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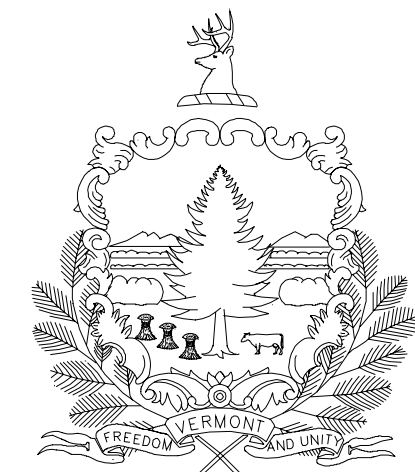
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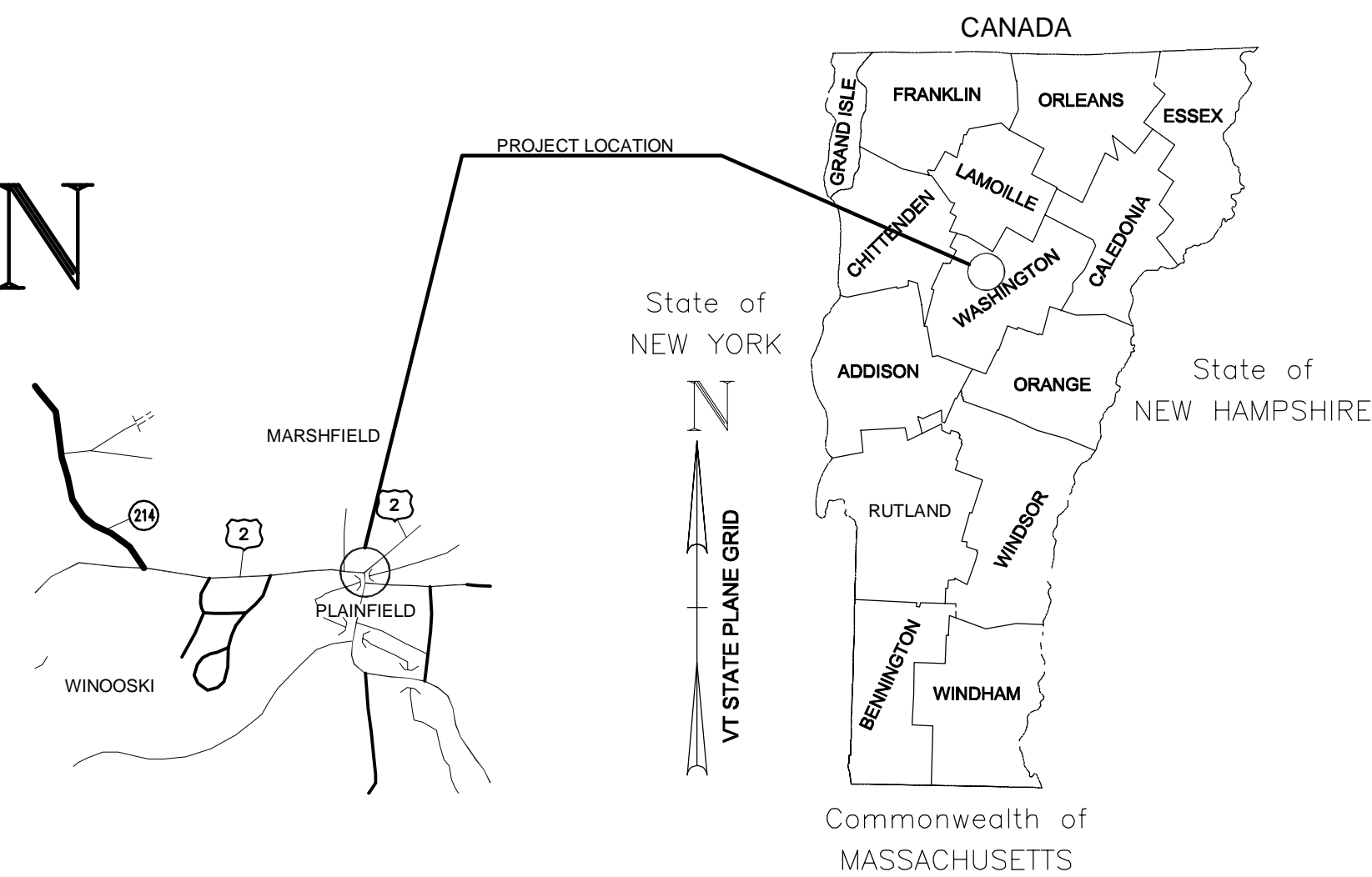
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ELECTRICAL DETAILS

STATE OF VERMONT
AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT
PLAINFIELD PATHWAY PROJECT
STP EH09(6)



QUALITY ASSURANCE PROGRAM:

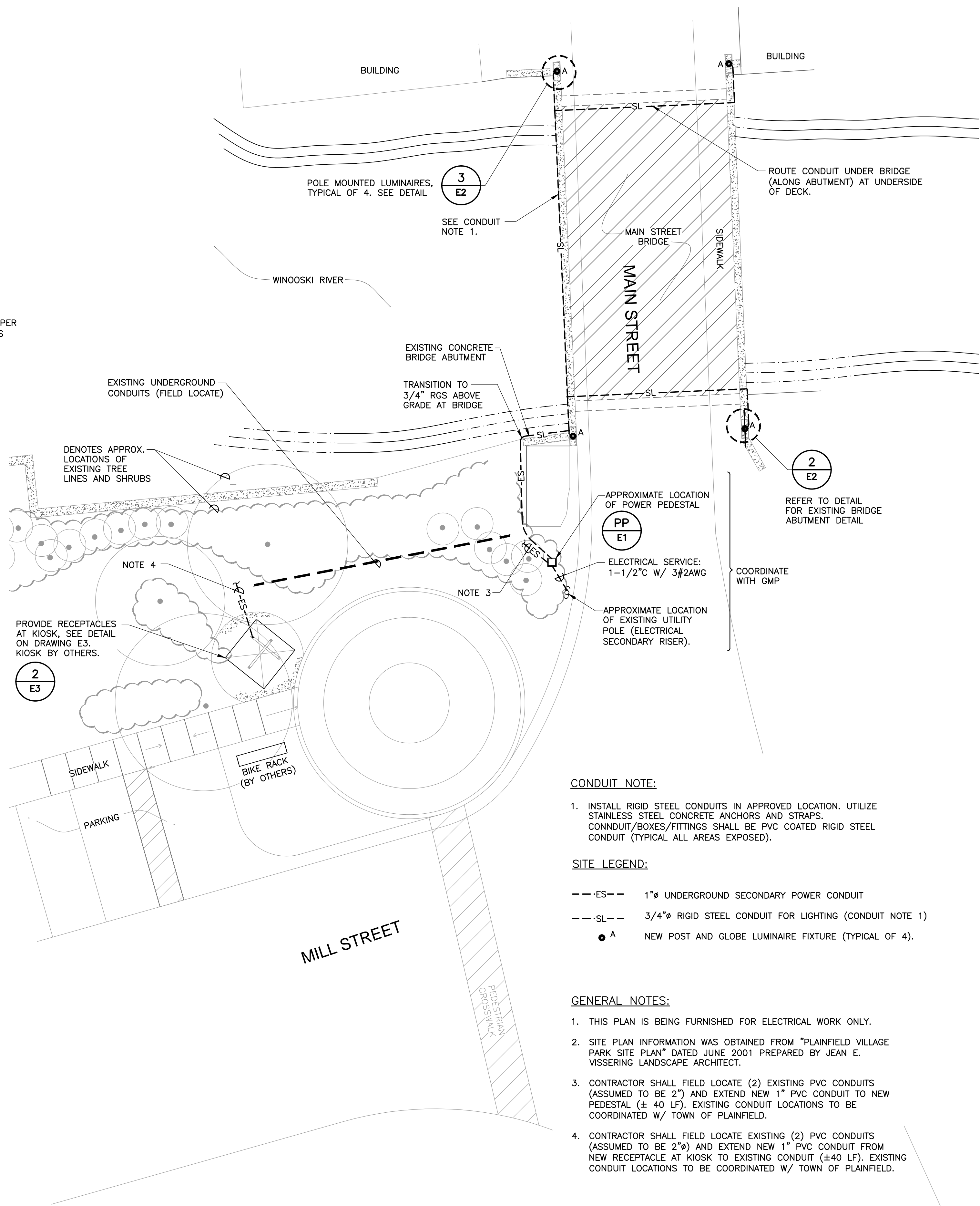
CONVENTIONAL SYMBOLS	
COUNTY LINE	COUNTY LINE
TOWN LINE	TOWN LINE
LIMITS OF ACCESS	
POINT OF ACCESS	
FENCE LINE	
STONE WALL	
TRAVELED WAY	
GUARD RAIL	
RAILROAD	
SURVEY LINE	
CULVERT	
POWER POLE	
TELEPHONE POLE	
TREES	
CONTROL OF ACCESS	
PROPERTY LINE	
R.O.W. TAKING LINE	
SLOPE RIGHTS	
TOP OF CUT	
TOE OF SLOPE	

SURVEYED BY :	
SURVEYED DATE :	
DATUM	
VERTICAL	
HORIZONTAL	

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

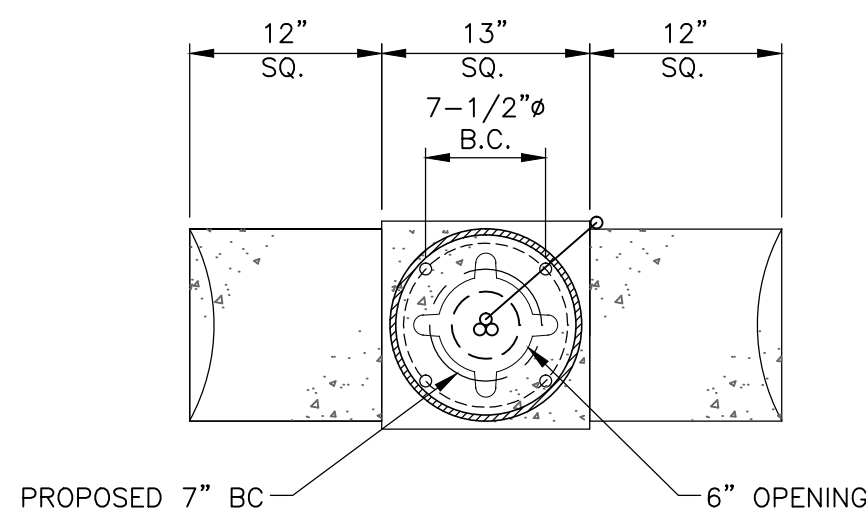
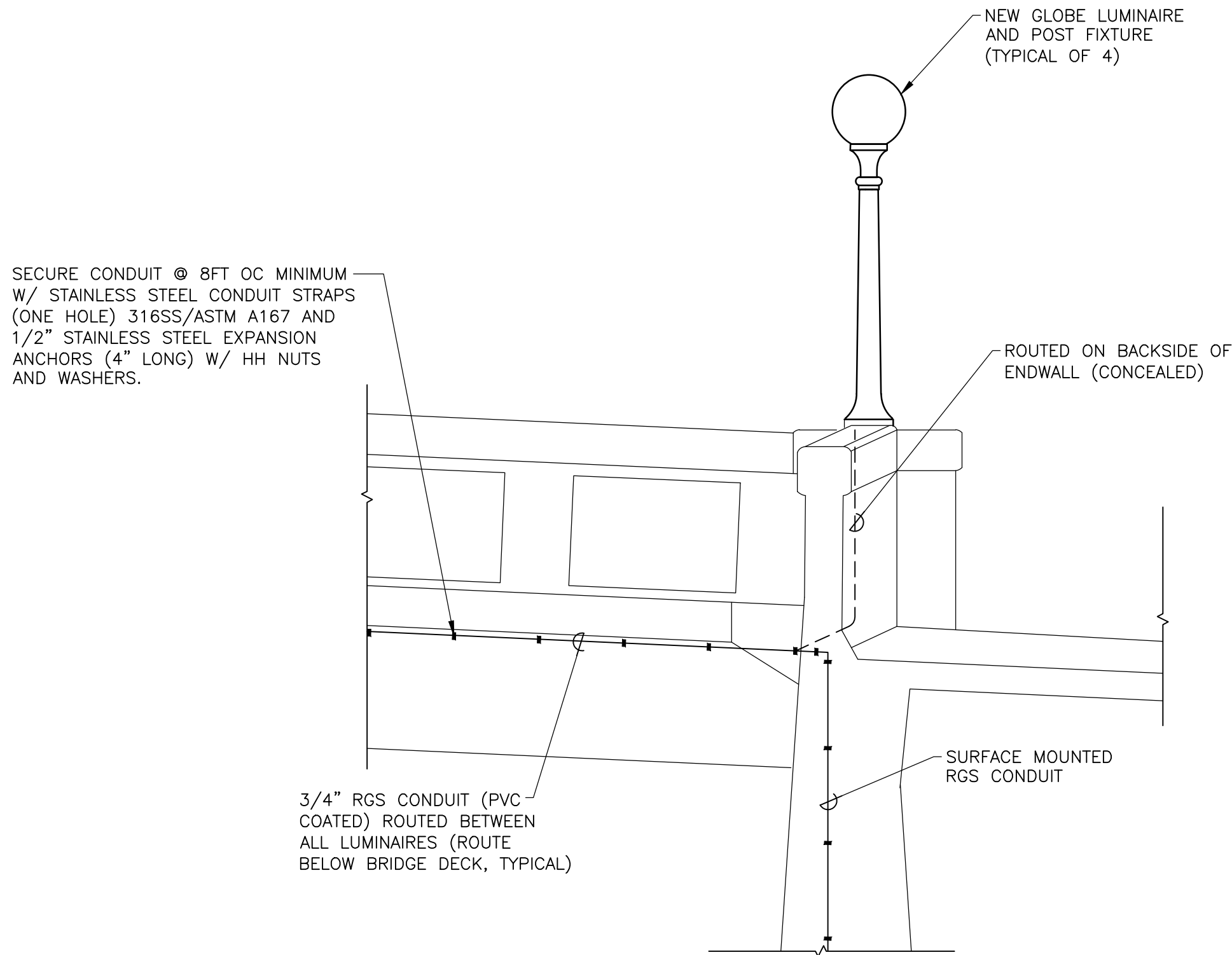
CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____
DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE _____
PROJECT MANAGER : R.F. KISCHKO
PROJECT NAME : PLAINFIELD PATHWAY PROJECT
PROJECT NUMBER : STP EH09(6)
SHEET 1 OF SHEETS



1. **INSTALLATION**
THE POST SHALL BE PROVIDED WITH FOUR HOLES TO ACCEPT L-TYPE ANCHOR BOLTS TO BE INSTALLED ON A 9" DIAMETER BOLT CIRCLE. A DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.
2. **DESCRIPTION**
THE POST SHALL BE ALL CAST ALUMINUM CONSTRUCTION, MASSIVELY TAPERED WITH AN OCTAGONAL SHAFT AND CYLINDER SHAPED BASE. THE POST SHALL HAVE A GREEN MATT FINISH AND MATCH THE GLOBE/FITTER FINISH.
3. **MATERIALS**
THE POST SHALL BE HEAVY WALL, COPPER FREE, CAST ALUMINUM PRODUCED FROM CERTIFIED ASTM 356.1 INGOT PER ASTM B179-95a OR ASTM B26-95. THE CASTINGS SHALL BE TAMPED TRUE TO THE PATTERN WITH COMPLETE DETAIL. ALL HARDWARE SHALL BE FORMER RESISTANT STAINLESS STEEL. ANCHOR BOLTS TO BE COMPLETELY HOT-DIP GALVANIZED.
4. **CONSTRUCTION**
THE POST SHALL BE CAST IN ONE PIECE.
5. **DIMENSIONS**
- A. THE POST SHALL BE 6" IN HEIGHT (INCLUDING THE HEIGHT OF THE FITTER SELECTED BY OWNER) WITH A 12" DIAMETER BASE.
- B. THE POST SHALL TAPER FROM A 12" DIAMETER BASE TO A 4" OCTAGONAL AT THE TOP OF THE POST. AN INTEGRAL 3" O.D. X 3" TENON SHALL BE PROVIDED AT THE TOP FOR LUMINAIRE MOUNTING. THE POST TOP SHALL INCLUDE A TRANSITIONAL DONUT BETWEEN THE SHAFT AND THE TENON.
- C. POLE BASE SHALL HAVE A 4" X 6" X 6.5"H. DOOR OPENING FOR ANCHORAGE AND WIRING ACCESS. 3" O.D. X 3" HIGH TENON HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS (4 PER POST) DOOR OPENING 9" DIA. BOLT

1. POST FINISH/COLOR SAMPLES SHALL BE PROVIDED TO ENGINEER FOR SELECTION AND PRE-APPROVAL.



PLAN VIEW



1. THE LUMINAIRE SHALL BE A CLASSICALLY VICTORIAN STYLED GLOBE WHICH CONSISTS OF A CURVED CAST ALUMINUM DISH FITTER AND A WHITE POLYCARBONATE GLOBE. (2) SPARE GLOBES SHALL BE FURNISHED.
2. THE LUMINAIRE SHALL HAVE AN LED ILLUMINATING TUBE (LT) LIGHT SOURCE.
3. THE LT MODULE SHALL BE AN IP65 WATER-TIGHT, DUST-TIGHT ASSEMBLY FOR YEARS OF MAINTENANCE FREE OPERATION.
4. THE LUMINAIRE SHALL BE SUPPLIED WITH LINE-GROUND, LINE-NEUTRAL AND NEUTRAL-GROUND ELECTRICAL SURGE PROTECTION IN ACCORDANCE WITH IEEE /ANSI C62.41.2 GUIDELINES.
5. THE LUMINAIRE SHALL BE U.L. LISTED IN U.S.

6. THE DISH FITTER SHALL BE HEAVY WALL CAST ALUMINUM, ALLOY FOR HIGH TENSILE STRENGTH.
7. THE FITTER SHALL HAVE AN SPRING LOCK AND RELEASE SYSTEM FOR EASE OF ATTACHMENT TO THE GLOBE.
8. THE FITTER SHALL BE 9" IN DIAMETER FOR THE 18" GLOBE.

9. THE FITTER SHALL HAVE AN INSIDE DIAMETER OPENING TO 3" DIAMETER POLE OR TENON. THE FITTER SHALL BE SET SCREWED TO THE POLE TOP OR TENON.

11. THE LED DRIVER SHALL BE REMOTE MOUNTED IN THE POLE OR POLE BASE

13. THE LUMINAIRE SHALL USE HIGH OUTPUT, HIGH BRIGHTNESS LEDS.

19. LIGHT SOURCE DELIVERED LUMENS WATTS SHALL BE 23W TO 30W MAXIMUM.

1. THE LED ARRAYS ARE BUILT IN SERIES-PARALLEL CIRCUITS WHICH MAINTAIN OVERALL LIGHT OUTPUT IN THE EVENT OF SINGLE LED FAILURES.

3. THE HIGH PERFORMANCE WHITE LEDS WILL HAVE A LIFE EXPECTANCY OF APPROXIMATELY 70,000 HOURS WITH NOT LESS THAN 70% OF ORIGINAL BRIGHTNESS (LUMEN MAINTENANCE), RATED AT 25°C.

5. THE LUMINAIRE SHALL HAVE A MINIMUM 835 DELIVERED INITIAL LUMEN RATING
6. WHEN OPERATED AT STEADY STATE WITH AN AVERAGE AMBIENT TEMPERATURE OF 25°C
(77°F).

7. THE DRIVER SHALL BE U.I. RECOGNIZED. BI-LEVEL CONTROL FOR 100% AND 50% LIGHTING LEVEL (LUMEN OUTPUT).

9. THE DRIVER SHALL BE A DC VOLTAGE OUTPUT, CONSTANT CURRENT DESIGN, 50 / 60HZ.

10. THE DRIVER SHALL HAVE A MINIMUM EFFICIENCY OF 88%.

11. THE DRIVER SHALL BE RATED AT FULL LOAD WITH THD<20% AND A POWER FACTOR OF GREATER THAN 0.90.

12. THE WHITE GLOBE SHALL BE 18" MAXIMUM IN DIAMETER.

13. THE GLOBE SHALL BE MADE OF VANDAL RESISTANT WHITE POLYCARBONATE (WP).

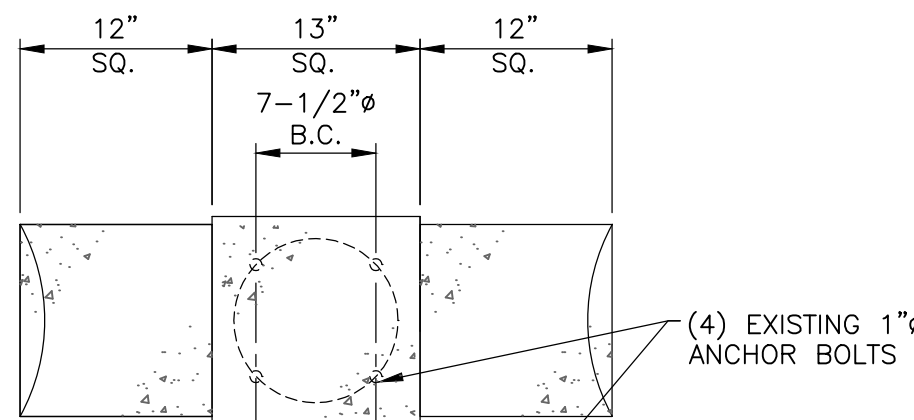
15. PRIOR TO COATING, EACH ASSEMBLY SHALL BE CHEMICALLY CLEANED AND ETCHED IN A 5-STAGE WASHING SYSTEM WHICH INCLUDES ALKALINE CLEANING, RINSING, PHOSPHORIC ETCHING, REVERSE OSMOSIS WATER RINSING, AND NON-CHROME SEALING TO ENSURE CORROSION RESISTANCE AND EXCELLENT ADHESION FOR THE FINISH COATING.

16. THE FINISH COATING SHALL BE ELECTROSTATICALLY APPLIED SEMI-GLOSS, SUPER DURABLE POLYESTER POWDER BAKED AT 400 DEGREES FOR A DURABLE AND SUPERIOR, COLOR RETENTIVE FINISH.

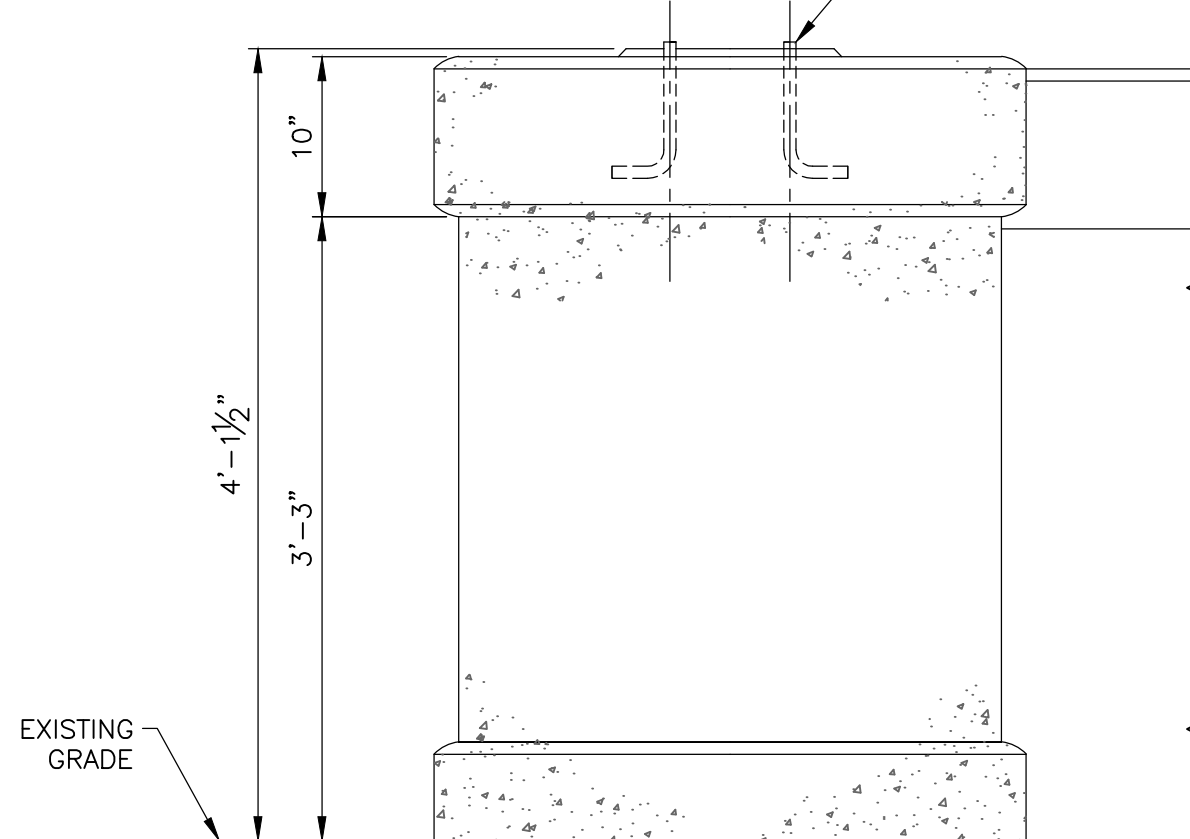
17. THE LUMINAIRE SHALL BE FREE FROM ALL DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF SEVEN (7) YEARS FROM THE DATE OF MANUFACTURE.

18. THE LUMINAIRE MANUFACTURER SHALL WARRANT THE LED BOARDS /SYSTEM, DURING THE STATED WARRANTY PERIOD, AGAINST FAILURE DEFINED AS MORE THAN THREE (3) SIMULTANEOUS NON-OPERATING LEDS.

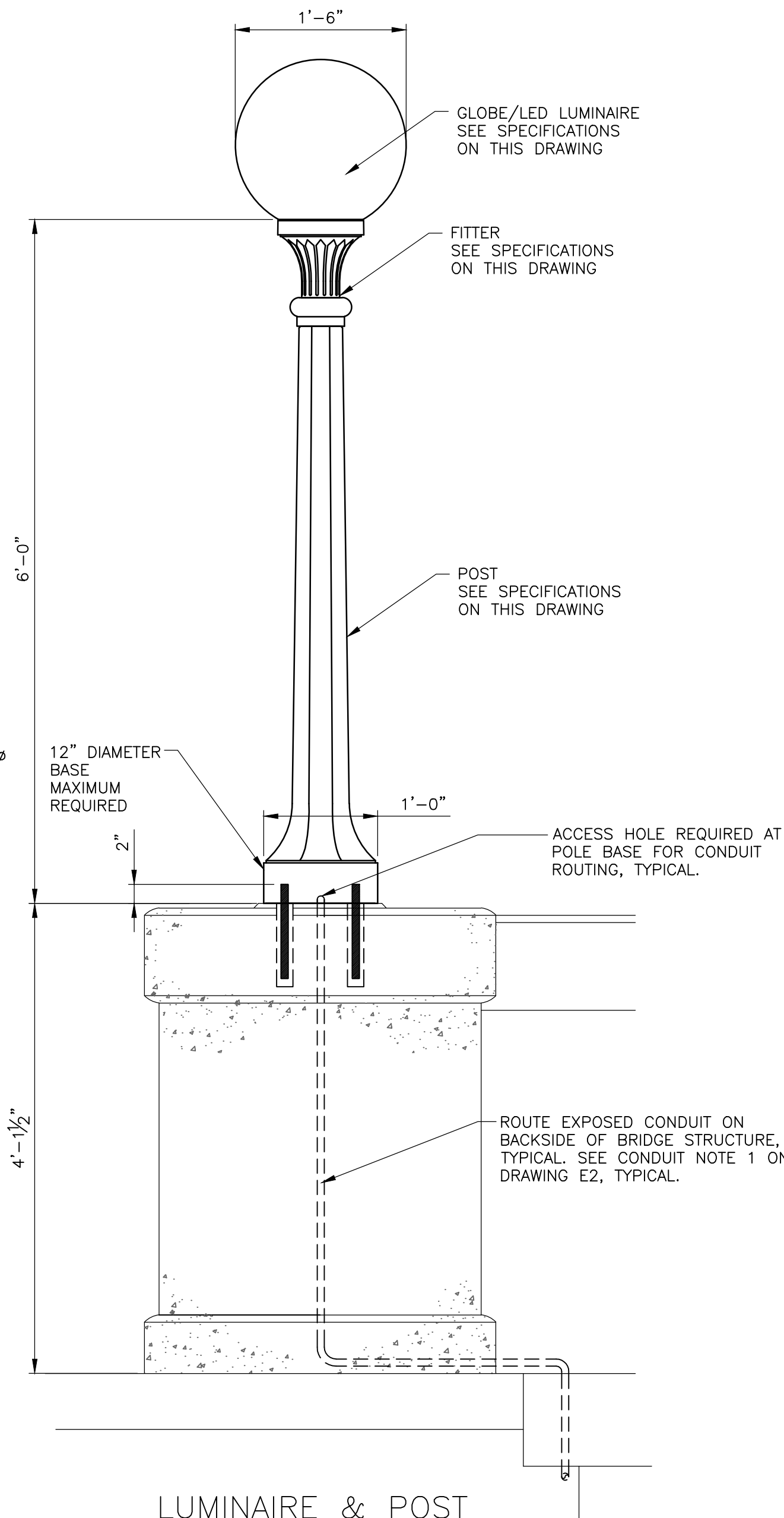
19. THE LED DRIVER SHALL BE WARRANTED FOR SEVEN (7) YEARS.



PLAN VIEW



TYPICAL ELEVATION



LUMINAIRE & POST
TYPICAL ELEVATION



PROFESSIONAL SEAL

[illegible]

TOWN OF PLAINFIELD
PO BOX 217
PLAINFIELD,
VERMONT 05667
1.802.454.8461

PLAINFIELD
PATHWAY PROJECT
PLAINFIELD, VT

SHEET TITLE

LUMINAIRE & POST DETAILS AND SPECIFICATIONS

DRAWN BY SRM	DATE 03.17.12
CHECKED BY RFK	D&K PROJECT # 521340P
PROJ. ENG. RFK	D&K ARCHIVE # -

SHEET NUMBER

E2

ASTRONOMIC 7 DAY DIGITAL TIME SWITCH SHALL BE PROVIDED FOR BI-LEVEL LIGHTING CONTROL OF LED POST LUMINAIRES. COMPLETE WITH TWO CIRCUIT SCHEDULING WITH 20 ON & OFF SET POINTS FOR INDIVIDUAL PROGRAMS FOR EACH DAY OF THE WEEK. MINIMUM SETTING IS 1 MINUTE. ASTRONOMIC: ADJUSTABLE 10° - 60° NORTHERN OR SOUTHERN LATITUDES. CAN BE INDIVIDUALLY SET FOR EACH LUMINAIRE FROM 15 MINUTE TO 24 HOURS. TIMES: DAYLIGHT SAVING TIME; AUTOMATIC LEAP YEAR; AUTOMATIC COMPENSATION; MANUAL OVERRIDE. THE NEXT REGULARLY SCHEDULED ON OR OFF, AUTOMATIC OPERATION THEN RESUMES. CLOCK FORMAT: AM/PM POWER OUTAGE BACKUP: PERMANENT SCHEDULE RETENTION WITH MEMORY MODULE. SUPER CAPACITOR PROVIDES 4 DAYS OF REAL TIME BACKUP.

1. TIMING ACCURACY: LINE FREQUENCY
2. INPUT VOLTAGE:
120-277VAC, 50/60HZ (AUTOMATIC DETECTION)
4. TERMINAL RANGE: #8 - #16AWG
5. OPERATING TEMPERATURE: -40° TO +149° (-40° TO +65°C)
6. POWER CONSUMPTION: 6VA MAX.
7. ENCLOSURE: INDOOR/OUTDOOR NEMA 3R.

1. COORDINATE WITH KIOSK DESIGNER ON LOCATION AND MOUNTING OF LINE-VOLTAGE PHOTOCELL TO BE PROVIDED UNDER THIS CONTRACT.
2. PHOTOCELL SHALL BE INTERMATIC MODEL NO. K4251 PHOTO CONTROL 120V, 1000W OR EQUAL.
3. PROVIDE (1) WEATHERPROOF 20A, 120V, GFCI, QUADPLEX RECEPTACLE FOR FARMER'S MARKET COINTEGRATED LOCATION WITH KIOSK. PROVIDE LOCK AND COVER, MANUFACTURED BY TAY-MAC OR EQUAL.
4. KIOSK IS BEING PROVIDED BY OTHERS AND IS NOT PART OF THIS CONTRACT. KIOSK LOCATION/ORIENTATION SHOWN ON SITE PLAN (E1) IS APPROXIMATE.



CONTACT THE LOCAL UTILITY COMPANY AND ADHERE TO ANY EQUIPMENT, PROCEDURE AND CRITERIA VARIATIONS WHICH PERTAIN. SEE SPECIAL PROVISIONS FOR THE UTILITY CONTACT. PROVIDE TO THE ENGINEER ALL SPECIFIC INFORMATION CONCERNING UTILITY REQUIREMENTS PRIOR TO THE PRECONSTRUCTION MEETING OR THE START OF WORK, WHICHEVER IS FIRST.

-
- UTILITY POLE
- CONDUIT
- 5" to 8"
- USUALLY FURNISHED BY THE UTILITY COMPANY

3 STANDOFF BRACKET
E3 NOT TO SCALE



4 BACKING MATERIAL DETAIL
E3 NOT TO SCALE



NEW RISER BILL OF MATERIALS	
ITEM	MATERIAL
BL	BONDING LUG (IF STEEL CONDUIT)
BN	CONDUIT - PVC SCHEDULE 80 (2" MIN.)
CN	CONDUIT NIPPLE
FA	FEMALE ADAPTER OR COUPLINGS AS REQUIRED
GR	GROUND ELECTRODE, 3/4" X 10' (MIN) COPPER CLAD (2 REQ.)
GC	GROUND CONDUIT, #4 AWG CU (MIN)
SB	STANDOFF BRACKET (SEE DETAIL)
SJ	SLIP JOINT, INSTALL 2/3 OPEN
SSS	STAINLESS STEEL STRAP (1" MIN)
SW	90° SWEEPS, (PVC) 36" R. - SERVICE, 24" R. - LOAD
TS	THREADED BUSHING
WB	WEATHERPROOF OR CONDUITATOR

PROPOSED BRIDGE MOUNTED
POST & GLOBE LUMINAIRES
(TYPICAL OF 4)

**DuBois
& King inc.**

RANDOLPH, VT
WILLISTON, VT
BEDFORD, NH
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PROFESSIONAL SEAL

[illegible]

TOWN OF PLAINFIELD
PO BOX 217
PLAINFIELD,
VERMONT 05667
1.802.454.8461

PLAINFIELD
PATHWAY PROJECT
PLAINFIELD, VT

ELECTRICAL DETAILS

DRAWN BY SRM	DATE 03.17.12
CHECKED BY RFK	D&K PROJECT # 521340P
PROJ. ENG. RFK	D&K ARCHIVE # -

SHEET NUMBER

E3

SHEET 4 OF 4