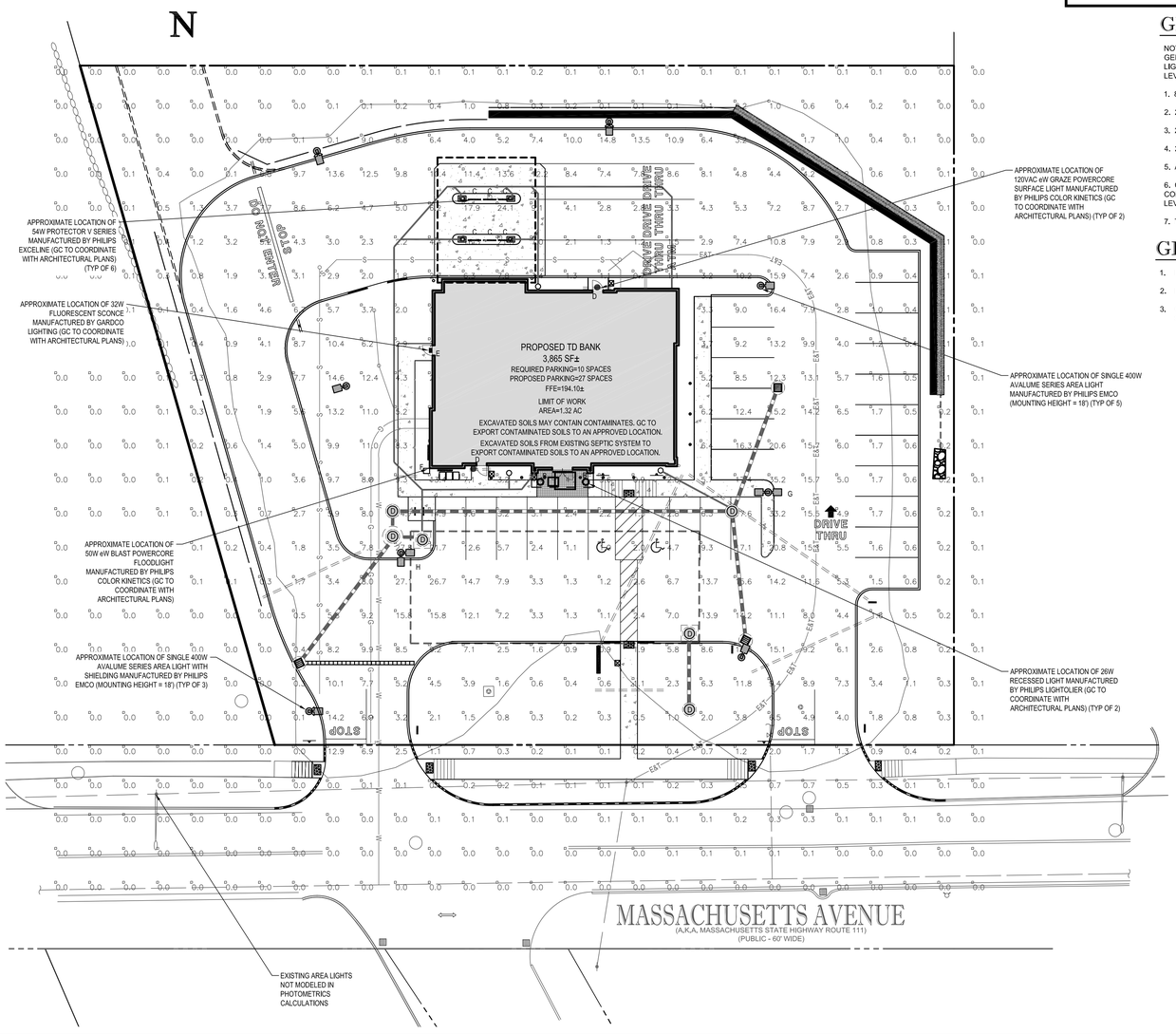
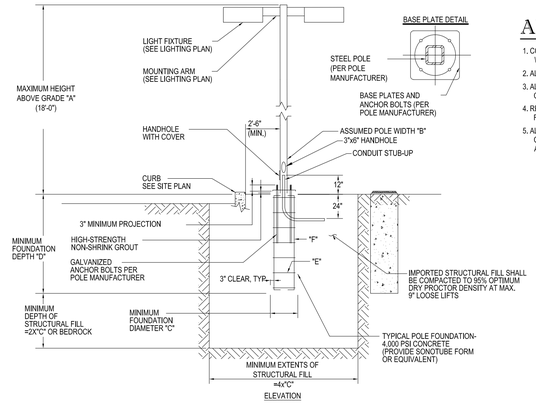
LUMINAIRE SCHEDULE

Symbol	Qty	Label	Mounting Height	Arrangement	Lumens	LLF	Description	Lamps	Manufacturer	Model Number	Comments
	6	A	18'	SINGLE	40000	0.720	400W AREA LIGHT TYPE 3		PHILIPS EMCO	AVA-3-400P	
	1	G	18'	SINGLE	40000	0.720	400W AREA LIGHT TYPE 3		PHILIPS EMCO	AVA-3-400P	
	1	H	18'	SINGLE	40000	0.720	400W AREA LIGHT TYPE 3		PHILIPS EMCO	AVA-3-400P	
	2	B	10' *	SINGLE	1800	0.720	26W RECESSED COMPACT FLUORESCENT DOWNLIGHT 6" APERATURE	(1) OSRAM SYLVANIA CF26DT/E/IN/835/ECO	PHILIPS LIGHTOLIER	8031CCDWS6132BU	
	6	C	11'-2" *	SINGLE	2850	0.720	54W PROTECTOR V SERIES LINEAR FLUORESCENT T5HO SURFACE MOUNTED DAMP LOCATION	(2) OSRAM SYLVANIA FP54/835/HP/ECO	PHILIPS EXCELINE	PVNT-0-2-54-B-SGY-B	DRIVE-THRU CANOPY
	2	D	10' *	SINGLE	384	0.720	120VAC 1' eW GRAZE POWERCORE LINEAR LED SURFACE LIGHT WALL WASHING & GRAZING	INTEGRAL 2700K LED	PHILIPS COLOR KINETICS	523-000030-04	DIMMING CAPABLE
	1	E	10' *	SINGLE	384	0.720	32W EXTERIOR WET LOCATION FLUORESCENT SCONCE	(1) OSRAM SYLVANIA CF32DT/E/IN/835/ECO	GARDCO LIGHTING	111EMC-MT-32TRF-120-NP	
	1	F	AT GRADE	SINGLE	1366	0.720	50W eW BLAST POWERCORE EXTERIOR WET LOCATION LED FLOODLIGHT	INTEGRAL 2700K LED	PHILIPS COLOR KINETICS	523-000029-03	GREEN FACADE STRIP

* GC TO CONFIRM WITH ARCHITECTURAL PLANS

NOTE: THIS LIGHTING PLAN ILLUSTRATES ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) APPROVED METHODS. ACTUAL SITE ILLUMINATION LEVELS AND PERFORMANCE OF LUMINARIES MAY VARY DUE TO VARIATION IN WEATHER, ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS.





AREA LIGHT FOUNDATION NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD.
2. ALL CONCRETE SHALL HAVE A SLUMP NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
3. ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINED, 6% (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. REINFORCING STEEL BARS SHALL BE MINIMUM ASTM A615, GRADE 60, AND SHALL BE FIELD WIRED IN PLACE (IF APPLICABLE).
5. ALL FORM WORK AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES AND REGULATIONS AS WELL AS THE ACI, NY, AND IBC CODES.

AREA LIGHT FOUNDATION SCHEDULE	
MAXIMUM HEIGHT ABOVE GRADE "A"	18'-0"
ASSUMED AVERAGE POLE WIDTH "B"	4"
MINIMUM FOUNDATION DIAMETER "C"	18"
MINIMUM FOUNDATION DEPTH "D"	4'-9"
REINFORCING TIES "E"	#3 TIES @12"C-C
VERTICAL HOOKED REINFORCEMENT "F"	(5) #4 BARS EVENLY SPACED

DESIGN CRITERIA

MINIMUM ALLOWABLE BEARING PRESSURE = 3,000 PSF - ASSUMED (TO BE VERIFIED IN FIELD)

SOIL FRICTION ANGLE = 30 DEG - **ASSUMED (TO BE VERIFIED IN FIELD)**

SOIL DRY UNIT WEIGHT = 120 PCF - **ASSUMED (TO BE VERIFIED IN FIELD)**

AREA LIGHT FOUNDATION DETAIL

N.T.S.

GENERAL LIGHTING STANDARDS

NOTE:
GENERAL CONTRACTOR TO ENSURE COMPLIANCE WITH THE FOLLOWING ACCEPTED LIGHTING STANDARDS WITH LIGHTING MANUFACTURER/SUPPLIER PRIOR TO ORDERING/INSTALLING LIGHTS AND PERFORM MEASUREMENTS OF LIGHT LEVELS UPON INSTALLATION OF THE LIGHTS.

1. 8 CANDLEFOOT MINIMUM AT ATM OR AFTER HOUR DEPOSITORY AND EXTENDING 5 FEET IN ALL DIRECTIONS.
2. 2 CANDLEFOOT MINIMUM AT ATM OR AFTER HOUR DEPOSITORY AND EXTENDING 50 FEET IN ALL DIRECTIONS.
3. 2 CANDLEFOOT MINIMUM IN PARKING AREAS WITHIN 60 FEET OF ATM OR AFTER HOUR DEPOSITORY.
4. 2 CANDLEFOOT MINIMUM IN THE EMPLOYEE ENTRANCE/EXIT AREA AND EMPLOYEE PARKING AREA.
5. ALL LIGHTING MEASUREMENTS ARE TO BE TAKEN AT 36 INCHES ABOVE THE GROUND ON A HORIZONTAL PLANE.
6. CONTRACTOR TO ADJUST LIGHTING FIXTURE LOCATIONS, QUANTITIES AND SHIELDING METHODS TO ACHIEVE COMPLIANCE WITH THESE STANDARDS AND SUPPLY OWNER WITH A MARK-UP PLAN IDENTIFYING AS-BUILT ILLUMINATION LEVELS BASED ON FIELD MEASUREMENTS OF SAME.
7. TYPICAL APPLICATION AREAS INCLUDE ATM AND AFTER HOUR DEPOSITORY LOCATIONS.

GENERAL LIGHTING NOTES

1. FOUNDATION DESIGN AND CONSTRUCTION FOR LIGHT POLES/FIXTURES ARE BY THE CONTRACTOR.
2. MAINTAINED FOOTCANDLE LEVELS AT GRADE USING A .72 TOTAL LIGHT LOSS FACTOR.
3. CONTRACTOR/LIGHT SUPPLIER TO SHIELD AREA LIGHTS IN SUCH A MANNER AS TO ACHIEVE THE FOOT-CANDLE LIMITS SHOWN.

FOUNDATION NOTES:

1. STRUCTURAL CONCRETE AND CONCRETING PRACTICES SHALL CONFORM WITH ACI-318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," DETAILS SHALL BE IN ACCORDANCE WITH ACI-315, "MANUAL OF STANDARD PRACTICE: DETAILS AND DETAILING OF CONCRETE REINFORCEMENT," FORMWORK SHALL CONFORM ACI-347 "GUIDE TO FORMWORK FOR CONCRETE", UNLESS OTHERWISE NOTED ON THE CONTRACT DOCUMENTS.
2. CONCRETE SHALL BE NORMAL WEIGHT STONE AGGREGATE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. HISTORICAL DATA OR LABORATORY TESTS FOR THE PRELIMINARY DESIGN MIX SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. THE WATER-CEMENT RATIO FOR THE PROPOSED MIX DESIGN SHALL ACHIEVE AN AVERAGE 28-DAY STRENGTH OF 1,200 PSI GREATER THAN THE REQUIRED STRENGTH ON LABORATORY TEST RESULTS.
3. CONCRETE SHALL HAVE A SLUMP NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1".
4. EXPOSED CONCRETE SHALL BE AIR ENTRAINED, 6% (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260
5. CONCRETE SHALL BE CONSOLIDATED IN PLACE USING AN INTERNAL VIBRATOR
6. REINFORCING STEEL BARS SHALL BILLET STEEL ASTM A615, GRADE 60, ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS OR STIRRUPS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED. ALL ACCESSORIES SHALL BE GALVANIZED.
7. ALL SPLICES OF REINFORCING BARS NOT INDICATED ARE TO BE LTS AS PER THE REINFORCING SPLICE SCHEDULE OR 40 BAR DIAMETERS. DISCONTINUOUS ENDS OF CONTINUOUS BARS SHALL BE STANDARD HOOKS.
8. SHOP DRAWINGS OF REINFORCING TO BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION AND ORDERING OF MATERIAL. SHOP DRAWINGS SHALL SHOW ALL REINFORCEMENT, SPLICE LENGTHS, BAR LENGTHS, BEND SCHEDULES, AND CONCRETE DIMENSIONS. REINFORCING LAYERS SHALL BE SHOWN SEPARATELY ON SHOP DRAWINGS.CONCRETE FIELD TESTS SHALL BE PERFORMED AS REQUIRED BY GOVERNING CODES BY A QUALIFIED INDEPENDENT INSPECTION FIRM. TESTS SHALL NOT BE TAKEN LESS THAN ONCE A DAY OR LESS THAN ONCE PER 150 CUBIC YARDS OF CONCRETE. NO LESS THAN 6 TEST CYLINDERS ARE TO BE TAKEN TO OBTAIN 7-DAY AND 28-DAY AVERAGE COMPRESSIVE STRENGTHS.
9. IF CAVING OF DRILLED HOLES ARE ENCOUNTERED. CONTRACTOR SHALL PROVIDE BENTONITE SLURRY IN PERMANENT CASINGS FOR DRILLED CONCRETE PIER FOUNDATIONS.
10. CONCRETE SHALL ATTAIN 80% OF THE DESIGN STRENGTH OR CURE FOR A MINIMUM OF 7-DAYS PRIOR TO THE INSTALLATION OF THE LIGHT POLES OR ALL LIGHT POLES ARE TO BE SUITABLY BRACED AGAINST WIND LOADS DURING THE ABOVE MENTIONED TIMEFRAME.
11. THE CONTRACTOR SHALL HAVE A GEOTECHNICAL ENGINEER, LICENSED IN THE PROJECT'S STATE, ON SITE TO INSPECT FILL, MONITOR FILL COMPACTION AND TO VERIFY SUBGRADE ALLOWABLE BEARING CAPACITY AND SOIL DESIGN CRITERIA PRIOR TO CONSTRUCTION IN ACCORDANCE TO THE DESIGN ASSUMPTIONS STATED IN THE CONTRACT DOCUMENTS. UNSUITABLE MATERIALS FOUND SHALL BE REMEDIED AS PER THE DIRECTION OF THE ON SITE GEOTECHNICAL ENGINEER.

AREA LIGHT FIXTURE DETAIL

NOT TO SCALE

NOTE: GENERAL CONTRACTOR TO PROVIDE A MINIMUM OF TWO LIGHT POLES WITH ELECTRICAL OUTLETS TO PROVIDE POWER FOR TD BANK GRAND OPENING FUNCTION. GENERAL CONTRACTOR TO COORDINATE LOCATIONS WITH OWNER TO IDENTIFY SPECIFIC SITE LIGHT POLES THAT ARE TO BE FURNISHED WITH OUTLETS. GENERAL CONTRACTOR TO REVIEW THE ELECTRICAL REQUIREMENTS FOR SAME IN OTHER SECTIONS OF THE BID DOCUMENTS INCLUDING, BUT NOT LIMITED TO, THE ARCHITECTURAL & ELECTRICAL PLANS, SPECIFICATIONS & THE OWNER'S SCOPE OF WORK

NOTE: LIGHTING LEVELS ARE REPRESENTATIVE OF AN APPROXIMATION UTILIZING LABORATORY DATA FOR SIMILAR FIXTURES AND/OR ACTUAL FIELD MEASUREMENTS TAKEN WITH A LIGHT METER DUE TO FACTORS SUCH AS FIXTURE MAINTENANCE, EQUIPMENT TOLERANCES, WEATHER CONDITIONS, ETC. ACTUAL LIGHTING LEVELS MAY DIFFER AND LIGHTING LEVELS ON THE PLAN SHOULD BE CONSIDERED APPROXIMATE.

THIS PLAN TO BE UTILIZED FOR LIGHTING LAYOUT PURPOSES ONLY

20 10 5 0 20
1"= 20'

BOHLER ENGINEERING

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◆ PHILADELPHIA, PA
◆ TOWSON, MD
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◆ FORT LAUDERDALE, FL

CIVIL & CONSULTING ENGINEERS
SURVEYORS
PROJECT MANAGERS
ENVIRONMENTAL CONSULTANTS
LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY
1			
2			
3			
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(NY - 1-800-962-7962)

PERMIT SET

PROJECT No.:	W081068
DRAWN BY:	KBS
CHECKED BY:	JGS
DATE:	4/05/10
SCALE:	AS NOTED
CAD I.D.:	W081068SS0

PROJECT:

SITE PLAN DOCUMENTS

FOR

TD Bank

408 MASSACHUSETTS AVENUE
MIDDLESEX COUNTY
ACTON, MASSACHUSETTS

BOHLER ENGINEERING
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
Fax: (508) 480-9080
www.BohlerEngineering.com

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SHEET TITLE:

LIGHTING PLAN

SHEET NUMBER:

11
OF 14

REV. 0