SOIL CONSERVATION DISTRICT IN WRITING AT LEAST 72 HOURS PRIOR TO ANY PROJECT PRE CONSTRUCTION MEETING OR SITE DISTURBANCES.	---
2. INSTALL A CRUSHED STONE, VEHICLE WHEEL–CLEANING BLANKET OF 1 IN. TO 21/2 IN. WASHED STONE 6 IN. DEEP AT THE CONSTRUCTION ENTRANCE(S) IMMEDIATELY AFTER INITIAL DISTURBANCES AS PER STANDARDS ON DRAWINGS. SITE TRAFFIC SHOULD USE ONLY THESE AREAS FOR INGRESS AND EGRESS. INSTALL SILT FENCE AND BARRIERS, EQUIP ALL EXISTING CATCH BASINS WITH FILTER FABRIC INLET PROTECTION IMMEDIATELY UPON START OF CONSTRUCTION. CLEAR AND GRUB AREAS CONTAINING VEGETATION AS REQUIRED TO COMMENCE CONSTRUCTION.	1 WEEK
3. INSTALL REMAINDER OF TEMPORARY SOIL EROSION & SEDIMENT CONTROL MEASURES, IMMEDIATELY AFTER INITIAL DISTURBANCES. TRAFFIC SHOULD USE ONLY THIS AREA FOR INGRESS AND EGRESS. PLACE AND MAINTAIN SEDIMENT BARRIERS AS SHOWN ON THE PLAN.	2 WEEKS
4. CONSTRUCT STOCKPILE AND STABILIZE.	---
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.	---
6. PROPOSED SITE IMPROVEMENTS SHALL ONLY BE STARTED AFTER RECEIVING SITE PLAN APPROVAL FROM THE REGULATORY AGENCIES HAVING JURISDICTION AND CERTIFICATION OF THE SITE CONSTRUCTION SOIL EROSION AND SEDIMENT CONTROL PLAN FROM THE FREEHOLD SOIL CONSERVATION DISTRICT.	---
7. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL IMPROVEMENTS TO THE SITE ARE COMPLETE, THE ROADS AND PARKING AREAS ARE PAVED, AND THE VEGETATIVE COVER IS 70% OR GREATER IN NON–PAVED AREAS.	---
8. COMPLETE DEMOLITION OF SITE FEATURES.	2 MONTHS
9. COMPLETE CONSTRUCTION OF ROUGH GRADING, TEMPORARY SEDIMENT BASINS, AND STORM IMPROVEMENTS INCLUDING OUTLET CONTROL STRUCTURES.	6 MONTHS
10. AFTER STORM DRAINAGE SYSTEM AND CATCH BASINS ARE CONSTRUCTED PLACE FILTER FABRIC INLET PROTECTION ON EACH CATCH BASIN WHICH SHALL REMAIN UNTIL THE SITE IS PAVED. REPLACE AS NECESSARY.	---
10. COMPLETE BELOW–GRADE UTILITIES AND FOUNDATION	3 MONTHS
11. BUILDING CONSTRUCTION.	8 MONTHS
12. COMPLETE FINAL SITE GRADING, CURB, ASPHALT PAVING AND SIDEWALK INSTALLATION.	2 MONTHS
13. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL PERMANENT IMPROVEMENTS TO THE SITE ARE COMPLETE AND THE ROADS ARE PAVED.	---
14. LANDSCAPE ALL APPROPRIATE AREAS AS INDICATED ON THE LANDSCAPE PLAN AND REMOVE ALL TEMPORARY SEDIMENT CONTROL STRUCTURES AND MEASURES. PERMANENTLY STABILIZE ALL AREAS INCLUDING PERIMETER EMBANKMENTS.	1 MONTHS
15. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5", MINIMUM OF 4" FIRMED IN PLACE IS REQUIRED. SHOULD ENVIRONMENTAL REQUIREMENTS FOR THE SITE SPECIFY MORE THAN A MINIMUM OF 4", ENVIRONMENTAL REQUIREMENTS SHALL DICTATE.	1 WEEK
16. CLEAN ALL SITE DRAINAGE STRUCTURES AND PIPES OF SILT AND DEBRIS. DOWNSTREAM/OFF–SITE DRAINAGE FACILITIES SHALL BE INSPECTED AND CLEANED OF SILT AND DEBRIS RESULTING FROM SITE CONSTRUCTION PRIOR TO FINAL TURNOVER.	2 WEEKS
17. NOTIFY THE FREEHOLD SOIL CONSERVATION DISTRICT AT THE COMPLETION OF CONSTRUCTION.	---

DUST CONTROL

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) – SPRAY ON	1,000	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD, 7–26–11	
POLYACRYLAMIDE (PAM) – DRY SPREAD	1,000		
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

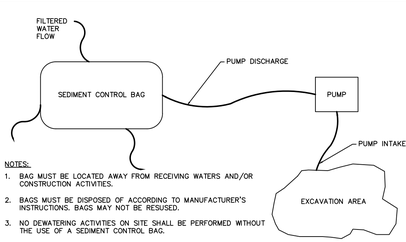
TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL–TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING–TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE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

SPRINKLING – SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

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

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

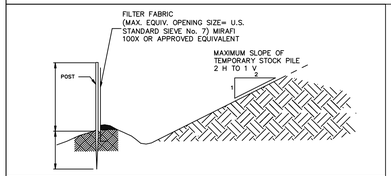
STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.



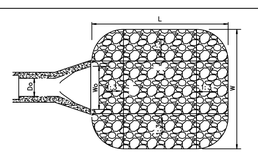
NOTES:

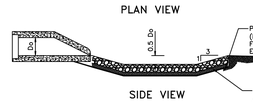
1. BAG MUST BE LOCATED AWAY FROM RECEIVING WATERS AND/OR CONSTRUCTION ACTIVITIES.
2. BAGS MUST BE DISPOSED OF ACCORDING TO MANUFACTURER'S INSTRUCTIONS. BAGS MAY NOT BE REUSED.
3. NO DEWATERING ACTIVITIES ON SITE SHALL BE PERFORMED WITHOUT THE USE OF A SEDIMENT CONTROL BAG.

SEDIMENT CONTROL BAG FOR DEWATERING



TEMPORARY STOCKPILE



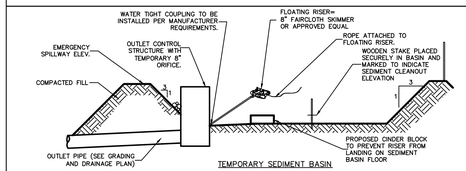


N.T.S.

	Do	L	W	d50
HW–101	24" HDPE	12 FT.	10 FT.	d50= 6" 12" THICK*
FES–102	36" HDPE	18 FT.	15 FT.	d50= 4" 8" THICK*
FES–103	24" HDPE	12 FT.	12.34 FT.	d50= 4" 8" THICK*
HW–201	24" HDPE	12 FT.	10 FT.	d50= 6" 12" THICK*
FES–202	30" HDPE	15 FT.	12.5 FT.	d50= 10" 20" THICK*
FES–301	24" HDPE	12 FT.	10 FT.	d50= 6" 12" THICK*
FES–302	36" HDPE	18 FT.	15 FT.	d50= 10" 20" THICK*
HW–401	24" HDPE	12 FT.	10 FT.	d50= 4" 8" THICK*
FES–402	18" HDPE	9 FT.	7.5 FT.	d50= 4" 8" THICK*
FES–403	24" HDPE	12 FT.	10 FT.	d50= 4" 8" THICK*
HW–501	24" HDPE	12 FT.	10 FT.	d50= 4" 8" THICK*
FES–502	19" HDPE	9.48 FT.	9.74 FT.	d50= 4" 8" THICK*
FES–503	18" HDPE	9 FT.	7.5 FT.	d50= 4" 8" THICK*

* OVER FILTER FABRIC

SCOUR HOLE



TEMPORARY SEDIMENT BASIN

	BOTTOM OF BASIN EL.	FLOATING RISER CONNECTION EL.	EMERGENCY SPILLWAY EL.	CLEANOUT EL.
BASIN 1	95 FT	95 FT	100.75 FT	95.7 FT
BASIN 2	83 FT	83 FT	87.75 FT	83.5 FT
BASIN 3	89 FT	89 FT	95.75 FT	89.9 FT
BASIN 5	73 FT	73 FT	75.80 FT	73.2 FT

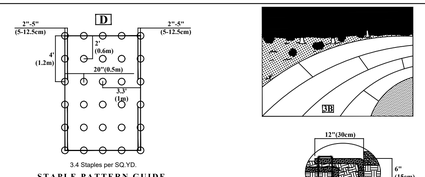
NOTES:

1. THE TEMPORARY SEDIMENT BASIN SHALL REMAIN IN PLACE FOR THE INTERIM PHASE OF THE PROJECT AND UNTIL PERMANENT SOIL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE FOR THE PROPOSED DEVELOPMENT.
2. THE ROPE SHALL BE TIED TO THE FLOATING RISER TEE BETWEEN THE VENT SOCKETS. THE OTHER END OF THE ROPE TO BE SECURED TO A POST LOCATED ON THE SIDE OF THE BASIN.

MAINTENANCE:

1. SEDIMENT ACCUMULATION IN THE SEDIMENTATION BASINS SHALL BE INSPECTED ONCE EVERY WEEK OR AFTER EVERY STORM EVENT, WHICHEVER COMES FIRST.
2. SEDIMENT WILL BE REMOVED FROM THE BASIN(S) WHEN IT REACHES THE SEDIMENT CLEANOUT ELEVATION. SEDIMENT REMOVED FROM THE BASIN CAN BE USED AS GENERAL FILL OR STORED IN THE SOIL STOCKPILE
3. INLET SCREEN OF THE FLOATING RISER TO BE CLEANED BY TUGGING ON THE ATTACHED ROPE SEVERAL TIMES TO WASH OFF TRASH OR SEDIMENT.
4. THE PARTY RESPONSIBLE FOR THE PREVENTATIVE AND CORRECTIVE MAINTENANCE OF THE SEDIMENT BASIN AND ASSOCIATED STRUCTURES IS:
W&M ASSOCIATES, LLC
1481 OAK TREE ROAD
ISELIN, NJ 08830

TEMPORARY SEDIMENT AND BASIN FLOATING RISER



Drawing Not To Scale

NOTE: CONTRACTOR TO USE ERONET SC150 EROSION BLANKET OR APPROVED EQUAL.

SLOPE INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (REC

SOIL COMPACTION TESTING REQUIREMENTS

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

2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL 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 SPECIFICATION, 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/TILLATE (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 MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE WIRE.

* WIRE MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

RECORD DEPTH OF PENETRATION WHEN WIRE DEFORMS. MINIMUM DEPTH OF 6" TO PASS TEST. EITHER PREMEDIATE OR PERFORM THE NEXT TEST.

6" MIN. VISIBLE MARK ON WIRE AT DEPTH

PROBING WIRE TEST
15.5 GA. STEEL WIRE (SURVEY FLAG)
N.T.S.

COMPACTION TEST LOCATION (TYP)

TESTING NOT REQUIRED WITHIN 20' AREA AROUND FOUNDATION W/ BASEMENT —OR— 10' AREA AROUND FOUNDATION WITH CRAWL SPACE OR SLAB

MULTI FAMILY HOUSING OR OTHER NON-RESIDENTIAL BUILDING/STRUCTURE

NOTE: SOIL COMPACTION TESTING LOCATIONS IDENTIFIED ARE APPROXIMATE AND MAY BE ADJUSTED AS NECESSARY WITHIN THE VICINITY OF BUILDINGS AND STRUCTURES OR ON INDIVIDUAL LOTS. FOR GRADED/DISTURBED AREAS WITHIN OPEN OR COMMON SPACES, SOIL COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE FREQUENCY LISTED IN THE LEGEND (THIS SHEET).

TYPICAL SOIL COMPACTION TESTING LOCATIONS
N.T.S.

NOTE: SOIL SHOULD BE MOIST BUT NOT SATURATED. DO NOT TEST WHEN SOIL IS EXCESSIVELY DRY OR SUBJECT TO FREEZING TEMPERATURES. SLOW, STEADY DOWNWARD PRESSURE USED TO ADVANCE THE PROBE. MEASURE DEPTH WHEN GAGE READING REACHES 300 PSI OR DEPTH OF 6"

* PENETROMETER MAY BE RE-INSERTED IF/WHEN AN OBSTRUCTION (ROCK, ROOT, DEBRIS) IS ENCOUNTERED.

GAGE READING 300 PSI OR LESS AT 6"

6" MIN. VISIBLE MARK ON SHAFT AT DEPTH

USE CORRECT SIZE TIP FOR SOIL TYPE

HANDHELD SOIL PENETROMETER TEST
N.T.S.

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

LEGEND

- SOIL COMPACTION TESTING AND/OR RESTORATION AREAS
- RECOMMENDED TESTING LOCATION (APPROXIMATELY 1 PER 0.5 ACRE) 13 REQUIRED FOR THIS PROJECT (BASED ON 6.44 ACRES OF SOIL COMPACTION TESTING AND RESTORATION AREAS)
- 20' BUILDING OFFSET (EXCLUSION AREA)

NJ NAD 83 (2011)

LIMIT OF DISTURBANCE

LOD AREA = 27.0 ACRES
TOTAL SOIL COMPACTION TESTING AND RESTORATION AREA = 6.25 ACRES

20' BUILDING OFFSET (EXCLUSION AREA TYP.)

PROPOSED DELIVERY STATION
BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

BASIN 1

BLOCK 128.03 LOT 1.01
N/F TDK-LAMBDA AMERICAS INC.
DB. 4723 PG. 808
FM LOT 1.01 (FM 175-16)

BLOCK 128.03
LOT 47.01
N/F W&M TINTON FALLS ASSOCIATES, LLC
DB. 9380 PG. 8879
2,208,225 / SF 50.6939 AC ±

INTERNATIONAL DEVELOPMENT CORP. TO W&M TINTON FALLS ASSOCIATES
DEED BOOK 9380 PAGE 8774

QUIET TITLE ACTION
W&M TINTON FALLS ASSOCIATES
DEED BOOK 9389 PAGE 2359

MATCHLINE
SHEET 202

MATCHLINE
SHEET 203

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SOIL DECOMPACTION AND RESTORATION PLAN 1

Project No.	Drawing No.
100775501	CE201
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 31 of 50

LANGAN
PROJECT NO. 100775501

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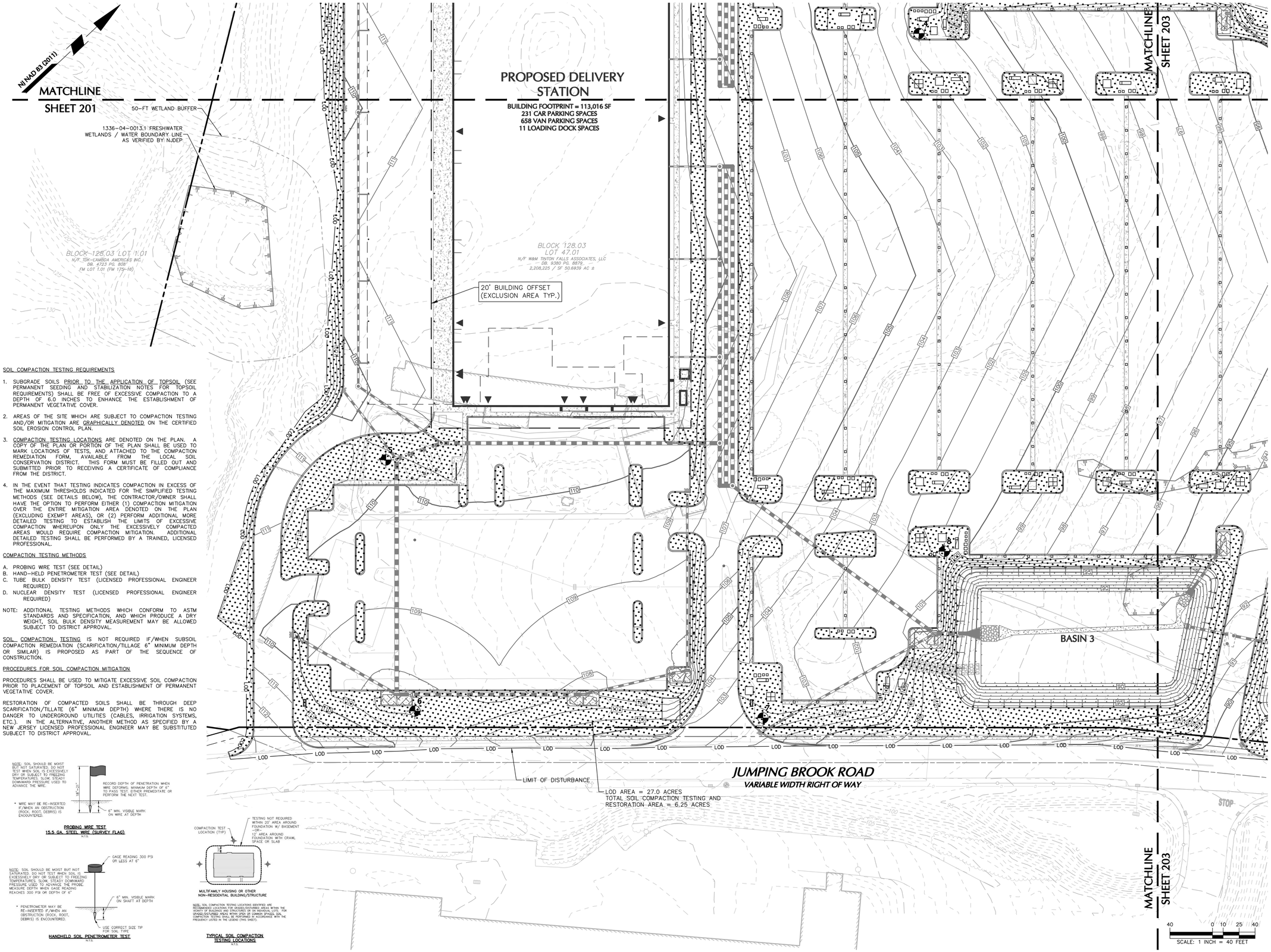

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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

LEGEND

- SOIL COMPACTION TESTING AND/OR RESTORATION AREAS
- 1 — RECOMMENDED TESTING LOCATION (APPROXIMATELY 1 PER 0.5 ACRE) 13 REQUIRED FOR THIS PROJECT (BASED ON 6.44 ACRES OF SOIL COMPACTION TESTING AND RESTORATION AREAS)
- 20' BUILDING OFFSET (EXCLUSION AREA)

SOIL COMPACTION TESTING REQUIREMENTS

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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 SPECIFICATION, 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/TILLATE (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 MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.

PROBING WIRE TEST
15.5 GA. STEEL WIRE (SURVEY FLAG)
N.T.S.

HANDHELD SOIL PENETROMETER TEST
N.T.S.

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

TYPICAL SOIL COMPACTION TESTING LOCATIONS
N.T.S.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

SIGNATURE — DATE SIGNED: 01-07-2021

RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SOIL DECOMPACTION AND RESTORATION PLAN 2

Project No.	Drawing No.
100775501	CE202
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 32 of 50

LOD AREA = 27.0 ACRES
TOTAL SOIL COMPACTION TESTING AND RESTORATION AREA = 6.25 ACRES

LANGAN
PROJECT NO. 100775501

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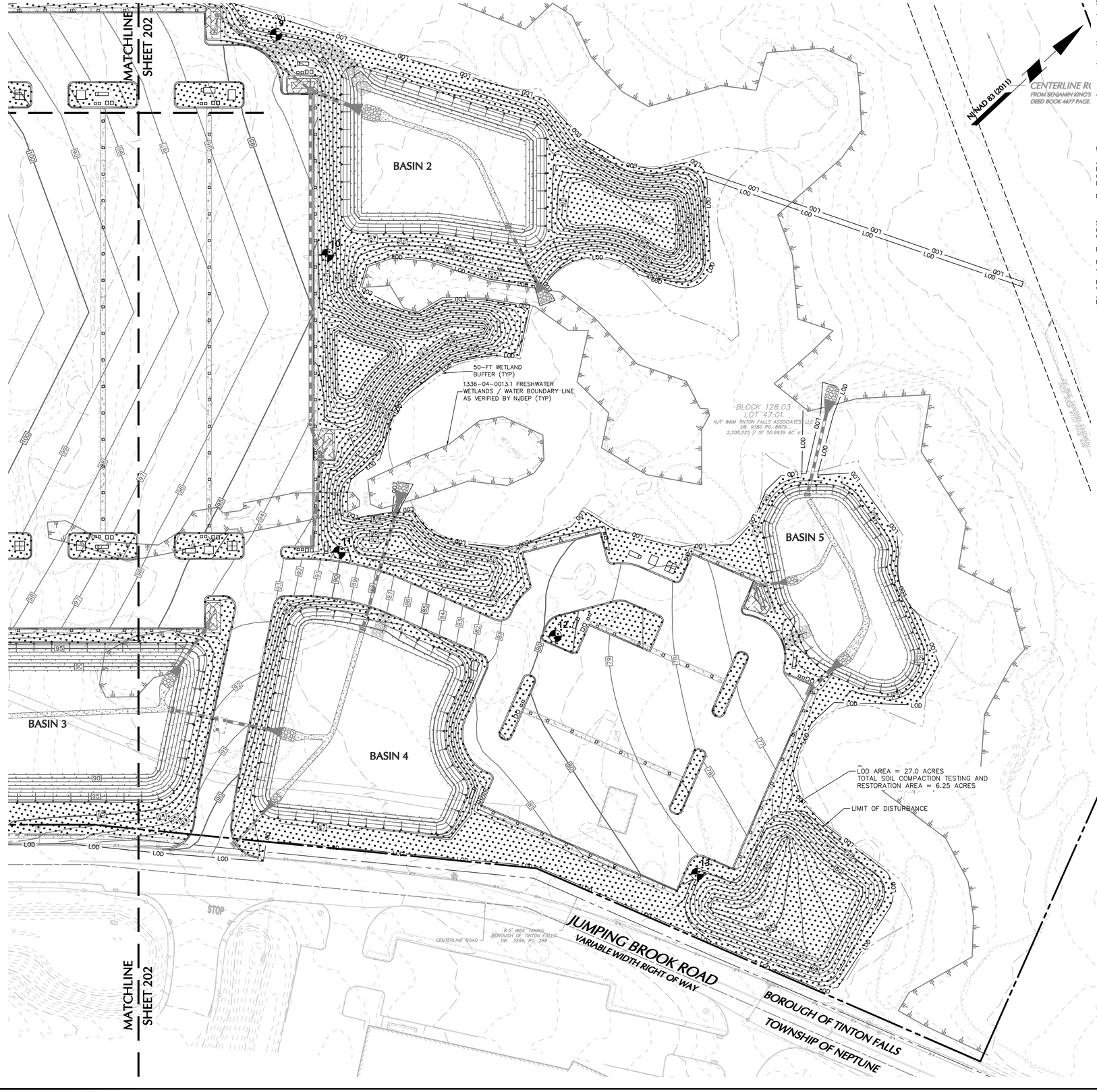


SOIL COMPACTION TESTING REQUIREMENTS

1. SUBGRADE SOILS PRIOR TO THE APPLICATION OF TOPSOIL (SEE PERMANENT SEEDING AND STABILIZATION NOTES FOR TOPSOIL REQUIREMENTS) SHALL BE FREE OF EXCESSIVE COMPACTION TO A DEPTH OF 6.0 INCHES TO ENHANCE THE ESTABLISHMENT OF PERMANENT VEGETATIVE COVER.
2. AREAS OF THE SITE WHICH ARE SUBJECT TO COMPACTION TESTING AND/OR MITIGATION ARE GRAPHICALLY DENOTED ON THE CERTIFIED SOIL EROSION CONTROL 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)

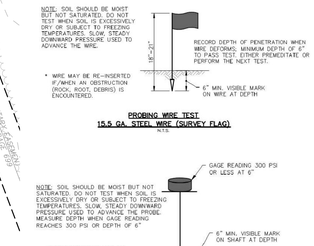
NOTE: ADDITIONAL TESTING METHODS WHICH CONFORM TO ASTM STANDARDS AND SPECIFICATION, AND WHICH PRODUCE A DRY WEIGHT, SOIL BULK DENSITY MEASUREMENT MAY BE ALLOWED SUBJECT TO DISTRICT APPROVAL.

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.

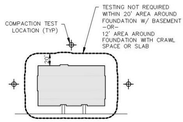
PROCEDURES FOR SOIL COMPACTION MITIGATION

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/TILLATE (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 MAY BE SUBSTITUTED SUBJECT TO DISTRICT APPROVAL.



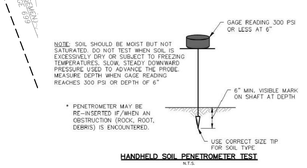
PROBING WIRE TEST
15.5 GA. STEEL WIRE (SURVEY FLAG)
N.T.S.



MULTIFAMILY HOUSING OR OTHER NON-RESIDENTIAL BUILDING/STRUCTURE

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

TYPICAL SOIL COMPACTION TESTING LOCATIONS
N.T.S.



HANDHELD SOIL PENETROMETER TEST
N.T.S.

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

LEGEND

- SOIL COMPACTION TESTING AND/OR RESTORATION AREAS
- 1 — RECOMMENDED TESTING LOCATION (APPROXIMATELY 1 PER 0.5 ACRE) 13 REQUIRED FOR THIS PROJECT (BASED ON 6.44 ACRES OF SOIL COMPACTION TESTING AND RESTORATION AREAS)
- 20' BUILDING OFFSET (EXCLUSION AREA)

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SOIL DECOMPACTION AND RESTORATION PLAN 3

Project No.	Drawing No.
100775501	CE203
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 33 of 50

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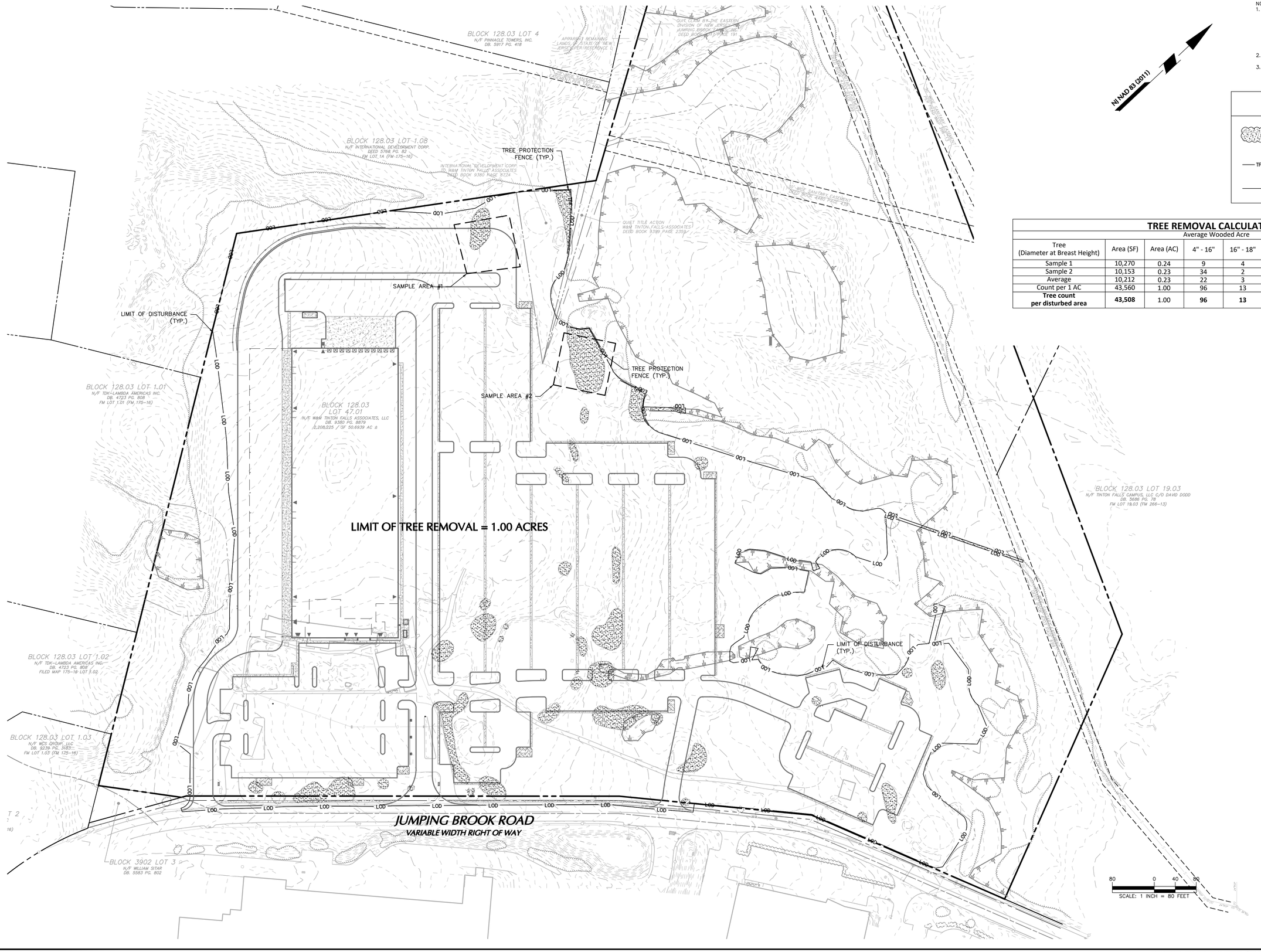
LANGAN
PROJECT NO. 100775501



NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. REFER TO TREE REMOVAL PERMIT APPLICATION FOR FULL TREE SURVEY INFORMATION.

LEGEND

	TREES AND BRUSH TO BE REMOVED
TPF	TREE PROTECTION FENCE
LOD	LIMIT OF DISTURBANCE

TREE REMOVAL CALCULATIONS

Average Wooded Acre

Tree (Diameter at Breast Height)	Area (SF)	Area (AC)	4" - 16"	16" - 18"	18" - 21"	21" - 24"	24" - 27"	TOTAL
Sample 1	10,270	0.24	9	4	0	6	2	21
Sample 2	10,153	0.23	34	2	1	0	0	37
Average	10,212	0.23	22	3	1	3	1	30
Count per 1 AC	43,560	1.00	96	13	4	13	4	130
Tree count per disturbed area	**43,508**	1.00	**96**	**13**	**4**	**13**	**4**	**130**

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
TREE REMOVAL PLAN

Project No.	**100775501**
Date	**06/25/2020**
Drawn By	**RY**
Checked By	**RB**

Drawing No. **LD100**

Sheet **34** of 50

PROJECT NO. 100775501

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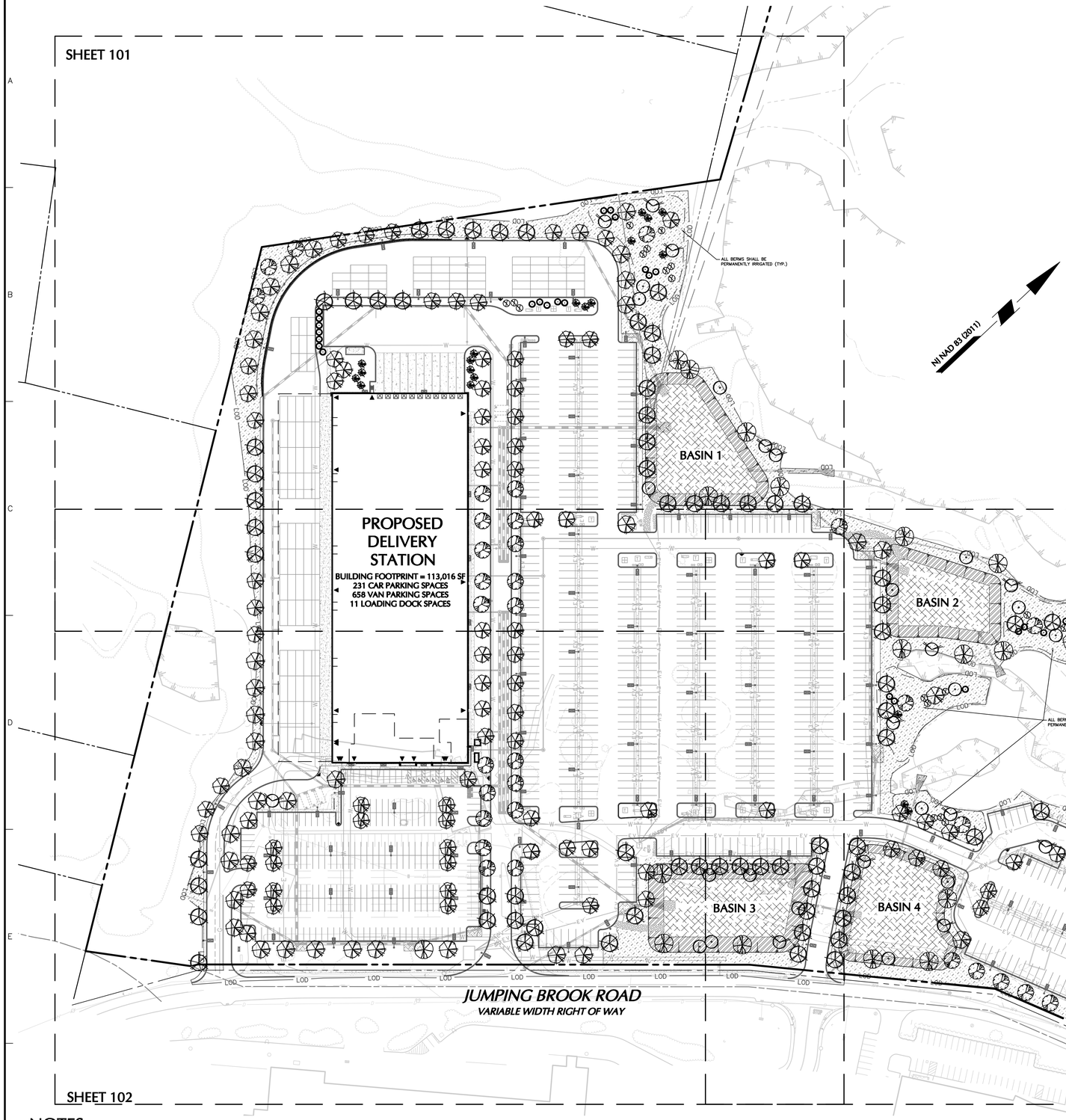
SHEET 101



SHEET 102

SHEET 103

ORDINANCE COMPLIANCE CHART - BOROUGH OF TINTON FALLS, NJ

SECTION		REQUIREMENT		PROPOSED	COMPLIANCE
§40-26. SPECIFIC DESIGN STANDARDS	E. BUFFERS	COMMERCIAL USES AND OTHER NONRESIDENTIAL USES SHALL PROVIDE BUFFER AREAS ALONG ALL SIDE AND REAR PROPERTY LINES WHICH ABUT AREAS CONTAINING OR PLANNED FOR ANY RESIDENTIAL USE. THE BUFFER AREAS SHALL MEET THE PROVISIONS AS FOLLOWS:		PROPOSED 40 FT BUFFER ALONG ALL ABUTTING RESIDENTIAL USES OR ZONES CONSISTS OF DENSE EXISTING VEGETATION. LANDSCAPE BERMS AND PLANTINGS ALONG THE LIMIT OF DISTURBANCE ARE PROVIDED.	COMPLIES
		2(a)(2)	THE WIDTH OF THE BUFFER SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING: FOR COMMERCIAL USES AND OTHER NONRESIDENTIAL USES ABUTTING RESIDENTIAL USES OR ZONES: FORTY (40) FEET.		
		2(b)	BUFFER AREAS SHALL BE PLACED WITH DENSE EVERGREEN PLANT MATERIALS IN AN IRREGULAR AND NATURAL APPEARING PATTERN TO FORM A CONTINUOUS SCREEN FROM GRADE LEVEL TO A HEIGHT OF FIVE (5) FEET. WHERE ADEQUATE SPACE IS AVAILABLE IN BUFFER AREAS, THE SCREEN PLANTINGS SHOULD BE CONCENTRATED IN A PLANTING STRIP APPROXIMATELY FIFTEEN (15) FEET TO TWENTY (20) FEET WIDE. ADDITIONAL AREA WITHIN THE BUFFER AREA SHOULD BE PLANTED WITH ORNAMENTAL TREES AND SHRUBS AND CANOPY TREES. WHERE EXISTING VEGETATION IS TO BE PRESERVED, THE SAME MAY BE INCORPORATED INTO THE BUFFER AND SUPPLEMENTED WITH ADDITIONAL PLANTINGS AS REQUIRED BY THE BOARD.		
	M. LANDSCAPING /SHADE TREES	2	DECIDUOUS TREES IN PLANTING AREAS SHALL HAVE AT LEAST A TWO AND ONE-HALF (2 1/2) INCH CALIPER AND BE EIGHT (8) TO TEN (10) FEET IN HEIGHT AT PLANTING, AND EVERGREEN TREES SHALL BE AT LEAST 6 FEET TALL. ALL TREES SHALL BE BALLED AND BURLAPPED AND BE OF SPECIMEN QUALITY AS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.	ALL DECIDUOUS TREES SPECIFIED HAVE A MINIMUM 2-2 1/2" CALIPER AND ARE TO BE 8-10' HEIGHT. EVERGREEN TREES SHALL BE 6-7' TALL. ALL TREES ARE TO BE BALLED AND BURLAPPED.	COMPLIES
		3	ALL SHADE TREES SHALL HAVE A MINIMUM DIAMETER OF FOUR (4) INCHES MEASURED SIX (6) INCHES ABOVE THE GROUND AND BE OF A SPECIES APPROVED BY THE SHADE TREE COMMISSION.	ALL PROPOSED SHADE TREES SHALL HAVE A MINIMUM OF 4-4 1/2" CALIPER.	COMPLIES
		3(b)	SHADE TREES SHALL BE PLANTED APPROXIMATELY FORTY (40) FEET APART AND PARALLEL TO AND AT A DISTANCE OF TWELVE AND ONE-HALF (12.5) FEET FROM THE CURBLINE OR EDGE OF PAVEMENT IF NO CURB IS TO BE INSTALLED, AND SHALL BE BALLED AND BURLAPPED, NURSERY GROWN, FREE FROM INSECTS AND DISEASE AND TRUE TO SPECIES AND VARIETY.	SHADE TREES ARE PLANTED AT APPROXIMATELY 40 FT O.C. AND PARALLEL TO AND 12.5 FT AWAY FROM THE CURBLINE OR EDGE OF PAVEMENT WHERE APPLICABLE. ALL SHADE TREES ARE TO BE BALLED AND BURLAPPED, NURSERY GROWN, FREE FROM INSECTS AND DISEASE AND TRUE TO SPECIES AND VARIETY.	COMPLIES
		3(c)	SHADE TREES SHALL BE LOCATED NOT CLOSER THAN TWENTY-FIVE (25) FEET TO ANY EXISTING OR PROPOSED STREETLIGHT OR STREET INTERSECTION.	NO SHADE TREES ARE LOCATED CLOSER THAN TWENTY-FIVE (25) FEET TO ANY EXISTING OR PROPOSED STREETLIGHT OR STREET INTERSECTION.	COMPLIES
		3(d)	NO SHADE TREE SHALL BE REMOVED FOR THE CONSTRUCTION OF ANY DRIVEWAY OR CURB CUT WITHOUT REPLACEMENT.	130 SHADE TREES ARE TO BE REMOVED FOR CONSTRUCTION AND 130 REPLACEMENT SHADE TREES ARE PROVIDED ON-SITE.	COMPLIES
		5	NATIVE SPECIES AND THEIR CULTIVARS SHALL BE USED IN ALL LANDSCAPE DESIGNS. NONINDIGENOUS PLANT SPECIES, AS IDENTIFIED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, NATURAL AND HISTORIC RESOURCES GROUP, PARKS AND FORESTRY, OFFICE OF NATURAL LANDS MANAGEMENT, NATURAL HERITAGE PROGRAM 2004 PUBLICATION "AN OVERVIEW OF NONINDIGENOUS PLANT SPECIES IN NEW JERSEY", OR ANY SUBSEQUENT REVISION, SHALL BE PROHIBITED.	ALL PROPOSED PLANTINGS ARE NATIVE SPECIES. NO NONINDIGENOUS PLANT SPECIES HAVE BEEN PROPOSED.	COMPLIES
		6(k)	ENTRANCES TO NONRESIDENTIAL LOTS SHALL BE GIVEN SPECIAL LANDSCAPING TREATMENT WITH AN ENTRANCE FEATURE.	LANDSCAPE PLANTINGS ARE PROVIDED AT ALL SITE ENTRANCES.	COMPLIES
	O. OFF-STREET PARKING	2(a)	A MINIMUM OF TEN (10%) PERCENT OF ANY SURFACE PARKING FACILITY OTHER THAN SINGLE-FAMILY HOMES SHALL BE LANDSCAPED AND SHALL INCLUDE ONE (1) SHADE TREE FOR EVERY FIVE (5) PARKING SPACES.	REQUIRED: MIN. 10% X 424,577 SF PARKING LOT = 42,457 SF MINIMUM REQUIRED LANDSCAPING 889 TOTAL PARKING SPACES / 5 = 177.8 = 178 TOTAL SHADE TREES PROPOSED: 45,728 SF LANDSCAPING IN PARKING LOTS 178 TOTAL SHADE TREES	WAIVER (SEE NOTE 1 BELOW)
		2(b)	ALL PARKING AND LOADING AREAS ABUTTING MIXED-USE/RESIDENTIAL AREAS SHALL BE BUFFERED ABOUT THEIR PERIPHERY WITH LANDSCAPING AND/OR FENCING.	ALL AREAS ABUTTING MIXED-USE/RESIDENTIAL AREAS ARE BUFFERED WITH LANDSCAPE BERMS, PLANTINGS, AND DENSE EXISTING VEGETATION.	COMPLIES
		2(i)	ALL LANDSCAPING IN PARKING AREAS SHALL BE CAREFULLY LOCATED SO AS NOT TO OBSTRUCT SIGHT TRIANGLE.	ALL LANDSCAPING IN PARKING AREAS IS LOCATED SO AS NOT TO OBSTRUCT ANY SIGHT TRIANGLES.	COMPLIES

NOTE:
1. THE TOTAL AMOUNT OF SHADE TREES REQUIRED FOR THE PARKING LOTS HAS BEEN PROVIDED, HOWEVER, THEY ARE LOCATED THROUGHOUT THE SITE.

NOTES:
1. REFER TO SHEETS LP101 THRU LP103 FOR PARTIAL LANDSCAPE PLANS.
2. REFER TO SHEETS LP501 AND LP502 FOR PLANT SCHEDULES, LANDSCAPE NOTES, AND DETAILS.

80 0 40 80
SCALE: 1 INCH = 80 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

SIGNATURE 01-07-2021 DATE SIGNED
MICHAEL GSZURA
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL LANDSCAPE PLAN

Project No.	Drawing No.
100775501	LP100
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 35 of 50

LANGAN
PROJECT NO. 100775501

Date: 1/6/2021 Time: 21:32 User: ryemerou Style Table: Langan.stb Layout: LP100 Document Code: 100775501-0102-LP001-0101

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ALL CURBS TO BE 6 INCHES UNLESS OTHERWISE SPECIFIED.
4. LANDSCAPING SHALL BE PROVIDED AROUND ALL PARKING AREAS IN ACCORDANCE WITH DRAWING LP100–LP103.
5. REFER TO SHEET LP100 FOR OVERALL LANDSCAPE PLAN.
6. REFER TO SHEET LP501 & LP502 FOR PLANT SCHEDULES, LANDSCAPING NOTES, AND DETAILS.
7. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

NJ NAD 83 (2011)

EXISTING VEGETATION TO REMAIN (TYP.)
MEADOW MIX TYPE A (TYP.)
3 PIAB
1 MV
1 QP
1 MV
3 PS
1 LSR
LOD
5 QP
3 GTIS
5 AROG
LAWN STRIP (TYP.)
3 LSR
1 IO
PS
1 IO
1 ASGM
1 MV
ALL BERMS SHALL BE PERMANENTLY IRRIGATED (TYP.)
3 ASGM
2 IO
1 PS
3 QP
3 PIAB
EXISTING VEGETATION TO REMAIN (TYP.)
4 AROG
GRAVEL (TYP.)
3 LSR
5 PIAB
3 IO
3 IO
1 AROG
2 AC
7 PIAB
LAWN (TYP.)
3 PS
7 AROG
MEADOW MIX TYPE A (TYP.)
SOD (TYP.)
7 RAG
5 IGC
RAIN GARDEN 'J' (TYP.)
3 LSR
4 JV
13 TOE
SOD (TYP.)
5 JV
4 KL
5 GTIS
5 VD
36 RAG
2 GTIS
5 IGC
3 KL
5 VD
2 BND
5 KL
5 MP
5 KL
1 AC
MEADOW MIX TYPE A (TYP.)
MEADOW MIX TYPE B (TYP.)
MEADOW MIX TYPE C (TYP.)
5 GTIS
4 KL
5 MP
4 KL
6 VD
3 KL
3 CAH
3 KL
GRAVEL STRIP (TYP.)
1 BND
2 MV
7 VD
5 KL
5 IGS
5 CAH
5 IGS
5 IV
4 KL
5 IGS
SOD (TYP.)
5 CAH
4 MP
BASIN 1
5 MP
5 KL
1 AC
6 AROG
1 BND
1 BND
5 IGS
5 IV
4 KL
3 ASGM
3 ASGM
6 VD
5 VD
2 KL
5 IGS
5 CAH
4 KL
6 IGC
1 GTIS
1 GTIS
3 IGC
75 RAG
1 QP
8 IGC
16 IGC
79 RAG
5 MP
5 KL
3 VD
5 KL
5 MP
1 KL
5 VD
3 KL
3 IGC
LAWN (TYP.)
5 IGS
GRAVEL STRIP (TYP.)
5 CAH
4 MP
LAWN (TYP.)
5 KL
16 IGC
75 RAG
16 IGC
76 RAG
14 IGC
81 RAG
1 GTIS
5 IGS
2 VD
2 IV
5 AROG
LOD
LAWN STRIP (TYP.)
EXISTING VEGETATION TO REMAIN (TYP.)
MATCHLINE
SHEET 102
PROPOSED DELIVERY STATION
BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES
MATCHLINE
SHEET 103
40 0 10 25 40
SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

Michael Szura 01-07-2021
SIGNATURE MICHAEL SZURA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL LANDSCAPE PLAN 1

Project No. 100775501	Drawing No. LP101
Date 06/25/2020	
Drawn By ML	
Checked By DB/JC	Sheet 36 of 50

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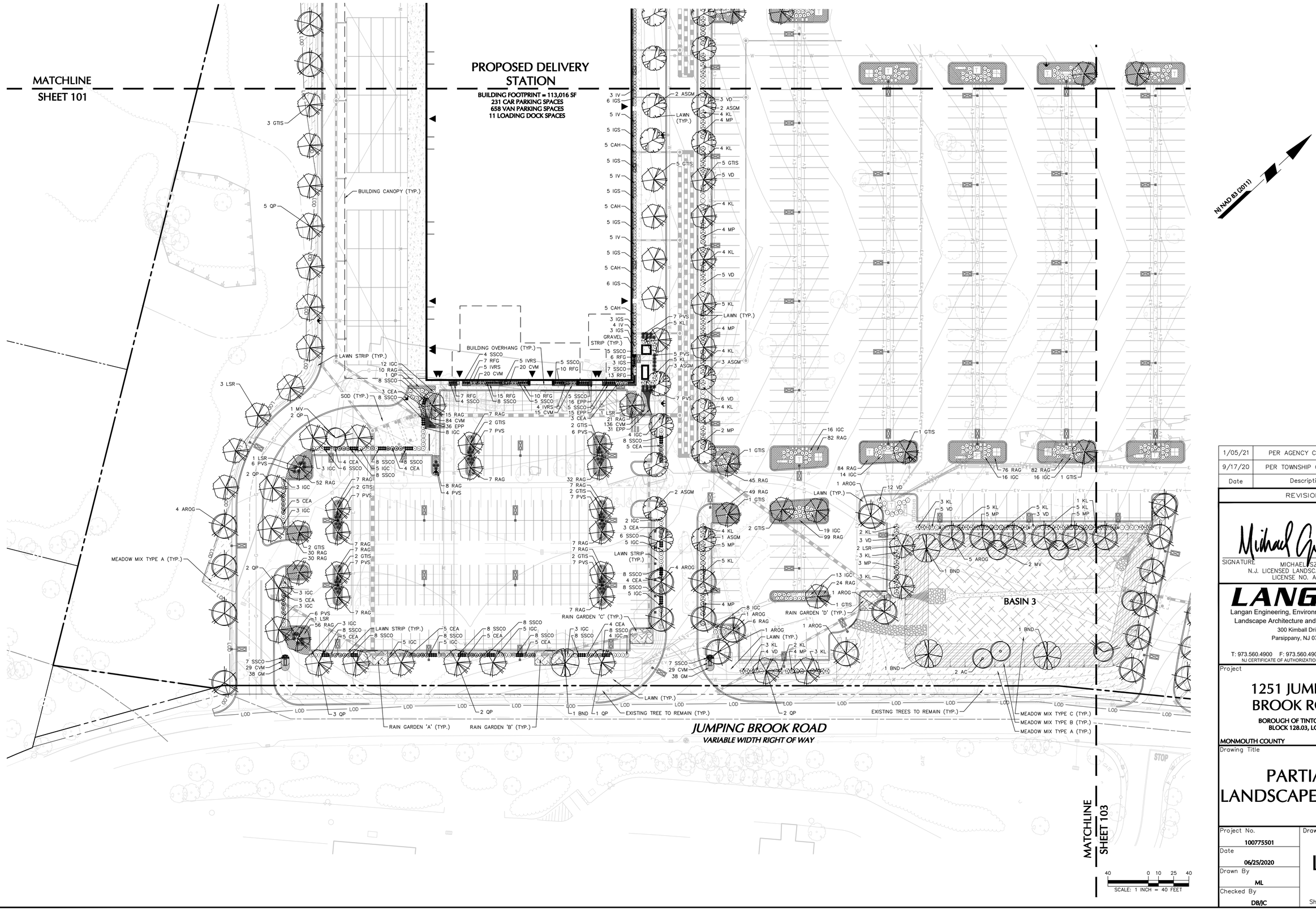
Date: 1/6/2021 Time: 21:33 User: ryemerou Style Table: Langan.stb Layout: LP101 Document Code: 100775501-0102-LP101-0101

PROJECT NO. 100775501



Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

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BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL LANDSCAPE PLAN 2

Project No.	Drawing No.
100775501	LP102
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 37 of 50

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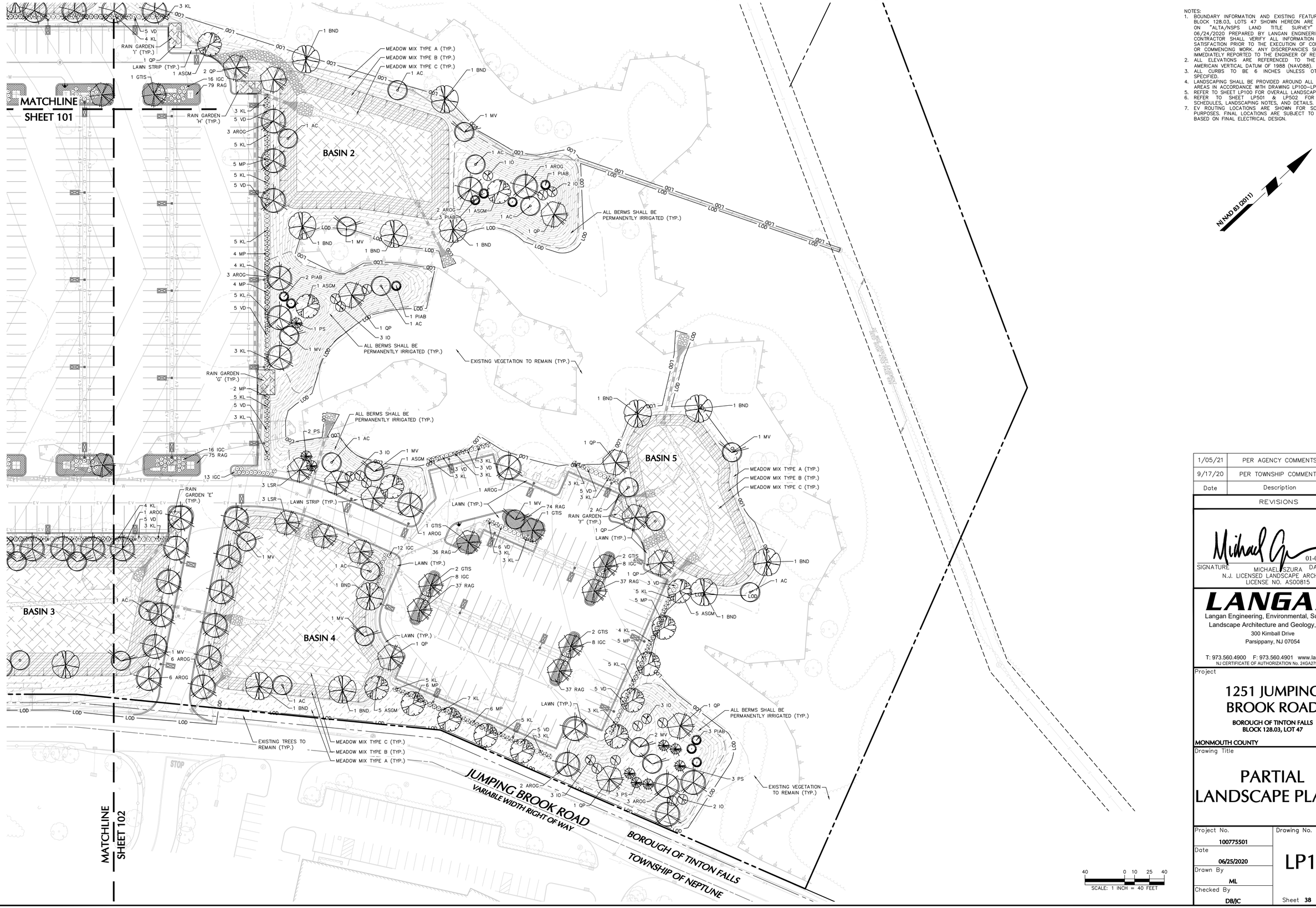

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ALL CURBS TO BE 6 INCHES UNLESS OTHERWISE SPECIFIED.
4. LANDSCAPING SHALL BE PROVIDED AROUND ALL PARKING AREAS IN ACCORDANCE WITH DRAWING LP100–LP103.
5. REFER TO SHEET LP100 FOR OVERALL LANDSCAPE PLAN.
6. REFER TO SHEET LP501 & LP502 FOR PLANT SCHEDULES, LANDSCAPING NOTES, AND DETAILS.
7. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

NJ NAD 83 (2011)

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL LANDSCAPE PLAN 3

Project No.	Drawing No.
100775501	LP103
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 38 of 50

40 0 10 25 40
SCALE: 1 INCH = 40 FEET

PROJECT NO. 100775501

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GENERAL LANDSCAPE PLANTING NOTES

1. NAMES OF PLANTS AS DESCRIBED ON THIS PLAN CONFORM TO THOSE GIVEN IN "STANDARDIZED PLANT NAMES", 1942 EDITION, PREPARED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURAL NOMENCLATURE. NAMES OF PLANT VARIETIES NOT INCLUDED THEREIN CONFORM TO NAMES GENERALLY ACCEPTED IN NURSERY TRADE.

2. STANDARDS FOR TYPE, SPREAD, HEIGHT, ROOT BALL AND QUALITY OF NEW PLANT MATERIAL SHALL BE IN ACCORDANCE WITH GUIDELINES AS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. PLANT MATERIAL SHALL HAVE NORMAL HABIT OF GROWTH AND BE HEALTHY, VIGOROUS, AND FREE FROM DISEASES AND INSECT INFESTATION.

3. NEW PLANT MATERIAL SHALL BE NURSERY GROWN UNLESS SPECIFIED OTHERWISE. ALL PLANTS SHALL BE SET PLUMB AND SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING. PLANT MATERIAL OF THE SAME SPECIES AND SPECIFIED AS THE SAME SIZE SHOULD BE SIMILAR IN SHAPE, COLOR AND HABIT. THE LANDSCAPE ARCHITECT HAS THE RIGHT TO REJECT PLANT MATERIAL THAT DOES NOT CONFORM TO THE TYPICAL OR SPECIFIED HABIT OF THAT SPECIES. ALL TREES SHALL HAVE A STRAIGHT TRUNK AND FULL HEAD AND MEET ALL REQUIREMENTS SPECIFIED. ANY TREE THAT LOSES THE MAIN LEADER SHALL BE REPLACED.

4. THE BACKFILL MIXTURE AND SOIL MIXES TO BE INSTALLED PER THE SPECIFICATIONS.

5. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND SUBGRADE DRAINAGE OR PERCOLATION CHARACTERISTICS, WHETHER THE SUBGRADE SOILS ARE EXISTING TO REMAIN OR IMPORTED AND PLACED. CONTRACTOR TO ENSURE POSITIVE VERTICAL DRAINAGE THROUGHOUT PLANTED AREAS. DISCREPANCIES SHALL BE ADDRESSED WITH THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PURCHASING PLANT MATERIALS.

6. NO PLANT SHALL BE PUT INTO THE GROUND BEFORE FINISH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR PROJECT ENGINEER.

7. ALL PLANT INSTALLATIONS SHALL BE COMPLETED EITHER BETWEEN APRIL 1 – JUNE 15 OR AUGUST 15 – NOVEMBER 1, UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE ARCHITECT. SEE LAWN SEEDING DATES IN SEEDING NOTES.

8. ALL FENCE AND GUIDE RAIL INSTALLATIONS SHALL BE COMPLETED PRIOR TO COMMENCEMENT OF ANY LANDSCAPE PLANTING, LAWN AND GRASSES, OR IRRIGATION WORK.

9. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITY AND SEWER LINES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF CONSTRUCTION. NOTIFY THE PROJECT ENGINEER AND OWNER IMMEDIATELY OF ANY CONFLICTS WITH PROPOSED PLANTING LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE.

10. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA 2) TO PROTECT OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE CONSTRUCTION.

11. THE CONTRACTOR SHALL NOT MAKE SUBSTITUTIONS. IF THE SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, THE CONTRACTOR SHALL SUBMIT PROOF OF NON-AVAILABILITY TO THE LANDSCAPE ARCHITECT AND OWNER, TOGETHER WITH A WRITTEN PROPOSAL FOR USE OF AN EQUIVALENT MATERIAL.

12. LANDSCAPE CONTRACTOR TO STAKE OUT PLANTING LOCATIONS, FOR REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT AND/OR OWNER BEFORE PLANTING WORK BEGINS. THE LANDSCAPE ARCHITECT AND/OR OWNER SHALL DIRECT THE CONTRACTOR IN THE FINAL PLACEMENT OF ALL PLANT MATERIAL AND LOCATION OF PLANTING BEDS TO ENSURE COMPLIANCE WITH DESIGN INTENT UNLESS OTHERWISE INSTRUCTED.

13. ALL MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION. THE LANDSCAPE ARCHITECT MAY REVIEW PLANT MATERIALS AT THE SITE FOR COMPLIANCE WITH REQUIREMENTS FOR GENUS, SPECIES, VARIETY, SIZE, AND QUALITY. THE LANDSCAPE ARCHITECT RETAINS THE RIGHT TO FURTHER REVIEW PLANT MATERIALS FOR SIZE AND CONDITION OF BALLS AND ROOT SYSTEM, INSECTS, INJURIES, AND LATENT DEFECTS, AND TO REJECT UNSATISFACTORY OR DEFECTIVE MATERIAL AT ANY TIME DURING PROGRESS OF WORK. THE CONTRACTOR SHALL REMOVE REJECTED PLANT MATERIALS IMMEDIATELY FROM PROJECT SITE AS DIRECTED BY THE LANDSCAPE ARCHITECT OR OWNER.

14. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PESTS AND DISEASE. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, MISSING, 25% OR MORE DEAD, WHICH DO NOT DEVELOP FROM PLANTING STOCK, THAT APPEAR UNHEALTHY OR UNSIGHTLY AND/OR HAVE LOST THEIR NATURAL SHAPE DUE TO DEAD BRANCHES DEAD, OR REJECTED FOR ANY OTHER REASON (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.

15. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY SCHEDULE AND PROTECTION BETWEEN DELIVERY AND PLANTING PER SPECIFICATIONS TO MAINTAIN HEALTHY PLANT CONDITIONS.

16. DELIVERY, STORAGE, AND HANDLING
   A. PACKAGED MATERIALS: PACKAGED MATERIALS SHALL BE DELIVERED IN CONTAINERS SHOWING WEIGHT, ANALYSIS, AND NAME OF MANUFACTURER. MATERIALS SHALL BE PROTECTED FROM DETERIORATION DURING DELIVERY, AND WHILE STORED AT SITE.
   B. TREES AND SHRUBS: THE CONTRACTOR SHALL PROVIDE TREES AND SHRUBS DUG FOR THE GROWING SEASON FOR WHICH THEY WILL BE PLANTED. DO NOT PRUNE PRIOR TO DELIVERY UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DAMAGE BARK, BREAK BRANCHES, OR DESTROY NATURAL SHAPE. PROVIDE PROTECTIVE COVERING DURING TRANSIT. DO NOT DROP BALLED AND BURLAPPED STOCK DURING DELIVERY OR HANDLING.
   C. ALL PLANTS SHALL BE BALLED AND BURLAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOTBALL WRAPPING AND BINDING MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED FROM THE TOP OF THE BALL AT THE TIME OF PLANTING. IF THE PLANT IS SHIPPED WITH A WIRE BASKET AROUND THE ROOT BALL, THE WIRE BASKET SHALL BE CUT AND FOLDED DOWN 8 INCHES INTO THE PLANTING HOLE. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE ROOT BALL SHALL BE CUT THROUGH THE SURFACE IN TWO LOCATIONS.
   D. THE CONTRACTOR SHALL HAVE TREES AND SHRUBS DELIVERED TO SITE AFTER PREPARATIONS FOR PLANTING HAVE BEEN COMPLETED AND PLANT IMMEDIATELY. IF PLANTING IS DELAYED MORE THAN 6 HOURS AFTER DELIVERY, THE CONTRACTOR SHALL SET TREES AND SHRUBS IN SHADE, PROTECT FROM WEATHER AND MECHANICAL DAMAGE AND KEEP ROOTS MOIST BY COVERING WITH MULCH, BURLAP OR OTHER ACCEPTABLE MEANS OF RETAINING MOISTURE.

17. ALL LANDSCAPED AREAS TO BE CLEARED OF ROCKS, STUMPS, TRASH AND OTHER UNSIGHTLY DEBRIS. ALL FINE GRADED AREAS SHOULD BE HAND RAKED SMOOTH ELIMINATING ANY CLUMPS AND UNEVEN SURFACES PRIOR TO PLANTING OR MULCHING.

18. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS, NOTES AND CONTRACT SPECIFICATIONS. THE LANDSCAPE ARCHITECT MAY REVIEW INSTALLATION AND MAINTENANCE PROCEDURES.

19. CONTRACTOR'S GUARANTEE: ALL PLANTINGS AND PLANTING AREAS SHALL BE PERMANENTLY MAINTAINED. NEW PLANT MATERIAL SHALL BE GUARANTEED TO BE ALIVE AND IN VIGOROUS GROWING CONDITION FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO: WATERING, PRUNING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANT MATERIALS AND LAWN FOR THE DURATION OF THE GUARANTEED PERIOD. PLANT MATERIAL FOUND TO BE UNHEALTHY, DYING OR DEAD DURING THIS PERIOD, SHALL BE REMOVED AND REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

20. THE CONTRACTOR SHALL KEEP AREA CLEAN DURING DELIVERY AND INSTALLATION OF PLANT MATERIALS. REMOVE AND DISPOSE OF OFF-SITE ANY ACCUMULATED DEBRIS OR UNUSED MATERIALS. REPAIR DAMAGE TO ADJACENT AREAS CAUSED BY LANDSCAPE INSTALLATION OPERATIONS.

21. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24– HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR AS REQUIRED BY SITE AND WEATHER CONDITIONS TO MAINTAIN VIGOROUS AND HEALTHY PLANT GROWTH.

22. AFTER PLANT IS PLACED IN TREE PIT LOCATION, ALL TWINE HOLDING ROOT BALL TOGETHER SHOULD BE COMPLETELY REMOVED AND THE BURLAP SHOULD BE PULLED DOWN SO 1/3 OF THE ROOT BALL IS EXPOSED. SYNTHETIC BURLAP SHOULD BE COMPLETELY REMOVED AFTER INSTALLATION.

23. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.

24. ALL EXPOSED GROUND SURFACES THAT ARE NOT PAVED WITHIN THE CONTRACT LIMIT LINE, AND THAT ARE NOT COVERED BY LANDSCAPE PLANTING OR SEEDING AS SPECIFIED, SHALL BE COVERED BY A NATURAL MULCH FROM A LOCAL SOURCE HARVESTED IN A SUSTAINABLE MANNER THAT WILL PREVENT SOIL EROSION AND THE EMANATION OF DUST. MULCH SHALL BE 1– TO 2–INCH DIAMETER RIVER STONE. WOOD MULCH SHALL NOT BE ACCEPTED. MULCH SHOULD NOT BE PILED UP AROUND THE TRUNK OF ANY PLANT MATERIAL. NO MULCH OR TOPSOIL SHOULD BE TOUCHING THE BASE OF THE TRUNK ABOVE THE ROOT COLLAR.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. FOR ANY DISCREPANCIES BETWEEN THE PLANT SCHEDULE AND PLANTING PLAN THE GRAPHIC QUANTITY SHOWN SHALL GOVERN.

26. LANDSCAPE PUNCH LIST SITE VISITS TO BE PERFORMED BY THE PROJECT LANDSCAPE ARCHITECT, IF UNDER CONTRACT FOR SUCH WORK, WILL NOT BE SCHEDULED UNTIL CONFIRMATION IS RECEIVED THAT ALL PROPOSED LANDSCAPE ITEMS HAVE BEEN INSTALLED, OR DEFICIENCIES NOTED IN THE PRIOR PUNCH LIST REPORT HAVE BEEN CORRECTED. THE PUNCH LIST SITE VISIT WILL THEN BE PERFORMED WITHIN 10 BUSINESS DAYS.

27. CONTRACTOR SHALL ASSESS THE NEED FOR DEER PROTECTION ON SITE. IF DEEMED NECESSARY, SHADE AND ORNAMENTAL TREES SHALL BE PROTECTED THROUGH WINTER WITH SPIRAL WRAP TREE GUARDS, OR APPROVED EQUAL. PROTECTION LENGTH TO BE FROM BELOW THE LOWEST BRANCH AND DOWN TO WITHIN A FEW INCHES OF THE GROUND. THE GUARDS CAN BE REMOVED IN SPRING AND SAVED FOR RE-INSTALLATION DURING FOLLOWING WINTERS AS PART OF A MAINTENANCE PROGRAM.

PLANTING SOIL SPECIFICATIONS

1. PLANTING SOIL, ALTERNATELY MAY BE REFERRED TO AS TOPSOIL, SHOULD BE FRIABLE, FERTILE, WELL DRAINED, FREE OF DEBRIS, TOXINS, TRASH AND STONES OVER 1/2" DIA., IT SHOULD HAVE A HIGH ORGANIC CONTENT SUITABLE TO SUSTAIN HEALTHY PLANT GROWTH AND SHOULD LOOK AESTHETICALLY PLEASING HAVING NO NOXIOUS ODORS.

2. PLANTING SOIL:

   REUSE SURFACE SOILS STOCKPILED ON SITE, VERIFYING COMPLIANCE WITH PLANTING SOIL AND TOPSOIL CRITERIA IN THIS SPECIFICATION THROUGH TESTING. CLEAN SURFACE SOILS, OF ALL ROOTS, PLANTS, SOD, AND GRAVEL OVER 1" IN DIAMETER AND DELETERIOUS MATERIALS. IF ON-SITE SOILS ARE TO BE USED FOR PROPOSED PLANTING, THE CONTRACTOR SHALL DEMONSTRATE, THROUGH SOIL TESTING, THAT ON-SITE SOILS MEET THE SAME CRITERIA AS INDICATED IN NOTES PLANS AND SPECIFICATIONS.

   SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF SITE SOURCES WHEN TOPSOIL AND PLANTING SOIL QUANTITIES ARE INSUFFICIENT. OBTAIN SOIL DISPLACED FROM NATURALLY WELL-DRAINED SITES WHERE TOPSOIL OCCURS AT LEAST 4" DEEP. DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, MARSHES OR CONTAMINATED SITES.

   CONTRACTOR SHALL TEST SOILS AND FURNISH SAMPLES UPON REQUEST. PACKAGED MATERIALS SHALL BE UNOPENED BAGS OR CONTAINERS, EACH BEARING A NAME, GUARANTEE, AND TRADEMARK OF THE PRODUCER, MATERIAL COMPOSITION, MANUFACTURER'S CERTIFIED ANALYSIS, AND THE WEIGHT OF THE MATERIALS. SOIL OR AMENDMENT MATERIALS SHALL BE STORED ON SITE TEMPORARILY IN STOCKPILES PRIOR TO PLACEMENT AND SHALL BE PROTECTED FROM INTRUSION OF CONTAMINANTS AND EROSION. AFTER MIXING, SOIL MATERIALS SHALL BE COVERED WITH A TARPAULIN UNTIL TIME OF ACTUAL USE.

   ALL PLANTING SOILS SHALL BE SUBMITTED FOR TESTING TO THE STATE COOPERATIVE EXTENSION SERVICE, OR APPROVED EQUAL PRIOR TO DELIVERY TO THE SITE. THE CONTRACTOR SHALL FURNISH SOIL SAMPLES AND SOIL TEST RESULTS TO LANDSCAPE ARCHITECT OR OWNER IN THE FOLLOWING RATE OF ONE SAMPLE PER 500 CUBIC YARDS TO ENSURE CONSISTENCY ACROSS THE TOTAL VOLUME OF PLANTING SOIL REQUIRED. TEST RESULTS SHALL EVALUATE FOR ALL CRITERIA LISTED IN THIS SPECIFICATION. IF TESTING AGENCY DETERMINES THAT THE SOILS ARE DEFICIENT IN ANY MANNER AND MAY BE CORRECTED BY ADDING AMENDMENTS, THE CONTRACTOR SHALL FOLLOW STATES RECOMMENDATIONS FOR SOIL IMPROVEMENT AND PROVIDE SUBMITTALS FOR ALL AMENDMENTS PRIOR TO DELIVERY OF SOIL TO THE PROJECT SITE.

   A. THE FOLLOWING TESTING SHOULD BE PERFORMED AND RESULTS GIVEN TO THE LANDSCAPE ARCHITECT FOR APPROVAL BEFORE INSTALLATION:
      a. PARTICLE SIZE ANALYSIS – LOAMY SAND: 70–85% SAND, 15–30% SILT AND CLAY
      b. FERTILITY ANALYSIS: pH (5.5–6.5), SOLUBLE SALTS (LESS THAN 2 MMHO/CM), NITRATE, PHOSPHATE, POTASSIUM, CALCIUM AND MAGNESIUM
      c. ORGANIC MATTER CONTENT: 2.5–5% IN NATIVE SOILS; UP TO 10% IN AMENDED SOILS
      d. TOXIC SUBSTANCE ANALYSIS
      e. MATERIAL DRAINAGE RATE: 60% PASSING IN 2 MINUTES, 40% RETAINED
      f. NOT MORE THAN 1% OF MATERIAL SHALL BE RETAINED BY A #4 SIEVE

3. SOIL AMENDMENT FOR PLANT MATERIAL:
   IF SOIL ORGANIC CONTENT IS INADEQUATE, SOIL SHALL BE AMENDED WITH COMPOST OR ACCEPTABLE, WEED FREE, ORGANIC MATTER. COMPOST SHALL BE THE WELL COMPOSTED, PH RANGE OF 6–8; MOISTURE CONTENT 35–55% BY WEIGHT 100% PASSING THROUGH 1" SIEVE; SOLUBLE SALT CONTENT LESS THAN 6.5 MM HOS/CM; MEETING ALL APPLICABLE ENVIRONMENTAL CRITERIA FOR CLEAN FILL.

   A. ORGANIC MATTER AS A SOIL AMENDMENT: LEAF MOLD WITH 60–90% ORGANIC CONTENT BY WEIGHT. SHREDDED LEAF LITTER, COMPOSTED FOR A MINIMUM OF 1 YR. SHOULD BE FREE OF DEBRIS, STONES OVER 1/2", WOOD CHIPS OVER 1".
   B. SOIL IN BEDS AND PLANTING ISLANDS OTHER THAN BACKFILL MATERIAL AND TOPSOIL, SHOULD BE FRIABLE, WELL DRAINED, AND FREE OF DEBRIS, INCLUDING STONES AND TRASH.
   C. AMENDMENTS FOR BACK FILL IN TREE AND SHRUB PITS:
      a. GROUND LIMESTONE (WITH A MIN. OF 88% OF CALCIUM AND MAGNESIUM CARBONATES) USED PENDING RESULTS OF SOIL ANALYSIS – BRING pH LEVELS TO 5.5 MIN. TO 6.5 FOR NON-ERICACEOUS PLANTS – BRING pH LEVELS TO 4.5 MIN. TO 5.5 FOR ERICACEOUS PLANTS
      b. TERRA–SORB BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN PLANTER BACKFILL MIXTURE WITH TREES AND SHRUBS.
      c. MYCOR–ROOT SAVER BY 'PLANT HEALTH CARE' 800–421–9051 (SEE MANUFACTURER RECOMMENDATIONS) USED IN BACKFILL MIXTURE WITH TREES.

4. WHERE PLANTING AREAS ARE PROPOSED FOR FORMER PAVED OR GRAVEL AREAS, BEDS SHALL BE EXCAVATED TO A MINIMUM 30" DEPTH AND, AT A MINIMUM, BE BACKFILLED WITH BOTTOM LAYER OF SANDY LOAM (ORGANIC CONTENT LESS THAN 2%) OVER WHICH TOPSOIL AND PLANTING SOILS WILL BE PLACED AT DEPTHS INDICATED IN PLANS, DETAILS AND NOTES.

5. CLEAN SOIL FILL IN LANDSCAPE AREAS:
   LANDSCAPE FILL MATERIAL, BELOW PLANTING SOILS, SHALL HAVE THE PHYSICAL PROPERTIES OF A SANDY LOAM WITH AN ORGANIC CONTENT OF LESS THAN 2% AND A PH BETWEEN 5 – 7.

6. SOIL PLACEMENT:
   A. CONTRACTOR TO PROVIDE SIX INCHES (6") MINIMUM DEPTH PLANTING SOIL LAYER IN LAWN AREAS, TWELVE INCHES (12") MINIMUM DEPTH PLANTING SOIL LAYER IN GROUNDCOVER AND PERENNIAL AREAS, EIGHTEEN INCHES (18") MINIMUM DEPTH PLANTING SOIL LAYER IN SHRUB AREAS, AND THIRTY–SIX INCHES (36") MINIMUM DEPTH PLANTING SOIL LAYER IN TREE PLANTING AREAS.
   B. SCARIFY AND/OR TILL COMPACTED SUBSOILS TO A MINIMUM DEPTH OF 6 INCHES. THOROUGHLY MIX A 6 INCH DEPTH LAYER OF PLANTING SOIL INTO THE SUBSOIL PRIOR TO PLACING PLANTING SOIL AT THE DEPTHS INDICATED ABOVE. PLANTING SOIL SHALL BE PLACED IN 12–18" LIFTS AND WATER THOROUGHLY BEFORE INSTALLING NEXT LIFT. REPEAT UNTIL DEPTHS AND FINISH GRADES HAVE BEEN ACHIEVED. NO SOILS SHALL BE PLACED IN A FROZEN OR MUDDY CONDITION.
   C. PLANTING SOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED. CONTRACTOR TO FURNISH AN ANALYSIS OF ON–SITE PLANTING SOIL UTILIZED IN ALL PLANTING AREAS.

7. SOIL CONDITIONING:
   A. ADJUST pH AND NUTRIENT LEVELS AS REQUIRED TO ENSURE AN ACCEPTABLE GROWING MEDIUM. LOWER pH USING ELEMENTAL SULFUR ONLY. PEAT MOSS OR COPPER SULFATE MAY NOT BE USED. GROUND LIMESTONE AS A SOIL AMENDMENT MATERIAL WILL ONLY BE USED PENDING RESULTS OF SOIL ANALYSIS. PROVIDE WITH MINIMUM 88% CALCIUM AND MAGNESIUM CARBONATES AND SHALL HAVE TOTAL 100% PASSING THE 10 MESH SIEVE, MINIMUM 90% PASSING 20 MESH SIEVE, AND MINIMUM 60% PASSING 100 MESH SIEVE.
   B. ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
   C. SOIL MODIFICATIONS (PENDING RESULTS OF SOIL ANALYSIS):
      a. THOROUGHLY TILL ORGANIC MATTER (LEAF COMPOST) INTO THE TOP 6 TO 12 IN. OF MOST PLANTING SOILS TO IMPROVE THE SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS. 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 7.0. PEAT MOSS MAY NOT BE USED AS ORGANIC MATTER AMENDMENT.
      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.

LANDSCAPE MAINTENANCE NOTES

1. MAINTENANCE OPERATIONS BEFORE APPROVAL:
   A. PLANT CARE SHALL BEGIN IMMEDIATELY AFTER EACH PLANT IS SATISFACTORILY INSTALLED AND SHALL CONTINUE THROUGHOUT THE LIFE OF THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE PROJECT.
   B. CARE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS AS ORIGINALLY INSTALLED, WATERING WHEN NEEDED OR DIRECTED, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
   C. CONTRACTOR SHALL REMOVE AND REPLACE ALL DEAD, DEFECTIVE AND/OR REJECTED PLANTS AS REQUIRED BEFORE FINAL ACCEPTANCE.

2. MAINTENANCE DURING CONSTRUCTION:
   A. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING. PLANTS SHALL BE WATERED, MULCHED, WEEDED, PRUNED, SPRAYED, FERTILIZED, CULTIVATED, AND OTHERWISE MAINTAINED AND PROTECTED UNTIL PROVISIONAL ACCEPTANCE. SETTLED PLANTS SHALL BE RESET TO PROPER GRADE AND POSITION, PLANTING SAUCER RESTORED AND DEAD MATERIAL REMOVED. STAKES AND WIRES SHALL BE TIGHTENED AND REPAIRED. DEFECTIVE WORK SHALL BE CORRECTED AS SOON AS POSSIBLE AFTER IT BECOMES APPARENT AND WEATHER AND SEASON PERMIT.
   B. IF A SUBSTANTIAL NUMBER OF PLANTS ARE SICKLY OR DEAD AT THE TIME OF INSPECTION, ACCEPTANCE SHALL NOT BE GRANTED AND THE CONTRACTOR'S RESPONSIBILITY FOR MAINTENANCE OF ALL PLANTS SHALL BE EXTENDED FROM THE TIME REPLACEMENTS ARE MADE OR EXISTING PLANTS ARE DEEMED ACCEPTABLE BY THE LANDSCAPE ARCHITECT.
   C. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE SPECIFIED ON THE PLANT LIST OR THAT WHICH WAS TO REMAIN OR BE RELOCATED. THEY SHALL BE FURNISHED AND PLANTED AS SPECIFIED. THE COST SHALL BE CONTRACTED BY THE CONTRACTOR. REPLACEMENTS RESULTING FROM REMOVAL, LOSS, OR DAMAGE DUE TO OCCUPANCY OF THE PROJECT IN ANY PART, VANDALISM, PHYSICAL DAMAGE BY ANIMALS, VEHICLES, ETC., AND LOSSES DUE TO CURTAILMENT OF WATER BY LOCAL AUTHORITIES SHALL BE APPROVED AND PAID FOR BY THE OWNER.
   D. PLANTS SHALL BE GUARANTEED FOR A PERIOD OF TWO YEARS AFTER INSPECTION AND PROVISIONAL ACCEPTANCE.
   E. AT THE END OF THE ESTABLISHMENT PERIOD, INSPECTION SHALL BE MADE AGAIN. ANY PLANT REQUIRED UNDER THIS CONTRACT THAT IS DEAD OR UNSATISFACTORY TO THE LANDSCAPE ARCHITECT OR OWNER SHALL BE REMOVED FROM THE SITE AND REPLACED DURING THE NORMAL PLANTING SEASON.

3. MAINTENANCE GUARANTEE
   A. THE DEVELOPER SHALL GUARANTEE THAT EACH SHADE TREE SHALL FULLY SURVIVE UNTIL SUCH TIME AS THE RELEASE OF THE MAINTENANCE GUARANTEE. THE BOROUGH ENGINEER SHALL INSPECT THE SHADE TREES AT THE TIME OF THE REQUEST FOR THE RELEASE OF THE PERFORMANCE GUARANTEE AND SHALL ASSURE THAT THE DEAD OR DYING TREES BE REPLACED. UPON REQUEST BY THE DEVELOPER FOR THE RELEASE OF THE MAINTENANCE GUARANTEE, THE BOROUGH ENGINEER SHALL INSPECT THE SHADE TREES AND SHALL REQUIRE THAT THE DEAD OR DYING TREES BE REPLACED.

4. LAWN MAINTENANCE:
   A. BEGIN MAINTENANCE IMMEDIATELY AFTER EACH PORTION OF LAWN IS PLANTED AND CONTINUE FOR 8 WEEKS AFTER ALL LAWN PLANTING IS COMPLETED.
   B. WATER TO KEEP SURFACE SOIL MOIST, REPAIR WASHED OUT AREAS BY FILLING WITH TOPSOIL, LIMING, FERTILIZING AND RE-SEEDING; MOW TO 2 1/2 – 3 INCHES AFTER GRASS REACHES 3 1/2 INCHES IN HEIGHT, AND MOW FREQUENTLY ENOUGH TO KEEP GRASS FROM EXCEEDING 3 1/2 INCHES. WEED BY LOCAL SPOT APPLICATION OF SELECTIVE HERBICIDE ONLY AFTER GRASS IS WELL-ESTABLISHED.

5. ROUTINE MAINTENANCE:
   A. ROUTINE MAINTENANCE OF SHADE TREES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND SHALL COMMENCE ONCE THE CERTIFICATE OF OCCUPANCY HAS BEEN ISSUED.

MEADOW SEEDING NOTES:

1. MEADOW SEED MIX A – NEW ENGLAND WILDFLOWER MIX
   (AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS INC;
   PHONE: 413–548–8000)

   LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM),
   RED FESCUE (FESTUCA RUBRA),
   INDIAN GRASS (SORGHASTRUM NUTANS),
   PARTRIDGE PEA (CHAMAECRISTA FASCICULATA),
   CANADA WILD RYE (ELYMUS CANADENSIS),
   VIRGINIA WILD RYE (ELYMUS VIRGINICUS),
   BLUE VERVAIN (VERBENA HASTATA),
   BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA),
   NARROWLEAFED BLUE EYED GRASS (SISYRINCHIUM ANGUSTIFOLIUM),
   BLACK EYED SUSAN (RUDBECKIA HIRTA),
   NEW ENGLAND ASTER (SYMPHYOTRICHUM NOVAE–ANGLIAE),
   SPIKED GAYFEATHER/ MARSH BLAZING STAR (LIATRIS SPICATA),
   STARVED/CALICO ASTER (ASTER LATERIFLORUS/SYMPHYOTRICHUM LATERIFLORUM),
   EARLY GOLDENROD (SOLIDAGO JUNCEA),
   HOLLOW–STEM JOE PYE WEED (EUPATORIUM FISTULOSUM/EUTROCHIUM FISTULOSUM)

   NOTES:
   1. SEED AT A RATE OF 23 LBS./ACRE.
   2. FOR SPRING SEEDING, APPLY A NURSE CROP OF OATS AT A RATE OF 20 LBS./ACRE.
   3. FOR FALL SEEDING, APPLY A NURSE CROP OF BARLEY AT A RATE OF 20 LBS./ACRE.

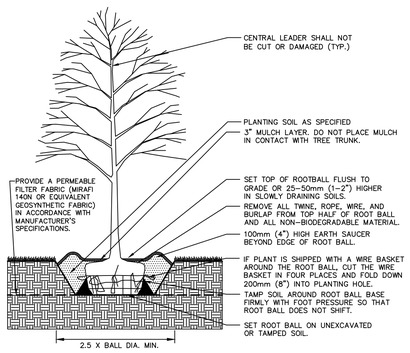
2. MEADOW SEED MIX B – NEW ENGLAND WETMIX
   (AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS INC;
   PHONE: 413–548–8000)

   FOX SEDGE (CAREX VULPINOIDEA),
   LURID SEDGE (CAREX LURIDA),
   BLUNT BROOM SEDGE (CAREX SCOPARIA),
   BLUE VERVAIN (VERBENA HASTATA),
   FOWL BLUEGRASS (POA PALUSTRIS),
   HOP SEDGE (CAREX LUPULINA),
   GREEN BULRUSH (SCIRPUS ATROVIRENS),
   CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS),
   FRINGED SEDGE (CAREX CRINITA),
   SOFT RUSH (JUNCUS EFFUSUS),
   SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM),
   RATTLESNAKE GRASS (GLYCERIA CANADENSIS),
   SWAMP ASTER (ASTER PUNICEUS),
   BLUEFLAG (IRIS VERSICOLOR),
   SWAMP MILKWEED (ASCLEPIAS INCARNATA),
   SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS)

   NOTES:
   1. SEED AT A RATE OF 18 LBS./ACRE.
   2. FOR SPRING SEEDING, APPLY A NURSE CROP OF OATS AT A RATE OF 20 LBS./ACRE.
   3. FOR FALL SEEDING, APPLY A NURSE CROP OF BARLEY AT A RATE OF 20 LBS./ACRE.

3. MEADOW SEED MIX C – NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES (AS SUPPLIED BY NEW ENGLAND WETLAND PLANTS INC; PHONE: 413–548–8000)

   RIVERBANK WILD RYE (ELYMUS RIPARIUS)
   CREEPING RED FESCUE (FESTUCA RUBRA)
   LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)
   BIG BLUESTEM (ANDROPOGON GERARDII)
   SWITCH GRASS (PANICUM VIRGATUM)
   UPLAND BENTGRASS (AGROSTIS PERENNANS)
   NODDING BUR MARIGOLD (BIDENS CERNUA)
   HOLLOW–STEM JOE PYE WEED (EUPATORIUM FISTULOSUM/EUTROCHIUM FISTULOSUM)
   NEW ENGLAND ASTER (ASTER NOVAE–ANGLIAE)
   BONESET (EUPATORIUM PERFOLIATUM)
   BLUE VERVAIN (VERBENA HASTATA)
   SOFT RUSH (JUNCUS EFFUSUS)
   WOOL GRASS (SCIRPUS CYPERINUS



DECIDUOUS TREE PLANTING

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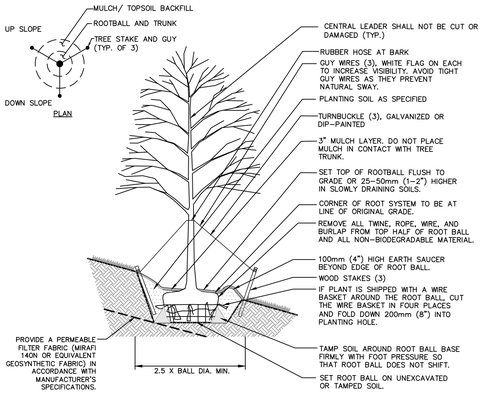

DECIDUOUS TREE PLANTING ON SLOPE > 3:1

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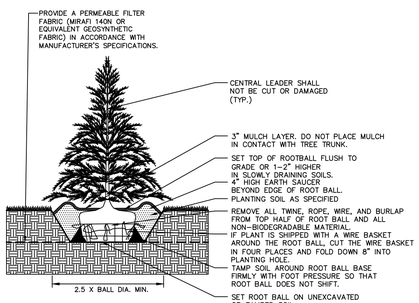

EVERGREEN TREE PLANTING

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EVERGREEN TREE PLANTING ON SLOPE > 3:1

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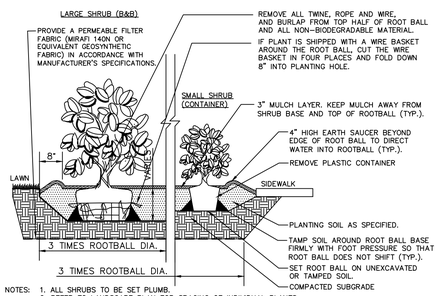
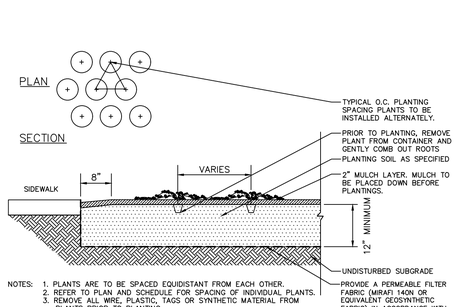


NOTES:
1. ALL SHRUBS TO BE SET PLUMB.
2. REFER TO LANDSCAPE PLAN FOR SPACING OF INDIVIDUAL PLANTS.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.

SHRUB PLANTING

N.T.S.



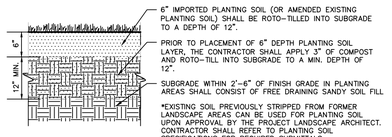
NOTES:
1. PLANTS ARE TO BE SPACED EQUIDISTANT FROM EACH OTHER.
2. REFER TO PLAN AND SCHEDULE FOR SPACING OF INDIVIDUAL PLANTS.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.

GROUNDCOVER/ PERENNIAL PLANTING

N.T.S.

GENERAL NOTE:

DUE TO GENERAL CONSTRUCTION ACTIVITIES AND ADJACENT SITE COMPACTION REQUIREMENTS, SUBGRADE SOILS WITHIN PROPOSED PLANTING AREAS TEND TO BECOME HIGHLY COMPACTED. IN ORDER TO CREATE A HEALTHY GROWTH MEDIUM TO ALLOW PROPOSED PLANTINGS TO ESTABLISH A VIGOROUS ROOT MASS, THIS SUBGRADE SOIL MUST UNDERGO A RESTORATION PROCESS. IN ADDITION, IMPORTED OR AMMENDED EXISTING SOILS SHALL BE MIXED WITH SUBGRADE SOILS WHERE THEY MEET IN ORDER TO CREATE A TRANSITIONAL GRADIENT TO ALLOW FOR PROPER DRAINAGE.



IMPORTED OR AMENDED EXISTING PLANTING SOIL WITHIN AREAS OF RAISED GRADE

PLANTING SOIL

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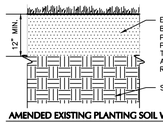


AMENDED EXISTING PLANTING SOIL WITHIN AREAS OF UNCHANGED OR CUT GRADE

NOTES:
1. CONTRACTOR IS RESPONSIBLE TO SEND SAMPLES OF EXISTING SOILS INTENDED FOR USE IN PLANTING AREAS (1 PER 500 CY.) TO TESTING LABORATORY OR UNIVERSITY COOPERATIVE EXTENSION FOR TESTING. ALL TESTING COSTS ARE AT THE CONTRACTOR'S EXPENSE.
2. RECYCLED CRUSHED CONCRETE AND ASPHALT MILLINGS SHALL NOT BE PLACED WITHIN 2'-6" OF FINISH GRADE IN PROPOSED LANDSCAPE AREAS.
3. IMPORTED FILL SHALL CONTAIN NO CONTAMINATION IN EXCEEDENCE OF THE PROJECT STATE ENVIRONMENTAL REVIEW AGENCY STANDARDS AND MEET THE ENVIRONMENTAL REQUIREMENTS FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION OF COMPLIANCE PRIOR TO DELIVERY OF ANY FILL TO THE SITE.
4. CONTRACTOR TO LIGHTLY COMPACT ALL PLACED PLANTING SOILS AND RAISE GRADES ACCORDINGLY TO ALLOW FOR FUTURE SETTLEMENT OF PLANTING SOILS (TYP.)
5. NO STONES, WOOD CHIPS, OR DEBRIS LARGER THAN 1/2" SHALL BE ACCEPTABLE WITHIN PLANTING AREAS.

PLANT SCHEDULE - RAIN GARDEN 'A' & 'B' (420 SF)

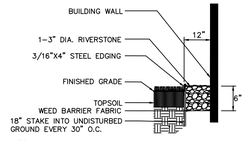
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	2	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	2	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	2	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	1	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	53	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	53	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	53	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER	spaced @ 12" o.c.
GM	53	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	PLUG	CONTAINER	spaced @ 12" o.c.
RFG	52	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	PLUG	CONTAINER	spaced @ 12" o.c.
ORNAMENTAL GRASS(ES)						
JE	52	JUNCUS EFFUSUS	COMMON RUSH	PLUG	CONTAINER	spaced @ 12" o.c.
PVS	52	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	PLUG	CONTAINER	spaced @ 12" o.c.
SSCO	52	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	CONTAINER	spaced @ 12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

PLANT SCHEDULE - RAIN GARDEN 'C' (323 SF)

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	2	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	2	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	1	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	1	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	41	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	41	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	41	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER	spaced @ 12" o.c.
GM	40	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	PLUG	CONTAINER	spaced @ 12" o.c.
RFG	40	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	PLUG	CONTAINER	spaced @ 12" o.c.
ORNAMENTAL GRASS(ES)						
JE	40	JUNCUS EFFUSUS	COMMON RUSH	PLUG	CONTAINER	spaced @ 12" o.c.
PVS	40	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	PLUG	CONTAINER	spaced @ 12" o.c.
SSCO	40	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	CONTAINER	spaced @ 12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.



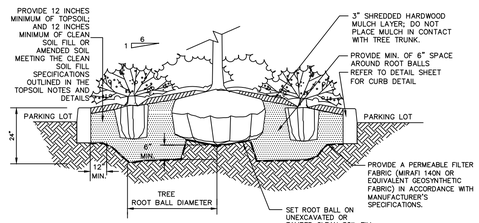
NOTE:

GRAVEL TO BE INSTALLED WHERE SHOWN ON THE LANDSCAPE PLANS.

GRAVEL STRIP

N.T.S.

PARKING ISLAND PLANTING NOTES:
1. ISLAND AREAS TO BE FREE OF DEBRIS AND RUBBLE PRIOR TO PLANTING OPERATION.
2. MOUND PARKING ISLAND AS SHOWN.
3. REMOVE ALL WIRE, PLASTIC, TAGS OR SYNTHETIC MATERIAL FROM PLANTS PRIOR TO PLANTING.
4. SET PLANTS AT GRADE WHICH IS EVEN WITH ORIGINAL NURSERY GRADE.



PARKING ISLAND PLANTING

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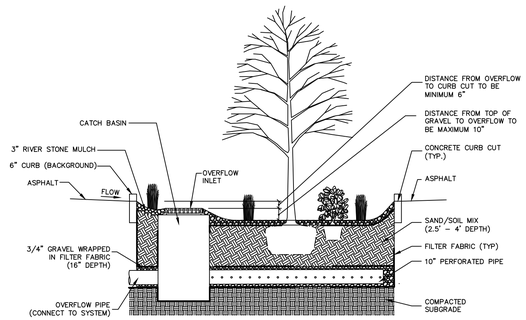


NOTES:
1. REFER TO GRADING AND DRAINAGE PLANS FOR EXACT LOCATION OF CATCH BASINS AND MANHOLES.
2. INVERTS PROVIDED ON GRADING AND DRAINAGE PLANS.
3. SAND/ SOIL MIX SHALL BE A 80/20 MIX.

RAIN GARDEN DETAIL

N.T.S.

PLANT SCHEDULE - OVERALL SITE

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
SHADE TREE(S)						
AROG	74	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	4–4 1/2" CAL.	B+B	–
ASGM	37	ACER SACCHARUM 'GREEN MOUNTAIN'	GREEN MOUNTAIN SUGAR MAPLE	4–4 1/2" CAL.	B+B	–
GTIS	61	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	4–4 1/2" CAL.	B+B	–
LSR	27	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SEEDLESS SWEETGUM	4–4 1/2" CAL.	B+B	–
QP	40	QUERCUS PALUSTRIS	PIN OAK	4–4 1/2" CAL.	B+B	–
ORNAMENTAL TREE(S)						
AC	18	AMELANCHIER CANADENSIS	MULTI STEM SHADBLOW SERVICEBERRY	8–10'	B+B	–
BND	21	BETULA NIGRA 'DURA HEAT'	DURA HEAT RIVER BIRCH	8–10'	B+B	–
MV	19	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	8–10'	B+B	–
EVERGREEN TREE(S)						
IO	27	ILEX OPACA	AMERICAN HOLLY	6–7'	B+B	–
JV	9	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6–7'	B+B	–
PIAB	28	PICEA ABIES	NORWAY SPRUCE	6–7'	B+B	–
PS	17	PINUS STROBUS	EASTERN WHITE PINE	6–7'	B+B	–
EVERGREEN SHRUB(S)						
IGC	365	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
IGS	85	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY HOLLY	24–30"	#5 CAN	–
KL	271	KALMIA LATIFOLIA	MOUNTAIN LAUREL	30–36"	B+B	–
MP	110	MYRICA PENSYLVANICA	NORTHERN BAYBERRY	30–36"	B+B	–
TOE	13	THUJA OCCIDENTALIS 'EMERALD'	EMERALD GREEN ARBORVITAE	5–6'	B+B	–
DECIDUOUS SHRUB(S)						
CAH	40	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
CEA	58	CEANOTHUS AMERICANUS	NEW JERSEY TEA	5 GAL.	CONTAINER	–
IV	40	ITEA VIRGINICA 'HENRY'S GARNET'	GARNET SWEETSPIRE	24–30"	#5 CAN	–
IVRS	14	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
RAG	1719	RHUS AROMATICA 'GRO LOW'	GRO LOW FRAGRANT SUMAC	3 GAL.	CONTAINER	spaced @ 36" o.c.
VD	149	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
CVM	333	COREOPSIS VERTICILLATA 'MOONBEAM'	MOONBEAM COREOPSIS	2 GAL.	CONTAINER	spaced @ 12" o.c.
EPP	98	ECHINACEA PURPUREA	PURPLE CONEFLOWER	1 GAL.	CONTAINER	spaced @ 18" o.c.
GM	76	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	1 GAL.	CONTAINER	spaced @ 12" o.c.
RFG	68	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	2 GAL.	CONTAINER	spaced @ 18" o.c.
ORNAMENTAL GRASS(ES)						
PVS	76	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	2 GAL.	CONTAINER	–
SSCO	202	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	2 GAL.	CONTAINER	–

NOTES:
1. IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.
2. ALL TREES SHALL BE PROTECTED FROM DEER WITH BREAKAWAY PLASTIC MESH TREE GUARDS; TUBEX TREEGUARD MESH, OR APPROVED EQUAL.
3. ROUTINE MAINTENANCE OF SHADE TREES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND SHALL COMMENCE ONCE THE CERTIFICATE OF OCCUPANCY HAS BEEN ISSUED.

PLANT SCHEDULE - RAIN GARDEN 'D' (543 SF)

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	3	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	2	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	2	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	2	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	68	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	68	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	68	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER	spaced @ 12" o.c.
GM	68	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	PLUG	CONTAINER	spaced @ 12" o.c.
RFG	68	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	PLUG	CONTAINER	spaced @ 12" o.c.
ORNAMENTAL GRASS(ES)						
JE	68	JUNCUS EFFUSUS	COMMON RUSH	PLUG	CONTAINER	spaced @ 12" o.c.
PVS	68	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	PLUG	CONTAINER	spaced @ 12" o.c.
SSCO	67	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	CONTAINER	spaced @ 12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

PLANT SCHEDULE - RAIN GARDEN 'E', 'H', 'I', & 'J' (313 SF)

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	2	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	1	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	1	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	1	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	40	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	39	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	39	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER	spaced @ 12" o.c.
GM	39	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	PLUG	CONTAINER	spaced @ 12" o.c.
RFG	39	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	PLUG	CONTAINER	spaced @ 12" o.c.
ORNAMENTAL GRASS(ES)						
JE	39	JUNCUS EFFUSUS	COMMON RUSH	PLUG	CONTAINER	spaced @ 12" o.c.
PVS	39	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	PLUG	CONTAINER	spaced @ 12" o.c.
SSCO	39	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	CONTAINER	spaced @ 12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

PLANT SCHEDULE - RAIN GARDEN 'F' (349 SF)

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	2	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	2	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	1	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	1	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	44	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	44	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	44	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER	spaced @ 12" o.c.
GM	44	GERANIUM MACULATUM	EASTERN WHITE CRANSEBILL	PLUG	CONTAINER	spaced @ 12" o.c.
RFG	44	RUDBECKIA FULGIDA 'GOLDSTURM'	GOLDSTURM/BLACK-EYED SUSAN	PLUG	CONTAINER	spaced @ 12" o.c.
ORNAMENTAL GRASS(ES)						
JE	43	JUNCUS EFFUSUS	COMMON RUSH	PLUG	CONTAINER	spaced @ 12" o.c.
PVS	43	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	PLUG	CONTAINER	spaced @ 12" o.c.
SSCO	43	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	PLUG	CONTAINER	spaced @ 12" o.c.

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

PLANT SCHEDULE - RAIN GARDEN 'G' (450 SF)

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
EVERGREEN SHRUB(S)						
IGC	2	ILEX GLABRA COMPACTA	DWARF INKBERRY HOLLY	24–30"	#5 CAN	–
DECIDUOUS SHRUB(S)						
CAH	2	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	SWEET PEPPERBUSH	18–24"	CONTAINER	–
IVRS	2	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY HOLLY	3 GAL.	CONTAINER	–
VD	2	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4'	B+B	–
PERENNIAL(S)						
AS	57	ASCLEPIAS INCARNATA	SWAMP MILKWEED	PLUG	CONTAINER	spaced @ 12" o.c.
EPP	57	ECHINACEA PURPUREA	PURPLE CONEFLOWER	PLUG	CONTAINER	spaced @ 12" o.c.
IVE	56	IRIS VERSICOLOR	BLUE FLAG IRIS	PLUG	CONTAINER

ORDINANCE COMPLIANCE CHART - BOROUGH OF TINTON FALLS, NJ

ORDINANCE SECTION		ORDINANCE REQUIREMENT	PROPOSED	COMPLIANCE
§40-26(N). SPECIFIC DESIGN STANDARDS – LIGHTING	1(e)(1)	ALL OUTDOOR LIGHTING DURING NON-OPERATING HOURS OF THE BUSINESS ON SITE, NOT NECESSARY FOR SAFETY AND SECURITY PURPOSES, SHALL BE REDUCED, ACTIVATED BY MOTION-SENSOR DEVICES OR TURNED OFF.	WEEKDAYS: FULL LIGHTING IS PROVIDED UNTIL 10:00 PM AND LIGHTING IS DIMMED TO 30% FROM 10:00 PM UNTIL DAWN FOR SECURITY PURPOSES IN PARKING LOTS. WEEKENDS: LIGHTING IS DIMMED TO 30% FROM DUSK UNTIL DAWN	COMPLIES
	1(e)	THE MAXIMUM HEIGHT OF FREESTANDING LIGHTS SHALL NOT EXCEED THE HEIGHT OF THE PRINCIPAL BUILDING, OR 18 FEET, WHICHEVER IS LESS.	FREESTANDING LIGHTS ARE PROVIDED AT 18 FT AND 25 FT MOUNTING HEIGHTS.	WAIVER (SEE NOTE 1 BELOW)
	1(h)	THE MAXIMUM ILLUMINATION AT PROPERTY LINES SHALL BE 0.1 FOOTCANDLE.	THE MAXIMUM ILLUMINATION AT THE PROPERTY LINE IS 3.2 FOOTCANDLES.	WAIVER (SEE NOTE 2 BELOW)
	1(j)	FOR ALL NONRESIDENTIAL USES, EXCEPT SHOPPING CENTERS NOTED BELOW, THE LIGHT INTENSITY PROVIDED AT THE GROUND LEVEL SHALL BE AS FOLLOWS: MINIMUM = 0.5 FC MAXIMUM ON ANY LOCATION = 4.0 FC MAXIMUM AVERAGE ENTIRE AREA = 2.0 FC UNIFORMITY RATIO – NOT GREATER THAN = 4:1	PROVIDED: MINIMUM = 0.8 FC MAXIMUM ON ANY LOCATION = 7.2 FC MAXIMUM AVERAGE ENTIRE AREA = 3.0 FC UNIFORMITY RATIO = 3.8:1	WAIVER (SEE NOTE 3 BELOW)

NOTES:
1. FREESTANDING LIGHTS ARE PROVIDED AT 18 FEET MOUNTING HEIGHTS, EXCEPT AT THE REAR PROPERTY LINE WHERE LIGHTS ARE PROVIDED AT 25 FEET MOUNTING HEIGHT IN ORDER TO MEET TENANT LIGHTING REQUIREMENTS IN THE OPEN TRUCK YARD AND VAN STAGING AREAS.
2. THE MAXIMUM ILLUMINATION AT THE PROPERTY LINE IS 3.2 FOOTCANDLES, HOWEVER THIS ONLY OCCURS WITHIN THE VEHICULAR ENTRANCE DRIVES AND WILL NOT ADVERSELY IMPACT NEIGHBORING PROPERTIES.
3. DUE TO THE LOWERED MOUNTING HEIGHTS AND TYPES OF FIXTURES USED TO MEET LIGHTING REQUIREMENTS, THE PROPOSED MAXIMUM ON ANY LOCATION OF 7.2 FC AND MAXIMUM AVERAGE ENTIRE AREA OF 3.0 FC, EXCEEDS THE REQUIRED FOOTCANDLES.

STATISTICS

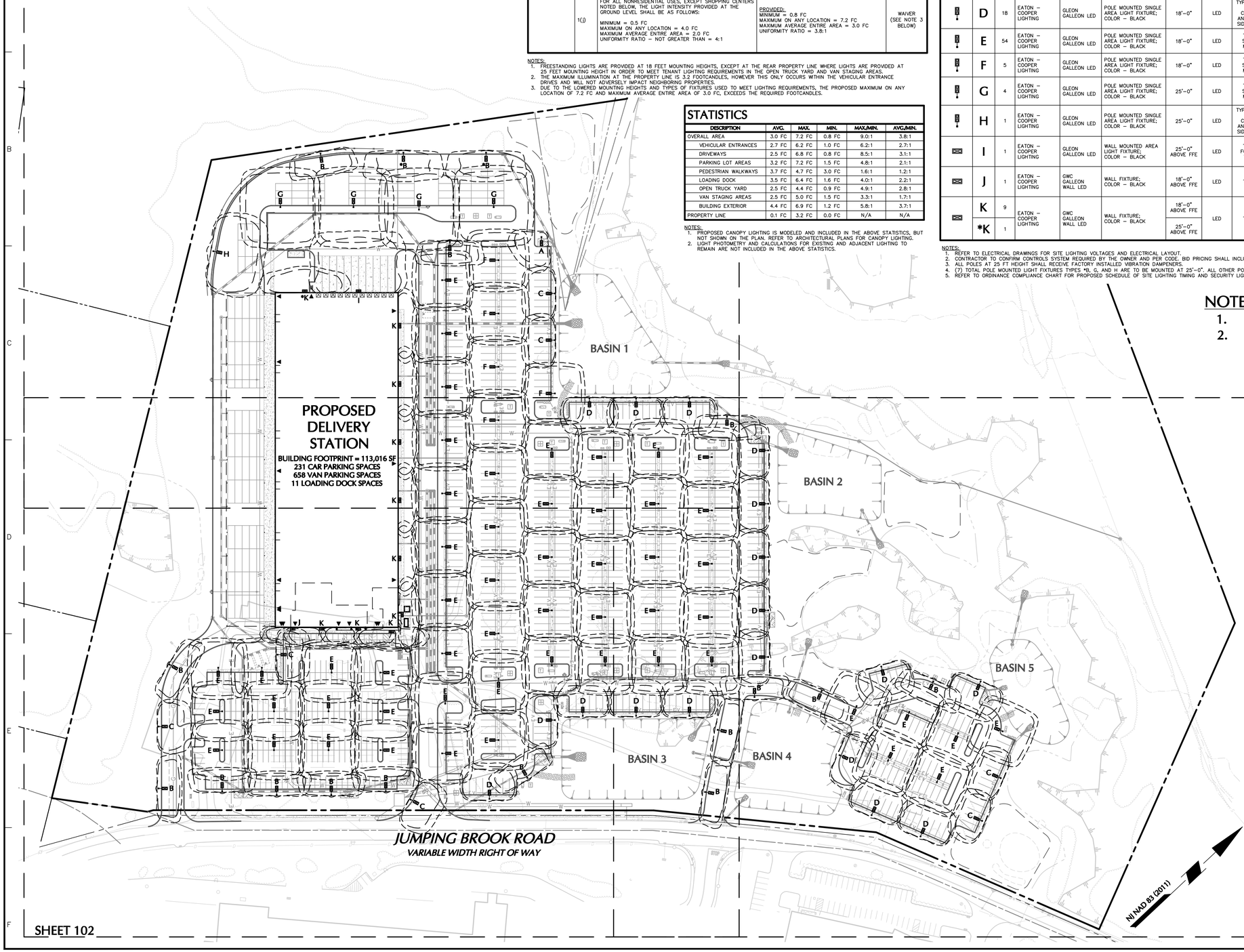
DESCRIPTION	AVG.	MAX.	MIN.	MAX./MIN.	AVG./MIN.
OVERALL AREA	3.0 FC	7.2 FC	0.8 FC	9.0:1	3.8:1
VEHICULAR ENTRANCES	2.7 FC	6.2 FC	1.0 FC	6.2:1	2.7:1
DRIVEWAYS	2.5 FC	6.8 FC	0.8 FC	8.5:1	3.1:1
PARKING LOT AREAS	3.2 FC	7.2 FC	1.5 FC	4.8:1	2.1:1
PEDESTRIAN WALKWAYS	3.7 FC	4.7 FC	3.0 FC	1.6:1	1.2:1
LOADING DOCK	3.5 FC	6.4 FC	1.6 FC	4.0:1	2.2:1
OPEN TRUCK YARD	2.5 FC	4.4 FC	0.9 FC	4.9:1	2.8:1
VAN STAGING AREAS	2.5 FC	5.0 FC	1.5 FC	3.3:1	1.7:1
BUILDING EXTERIOR	4.4 FC	6.9 FC	1.2 FC	5.8:1	3.7:1
PROPERTY LINE	0.1 FC	3.2 FC	0.0 FC	N/A	N/A

NOTES:
1. PROPOSED CANOPY LIGHTING IS MODELED AND INCLUDED IN THE ABOVE STATISTICS, BUT NOT SHOWN ON THE PLAN. REFER TO ARCHITECTURAL PLANS FOR CANOPY LIGHTING.
2. LIGHT PHOTOMETRY AND CALCULATIONS FOR EXISTING AND ADJACENT LIGHTING TO REMAIN ARE NOT INCLUDED IN THE ABOVE STATISTICS.

SITE LIGHTING SCHEDULE

SYMBOL	KEY	QTY.	FIXTURE MANUFACTURER	FIXTURE MODEL	FIXTURE DESCRIPTION	FIXTURE MOUNTING HEIGHT	LAMP	OPTICS	LUMENS	COLOR TEMPERATURE	LLF	IES FILE	FIXTURE CATALOGUE NO.	POLE MANUFACTURER	POLE DESCRIPTION	POLE LENGTH	POLE CATALOGUE NO.
	A	1	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 90° SPILL LIGHT ELIMINATOR RIGHT	10,949	4000K	0.90	GLEON–AF–02–LED–E1–SLR.IES	GLEON–AF–02–LED–VOLTS–SLR–BK	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	B	15	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 3 WITH SPILL CONTROL AND HOUSE SIDE SHIELD	10,643	4000K	0.90	GLEON–AF–02–LED–E1–SL3–HSS.IES	GLEON–AF–02–LED–VOLTS–SL3–BK–HSS	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	*B	2		GLEON GALLEON LED		25'–0"				4000K						22'–0"	RPSQ–25–4–11–AB–D1–BK–VD (FACTORY CUT)
	C	7	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 4 WITH SPILL CONTROL AND HOUSE SIDE SHIELD	10,111	4000K	0.90	GLEON–AF–02–LED–E1–SL4–HSS.IES	GLEON–AF–02–LED–VOLTS–SL4–BK–HSS	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	D	18	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 4 WITH SPILL CONTROL AND HOUSE SIDE SHIELD	15,088	4000K	0.90	GLEON–AF–03–LED–E1–SL4–HSS.IES	GLEON–AF–03–LED–VOLTS–SL4–BK–HSS	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	E	54	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 5 SQUARE MEDIUM	25,807	4000K	0.90	GLEON–AF–04–LED–E1–5MQ.IES	GLEON–AF–04–LED–VOLTS–5MQ–BK	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	F	5	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	18'–0"	LED	TYPE 5 SQUARE MEDIUM	31,975	4000K	0.90	GLEON–AF–05–LED–E1–5MQ.IES	GLEON–AF–05–LED–VOLTS–5MQ–BK	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	15'–0"	RPSQ–15–4–11–AB–D1–BK
	G	4	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	25'–0"	LED	TYPE 5 SQUARE MEDIUM	38,264	4000K	0.90	GLEON–AF–06–LED–E1–5MQ.IES	GLEON–AF–06–LED–VOLTS–5MQ–BK	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	22'–0"	RPSQ–25–4–11–AB–D1–BK–VD (FACTORY CUT)
	H	1	EATON – COOPER LIGHTING	GLEON GALLEON LED	POLE MOUNTED SINGLE AREA LIGHT FIXTURE; COLOR – BLACK	25'–0"	LED	TYPE 4 WITH SPILL CONTROL AND HOUSE SIDE SHIELD	39,609	4000K	0.90	GLEON–AF–08–LED–E1–SL4–HSS.IES	GLEON–AF–08–LED–VOLTS–SL4–BK–HSS	UNITED LIGHTING STANDARDS	SQUARE STRAIGHT STEEL POLE; COLOR – BLACK	22'–0"	RPSQ–25–4–11–AB–D1–BK–VD (FACTORY CUT)
	I	1	EATON – COOPER LIGHTING	GLEON GALLEON LED	WALL MOUNTED AREA LIGHT FIXTURE; COLOR – BLACK	25'–0" ABOVE FFE	LED	TYPE 4 FORWARD THROW	49,097	4000K	0.90	GLEON–AF–08–LED–E1–T4FT.IES	GLEON–AF–08–LED–VOLTS–T4FT–BK–WM	N/A	N/A	N/A	N/A
	J	1	EATON – COOPER LIGHTING	GWC GALLEON WALL LED	WALL FIXTURE; COLOR – BLACK	18'–0" ABOVE FFE	LED	TYPE 2	6,382	4000K	0.90	GWC–AF–01–LED–E1–T2.IES	GWC–AF–01–LED–VOLTS–T2–BK	N/A	N/A	N/A	N/A
	K	9	EATON – COOPER LIGHTING	GWC GALLEON WALL LED	WALL FIXTURE; COLOR – BLACK	18'–0" ABOVE FFE	LED	TYPE 2	12,471	4000K	0.90	GWC–AF–02–LED–E1–T2.IES	GWC–AF–02–LED–VOLTS–T2–BK	N/A	N/A	N/A	N/A
	*K	1				25'–0" ABOVE FFE											

NOTES:
1. REFER TO ELECTRICAL DRAWINGS FOR SITE LIGHTING VOLTAGES AND ELECTRICAL LAYOUT.
2. CONTRACTOR TO CONFIRM CONTROLS SYSTEM REQUIRED BY THE OWNER AND PER CODE. BID PRICING SHALL INCLUDE CONTROLS SYSTEM.
3. ALL POLES AT 25 FT HEIGHT SHALL RECEIVE FACTORY INSTALLED VIBRATION DAMPENERS.
4. (?) TOTAL POLE MOUNTED LIGHT FIXTURES TYPES *B, G, AND H ARE TO BE MOUNTED AT 25'–0". ALL OTHER POLE MOUNTED FIXTURES ARE TO BE MOUNTED AT 18'–0".
5. REFER TO ORDINANCE COMPLIANCE CHART FOR PROPOSED SCHEDULE OF SITE LIGHTING TIMING AND SECURITY LIGHTING.



NOTES:

1. REFER TO SHEETS LL101 THRU LL103 FOR PARTIAL LIGHTING PLANS.
2. REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

Michael Szura 01-07-2021
SIGNATURE MICHAEL SZURA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
OVERALL LIGHTING PLAN

Project No.	Drawing No.
100775501	LL100
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 41 of 50

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LANGAN PROJECT NO. 100775501

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ALL LIGHT POLES SHALL UTILIZE UNDERGROUND WIRING. CONTRACTOR SHALL COORDINATE UNDERGROUND WIRING WITH THE ELECTRICAL ENGINEER ON RECORD.
4. REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHTING SCHEDULE, STATISTICS, AND COMPLIANCE CHART.
5. REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.
6. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

NJ NAD 83 (2011)

0.5 FOOTCANDLES (TYP.)
1.0 FOOTCANDLES (TYP.)
POLE MOUNTED FIXTURE (TYP.)

REFER TO ARCHITECTURAL PLANS FOR EGRESS LIGHTS AT ALL MAN-DOORS (TYP.)

1.0 FOOTCANDLES (TYP.)
0.5 FOOTCANDLES (TYP.)
WALL MOUNTED FIXTURE (TYP.)

NOTE:
REFER TO ARCHITECTURAL PLANS FOR LIGHTING UNDER CANOPY.

BASIN 1

PROPOSED DELIVERY STATION
BUILDING FOOTPRINT = 113,016 SF
231 CAR PARKING SPACES
658 VAN PARKING SPACES
11 LOADING DOCK SPACES

MATCHLINE SHEET 102

MATCHLINE SHEET 103

SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

SIGNATURE 01-07-2021 DATE SIGNED
MICHAEL SZURA
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
PARTIAL LIGHTING PLAN 1

Project No. 100775501	Drawing No. LL101
Date 06/25/2020	
Drawn By ML	
Checked By DB/JC	Sheet 42 of 50

PROJECT NO. 100775501

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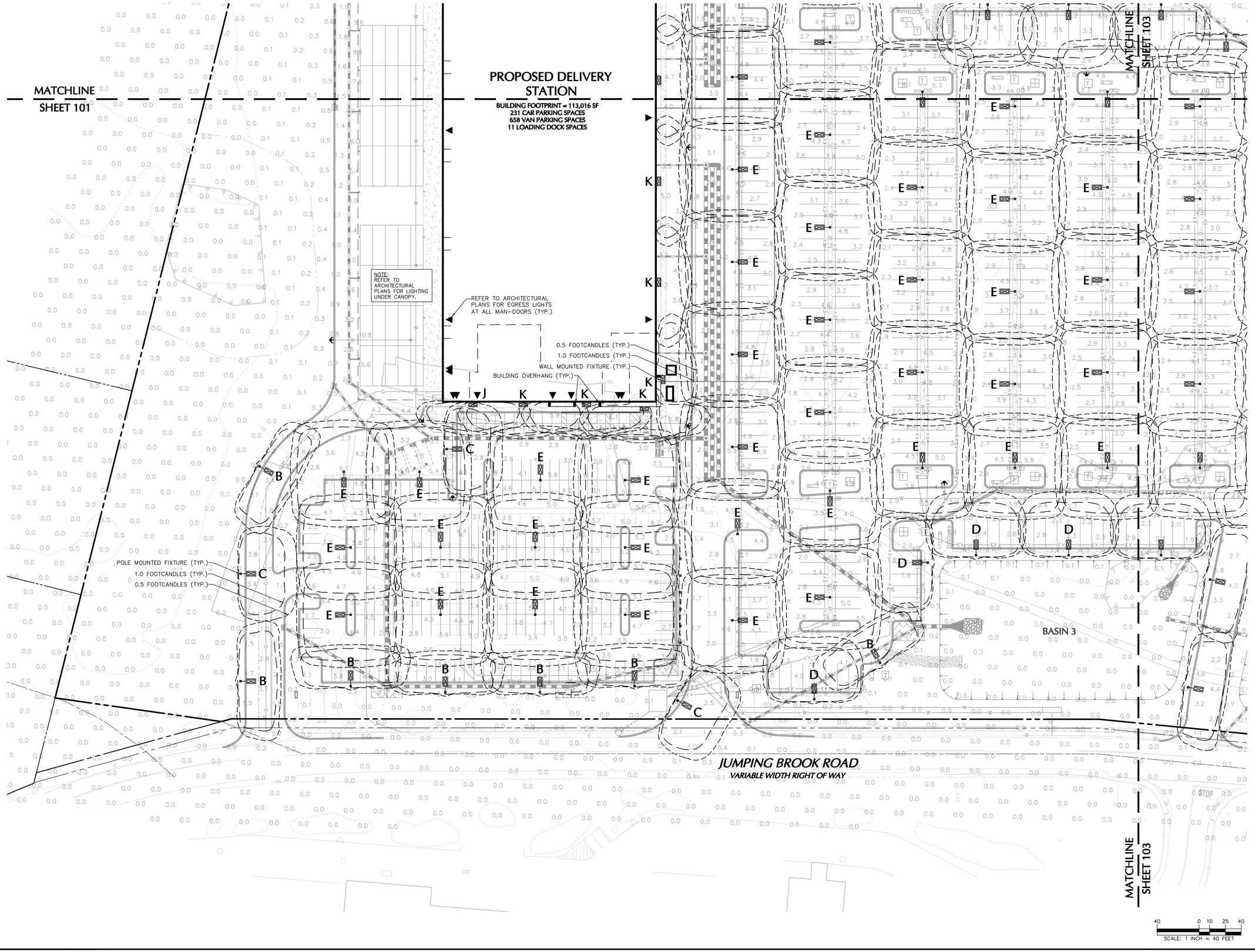

NOTES:

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2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ALL LIGHT POLES SHALL UTILIZE UNDERGROUND WIRING. CONTRACTOR SHALL COORDINATE UNDERGROUND WIRING WITH THE ELECTRICAL ENGINEER ON RECORD.
4. REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHTING SCHEDULE, STATISTICS, AND COMPLIANCE CHART.
5. REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.
6. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

NJ NAD 83 (2011)

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

SIGNATURE MICHAEL J. SZURA DATE SIGNED 01-07-2021
N.J. LICENSED LANDSCAPE ARCHITECT
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Project

1251 JUMPING BROOK ROAD

BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47

MONMOUTH COUNTY **NEW JERSEY**

Drawing Title

PARTIAL LIGHTING PLAN 2

Project No.	Drawing No.
100775501	LL102
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 43 of 50

LANGAN
PROJECT NO. 100775501

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Date: 1/6/2021 Time: 21:35 User: ryemerou Style Table: Langan.stb Layout: LL102 Document Code: 100775501-0102-LL101-0102

NOTES:
1. BOUNDARY INFORMATION AND EXISTING FEATURES FOR BLOCK 128.03, LOTS 47 SHOWN HEREON ARE BASED ON "ALTA/NSPS LAND TITLE SURVEY" DATED 06/24/2020 PREPARED BY LANGAN ENGINEERING. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO THE EXECUTION OF CONTRACTS OR COMMENCING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER OF RECORD.
2. ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. ALL LIGHT POLES SHALL UTILIZE UNDERGROUND WIRING. CONTRACTOR SHALL COORDINATE UNDERGROUND WIRING WITH THE ELECTRICAL ENGINEER ON RECORD.
4. REFER TO SHEET LL100 FOR OVERALL LIGHTING PLAN, LIGHTING SCHEDULE, STATISTICS, AND COMPLIANCE CHART.
5. REFER TO SHEET LL501 FOR LIGHTING NOTES AND DETAILS.
6. EV ROUTING LOCATIONS ARE SHOWN FOR SCHEMATIC PURPOSES. FINAL LOCATIONS ARE SUBJECT TO CHANGE BASED ON FINAL ELECTRICAL DESIGN.

NJ NAD 83 (2011)

MATCHLINE SHEET 101

MATCHLINE SHEET 102

MATCHLINE SHEET 102

BASIN 2

BASIN 3

BASIN 4

BASIN 5

POLE MOUNTED FIXTURE (TYP.)
1.0 FOOTCANDLES (TYP.)
0.5 FOOTCANDLES (TYP.)

JUMPING BROOK ROAD
VARIABLE WIDTH RIGHT OF WAY

BOROUGH OF TINTON FALLS
TOWNSHIP OF NEPTUNE

STOP

SCALE: 1 INCH = 40 FEET

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE MICHAEL SZURA DATE SIGNED
N.J. LICENSED LANDSCAPE ARCHITECT
LICENSE NO. AS00815

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Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
PARTIAL LIGHTING PLAN 3

Project No.	Drawing No.
100775501	LL103
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 44 of 50

PROJECT NO. 100775501

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LIGHTING NOTES:

GENERAL

1. POINT-BY-POINT CALCULATIONS PROVIDED WITHIN HAVE BEEN PREPARED IN ACCORDANCE TO IESNA STANDARDS AND IN CONSIDERATION OF THE VARIABLES WITHIN THESE NOTES AND SITE LIGHTING SCHEDULE. THE VALUES SHOWN ON THE PLANS ARE NOT AN INDICATION OF THE INITIAL LIGHT INTENSITIES OF THE LAMPS. THESE VALUES ARE AN APPROXIMATION OF THE MAINTAINED INTENSITIES DELIVERED TO THE GROUND PLANE USING INDUSTRY STANDARD LIGHT LOSS FACTORS (LLF) WHICH COVER LAMP DEGRADATION AND NATURAL BUILDUP / DIRT DEGRADATION ON THE FIXTURE LENS. THE LIGHTING PLAN IS DESIGNED WITH AN INDUSTRY STANDARD LLF IN ACCORDANCE WITH GUIDANCE AS PROVIDED BY IESNA. MINOR VARIATIONS IN TOPOGRAPHY, PHYSICAL OBSTRUCTIONS, AMBIENT OR ADJACENT LIGHT SOURCES AND/OR OTHER POTENTIAL IMPACTS HAVE NOT BEEN INCLUDED IN THESE CALCULATIONS. THEREFORE, AS-BUILT LIGHT INTENSITIES MAY VARY, IN EITHER DIRECTION, FROM WHAT IS EXPLICITLY PORTRAYED WITHIN THESE DRAWINGS.NO GUARANTEE OF LIGHT LEVELS IS EXPRESSED OR IMPLIED BY THE POINT BY POINT CALCULATIONS SHOWN ON THESE PLANS.
2. LIGHT LEVEL POINT SPACING IS 20 FT. LEFT TO RIGHT AND 20 FT. TOP TO BOTTOM. POINT BY POINT CALCULATIONS ARE BASED ON THE LIGHT LOSS FACTOR AS STATED IN THE LIGHTING SCHEDULE.

COMPLIANCE

3. ALL SITE LIGHTING RELATED WORK AND MATERIALS SHALL COMPLY WITH CITY, COUNTY, AND OTHER APPLICABLE GOVERNING AUTHORITY REQUIREMENTS.
4. LIGHTING LAYOUT COMPLIES WITH THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) SAFETY STANDARDS FOR LIGHT LEVELS.

COORDINATION

5. CONTRACTOR TO COORDINATE POWER SOURCE WITH LIGHT FIXTURES TO ENSURE ALL SITE LIGHTING IS OPERATING EFFECTIVELY, EFFICIENTLY AND SAFELY.
6. REFER TO ELECTRIFICATION PLAN FOR PROVIDING ADEQUATE POWER FOR SITE LIGHTING.
7. CONTRACTOR TO COORDINATE LOCATION OF EASEMENTS, UNDERGROUND UTILITIES AND DRAINAGE BEFORE DRILLING POLE BASES.
8. INSTALLATION OF ALL LIGHTING FIXTURES, POLES, FOOTINGS, AND FEEDER CABLE TO BE COORDINATED WITH ALL SITE WORK TRADES TO AVOID CONFLICT WITH FINISHED AND PROPOSED WORK.
9. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND FEEDER CABLE FOR EXTERIOR LIGHTING WITH EXISTING AND PROPOSED UTILITIES, SITE DRAINAGE SYSTEMS, AND PAVING. CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER'S REPRESENTATIVE SHOULD ANY UTILITIES, NOT SHOWN ON THE PLANS, BE FOUND DURING EXCAVATIONS.

POLES AND FOOTINGS

10. PROVIDE A CONCRETE BASE FOR EACH LIGHT POLE AT THE LOCATIONS INDICATED ON THE CONSTRUCTION DRAWINGS AND/OR IN ACCORDANCE WITH PROJECT PLANS AND SPECIFICATIONS RELATING DIRECTLY TO CAST-IN-PLACE CONCRETE. THE USE OF ALTERNATE LIGHTING FOUNDATIONS, SUCH AS PRECAST, MAY CHANGE THE SIZING AND REINFORCEMENT REQUIREMENTS FROM THOSE SHOWN ON THESE PLANS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ORDERING ANY SUBSTITUTED PRODUCTS.
11. CONTRACTOR SHALL EXAMINE AND VERIFY THAT SOIL CONDITIONS ARE SUITABLE TO SUPPORT LOADS EXERTED UPON THE FOUNDATIONS DURING EXCAVATION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY UNSATISFACTORY CONDITIONS.
12. POLE FOUNDATIONS SHALL NOT BE POURED IF FREE STANDING WATER IS PRESENT IN EXCAVATED AREA.
13. ALL POLES 25 FT. HEIGHT OR GREATER SHALL BE EQUIPPED WITH FACTORY INSTALLED VIBRATION DAMPENERS.

WALL MOUNTED FIXTURES

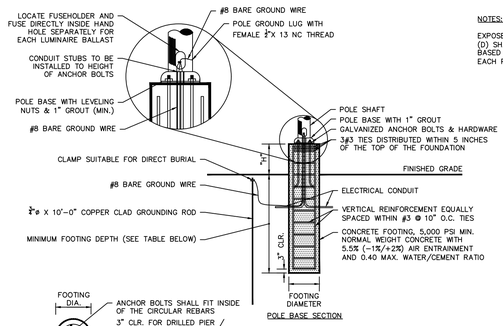
14. CONTRACTOR TO COORDINATE INSTALLATION OF ALL THE WALL MOUNTED FIXTURES AND ELECTRICAL CONNECTIONS TO SITE STRUCTURE(S) WITH BUILDING MEP, ARCHITECT, AND/OR OWNER.
15. INSTALLATION AND ELECTRICAL CONNECTIONS FOR WALL MOUNTED FIXTURES TO BE COORDINATED WITH ARCHITECTURAL, STRUCTURAL, UTILITY AND SITE PLANS AND TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

ADJUSTMENT AND INSPECTION

16. CONTRACTOR TO OPERATE EACH LUMINAIRE AFTER INSTALLATION AND CONNECTION. INSPECT FOR IMPROPER CONNECTIONS AND OPERATION.
17. CONTRACTOR TO AIM AND ADJUST ALL LUMINAIRES TO PROVIDE ILLUMINATION LEVELS AND DISTRIBUTION AS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE LANDSCAPE ARCHITECT AND/OR OWNER.
18. CONTRACTOR TO CONFIRM THAT LIGHT FIXTURES, TILT ANGLE AND AIMING MATCH SPECIFICATIONS ON THE PLANS.

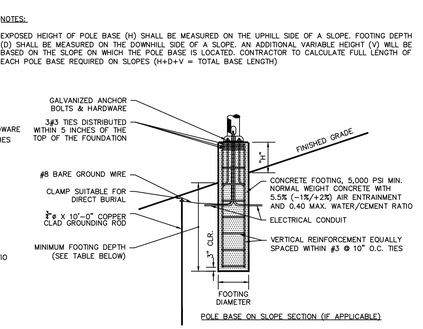
REQUIREMENTS FOR ALTERNATES

19. ALL LIGHTING SUBSTITUTIONS MUST BE MADE WITHIN 14 DAYS PRIOR TO THE BID DATE TO PROVIDE AMPLE TIME FOR REVIEW AND TO ISSUE AN ADDENDUM INCORPORATING THE SUBSTITUTION WITH THE FOLLOWING REQUIREMENTS:
   A. ANY SUBSTITUTION TO LIGHTING FIXTURES, POLES, ETC. MUST BE APPROVED BY THE OWNER, ENGINEER AND TENANTS. ANY COST ASSOCIATED WITH REVIEW AND/OR APPROVAL OF THE SUBSTITUTIONS SHALL BE ENTIRELY BORNE BY THE CONTRACTOR
   B. COMPUTER PREPARED PHOTOMETRIC LAYOUT OF THE PROPOSED LIGHTED AREA WHICH INDICATES, BY ISOFOOTCANDLE, THE SYSTEM'S PERFORMANCE.
   C. A PHOTOMETRIC REPORT FROM A NATIONAL INDEPENDENT TESTING LABORATORY WITH REPORT NUMBER, DATE, FIXTURE CATALOG NUMBER, LUMINAIRE AND LAMP SPECIFICATIONS; IES CALCULATIONS, POINT BY POINT FOOT CANDLE PLAN, STATISTIC ZONES SHOWING AVERAGE, MAXIMUM, MINIMUM AND UNIFORMITY RATIOS, SUMMARY, ISOLUX PLOT, AND CATALOGUE CUTS. CATALOGUE CUTS MUST IDENTIFY OPTICS, LAMP TYPE, DISTRIBUTION TYPE, REFLECTOR, LENS, BALLASTS, WATTAGE, VOLTAGE, FINISH HOUSING DESCRIPTION AND ALL OTHER PERTINENT INFORMATION.
   D. POLE MANUFACTURER AASHTO CALCULATIONS INDICATING THE POLE AND ANCHOR BOLTS BEING SUBMITTED ARE CAPABLE OF SUPPORTING THE POLE AND FIXTURE SYSTEMS BEING UTILIZED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   E. THE UNDERWRITERS LABORATORY LISTING AND FILE NUMBER FOR THE SPECIFIC FIXTURE(S) TO BE UTILIZED.
   F. A COLOR PHOTOGRAPH THAT CLEARLY SHOWS THE REPLACEMENT FIXTURE POLE MOUNTED, THE FIXTURE'S COLOR, FINISH, AND PHYSICAL CHARACTERISTICS.



MOUNTING HEIGHT	FOOTING DEPTH	FOOTING DIAMETER	EXPOSED HEIGHT "H"	VERTICAL REINFORCEMENT
18'-0"	4'-6"	2'-0"	3'-0"	6@5 BARS
25'-0"	5'-0"	2'-0"	3'-0"	6@5 BARS

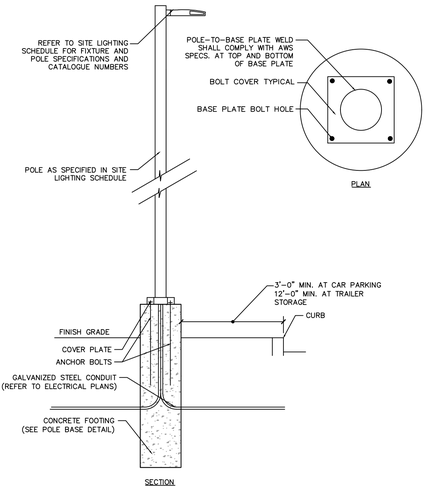
1 LIGHT POLE BASE
NTS



NOTES:

1. SHAFT CAP, ARMS, BASE FLANGE, ANCHOR BOLTS, LEVELING NUTS, CONNECTION HARDWARE, BOLT COVERS, HANDHOLE COVER, AND BOLT CIRCLE TEMPLATE SHALL BE FURNISHED BY POLE MANUFACTURER.
2. EACH STANDARD TO BE PROTECTED AGAINST LIGHTNING WITH AN INTERCONNECTED GROUND ROD. THIS ROD SHALL BE BONDED PER SECTION NUMBER 250-86, N.E.C.
3. CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENT OF ACI 318. CAST-IN-PLACE SHALL HAVE UNCONFINED COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI AT 28-DAYS. DEFORMED REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60.
4. CONTRACTOR TO ENSURE CONCRETE POLE BASES ARE POURED / PLACED ABSOLUTELY VERTICAL & LEVEL.
5. IF POLE BASE IS CAST-IN-PLACE, POLE BASE SHALL BE ONE CONTINUOUS POUR. EXPOSED PORTION OF BASE SHALL BE HAND-RUBBED SMOOTH.
6. CONTRACTOR TO COMPACT SUBGRADE AROUND POLE BASE PER EARTHWORK SPECIFICATIONS / GEOTECH REPORT.
7. THE INFORMATION ILLUSTRATED IN THE LIGHT POLE FOUNDATION DETAIL HAS BEEN PROVIDED FOR GENERAL REFERENCE AND PRELIMINARY COST ESTIMATE PURPOSES. LIGHT POLE FOUNDATIONS SHOULD BE DESIGNED AND DETAILED BY A LICENSED STRUCTURAL ENGINEER BASED ON EXISTING SOIL CONDITIONS, LOCAL DESIGN STANDARDS AND MANUFACTURERS RECOMMENDATIONS.
8. CONTRACTOR TO CONFIRM GROUNDING DESIGN WITH MEP.

2 LIGHT FIXTURE AND POLE
NTS



3 AREA LIGHT FIXTURE
NTS

Project		Catalog #		Type	
Prepared by		Notes		Date	

McGraw-Edison

GLEON Galleon

Area / Site Luminaire

Typical Applications

Outdoor • Parking Lots • Walkways • Roadways • Building Areas

Interactive Menu

- Ordering Information page 2
- Mounting Details page 3
- Optical Distributions page 4
- Product Specifications page 4
- Energy and Performance Data page 4
- Control Options page 9

Product Certifications

DLC DLC PREMIUM DLC PREMIUM 3G VIBE IP66 UL LISTED WARRANTY 5 YEAR

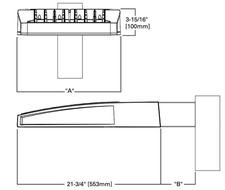
Product Features

LensaFlo Technology Intelgrid WaveLinx Light Alchitect™

Quick Facts

- Lumen packages range from 4,200 - 80,800 (34W - 640W)
- Efficacy up to 156 lumens per watt

Dimensional Details



Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Extended Arm Length	"B" Quick Mount Arm Length	"B" Quick Mount Extended Arm Length
1-4	15-1/2"	7"	10"	10-5/8"	16-9/16"
5-6	21-5/8"	7"	10"	10-5/8"	16-9/16"
7-8	27-5/8"	7"	13"	10-5/8"	--
9-10	33-3/4"	7"	16"	--	--

NOTES:
For arm selection requirements and additional line art, see Mounting Details section.

COOPER Lighting Solutions

PS500020EN page 1
October 30, 2020 11:03 AM

McGraw-Edison

Catalog #		Type	
Project			
Comments		Date	
Prepared by			

DESCRIPTION

The Galleon™ Wall LED luminaire's appearance is complementary with the Galleon area and site luminaire bringing a modern architectural style to lighting applications. Flexible mounting options accommodate wall surfaces in both an upward and downward configuration. The Galleon family of LED products deliver exceptional performance with patented, high-efficiency AccuLED Optics™, providing uniform and energy conscious lighting for parking lots, building and security lighting applications.

SPECIFICATION FEATURES

Construction
Driver enclosure thermally isolated from optics for optimal thermal performance. Heavy wall aluminum housing die-cast with integral external heat sinks to provide superior structural rigidity and an IP66 rated housing. Overall construction passes a 1.5G vibration test to ensure mechanical integrity. UPLIGHTING: Specify with the UPL option for inverted mount uplight housing with additional protections to maintain IP rating.

Optics
Choice of thirteen patented, high-efficiency AccuLED Optics. The optics are precisely designed to shape the distribution maximizing efficiency and application spacing. AccuLED Optics create consistent distributions with the scalability to meet customized application requirements. Offered standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K, 5000K and 6000K CCT. Greater than 90% lumen maintenance expected at 60,000 hours. Available in standard 1A drive current and optional 1200mA, 800mA, and 600mA drive currents.

Electrical
LED drivers are mounted for ease of maintenance. 120-277V 50/60Hz, 347V or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Drivers are provided standard with 0-10V dimming. An optional Cooper Lighting Solutions proprietary surge protection module is available and designed to withstand 10kV of transient line surge. The Galleon Wall LED luminaire is suitable for operation in -40°C to 40°C ambient environments. For applications with ambient temperatures exceeding 40°C, specify the HA (High Ambient) option. Emergency egress options for -20°C ambient environments and occupancy sensor available.

Mounting
Gasketed and zinc plated rigid steel mounting attachment fits directly to 4" j-box or wall with the Galleon Wall "Hook-N-Lock" mechanism for quick installation. Secured with two captive corrosion resistant black oxide coated allen head set screws which are concealed but accessible from bottom of fixture.

Finish
Housing finished in super durable TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult the McGraw-Edison Architectural Colors brochure for the complete selection.

Warranty
Five-year warranty.

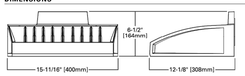
GWC GALLEON WALL

1-2 Light Squares
Solid State LED

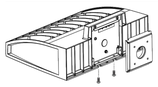
WALL MOUNT LUMINAIRE

WaveLinx

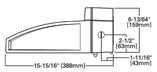
DIMENSIONS



HOOK-N-LOCK MOUNTING



BATTERY BACKUP AND THRU-BRANCH BACK BOX



CERTIFICATION DATA
UL/cUL Listed
LM79 / LM80 Compliant
IP66 Housing
ISO 9001
DesignLights Consortium® Qualified*

ENERGY DATA
Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V 50/60Hz
347V, 480V 60Hz
-40°C Min. Temperature
40°C Max. Temperature
50°C Max. Temperature (HA Option)

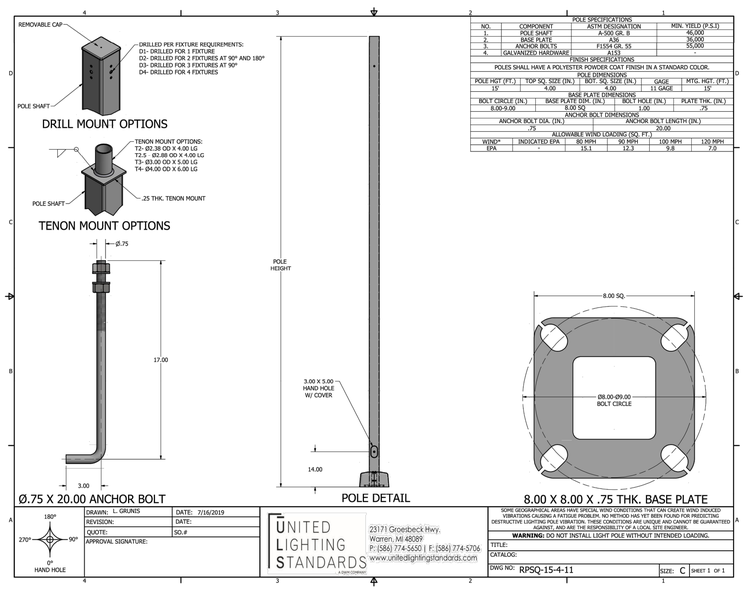
SHIPPING DATA
Approximate Net Weight:
27 lbs. (12.2 kgs.)

COOPER Lighting Solutions

*www.designlights.org

TD514017EN
March 10, 2020 9:37 AM

4 WALL FIXTURE
NTS



NO.	COMPONENT	ASTM DESIGNATION	MIN. YIELD (P.S.I)
1.	POLE SHAFT	A-500 GR. B	46,000
2.	BASE PLATE	A36	36,000
3.	ANCHOR BOLTS	F1554 GR. 55	55,000
4.	GALVANIZED HARDWARE	A153	-

FINISH SPECIFICATIONS
POLES SHALL HAVE A POLYESTER POWDER COAT FINISH IN A STANDARD COLOR.

POLE DIMENSIONS

POLE HGT (FT.)	TOP SQ. SIZE (IN.)	BOT. SQ. SIZE (IN.)	GAGE	MTG. HGT. (FT.)
15'	4.00	8.00	11 GAGE	10'

BASE PLATE DIMENSIONS

BOLT CIRCLE (IN.)	BASE PLATE DIM. (IN.)	BOLT HOLE (IN.)	PLATE THK. (IN.)
8.00-9.00	8.00 SQ.	1.00	.75

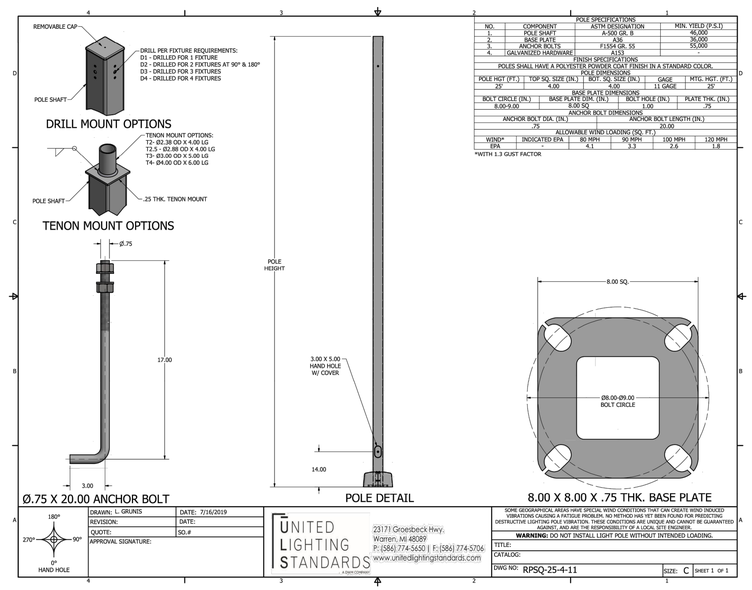
ANCHOR BOLT DIMENSIONS

ANCHOR BOLT DIA. (IN.)	ANCHOR BOLT LENGTH (IN.)
.75	20.00

ALLOWABLE WIND LOADING (SQ. FT.)

WIND*	INDICATED EPA	80 MPH	90 MPH	100 MPH	120 MPH
EPA	-	15.1	12.3	9.8	7.0

5 LIGHT POLE - FOR 18'-0" MOUNTED FIXTURES
NTS



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4.	GALVANIZED HARDWARE	A153	-

FINISH SPECIFICATIONS
POLES SHALL HAVE A POLYESTER POWDER COAT FINISH IN A STANDARD COLOR.

POLE DIMENSIONS

POLE HGT (FT.)	TOP SQ. SIZE (IN.)	BOT. SQ. SIZE (IN.)	GAGE	MTG. HGT. (FT.)
25'	4.00	8.00	11 GAGE	25'

BASE PLATE DIMENSIONS

BOLT CIRCLE (IN.)	BASE PLATE DIM. (IN.)	BOLT HOLE (IN.)	PLATE THK. (IN.)
8.00-9.00	8.00 SQ.	1.00	.75

ANCHOR BOLT DIMENSIONS

ANCHOR BOLT DIA. (IN.)	ANCHOR BOLT LENGTH (IN.)
.75	20.00

ALLOWABLE WIND LOADING (SQ. FT.)

WIND*	INDICATED EPA	80 MPH	90 MPH	100 MPH	120 MPH
EPA	-	4.1	3.3	2.6	1.8

*WITH 1.3 GUST FACTOR

6 LIGHT POLE - FOR 25'-0" MOUNTED FIXTURES
NTS

1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1
Date	Description	No.

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
LIGHTING NOTES AND DETAILS

Project No.	Drawing No.
100775501	LL501
Date: 06/25/2020	
Drawn By: ML	
Checked By: DB/JC	Sheet 45 of 50

LANGAN
PROJECT NO. 100775501
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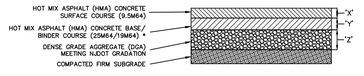
ASPHALT PAVEMENT

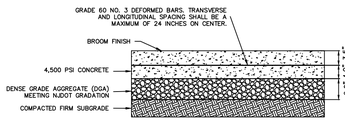
ASPHALT SECTION	SURFACE COURSE - "X"	BASE COURSE - "Y"	SUBBASE - "Z"
STANDARD DUTY	2 INCHES	4 INCHES	6 INCHES
MEDIUM DUTY	2 INCHES	4 INCHES	8 INCHES
HEAVY DUTY	2 INCHES	4 INCHES	8 INCHES



* BITUMINOUS CONCRETE BASE COURSE (25MM64) TO BE USED FOR HEAVY DUTY. ALL OTHER PAVEMENT AREAS TO USE BITUMINOUS CONCRETE BINDER COURSE (19MM64).

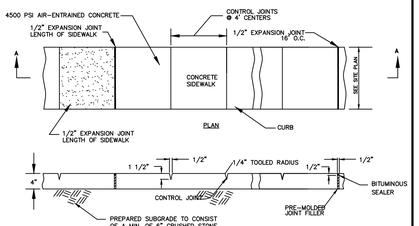
NOTES:
1. PRIOR TO ANY ASPHALT PAVING ACTIVITIES, THE CONTRACTOR SHALL PROVIDE ASPHALT DESIGN MIX SUBMITTAL TO THE OWNER'S ENGINEER FOR REVIEW AND APPROVAL.
2. PRIOR TO ANY ASPHALT PAVING ACTIVITIES, THE PAVEMENT SUBGRADE AND SUBBASE SHALL BE PROPERLY PREPARED AND ADEQUATELY COMPACTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
3. ALL AREAS TO BE PAVED SHALL BE PROOFROLLED WITH A SMOOTH ROLLER HAVING A MINIMUM STATIC DRUM WEIGHT OF 5-TONS AND A FULLY LOADED TRI-AXLE DUMP TRUCK. ANY SOFT AREAS SHALL BE REMOVED AND REPLACED WITH APPROVED, COMPACTED FILL. FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
4. THE ASPHALT MIXTURE, AFTER BEING SPREAD, SHALL BE THOROUGHLY COMPACTED BY ROLLING AS SOON AS IT WILL BEAR THE WEIGHT OF THE ROLLERS WITHOUT UNDUE DISPLACEMENT. THE NUMBER, WEIGHT, AND TYPES OF ROLLERS AND SEQUENCES OF ROLLING OPERATIONS SHALL BE SUCH THAT THE REQUIRED DENSITY AND SURFACE ARE CONSISTENTLY ATTAINED WHILE THE MIXTURE IS IN A WORKABLE CONDITION.
5. ASPHALT SHALL BE COMPACTED TO A MINIMUM OF 93% OF THE MAXIMUM THEORETICAL DENSITY ACCORDING TO ASTM D2041 FOR THE 9.5MM64 AND 19MM64 COURSES. FOR THE 25MM64 COURSE, THE ASPHALT SHALL BE COMPACTED TO A MINIMUM OF 92% OF THE MAXIMUM THEORETICAL DENSITY, OR IN ACCORDANCE TO THE GEOTECHNICAL REPORT.
6. A TESTING AGENCY SHALL PERFORM IN PLACE DENSITY TESTS AS PART OF THE CONSTRUCTION TESTING REQUIREMENTS USING THE NUCLEAR METHOD IN ACCORDANCE WITH ASTM D-2922 METHOD B DIRECT TRANSMISSION.
7. APPLY TACK COAT TO ASPHALTIC CONCRETE BASE COURSE PRIOR TO PLACING SURFACE COURSE. APPLY EMULSIFIED ASPHALT TACK COAT BETWEEN EACH LIFT OR LAYER OF FULL DEPTH ASPHALTIC CONCRETE BASES, WHERE APPLICABLE.
8. ASPHALT PAVING OPERATIONS SHALL ONLY OCCUR WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40°F. DO NOT PLACE ASPHALT ON FROZEN GROUND OR IN STANDING WATER. DO NOT PAVE IN THE RAIN.

CONCRETE APRON



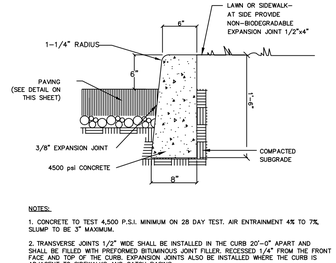
NOTES:
1. PRIOR TO ANY PAVING ACTIVITIES, THE PAVEMENT SUBGRADE ANS SUBBASE SHALL BE PROPERLY PREPARED AND ADEQUATELY COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR THIS PROJECT.
2. PRIOR TO INSTALLATION OF PAVEMENT, THE SUBGRADE SHOULD BE SURFACE COMPACTED WITH A MINIMUM OF 6 PASSES WITH A VIBRATORY ROLLER HAVING A MINIMUM STATIC WEIGHT OF 5-TONS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
3. ALL AREAS TO BE PAVED SHALL BE PROOFROLLED WITH A SMOOTH ROLLER HAVING A MINIMUM STATIC DRUM WEIGHT OF 5-TONS AND A FULLY LOADED TRI-AXLE DUMP TRUCK. ANY SOFT AREAS SHALL BE REMOVED AND REPLACED WITH APPROVED, COMPACTED FILL. FILL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEED 12-INCHES AND SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
4. TRANSVERSE AND LONGITUDINAL CONTROL JOINTS SHALL BE SAW CUT AT 15 FT MAXIMUM SPACING.
5. DOWEL BARS SHALL BE PLACED AT ALL JOINTS.

CONCRETE SIDEWALK



NOTES:
1. ALL SIDEWALKS SHALL BE FLOATED, TOOLED, AND SOFT BROOM BRUSHED.
2. SIDEWALKS SHALL BE INSTALLED ON AN APPROVED, COMPACTED SUBGRADE.
3. MAXIMUM CROSS SLOPE OF 1/4" PER FOOT.

6-INCH CONCRETE CURB



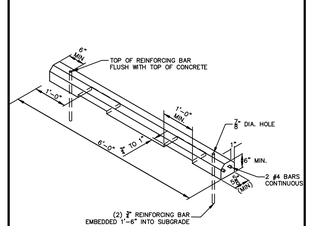
NOTES:

1. CONCRETE TO TEST 4,500 P.S.I. MINIMUM ON 28 DAY TEST. AIR ENTRAINMENT 4% TO 7% SLUMP TO BE 3" MAXIMUM.

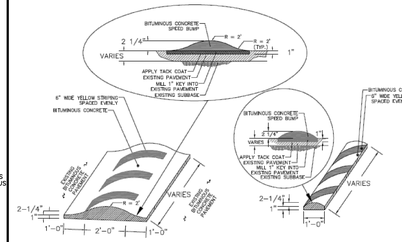
2. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS JOINT FILLER, RECESSED 1/4" FROM THE FRONT FACE AND TOP OF THE CURB. EXPANSION JOINTS ALSO BE INSTALLED WHERE THE CURB IS ADJACENT TO SIDEWALKS AND CATCH BASINS.

3. EXPOSED CONCRETE SURFACE IS TO BE RUBBED TO PROVIDE SMOOTH FINISHED SURFACE.

WHEEL STOP



BITUMINOUS SPEED BUMP

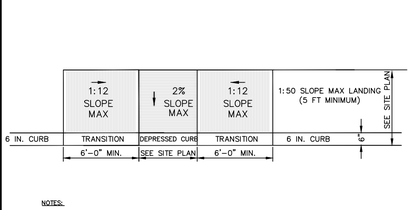


BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 1

BITUMINOUS CONCRETE SPEED BUMP DETAIL ALTERNATE 2

NOTES:
1. INSTALL AT DISTANCE OF 10 TO 20 FEET IN ADVANCE OF ALL STOP SIGNS AND CROSSWALKS IN DIRECTION OF TRAVEL.

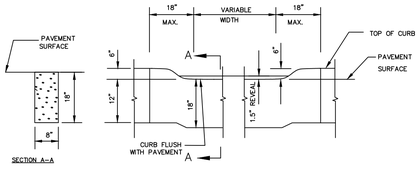
ACCESSIBLE RAMP



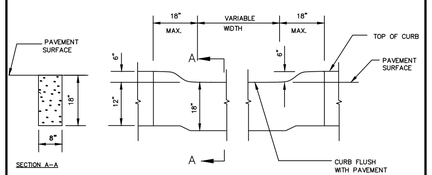
NOTES:

1. CONTRACTOR SHALL REFER TO ADA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG) TO ENSURE THAT DETAILS ARE CURRENT AT THE TIME OF CONSTRUCTION, AND SHALL NOTIFY ENGINEER IF DISCREPANCIES ARE FOUND.
2. CURB RAMP TO BE INSTALLED ADJACENT TO ADA STALLS SHOWN ON SHEET CS102
3. ALL RAMPS TO HAVE A SLIP RESISTANT SURFACE (SEE ADA DETECTABLE WARNING SURFACE DETAIL). A DETECTABLE WARNING MUST COMPLY WITH ADA. THE DETECTABLE WARNING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE CURB RAMP.
4. ALL RAMPS SHALL HAVE A BROOM FINISH IN ACCORDANCE WITH ADA REQUIREMENTS.

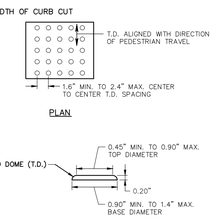
DEPRESSED CURB



FLUSH CURB

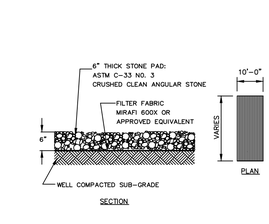


DETECTABLE WARNING SURFACE

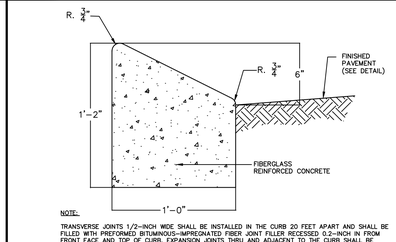


NOTES:
1. DETECTABLE WARNING SURFACE (DWS) SHALL EXTEND FULL WIDTH OF CURB RAMP (EXCLUSIVE OF FLARES) OR FULL WIDTH OF LANDING/TURNING SPACE.
2. DWS SHALL EXTEND 2 FEET MINIMUM IN THE DIRECTION OF PEDESTRIAN TRAVEL.
3. TYPICALLY, DWS SHALL BE PLACED ADJACENT TO BACK OF CURB.

GRAVEL ACCESS PATH

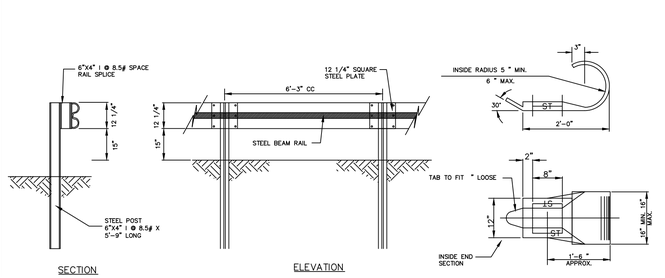


MOUNTABLE CURB

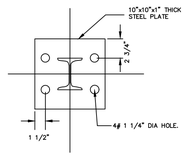


NOTE:
TRANSVERSE JOINTS 1/2-INCH WIDE SHALL BE INSTALLED IN THE CURB 20 FEET APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS-IMPREGNATED FIBER JOINT FILLER RECESSED 0.2-INCH IN FROM FRONT FACE AND TOP OF CURB. EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

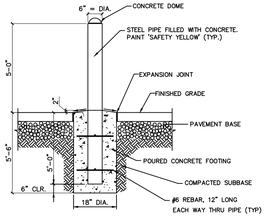
GUIDERAIL



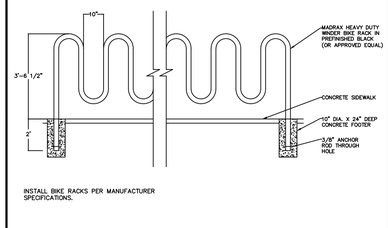
NOTE:
GUIDE RAIL SHALL BE CLASS A, TYPE 1, CONFORMING TO CURRENT AASHO SPECIFICATIONS. 2. GUIDE RAIL LAPS TO BE IN DIRECTION OF TRAFFIC FLOW.



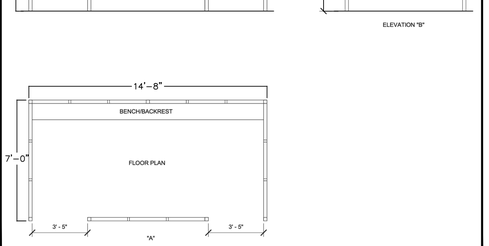
STEEL BOLLARD



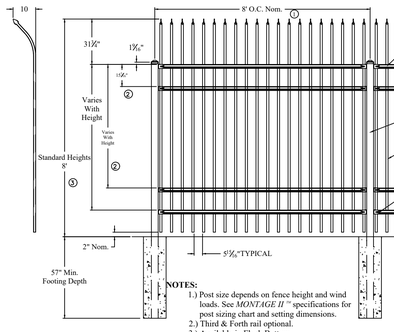
BIKE RACK



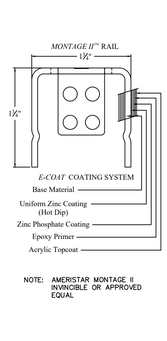
PREFABRICATED RIDESHARE SHELTER



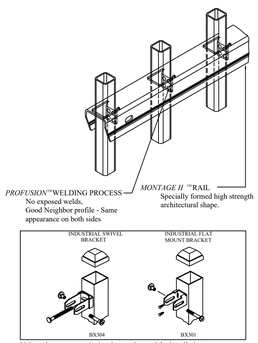
ORNAMENTAL FENCE



NOTES:
1.) Post size depends on fence height and wind loads. See *MONTAGE II ™* specifications for post sizing chart and setting dimensions.
2.) Third & Forth rail optional.
3.) Available in Flush Bottom.

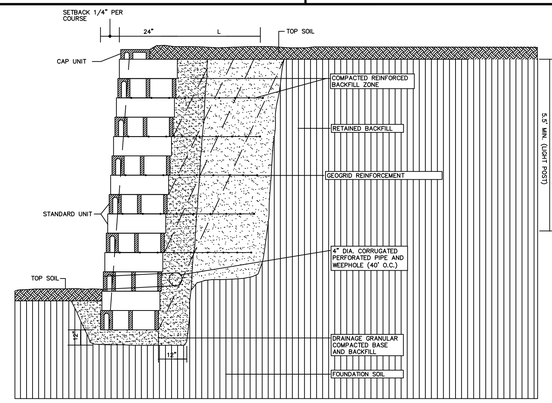


NOTE: AMERISTAR MONTAGE II INVINCIBLE OR APPROVED EQUAL



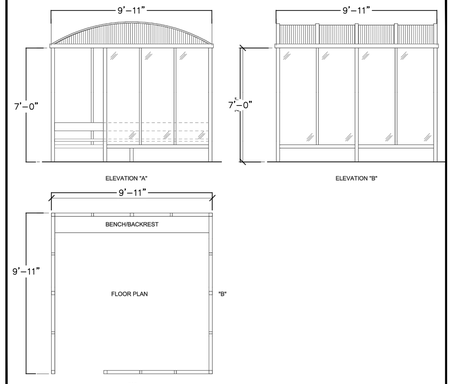
Values shown are nominal and not to be used for installation purposes. See product specification for installation requirements.

CONCRETE BLOCK RETAINING WALL



NOTES:
1. DETAIL PROVIDED FOR CONCEPT ONLY. THE CONTRACTOR SHALL SUBMIT DETAILED SITE SPECIFIC DRAWINGS, ENGINEERING CALCULATIONS, STABILITY CALCULATIONS AND MATERIAL SPECIFICATIONS TO THE ENGINEER OF RECORD AND AGENCIES HAVING JURISDICTION FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. RECOMMENDATIONS FOR ALTERNATIVE RETAINING WALL TYPES ARE PROVIDED IN THE GEOTECHNICAL REPORT.
3. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.
4. WALL DESIGNER SHALL ACCOUNT FOR THE PROXIMITY TO THE PROPERTY LINE TO THE RETAINING WALLS AS PART OF THE DESIGN.
5. BACKFILL SHALL MEET THE REQUIREMENTS OF THE THE FINAL GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES, AS DIRECTED BY GEOTECHNICAL ENGINEER. COMPACT FILL INTO AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED ASTM D-1557.
6. SWALE TO BE PROVIDED AT THE TOP OF THE WALL (REFER TO SHEET CG101).
7. CURB TO BE PLACE IN FRONT OF THE WALL AS SHOWN ON THE SITE DRAWING.
8. FENCE TO BE PROVIDED ON THE TOP OF THE WALL AS SHOWN ON THE SITE DRAWINGS.

PREFABRICATED SMOKER'S SHELTER



Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE DATE SIGNED
RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
SITE DETAILS 1

Project No.	Drawing No.
100775501	CS501
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 46 of 50

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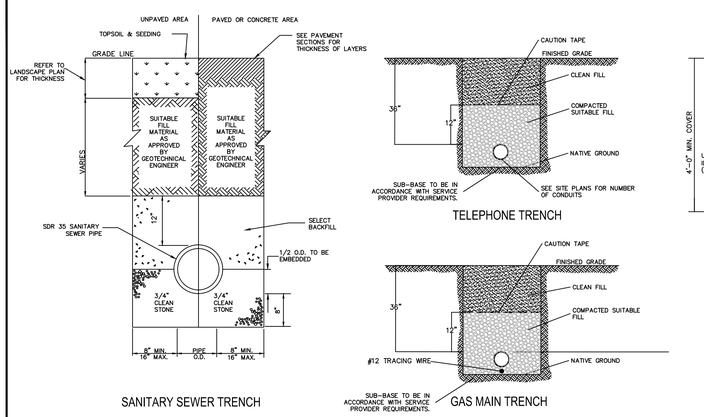
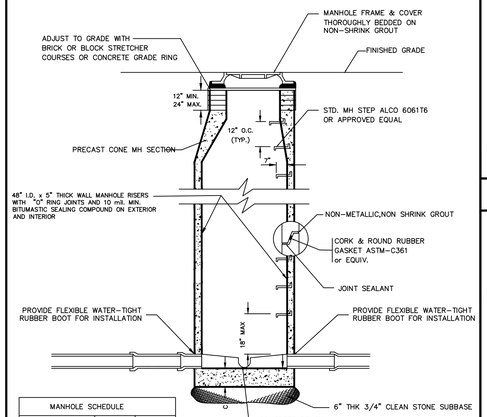
LANGAN
PROJECT NO. 100775501



NOTES:

1. SUITABLE FILL SHALL MEET THE REQUIREMENTS OF THE FINAL GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
2. SELECT GRANULAR FILL SHALL CONSIST OF ON-SITE GRANULAR FILL OR IMPORTED GRANULAR FILL HAVING A MAXIMUM PARTICLE SIZE OF 2 INCHES AND A MAXIMUM FINES CONTENT OF 15% AND BE FREE OF ORGANICS , DEBRIS, AND OTHER DELETERIOUS MATERIALS.
3. COMPACT TRENCH BOTTOM PRIOR TO PLACEMENT OF BEDDING TO PROVIDE A FIRM SUBGRADE.
4. OVER-EXCAVATE UNSTABLE OR WET/SOFT SOIL FROM TRENCH BOTTOM TO PROVIDE A SUITABLE SUBGRADE. THE MAXIMUM DEPTH OF OVER-EXCAVATION SHALL BE 2 FEET BELOW PROPOSED UTILITY SUBGRADE ELEVATION, OR AS APPROVED BY GEOTECHNICAL ENGINEER.
5. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES, AS DIRECTED BY GEOTECHNICAL ENGINEER. COMPACT FILL IN PAVEMENT AREAS TO AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. COMPACT FILL IN NON-PAVEMENT AREAS TO AT LEAST 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

TRENCH DETAIL

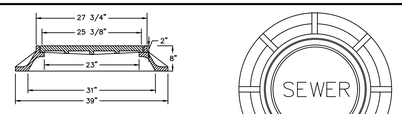


MANHOLE SCHEDULE		
"A" (DIA)	"B"	"C"
4'-0" (STD)	5"	5"
5'-0"	6"	6"
6'-0"	8"	8"

NOTES:

1. PROVIDE EXTERIOR DROP WHEN INVERTS IN AND OUT EXCEED 2 FEET.
2. DESIGNED TO AASHTO HS-20 LOADING.
3. TWO (2) COATS BITUMASTIC PROTECTIVE COATING, EACH EIGHT (8) MILS THICK SHALL BE APPLIED TO THE ENTIRE OUTER SURFACE OF THE MANHOLE. AND, TWO (2) COATS WHITE EPOXY PROTECTIVE COATING, EACH SIX (6) MILS THICK SHALL BE APPLIED TO THE ENTIRE INTERIOR CONCRETE SURFACE.

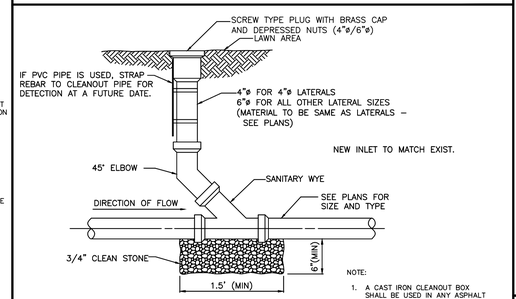
SANITARY MANHOLE



NOTES:

1. THE MANHOLE COVER AND FRAME SHALL BE OF THE HEAVY HIGHWAY TYPE, WITH THE CIRCULAR STRAIGHT TYPE FRAME AND ROUND FLANGE. THE COVER SHALL BE PERFORATED WITH A MINIMUM OF SIX 3/4" HOLES.
2. TO BE USED ON STREETS: CAMPBELL FOUNDRY CO. PATTERN NO. #12028 WATERTIGHT OR ITS APPROVED EQUIVALENT.
3. TO BE USED IN GRASS AREAS: AMPBELL FOUNDRY CO. PATTERN NO. 6541 WATERTIGHT OR ITS EQUIVALENT.

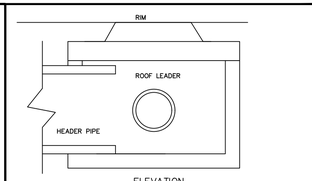
SANITARY SEWER MANHOLE COVER



NOTE:

1. A CAST IRON CLEANOUT BOX SHALL BE USED IN ANY ASPHALT OR CONCRETE AREAS.

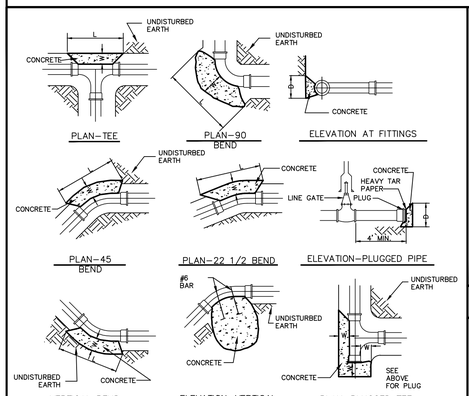
SANITARY CLEANOUT



GENERAL NOTES:

1. PROVIDE WHEN ROOF LEADER CONNECTS TO END OF HEADER PIPE.

ROOF LEADER CONNECTION TO STORM MANHOLE

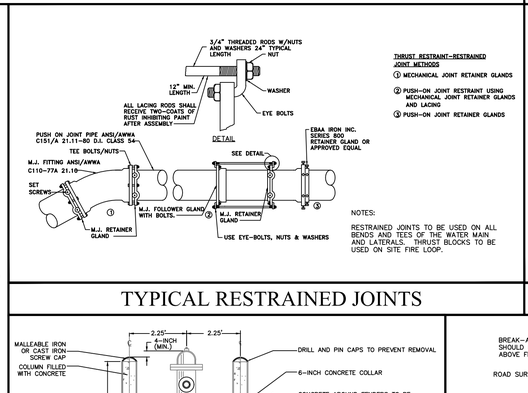


THRUST BLOCK SCHEDULE									
PIPE SIZE	TEE		22 1/2		45		90		W
	L	D	L	D	L	D	L	D	
6"	18"	15"	15"	12"	15"	12"	15"	15"	21"
8"	2'	18"	18"	12"	18"	12"	2'	18"	2'
12"	3'	2'	2'	12"	2'	12"	3'	2'	28"
16"	4'	2.5'	2'	12"	2.33'	15"	4'	2.5'	31"
20"	5.25'	3'	2'	18"	3'	2'	5.25'	3'	33"
24"	7.5'	3'	3'	18"	4'	2.5'	7.5'	3'	3'

BASIS:
2,000 LB/SQ.FT. SOIL RESISTANCE 250 PSI WATER PRESSURE CORRECTION FACTORS FOR OTHER SOILS:
SOFT CLAY 4
SAND 2
SAND & GRAVEL 1.33
SHALE 0.4

NOTE:
1. IF SOFT MATERIALS ARE ENCOUNTERED, THE THRUST BLOCKS SIZES SHALL BE ADJUSTED ACCORDINGLY.
2. CONCRETE TO BE 4000 PSI.

THRUST BLOCKS



THRUST RESTRAINT–RESTRAINED JOINT METHODS

① MECHANICAL JOINT RETAINER GLANDS

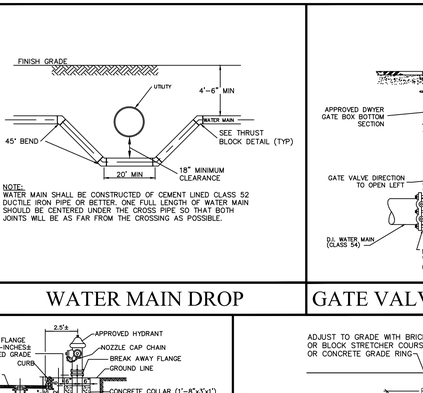
② PUSH–ON JOINT RESTRAINT USING MECHANICAL JOINT RETAINER GLANDS AND LACING

③ PUSH–ON JOINT RETAINER GLANDS

NOTES:

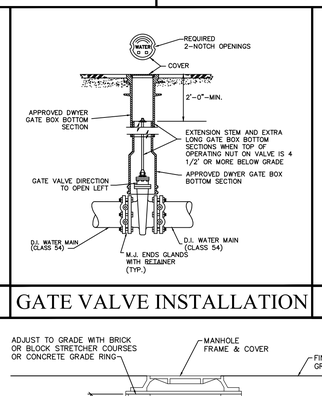
RESTRAINED JOINTS TO BE USED ON ALL BENDS AND TEES OF THE WATER MAIN AND LATERALS. THRUST BLOCKS TO BE USED ON SITE FIRE LOOP.

TYPICAL RESTRAINED JOINTS

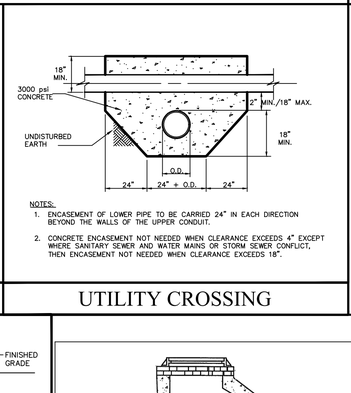


NOTE:
WATER MAIN SHALL BE CONSTRUCTED OF CEMENT LINED CLASS 52 DUCTILE IRON PIPE OR BETTER. ONE FULL LENGTH OF WATER MAIN SHOULD BE CENTERED UNDER THE CROSS PIPE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE CROSSING AS POSSIBLE.

WATER MAIN DROP



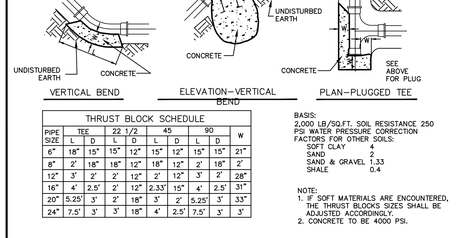
GATE VALVE INSTALLATION



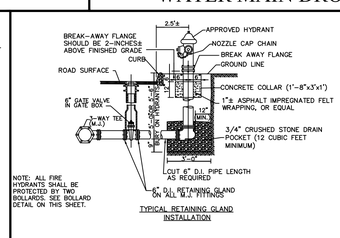
NOTES:

1. ENCASEMENT OF LOWER PIPE TO BE CARRIED 24" IN EACH DIRECTION BEYOND THE WALLS OF THE UPPER CONDUIT.
2. CONCRETE ENCASEMENT NOT NEEDED WHEN CLEARANCE EXCEEDS 4" EXCEPT WHERE SANITARY SEWER AND WATER MAINS OR STORM SEWER CONFLICT, THEN ENCASEMENT NOT NEEDED WHEN CLEARANCE EXCEEDS 18".

UTILITY CROSSING



THRUST BLOCKS

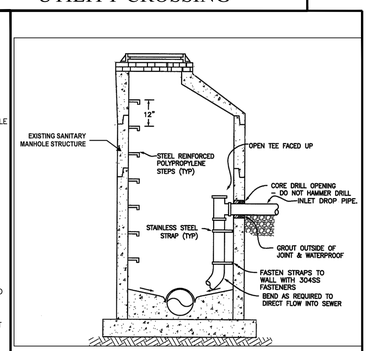


NOTE: ALL FIRE HYDRANTS SHALL BE PROTECTED BY TWO BOLLARDS. SEE BOLLARD DETAIL ON THIS SHEET.

TYPICAL RETAINING GLAND INSTALLATION

HYDRANT BOLLARDS

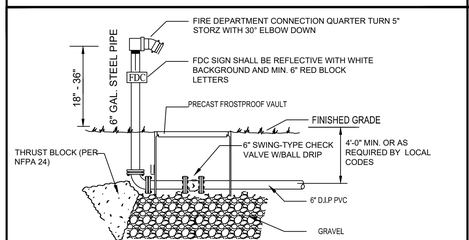
SANITARY DROP MANHOLE



NOTE:

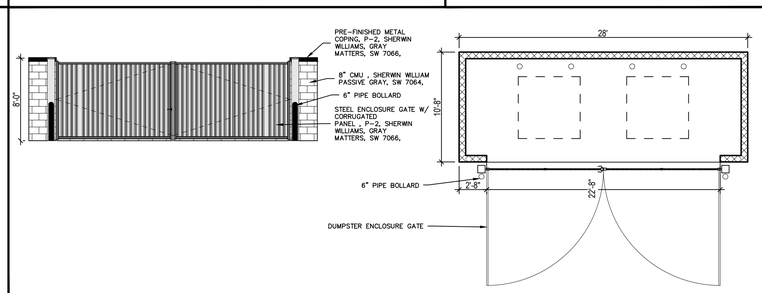
1. EXISTING INVERT TO BE VERIFIED IN FIELD PRIOR TO CONSTRUCTION.

SANITARY DROP CONNECTION TO EXISTING SANITARY MANHOLE



NOTE: A RED COLORED LIGHT SHALL BE INSTALLED ADJACENT TO THE FIRE DEPARTMENT CONNECTION FOR NIGHTIME IDENTIFICATION

FIRE DEPARTMENT CONNECTION



DUMPSTER ENCLOSURE

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021

SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

LANGAN
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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

1251 JUMPING BROOK ROAD

BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47

MONMOUTH COUNTY NEW JERSEY

Drawing Title

SITE DETAILS 2

Project No.	Drawing No.
100775501	CS502
Date: 06/25/2020	
Drawn By: RY	
Checked By: RB	Sheet 47 of 50

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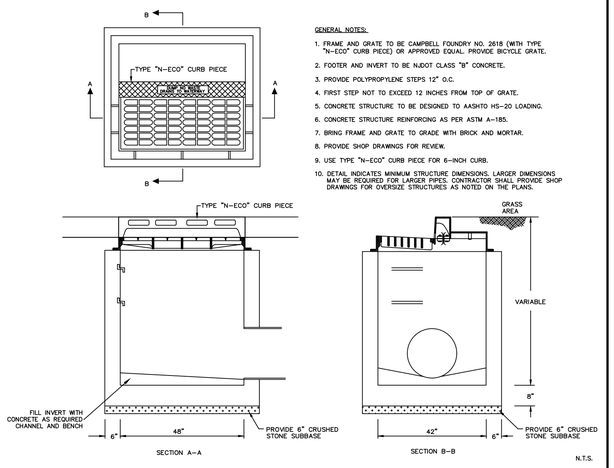
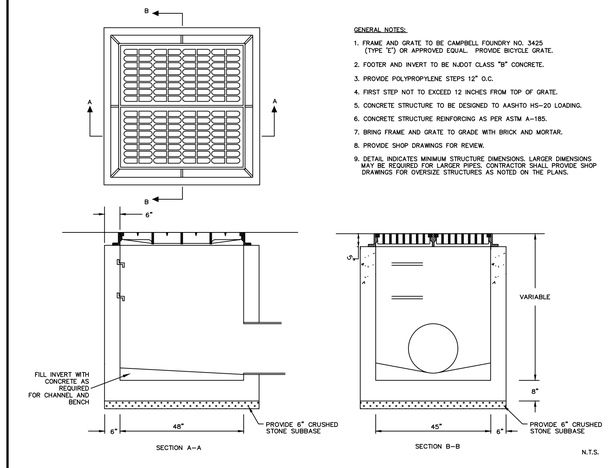
LANGAN PROJECT NO. 100775501



GENERAL NOTES:

1. FRAME AND GRATE TO BE CAMPBELL FOUNDRY NO. 2618 (WITH TYPE "N-ECO" CURB PIECE) OR APPROVED EQUAL. PROVIDE BICYCLE GRATE.
2. FOOTER AND INVERT TO BE NJDOT CLASS "B" CONCRETE.
3. PROVIDE POLYPROPYLENE STEPS 12" O.C.
4. FIRST STEP NOT TO EXCEED 12 INCHES FROM TOP OF GRATE.
5. CONCRETE STRUCTURE TO BE DESIGNED TO AASHTO HS-20 LOADING.
6. CONCRETE STRUCTURE REINFORCING AS PER ASTM A-185.
7. BRING FRAME AND GRATE TO GRADE WITH BRICK AND MORTAR.
8. PROVIDE SHOP DRAWINGS FOR REVIEW.
9. USE TYPE "N-ECO" CURB PIECE FOR 6-INCH CURB.
10. DETAIL INDICATES MINIMUM STRUCTURE DIMENSIONS. LARGER DIMENSIONS MAY BE REQUIRED FOR LARGER PIPES. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR OVERSIZE STRUCTURES AS NOTED ON THE PLANS.

TYPE "B" INLET DETAIL



GENERAL NOTES:

1. FRAME AND GRATE TO BE CAMPBELL FOUNDRY NO. 3425 (TYPE "E") OR APPROVED EQUAL. PROVIDE BICYCLE GRATE.
2. FOOTER AND INVERT TO BE NJDOT CLASS "B" CONCRETE.
3. PROVIDE POLYPROPYLENE STEPS 12" O.C.
4. FIRST STEP NOT TO EXCEED 12 INCHES FROM TOP OF GRATE.
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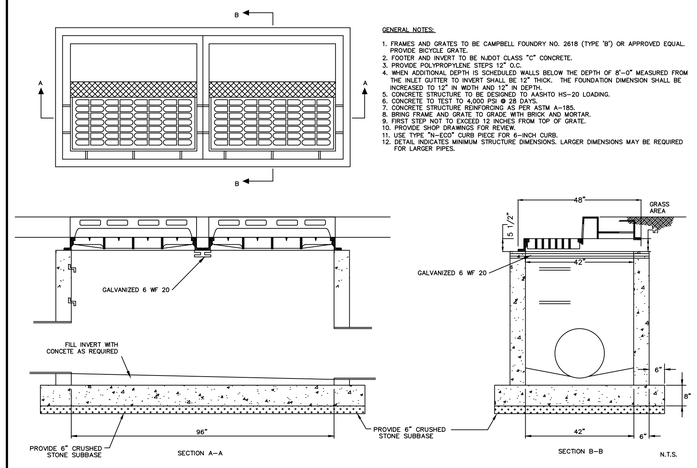
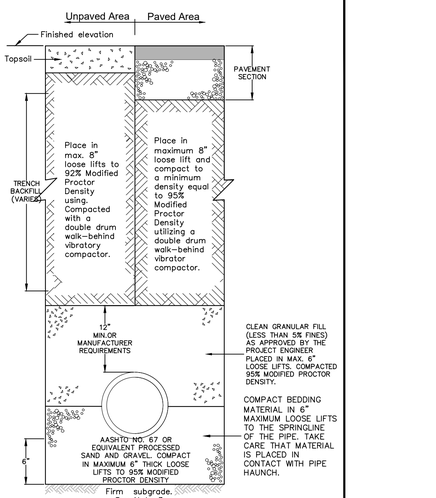
TYPE "E" INLET DETAIL



GENERAL NOTES:

1. FRAMES AND GRATES TO BE CAMPBELL FOUNDRY NO. 2618 (TYPE "B") OR APPROVED EQUAL. PROVIDE BICYCLE GRATE.
2. FOOTER AND INVERT TO BE NJDOT CLASS "C" CONCRETE.
3. PROVIDE POLYPROPYLENE STEPS 12" O.C.
4. WHEN ADDITIONAL DEPTH IS SCHEDULED WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO INVERT SHALL BE 12" THICK. THE FOUNDATION DIMENSION SHALL BE INCREASED TO 12" IN WIDTH AND 12" IN DEPTH.
5. CONCRETE STRUCTURE TO BE DESIGNED TO AASHTO HS-20 LOADING.
6. CONCRETE TO TEST TO 4,000 PSI @ 28 DAYS.
7. CONCRETE STRUCTURE REINFORCING AS PER ASTM A-185.
8. BRING FRAME AND GRATE TO GRADE WITH BRICK AND MORTAR.
9. FIRST STEP NOT TO EXCEED 12 INCHES FROM TOP OF GRATE.
10. PROVIDE SHOP DRAWINGS FOR REVIEW.
11. USE TYPE "N-ECO" CURB PIECE FOR 6-INCH CURB.
12. DETAIL INDICATES MINIMUM STRUCTURE DIMENSIONS. LARGER DIMENSIONS MAY BE REQUIRED FOR LARGER PIPES.

TYPE "DOUBLE B" INLET DETAIL

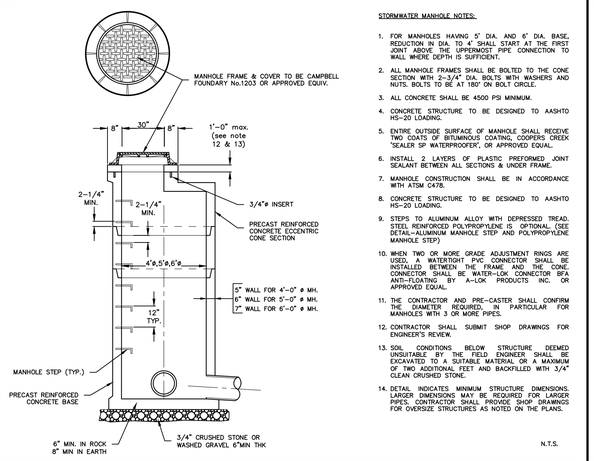


SCALE: NTS

NOTES:

1. SUITABLE FILL SHALL MEET THE REQUIREMENTS OF THE FINAL GEOTECHNICAL REPORT AND PROJECT SPECIFICATIONS.
2. SELECT GRANULAR FILL SHALL CONSIST OF ON-SITE GRANULAR FILL OR IMPORTED GRANULAR FILL HAVING A MAXIMUM PARTICLE SIZE OF 2 INCHES AND A MAXIMUM FINES CONTENT OF 15% AND BE FREE OF ORGANICS , DEBRIS, AND OTHER DELETERIOUS MATERIALS.
3. COMPACT TRENCH BOTTOM PRIOR TO PLACEMENT OF BEDDING TO PROVIDE A FIRM SUBGRADE.
4. OVER-EXCAVATE UNSTABLE OR WET/SOFT SOIL FROM TRENCH BOTTOM TO PROVIDE A SUITABLE SUBGRADE. THE MAXIMUM DEPTH OF OVER-EXCAVATION SHALL BE 2 FEET BELOW PROPOSED UTILITY SUBGRADE ELEVATION, OR AS APPROVED BY GEOTECHNICAL ENGINEER.
5. BACKFILL SHALL BE PLACED IN LIFTS NOT TO EXCEED 8 INCHES, AS DIRECTED BY GEOTECHNICAL ENGINEER. COMPACT FILL IN PAVEMENT AREAS TO AT LEAST 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557. COMPACT FILL IN NON-PAVEMENT AREAS TO AT LEAST 90% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

TRENCH AND BEDDING (STROM PIPES)

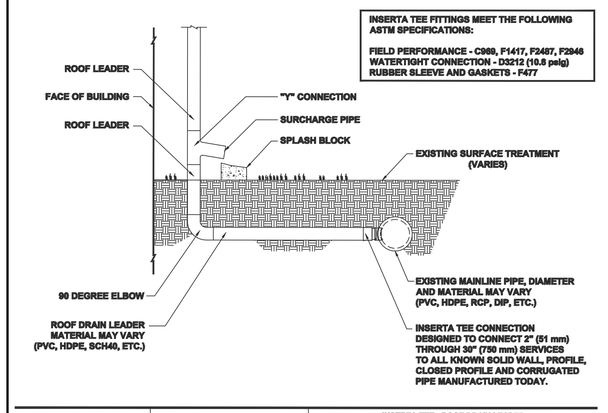


STORMWATER MANHOLE NOTES:

1. FOR MANHOLES HAVING 5' DIA. AND 6' DIA. BASE, REDUCTION IN DIA. TO 4' SHALL START AT THE FIRST JOINT ABOVE THE UPPERMOST PIPE CONNECTION TO WALL WHERE DEPTH IS SUFFICIENT.
2. ALL MANHOLE FRAMES SHALL BE BOLTED TO THE CONE SECTION WITH 2-3/4" DIA. BOLTS WITH WASHERS AND NUTS. BOLTS TO BE AT 180° ON BOLT CIRCLE.
3. ALL CONCRETE SHALL BE 4500 PSI MINIMUM.
4. CONCRETE STRUCTURE TO BE DESIGNED TO AASHTO HS-20 LOADING.
5. ENTIRE OUTSIDE SURFACE OF MANHOLE SHALL RECEIVE TWO COATS OF BITUMINOUS COATING, COOPERS CREEK 'SEALER SP WATERPROOFER', OR APPROVED EQUAL.
6. INSTALL 2 LAYERS OF PLASTIC PREFORMED JOINT SEALANT BETWEEN ALL SECTIONS & UNDER FRAME.
7. MANHOLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ATSM C478.
8. CONCRETE STRUCTURE TO BE DESIGNED TO AASHTO HS-20 LOADING.
9. STEPS TO ALUMINUM ALLOY WITH DEPRESSED TREAD. STEEL REINFORCED POLYPROPYLENE IS OPTIONAL. (SEE DETAIL-ALUMINUM MANHOLE STEP AND POLYPROPYLENE MANHOLE STEP)
10. WHEN TWO OR MORE GRADE ADJUSTMENT RINGS ARE USED, A WATERTIGHT PVC CONNECTOR SHALL BE INSTALLED BETWEEN THE FRAME AND THE CONE. CONNECTOR SHALL BE WATER-LOK CONNECTOR BFA ANTI-FLOATING BY A-LOK PRODUCTS INC. OR APPROVED EQUAL.
11. THE CONTRACTOR AND PRE-CASTER SHALL CONFIRM THE DIAMETER REQUIRED, IN PARTICULAR FOR MANHOLES WITH 3 OR MORE PIPES.
12. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER'S REVIEW.
13. SOIL CONDITIONS BELOW STRUCTURE DEEMED UNSUITABLE BY THE FIELD ENGINEER SHALL BE EXCAVATED TO A SUITABLE MATERIAL OR A MAXIMUM OF TWO ADDITIONAL FEET AND BACKFILLED WITH 3/4" CLEAN CRUSHED STONE.
14. DETAIL INDICATES MINIMUM STRUCTURE DIMENSIONS. LARGER DIMENSIONS MAY BE REQUIRED FOR LARGER PIPES. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR OVERSIZE STRUCTURES AS NOTED ON THE PLANS.

N.T.S.

STORM MANHOLE



INSERTA TEE FITTINGS MEET THE FOLLOWING ASTM SPECIFICATIONS:

FIELD PERFORMANCE - C969, F1417, F2487, F2946
WATERTIGHT CONNECTION - D3212 (10.8 psig)
RUBBER SLEEVE AND GASKETS - F477

INSERTA TEE | PO BOX 714 CORNELIUS, OR 97113
PH:(503) 357-2118 FAX:(503) 359-5417
SALES@INSERTATEE.COM

INSERTA TEE - ROOF DRAIN LEADER

SCALE: NTS
DATE: 7/20/13
DRAWN BY: JJC

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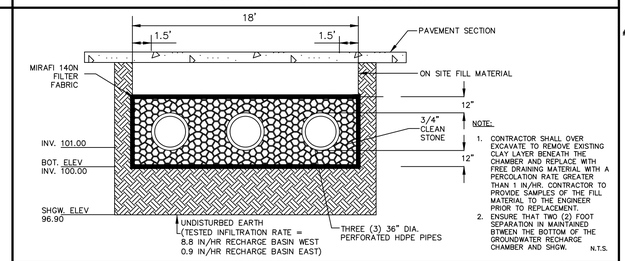
INSERT TEE CONNECTION

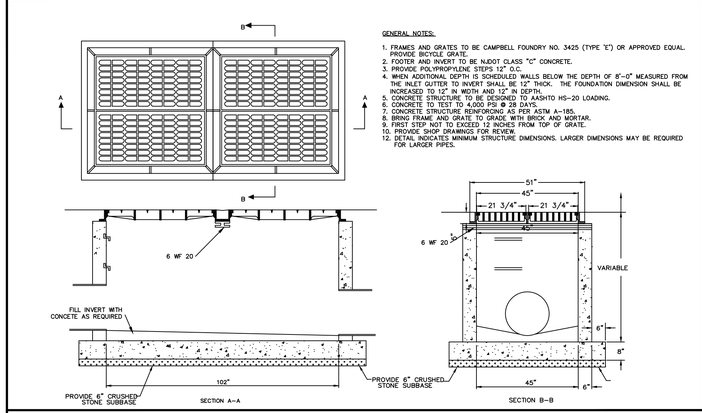


NOTE:

1. CONTRACTOR SHALL OVER EXCAVATE TO REMOVE EXISTING CLAY LAYER BENEATH THE CHAMBER AND REPLACE WITH FREE DRAINING MATERIAL WITH A PERCOLATION RATE GREATER THAN 1 IN/HR. CONTRACTOR TO PROVIDE SAMPLES OF THE FILL MATERIAL TO THE ENGINEER PRIOR TO REPLACEMENT.
2. ENSURE THAT TWO (2) FOOT SEPARATION IN MAINTAINED BTWEEN THE BOTTOM OF THE GROUNDWATER RECHARGE CHAMBER AND SHGW.

N.T.S.

GROUNDWATER RECHARGE CHAMBER



GENERAL NOTES:

1. FRAMES AND GRATES TO BE CAMPBELL FOUNDRY NO. 3425 (TYPE 'E') OR APPROVED EQUAL.
2. FOOTER AND INVERT TO BE NJDOT CLASS "C" CONCRETE.
3. PROVIDE POLYPROPYLENE STEPS 12" O.C.
4. WHEN ADDITIONAL DEPTH IS SCHEDULED WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO INVERT SHALL BE 12" THICK. THE FOUNDATION DIMENSION SHALL BE INCREASED TO 12" IN WIDTH AND 12" IN DEPTH.
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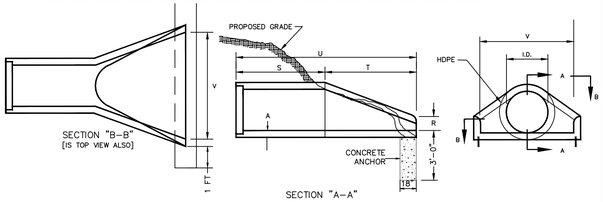
TYPE "DOUBLE E" INLET DETAIL



SIZING SUMMARY

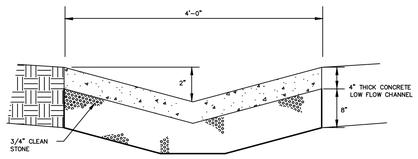
ID	12	15	13	21	24	27	30	33	36	42	48	54	60	66	72
A	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4	4 1/2	5	5 1/2	6	6 1/2	7
R	4	6	9	9	9 1/2	10 1/2	12	13 1/2	15	21	24	27	30	33	36
S	48	46	46	38	30	25 1/2	19 3/4	39 1/4	34 3/4	35	26	35	39	30	36
T	24	27	27	35	43 1/2	48	54	58 1/2	63	63	72	65	60	66	69
U	6'-0"	6'-1"	6'-1"	6'-1"	6'-1 1/2"	6'-1 1/2"	6'-1 3/4"	6'-1 3/4"	6'-1 3/4"	8'-2"	8'-2"	8'-4"	8'-3"	8'-0"	8'-3"
V	24	30	36	42	48	54	60	66	72	72	84	90	96	102	108

NOTE:

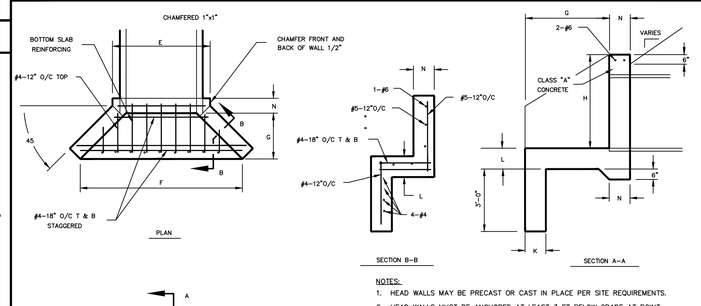
1. FLARED END SECTION MUST BE ANCHORED AT LEAST 3 FT BELOW GRADE AT POINT OF OUTFALL.

N.T.S.

CONCRETE FLARED END SECTION



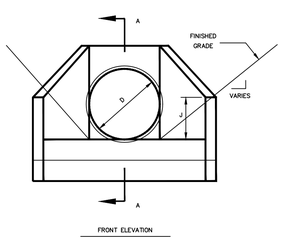
LOW FLOW CHANNEL



NOTES:

1. HEAD WALLS MAY BE PRECAST OR CAST IN PLACE PER SITE REQUIREMENTS.
2. HEAD WALLS MUST BE ANCHORED AT LEAST 3 FT BELOW GRADE AT POINT OF OUTFALL.
3. HEADWALL TO BE SIZED BASED ON PIPE OUTLET AND SURROUNDING GRADES. REFER TO CG101, CG102, AND CG103. SHOP DRAWING TO BE PROVIDED FOR EACH INDIVIDUAL HEAD WALL.
4. STANDARD HEAD WALL DIMENSIONS ARE AS FOLLOWS:

D	E	F	G	H	J	K	L	N	R
18"	3'-0"	7'-6"	3'-0"	3'-0"	2'-0"	8"	8"	8"	#5-12"o/c
21"	3'-4"	7'-9"		3'-3"	2'-0"				
24"	3'-8"	8'-0"	3'-0"	3'-6"	2'-0"	8"	8"	8"	#5-12"o/c
27"	3'-11"	8'-3"		3'-9"	2'-0"				
30"	4'-2"	8'-6"	3'-0"	4'-0"	2'-1"	8"	8"	10"	#5-12"o/c
36"	4'-8"	10'-0"	3'-6"	4'-6"	2'-3"	8"	10"	10"	#5-12"o/c
42"	5'-3"	11'-6"	4'-0"	5'-0"	2'-9"	8"	10"	10"	#5-12"o/c
48"	5'-10"	13'-0"	4'-6"	5'-6"	3'-0"	8"	10"	12"	#5-12"o/c
54"	6'-5"	14'-6"	5'-0"	6'-0"	3'-3"	9"	12"	12"	#6-8"o/c
60"	7'-0"	16'-0"	5'-6"	6'-6"	3'-6"	9"	12"	12"	#6-8"o/c
66"	7'-7"	17'-6"	6'-0"	7'-0"	3'-9"	9"	12"	14"	#6-8"o/c
72"	8'-2"	19'-0"	6'-6"	7'-6"	4'-3"	9"	12"	14"	#6-8"o/c



HEAD WALL

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
10/01/20	NJDEP RESUBMISSION	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

RICHARD BURROW
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300
SIGNATURE 01-07-2021 DATE SIGNED

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Project
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BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

Drawing Title
SITE DETAILS 3

Project No. 100775501
Date 06/25/2020
Drawn By RY
Checked By RB

Drawing No. CS503
Sheet 48 of 50

PROJECT NO. 100775501

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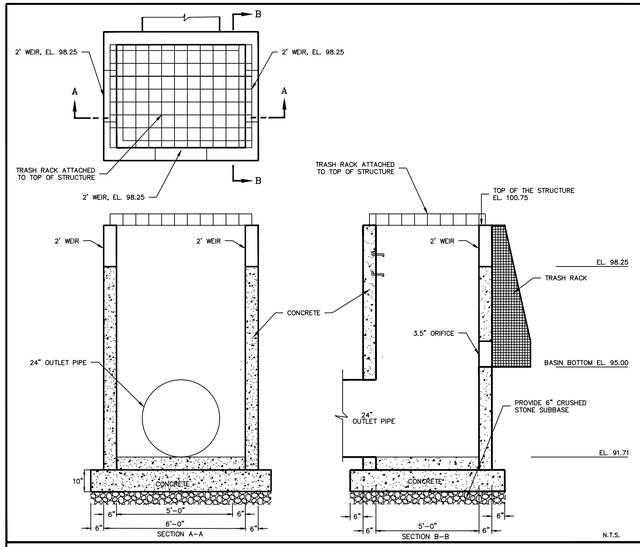
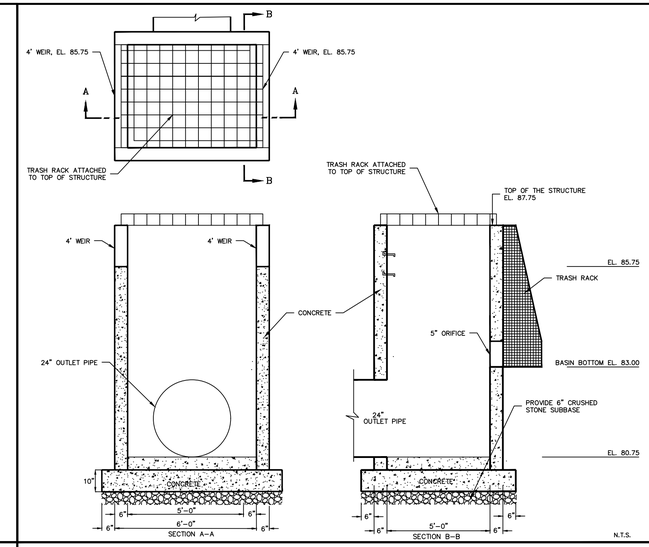


OCS-101



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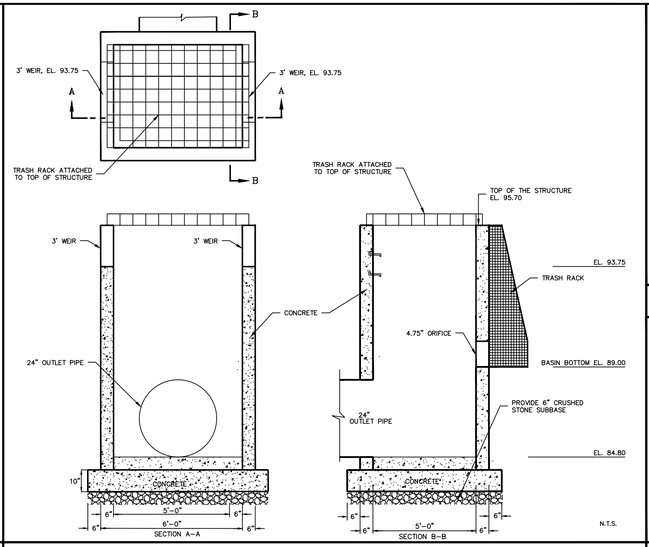

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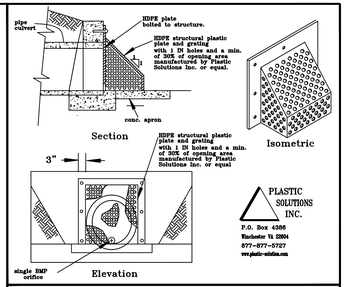
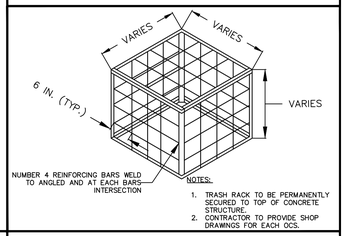
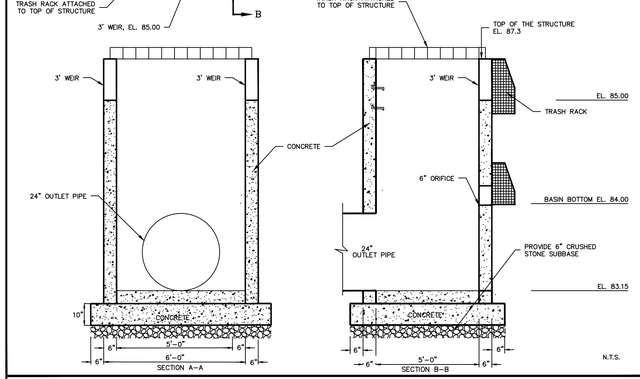


ORIFICE TRASH RACK



TOP TRASH RACK



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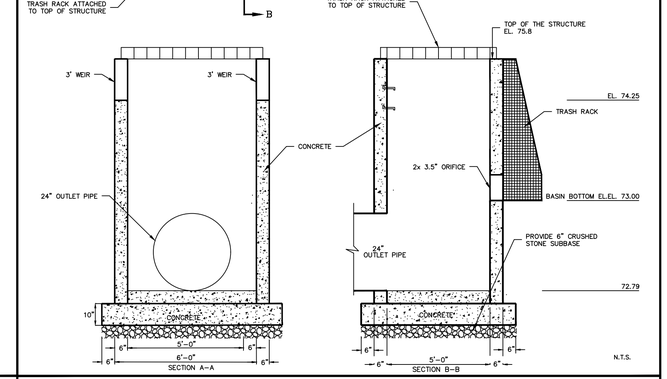

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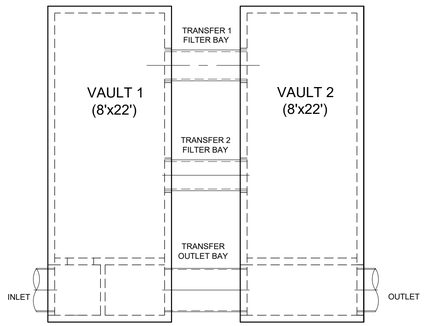
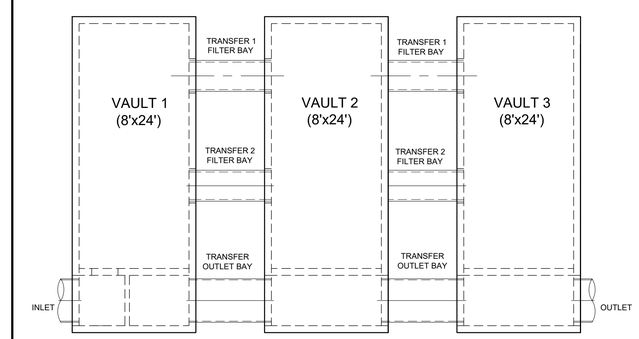
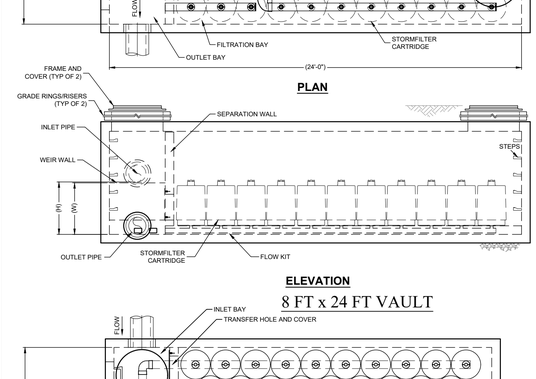
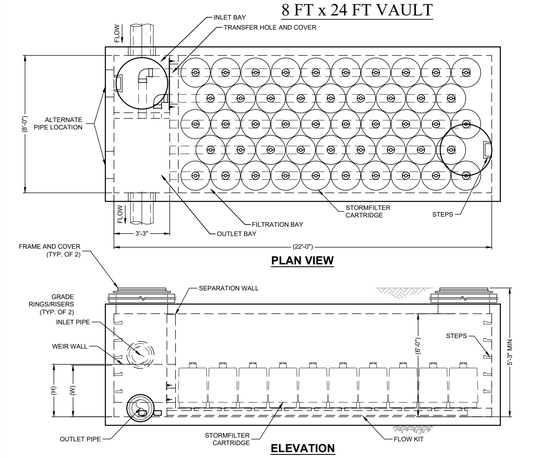


WQ-1 ASSEMBLY

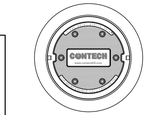


WQ-3 ASSEMBLY





PEAK DIVERSION STORMFILTER



FRAME AND COVER
DIAMETER VARIES
N.T.S.

PERFORMANCE SPECIFICATION:
FILTER CARTRIDGES SHALL BE RADIAL MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF CLEANING. **RADIAL MEDIA DEPTH SHALL BE 7-INCHES.** FILTER MEDIA CONTACT TIME SHALL BE AT LEAST **37 SECONDS.**
SPECIFIC FLOW RATE SHALL BE **2 GPM/SF (MAXIMUM).** SPECIFIC FLOW RATE IS THE MEASURE OF THE FLOW (GPM) DIVIDED BY THE MEDIA SURFACE CONTACT AREA (SF). MEDIA VOLUMETRIC FLOW RATE SHALL BE **6 GPM/CF OF MEDIA (MAXIMUM).**

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE, www.ContechES.com.
4. STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
5. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 5' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL SECTIONS AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
F. CONTRACTOR TO REMOVE THE TRANSFER HOLE COVER WHEN THE SYSTEM IS BROUGHT ONLINE.

CONTECH ENGINEERED SOLUTIONS LLC
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

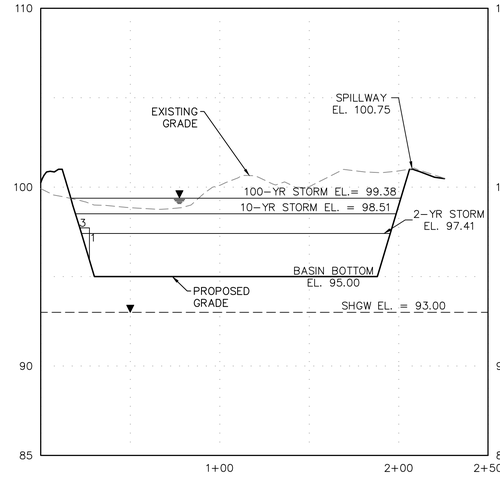
LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
300 Kimball Drive
Parsippany, NJ 07054
T: 973.560.4900 F: 973.560.4901 www.langan.com
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY NEW JERSEY

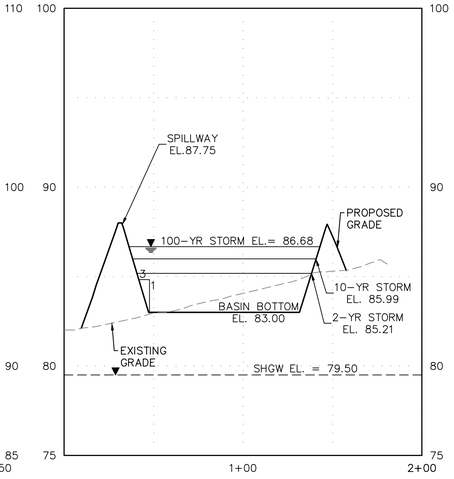
Drawing Title
SITE DETAILS 4

Project No. 100775501	Drawing No. CS504
Date 06/25/2020	
Drawn By RY	
Checked By RB	Sheet 49 of 50

LANGAN
PROJECT NO. 100775501



BASIN 1 CROSS SECTION



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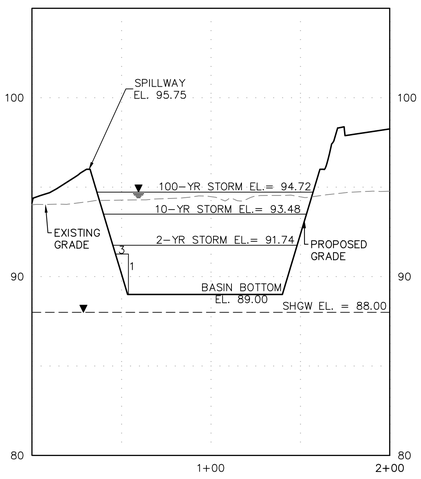
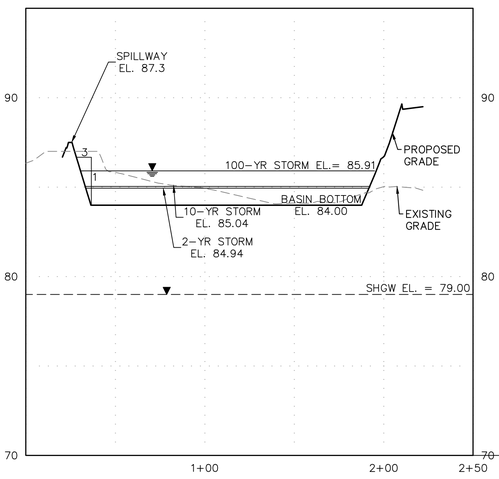
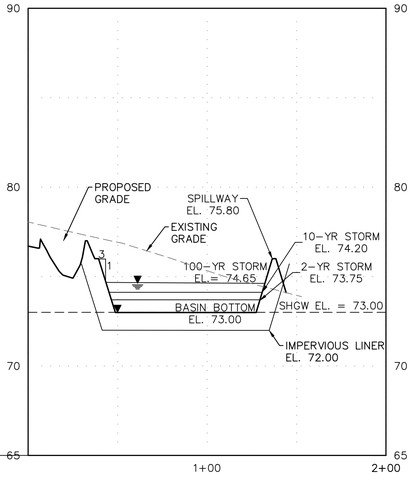


BASIN 3 CROSS SECTION



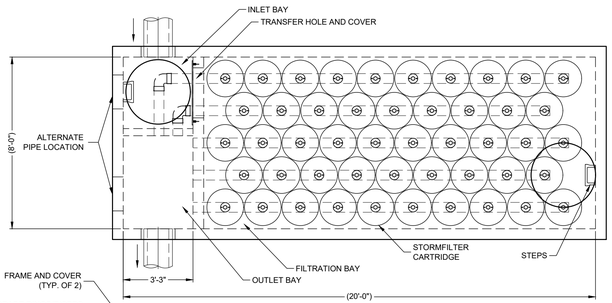
BASIN 4 CROSS SECTION



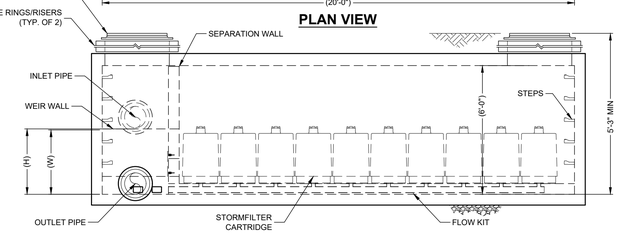
BASIN 5 CROSS SECTION

VERTICAL SCALE: 1 INCH = 4 FEET

HORIZONTAL SCALE: 1 INCH = 40 FEET

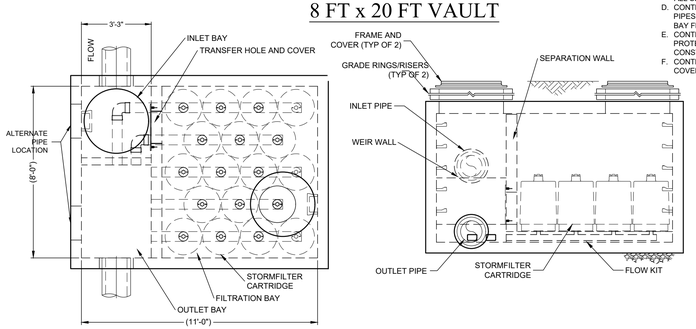


PLAN VIEW

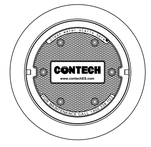


ELEVATION

8 FT x 20 FT VAULT



8 FT x 11 FT VAULT



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

PERFORMANCE SPECIFICATION
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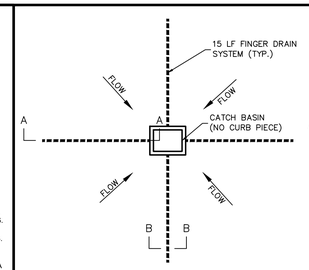
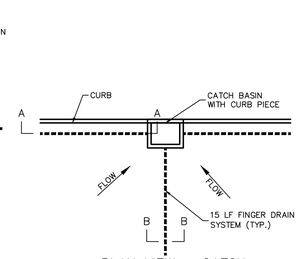
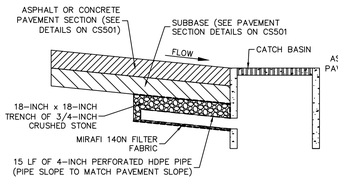
PEAK DIVERSION STORMFILTER



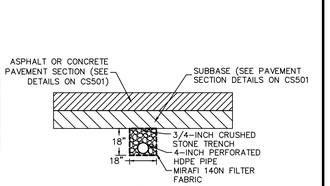
PLAN VIEW – CATCH BASIN IN CENTER OF PAVEMENT



PLAN VIEW – CATCH BASIN ALONG CURB

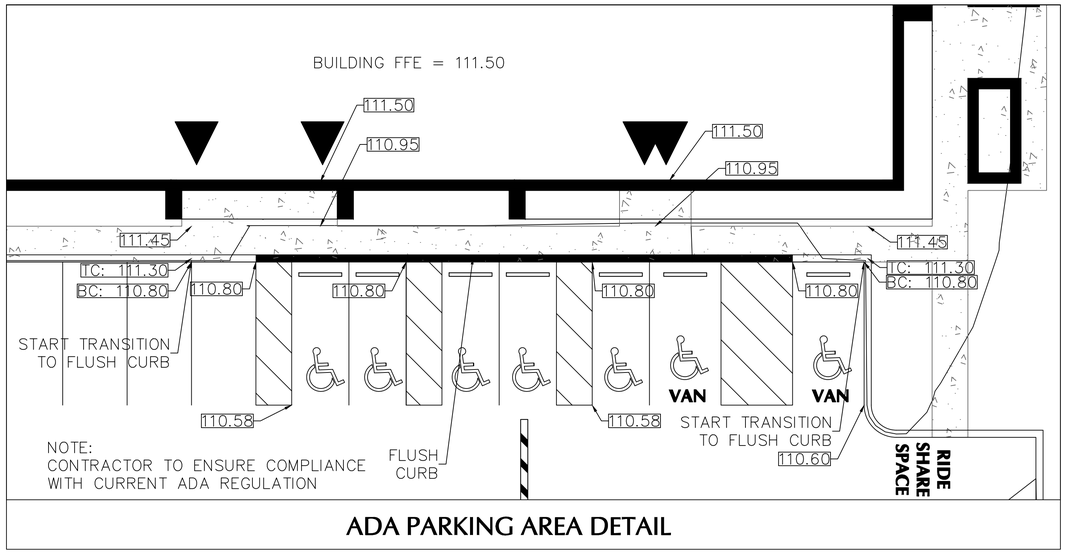


SECTION A–A



SECTION B–B

PAVEMENT UNDERDRAIN SYSTEM



ADA PARKING AREA DETAIL

Date	Description	No.
1/05/21	PER AGENCY COMMENTS	3
10/16/20	PER NJDEP COMMENTS	2
9/17/20	PER TOWNSHIP COMMENTS	1

REVISIONS

01-07-2021
SIGNATURE RICHARD BURROW DATE SIGNED
PROFESSIONAL ENGINEER
NJ Lic. No. 24GE04459300

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
1251 JUMPING BROOK ROAD
BOROUGH OF TINTON FALLS
BLOCK 128.03, LOT 47
MONMOUTH COUNTY **NEW JERSEY**

Drawing Title
SITE DETAILS 5

Project No.	100775501
Date	06/25/2020
Drawn By	RY
Checked By	RB

Drawing No. **CS505**
Sheet **50** of 50

PROJECT NO. 100775501

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