

Section 1 :: Site Analysis

Section 2 :: Design Concepts

Section 3 :: Materials

Section 4 :: Streetscape Design

Section 5 :: Project Area

Section 6 :: Site Plans

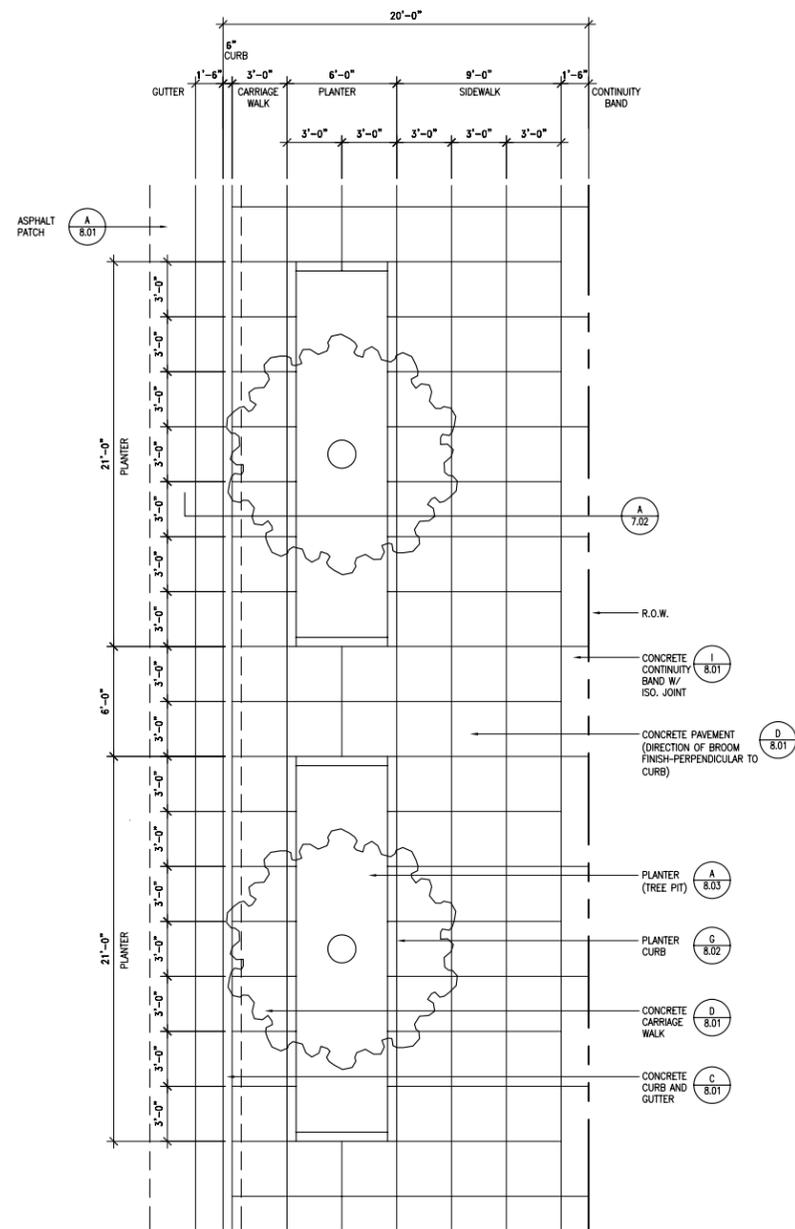
Section 7 :: Enlarged Plans & Sections

Section 8 :: Details

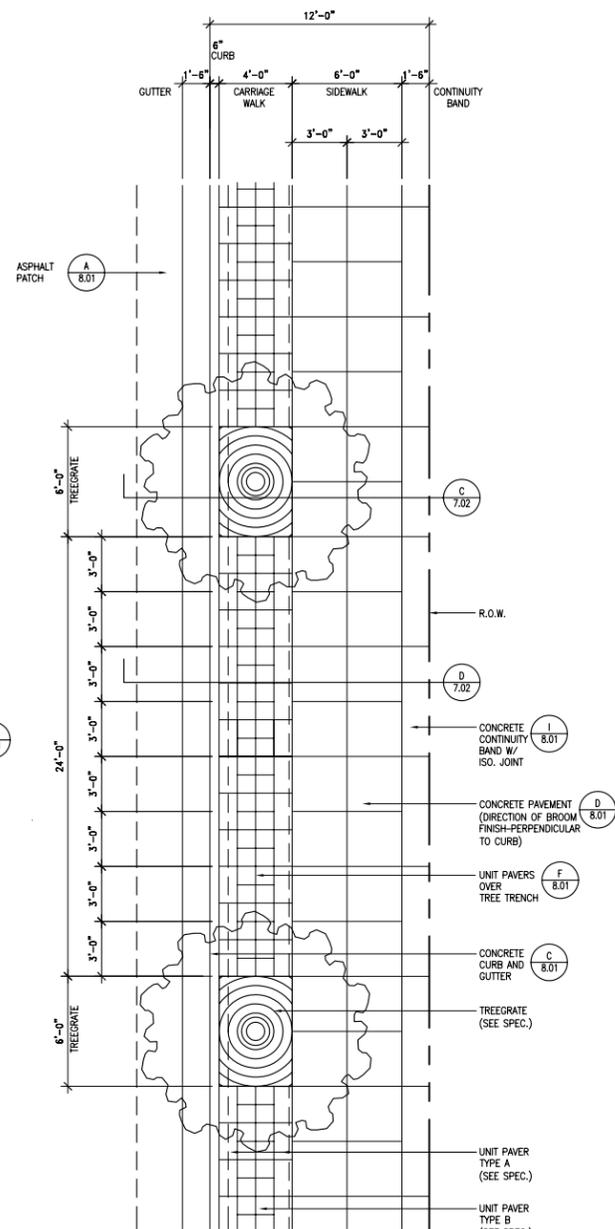
Section 9 :: Site Lighting

Section 10 :: Photo Inventory

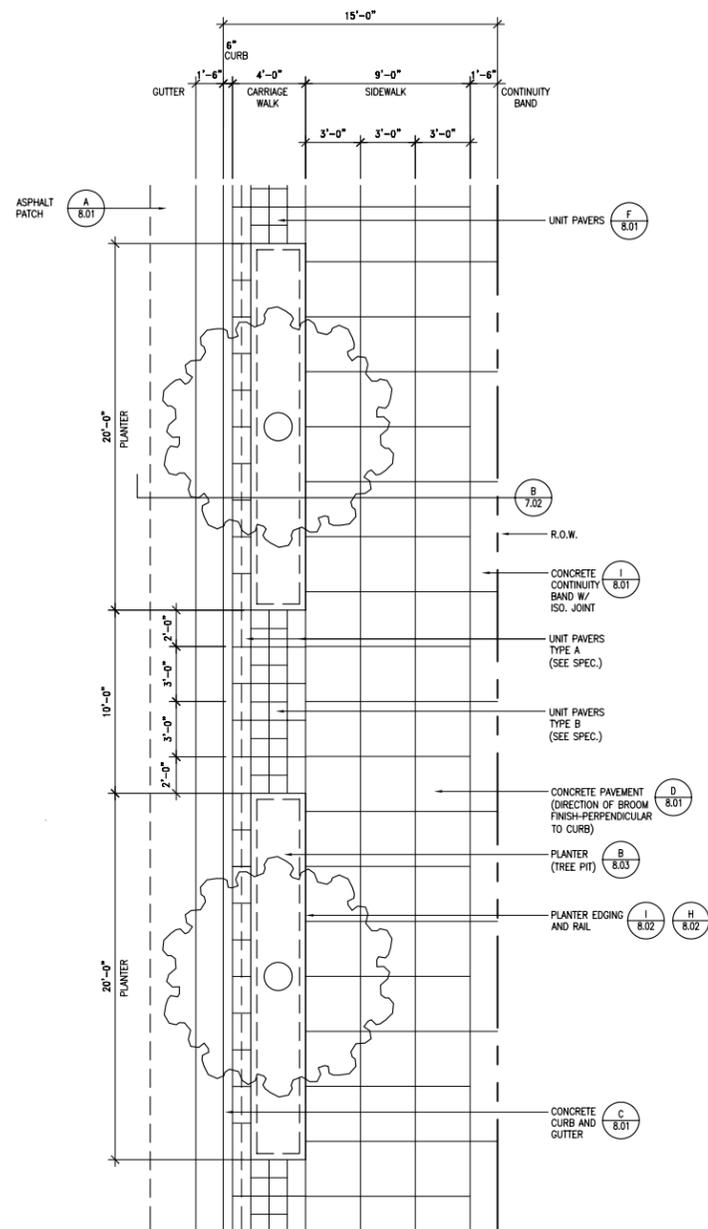
Section 11 :: Appendix



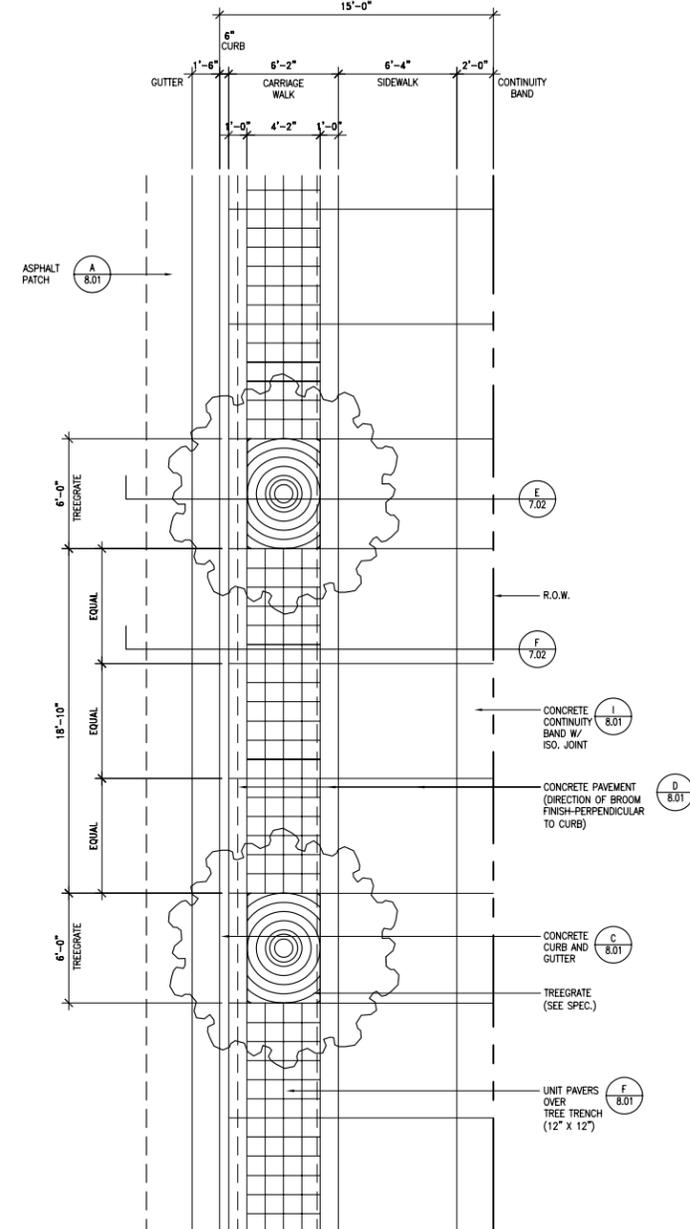
A TYPICAL SIDEWALK PLAN - TUCKER
 0' 3' 6' 12'



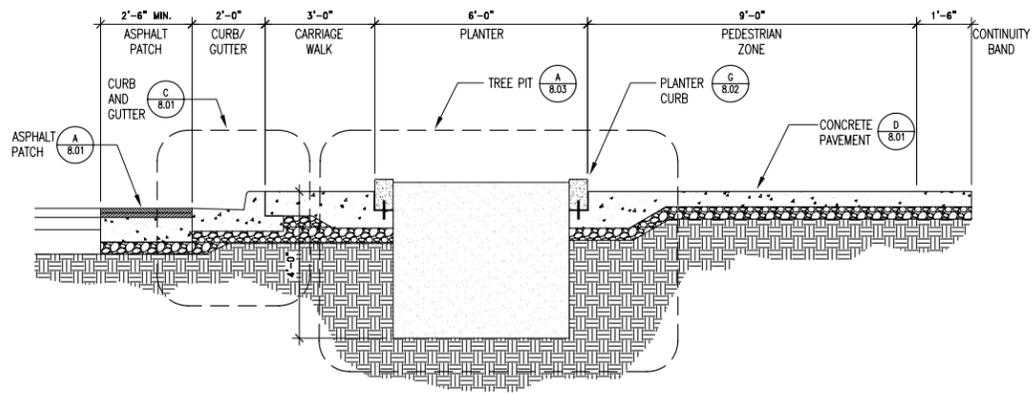
B TYPICAL SIDEWALK PLAN - PEDESTRIAN
 0' 3' 6' 12'



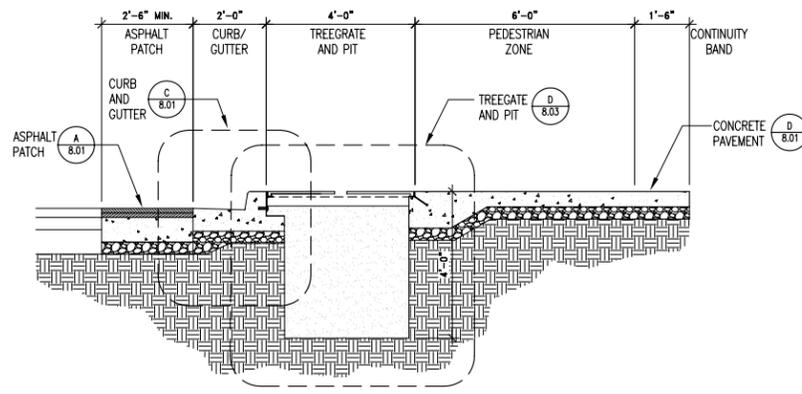
C TYPICAL SIDEWALK PLAN - BROADWAY/4TH
 0' 3' 6' 12'



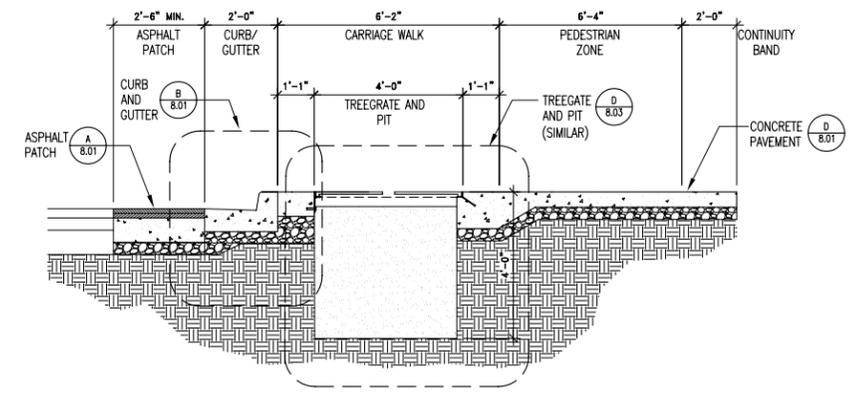
D TYPICAL SIDEWALK PLAN - WASHINGTON
 0' 3' 6' 12'



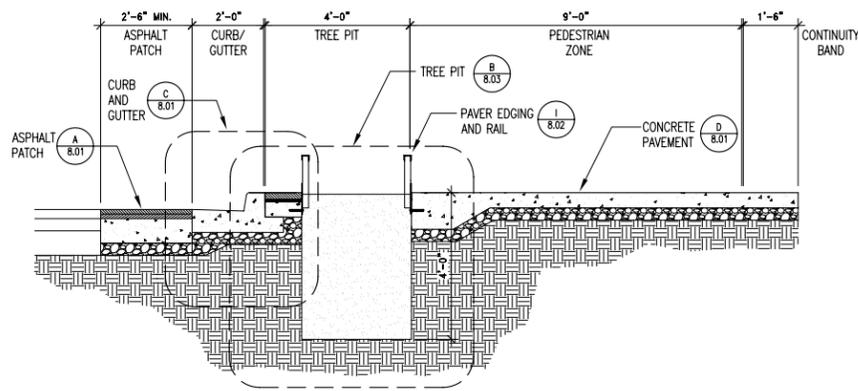
A SECTION – TUCKER SIDEWALK
 0 1.5' 3' 6'



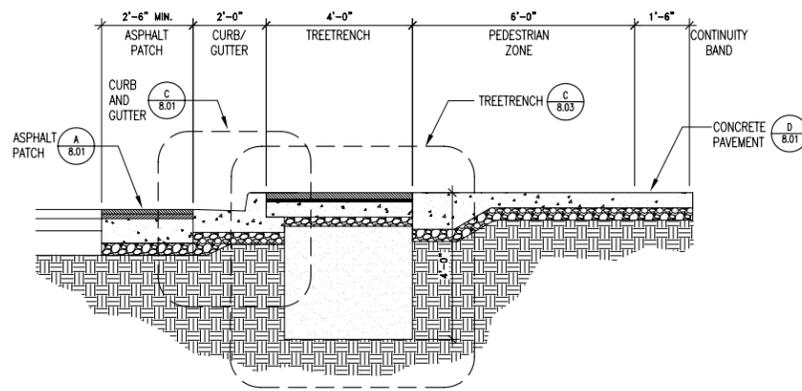
C SECTION – 12' SIDEWALK TREE GRATE
 0 1.5' 3' 6'



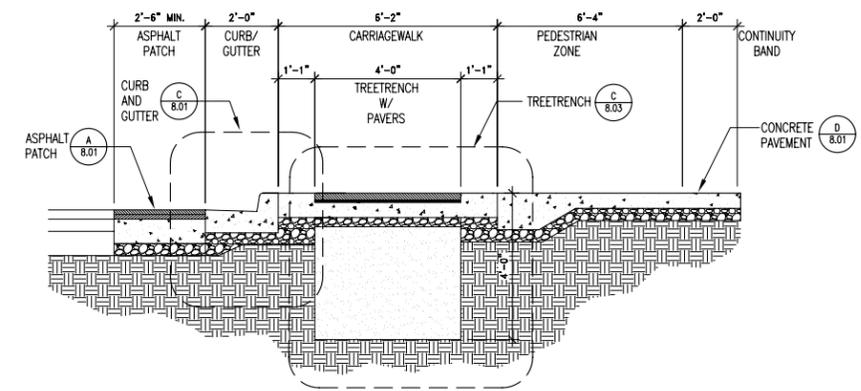
E SECTION – 15' SIDEWALK TREE GRATE-WASHINGTON
 0 1.5' 3' 6'



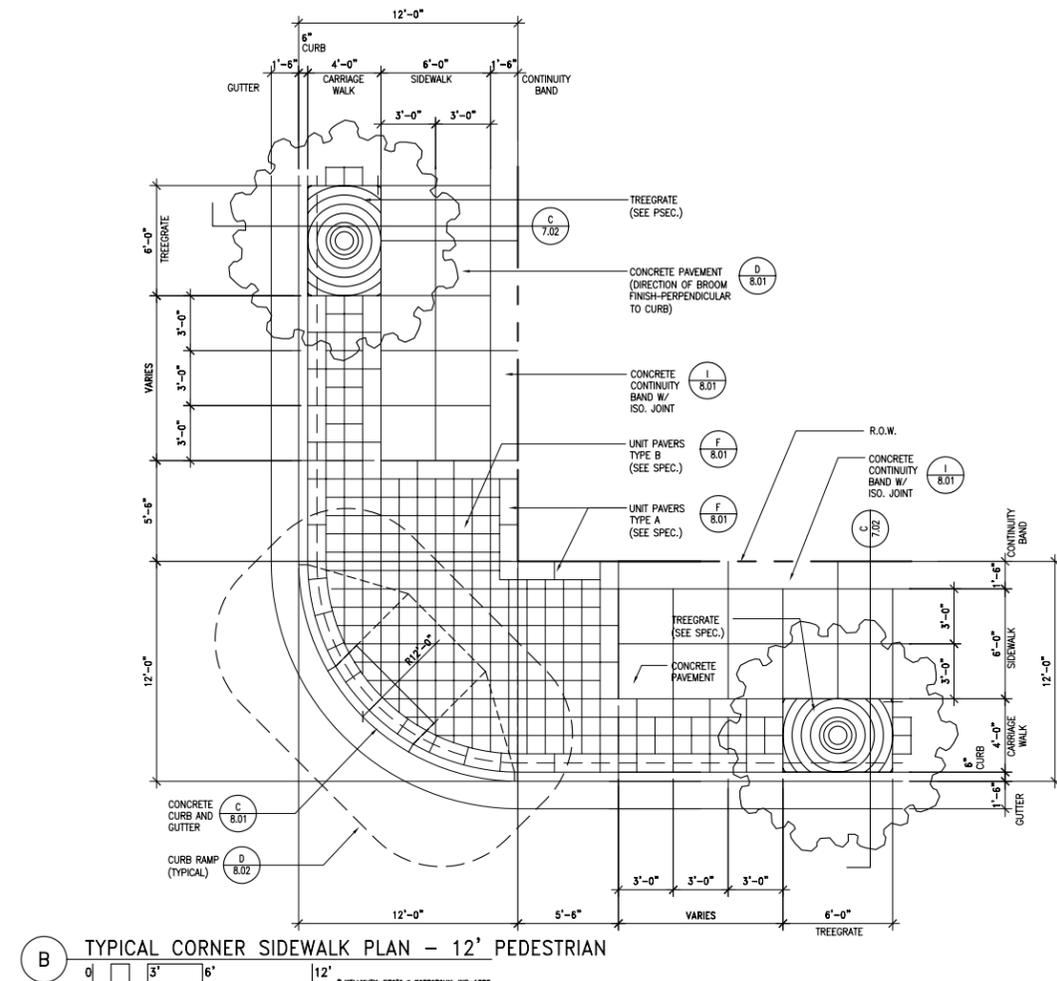
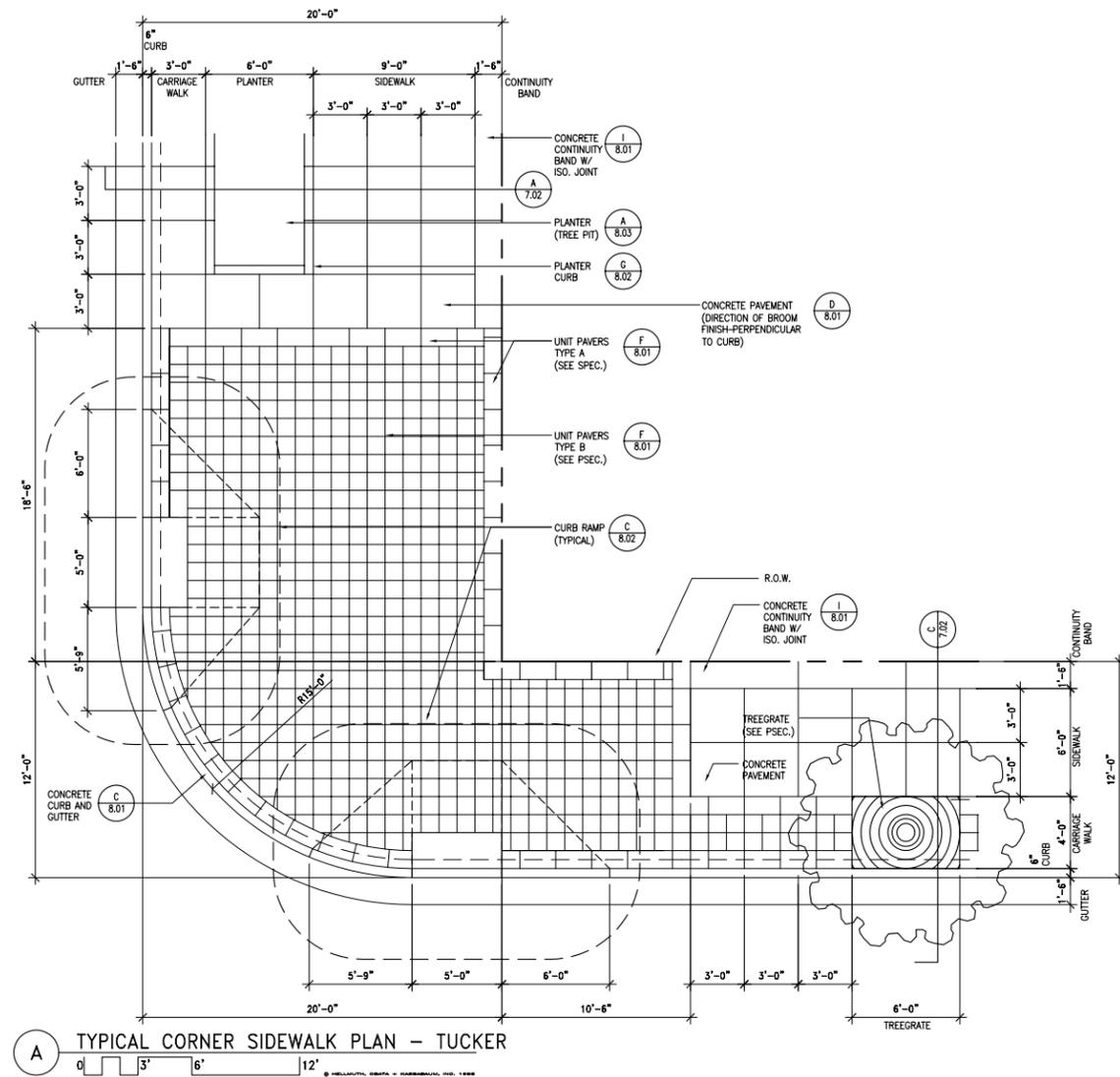
B SECTION – BROADWAY/4TH SIDEWALK
 0 1.5' 3' 6'

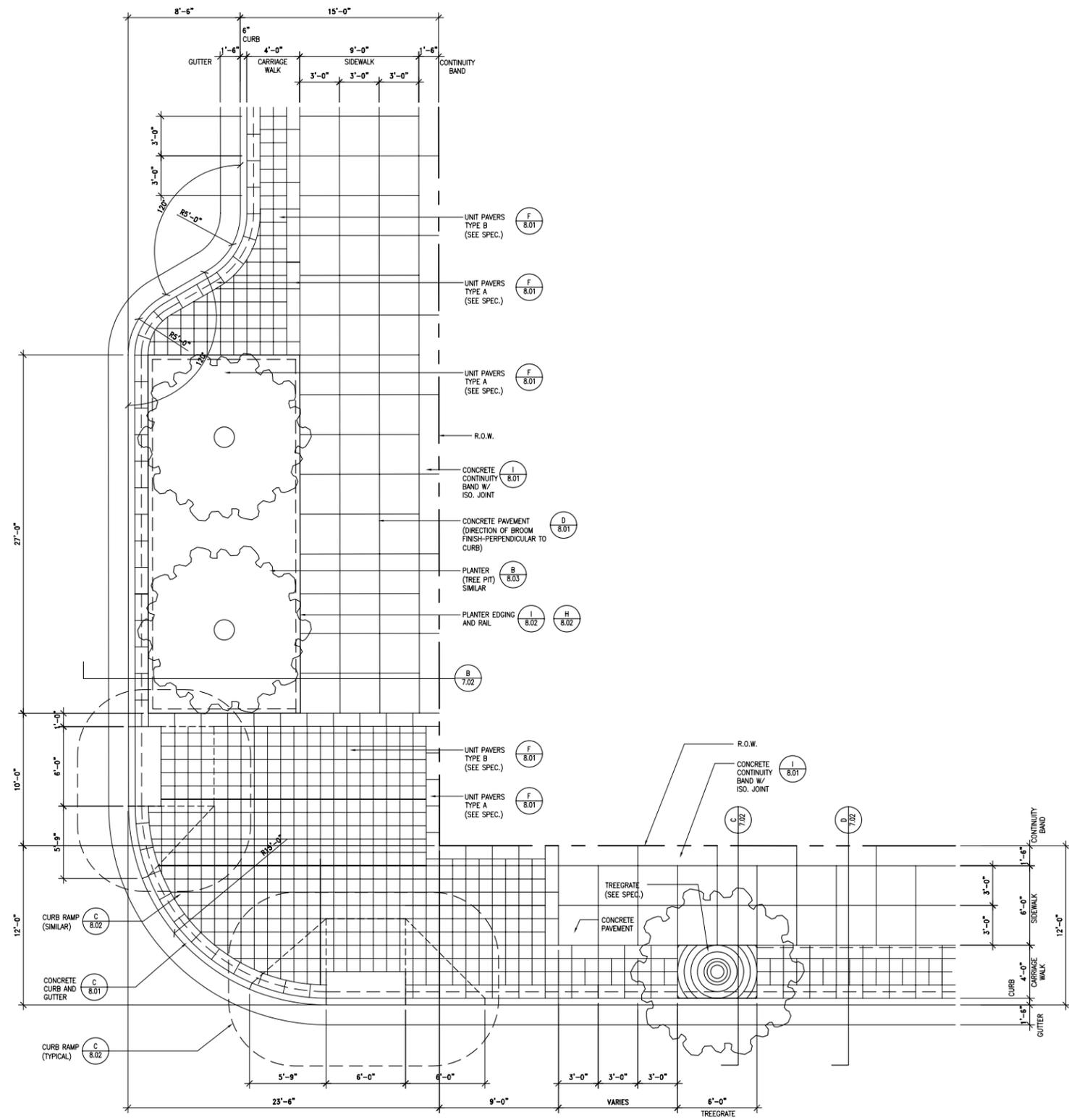


D SECTION – 12' SIDEWALK TREE TRENCH
 0 1.5' 3' 6'

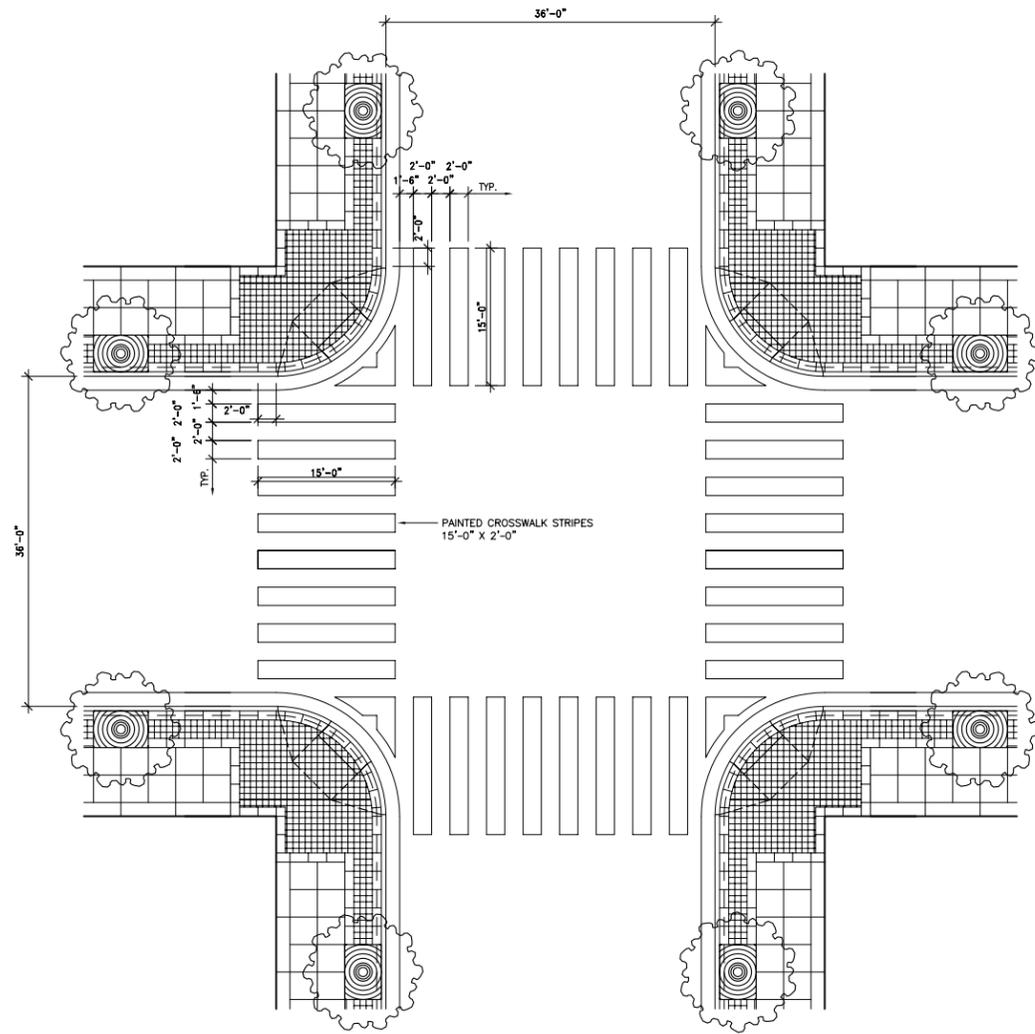


F SECTION – 15' SIDEWALK TREE TRENCH-WASHINGTON
 0 1.5' 3' 6'

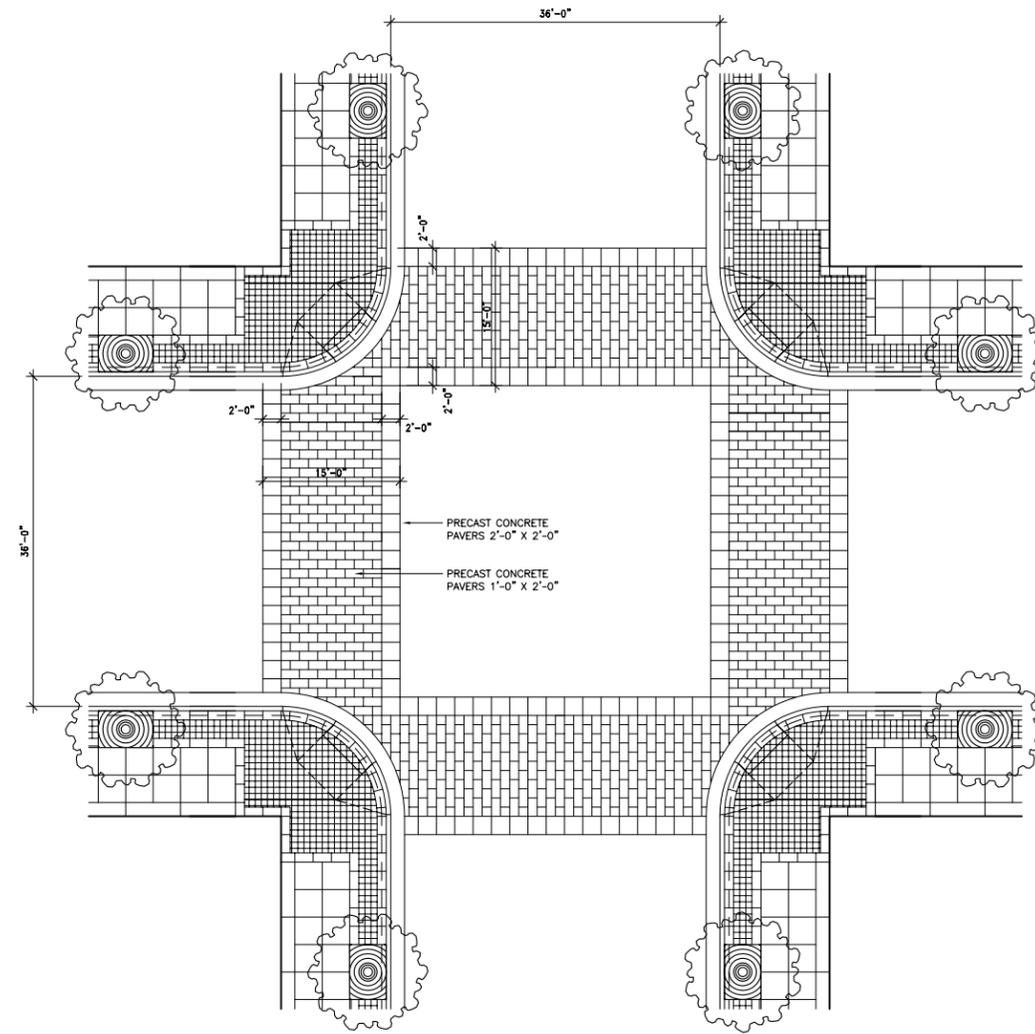




A TYPICAL CORNER SIDEWALK PLAN - 15' BROADWAY / 4TH

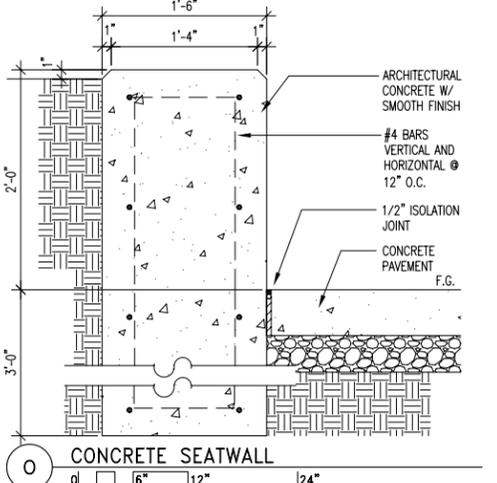
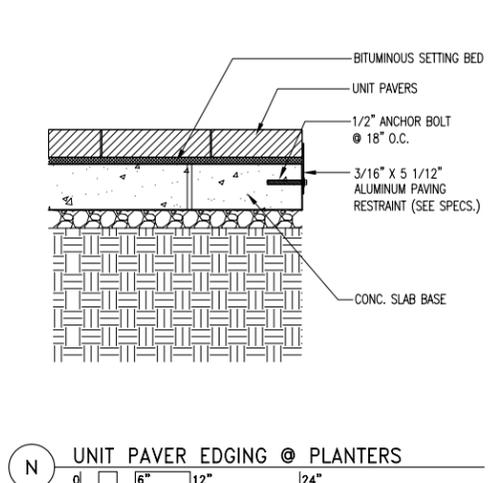
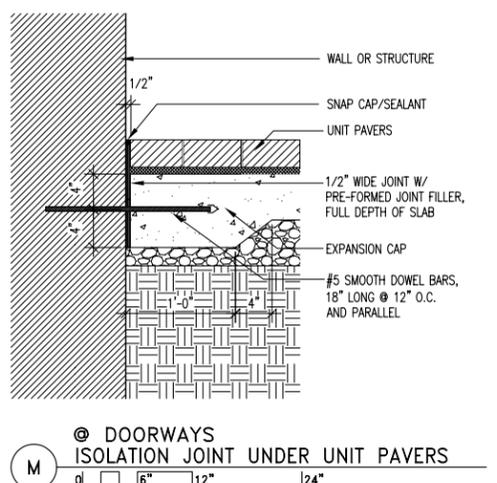
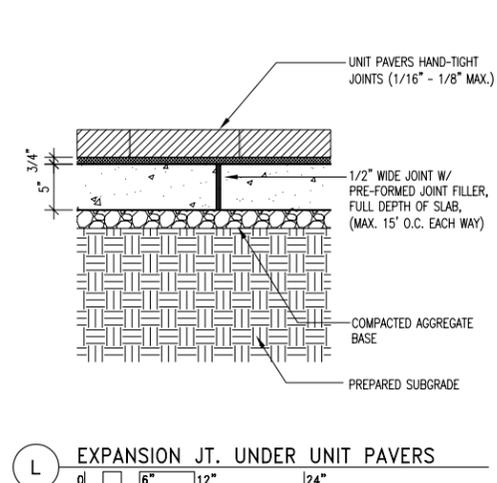
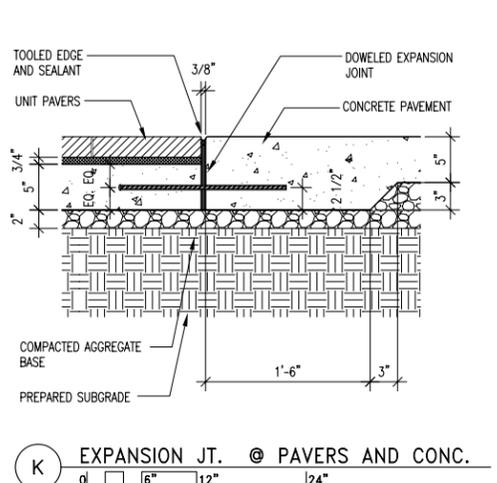
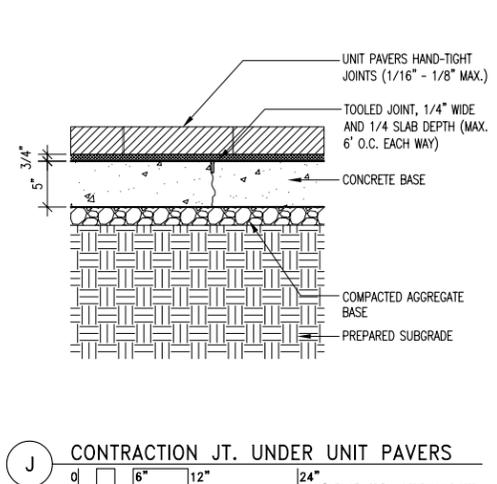
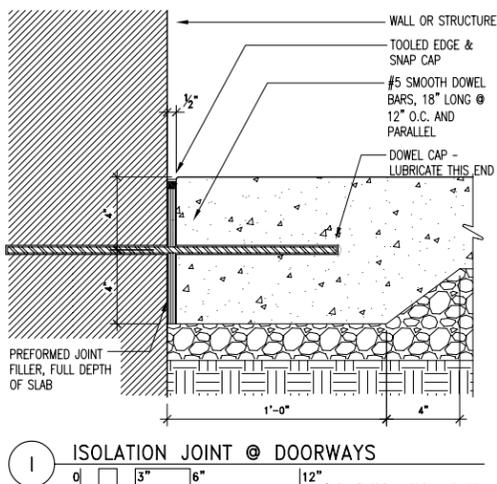
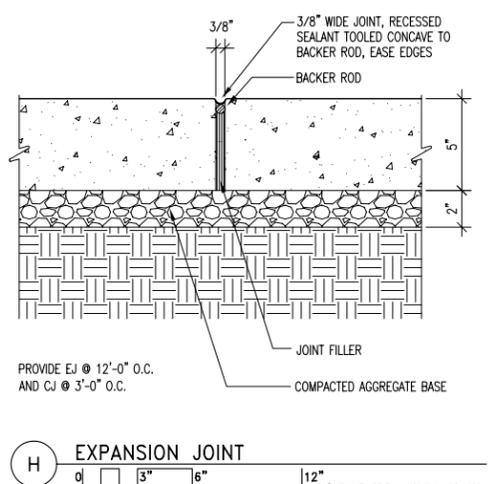
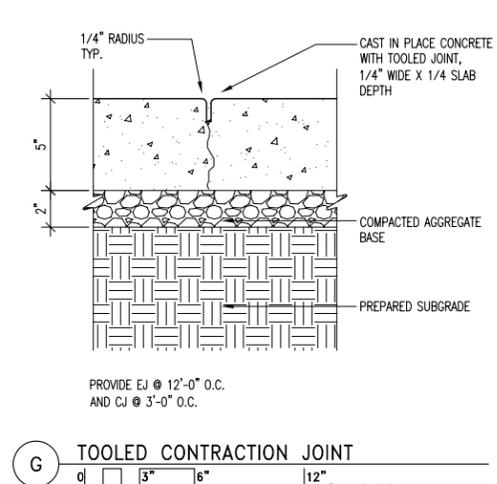
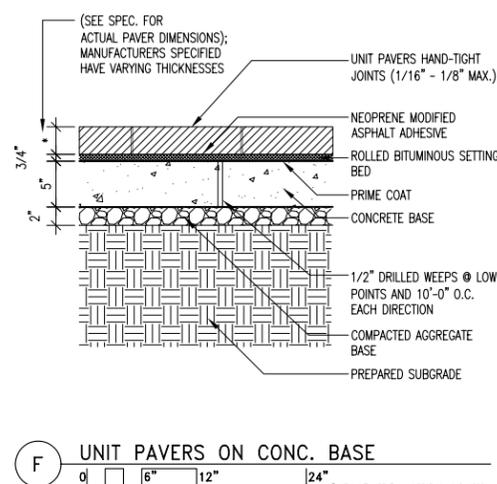
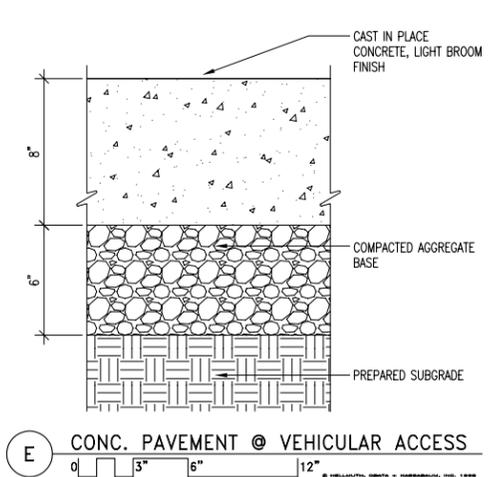
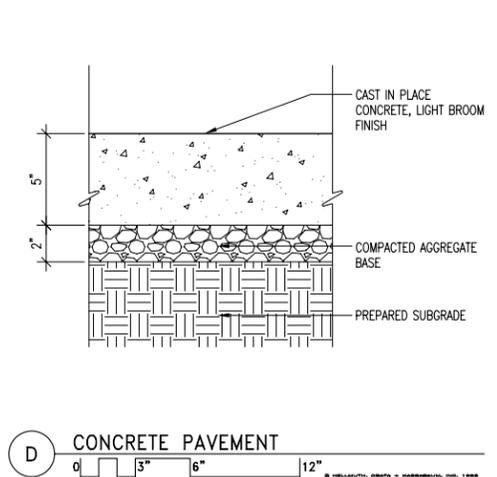
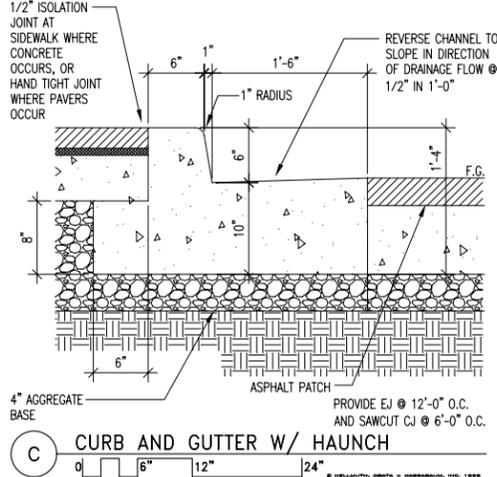
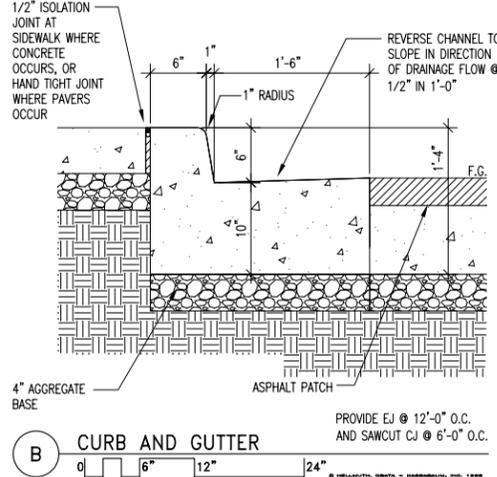
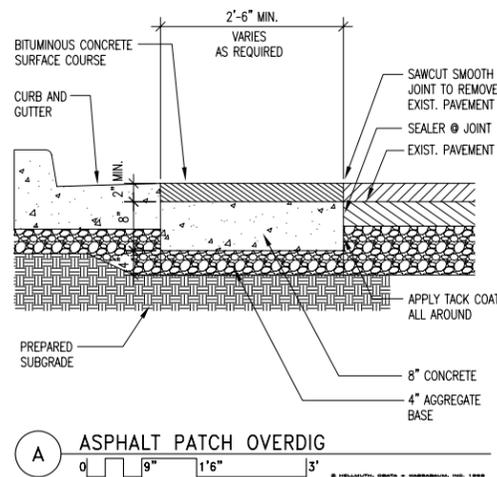


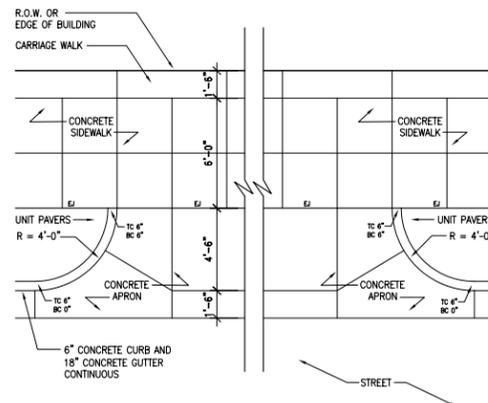
A TYPICAL CROSSWALK PHASE 1
 0' 6' 12' 24'



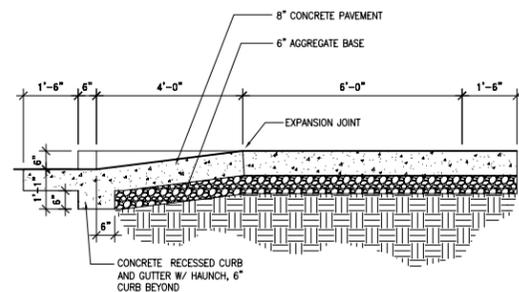
B TYPICAL CROSSWALK PHASE 2
 0' 6' 12' 24'

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 - Section 8 :: Details**
 - Section 9 :: Site Lighting
 - Section 10 :: Photo Inventory
 - Section 11 :: Appendix

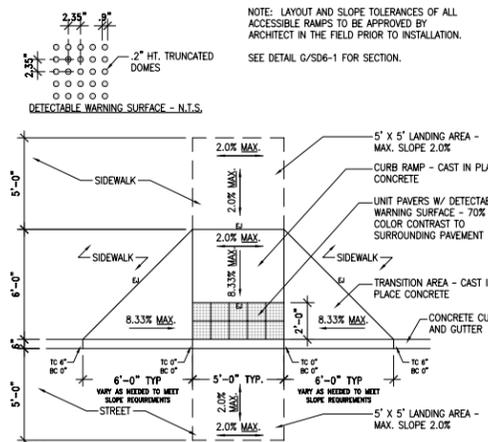




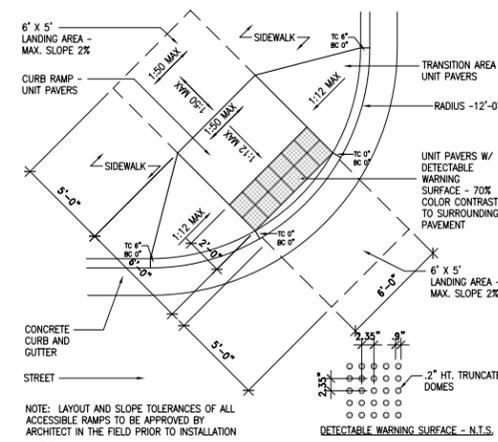
A DRIVEWAY APRON PLAN
0' 3' 6' 12'



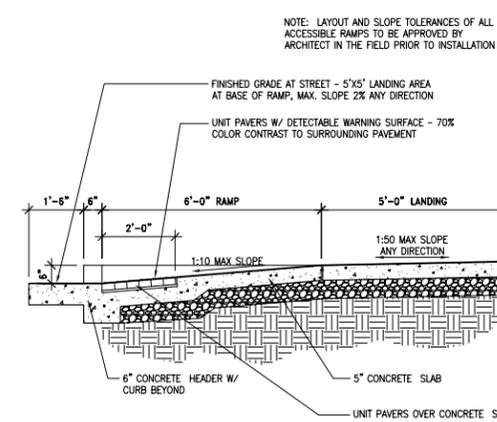
B DRIVEWAY APRON SECTION
0' 1.5' 3' 6'



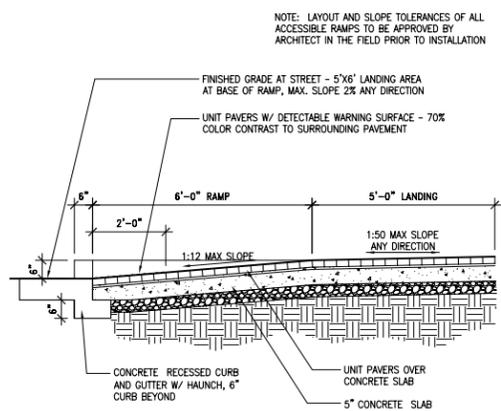
C CURB RAMP PLAN
0' 3' 6' 12'



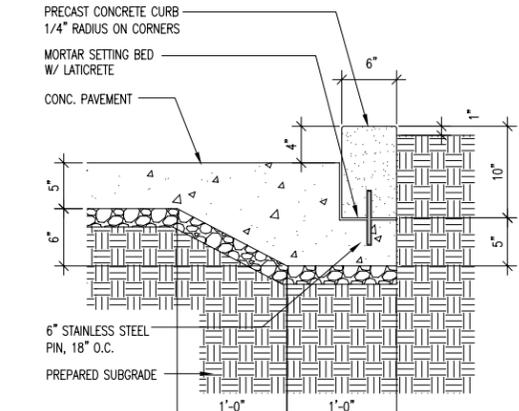
D CURB RAMP PLAN @ CORNER
0' 3' 6' 12'



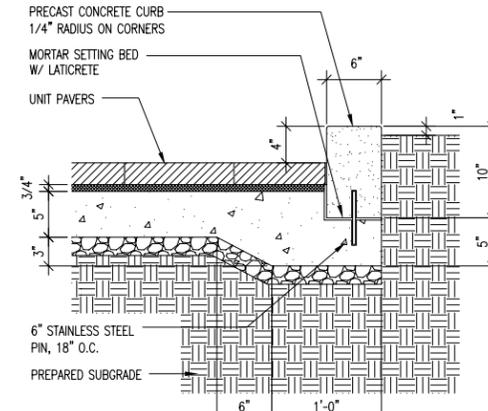
E CURB RAMP SECTION
0' 1.5' 3' 6'



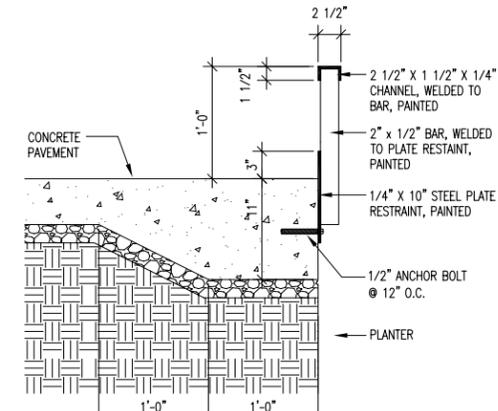
F CURB RAMP SECTION
0' 1.5' 3' 6'



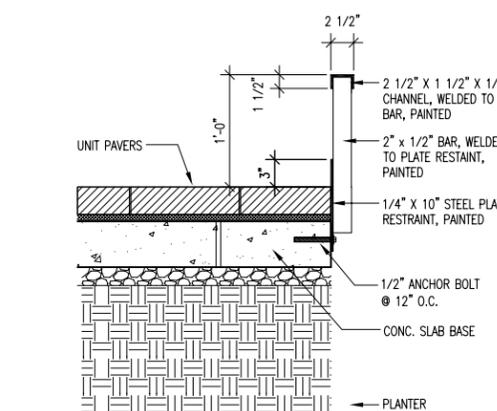
G PLANTER CURB @ CONC. PAVEMENT
0' 6' 12' 24'



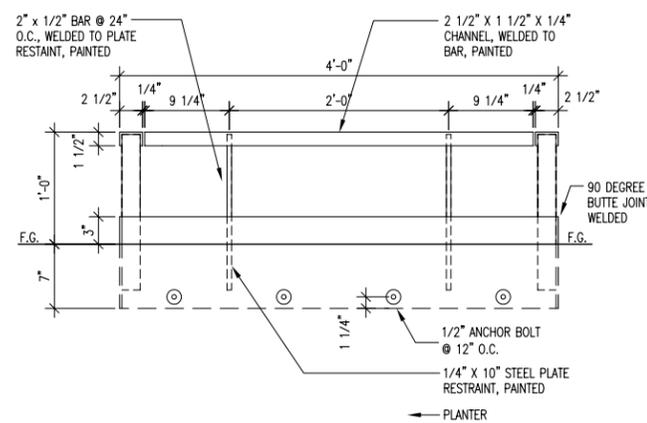
H PLANTER CURB @ UNIT PAVERS
0' 6' 12' 24'



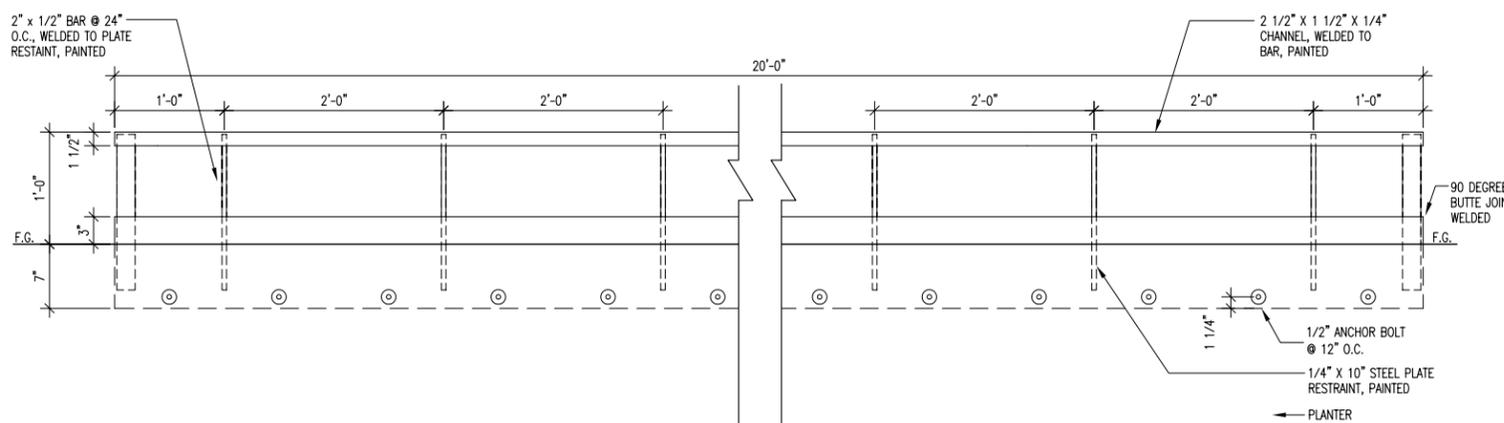
I CONC. PVMT. EDGING AND RAIL @ PLANTERS
0' 6' 12' 24'



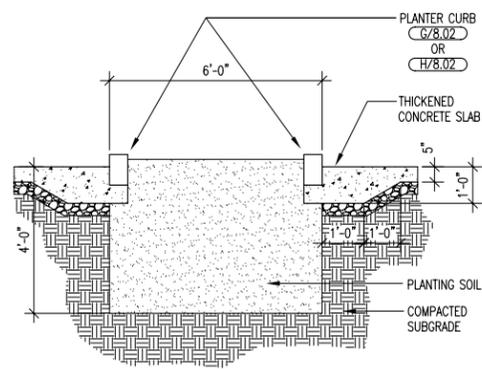
J UNIT PAVER EDGING AND RAIL @ PLANTERS
0' 6' 12' 24'



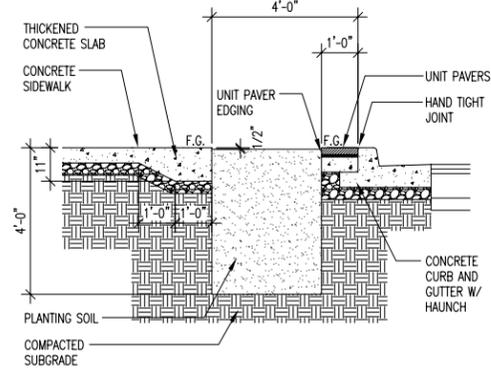
K EDGING AND RAIL @ PLANTERS ELEVATION
0' 6' 12' 24'



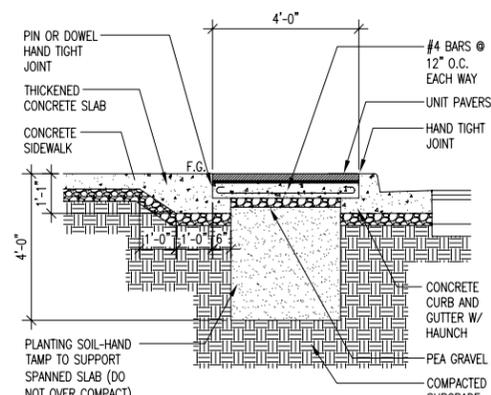
L EDGING AND RAIL @ PLANTERS ELEVATION
0' 6' 12' 24'



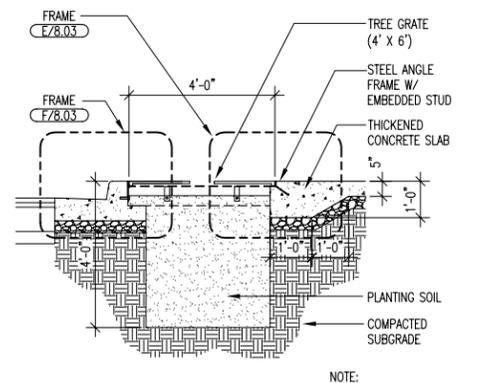
A TREE PIT W/ PLANTER CURB
 0' 1.5' 3' 6'



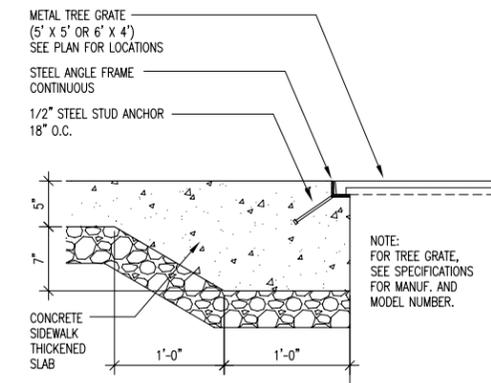
B TREE PIT @ CURB AND GUTTER
 0' 1.5' 3' 6'



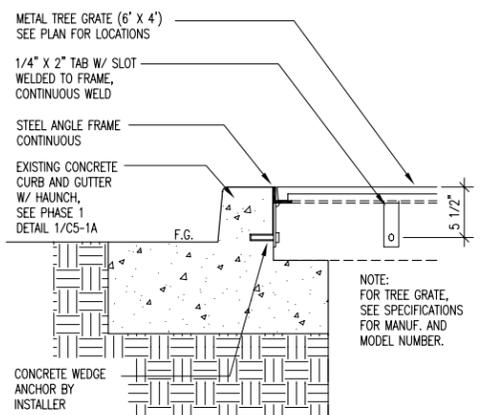
C TREE TRENCH @ CURB AND GUTTER
 0' 1.5' 3' 6'



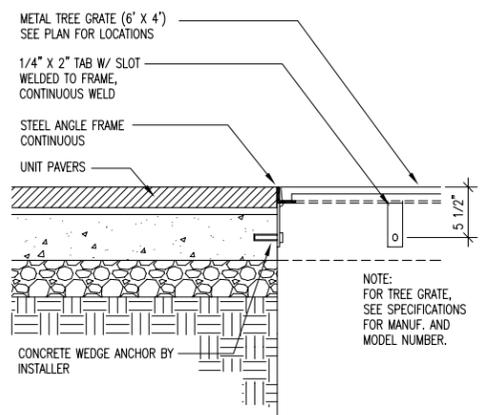
D TREE PIT W/ TREEGRATE
 0' 1.5' 3' 6'



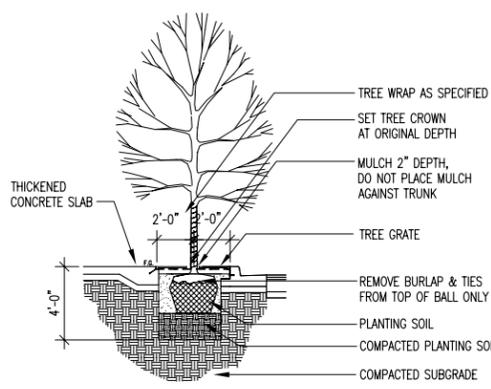
E TREE GRATE AND FRAME @ CONCRETE
 0' 6' 12' 24'



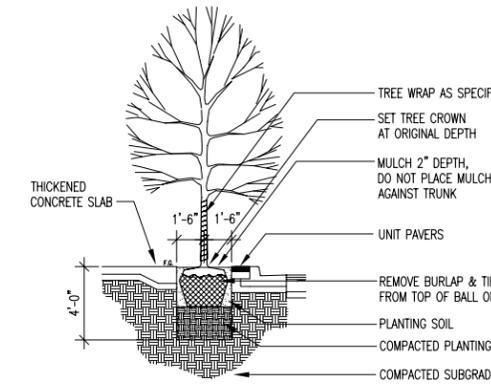
F TREE GRATE AND FRAME @ CURB
 0' 6' 12' 24'



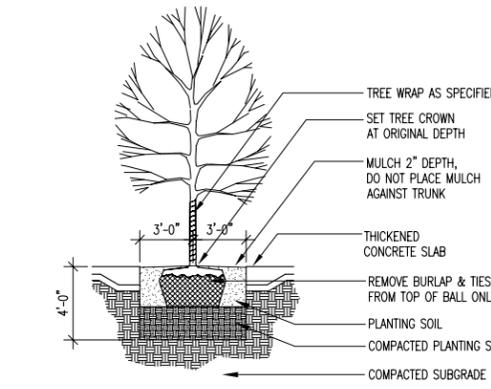
G TREE GRATE AND FRAME @ PAVERS
 0' 6' 12' 24'



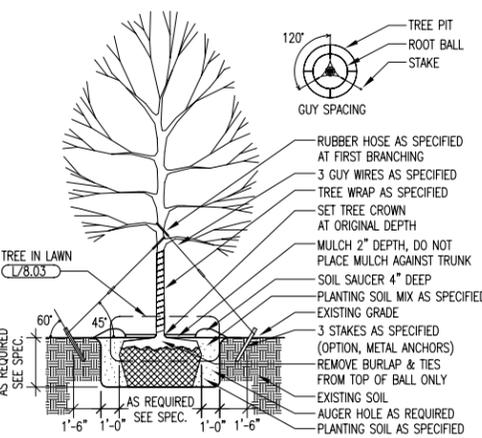
H TREE PLANTING IN 4'X6' GRATE
 0' 3' 6' 12'



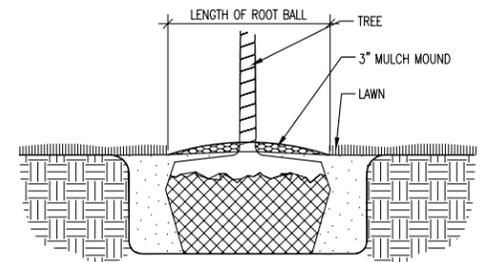
I TREE PLANTING IN 4' PLANTER
 0' 3' 6' 12'



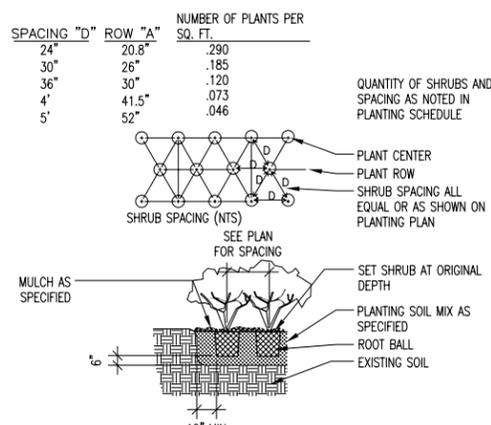
J TREE PLANTING IN 6' PLANTER
 0' 3' 6' 12'



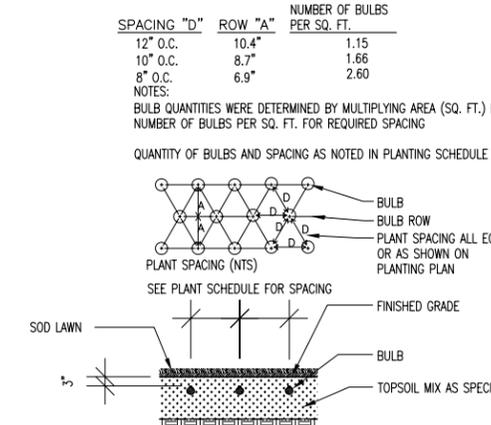
K LARGE DECIDUOUS TREE PLANTING (<3" CAL.)
 0' 3' 6' 12'



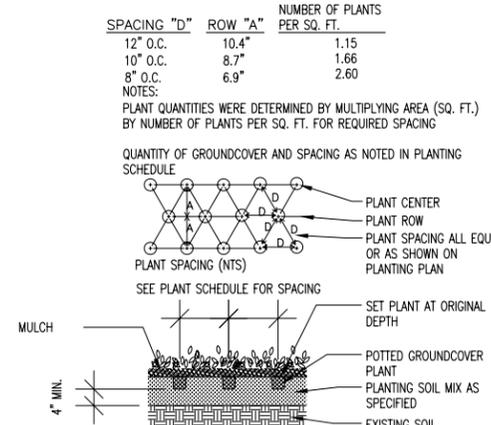
L TREE IN LAWN
 0' 1.5' 3' 6'



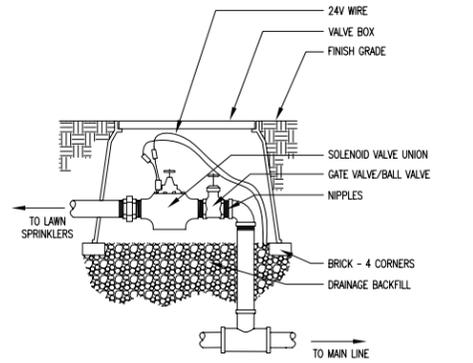
M SHRUB PLANTING
 0' 3' 6' 12'



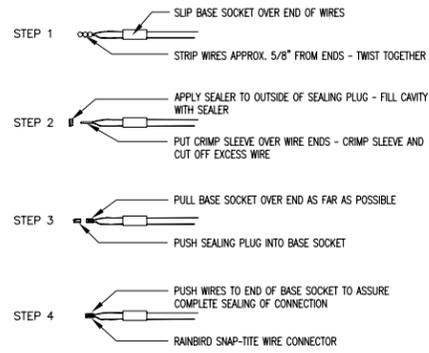
N BULB PLANTING
 0' 1.5' 3' 6'



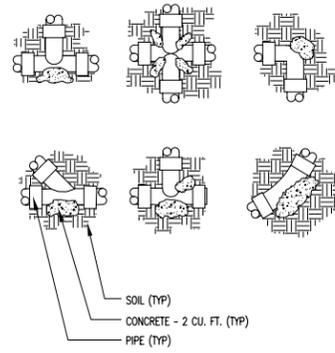
O GROUNDCOVER PLANTING
 0' 1.5' 3' 6'



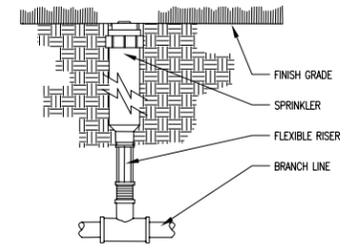
A ELECTRIC CONTROL VALVE
NOT TO SCALE



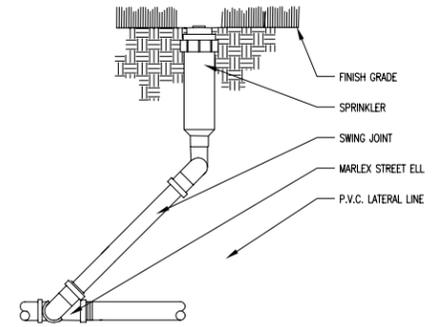
B LOW VOLTAGE WIRE CONNECTIONS
NOT TO SCALE



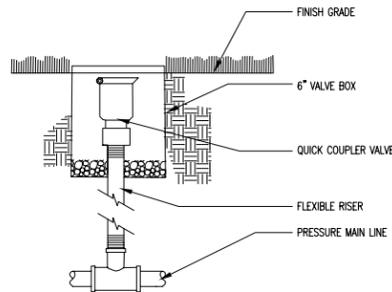
C THRUST BLOCKING
NOT TO SCALE



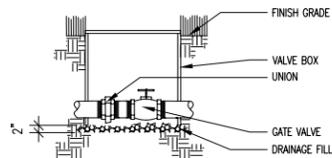
D POP-UP FIXED PATTERN SPRAY
NOT TO SCALE



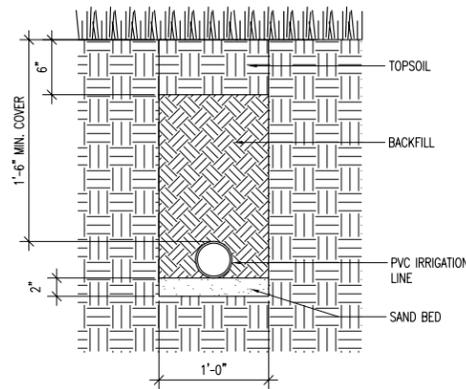
E POP-UP STREAM ROTOR
NOT TO SCALE



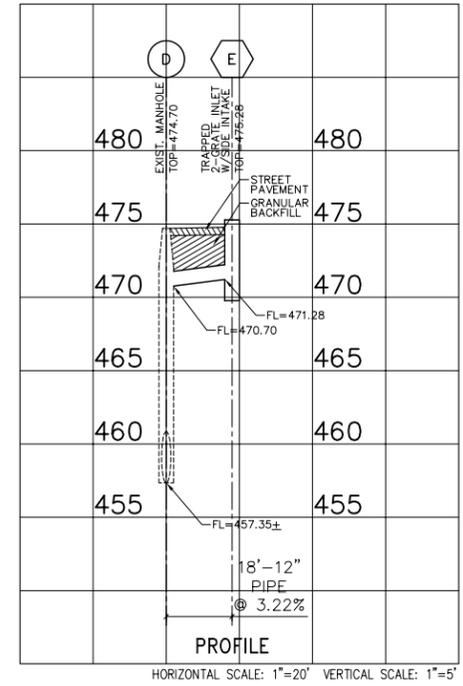
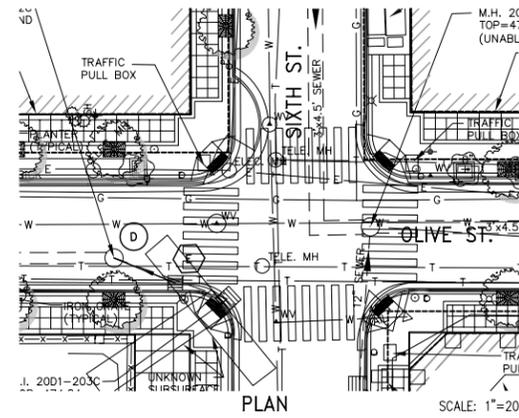
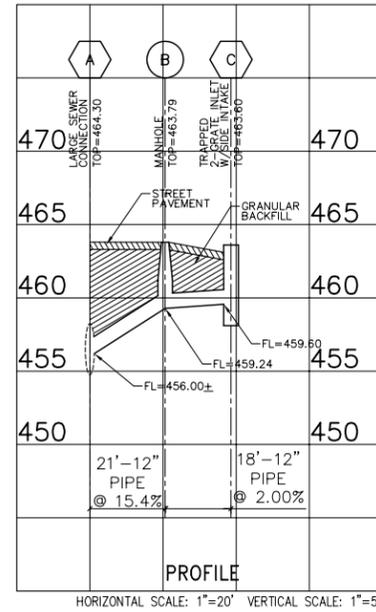
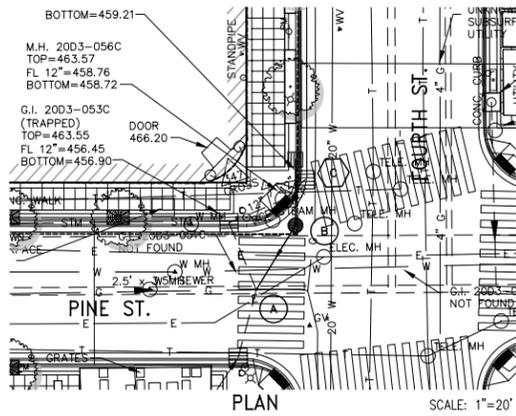
F QUICK COUPLER VALVE
NOT TO SCALE



G MANUAL SHUT OFF VALVE
NOT TO SCALE

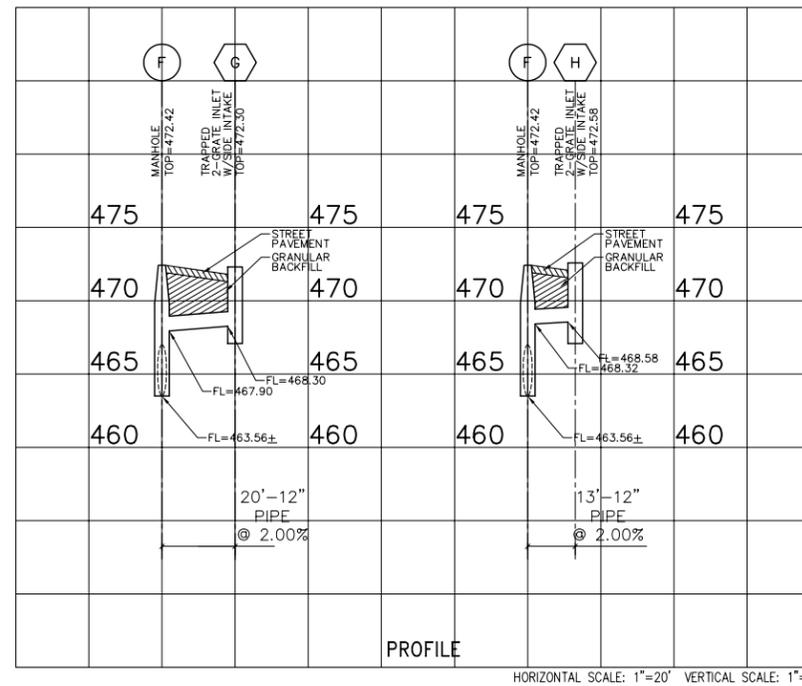
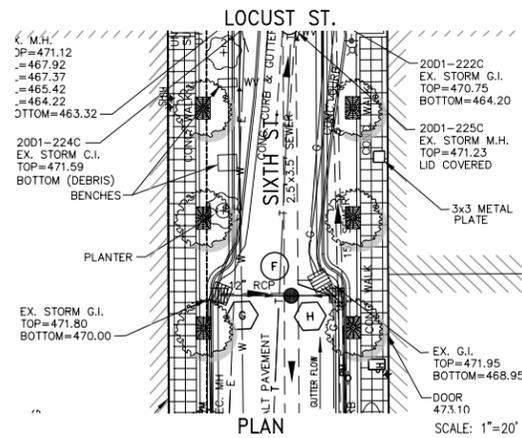


H PIPE TRENCH
NOT TO SCALE



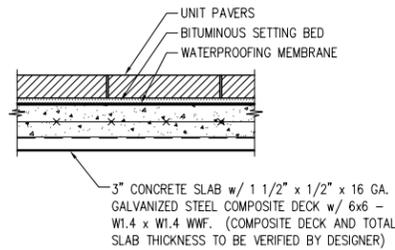
A RELOCATION OF EXISTING INLET AND MANHOLE FROM PROPOSED HANDICAP RAMP AREA
EXAMPLE: INTERSECTION OF PINE ST. AND FOURTH ST.

B RELOCATION OF EXISTING INLET FROM PROPOSED HANDICAP RAMP AREA
EXAMPLE: INTERSECTION OF OLIVE ST. AND SIXTH ST.

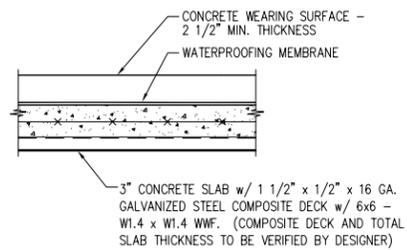


C RELOCATION OF EXISTING INLETS IN PROPOSED BUMP-OUT AREA
EXAMPLE: SIXTH ST. BETWEEN LOCUST ST. AND OLIVE ST.

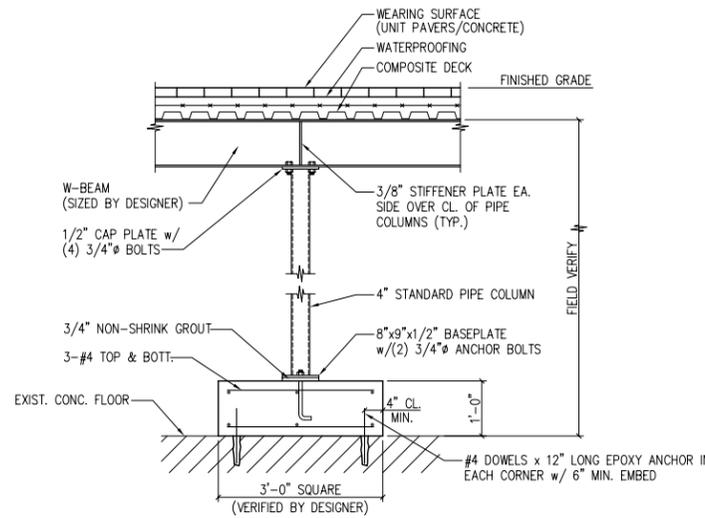
THE TYPICAL DRAINAGE IMPROVEMENTS IN THE ENHANCED SCHEMATIC DESIGN PACKAGE ARE GUIDELINES ONLY, AND ARE NOT INTENDED TO BE FINAL CONSTRUCTION REQUIREMENTS. FINAL CONSTRUCTION DETAILS SHALL BE PREPARED BY THE RESPONSIBLE DESIGN PROFESSIONAL AFTER VERIFYING EXISTING UTILITY CONDITIONS AND SEWER HYDRAULIC REQUIREMENTS.



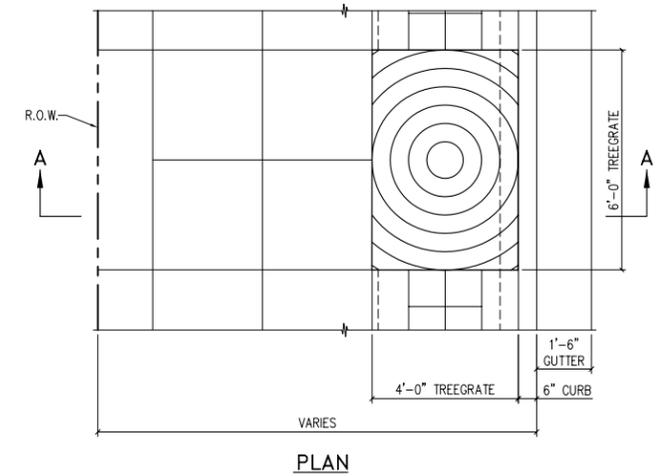
A TYPICAL COMPOSITE DECK SYSTEM - UNIT PAVERS SURFACE
NOT TO SCALE



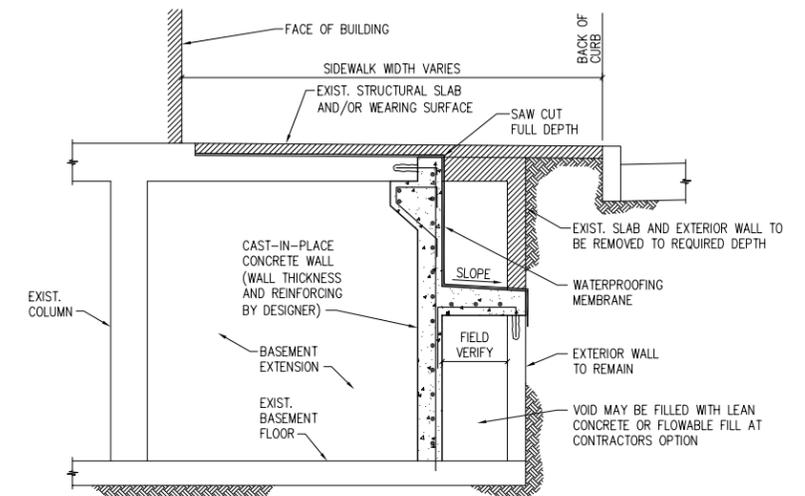
B TYPICAL COMPOSITE DECK SYSTEM - CONCRETE WEARING SURFACE
NOT TO SCALE



C TYPICAL SUPPLEMENTAL STRUCTURE AND FOOTING
NOT TO SCALE

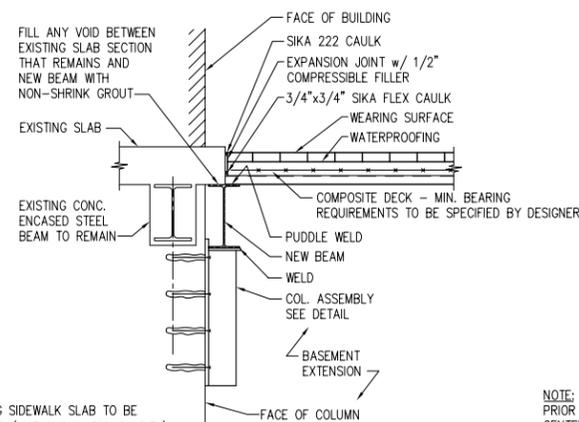


PLAN



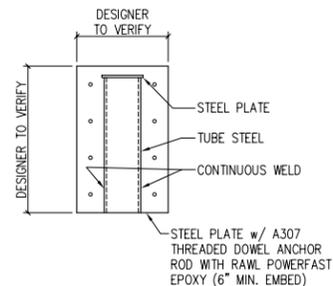
SECTION A-A

D TYPICAL BASEMENT MODIFICATION - TREE PIT
NOT TO SCALE



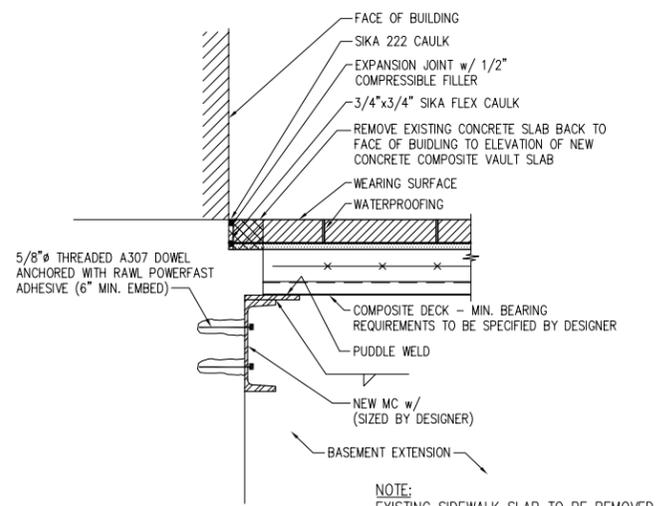
NOTE:
EXISTING SIDEWALK SLAB TO BE REMOVED (NOT SHOWN FOR CLARITY). CARE SHOULD BE TAKEN DURING DEMOLITION NOT TO DAMAGE EXISTING STRUCTURE.

E EDGE CONDITION "A"
NOT TO SCALE

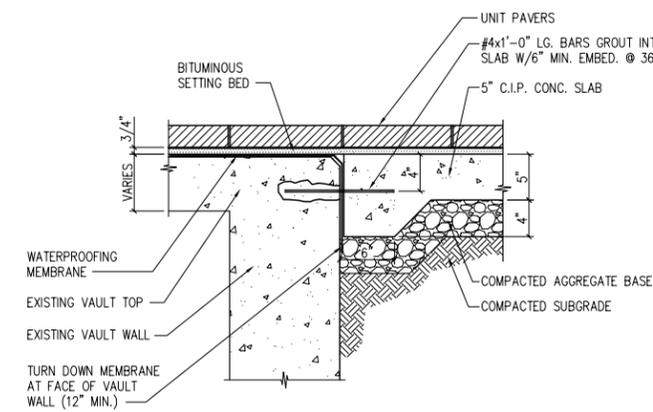


NOTE:
PRIOR TO PLATE FABRICATION, CORING TO THE CENTER OF COLUMNS SHALL BE PERFORMED. THE RESULTS OF THE CORING SHALL BE SUBMITTED TO THE PROJECT STRUCTURAL ENGINEER FOR APPROVAL OF FASTENER SYSTEM.

F EDGE CONDITION "B"
NOT TO SCALE



NOTE:
EXISTING SIDEWALK SLAB TO BE REMOVED (NOT SHOWN FOR CLARITY). CARE SHOULD BE TAKEN DURING DEMOLITION NOT TO DAMAGE EXISTING STRUCTURE.



G EDGE CONDITION "C" - VAULT WALL
NOT TO SCALE

THE GENERAL NOTES AND STRUCTURAL DETAILS IN THE ENHANCED SCHEMATIC DESIGN PACKAGE ARE GUIDELINES ONLY, AND ARE NOT INTENDED TO BE FINAL CONSTRUCTION REQUIREMENTS. FINAL STRUCTURAL DESIGN AND CONSTRUCTION REQUIREMENTS SHALL BE DEVELOPED AND VERIFIED BY THE RESPONSIBLE DESIGN PROFESSIONAL AFTER A DETAILED REVIEW OF EXISTING CONDITIONS, PROPOSED LOADS, AND RELATIONSHIPS TO THE PROPOSED IMPROVEMENTS.

DESIGN CRITERIA

1. THE BOCA NATIONAL BUILDING CODE/1999
2. DESIGN LOADS:
DEAD LOAD: SEE PLANS
LIVE LOAD: 250 PSF – 8000# PT. LD.

CONCRETE:

1. STANDARDS
 - A. ACI 318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE. (LATEST EDITION)
2. ALL DETAILING, FABRICATION AND ERECTION FOR REINFORCING BARS AND THEIR SUPPORT IN THE FORMS WITH ACCESSORIES MUST FOLLOW THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", (ACI 315–LATEST) AND CRSI "MANUAL OF STANDARD PRACTICE" (LATEST EDITION).
3. MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
 - A. UNFORMED SURFACES IN CONTACT WITH THE GROUND. 3 IN.
 - B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER #6 BAR AND LARGER. 2 IN.
FORMED SURFACES EXPOSED TO EARTH OR WEATHER #5 BAR AND SMALLER. 1-1/2 IN.
 - C. FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER:
 1. WALLS, SLABS 3/4 IN.
 2. BEAMS, GIRDERS AND COLUMNS 1-1/2 IN.
4. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH AND DENSITY, IN ACCORDANCE WITH THE FOLLOWING:

	STRENGTH		DENSITY	
	PSI	PCF	PCF	PCF
SLABS ON METAL DECK	3000	145		
SLABS AND STAIR PAN FILL	3000	115		
ALL OTHER CONCRETE U.N.O.	4000	145		

5. REINFORCING BARS ARE TO BE ASTM A615–GRADE 60 STEEL, U.N.O. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. WELDED WIRE FABRIC MUST LAP AT LEAST 2" AT SIDE AND 6" AT ENDS AND BE WIRED TOGETHER.
6. DOWELS IN WALL FOOTINGS TO EQUIVALENT IN SIZE AND NUMBER TO VERTICAL BARS. DOWELS MUST BE IN POSITION BEFORE PLACING CONCRETE, PUSHING BARS INTO FRESHLY POURED CONCRETE IS NOT ACCEPTABLE.
7. FINE AGGREGATE: SHALL BE CLEAN, HARD, DURABLE AND FREE OF DELETERIOUS SUBSTANCES AND CONFORM TO ASTM C33. COURSE AGGREGATE: SHALL BE CLEAN, HARD, DURABLE WITHOUT FLAT OR ELONGATED PIECES AND SHALL CONFORM TO ASTM C33 #67.
8. LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 BUILDING CODE. REQUIREMENTS FOR REINFORCED CONCRETE (LATEST EDITION). WHERE CLASSES ARE NOT CALLED OUT ON DRAWINGS, USE CLASS "B" SPLICES.
9. UNLESS OTHERWISE SHOWN IN THE ARCHITECTURAL DRAWINGS, PROVIDE 3/4" CHAMFERS AT ALL EDGES THAT ARE EXPOSED TO VIEW IN THE FINISHED STRUCTURE.
10. ALL STRUCTURAL STEEL MUST BE PROTECTED BY 3" OF CONCRETE WHERE EARTH WOULD OTHERWISE BE IN CONTACT WITH STEEL.
11. PROVIDE THE FOLLOWING ADDITIONAL REINFORCING UNLESS OTHERWISE CALLED FOR ON STRUCTURAL PLANS:
 - A. CORNER BARS AT ALL CORNERS AND INTERSECTIONS OF CONCRETE WALLS, GRADE BEAMS AND FOOTINGS TO MATCH HORIZONTAL REINFORCING.
 - B. PROVIDE #4 SLAB DOWELS AT 8" CENTERS AT DOORS UNLESS NOTED OTHERWISE.
 - C. BARS AT OPENINGS IN SLAB AND WALLS. PROVIDE BARS WITH AREA EQUAL TO INTERRUPTED REINFORCING. PLACE 1/2 AT EACH SIDE OF OPENING.
12. PIPES, SLEEVES OR SLOTS SHALL NOT RUN THROUGH ANY BEAM OR GIRDER UNLESS SIZE AND LOCATION HAVE BEEN APPROVED BY THE STRUCTURAL ENGINEER.
13. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR INSPECTION OF REBAR PLACEMENT.
14. ALL ABUTTING CONCRETE MEMBERS SHALL BE DOWELED TOGETHER, UNLESS POURED MONOLITHICALLY. DOWELS SHALL BE EQUAL IN SIZE AND SPACING TO THE REINFORCING IN THE ADJACENT MEMBERS.
15. WELDED REINFORCING BARS SHALL CONFORM TO ASTM A706, GRADE 60, WELDABLE STEEL.
16. FOOTINGS MAY BE EARTH-FORMED AT CONTRACTOR'S OPTION. PROVIDE MINIMUM COVER AS SPECIFIED ABOVE.

COMPOSITE CONCRETE SLABS:

1. THE CONTRACTOR SHALL PLACE CONCRETE FOR SLABS SO THAT THE FINISH SURFACE IS SCREEDED LEVEL WITH AN ELEVATION WITHIN 1/4" OF THE TOP OF SLAB ELEVATION SHOWN ON PLANS.
2. SLABS SHALL HAVE A TROWELED FINISH WITH A CLASS B TOLERANCE IN ACCORDANCE WITH ACI 301, U.N.O. IN STRUCTURAL OR ARCHITECTURAL CONSTRUCTION DOCUMENTS.
3. CONSIDERATION SHALL BE GIVEN TO SEQUENCING OF CONCRETE PLACEMENT SO AS TO CONTROL FINISH ELEVATIONS WITHIN THE SPECIFIED LIMITS.

COMPOSITE METAL DECK:

1. DEPTH OF DECK AND SLAB, TYPE OF DECK, STEEL GAGES AND SLAB REINFORCING SHOWN ON THE PLANS ARE SCHEMATIC ONLY. THE RESPONSIBLE DESIGN PROFESSIONAL SHALL PROVIDE FINAL DESIGN.
2. CONTRACTOR SHALL FURNISH THE ADDITIONAL CONCRETE DUE TO WET CONCRETE DEFLECTION OF THE COMPOSITE DECK.
3. DECK SHOP DRAWINGS SHALL INDICATE THE TYPE, SIZE, SHEAR VALUE REQUIRED FOR BEAMS.

EXPANSION ANCHORS:

EXPANSION ANCHORS TO BE PROVIDED SHALL HAVE THE FOLLOWINGS EMBEDMENTS AND ALLOWABLE WORKING LOADS (U.N.O.) (PROVIDE EDGE DISTANCES AND SPACING AS RECOMMENDED BY MANUFACTURER).

	ANCHOR		TENSION		SHEAR	
	DIA.	EMB.	CAP. (lb.)	CAP. (lb.)	CAP. (lb.)	CAP. (lb.)
WEDGE CONCRETE (1)	1"	6"	5,850	7,450		
WEDGE CONCRETE (1)	3/4"	5"	3,200	3,450		
WEDGE CONCRETE (1)	5/8"	4"	2,550	2,800		
WEDGE CONCRETE (1)	1/2"	4"	1,800	1,600		
WEDGE GROUTED SOLID CMU (2)	3/4"	5"	800	2,250		
WEDGE GROUTED SOLID CMU (2)	5/8"	4"	600	1,800		
WEDGE GROUTED SOLID CMU (2)	1/2"	4"	450	1,400		
SLEEVE HOLLOW CMU (2)	1/2"	-	600	900		

- (1) $f_c = 3000$ PSI MIN.
- (2) ASTM C90 $f_m = 1500$ MIN.

STRUCTURAL STEEL:

1. STRUCTURAL STEEL FABRICATION AND ERECTION SHALL COMPLY WITH THE ASD AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS (LATEST EDITION).
2. STEEL SHALL CONFORM TO THE FOLLOWING GRADES:
ALL WF, ANGLE, BASE PLATES, CONN. PLATES (UNO) ————— A36
WELDING ELECTRODES ————— E70XX
STRUCTURAL PIPE — A501 (FY=36) OR A53 TYPE E OR S, GRADE B (FY=35)
BOLTS ————— A325
ANCHOR BOLTS ————— A307, U.N.O.
3. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE (LATEST EDITION), EXCEPT AS MODIFIED IN THESE NOTES AND THE PROJECT SPECIFICATIONS.
4. CONNECTIONS MAY BE BOLTED OR WELDED. FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF CONNECTIONS NOT DESIGNED ON THE DRAWINGS. GENERALLY, CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. ANY CONNECTION THAT IS NOT SHOWN OR IS NOT COMPLETELY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED BY AN ENGINEER, REGISTERED IN THE STATE OF MISSOURI, RETAINED BY THE FABRICATOR. COMPLETELY DETAILED MEANS THE FOLLOWING INFORMATION IS SHOWN ON THE DETAIL DRAWINGS.
 - A. ALL PLATE DIMENSIONS AND GRADES.
 - B. ALL WELD SIZES, LENGTHS, PITCHES AND RETURNS.
 - C. ALL HOLE SIZES AND SPACINGS.
 - D. NUMBER AND TYPE OF BOLTS: WHERE BOLTS ARE SHOWN BUT NO NUMBER IS GIVEN THE CONNECTION HAS NOT BEEN COMPLETELY DETAILED.
 - E. WHERE PARTIAL INFORMATION IS GIVEN, IT SHALL BE THE MINIMUM REQUIREMENT FOR THE CONNECTION.

DESIGN CALCULATIONS FOR TYPICAL BEAM CONNECTIONS AND ALL PRIMARY BRACING AND HANGER CONNECTIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION. CALCULATIONS SHALL BE REVIEWED ONLY FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS.

5. BEAM CONNECTIONS SHALL BE DESIGNED FOR A SERVICE SHEAR LOAD EQUAL TO ONE-HALF OF THE ALLOWABLE LOAD ON THE MEMBER, AS DEFINED IN THE ASD AISC TABLES FOR ALLOWABLE LOADS ON BEAMS OR THE REACTIONS SHOWN ON THE DRAWINGS, WHICHEVER IS GREATER.
6. THE FRAME OF THE STEEL SKELETON SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BOLTING AND BRACING SHALL BE INTRODUCED TO SAFELY CARRY ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED INCLUDING EQUIPMENT AND THE OPERATION OF SAME. INDIVIDUAL COLUMNS MUST BE BRACED BEFORE CONNECTIONS ARE MADE AND BRACING SHALL BE LEFT IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY. NO BOLTING OR WELDING SHALL BE DONE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
7. ALL COLUMN BASE PLATES SHALL BE SET ON STEEL SHIMS TO TRUE LEVEL LINE. GENERAL CONTRACTOR SHALL RAM A NON-SHRINK GROUT SOLIDLY UNDER ENTIRE BASE PLATE AREA. PROVIDE 1" DEPTH NON-SHRINK GROUT BELOW PLATES (U.N.O.).
8. ANCHOR BOLTS SHALL EXTEND INTO CONCRETE NOT LESS THAN 9" WHERE POSSIBLE PLUS 4"± HOOK AND SHALL BE HELD AT 2-1/2" MINIMUM FROM OUTSIDE FACE OF CONCRETE. ALL ANCHOR BOLTS SHALL BE HELD 1-1/2" FROM EDGE OF BASE PLATE WHERE POSSIBLE.

STRUCTURAL STEEL CONT.:

9. MEMBER FORCES ARE SHOWN ON THE DRAWINGS AS FOLLOWS:
P = AXIAL FORCE IN KIPS (+) = TENSION (-) = COMPRESSION
V = SHEAR IN KIPS
R = BEAM REACTION IN KIPS
M = MOMENT IN FOOT-KIPS
THESE FORCES HAVE BEEN REDUCED IN CONFORMANCE WITH CODE PROVISIONS RELATED TO TEMPORARY COMBINATIONS OF LOADINGS THAT INCLUDE WIND AND SEISMIC FORCES.
10. THE MINIMUM PLATE THICKNESS SHALL BE 3/8", THE MINIMUM BOLT DIAMETER SHALL BE 3/4". THE MINIMUM WELD SHALL BE 3/16" AND THE MINIMUM DESIGN LOAD ON ANY CONNECTION SHALL BE 10K.
11. BOLTED CONNECTIONS:
 - A. ALL BOLTED CONNECTIONS SHALL BE BEARING TYPE USING A325N OR A490N BOLTS. OVERSIZED HOLES AND LONG-SLOTTED HOLES ARE NOT ALLOWED UNLESS SHOWN ON THE DRAWINGS.
 - B. A307 BOLTS MAY BE USED WHERE INDICATED ON THE DRAWINGS.
 - C. PROTRUDING BOLTS HEADS, SHAFTS OR NUTS SHALL NOT EXTEND INTO NOR PROHIBIT THE APPLICATION OF ARCHITECTURAL FINISHES AND THEY SHALL NOT EXTEND INTO NOR PROHIBIT THE PLACEMENT OF STEEL DECKING TO THE CORRECT LINE AND ELEVATION.
 - D. THE FABRICATOR IS RESPONSIBLE FOR VERIFYING THE TENSION CAPACITY OF AXIALLY LOADED MEMBERS AFTER A SECTION IS REDUCED FOR BOLT HEADS. MEMBER SIZE MAY BE INCREASED OR CONNECTION PLATES ADDED AS REQUIRED.
 - E. SHOP DRAWINGS SHALL INDICATE THE TYPE OF BOLTS USED IN EACH CONNECTION AND THE ALLOWABLE VALUES USED FOR THE VARIOUS BOLT TYPES.

12. WELDED CONNECTIONS:

- A. ALL WELDING SHALL BE IN ACCORDANCE WITH THE "STRUCTURAL WELDING CODE" (AWS D.1–LATEST EDITION) PUBLISHED BY THE AMERICAN WELDING SOCIETY. ELECTRODES FOR WELDING SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 4.1.1. OF (AWS D.1.1.–LATEST EDITION). USE MINIMUM E70 ELECTRODES.
 - B. ALL WELDING SHALL BE DONE ONLY BY OPERATORS WHO MEET THE QUALIFICATIONS AND TESTS PRESCRIBED IN THE STANDARD QUALIFICATIONS PROCEDURE OF THE AMERICAN WELDING SOCIETY.
 - C. ALL GROOVE WELDS SHALL BE COMPLETE PENETRATION U.N.O.
13. SPlicing OF STEEL MEMBERS, UNLESS SHOWN ON THE DRAWINGS, IS PROHIBITED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT.
 14. NO CHANGE IN SIZE OR POSITION OF THE STRUCTURAL ELEMENTS SHALL BE MADE AND HOLES, SLOTS, CUTS, ETC., ARE NOT PERMITTED THROUGH ANY MEMBER UNLESS THEY ARE DETAILED ON THE APPROVED SHOP DRAWINGS.
 15. NO FINAL BOLTING OR WELDING SHALL BE MADE UNTIL AS MUCH OF THE STRUCTURE AS WILL BE STIFFENED THEREBY HAS BEEN PROPERLY ALIGNED.
 16. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP.
 17. ALL WELDING WILL BE MADE ONLY BY OPERATORS WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TEST, AS PRESCRIBED IN THE "STANDARD QUALIFICATIONS PROCEDURE" OF THE AMERICAN WELDING SOCIETY.
 18. BOLTING IN COMBINATION WITH WELDING SHALL NOT BE CONSIDERED AS SHARING THE STRESS AND WELDS SHALL BE PROVIDED TO CARRY THE ENTIRE STRESS FOR WHICH THE CONNECTION IS DESIGNED.

MISCELLANEOUS:

1. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
2. NO CHANGE IN SIZE OF DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
4. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES.
5. DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS.
6. CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD. EXPANSION JOINTS SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED TO ACCOMMODATE ANTICIPATED THERMAL MOVEMENT AFTER THE BUILDING IS COMPLETE.
7. THE CONTRACTOR SHALL INFORM THE STRUCTURAL ENGINEER IN WRITING OF ANY DEVIATION FROM THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL NOT BE RELIEVED OF THE RESPONSIBILITY FOR SUCH DEVIATION BY THE ENGINEER'S APPROVAL OF SHOP DRAWINGS, PRODUCT DATA, ETC., UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ENGINEER OF SUCH DEVIATION AT THE TIME OF SUBMISSION, AND THE ENGINEER HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
8. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS OR AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE EFFECTED WORK PROCEEDS.
9. THE DESIGN AND ENGINEERING OR SHORING NOTED ON THE DRAWINGS AND IN THE SPECIFICATIONS OR REQUIRED BY THE CONTRACTOR'S CONSTRUCTION METHODS, AS WELL AS ITS CONSTRUCTION, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE GENERAL NOTES AND STRUCTURAL DETAILS IN THE ENHANCED SCHEMATIC DESIGN PACKAGE ARE GUIDELINES ONLY, AND ARE NOT INTENDED TO BE FINAL CONSTRUCTION REQUIREMENTS. FINAL STRUCTURAL DESIGN AND CONSTRUCTION REQUIREMENTS SHALL BE DEVELOPED AND VERIFIED BY THE RESPONSIBLE DESIGN PROFESSIONAL AFTER A DETAILED REVIEW OF EXISTING CONDITIONS, PROPOSED LOADS, AND RELATIONSHIPS TO THE PROPOSED IMPROVEMENTS.

An architectural rendering of a city street scene. On the left, a historic brick building with arched windows and a fire escape. On the right, a modern multi-story building with a glass facade and a balcony. A streetcar is visible on the left side of the street, and a car is parked on the right. The scene is set during the day with soft lighting.

Section 1 :: Site Analysis

Section 2 :: Design Concepts

Section 3 :: Materials

Section 4 :: Streetscape Design

Section 5 :: Project Area

Section 6 :: Site Plans

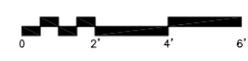
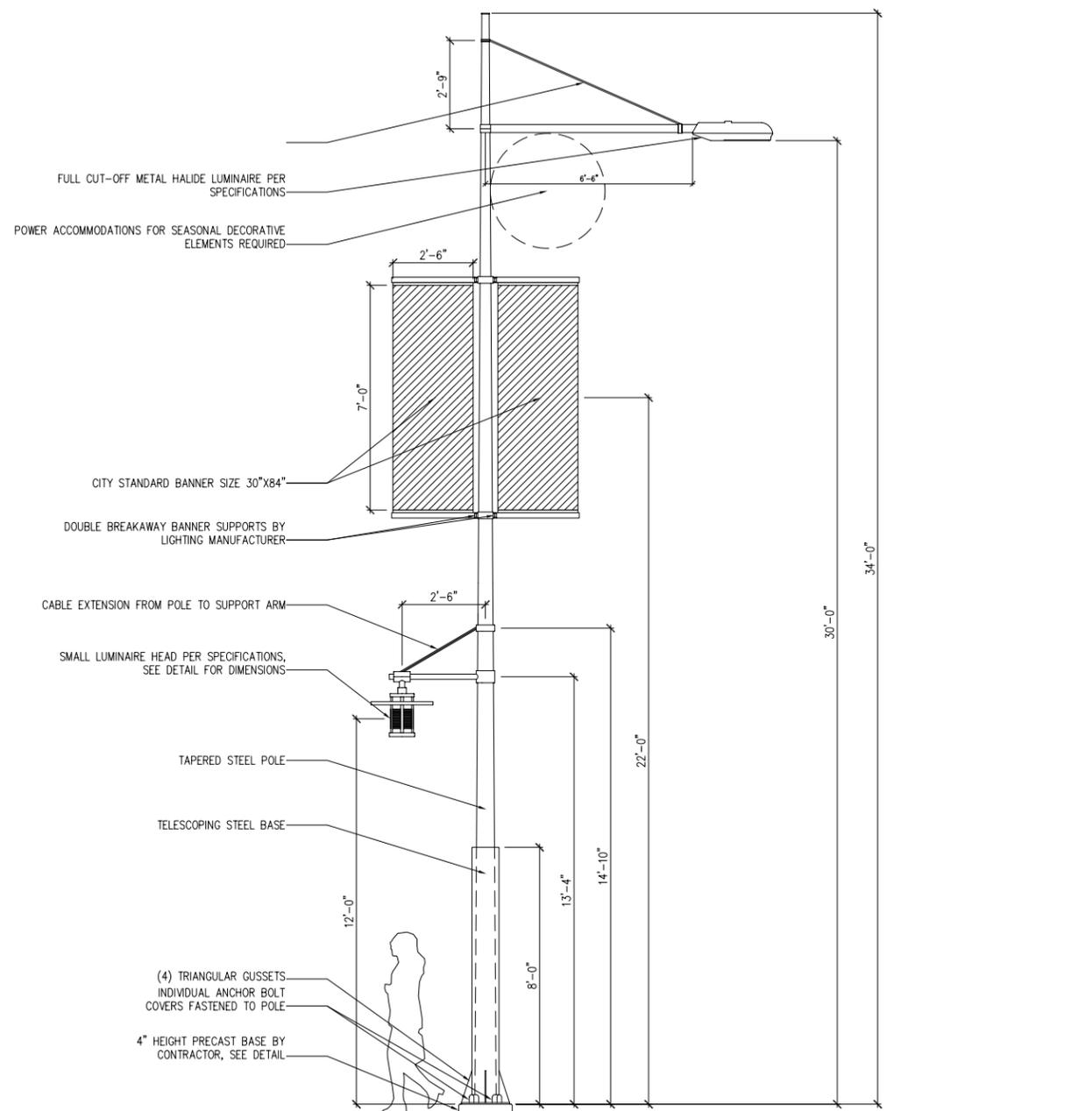
Section 7 :: Enlarged Plans & Sections

Section 8 :: Details

Section 9 :: Site Lighting

Section 10 :: Photo Inventory

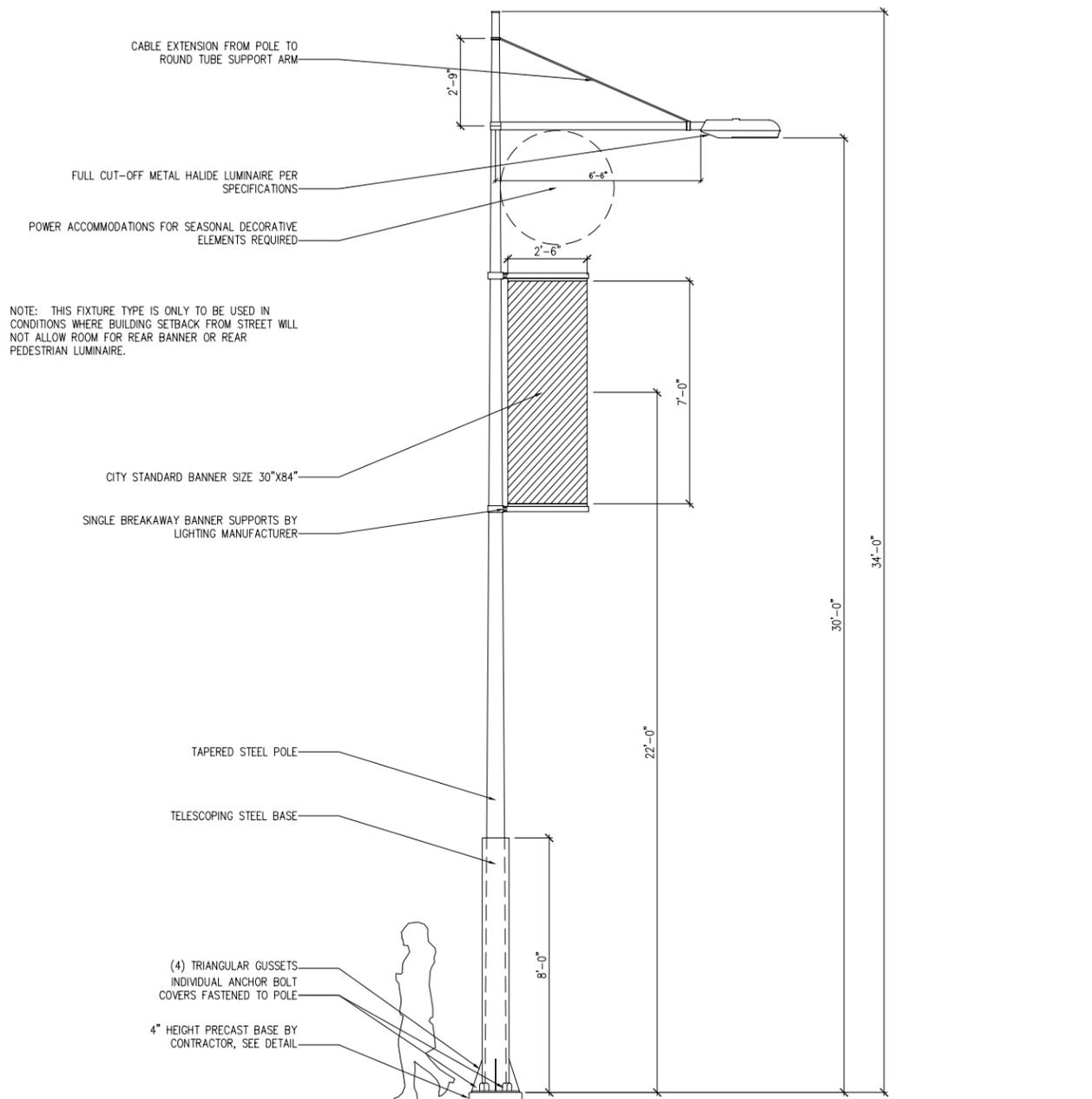
Section 11 :: Appendix



SA

Primary Roadway Streetlighting Fixture with Pedestrian

Light Type:	Modern/Transitional
Description:	Major streetlight with rear pedestrian integration
Proposed Locations:	Tucker/Broadway/4th
Height:	30'-0" (Street.)/12'-0" (Ped.) - (to source center)
Typical Spacing:	90'-0" to 120'-0"
Light Source:	Metal Halide
Wattage:	400w (Street.)/70w Ceramic (Ped.)
Optical Distribution:	IES Type III (Street.)/IES Type V (Ped.)
Finish:	Black Painted
Manuf./Spec. #1:	Hess: AV650T-IRV/CBIII-70/400M-V-B-34SS-2BN-BL-LP-GFI
Manuf./Spec. #2:	Lumec: LMS-70MH-TYPEV-VOLT-M20M-1A-BKTX-LMS34253A-HBM-400MH-TYPEIII-M20M-1A-1X36-DEC-BKTX-LMS34252A
Graphics/Signage:	(2) City Standard Banner (30"x84")
Additional Comments:	None

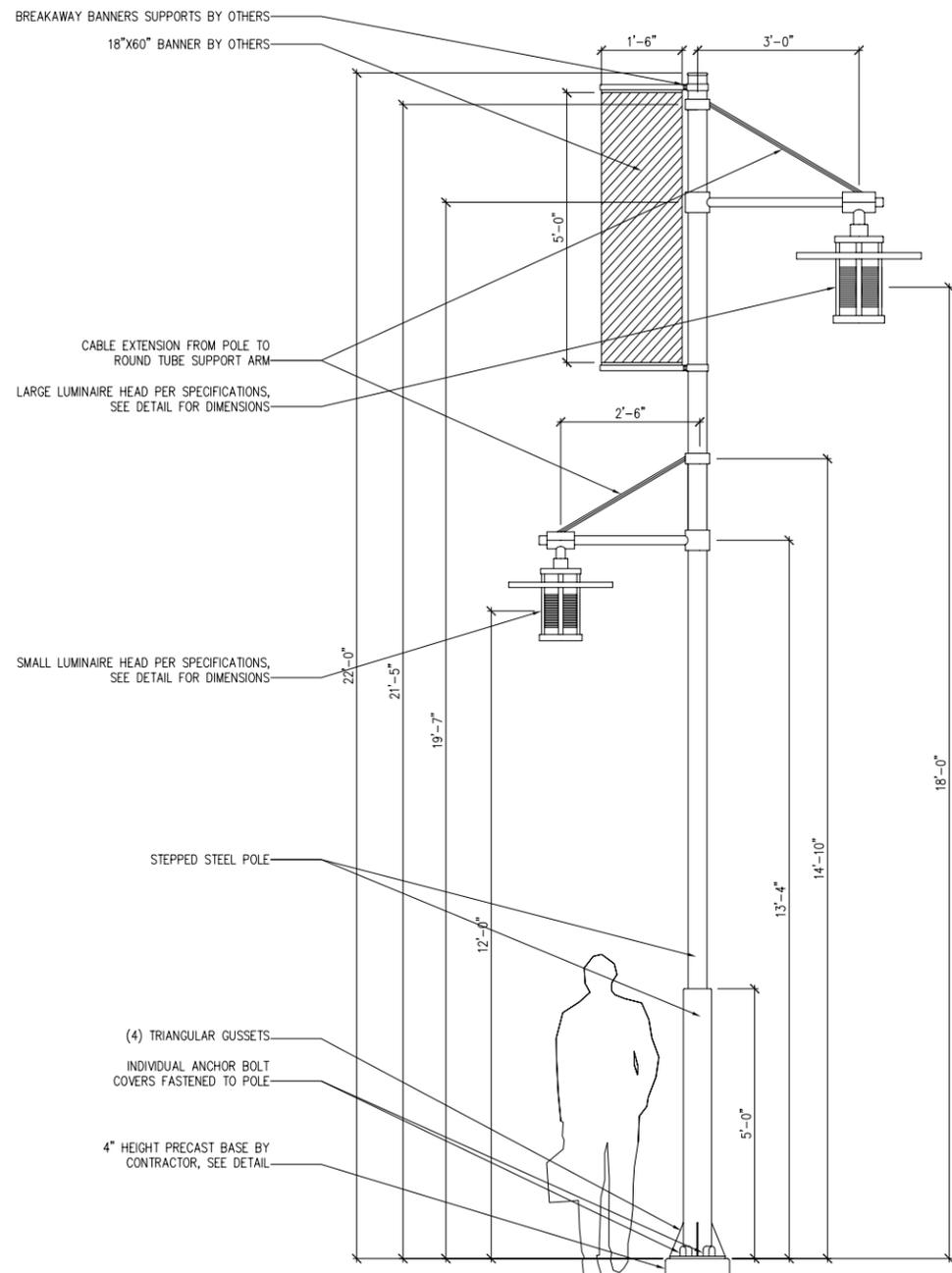


SA-N

Primary Roadway Streetlighting Fixture (No Pedestrian)

Light Type:	Modern/Transitional
Description:	Major streetlight
Proposed Locations:	Required Locations
Height:	30'-0" (to source center)
Typical Spacing:	90'-0" to 120'-0"
Light Source:	Metal Halide
Wattage:	400w
Optical Distribution:	IES Type III
Finish:	Black Painted
Manuf./Spec. #1:	Hess: CBIII-400M-V-A-34SS-1BN-BL-LP-GFI
Manuf./Spec. #2:	Lumec: HBS400MH-TYPEIII-VOLT-M20M-1A-VSPS-34-BA-GFI-1X36-DEC-BKTX-LMS34252B
Graphics/Signage:	(1) City Standard Banner (30"x84")
Additional Comments:	Used only at minimal street-building setback locations



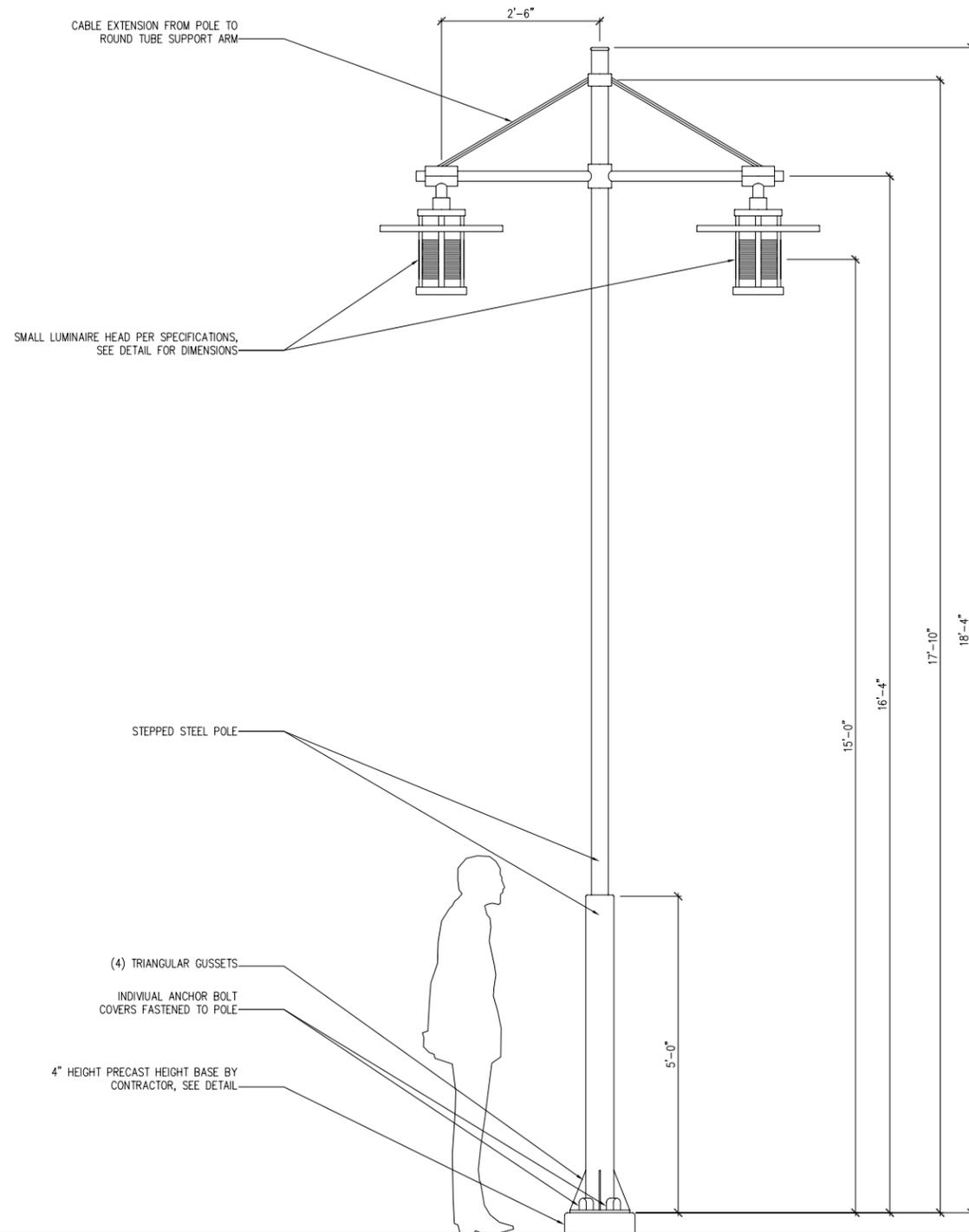


SB

Typical Roadway Streetlighting Fixture with Pedestrian

Light Type:	Modern/Transitional
Description:	Minor streetlight with rear pedestrian integration
Proposed Locations:	Typical Streets
Height:	18'-0" (Street.)/12'-0" (Ped.) - (to source center)
Typical Spacing:	60'-0"
Light Source:	Metal Halide
Wattage:	150w Ceramic (Street.)/70w Ceramic (Ped.)
Optical Distribution:	IES Type III (Street.)/IES Type V (Ped.)
Finish:	Black Painted
Manuf./Spec. #1:	Hess: AV650T-IRV/800T-IRIII-70/150M-V-B-22SS-1BN-BL-LP
Manuf./Spec. #2:	Lumec: LMS-150MH-TYPEIII-VOLT-M20M-1A-VSPS-22-BA-1X36-DEC-BKTX-LMS34254A-LMS-70MH-TYPEV-VOLT-M20M-1A-BKTX-LMS34253B
Graphics/Signage:	(1) Custom Size Banner (18"x60")
Additional Comments:	None

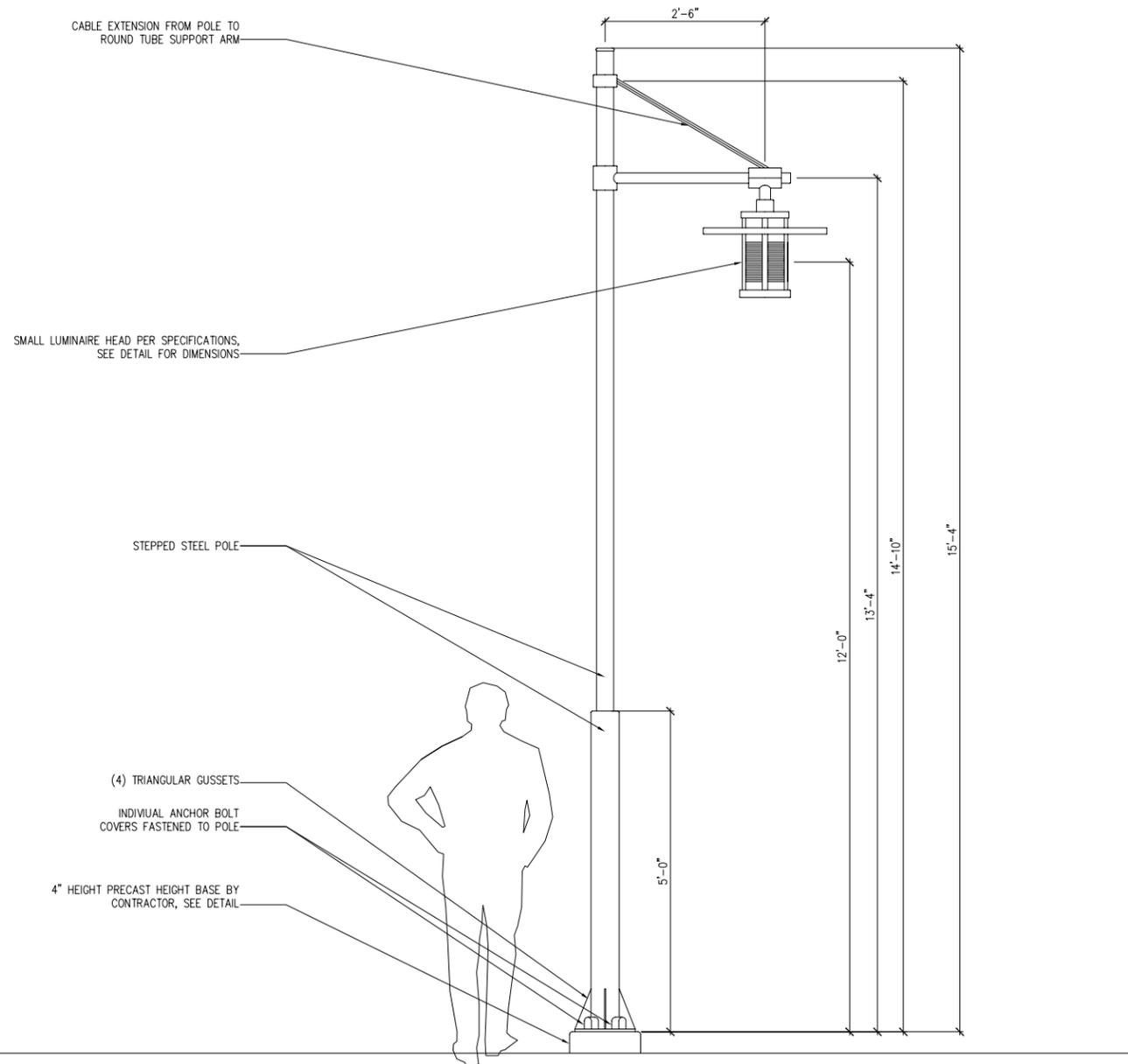




SC

Special Roadway Streetlighting Fixture with Pedestrian

Light Type:	Modern/Transitional
Description:	Special character streetlight with rear pedestrian
Proposed Locations:	8th Street
Height:	15'-0" (to source center)
Typical Spacing:	30'-0"
Light Source:	Metal Halide
Wattage:	(2) 100w Ceramic
Optical Distribution:	IES Type III (Street.)/IES Type V (Ped.)
Finish:	Black Painted
Manuf./Spec. #1:	Hess: AV650T-IRV/IRIII-70M-V-18SS-B-BL-LP
Manuf./Spec. #2:	Lumec: LMS-100MH-TYPEIII/TYPEV-2-VOLT-M20M-2-VSPS-18'-4"-1X36-DEC-BKTX-LMS34254B
Graphics/Signage:	None
Additional Comments:	None

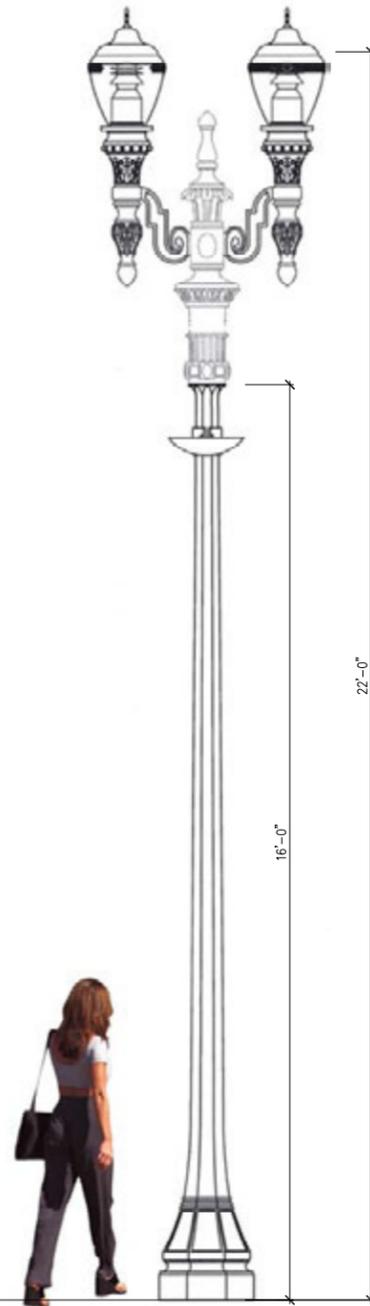


SD

Pedestrian Lighting Fixture

Light Type:	Modern/Transitional
Description:	Pedestrian lighting
Proposed Locations:	Typical Streets
Height:	12'-0" (to source center)
Typical Spacing:	30'-0" to 60'-0"
Light Source:	Metal Halide
Wattage:	70w Ceramic
Optical Distribution:	IES Type V
Finish:	Black Painted
Manuf./Spec. #1:	Hess: AV650T-IRV-70M-V-15.4SS-A-BL-LP
Manuf./Spec. #2:	Lumec: LMS-70MH-VOLT-M20M-1A-VPSP-15'-4"-3/4"-27-DEC-BKTX-LMS34255A
Graphics/Signage:	None
Additional Comments:	None





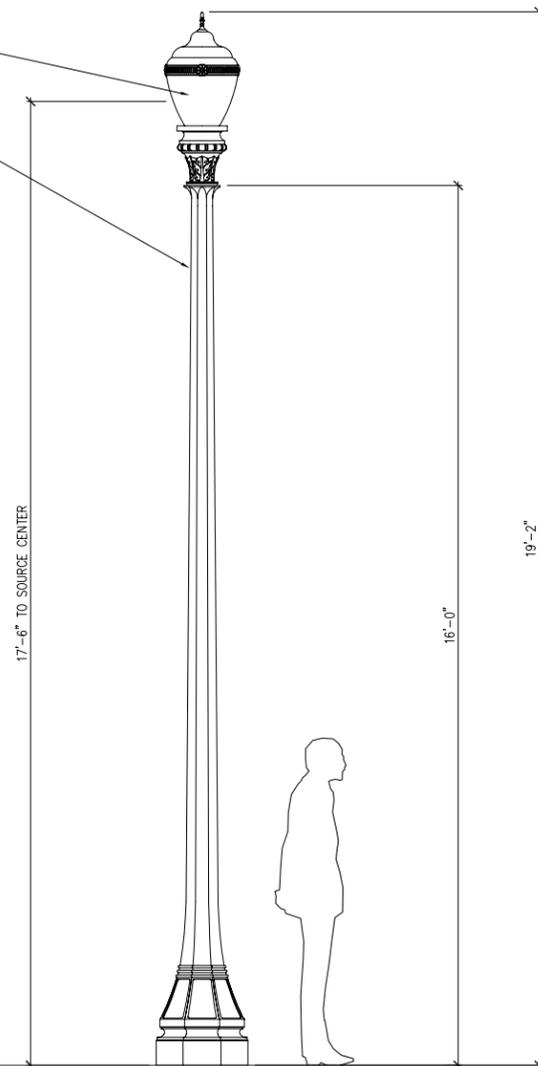
SE

Post Office Streetlighting Fixture

Light Type:	Historic
Description:	Dual acorn with hanging planting baskets
Proposed Locations:	Post-Office
Height:	22'-0" (to source center)
Typical Spacing:	60'-0"
Light Source:	Metal Halide
Wattage:	175w
Optical Distribution:	IES Type V
Finish:	N/A
Manuf./Spec.:	Spring City: 030427-OPO/16'
Graphics/Signage:	None
Additional Comments:	Reference Post-Office Redevelopment Project

NEW FRONTIER LUMINAIRE WITH HOUSE-SIDE SHIELDED INTERNAL OPTICS TO PREVENT GLARE INTO L2 WINDOWS.

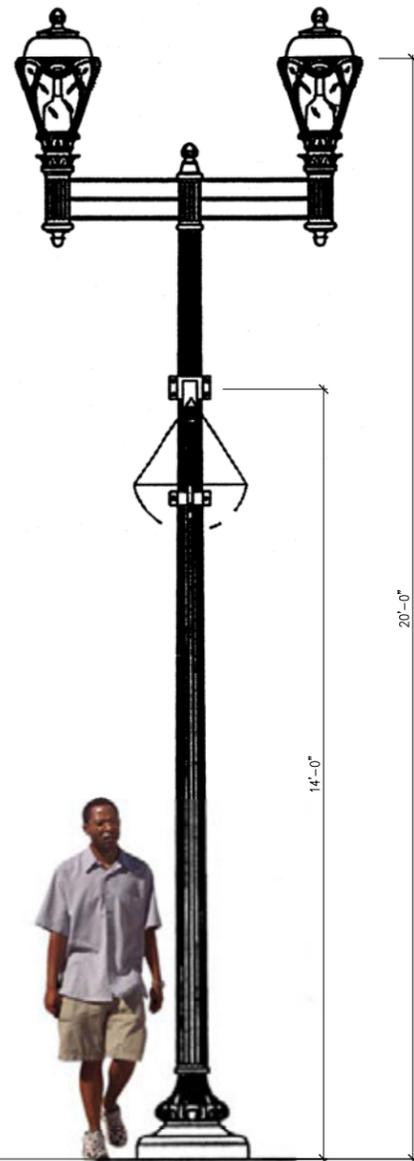
16'-0" TALL EDGEWATER POLE. FINISH TO MATCH TYPE SE.



SG

Post Office (Surrounding Blocks) Streetlighting Fixture

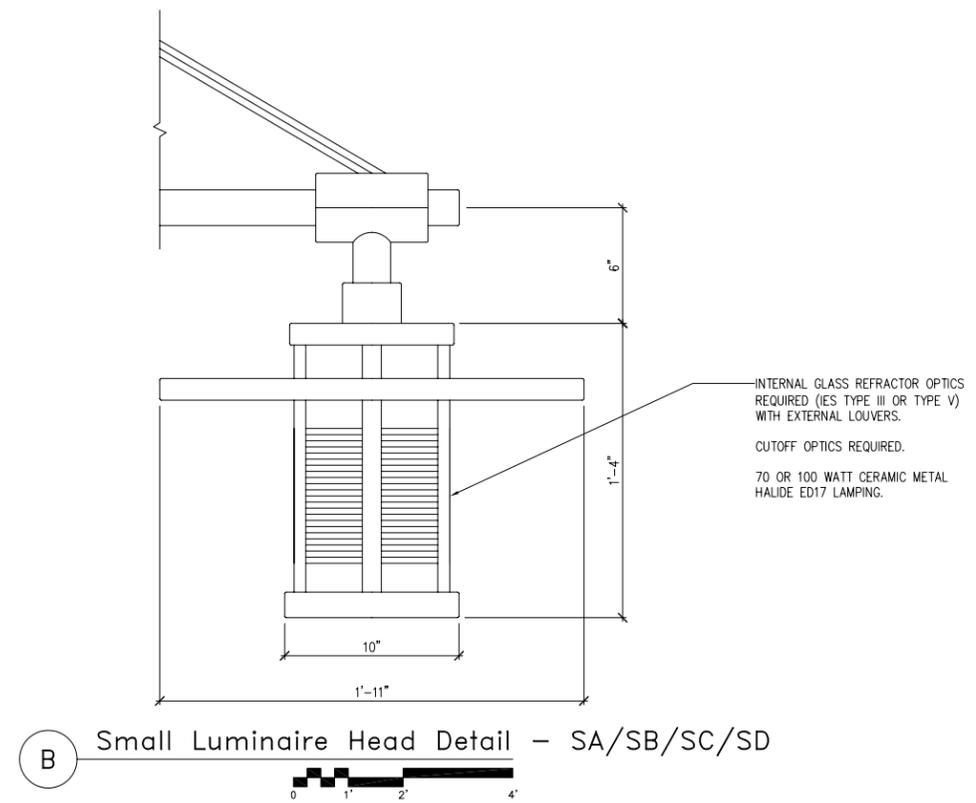
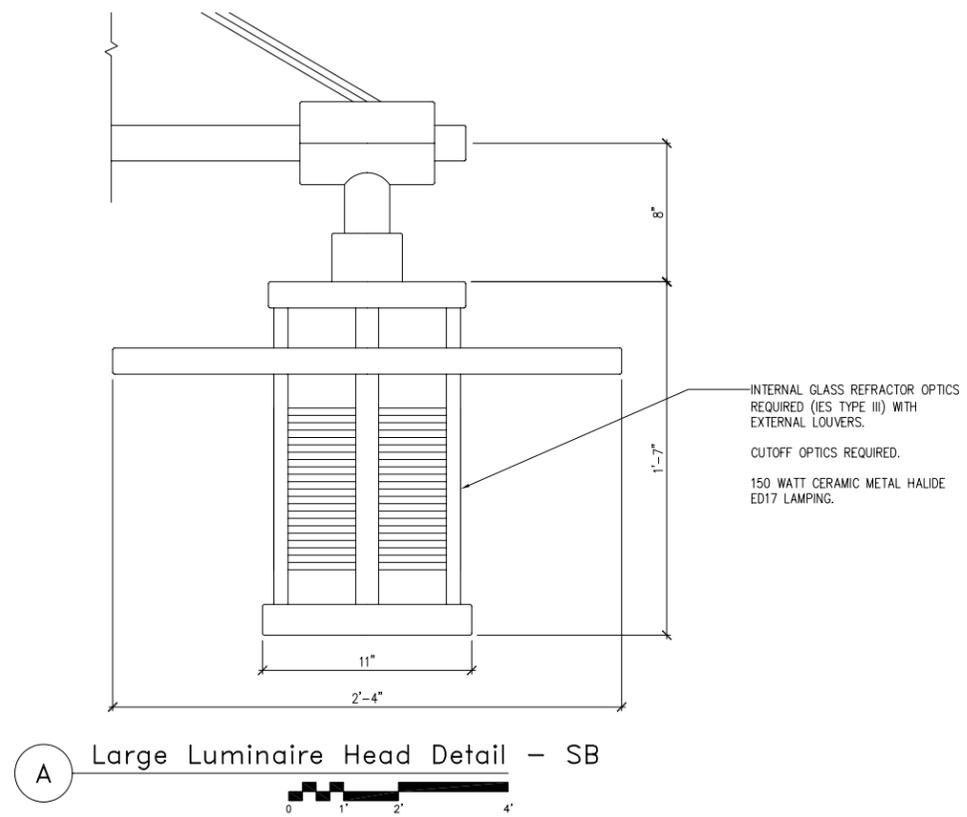
Light Type:	Historic
Description:	Single acorn
Proposed Locations:	Post-Office Surrounding Blocks
Height:	17'-6" (to source center)
Typical Spacing:	60'-0"
Light Source:	Metal Halide
Wattage:	175w
Optical Distribution:	IES Type V - Mod HS Shield
Finish:	N/A
Manuf./Spec.:	Spring City: NF330+Finial-175MH-Edgewater-16'
Graphics/Signage:	None
Additional Comments:	Post-Office Redevelopment Project Family

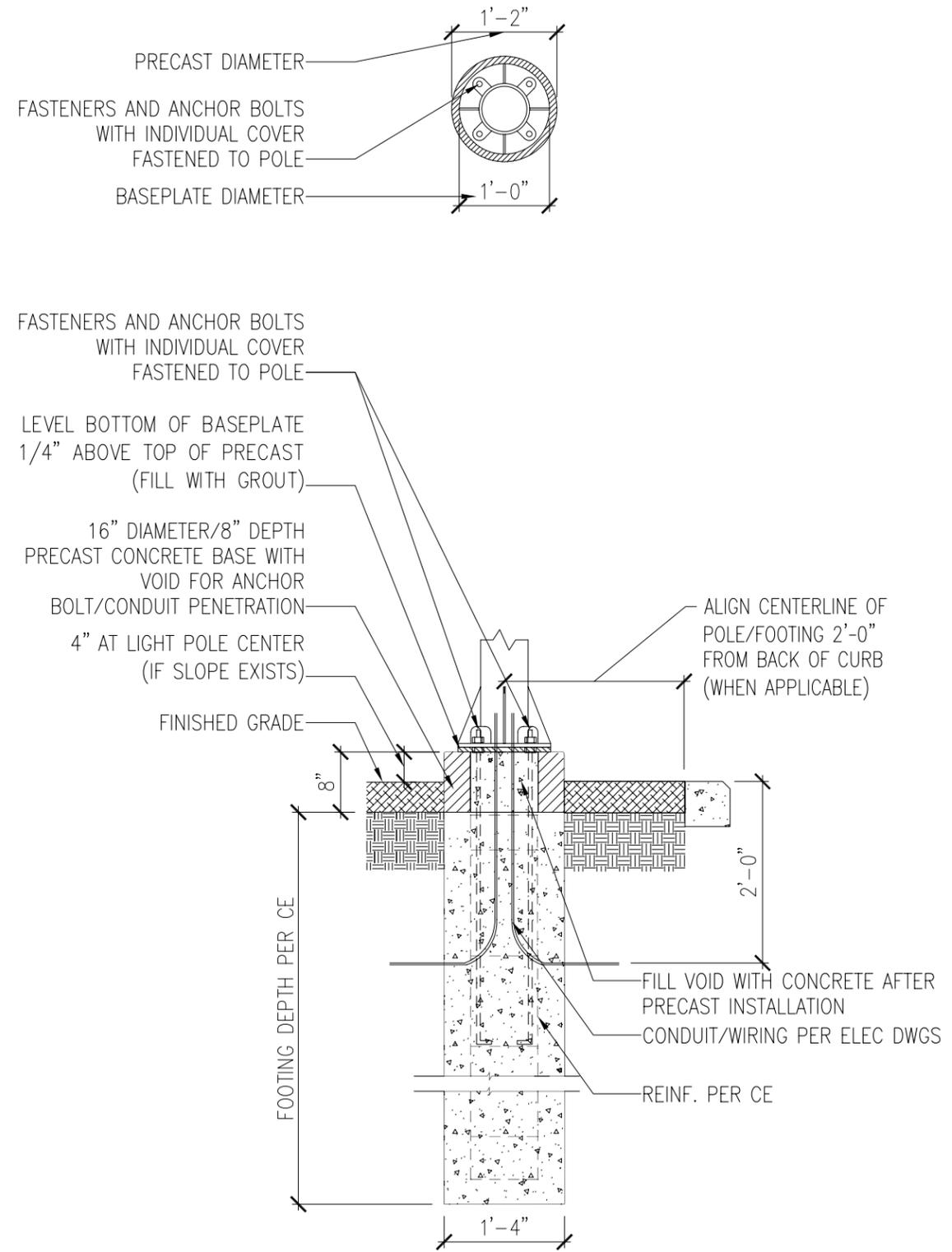
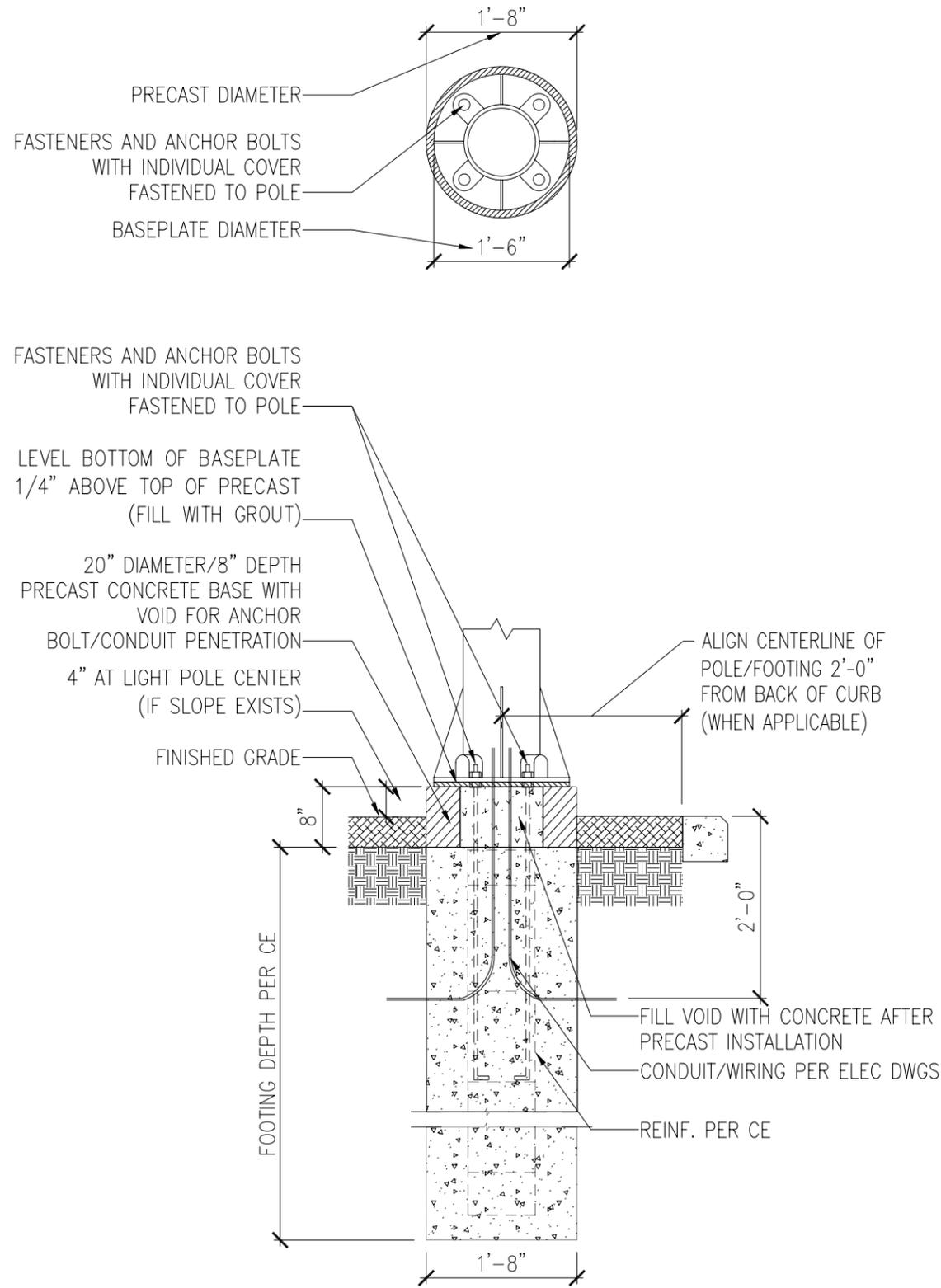


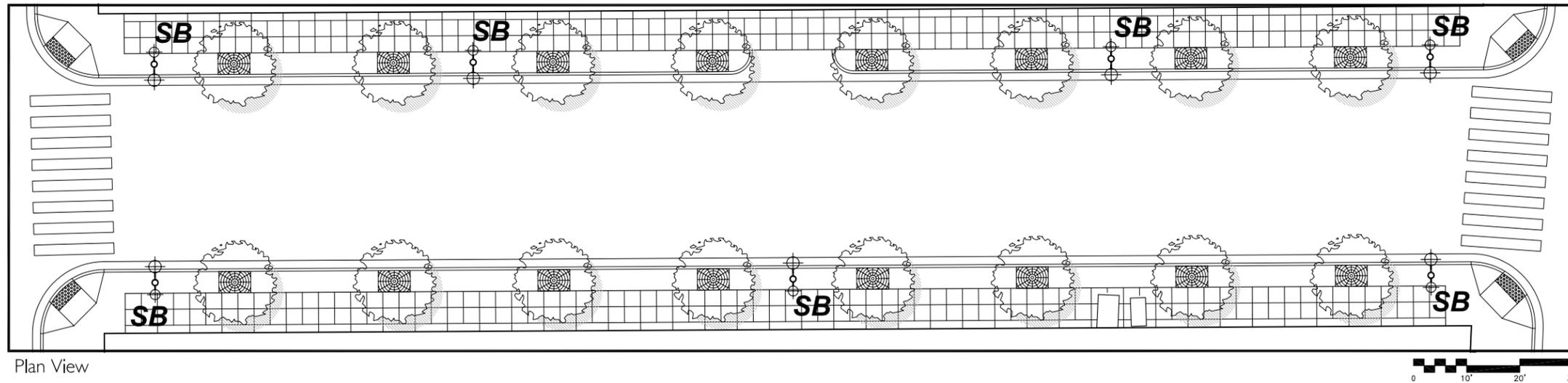
SF

Washington Avenue Streetlighting Fixture

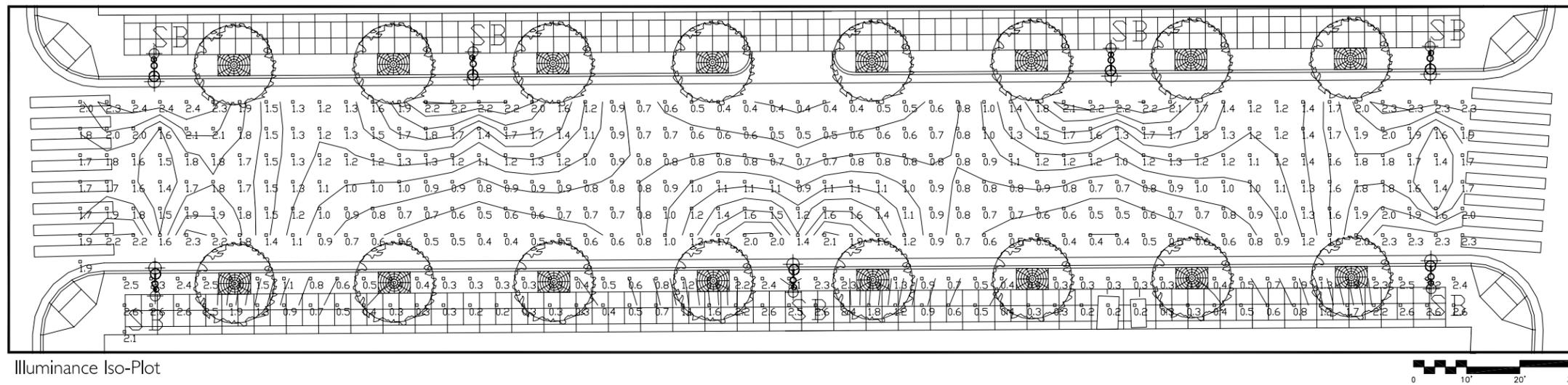
Light Type:	Historic
Description:	Dual acorn with hanging planting baskets
Proposed Locations:	Washington Ave.
Height:	20'-0" (to source center)
Typical Spacing:	60'-0"
Light Source:	High Pressure Sodium
Wattage:	150w High CRI
Optical Distribution:	N/A
Finish:	N/A
Manuf./Spec.:	Sterner: N/A
Graphics/Signage:	None
Additional Comments:	Reference Wash. Ave. Redevelopment Phase II Project







Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
	7	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
	7	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
pedestrian - typical	Illuminance	Fc	1.14	2.6	0.2	5.70	13.00
street - typical	Illuminance	Fc	1.26	2.4	0.4	3.15	6.00

Calculation Results

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.IES**
- SC: Se'lux* Satum 1 - Sa1M3S07.IES**
- SD: Se'lux* Satum 1 - Sa1M3S07.IES**
- SE: Spring City* - NWF-STR-PS19.IES**
- SG: Spring City* - NWF-STR-PS19.IES**

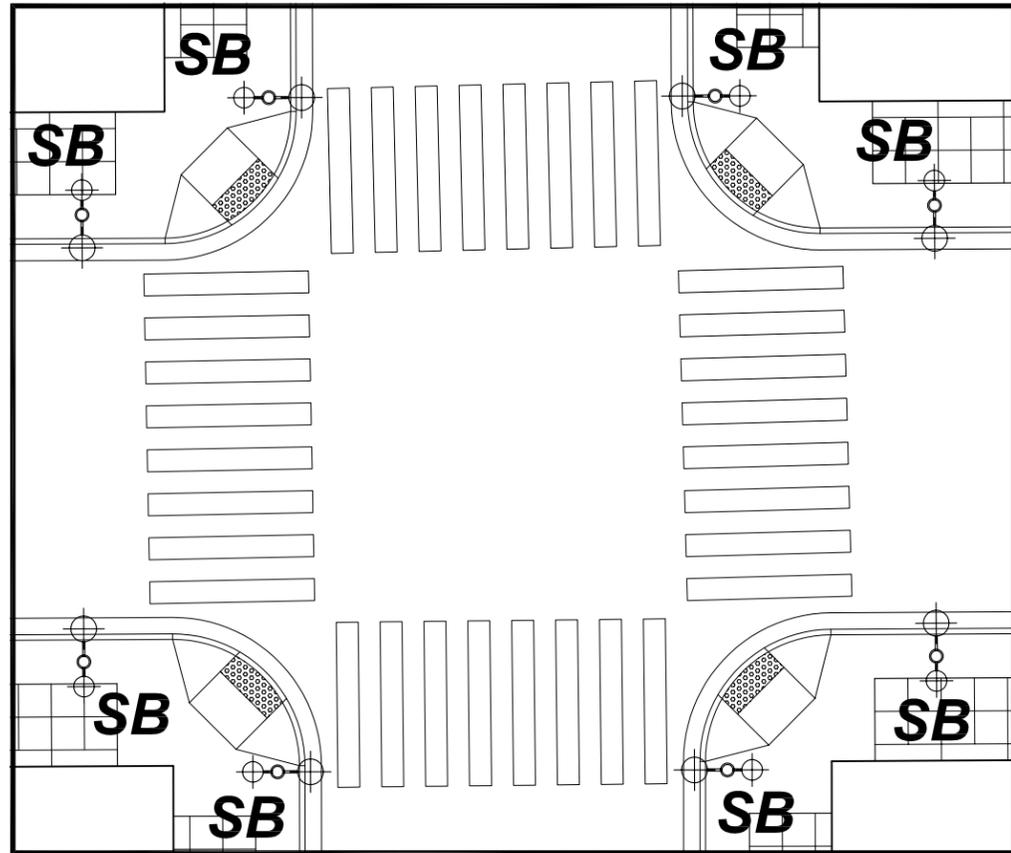
*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

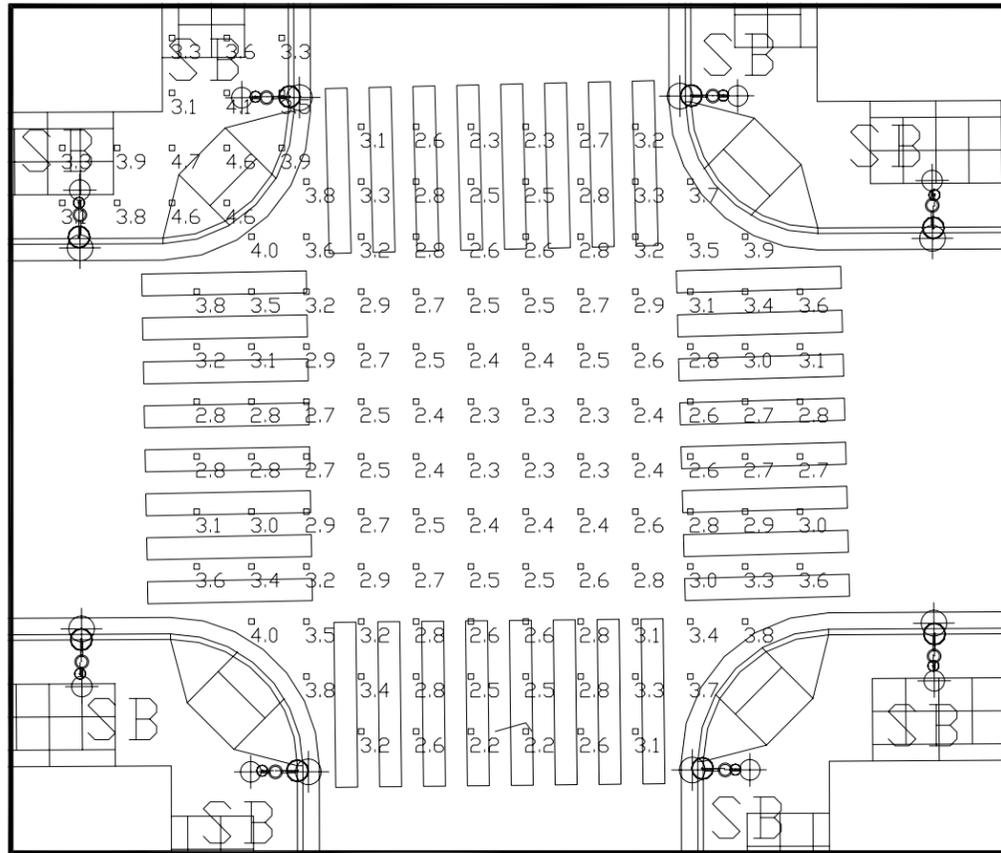
Calculation Results

Street Lighting:
 ✓ Average: 1.26 fc
 (IES Recommends 0.9 fc min.)
 ✓ Uniformity (Eavg./Emin.): 3.15
 (IES Recommends 6 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 1.14 fc
 (IES Recommends 1.0 fc min.)



Intersection - Plan View



Intersection - Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
⊙	8	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
⊙	8	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
intersection - typical	Illuminance	Fc	2.88	4.0	2.2	1.31	1.82
pedestrian - typical	Illuminance	Fc	3.83	4.7	3.1	1.24	1.52

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8 BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.ies**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

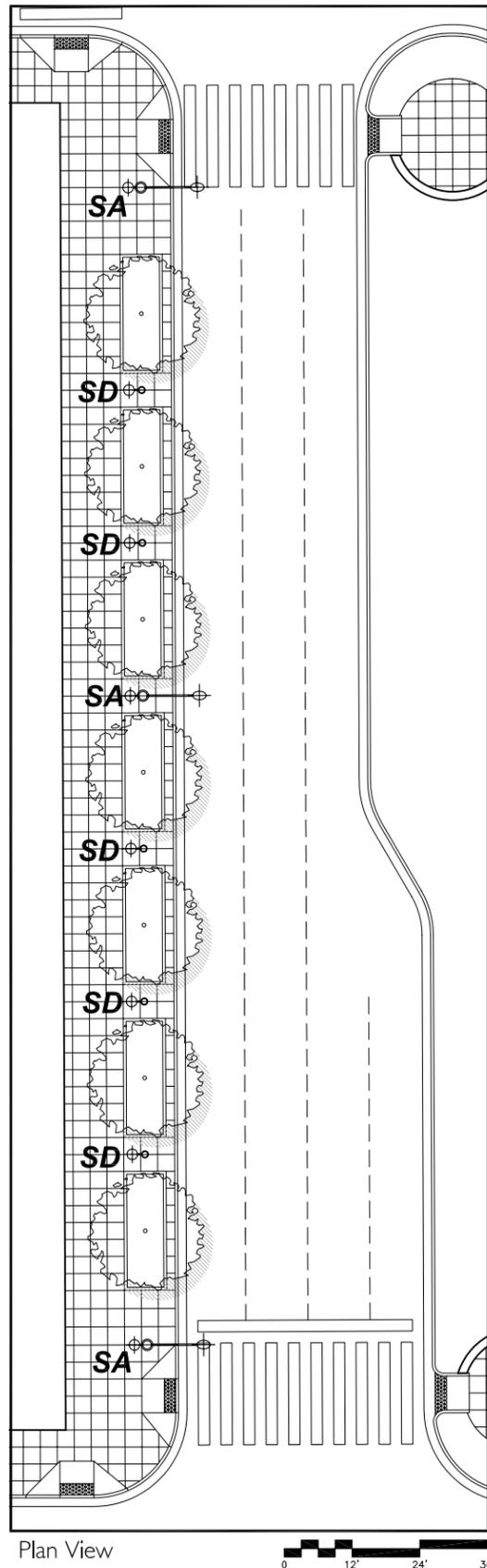
*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

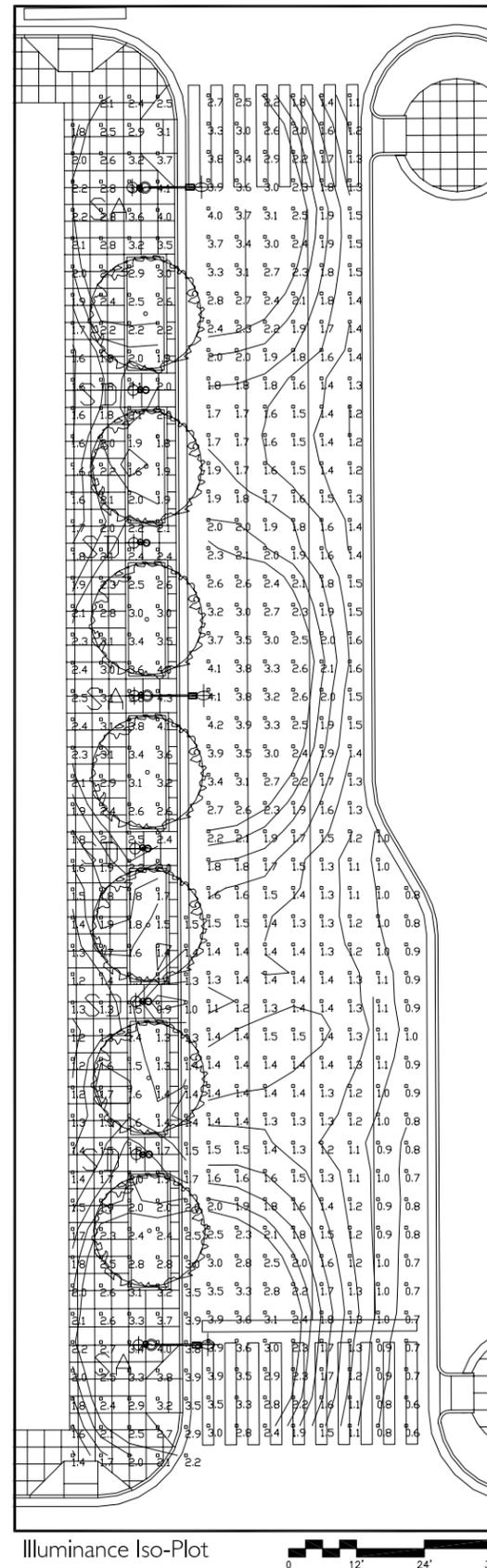
Calculation Results

Street Lighting:
 ✓ Average: 2.88 fc
 (IES Recommends 0.9 fc min.)
 ✓ Uniformity (Eavg./Emin.): 1.31
 (IES Recommends 6 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 3.83 fc
 (IES Recommends 1.0 fc min.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
SA	3	SA	SINGLE	40000	0.512	IES type III/400 watt
SD	8	SD-III	SINGLE	5500	0.512	IES type III/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
street - tucker	Illuminance	Fc	1.87	4.2	0.6	3.12	7.00
pedestrian - tucker	Illuminance	Fc	2.27	4.3	0.9	2.52	4.78

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.ies**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

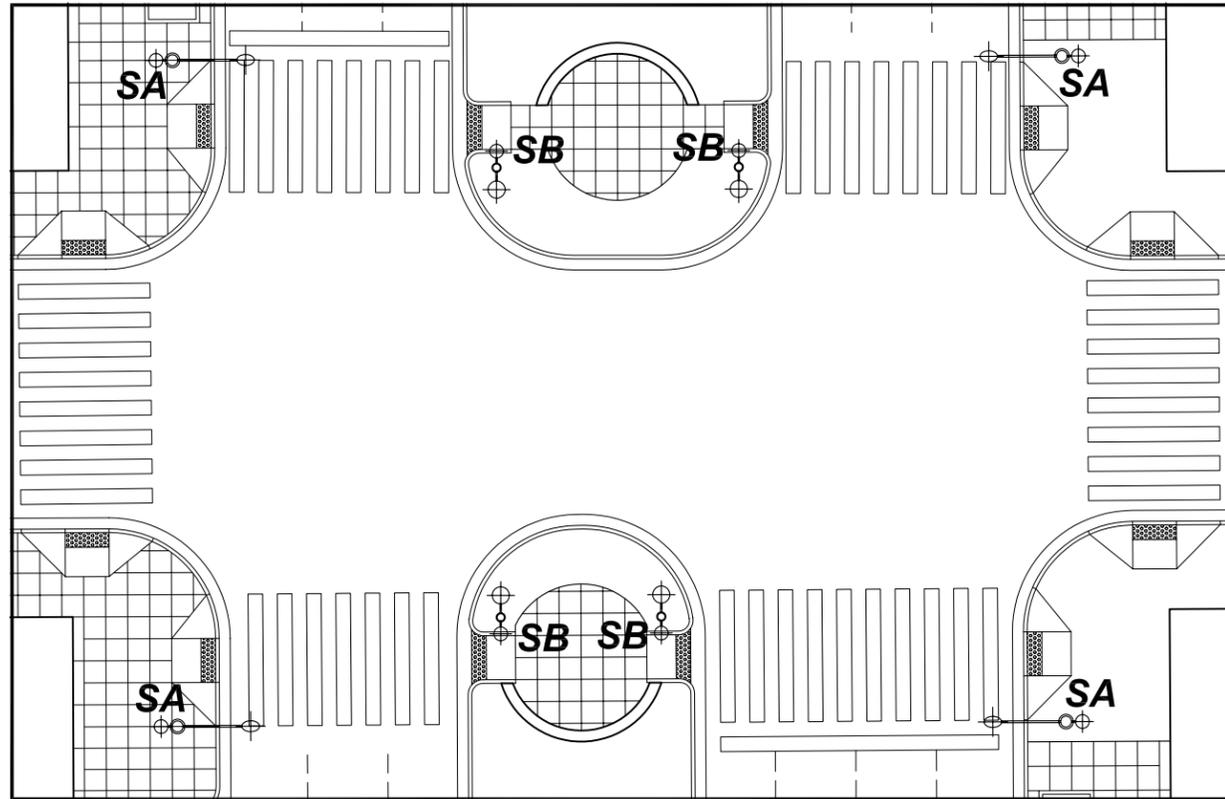
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**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

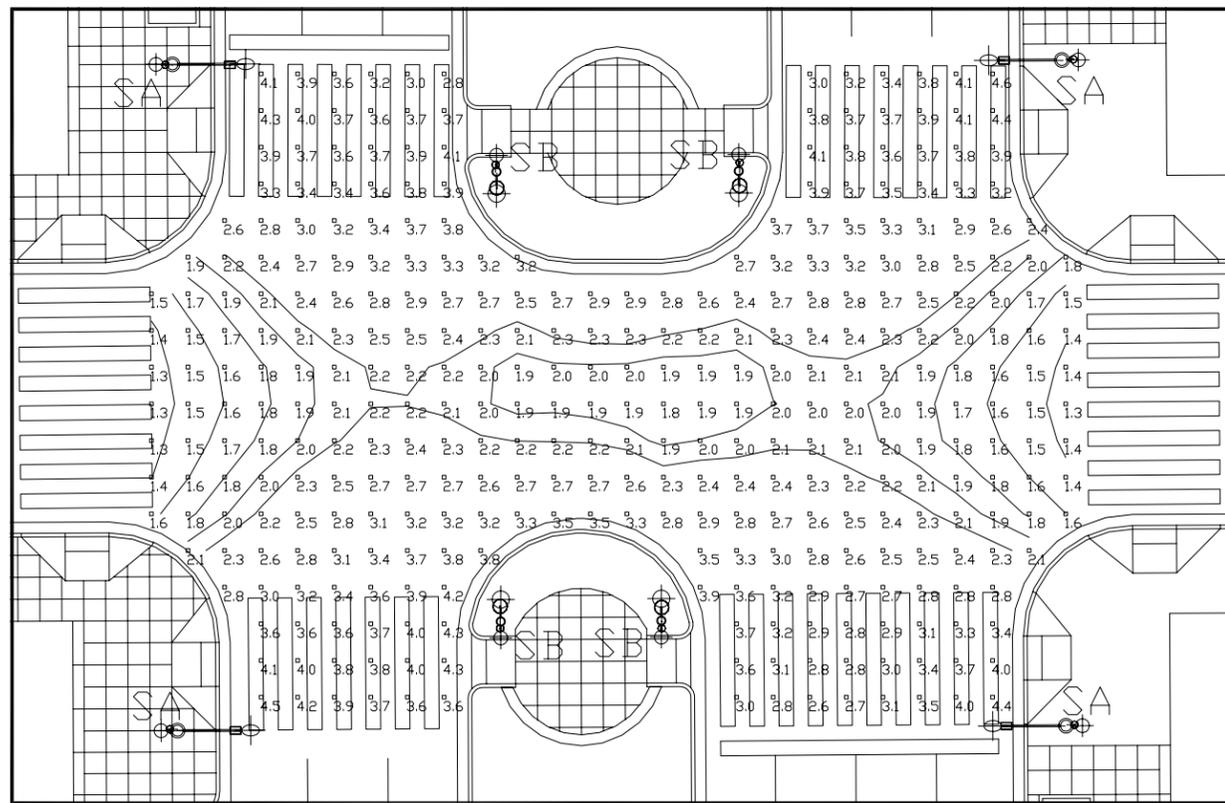
Calculation Results

Street Lighting:
 ✓ Average: 1.87 fc
 (IES Recommends 1.2 fc min.)
 ✓ Uniformity (Eavg./Emin.): 3.12
 (IES Recommends 4 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 2.27 fc
 (IES Recommends 1.0 fc min.)



Intersection - Plan View



Intersection - Illuminance Iso-Plot



Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
SA	4	SA	SINGLE	40000	0.512	IES type III/400 watt
SB	4	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
SD	8	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
intersection - tucker	Illuminance	Fc	2.71	4.6	1.3	2.08	3.54

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illuminance levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illuminance levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

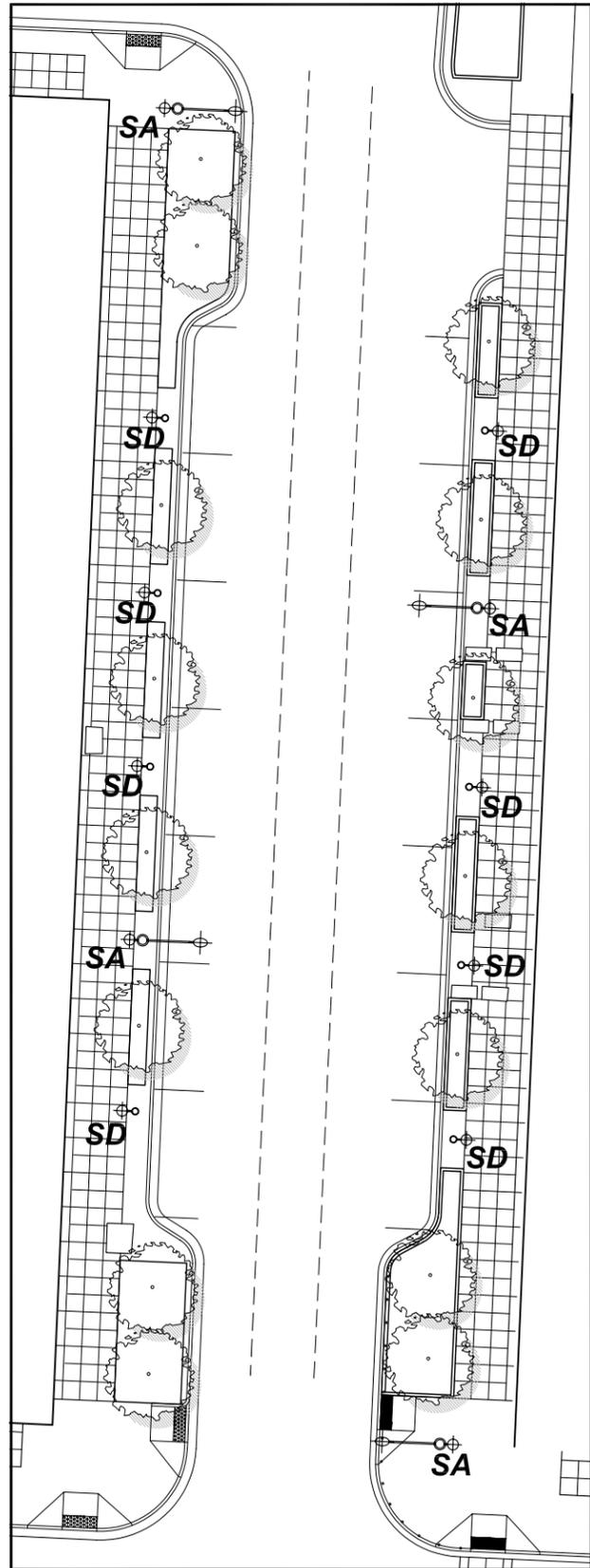
- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.IES**
- SC: Se'lux* Satum 1 - Sa1M3S07.IES**
- SD: Se'lux* Satum 1 - Sa1M3S07.IES**
- SE: Spring City* - NWF-STR-PS19.IES**
- SG: Spring City* - NWF-STR-PS19.IES**

*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See Lighting Specifications for specified manufacturers.

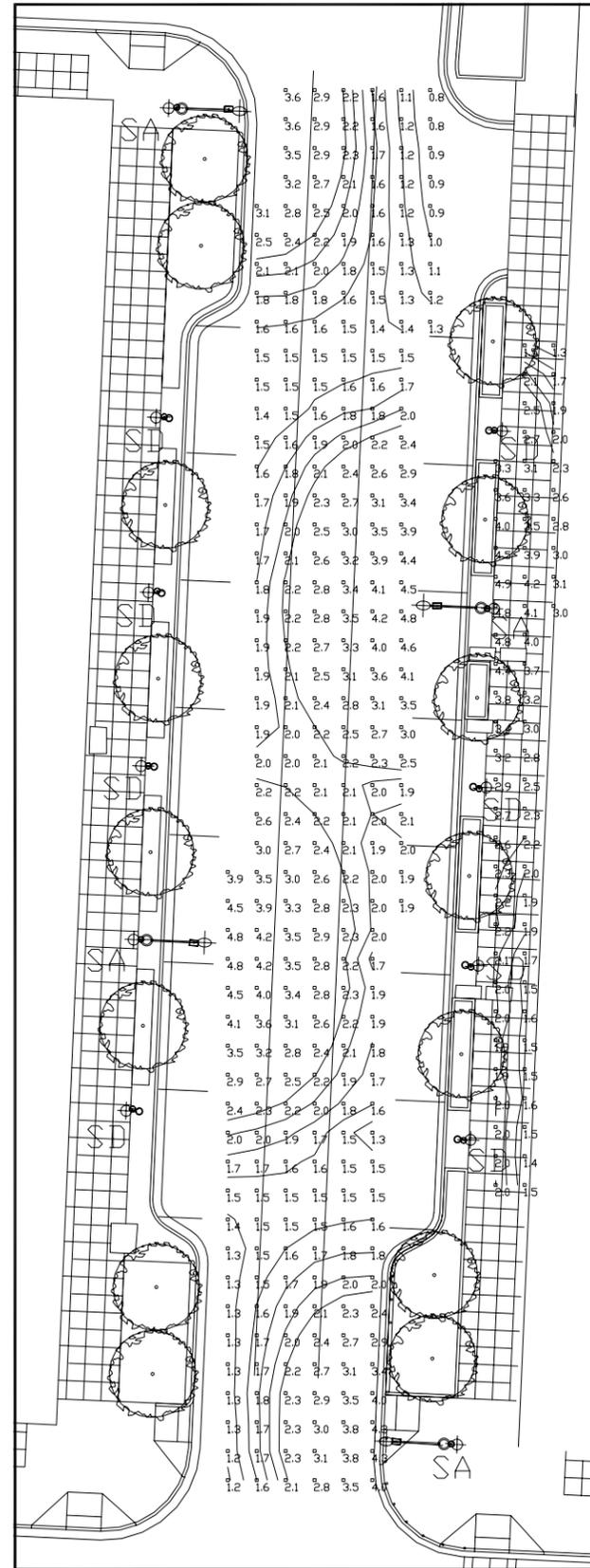
**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

Calculation Results

- Street Lighting:
- ✓ Average: 2.71 fc
 (IES Recommends 1.2 fc min.)
 - ✓ Uniformity (Eavg./Emin.): 2.08
 (IES Recommends 4 to 1 max.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
SA	4	SA	SINGLE	40000	0.512	IES type III/400 watt
SD	12	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
street - roadway	Illuminance	Fc	2.28	4.8	0.8	2.85	6.00
pedestrian - roadway	Illuminance	Fc	2.66	4.9	1.3	2.05	3.77

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

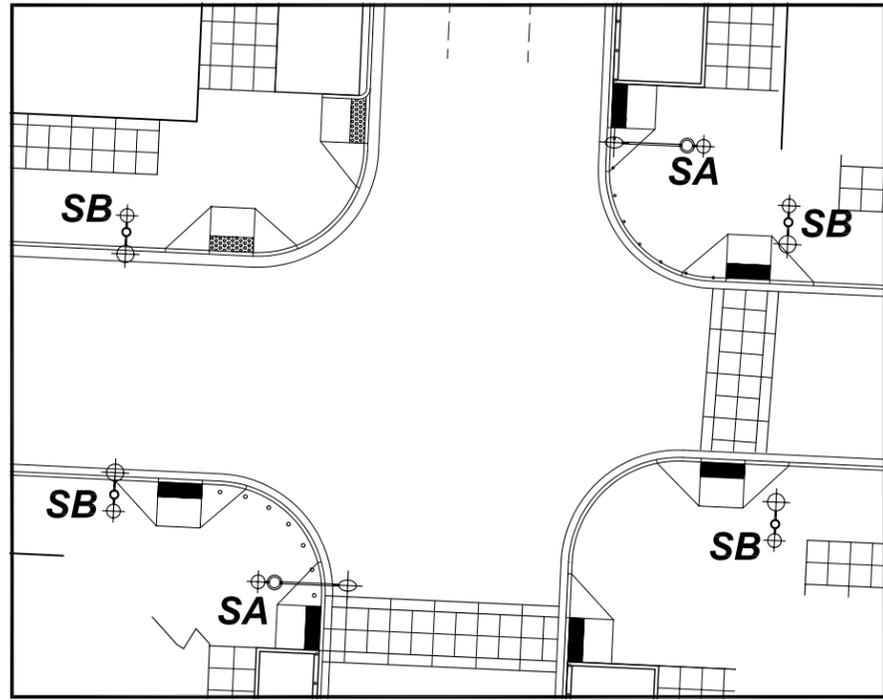
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**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

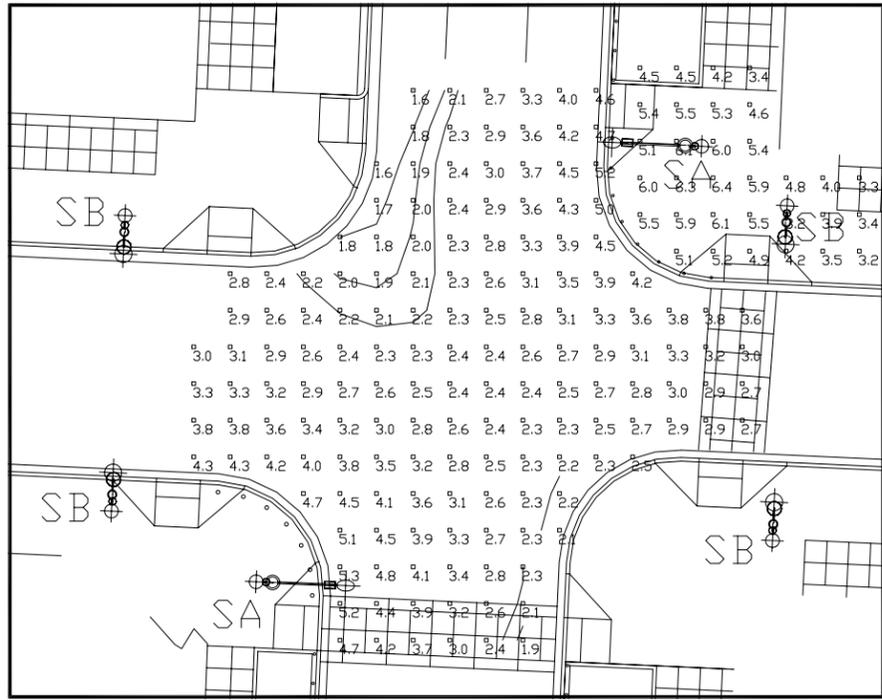
Calculation Results

Street Lighting:
 ✓ Average: 2.28 fc
 (IES Recommends 1.2 fc min.)
 ✓ Uniformity (Eavg./Emin.): 2.85
 (IES Recommends 4 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 2.66 fc
 (IES Recommends 1.0 fc min.)



Intersection - Plan View



Intersection - Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
SA	2	SA	SINGLE	40000	0.512	IES type III/400 watt
SB	4	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
SD	6	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
intersection - roadway	Illuminance	Fc	3.05	5.3	1.6	1.91	3.31
pedestrian - roadway	Illuminance	Fc	4.88	6.4	3.2	1.53	2.00

Calculation Results

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.IES**
- SC: Se'lux* Satum 1 - Sa1M3S07.IES**
- SD: Se'lux* Satum 1 - Sa1M3S07.IES**
- SE: Spring City* - NWF-STR-PS19.IES**
- SG: Spring City* - NWF-STR-PS19.IES**

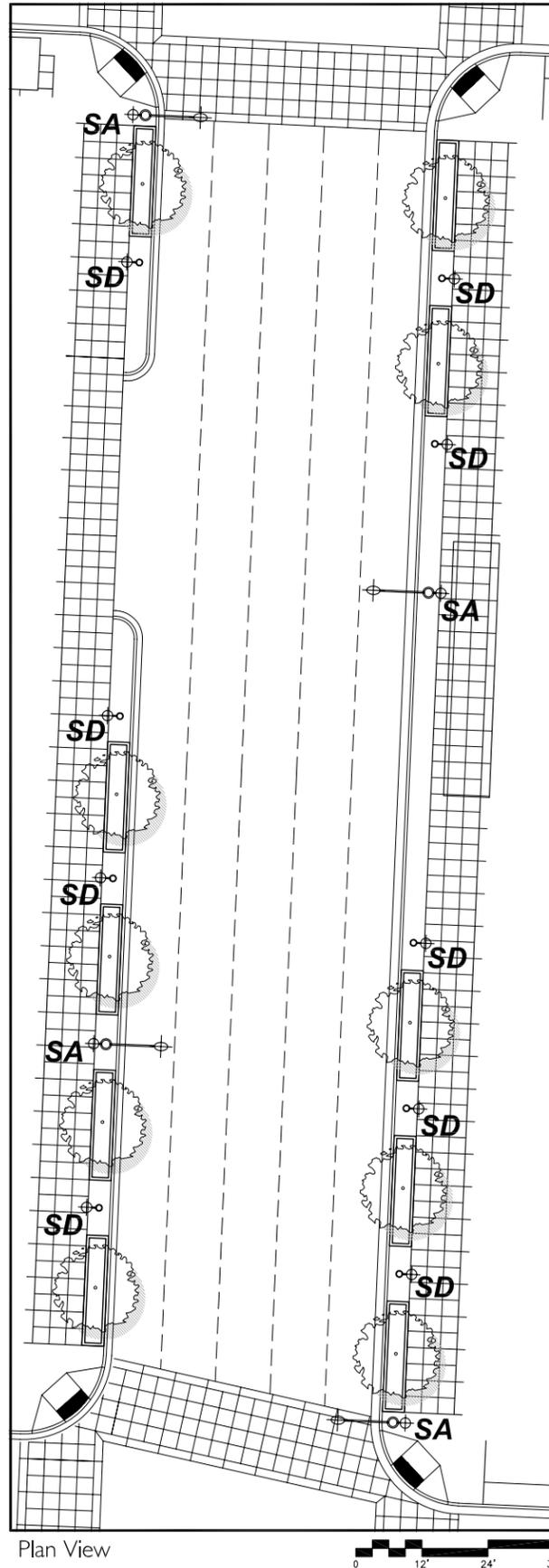
*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See Lighting Specifications for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

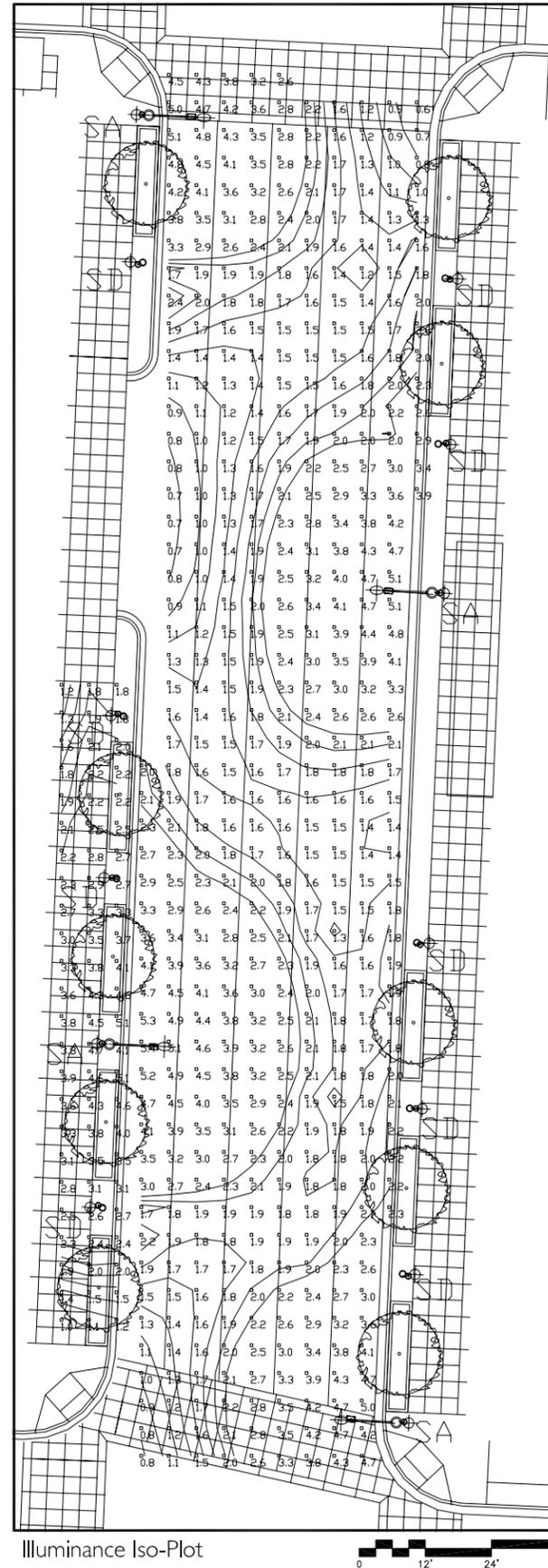
Calculation Results

Street Lighting:
 ✓ Average: 3.05 fc
 (IES Recommends 1.2 fc min.)
 ✓ Uniformity (Eavg./Emin.): 1.91
 (IES Recommends 4 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 4.88 fc
 (IES Recommends 1.0 fc min.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
SA	4	SA	SINGLE	40000	0.512	IES type III/400 watt
SD	13	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
street - 4th	Illuminance	Fc	2.32	5.4	0.6	3.87	9.00
pedestrian - 4th	Illuminance	Fc	2.84	5.1	1.0	2.84	5.10

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

Calculation Results

Street Lighting:
 ✓ Average: 2.32 fc
 (IES Recommends 1.2 fc min.)
 ✓ Uniformity (Eavg./Emin.): 3.87
 (IES Recommends 4 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 2.84 fc
 (IES Recommends 1.0 fc min.)

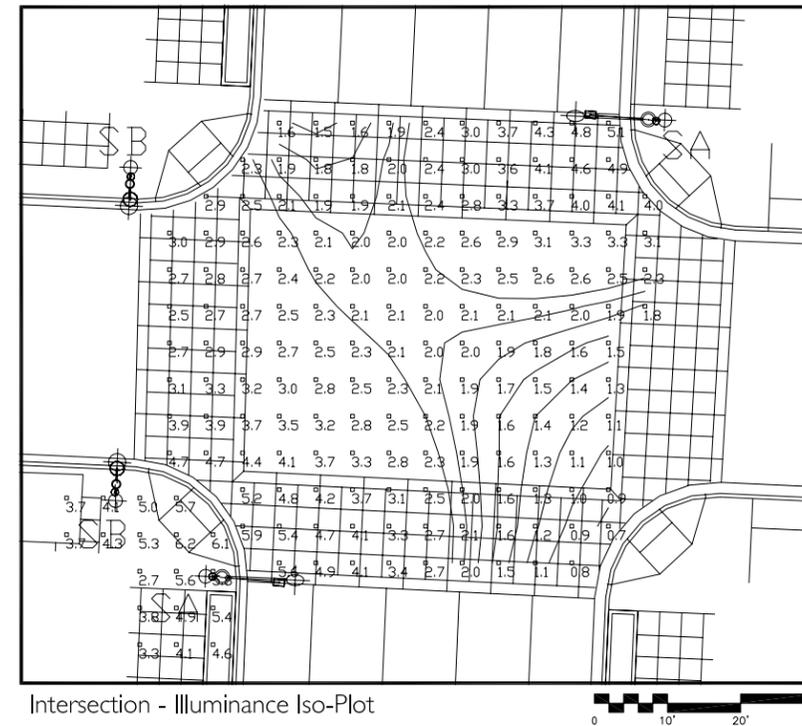
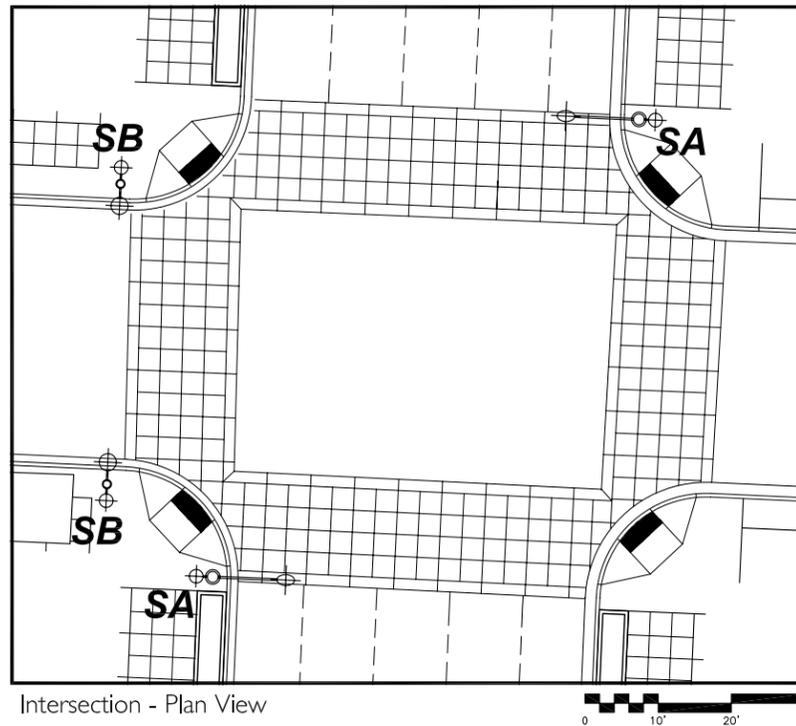
Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc



Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
□	2	SA	SINGLE	40000	0.512	IES type III/400 watt
○	2	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
⊙	4	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Intersection - 4th	Illuminance	Fc	2.64	5.9	0.7	3.77	8.43
pedestrian - 4th	Illuminance	Fc	4.68	6.2	2.7	1.73	2.30

Calculation Results

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.ies**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

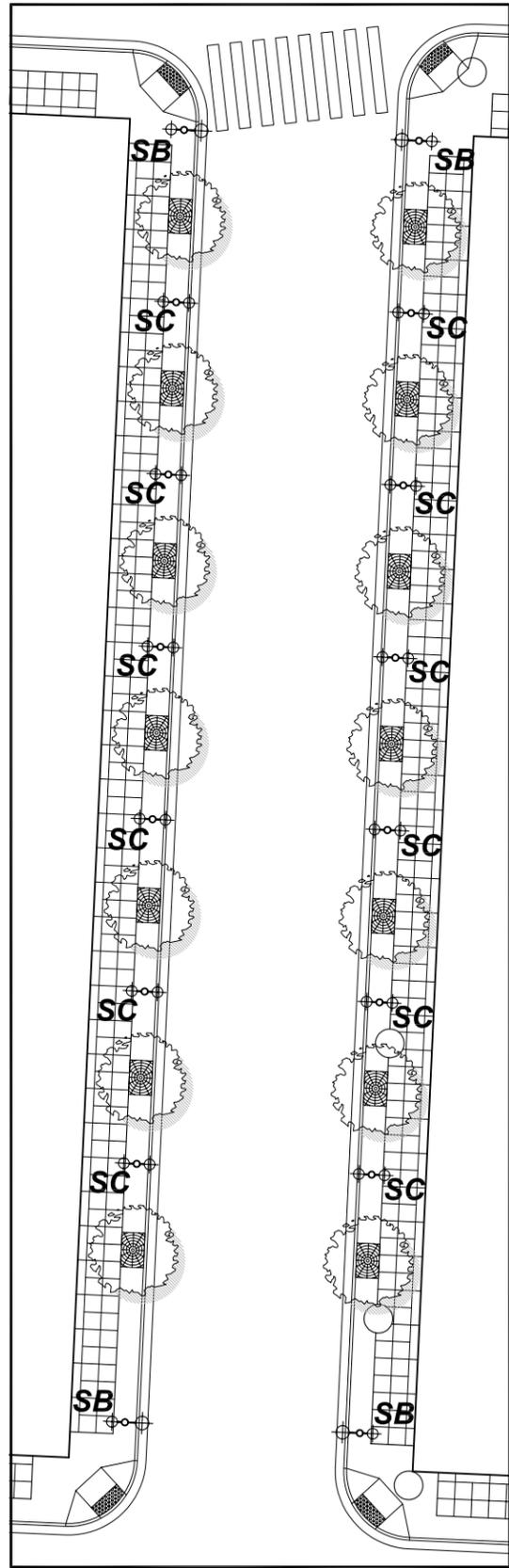
Calculation Results

Street Lighting:

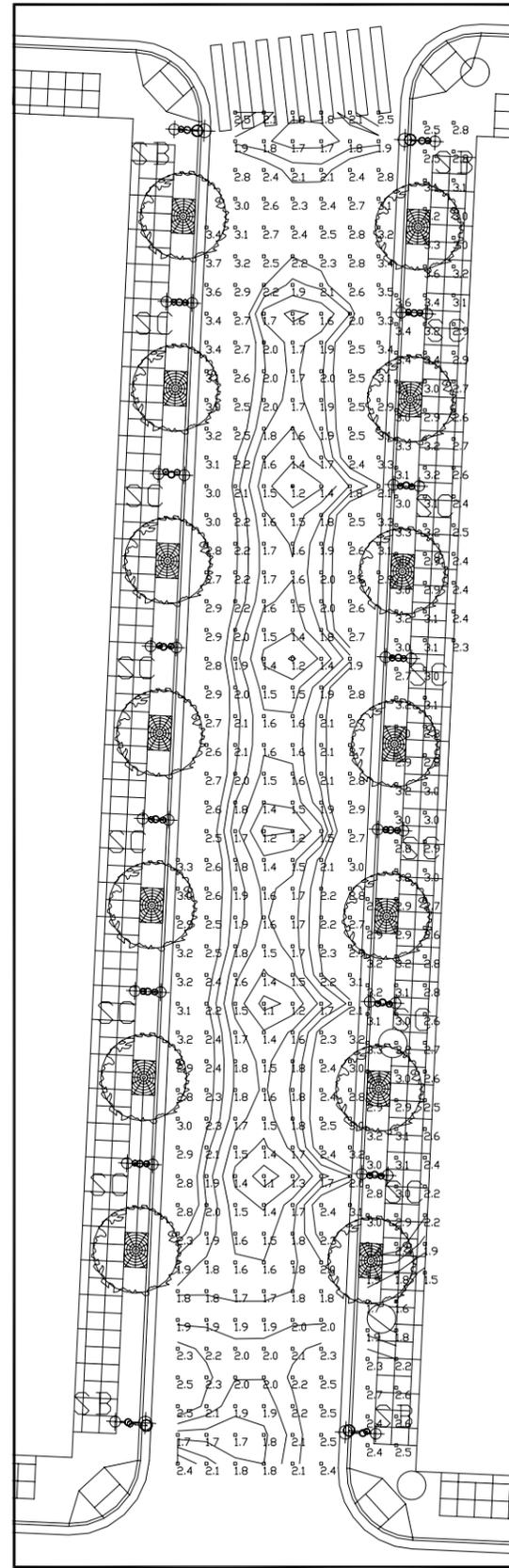
- ✓ Average: 2.64 fc
 (IES Recommends 1.2 fc min.)
- ✓ Uniformity (Eavg./Emin.): 3.77
 (IES Recommends 4 to 1 max.)

Pedestrian Lighting:

- ✓ Average: 4.68 fc
 (IES Recommends 1.0 fc min.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
⊖	4	SB-IV	SINGLE	12500	0.512	IES type IV/150 watt
⊖	28	SD-IV	SINGLE	5500	0.512	IES type IV/70 watt

Numeric Summary						
Project: All Projects						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
street - 8th	Illuminance	Fc	2.19	3.7	1.1	1.99
pedestrian - 8th	Illuminance	Fc	2.82	3.6	1.5	1.88

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
(Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

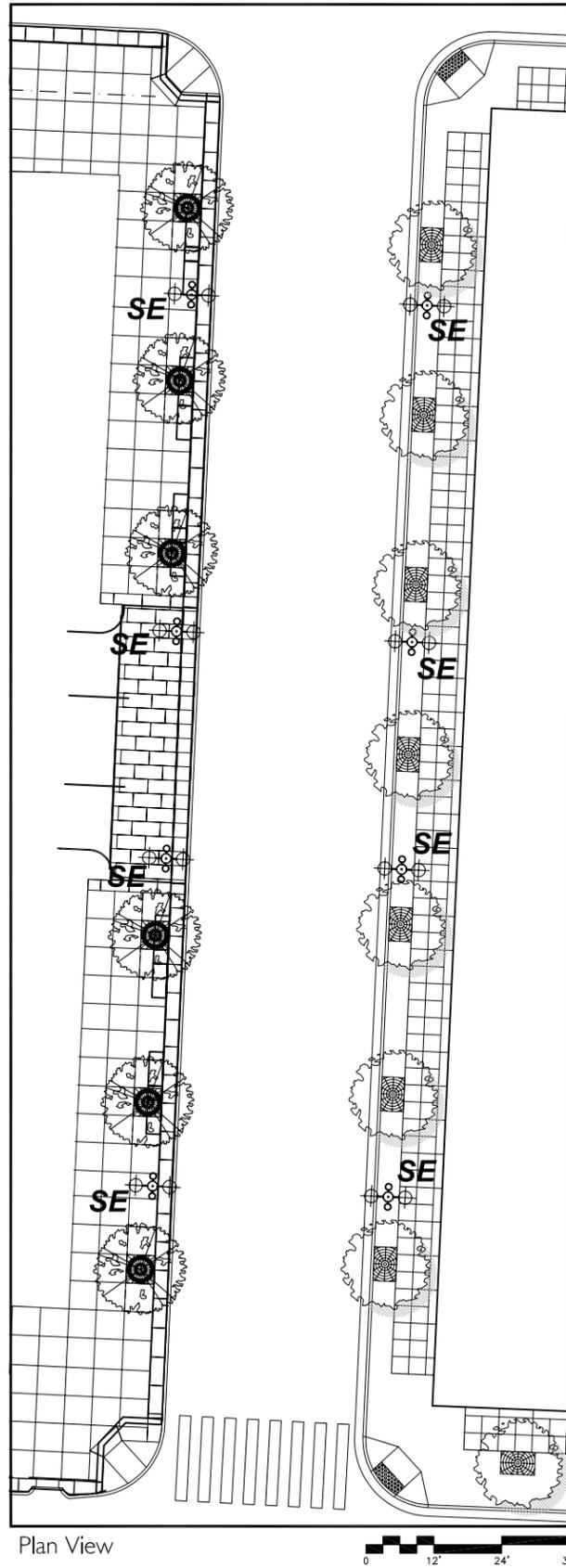
*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

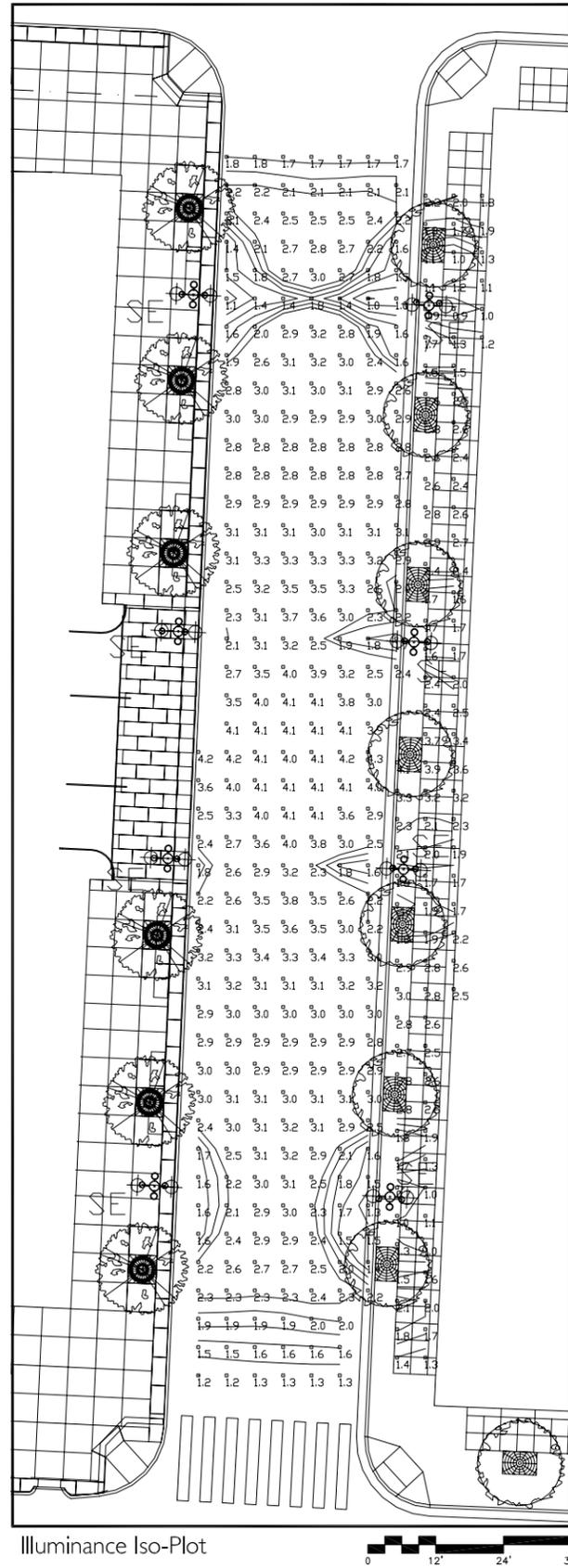
Calculation Results

Street Lighting:
 ✓ Average: 2.19 fc
 (IES Recommends 0.9 fc min.)
 ✓ Uniformity (Eavg./Emin.): 1.99
 (IES Recommends 6 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 2.82 fc
 (IES Recommends 1.0 fc min.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
⊙	16	SE	SINGLE	17000	0.512	IES type V/175 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
street - post-office	Illuminance	Fc	2.71	4.3	1.0	2.71	4.30
pedestrian - post-office	Illuminance	Fc	2.08	4.1	0.7	2.97	5.86

Calculation Results

IES
 Illuminating Engineering Society of North America
 Lighting Requirements
 (Source: IESNA Lighting Handbook, 9th Edition)

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/Initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.ies**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

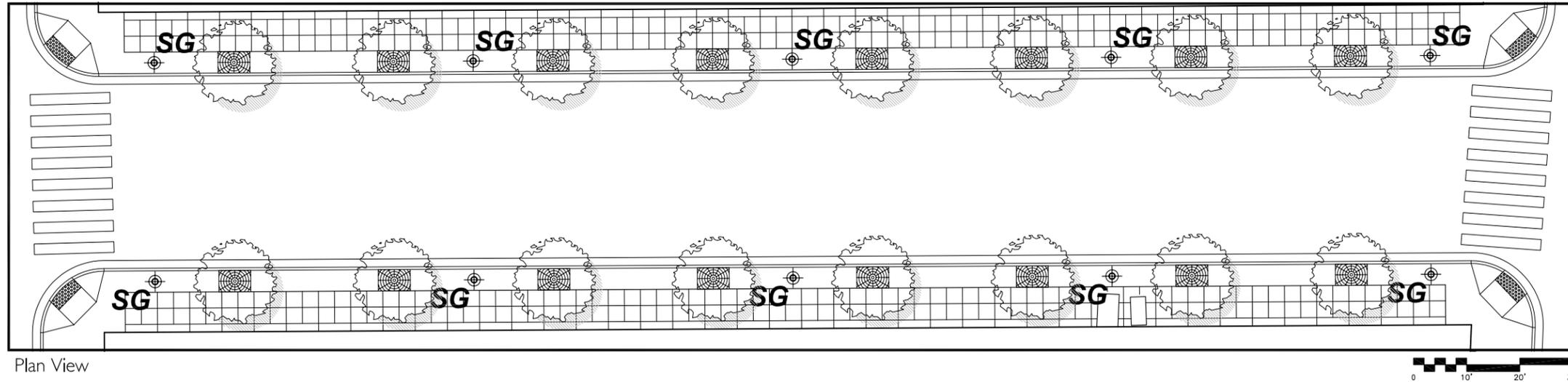
*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

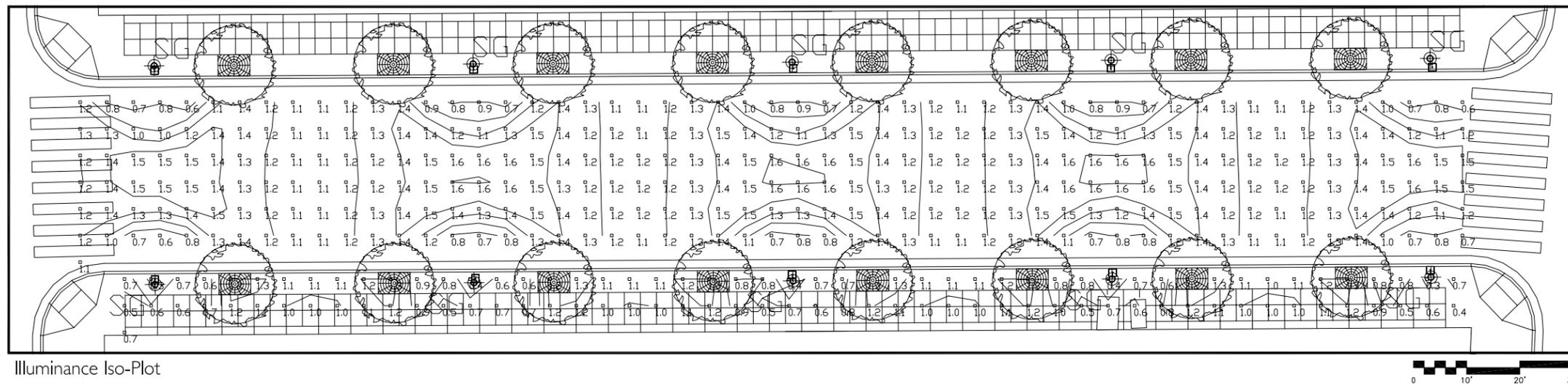
Calculation Results

- Street Lighting:
- ✓ Average: 2.71 fc
 (IES Recommends 0.9 fc min.)
 - ✓ Uniformity (Eavg./Emin.): 2.71
 (IES Recommends 6 to 1 max.)

- Pedestrian Lighting:
- ✓ Average: 2.08 fc
 (IES Recommends 1.0 fc min.)



Plan View



Illuminance Iso-Plot

Luminaire Schedule						
Project: All Projects						
Symbol	Qty	Label	Arrangement	Lumens	LLF	Description
☐	10	SG-175	SINGLE	14000	0.512	NWF-STR-PS19 - IES type V/175 watt

Numeric Summary							
Project: All Projects							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
pedestrian - typical	Illuminance	Fc	0.92	1.3	0.3	3.07	4.33
street - typical	Illuminance	Fc	1.25	1.6	0.6	2.08	2.67

Calculation Results

Recommended Maintained Illuminance Values for Roadways:

IES Collector Roadway/Commercial Classification
 (STL Tucker/Broadway/4th):
 Average: 1.2 fc
 Uniformity (Eavg./Emin.): 4 to 1

IES Local Roadway/Commercial Classification
 (STL Typical Streets):
 Average: 0.9 fc
 Uniformity (Eavg./Emin.): 6 to 1

Recommended Maintained Illuminance Values for Pedestrian Ways:

Roadside Sidewalks/Commercial Areas
 Minimum Average: 1.0 fc

Calculation Assumptions

Calculated illumination levels represent maintained light levels.
 Total LLF for HID lamps assumed to be 0.512 (0.8 LLD, 0.8 LDD, 0.8 BF).
 Exterior illumination levels are calculated at ground level.

IES Files used for calculations:
 (All wattages/initial lumens adjusted accordingly)

- SA: American Electric* - AE3874.IES**
- SB: Se'lux* Satum 1 - Sa1M3S07.ies**
- SC: Se'lux* Satum 1 - Sa1M3S07.ies**
- SD: Se'lux* Satum 1 - Sa1M3S07.ies**
- SE: Spring City* - NWF-STR-PS19.ies**
- SG: Spring City* - NWF-STR-PS19.ies**

*IES Files are for photometric analysis only and do not necessarily indicate a specified manufacturer. See [Lighting Specifications](#) for specified manufacturers.

**All specified manufacturers must provide optical assemblies that either meet or exceed the optical performance of the listed photometric files as well as adhere to IESNA recommendations.

Calculation Results

Street Lighting:
 ✓ Average: 1.25 fc
 (IES Recommends 0.9 fc min.)
 ✓ Uniformity (Eavg./Emin.): 2.08
 (IES Recommends 6 to 1 max.)

Pedestrian Lighting:
 ✓ Average: 0.92 fc
 (IES Recommends 1.0 fc min. - very near compliance)