

Public Utility

The existing utilities listed below and shown on these plans represent the best information available as obtained on our surveys. This information does not relieve the contractor of the responsibility to be satisfied as to its accuracy and the location of existing utilities.

Name of Owner

Kind of Utility

NIPSCO  
801 East 86th Ave  
Merrillville, Indiana 46410  
Phone: (574) 284-2214  
Cell: (574) 220-3804  
pmgriffin@nisource.com  
Phil Griffin

Gas

AT & T  
307 S. Main St.  
South Bend, Indiana 46601-2205  
Phone: (574) 257-8380  
db2741att.com  
Dennis Bunch

Telephone

City of South Bend - Sanitary Sewer  
1316 County-City Building  
South Bend, Indiana 46601  
Phone: (574) 255-9251  
tmolnar@southbendin.gov  
Tony Molnar

Sewer

South Bend Water Works  
830 N. Michigan St.  
South Bend, Indiana 46601  
Phone: (574) 245-6108  
eherman@southbendin.gov  
Ed Herman

Water

St. Joseph Valley Metronet  
130 S. Main St., Suite 275  
South Bend, Indiana 46601  
Phone: (574) 968-5342  
bhudson@metronetzing.org  
Ben Hudson

Fiber Optic Telecommunications

Comcast North  
1920 McKinley Ave.  
Mishawaka, Indiana 46545  
Phone: (847) 789-1039 Ext. 71039  
jay-castello@cable.comcast.com  
Jay Castello

Telecommunications

AEP Distribution  
2929 West Lathrop Street  
South Bend, Indiana 46628  
Phone: (574) 236-1653  
rjstrasburg@aep.com  
Bob Strasburg

Electric



General Notes:

- All elevations referenced to NAVAD 1988 using NGS benchmark stamped "F 20 1934" El.=737.37. NGS disk is located in the northeast corner of the bridge over Lafayette Ave. on the New York Central RR.
- All items shown are existing unless otherwise indicated as required.
- Locations and elevations shown for existing utilities are approximate. The contractor shall have all utilities located prior to beginning work, including the St. Joseph Valley Metronet. Contractor shall expose all existing utilities well in advance of crossing with new water main, sanitary sewer and storm sewer installation to allow for grade adjustment at no additional cost. If required after field verification, adjust alignment and grade of new pipeline as directed by engineer.
- Any damage to access roads, bridges, private or public property, and to existing structure not specified to be altered and caused by the contractor during construction shall be repaired at the expense of the contractor.
- If any errors become apparent, they shall be brought to the attention of the engineer prior to construction so that clarification or redesign may occur.
- The latest edition of the City of South Bend, Indiana specifications and standard details, and INDOT specifications and standard details are to be used with these plans.
- Driveways and street approaches in areas of cut or fill greater than 1' must be maintained with slopes not exceeding 15%.

**REVISIONS**

SHEET NO.	DATE	REVISION
2	1/12/2016	Added revision table
4, 5	1/12/2016	Revised typical section
30, 32, 39, 55, 57.	1/12/2016	Revised curb location
35	1/12/2016	Added note to salvage signal equipment
37	1/12/2016	Revised curb location & added Metronet relocation
43, 45	1/12/2016	Revised spot elevations & curb location
46	1/12/2016	Revised spot elevations
48	1/12/2016	Revised alignments
49	1/12/2016	Revised spot elevations
50	1/12/2016	Revised jointing layout
51-52	1/12/2016	Revised water main details
62	1/12/2016	Revised signal plan
63-64, 66, 68	1/12/2016	Revised lighting legend & wiring for bollards
65, 67	1/12/2016	Revised lighting legend & wiring for bollards & revised curb location
69	1/12/2016	Revised lighting tables
70	1/12/2016	Revised detail title
79	1/12/2016	Revised approach table
82-83	1/12/2016	Revised structure data table
92-93, 97-99, 102, 106	1/12/2016	Revised cross sections
2	1/26/2016	Revised revision table
9	1/26/2016	Cross walk system details added as alternate work items
28	1/26/2016	Revised earthwork table, roundabout center island fill added.
50	1/26/2016	Deleted "saw cut joint detail"
65	1/26/2016	Cross walk system details added as alternate work item
70	1/26/2016	Revised "tesco cabinet wiring schematic". Added "cross walk one line diagram"
71	1/25/2016	Earthwork Calculations
2	2/8/2016	Revised revision table
9	2/8/2016	Added typical bike rack detail
35-36, 39	2/8/2016	Added bike racks
53-58	2/8/2016	Revised Pavement Markings
63-68	2/8/2016	Lighting Plan Revisions
69	2/8/2016	Revised "tesco cabinet wiring schematic"
70	2/8/2016	Revised luminaire schedule, service point table, design data table, & added luminaire note

**INDEX**

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2	Index and General Notes
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13	Survey Control
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35-40	Construction Details
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47	Curb Ramp Details
48	Roundabout Geometric Details
49	Roundabout Grading Plan
50	Roundabout Jointing Plan
51-52	Water Main Relocation Details
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59-61	Sheet Sign and Post Summary
62	Signal Plan
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74-76	Landscaping Details
77-78	Irrigation Details
79	Summary of Quantities and Approach Table
80	Miscellaneous Tables
81-84	Structure Data Table
85-107	Cross Sections

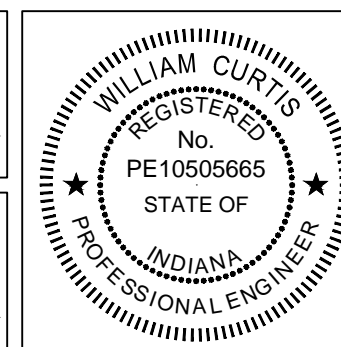
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- 1 Added revision table
- 2 Revised revision table
- 3 Revised revision table

*William Curtis* 2-11-16  
SIGNATURE DATE

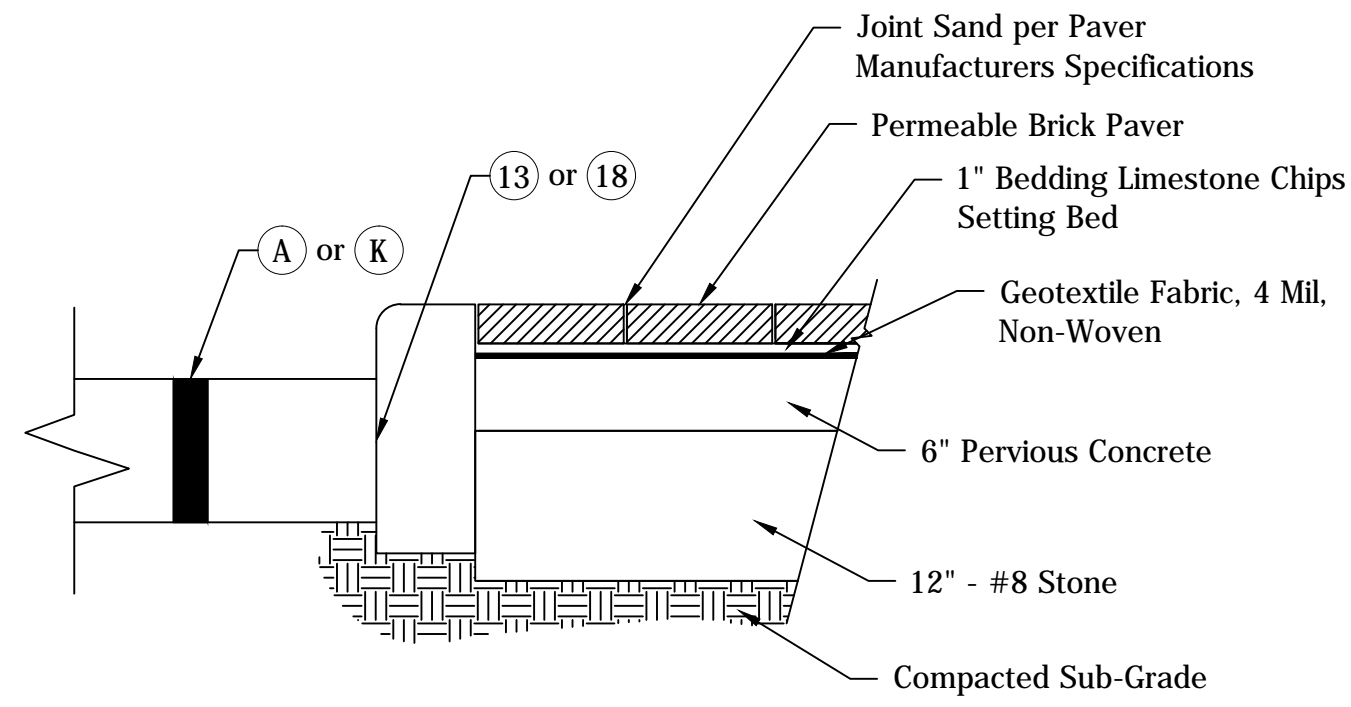


**CITY OF SOUTH BEND, INDIANA  
ROUNDABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS**

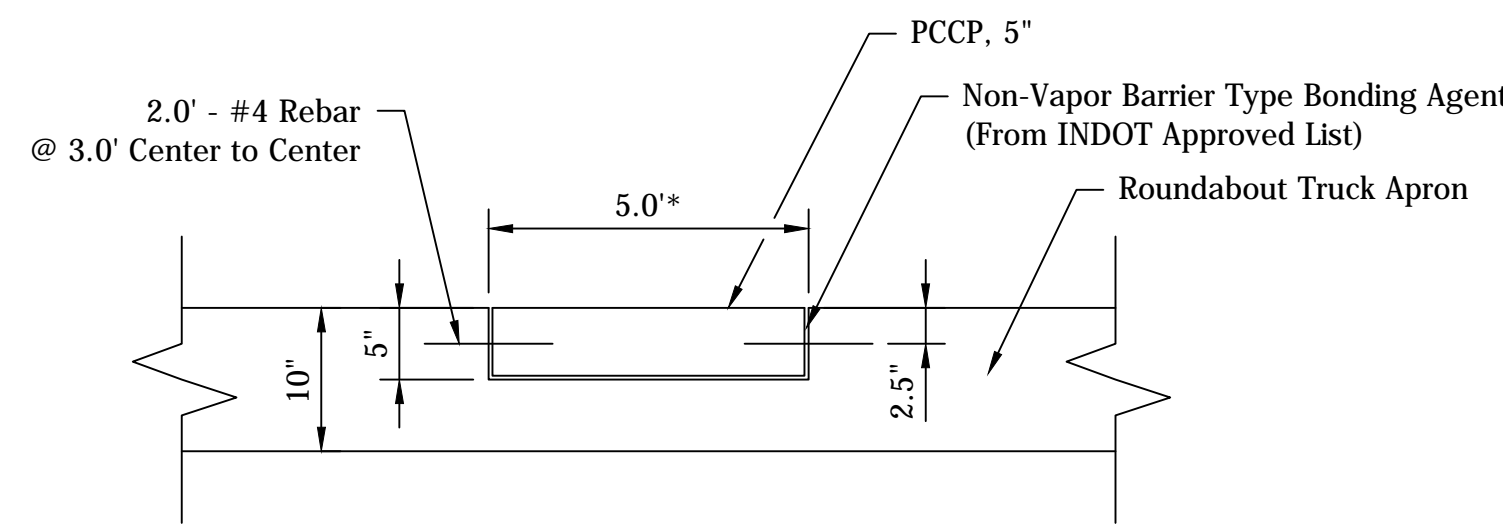
**INDEX AND GENERAL NOTES**

REVISIONS	HORIZONTAL SCALE N/A	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE N/A	
DRAWN: JNII	SURVEY BOOK -	SHEETS
CHECKED: WRC	DATE / /	<b>2</b> OF <b>107</b>

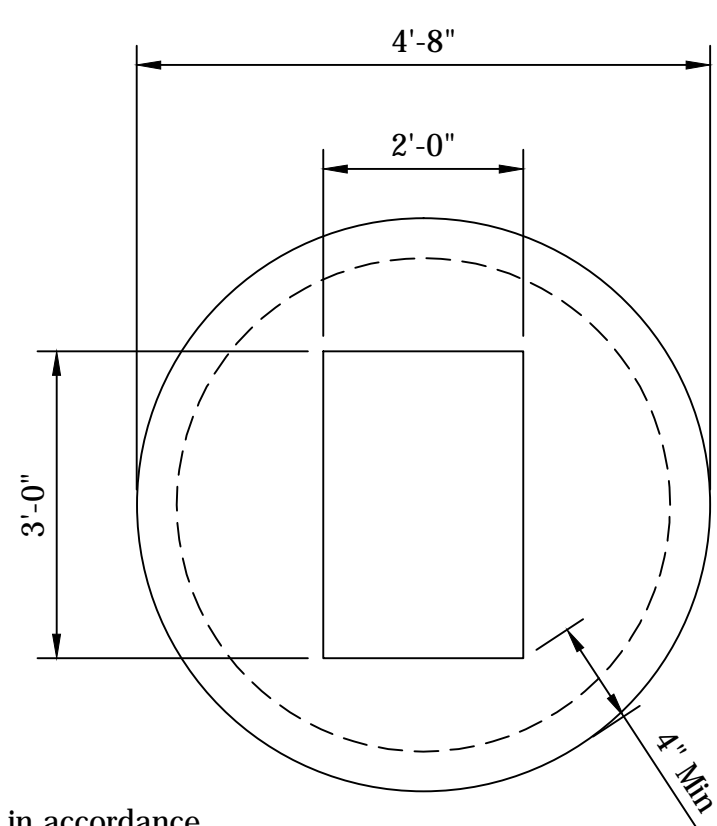
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**BRICK PAVERS**  
NOT TO SCALE

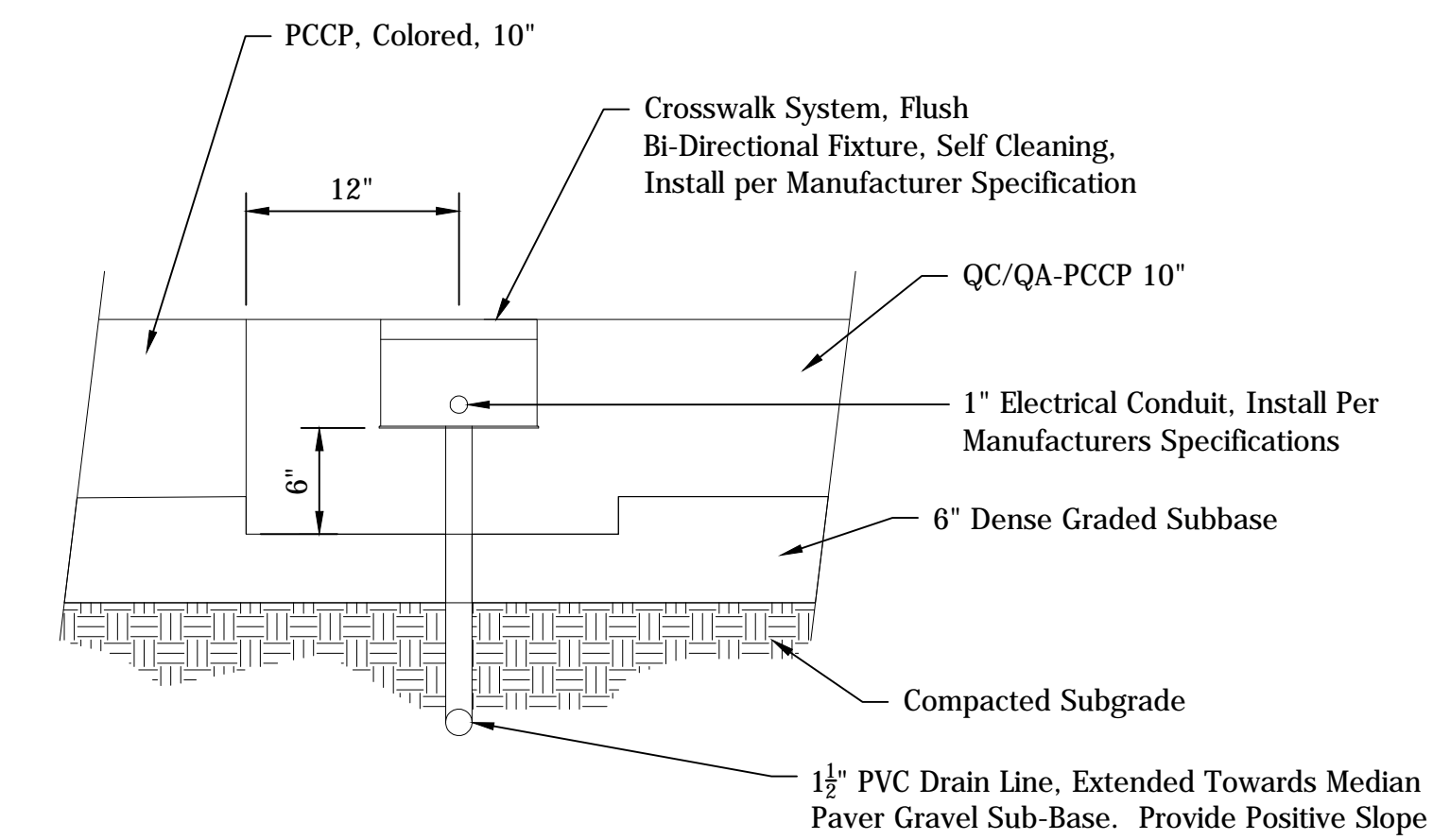


**CONCRETE INLAY FOR ROUNDABOUT TRUCK APRON**  
NOT TO SCALE  
\* Concrete Inlay Locations as shown on the Construction Details

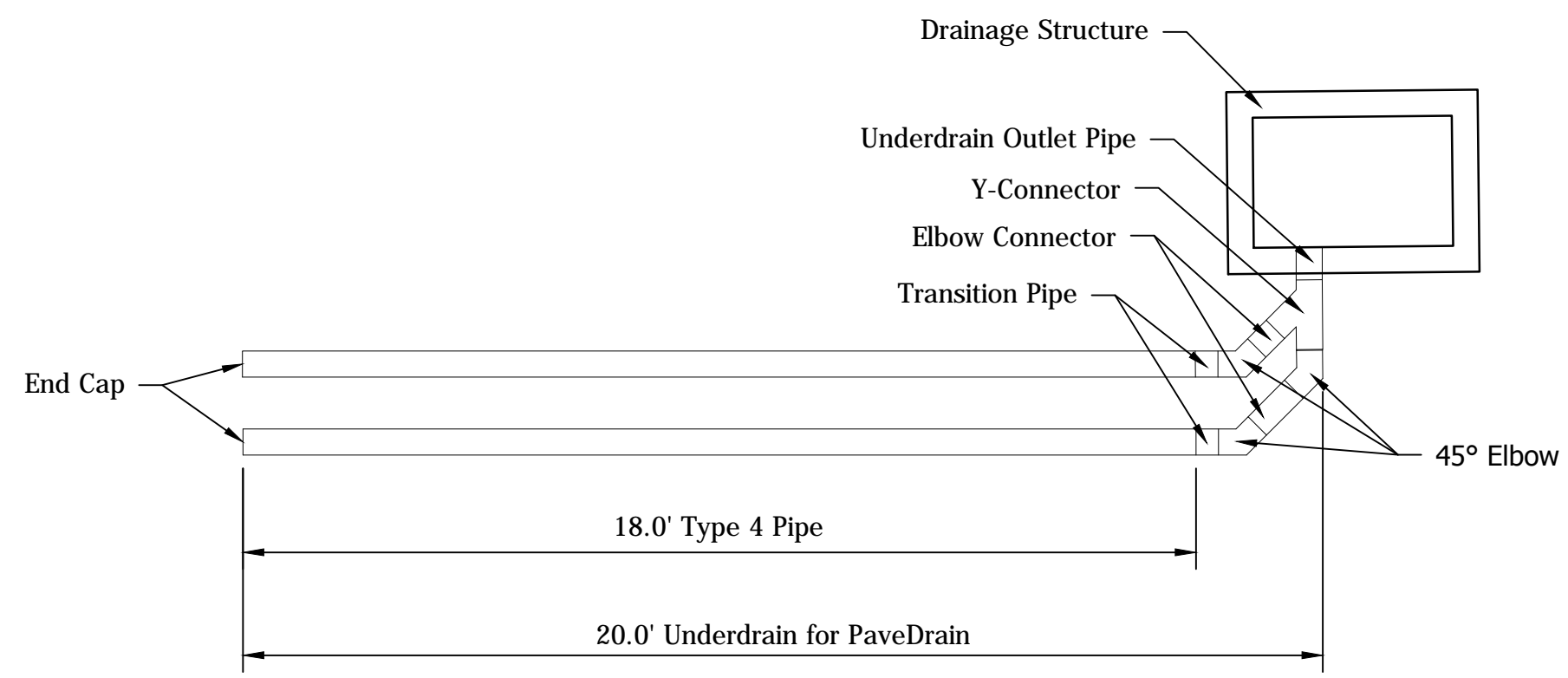


**COVER CAP**  
**MODIFIED MANHOLE H-10 AND J-10**  
NOT TO SCALE

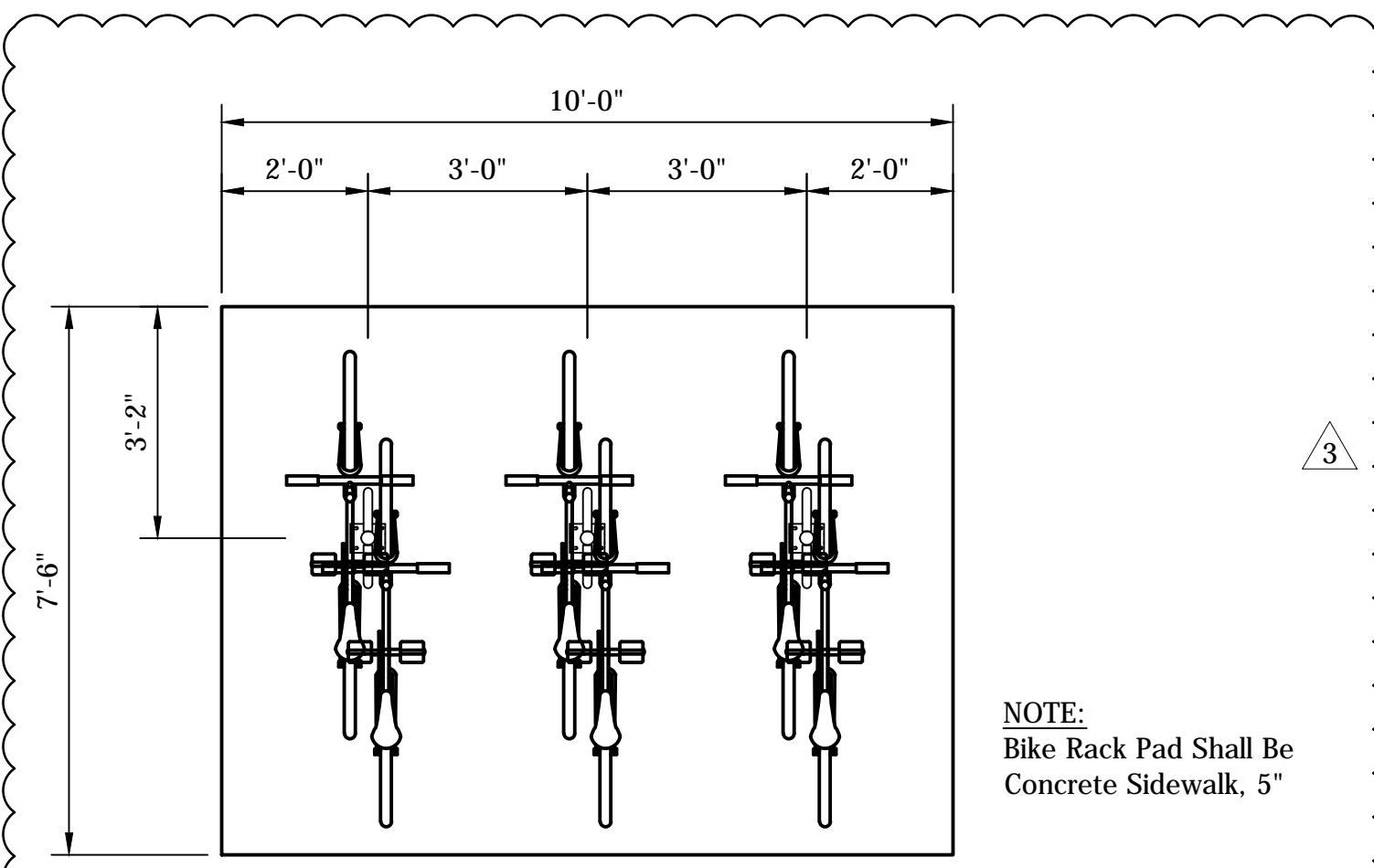
NOTE:  
Cover to be manufactured in accordance with ASTM C478-07 and accommodate an AASHTO HS-20 loading.



**FLUSH BI-DIRECTIONAL LIGHT FIXTURE DETAIL**  
**(SECTION VIEW)**  
NOT TO SCALE



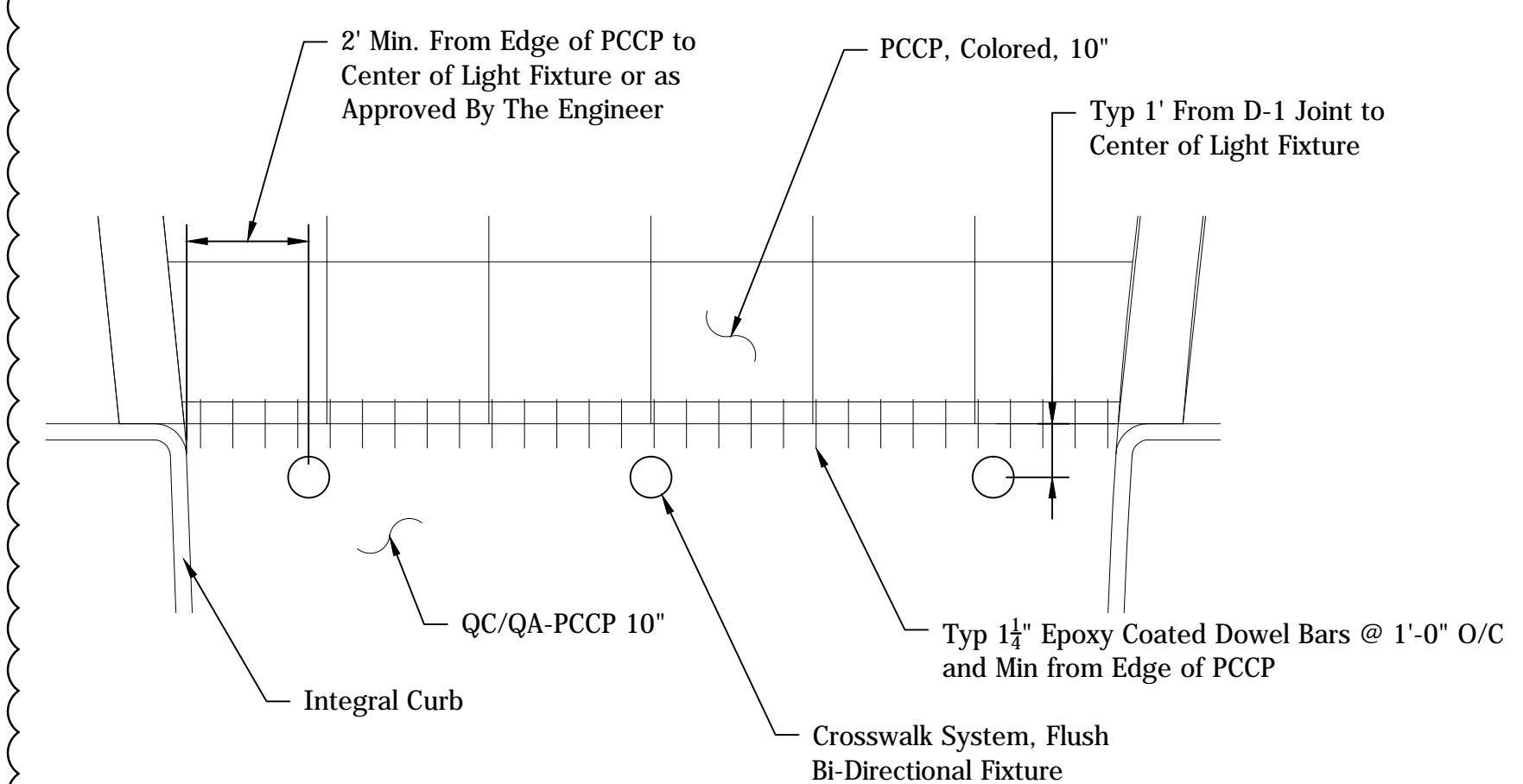
**UNDERDRAIN FOR PAVEDRAIN**  
NOT TO SCALE



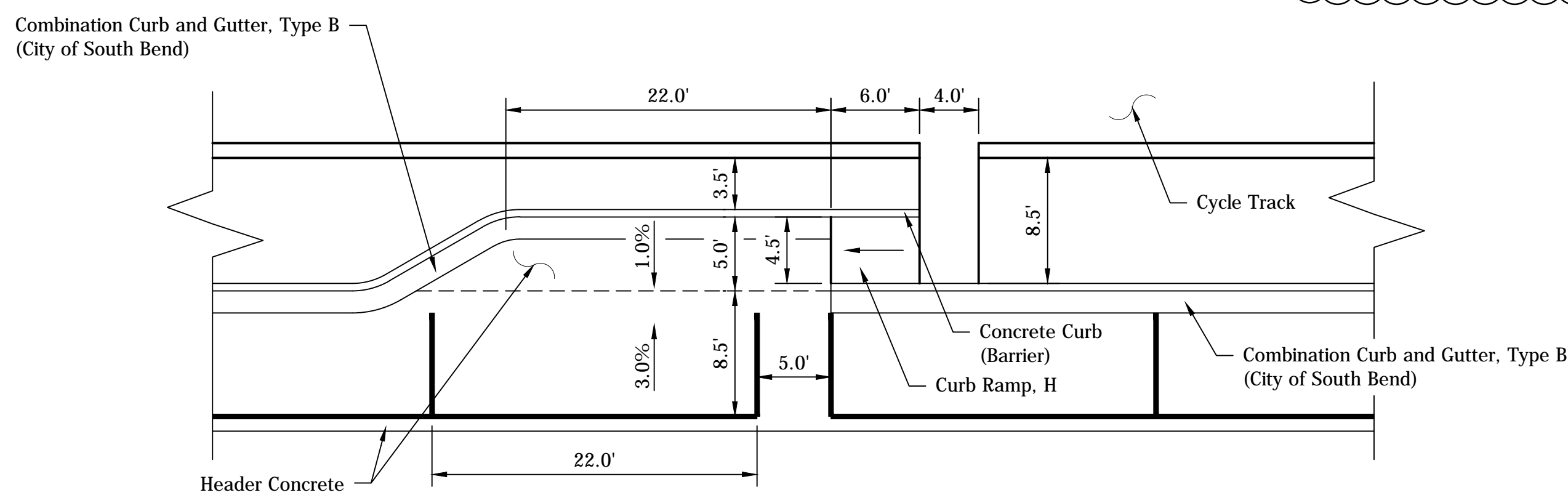
**TYPICAL BIKE RACK DETAIL**  
NOT TO SCALE

NOTE:  
Bike Rack Pad Shall Be Concrete Sidewalk, 5 inch

12+90 Line "A"  
18+85 Line "PR-A"  
38+30 Line "PR-B"

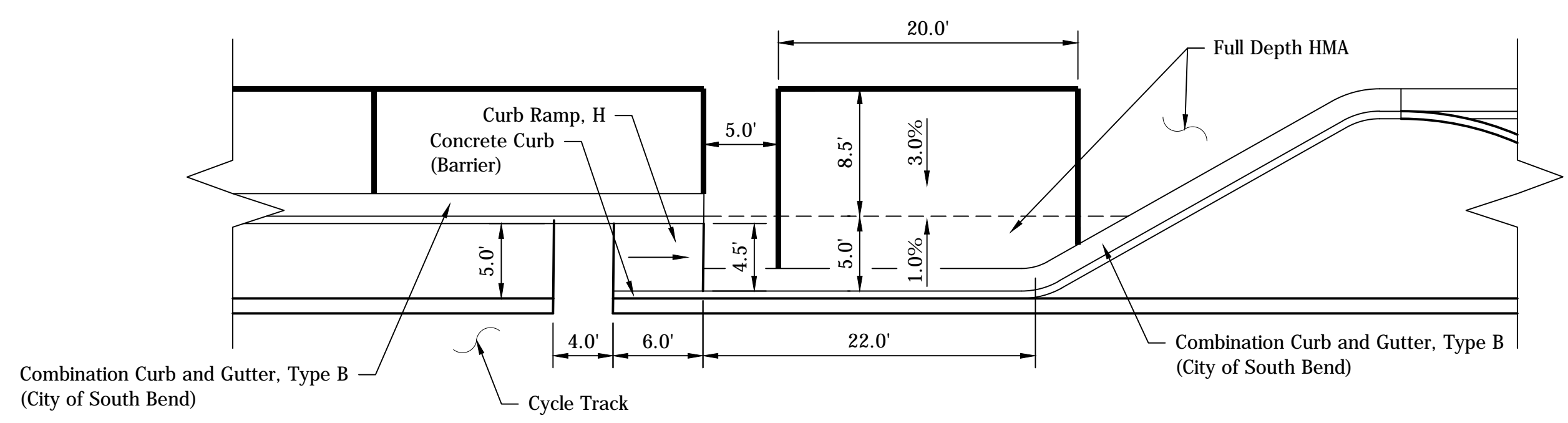


**FLUSH BI-DIRECTIONAL LIGHT FIXTURES**  
**(PLAN VIEW)**  
NOT TO SCALE



**ADA PARALLEL PARKING ACCESS LANE (MAIN STREET)**  
NOT TO SCALE

NOTE:  
Pavedrain not shown for clarity



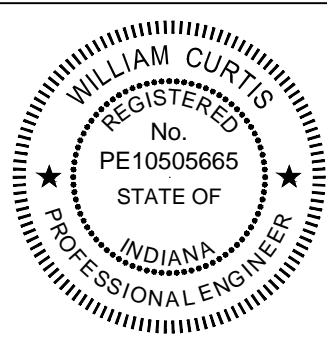
**ADA PARALLEL PARKING ACCESS LANE (MAIN STREET)**  
NOT TO SCALE



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- 2 Cross walk system details added as alternate work items
- 3 Added typical bike rack detail

*William R. Curtis* 2-11-16  
SIGNATURE DATE

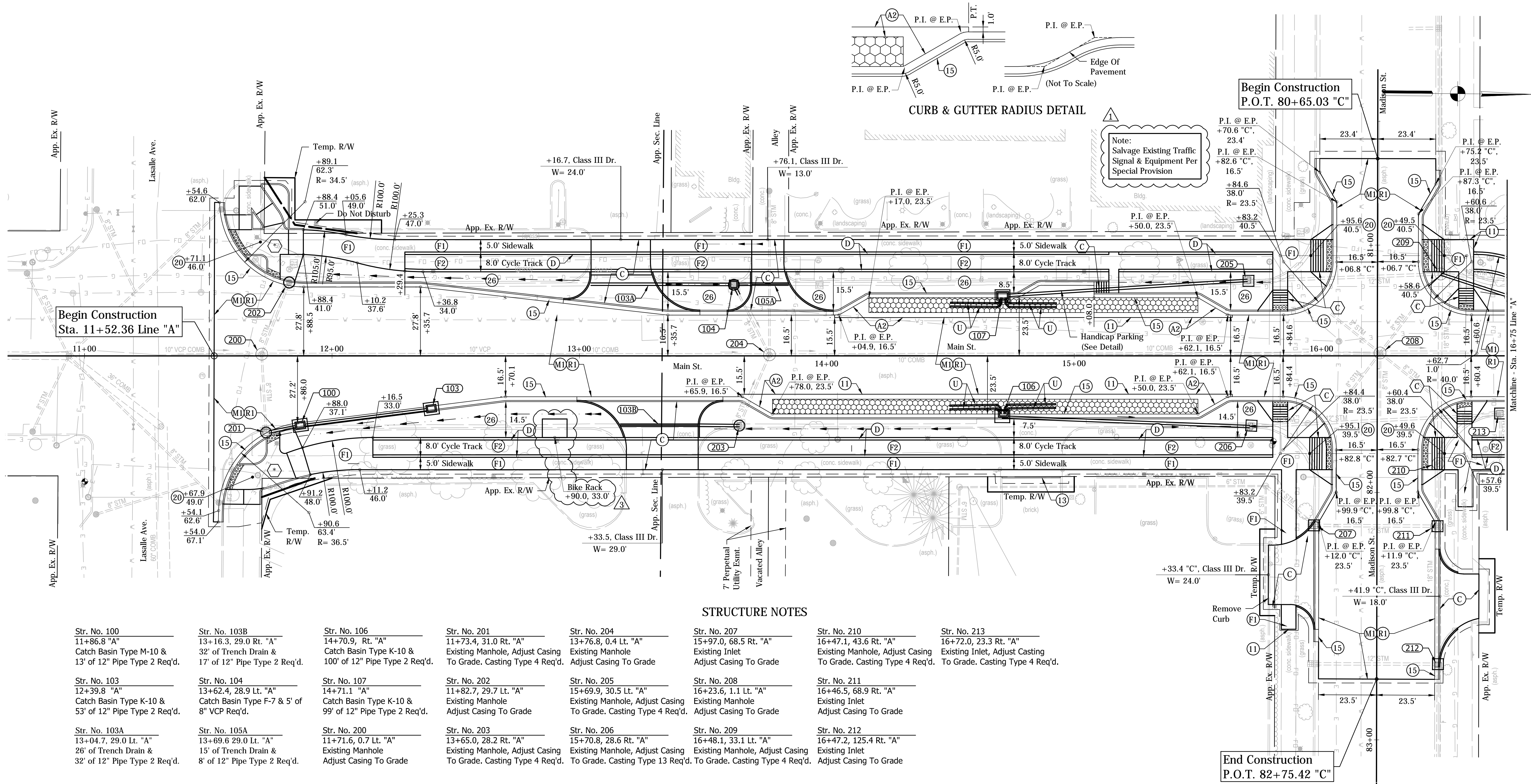


**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**MISCELLANEOUS DETAILS**

REVISIONS	HORIZONTAL SCALE AS SHOWN	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE AS SHOWN	
DRAWN: JNII	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE	<b>9</b> OF <b>107</b>





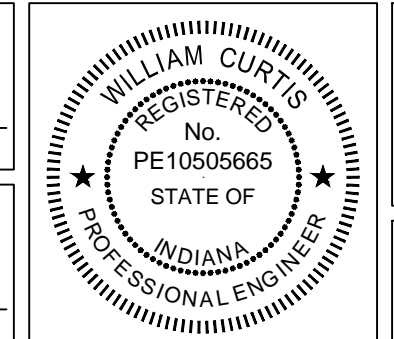
Str. No.	Description	Str. No.	Description	Str. No.	Description	Str. No.	Description	Str. No.	Description	Str. No.	Description	Str. No.	Description
11+86.8 "A"	Catch Basin Type M-10 & 13' of 12" Pipe Type 2 Req'd.	13+16.3, 29.0 Rt. "A"	32' of Trench Drain & 17' of 12" Pipe Type 2 Req'd.	14+70.9, Rt. "A"	Catch Basin Type K-10 & 100' of 12" Pipe Type 2 Req'd.	11+73.4, 31.0 Rt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.	13+76.8, 0.4 Lt. "A"	Existing Manhole Adjust Casing To Grade	15+97.0, 68.5 Rt. "A"	Existing Inlet Adjust Casing To Grade	16+47.1, 43.6 Rt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
12+39.8 "A"	Catch Basin Type K-10 & 53' of 12" Pipe Type 2 Req'd.	13+62.4, 28.9 Lt. "A"	Catch Basin Type F-7 & 5' of 8" VCP Req'd.	14+71.1 "A"	Catch Basin Type K-10 & 99' of 12" Pipe Type 2 Req'd.	11+82.7, 29.7 Lt. "A"	Existing Manhole Adjust Casing To Grade	15+69.9, 30.5 Lt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.	16+23.6, 1.1 Lt. "A"	Existing Manhole Adjust Casing To Grade	16+46.5, 68.9 Rt. "A"	Existing Inlet Adjust Casing To Grade
13+04.7, 29.0 Lt. "A"	26' of Trench Drain & 32' of 12" Pipe Type 2 Req'd.	11+71.6, 0.7 Lt. "A"	Existing Manhole Adjust Casing To Grade	11+71.6, 0.7 Lt. "A"	Existing Manhole Adjust Casing To Grade	13+65.0, 28.2 Rt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.	15+70.8, 28.6 Rt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 13 Req'd.	16+48.1, 33.1 Lt. "A"	Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.	16+47.2, 125.4 Rt. "A"	Existing Inlet Adjust Casing To Grade

- STRUCTURE NOTES**
- Str. No. 100: 11+86.8 "A" Catch Basin Type M-10 & 13' of 12" Pipe Type 2 Req'd.
  - Str. No. 103: 12+39.8 "A" Catch Basin Type K-10 & 53' of 12" Pipe Type 2 Req'd.
  - Str. No. 103A: 13+04.7, 29.0 Lt. "A" 26' of Trench Drain & 32' of 12" Pipe Type 2 Req'd.
  - Str. No. 103B: 13+16.3, 29.0 Rt. "A" 32' of Trench Drain & 17' of 12" Pipe Type 2 Req'd.
  - Str. No. 104: 13+62.4, 28.9 Lt. "A" Catch Basin Type F-7 & 5' of 8" VCP Req'd.
  - Str. No. 105A: 11+71.6, 0.7 Lt. "A" Existing Manhole Adjust Casing To Grade
  - Str. No. 105B: 11+71.6, 0.7 Lt. "A" Existing Manhole Adjust Casing To Grade
  - Str. No. 106: 14+70.9, Rt. "A" Catch Basin Type K-10 & 100' of 12" Pipe Type 2 Req'd.
  - Str. No. 107: 14+71.1 "A" Catch Basin Type K-10 & 99' of 12" Pipe Type 2 Req'd.
  - Str. No. 201: 11+73.4, 31.0 Rt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
  - Str. No. 202: 11+82.7, 29.7 Lt. "A" Existing Manhole Adjust Casing To Grade
  - Str. No. 203: 13+65.0, 28.2 Rt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
  - Str. No. 204: 13+76.8, 0.4 Lt. "A" Existing Manhole Adjust Casing To Grade
  - Str. No. 205: 15+69.9, 30.5 Lt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
  - Str. No. 206: 15+70.8, 28.6 Rt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 13 Req'd.
  - Str. No. 207: 15+97.0, 68.5 Rt. "A" Existing Inlet Adjust Casing To Grade
  - Str. No. 208: 16+23.6, 1.1 Lt. "A" Existing Manhole Adjust Casing To Grade
  - Str. No. 209: 16+48.1, 33.1 Lt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
  - Str. No. 210: 16+47.1, 43.6 Rt. "A" Existing Manhole, Adjust Casing To Grade. Casting Type 4 Req'd.
  - Str. No. 211: 16+46.5, 68.9 Rt. "A" Existing Inlet Adjust Casing To Grade
  - Str. No. 212: 16+47.2, 125.4 Rt. "A" Existing Inlet Adjust Casing To Grade
  - Str. No. 213: 16+72.0, 23.3 Rt. "A" Existing Inlet, Adjust Casting To Grade. Casting Type 4 Req'd.
- LEGEND**
- (A) QC/QA-PCCP 10" with 15' D-1 Joint Spacing (1.25" Dowel Bars) on 6" Dense Graded Subbase
  - (A1) PCCP, Colored, 10" with 15' D-1 Joint Spacing (1" Dowel Bars) on 10" Dense Graded Subbase
  - (A2) Concrete Header
  - (A3) PCCP, 5"
  - (BP) Brick Pavers. (See Detail)
  - (C) PCCP for Approaches, 9" on Subgrade Treatment, Type II
  - (D) Brick, Decorative, 12" x 12" (See Division B, Part 3 of 3 for Details)
  - (F1) Concrete Sidewalk, 5"
  - (F2) Concrete Sidewalk, 5", Decorative
  - (K) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on 275 #/SYS QC/QA-HMA, 4, 76, Intermediate, 19.0mm on 385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm on 385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm
  - (K1) HMA For Parking Lot 165 #/SYS HMA Surface Type B on 275 #/SYS HMA Intermediate Type B on 7" Compacted Aggregate, No. 53 Base on Subgrade Treatment, Type I
  - (M1) Milling, Asphalt, 2"
  - (R1) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on Variable #/SYS QC/QA-HMA, 4, 76, Intermediate, 19.0 mm (220 #/sys minimum)
  - (P) Porous Concrete, 8" on 12" No. 8 Stone
  - (U) 6" Underdrain
  - (11) Saw Cut
  - (13) Concrete Curb (Barrier)
  - (14) Modified Integral Concrete Curb, Type B (Mountable)
  - (15) Combination Curb and Gutter, Type B (City of South Bend)
  - (18) Integral Concrete Curb (Barrier)
  - (19) Center Curb
  - (20) Bollard, Decorative, Illuminated
  - (26) Nursery Sodding
  - (27) See Landscaping Plan
  - (90) Pipe Abandonment
  - (99) Remove
  - (-) Concrete Curb Ramp (INDOT Type as Indicated by Letter Inside Hexagon)
  - (\*) Concrete Curb Ramp (Refer to Intersection Details)
  - Temporary Inlet Protection
  - Pavement Drain, See Typical Sections
- Note: Temporary seeding shall be placed in disturbed areas that are expected to be undisturbed for over 7 days.

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- ① Added note for traffic signal salvage
- ③ Added bike rack

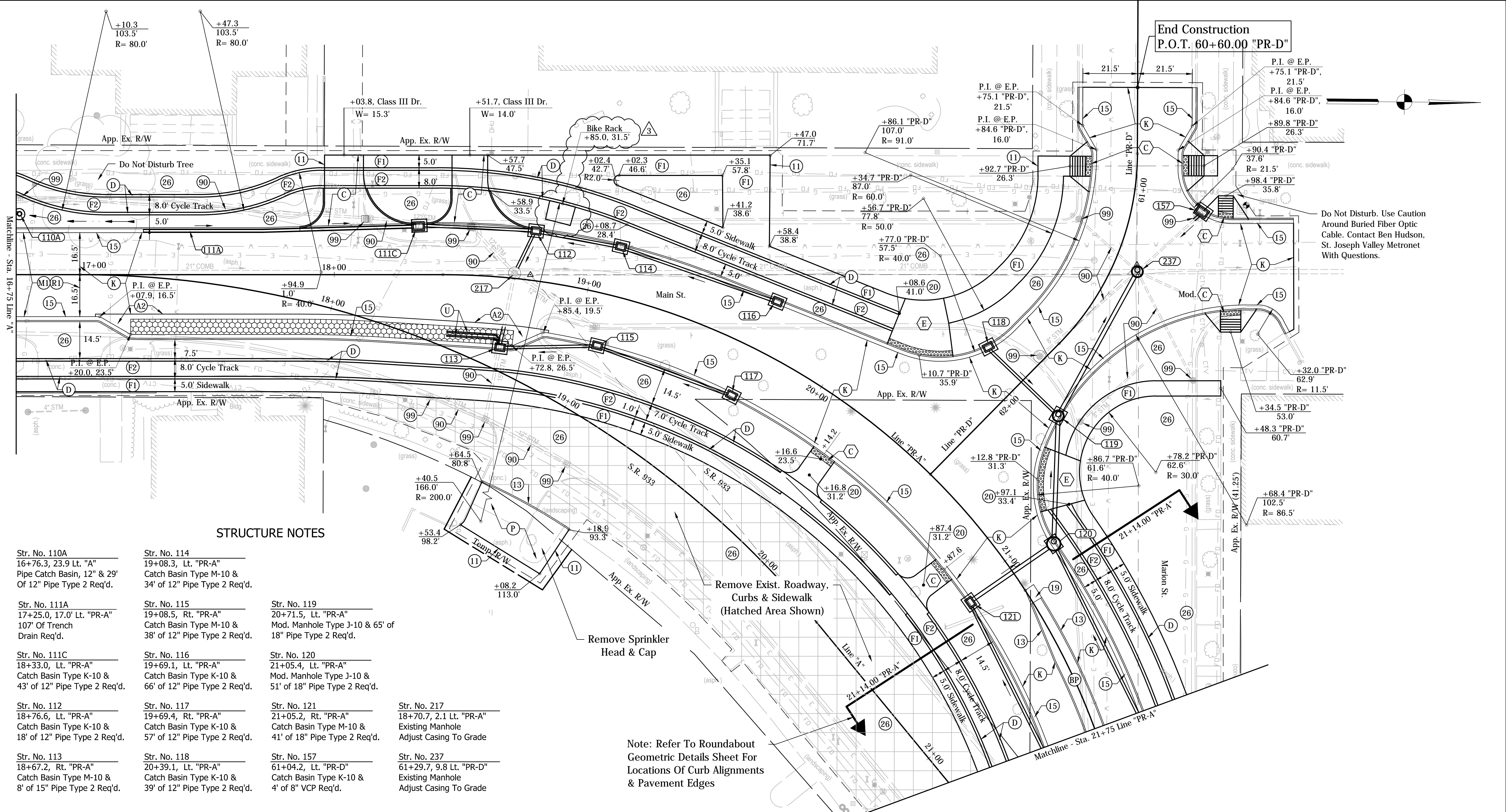
*William Curtis* 2-11-16  
SIGNATURE DATE



CITY OF SOUTH BEND, INDIANA  
ROUNDAABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS  
CONSTRUCTION DETAILS  
LINE "PR-A" - MAIN ST.

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE 1"=5'	SHEETS <b>35</b> OF <b>107</b>
DRAWN: DJZ	SURVEY BOOK	
CHECKED: WRC	DATE	





Do Not Disturb. Use Caution Around Buried Fiber Optic Cable. Contact Ben Hudson, St. Joseph Valley Metronet With Questions.

**STRUCTURE NOTES**

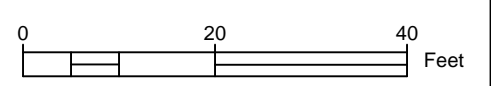
- |  |   |  |
|--|---|--|
| <p>Str. No. 110A<br/>16+76.3, 23.9 Lt. "A"<br/>Pipe Catch Basin, 12" &amp; 29"<br/>Of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 114<br/>19+08.3, Lt. "PR-A"<br/>Catch Basin Type M-10 &amp;<br/>34' of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 119<br/>20+71.5, Lt. "PR-A"<br/>Mod. Manhole Type J-10 &amp; 65'<br/>of 18" Pipe Type 2 Req'd.</p> |
| <p>Str. No. 111A<br/>17+25.0, 17.0 Lt. "PR-A"<br/>107' Of Trench<br/>Drain Req'd.</p>                            | <p>Str. No. 115<br/>19+08.5, Rt. "PR-A"<br/>Catch Basin Type M-10 &amp;<br/>38' of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 120<br/>21+05.4, Lt. "PR-A"<br/>Mod. Manhole Type J-10 &amp;<br/>51' of 18" Pipe Type 2 Req'd.</p> |
| <p>Str. No. 111C<br/>18+33.0, Lt. "PR-A"<br/>Catch Basin Type K-10 &amp;<br/>43' of 12" Pipe Type 2 Req'd.</p>   | <p>Str. No. 116<br/>19+69.1, Lt. "PR-A"<br/>Catch Basin Type K-10 &amp;<br/>66' of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 121<br/>21+05.2, Rt. "PR-A"<br/>Catch Basin Type M-10 &amp;<br/>41' of 18" Pipe Type 2 Req'd.</p>  |
| <p>Str. No. 112<br/>18+76.6, Lt. "PR-A"<br/>Catch Basin Type K-10 &amp;<br/>18' of 12" Pipe Type 2 Req'd.</p>    | <p>Str. No. 117<br/>19+69.4, Rt. "PR-A"<br/>Catch Basin Type K-10 &amp;<br/>57' of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 217<br/>18+70.7, 2.1 Lt. "PR-A"<br/>Existing Manhole<br/>Adjust Casing To Grade</p>                |
| <p>Str. No. 113<br/>18+67.2, Rt. "PR-A"<br/>Catch Basin Type M-10 &amp;<br/>8' of 15" Pipe Type 2 Req'd.</p>     | <p>Str. No. 118<br/>20+39.1, Lt. "PR-A"<br/>Catch Basin Type K-10 &amp;<br/>39' of 12" Pipe Type 2 Req'd.</p> | <p>Str. No. 237<br/>61+29.7, 9.8 Lt. "PR-D"<br/>Existing Manhole<br/>Adjust Casing To Grade</p>                |

Note: Refer To Roundabout Geometric Details Sheet For Locations Of Curb Alignments & Pavement Edges

**LEGEND**

- |  |  |  |   |   |                                       |   |
|--|--|--|---|---|---------------------------------------|---|
| (A) QC/QA-PCCP 10" with 15' D-1 Joint Spacing (1.25" Dowel Bars) on 6" Dense Graded Subbase    | (BP) Brick Pavers. (See Detail)  | (K) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on 275 #/SYS QC/QA-HMA, 4, 76, Intermediate, 19.0mm on 385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm on 385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm | (M1) Milling, Asphalt, 2"   | (11) Saw Cut  | (18) Integral Concrete Curb (Barrier) | (99) Remove   |
| (A1) PCCP, Colored, 10" with 15' D-1 Joint Spacing (1" Dowel Bars) on 10" Dense Graded Subbase | (C) PCCP for Approaches, 9" on Subgrade Treatment, Type II                 | (K1) HMA For Parking Lot 165 #/SYS HMA Surface Type B on 275 #/SYS HMA Intermediate Type B on 7" Compacted Aggregate, No. 53 Base on Subgrade Treatment, Type I                                | (R1) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on Variable #/SYS QC/QA-HMA, 4, 76, Intermediate, 19.0 mm (220 #/sys minimum) | (13) Concrete Curb (Barrier)                                  | (19) Center Curb                      | (-) Concrete Curb Ramp (INDOT Type as Indicated by Letter Inside Hexagon) |
| (A2) Concrete Header   | (D) Brick, Decorative, 12" x 12" (See Division B, Part 3 of 3 for Details) | (P) Porous Concrete, 8" on 12" No. 8 Stone   | (U) 6" Underdrain   | (14) Modified Integral Concrete Curb, Type B (Mountable)      | (20) Bollard, Decorative, Illuminated | (*) Concrete Curb Ramp (Refer to Intersection Details)                    |
| (A3) PCCP, 5"  | (F1) Concrete Sidewalk, 5"   |  |   | (15) Combination Curb and Gutter, Type B (City of South Bend) | (26) Nursery Sodding                  | [ ] Temporary Inlet Protection  |
|  | (F2) Concrete Sidewalk, 5", Decorative                                     |  |   |   | (27) See Landscaping Plan             |   |
|  |  |  |   |   | (90) Pipe Abandonment                 |   |

Note: Temporary seeding shall be placed in disturbed areas that are expected to be undisturbed for over 7 days.

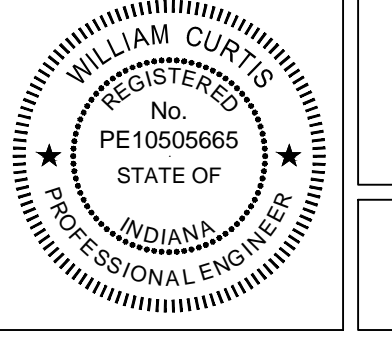


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Added bike rack

*W.R. [Signature]* 2-11-16  
SIGNATURE DATE

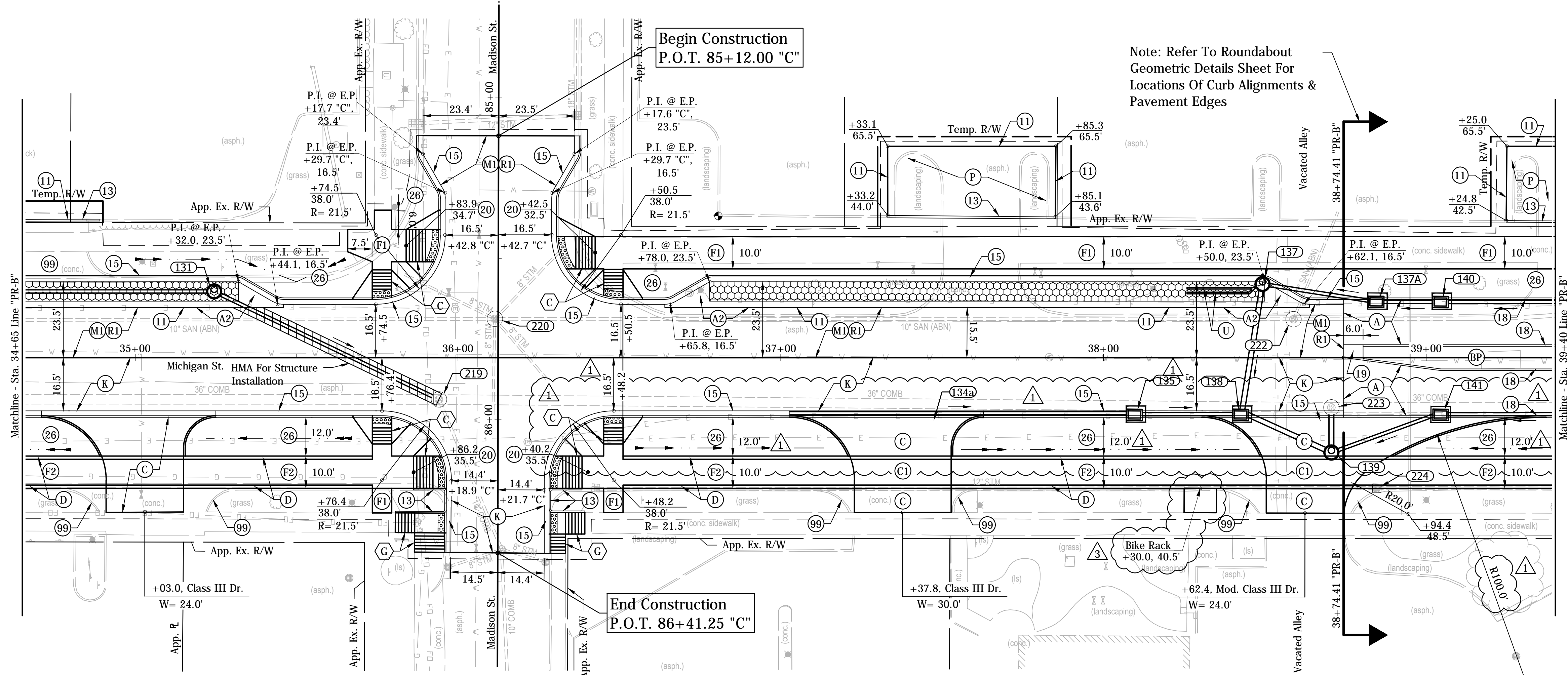


**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**CONSTRUCTION DETAILS**  
**LINE "PR-A" - MAIN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20' VERTICAL SCALE 1"=5'	PROJECT NUMBER <b>114-035</b>
DRAWN: DJZ	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE	<b>36</b> OF <b>107</b>

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Begin Construction  
P.O.T. 85+12.00 "C"

End Construction  
P.O.T. 86+41.25 "C"

Note: Refer To Roundabout  
Geometric Details Sheet For  
Locations Of Curb Alignments &  
Pavement Edges

**STRUCTURE NOTES**

- |   |  |  |   |   |  |  |
|---|--|--|---|---|--|--|
| Str. No. 131<br>35+24.4, 20.5 Lt. "PR-B"<br>Mod. Manhole Type H-10 &<br>77' of 12" Pipe Type 2 Req'd. | Str. No. 135<br>38+09.6, Rt. "PR-B"<br>Catch Basin Type M-10 &<br>33' of 12" Pipe Type 2 Req'd.  | Str. No. 137A<br>38+84.5, Lt. "PR-B"<br>Catch Basin Type M-10 &<br>35' of 12" Pipe Type 2 Req'd. | Str. No. 139<br>38+70.6, 29.5 Rt. "PR-B"<br>Manhole Type H-4 &<br>15' of 24" Pipe Type 2 Req'd. | Str. No. 141<br>39+04.5, Rt. "PR-B"<br>Catch Basin Type M-10 &<br>28' of 12" Pipe Type 2 Req'd. | Str. No. 220<br>36+11.4, 12.0 Lt. "PR-B"<br>Existing Manhole<br>Adjust Casing To Grade                       | Str. No. 223<br>38+70.6, 15.4 Rt. "PR-B"<br>Existing Manhole<br>Adjust Casing To Grade                         |
| Str. No. 134A<br>37+55.4, 21.0 Rt. "PR-B"<br>107' of Trench Drain<br>Type 2 Req'd.                    | Str. No. 137<br>38+49.3, Lt. "PR-B"<br>Mod. Manhole Type H-10 &<br>44' of 18" Pipe Type 2 Req'd. | Str. No. 138<br>38+42.5, Rt. "PR-B"<br>Inlet Type R-13 & 36' of<br>18" Pipe Type 2 Req'd.        | Str. No. 140<br>39+04.4, Lt. "PR-B"<br>Catch Basin Type M-10 &<br>20' of 12" Pipe Type 2 Req'd. | Str. No. 219<br>35+94.1, 13.0 Rt. "PR-B"<br>Existing Manhole<br>Adjust Casing To Grade          | Str. No. 222<br>38+58.9, 11.9 Lt. "PR-B"<br>Existing Inlet, Adjust Casing<br>To Grade. Casting Type 4 Req'd. | Str. No. 224<br>38+84.7, 40.5 Rt. "PR-B"<br>Existing Manhole, Adjust Casing<br>To Grade. Casting Type 4 Req'd. |

**LEGEND**

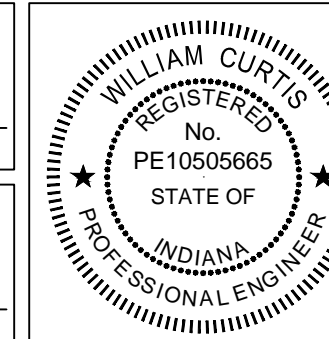
- |  |   |   |   |  |                                       |   |   |
|--|---|---|---|--|---------------------------------------|---|---|
| (A) QC/QA-PCCP 10" with<br>15' D-1 Joint Spacing (1.25" Dowel Bars) on<br>6" Dense Graded Subbase    | (BP) Brick Pavers. (See Detail)   | (K) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on<br>275 #/SYS QC/QA-HMA, 4, 76, Intermediate, 19.0mm on<br>385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm on<br>385 #/SYS QC/QA-HMA, 4, 64, Base, 19.0 mm | (M1) Milling, Asphalt, 2"   | (11) Saw Cut   | (18) Integral Concrete Curb (Barrier) | (99) Remove   | (PaveDrain) PaveDrain, See<br>Typical Sections  |
| (A1) PCCP, Colored, 10" with<br>15' D-1 Joint Spacing (1" Dowel Bars) on<br>10" Dense Graded Subbase | (C) PCCP for Approaches, 9" on<br>Subgrade Treatment, Type II                 | (K1) HMA For Parking Lot<br>165 #/SYS HMA Surface Type B on<br>275 #/SYS HMA Intermediate Type B on<br>7" Compacted Aggregate, No. 53 Base on<br>Subgrade Treatment, Type I                             | (R1) 220 #/SYS QC/QA-HMA, 4, 76, Surface, 12.5 mm on<br>Variable #/SYS QC/QA-HMA, 4, 76, Intermediate,<br>19.0 mm (220 #/sys minimum) | (13) Concrete Curb (Barrier)                                     | (19) Center Curb                      | (-) Concrete Curb Ramp<br>(INDOT Type as Indicated<br>by Letter Inside Hexagon) | Note: Temporary seeding shall be placed<br>in disturbed areas that are expected to<br>be undisturbed for over 7 days. |
| (A2) Concrete Header   | (D) Brick, Decorative, 12" x 12"<br>(See Division B, Part 3 of 3 for Details) |   | (P) Porous Concrete, 8" on<br>12" No. 8 Stone   | (14) Modified Integral Concrete Curb,<br>Type B (Mountable)      | (20) Bollard, Decorative, Illuminated | (*) Concrete Curb Ramp<br>(Refer to Intersection Details)                       |   |
| (A3) PCCP, 5"  | (F1) Concrete Sidewalk, 5"  |   | (U) 6" Underdrain   | (15) Combination Curb and Gutter,<br>Type B (City of South Bend) | (26) Nursery Sodding                  | (□) Temporary Inlet Protection  |   |
|  | (F2) Concrete Sidewalk, 5", Decorative  |   |   |  | (27) See Landscaping Plan             |   |   |
|  |   |   |   |  | (90) Pipe Abandonment                 |   |   |



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- (1) Revised curb location
- (3) Added bike rack

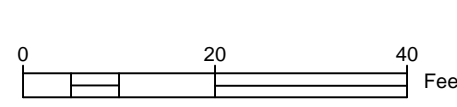
*WRC*  
SIGNATURE DATE 2-11-16



**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

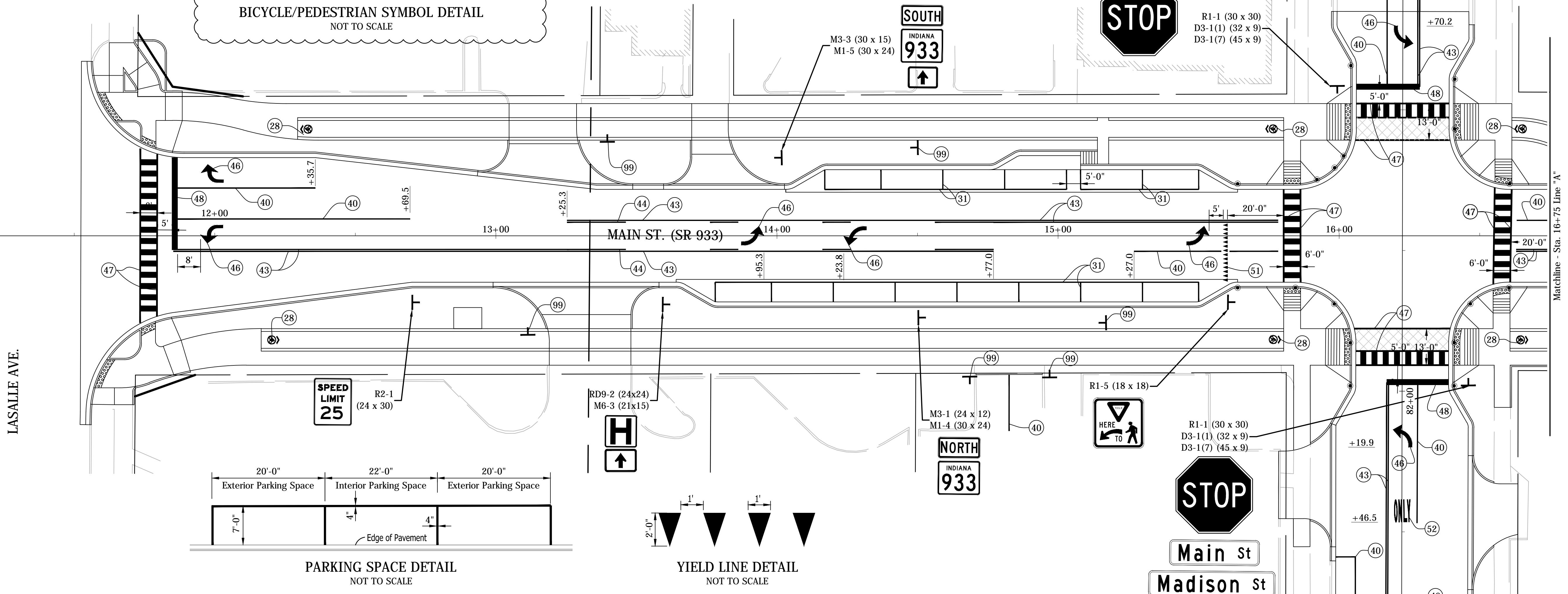
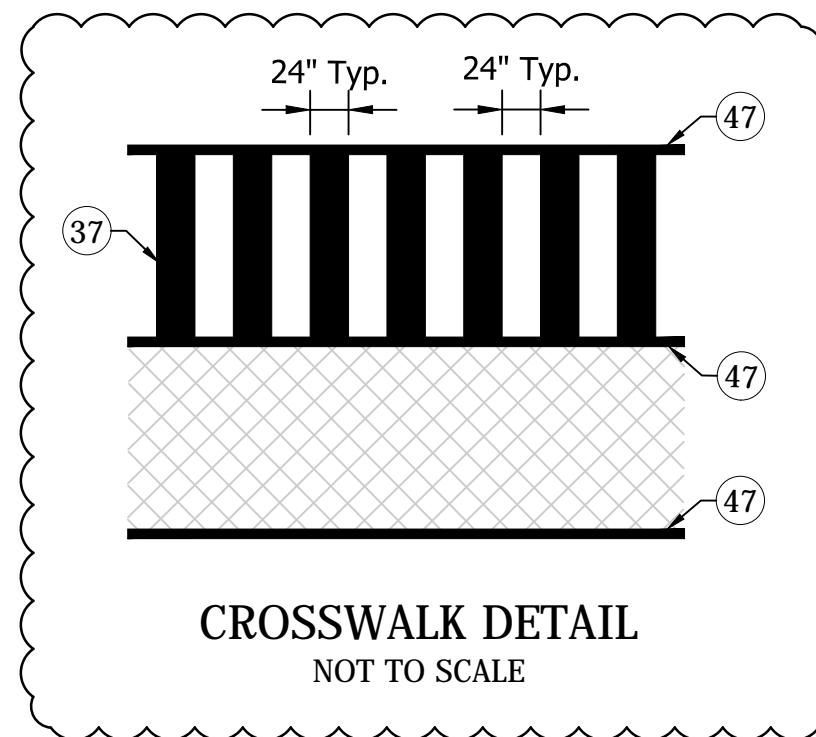
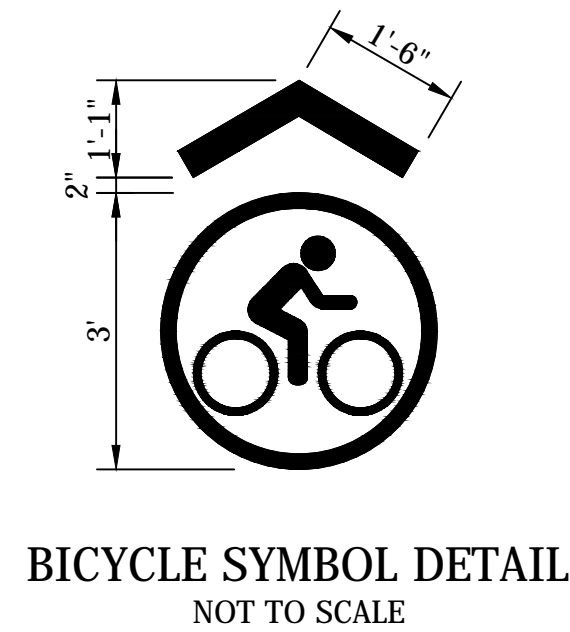
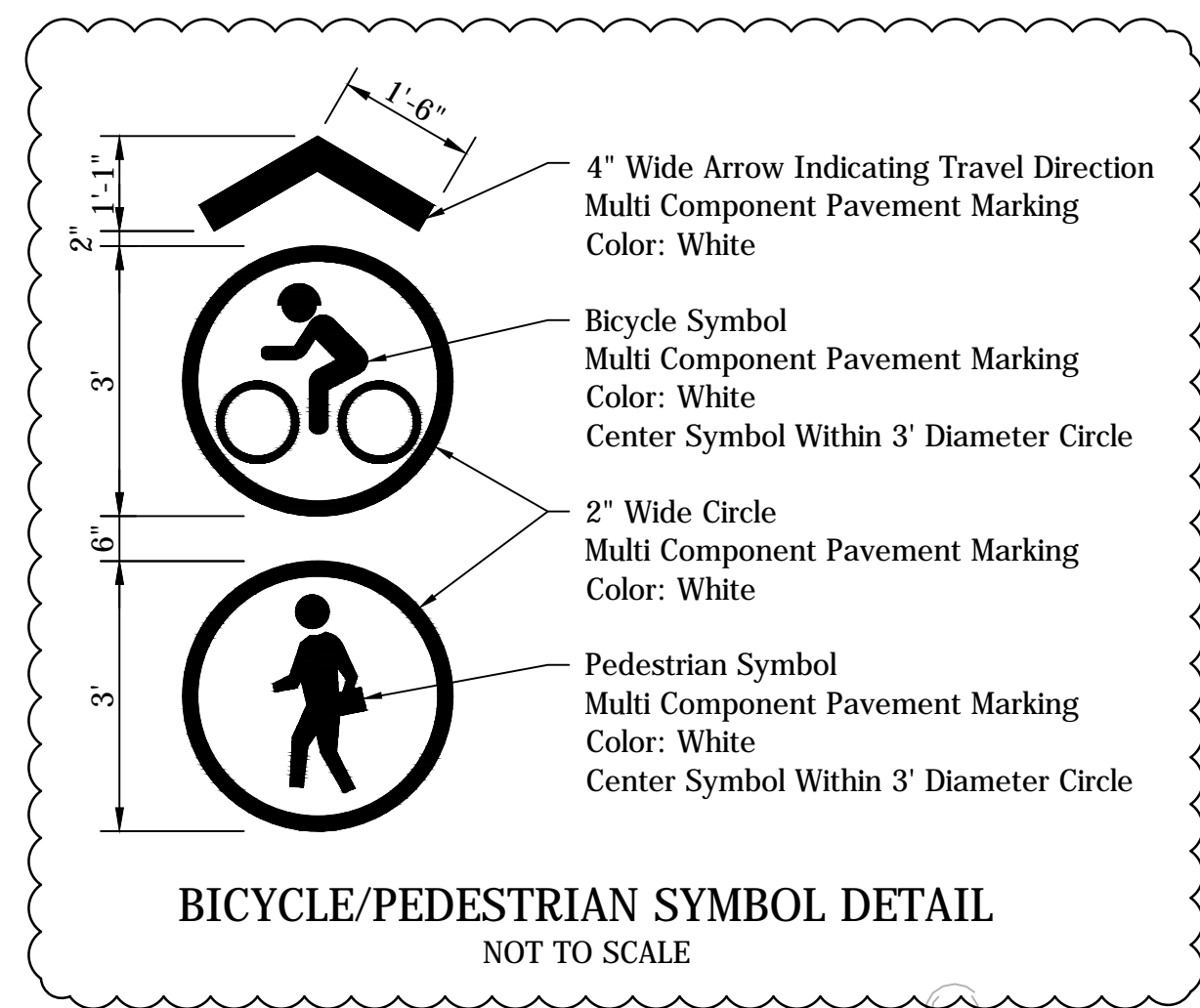
**CONSTRUCTION DETAILS**  
**LINE "PR-B"/"PR-B1" - MICHIGAN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20' VERTICAL SCALE 1"=5'	PROJECT NUMBER <b>114-035</b>
DRAWN: DJZ	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE	<b>39</b> OF <b>107</b>





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- LEGEND**
- (27) Pavement Message Marking, Multi-Component, Combined Bike/Pedestrian Symbol
  - (28) Pavement Message Marking, Multi-Component, Bike Symbol
  - (30) Line, Multi-Component, Broken, Yellow, 4"
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  - (32) Line, Multi-Component, Broken, White, 4"
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  - (36) Pavement Message Markings, Multi-Component, (ONLY)
  - (37) Transverse Marking, Thermoplastic, Crosswalk, White, 24"
  - (38) Transverse Marking, Multi-Component, Crosshatch Line, White, 12"
  - (39) Transverse Marking, Thermoplastic, Yield Line, White, 24"
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  - (42) Line, Thermoplastic, Solid, White, 8"
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  - (44) Line, Thermoplastic, Broken, Yellow, 4"
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  - (52) Pavement Message Markings, Thermoplastic, (ONLY)
  - (99) Remove
  - Raised Curb Identification Marker
  - ▨ Pavement Marking, Thermoplastic, Solid, Green

**UNITED Consulting**  
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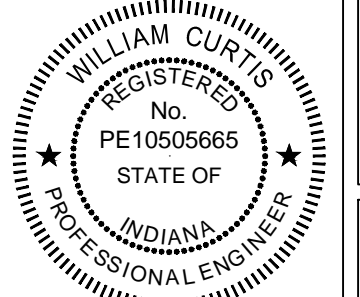
Revised "BICYCLE /PEDESTRIAN SYMBOL DETAIL".  
(Pavement Marking Legend Item (27))

Deleted "PEDESTRIAN SYMBOL DETAIL".  
(Deleted Pavement Marking Legend Item (29))

Deleted Item (30) From Bike Path Along Line "A"/Line "PRA"  
Item (30) Along Line "B" Now Shown as Broken Line (2' Line/4' Gap)

Revised Crosswalks, Added Crosswalk Detail

*William Curtis* 2-11-16  
SIGNATURE DATE



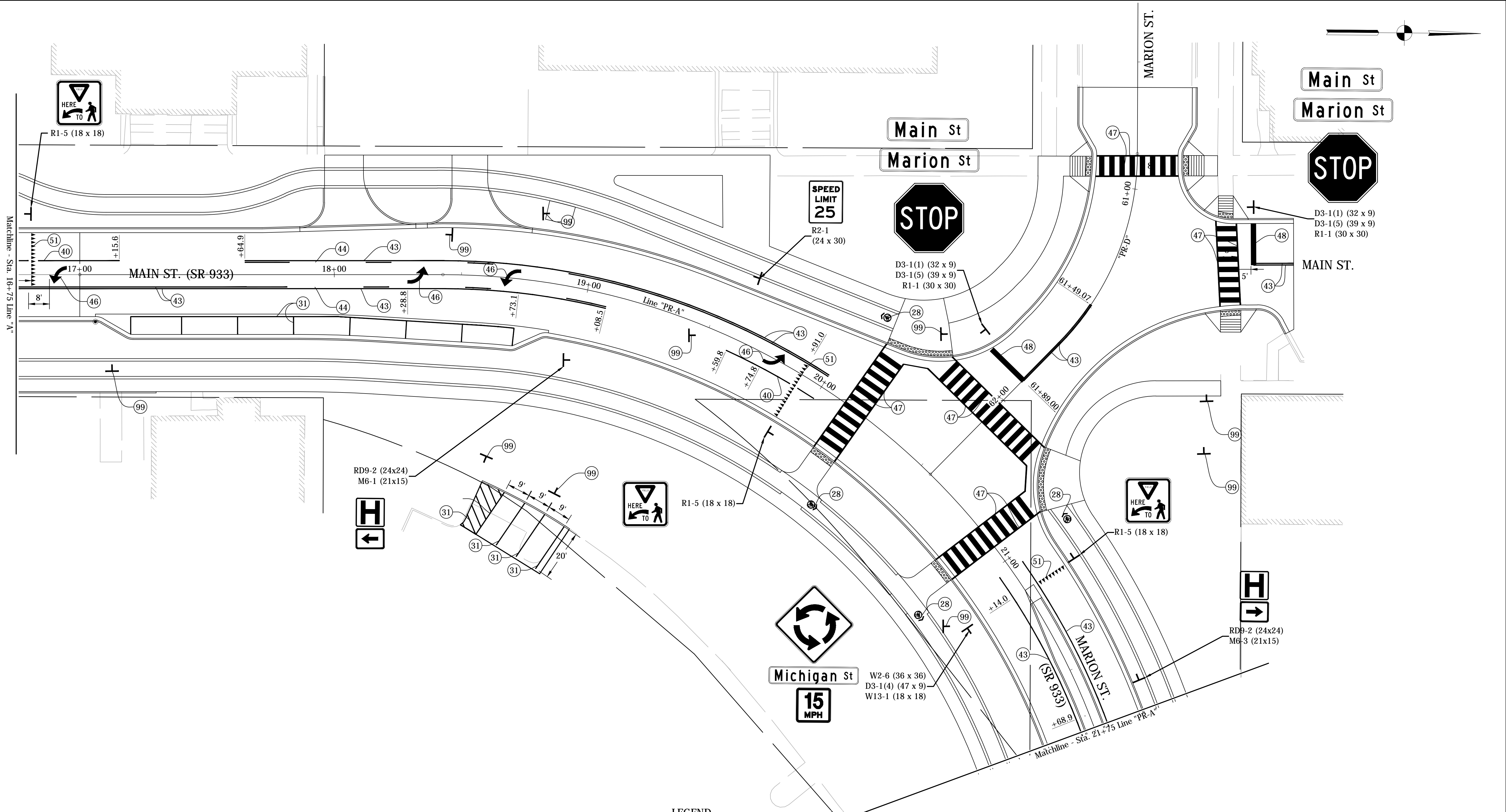
**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**SIGNING AND PAVEMENT MARKING PLAN**  
**LINE "A" - MAIN ST.**

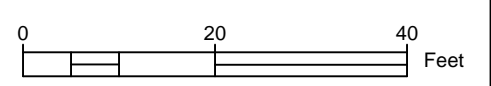
REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE N/A	SHEETS <b>53 OF 107</b>
DRAWN: JNII	SURVEY BOOK	
CHECKED: WRC	DATE	

Matchline - Sta. 16+75 Line "A"

Matchline - Sta. 83+30 Line "C"



- LEGEND**
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  - Raised Curb Identification Marker
  - ▨ Pavement Marking, Thermoplastic, Solid, Green



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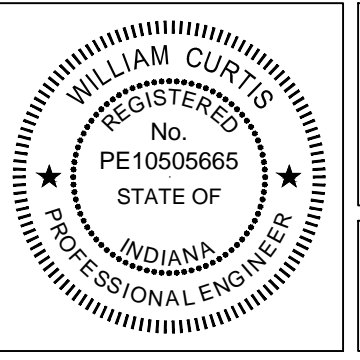
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*William Curtis* 2-11-16  
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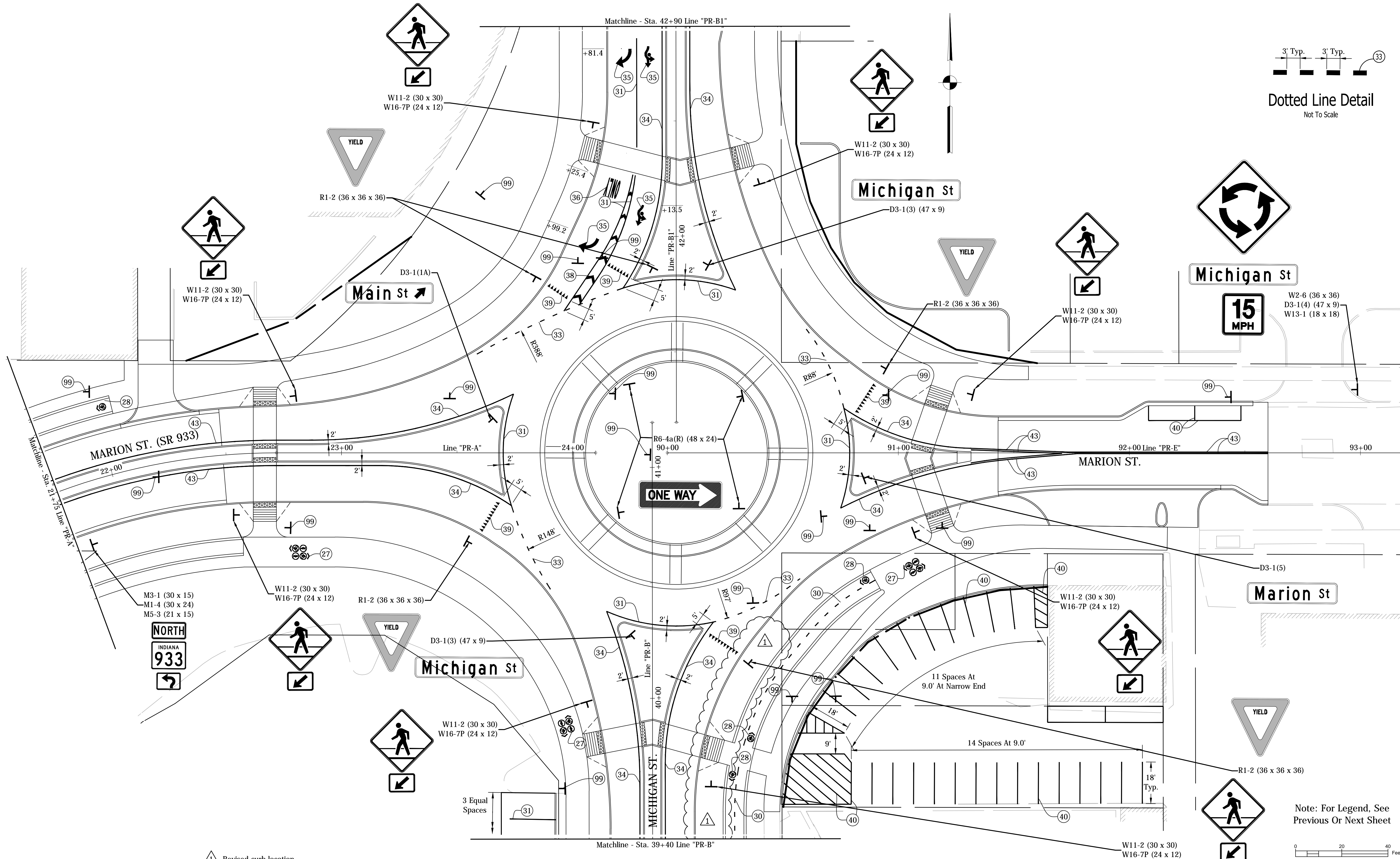
**CITY OF SOUTH BEND, INDIANA**  
**ROUNDAABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**SIGNING AND PAVEMENT MARKING PLAN**  
**LINE "PR-A" / "PR-D"**

REVISIONS	HORIZONTAL SCALE 1"=20' VERTICAL SCALE N/A	PROJECT NUMBER <b>114-035</b>
DRAWN: JNII	SURVEY BOOK -	SHEETS
CHECKED: WRC	DATE / /	<b>54</b> OF <b>107</b>



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△ Revised curb location

△ Revised "BICYCLE /PEDESTRIAN SYMBOL DETAIL".  
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*WRC* 2-11-16  
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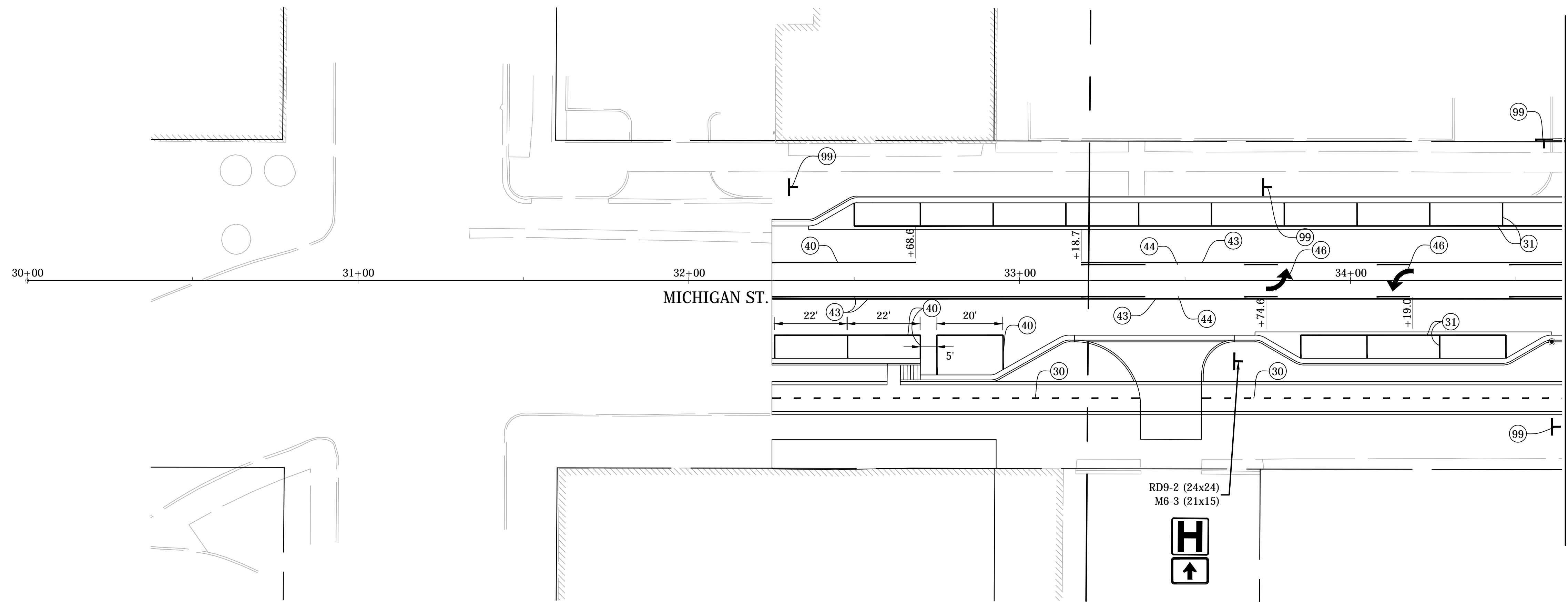
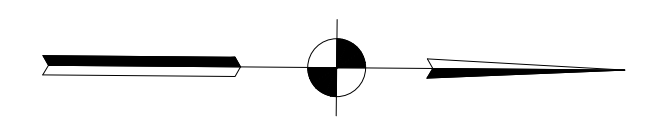
CITY OF SOUTH BEND, INDIANA  
ROUNDBOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS  
SIGNING AND PAVEMENT MARKING PLAN  
LINE "PR-A" / "PR-E"

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE N/A	SHEETS <b>55</b> OF <b>107</b>
DRAWN: JNII	SURVEY BOOK	
CHECKED: WRC	DATE	



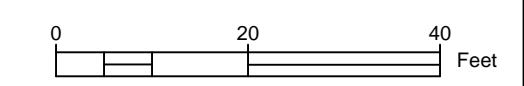
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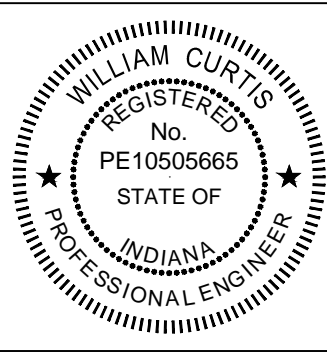
Matchline - Sta. 34+65 Line "PR-B"

- |   |  |   |   |  |
|---|--|---|---|--|
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**LEGEND**

*William R. Curtis* 2-11-16  
SIGNATURE DATE



**CITY OF SOUTH BEND, INDIANA**  
**ROUNDAABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**  
**SIGNING AND PAVEMENT MARKING PLAN**  
**LINE "PR-B" - MICHIGAN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20' VERTICAL SCALE N/A	PROJECT NUMBER <b>114-035</b>
DRAWN: DJZ	SURVEY BOOK - DATE / /	SHEETS <b>56</b> OF <b>107</b>
CHECKED: WRC		

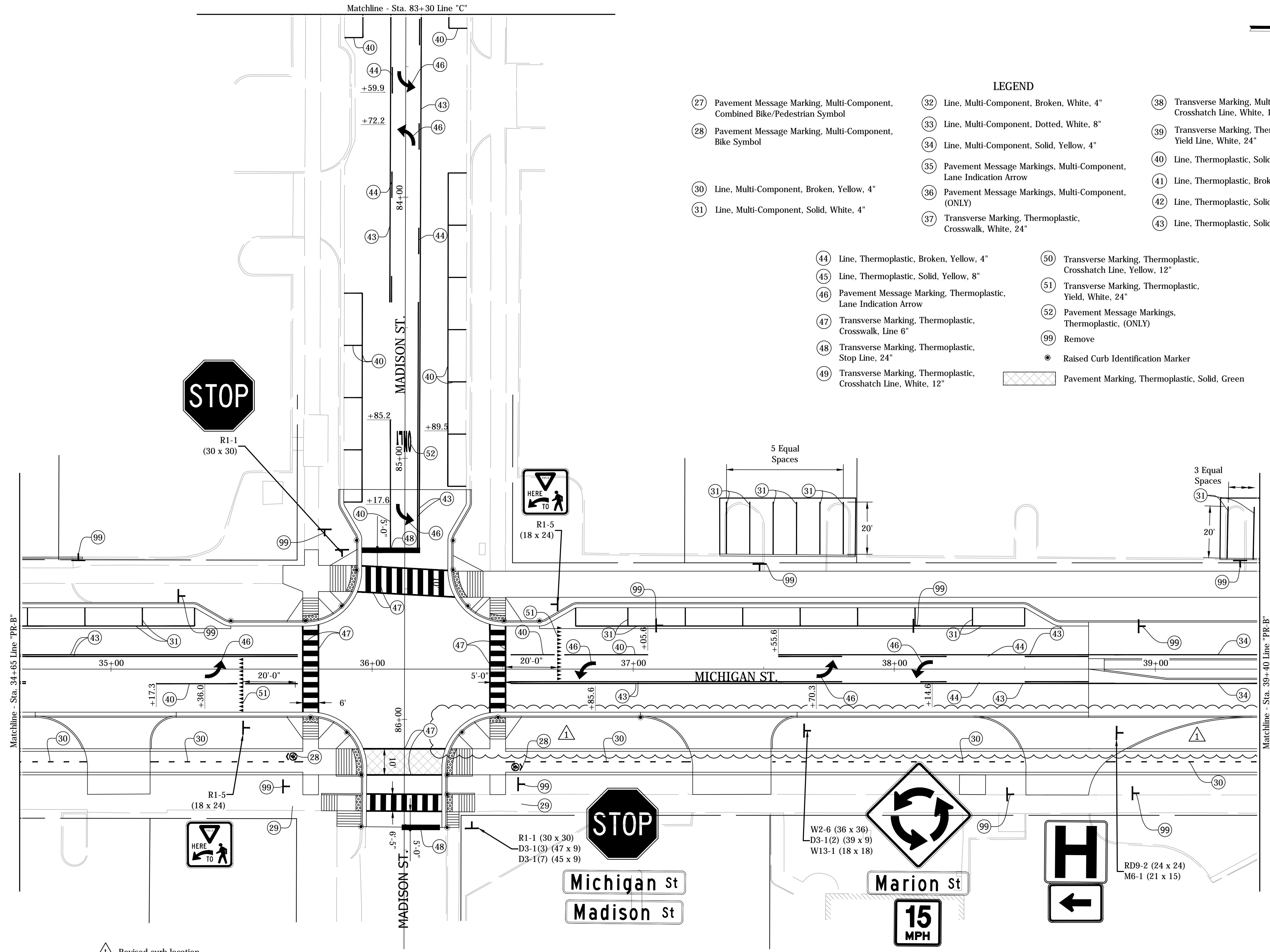


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- △ Revised "BICYCLE /PEDESTRIAN SYMBOL DETAIL". (Pavement Marking Legend Item (27))
- △ Deleted "PEDESTRIAN SYMBOL DETAIL". (Deleted Pavement Marking Legend Item (29))
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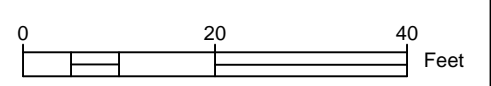
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▲ Revised curb location

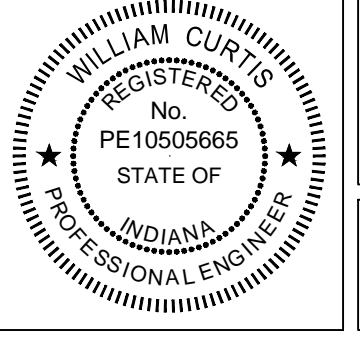


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SIGNATURE DATE

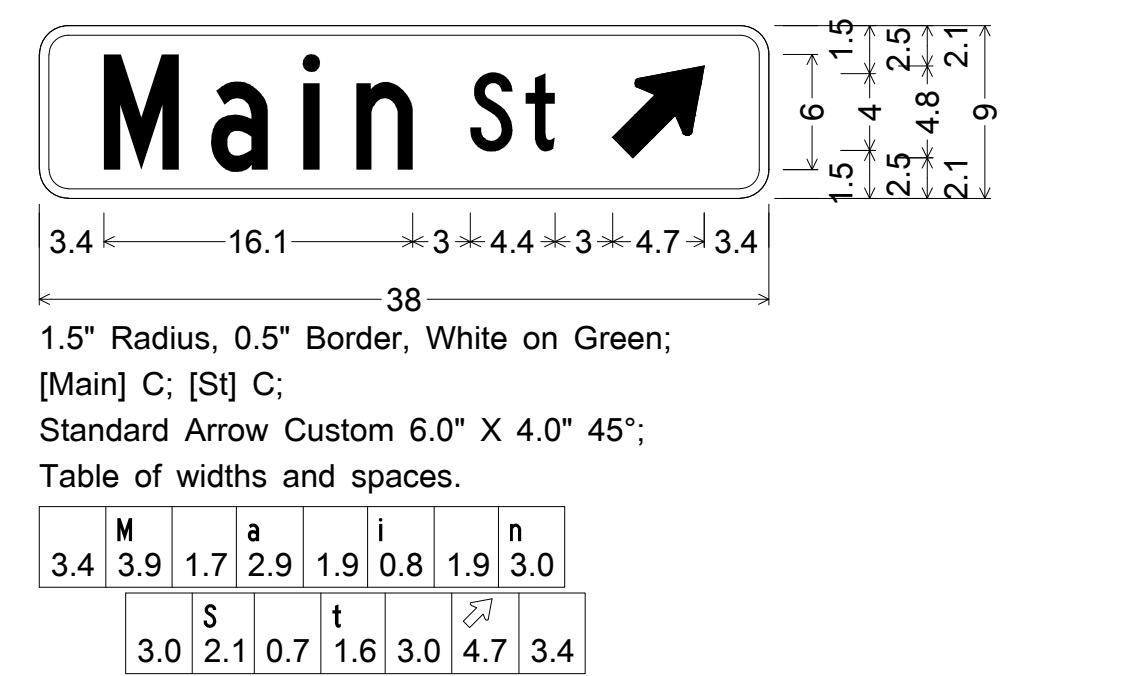
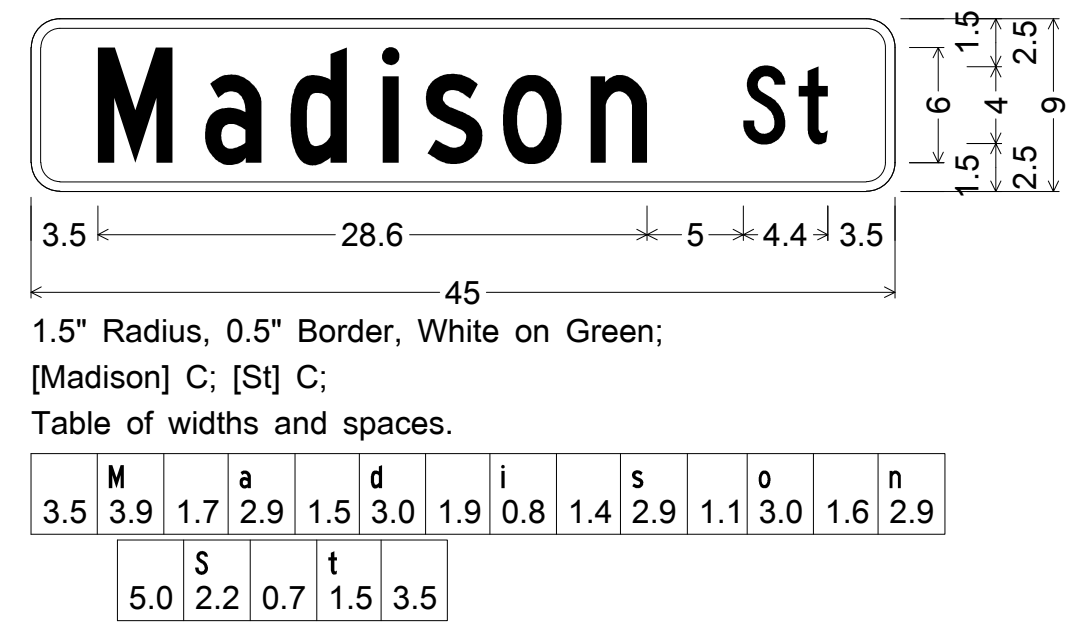
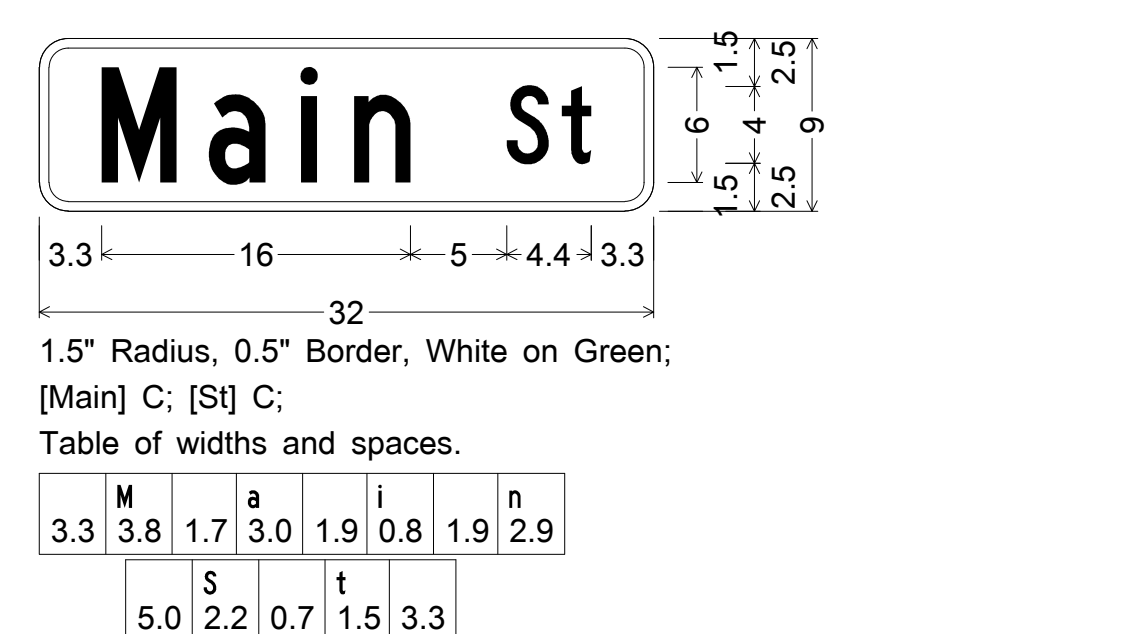
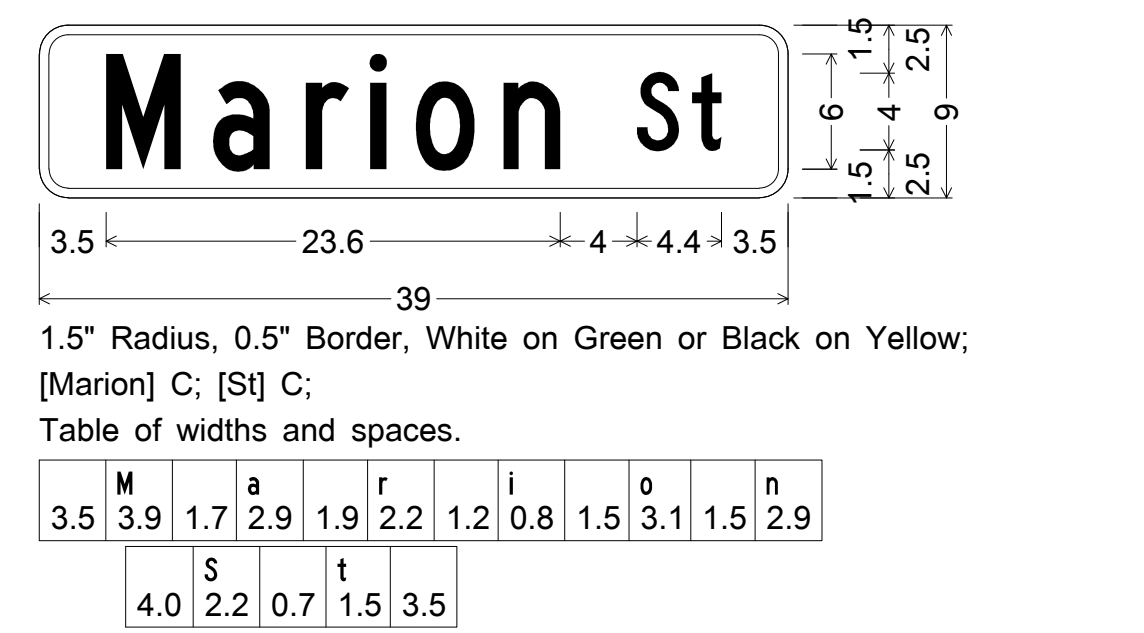
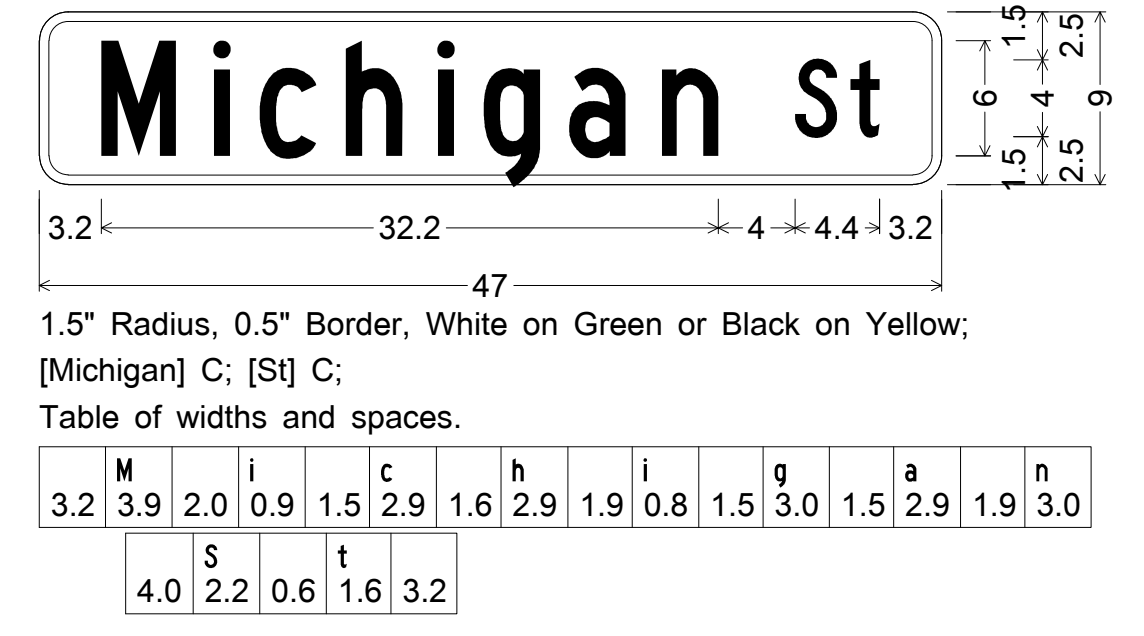
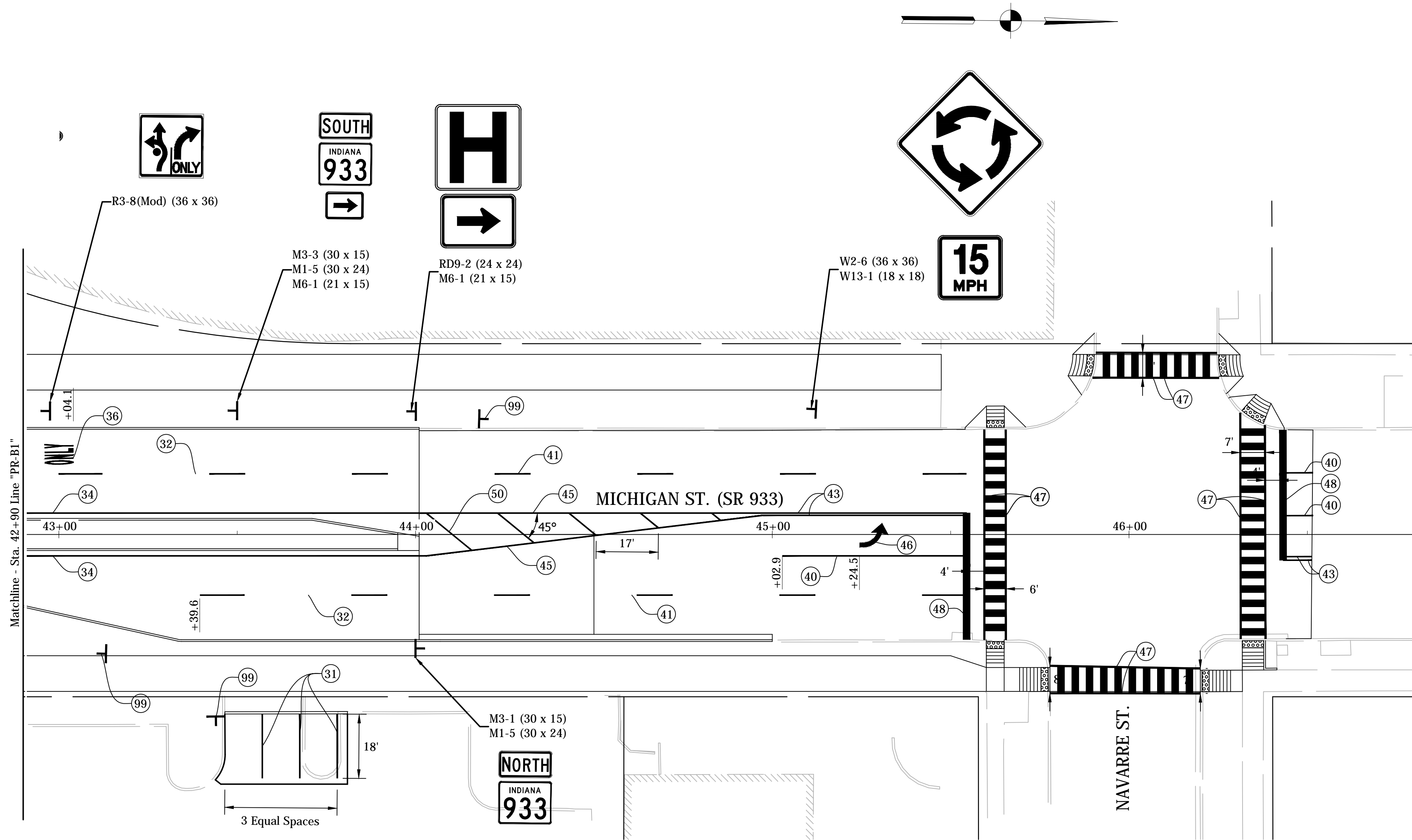


**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**SIGNING AND PAVEMENT MARKING PLAN**  
**LINE "PR-B" - MICHIGAN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>	
	VERTICAL SCALE N/A		
DRAWN: DJZ	SURVEY BOOK	SHEETS	
CHECKED: WRC	DATE	<b>57</b>	<b>OF 107</b>





- LEGEND**
- (27) Pavement Message Marking, Multi-Component, Combined Bike/Pedestrian Symbol
  - (28) Pavement Message Marking, Multi-Component, Bike Symbol
  - (30) Line, Multi-Component, Broken, Yellow, 4"
  - (31) Line, Multi-Component, Solid, White, 4"
  - (32) Line, Multi-Component, Broken, White, 4"
  - (33) Line, Multi-Component, Dotted, White, 8"
  - (34) Line, Multi-Component, Solid, Yellow, 4"
  - (35) Pavement Message Markings, Multi-Component, Lane Indication Arrow
  - (36) Pavement Message Markings, Multi-Component, (ONLY)
  - (37) Transverse Marking, Thermoplastic, Crosswalk, White, 24"
  - (38) Transverse Marking, Multi-Component, Crosshatch Line, White, 12"
  - (39) Transverse Marking, Thermoplastic, Yield Line, White, 24"
  - (40) Line, Thermoplastic, Solid, White, 4"
  - (41) Line, Thermoplastic, Broken, White, 4"
  - (42) Line, Thermoplastic, Solid, White, 8"
  - (43) Line, Thermoplastic, Solid, Yellow, 4"
  - (44) Line, Thermoplastic, Broken, Yellow, 4"
  - (45) Line, Thermoplastic, Solid, Yellow, 8"
  - (46) Pavement Message Marking, Thermoplastic, Lane Indication Arrow
  - (47) Transverse Marking, Thermoplastic, Crosswalk, Line 6"
  - (48) Transverse Marking, Thermoplastic, Stop Line, 24"
  - (49) Transverse Marking, Thermoplastic, Crosshatch Line, White, 12"
  - (50) Transverse Marking, Thermoplastic, Crosshatch Line, Yellow, 12"
  - (51) Transverse Marking, Thermoplastic, Yield, White, 24"
  - (52) Pavement Message Markings, Thermoplastic, (ONLY)
  - (99) Remove
  - Raised Curb Identification Marker
  - ▨ Pavement Marking, Thermoplastic, Solid, Green

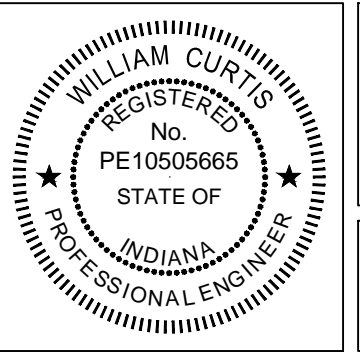
△ Revised "BICYCLE /PEDESTRIAN SYMBOL DETAIL". (Pavement Marking Legend Item (27))

△ Deleted "PEDESTRIAN SYMBOL DETAIL". (Deleted Pavement Marking Legend Item (29))

△ Deleted Item (30) From Bike Path Along Line "A"/Line "PRA" Item (30) Along Line "B" Now Shown as Broken Line (2' Line/4' Gap)

△ Revised Crosswalks, Added Crosswalk Detail

*WRC* 2-11-16  
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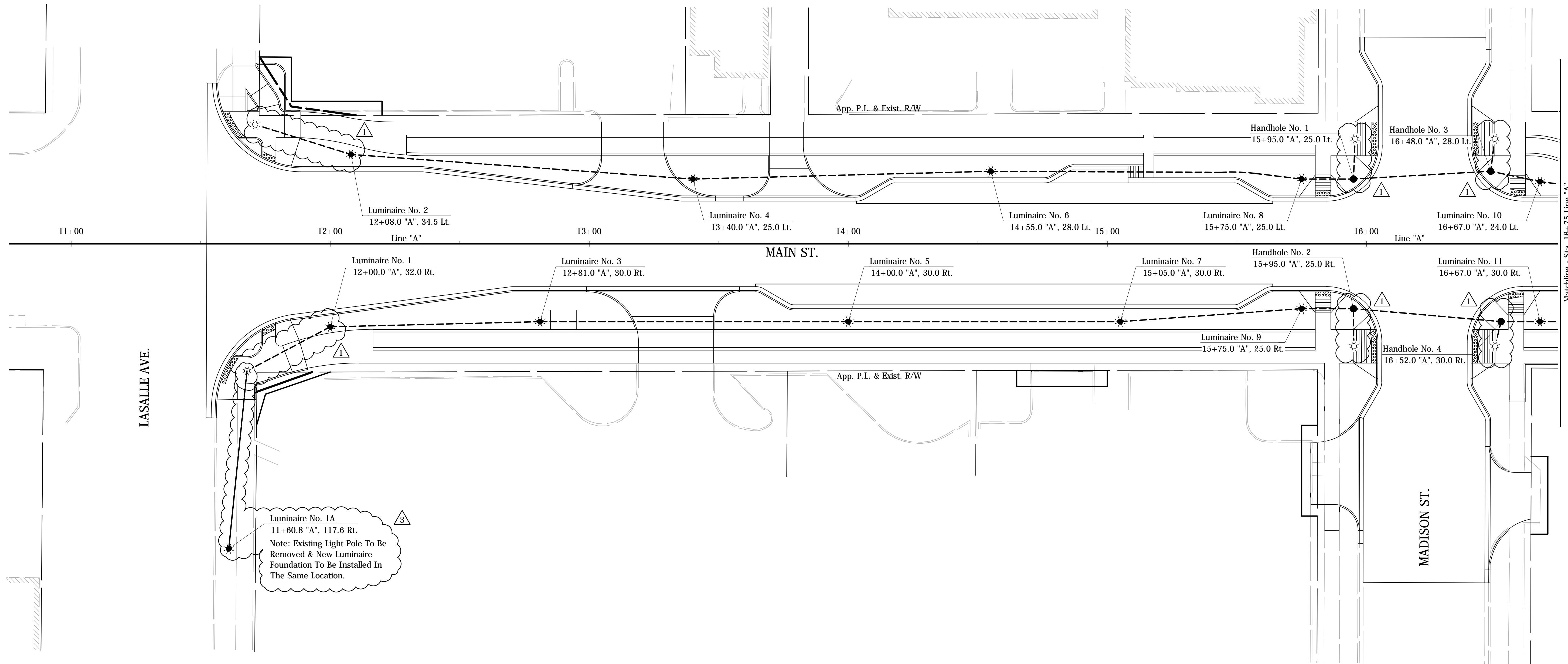
CITY OF SOUTH BEND, INDIANA  
ROUNDBOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS  
SIGNING AND PAVEMENT MARKING PLAN  
LINE "PR-B1" - MICHIGAN ST.

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
DRAWN: DJZ	VERTICAL SCALE N/A	SHEETS <b>58</b> OF <b>107</b>
CHECKED: WRC	SURVEY BOOK DATE / /	



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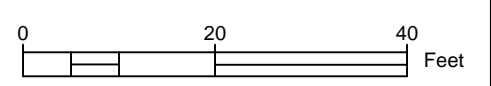


**Luminaire No. 1A**  
 11+60.8 "A", 117.6 Rt.  
 Note: Existing Light Pole To Be Removed & New Luminaire Foundation To Be Installed In The Same Location.

**LEGEND**

	Service Point, Type II, 120V/240V		Bollard, Decorative, Illuminated (See Construction Details For Locations)
	L.E.D. Luminaire on Decorative Post		Wire, No. 6 Copper, 4-1/C in Conduit, HDPE, 2", Schedule 80
	Twin Arm L.E.D. Luminaires on Decorative Post		TESCO Cabinet, on Concrete Foundation
	Lighting Handhole		Existing Light Pole

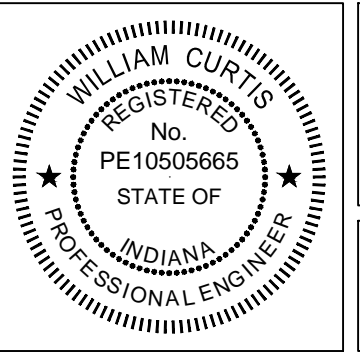
- GENERAL NOTES**
- All work shall confirm to latest version of the National Electrical Code & all local ordinances.
  - Refer To "Survey Control" Sheet For Alignment Information, Benchmarks & Reference Ties.
  - Refer to "Lighting Plan Tables & Miscellaneous Details" for more information.



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- Revised lighting legend & added wiring for bollards
- Revised lighting legend, Added luminaire

*WRC* 2-11-16  
 SIGNATURE DATE



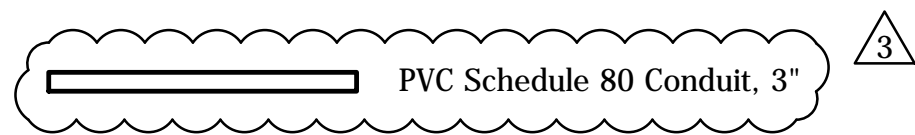
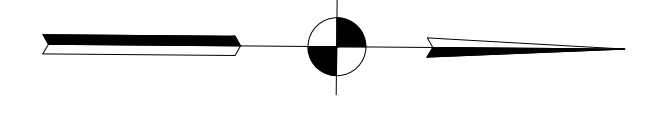
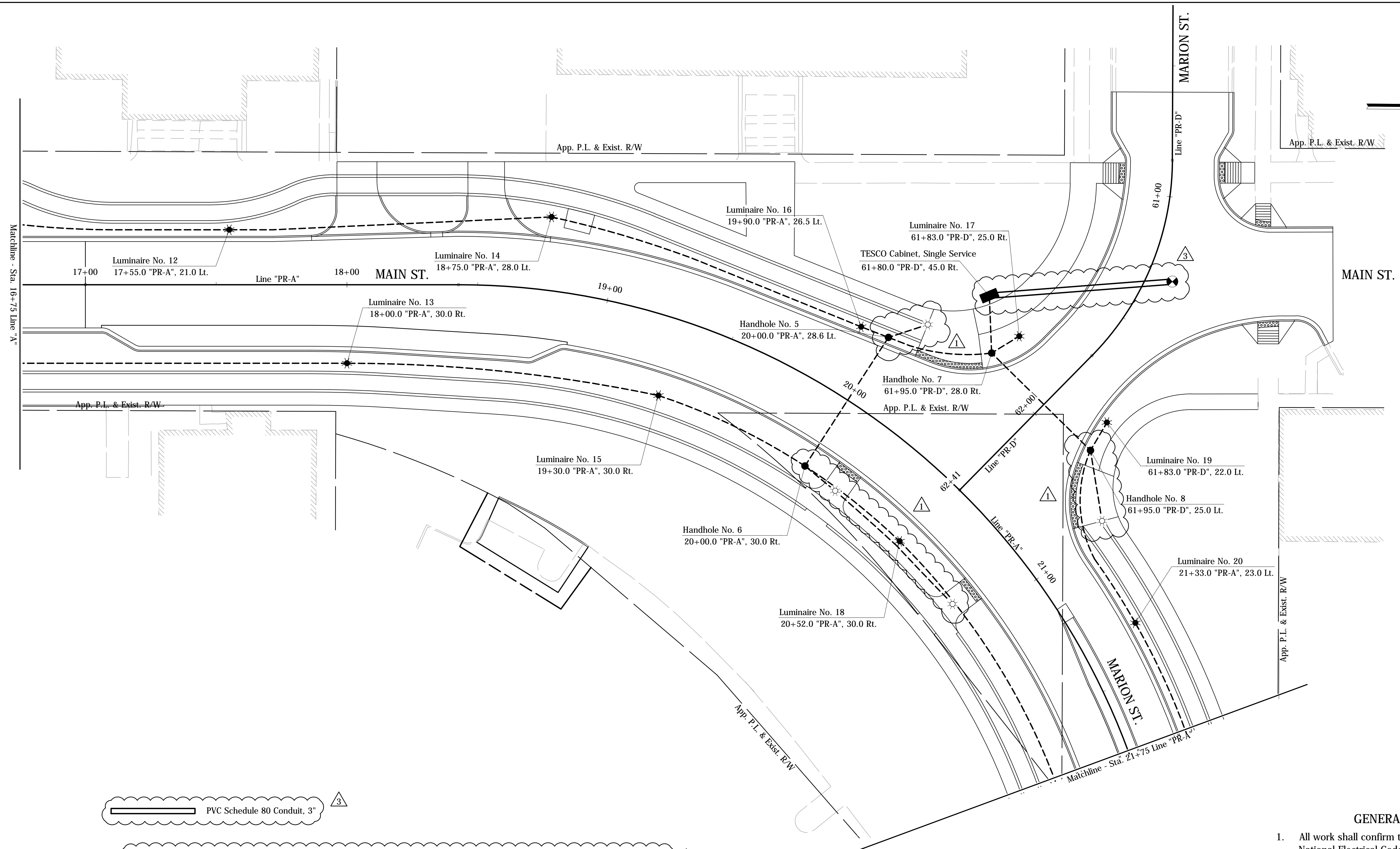
**CITY OF SOUTH BEND, INDIANA**  
**ROUNDABOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**LIGHTING PLAN**  
**LINE "A" - MAIN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
VERTICAL SCALE N/A	SURVEY BOOK	SHEETS
DRAWN: JNII	DATE	<b>63</b> OF <b>107</b>
CHECKED: WRC	DATE	

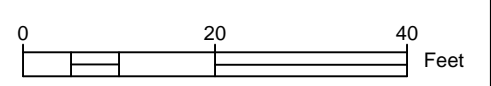


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LEGEND	
	Service Point, Type II, 120V/240V
	L.E.D. Luminaire on Decorative Post
	Twin Arm L.E.D. Luminaires on Decorative Post
	Lighting Handhole
	Bollard, Decorative, Illuminated (See Construction Details For Locations)
	Wire, No. 6 Copper, 4-1/C in Conduit, HDPE, 2", Schedule 80
	TESCO Cabinet, on Concrete Foundation
	Existing Light Pole

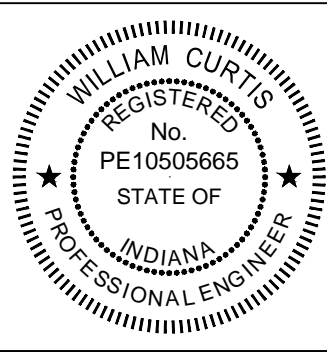
- GENERAL NOTES**
- All work shall confirm to latest version of the National Electrical Code & all local ordinances.
  - Refer To "Survey Control" Sheet For Alignment Information, Benchmarks & Reference Ties.
  - Refer to "Lighting Plan Tables & Miscellaneous Details" for more information.



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- Revised lighting legend & added wiring for bollards
- Revised lighting legend, Added service point location

*W.R.C.* 2-11-16  
SIGNATURE DATE

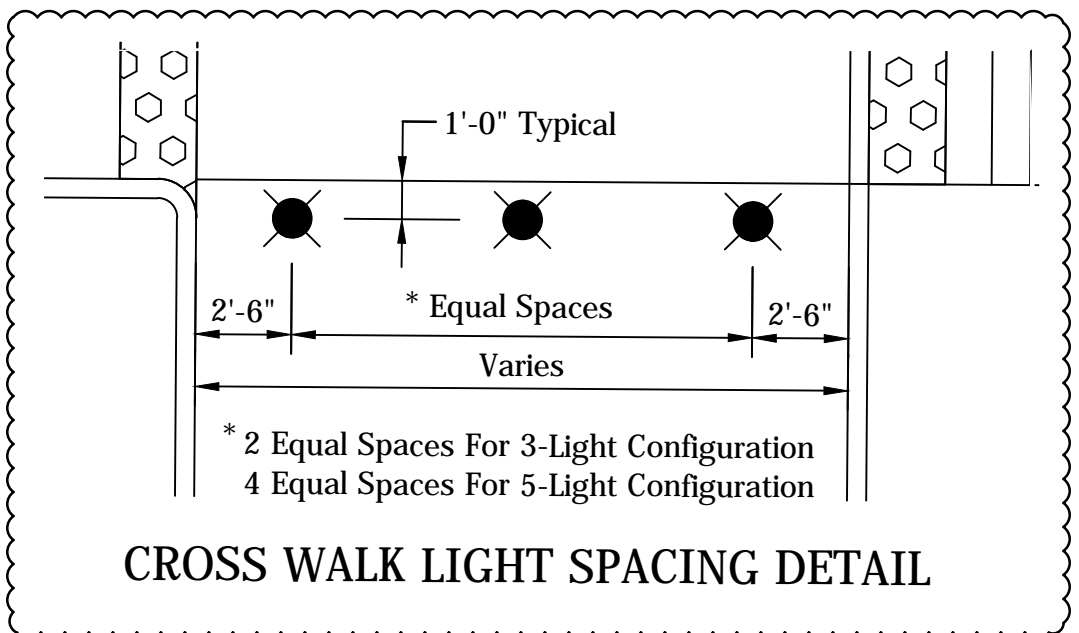
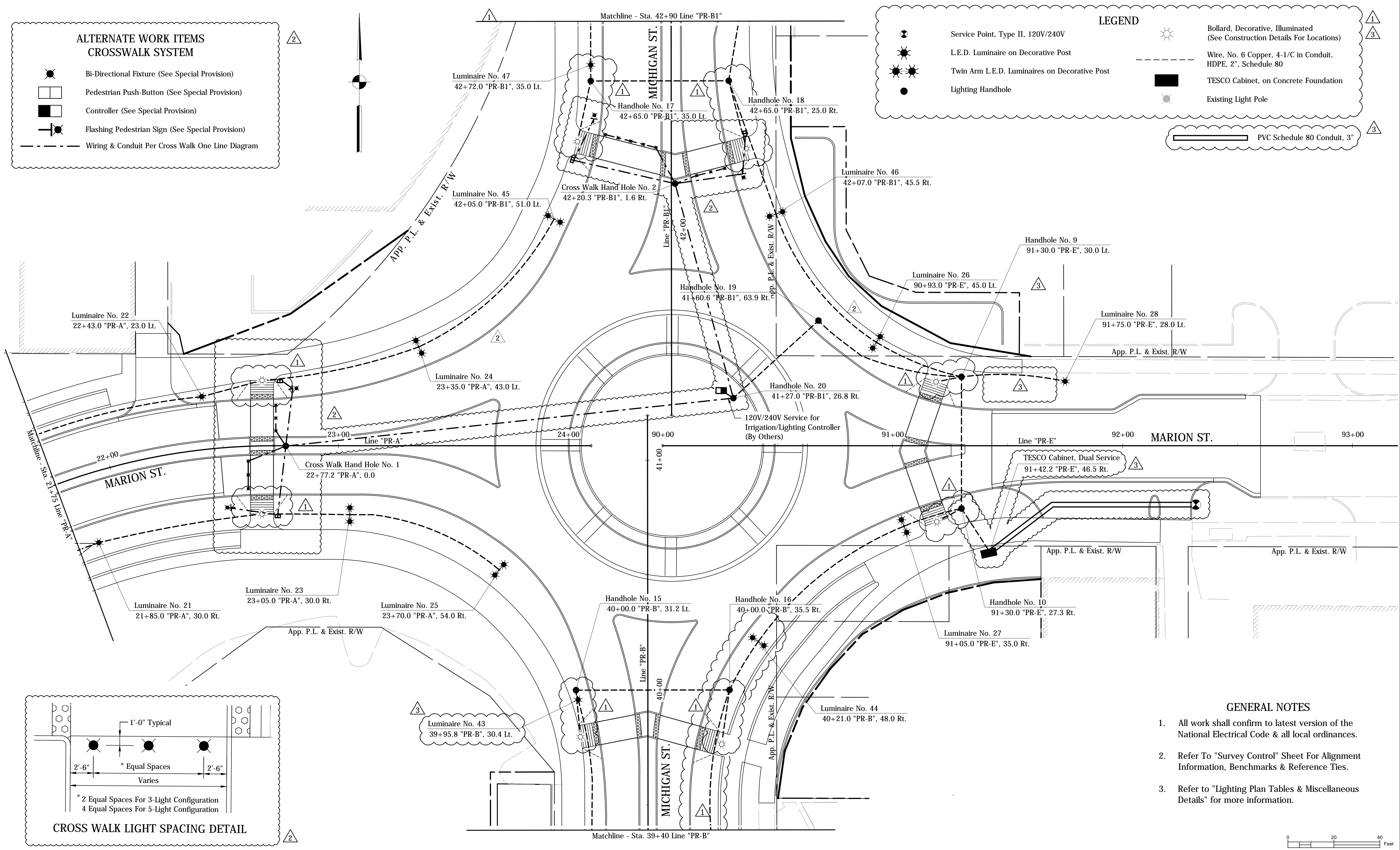
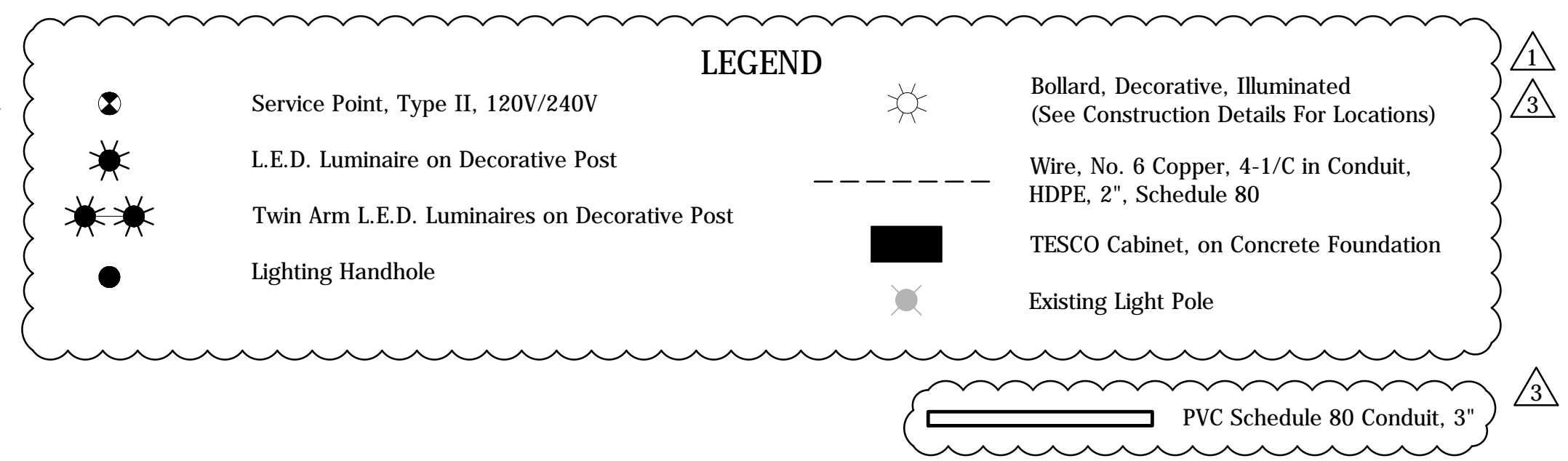
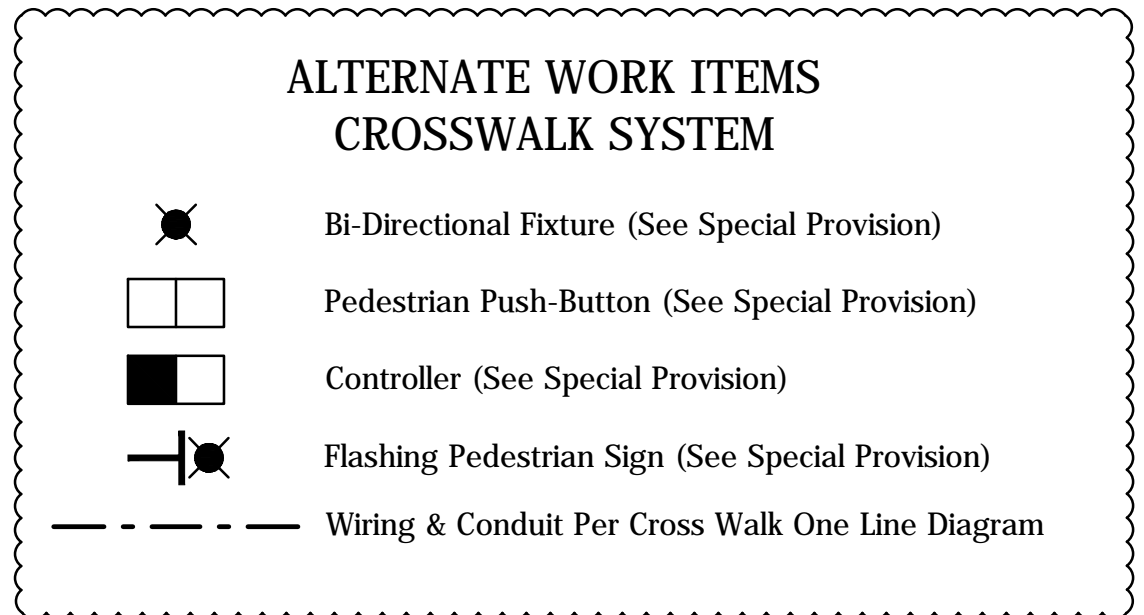


**CITY OF SOUTH BEND, INDIANA  
ROUNDAABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS**

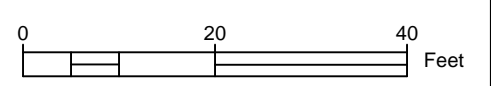
**LIGHTING PLAN  
LINE "A"/LINE "PR-A" - MAIN & MARION ST.**

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
DRAWN: JNII	VERTICAL SCALE N/A	SHEETS <b>64</b> OF <b>107</b>
CHECKED: WRC	SURVEY BOOK DATE / /	

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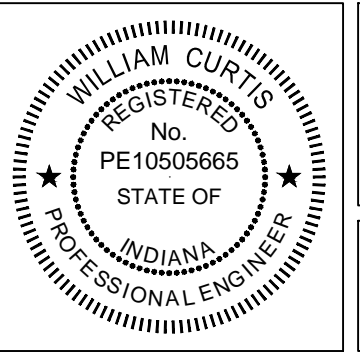
- ### GENERAL NOTES
- All work shall confirm to latest version of the National Electrical Code & all local ordinances.
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  - Refer to "Lighting Plan Tables & Miscellaneous Details" for more information.



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- Revised lighting legend & added wiring for bollards & revised curb location
- Crosswalk System Details Added as Alternate Work Items
- Revised lighting legend, Revised luminaire #43 & Tesco cabinet locations

*WRC*  
SIGNATURE DATE  
2-11-16

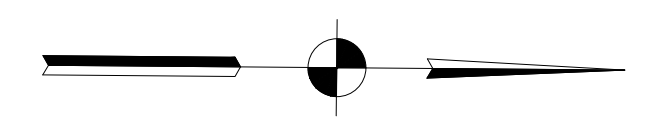
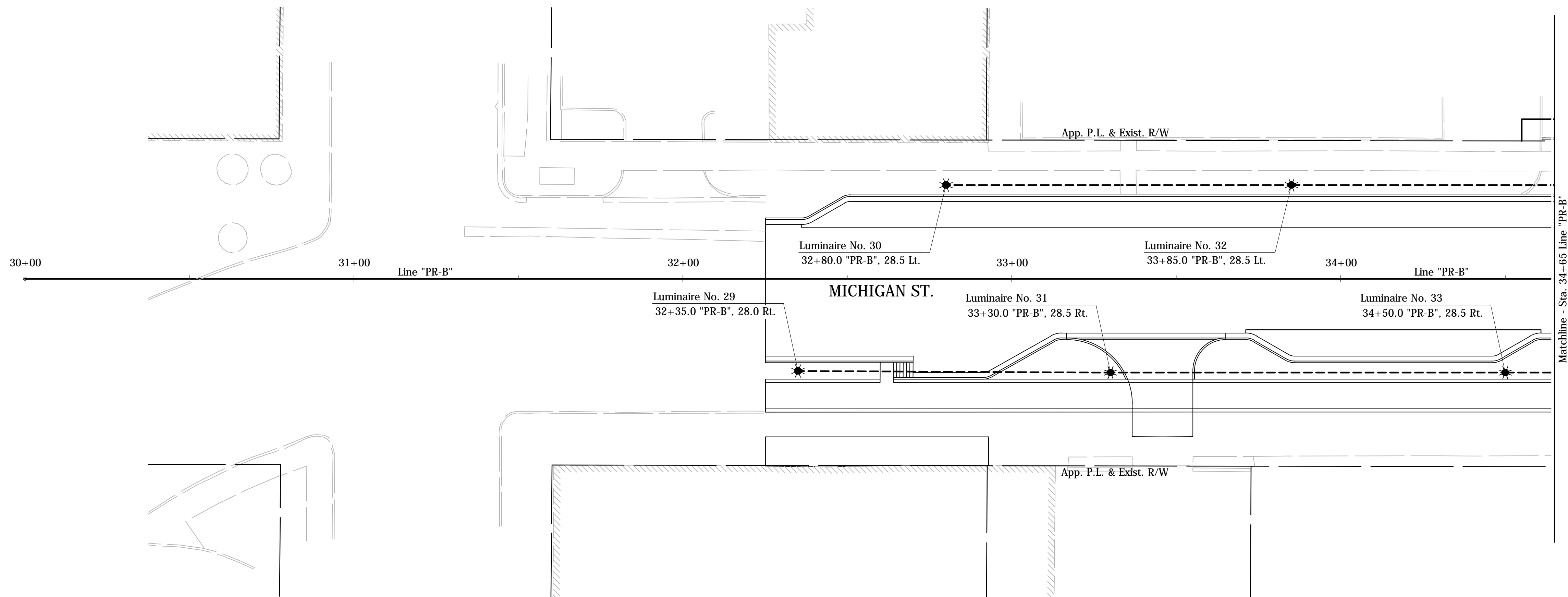


CITY OF SOUTH BEND, INDIANA  
ROUNDBOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS  
**LIGHTING PLAN**  
LINE "PR-A"/LINE "PR-E" - MARION ST.

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE N/A	
DRAWN: JNII	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE	<b>65</b> OF <b>107</b>



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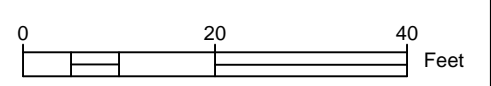


**LEGEND**

	Service Point, Type II, 120V/240V		Bollard, Decorative, Illuminated (See Construction Details For Locations)
	L.E.D. Luminaire on Decorative Post		Wire, No. 6 Copper, 4-1/C in Conduit, HDPE, 2", Schedule 80
	Twin Arm L.E.D. Luminaires on Decorative Post		TESCO Cabinet, on Concrete Foundation
	Lighting Handhole		Existing Light Pole

**GENERAL NOTES**

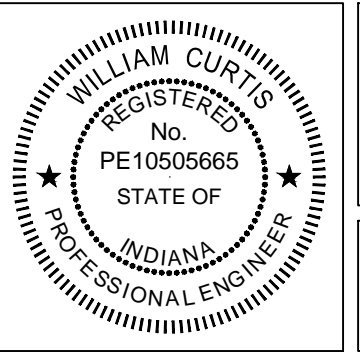
1. All work shall confirm to latest version of the National Electrical Code & all local ordinances.
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Revised lighting legend  
 Revised lighting legend

*W. R. Ct.* 2-11-16  
SIGNATURE DATE

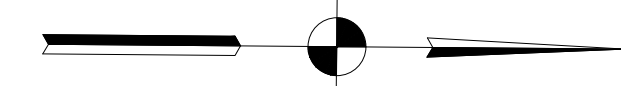
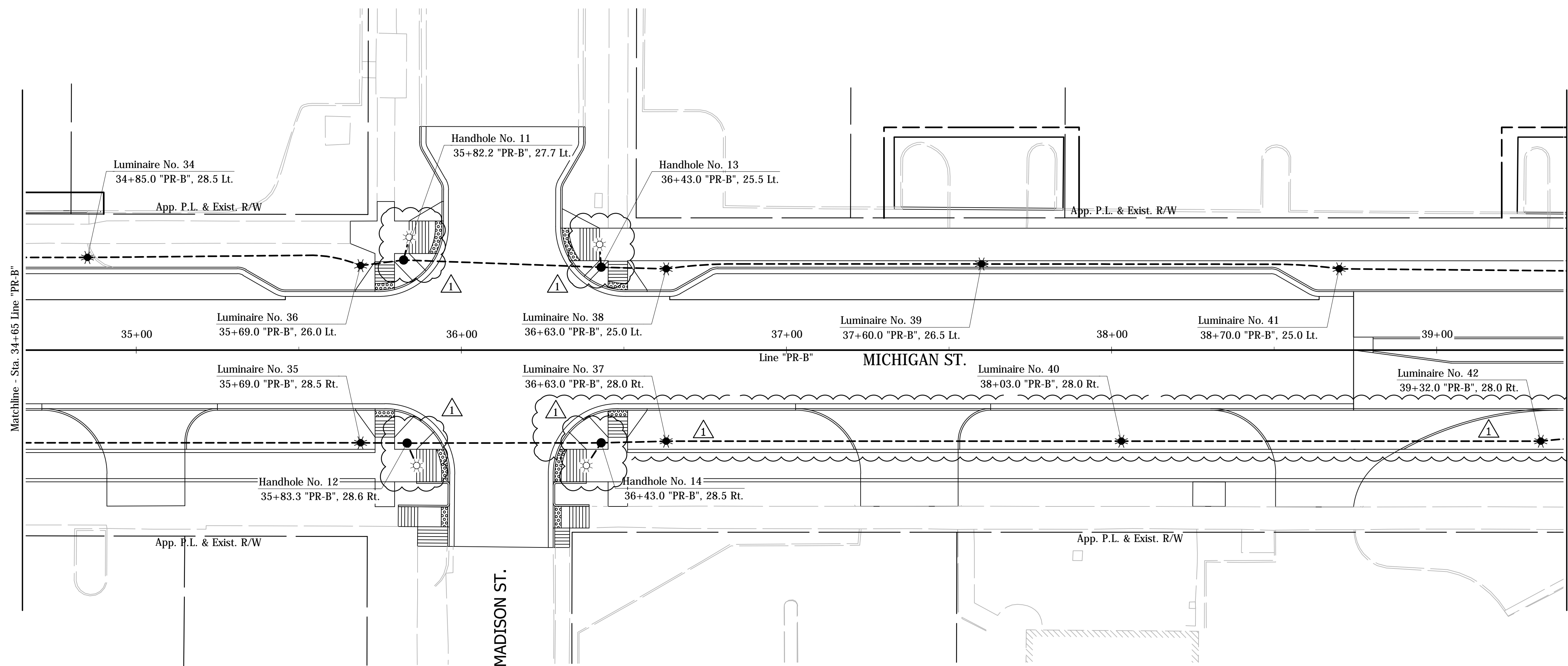


**CITY OF SOUTH BEND, INDIANA**  
**ROUNDBOUT INTERSECTION AT**  
**MARION, MICHIGAN, & MAIN STREETS**

**LIGHTING PLAN**  
**LINE "PR-B" - MICHIGAN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
DRAWN: JNII	VERTICAL SCALE N/A	SHEETS
CHECKED: WRC	DATE / /	<b>66</b> OF <b>107</b>

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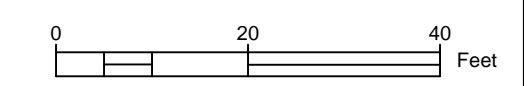


**LEGEND**

	Service Point, Type II, 120V/240V		Bollard, Decorative, Illuminated (See Construction Details For Locations)
	L.E.D. Luminaire on Decorative Post		Wire, No. 6 Copper, 4-1/C in Conduit, HDPE, 2", Schedule 80
	Twin Arm L.E.D. Luminaires on Decorative Post		TESCO Cabinet, on Concrete Foundation
	Lighting Handhole		Existing Light Pole

**GENERAL NOTES**

1. All work shall confirm to latest version of the National Electrical Code & all local ordinances.
2. Refer To "Survey Control" Sheet For Alignment Information, Benchmarks & Reference Ties.
3. Refer to "Lighting Plan Tables & Miscellaneous Details" for more information.



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- Revised lighting legend & added wiring for bollards & revised curb location
- Revised lighting legend, Added luminaire

*W. R. C.* 2-11-16  
SIGNATURE DATE

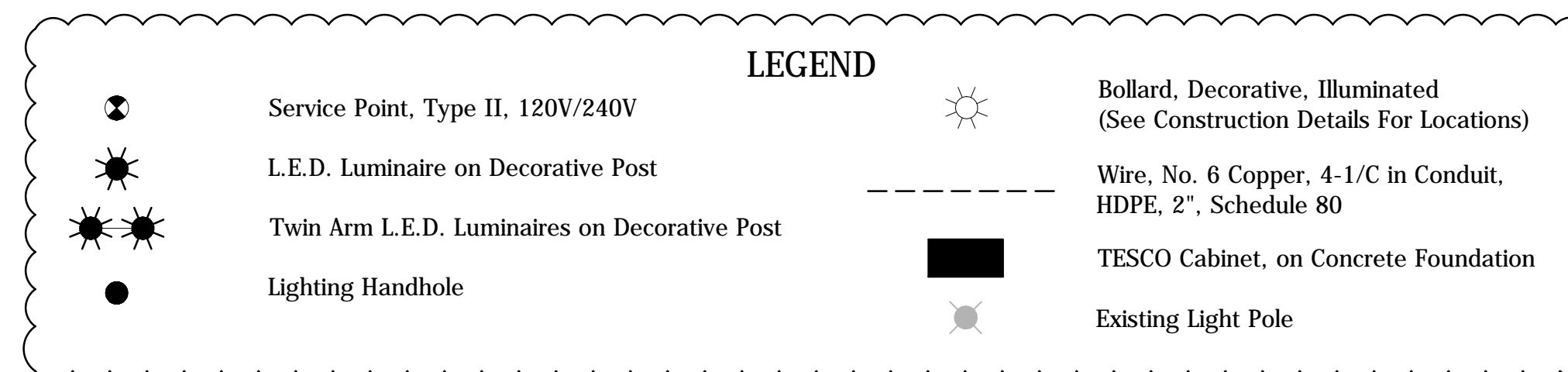
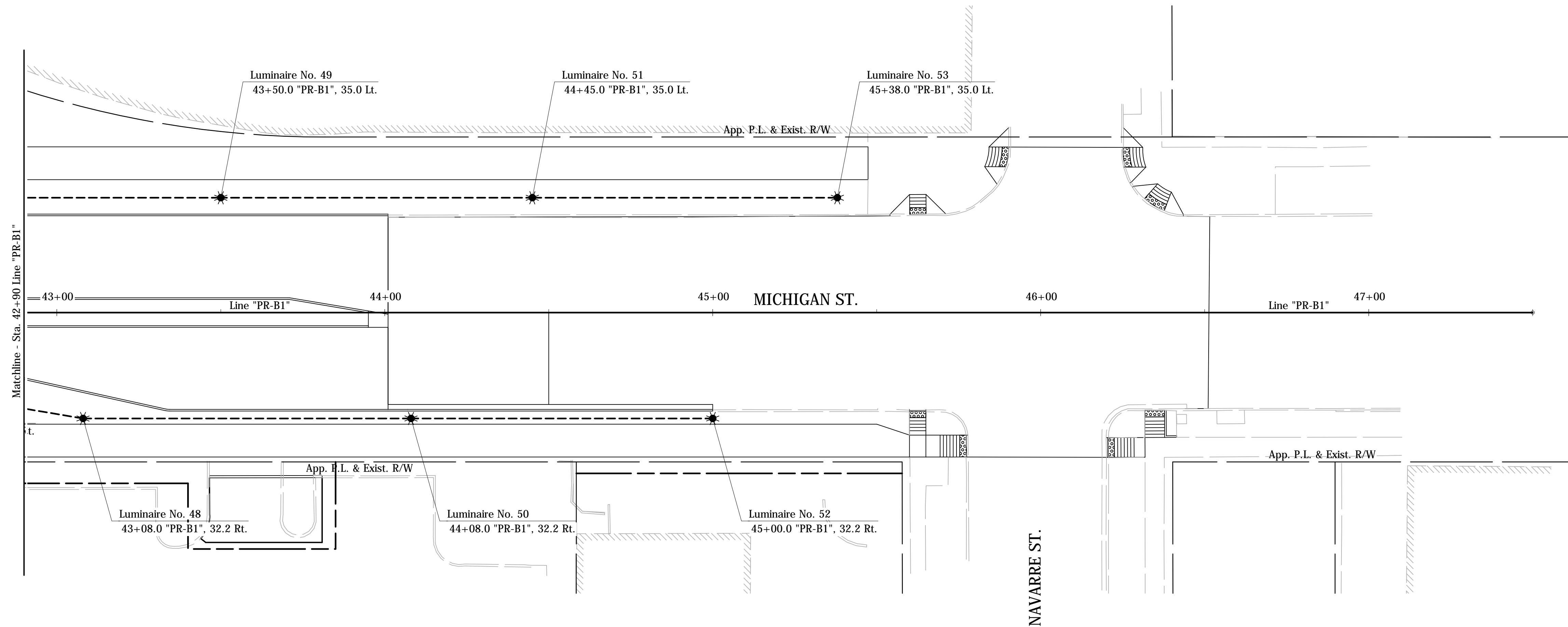
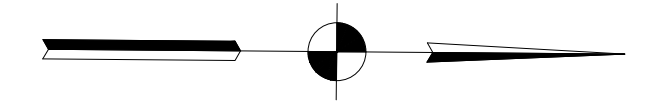


**CITY OF SOUTH BEND, INDIANA  
ROUNDAABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS**

**LIGHTING PLAN  
LINE "PR-B" - MICHIGAN ST.**

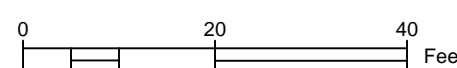
REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
DRAWN: JNII	VERTICAL SCALE N/A	SHEETS
CHECKED: WRC	SURVEY BOOK DATE / /	<b>67</b> OF <b>107</b>





**GENERAL NOTES**

1. All work shall confirm to latest version of the National Electrical Code & all local ordinances.
2. Refer To "Survey Control" Sheet For Alignment Information, Benchmarks & Reference Ties.
3. Refer to "Lighting Plan Tables & Miscellaneous Details" for more information.



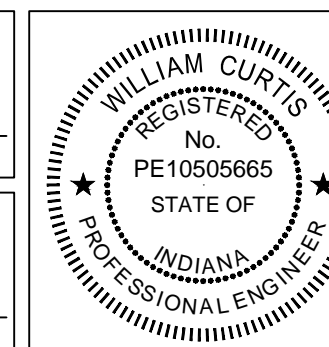
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- Revised lighting legend
- Revised lighting legend

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SIGNATURE DATE



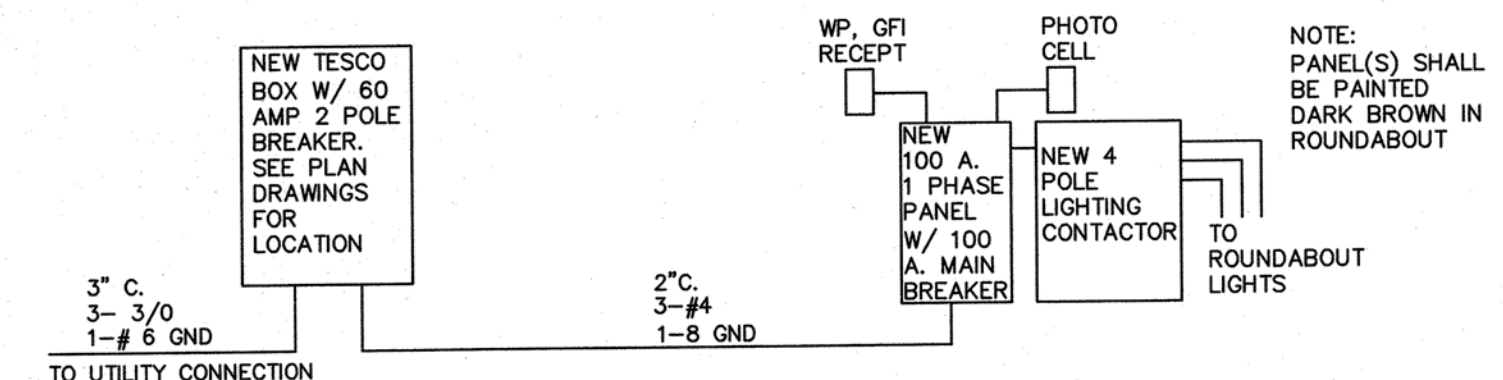
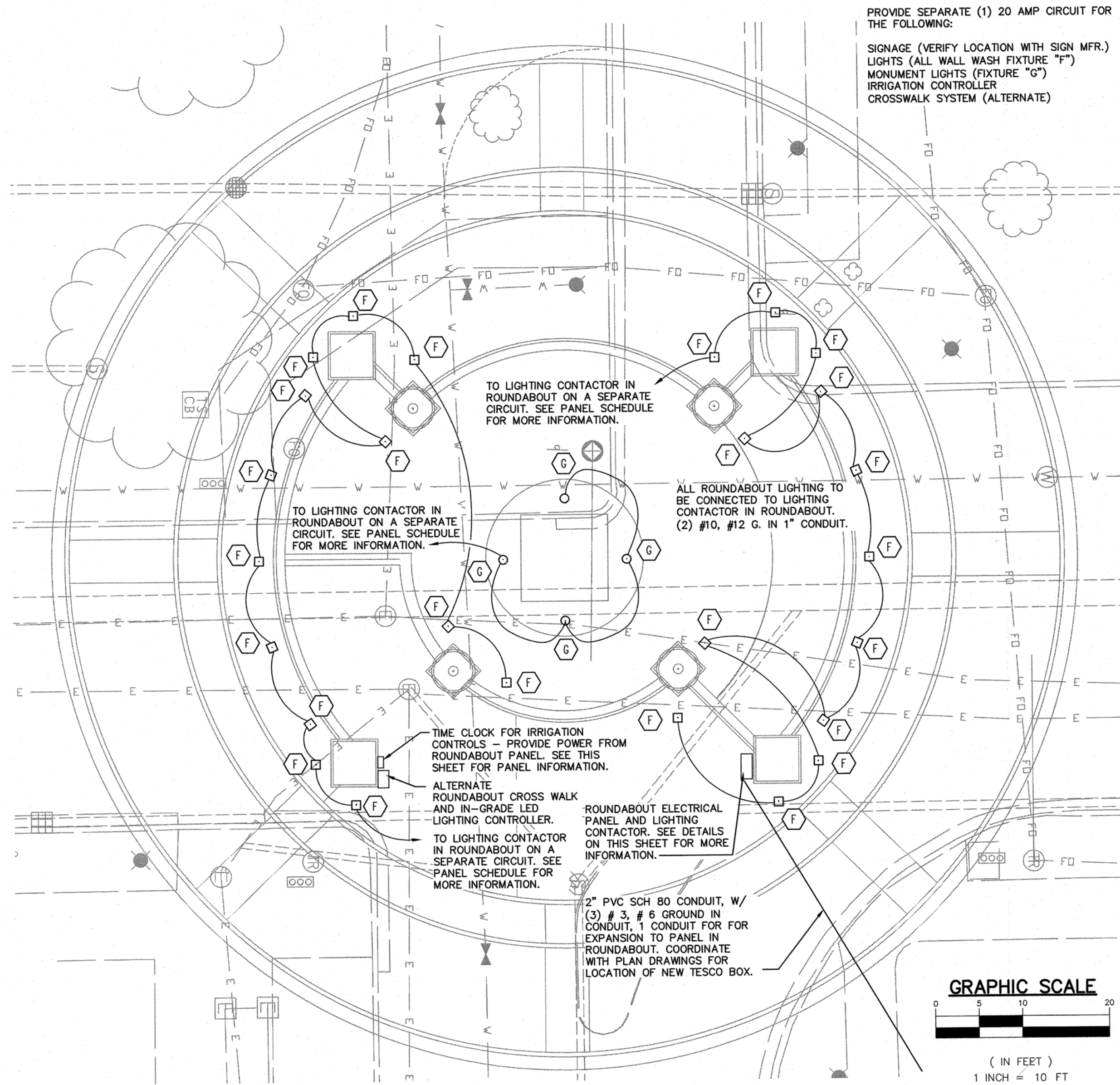
**CITY OF SOUTH BEND, INDIANA  
ROUNDAABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS**

**LIGHTING PLAN  
LINE "PR-B1" - MICHIGAN ST.**

REVISIONS	HORIZONTAL SCALE 1"=20'	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE N/A	
DRAWN: JNII	SURVEY BOOK -	SHEETS
CHECKED: WRC	DATE / /	<b>68</b> OF <b>107</b>

LIGHTING SCHEDULE - DENOTED BY					
MARK	QTY	MANUFACTURER*	CATALOG NO.	LAMP	NOTES
F	26	KIM LIGHTING	EL218F3-BL3KUV-BL SM18-BL-P	LED 3,000K MICRO FLOOD LIGHT	DIE-CAST ALUMINUM LED MICRO FLOOD 955 LUMENS. COLOR BLACK STANCHION MOUNT - CAST ALUMINUM WITH 1/2" NPSM FIXTURE MOUNT, COLOR BLACK. SEE DETAIL ON THIS SHEET FOR POST INSTALLATION.
G	4	BEACON (FIXTURE) KIM LIGHTING (BASE)	CDT/24NB/55/3K/5x3/UNV/BBT/HV SM18/BL/P	LED 3,000K CADET FLOOD LIGHT	BEACON DIE-CAST ALUMINUM LED NARROW SPOT 5,000 LUMENS. COLOR BLACK. KIM LIGHTING STANCHION MOUNT - CAST ALUMINUM WITH 1/2" NPSM FIXTURE MOUNT, COLOR BLACK. SEE DETAIL ON THIS SHEET FOR POST INSTALLATION.

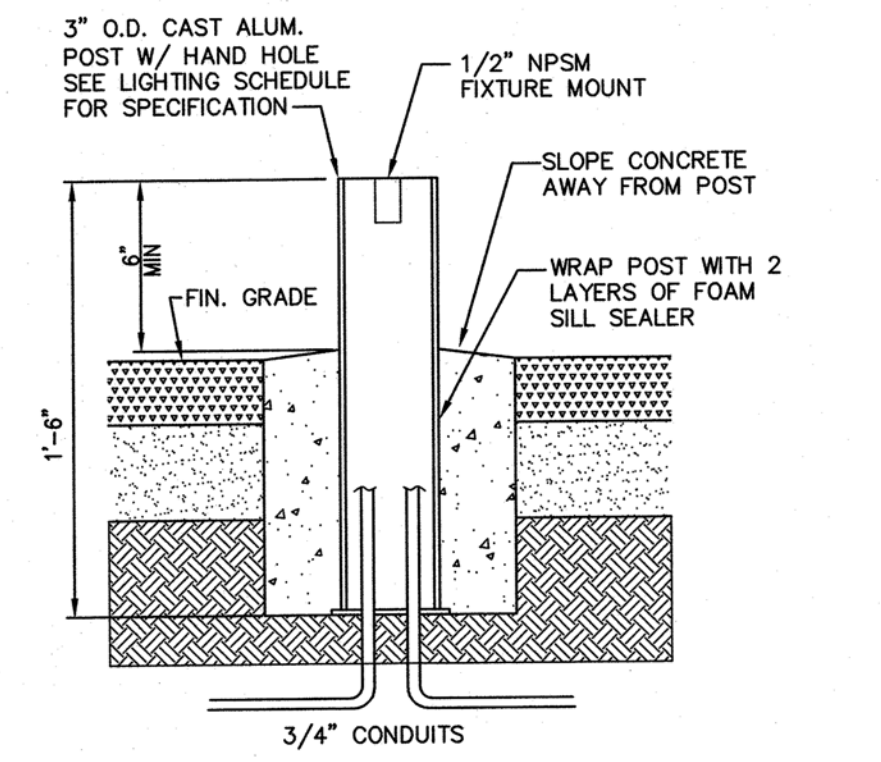
\*NOTE: LIGHTING MANUFACTURER SHALL BE PER PLANS, OR APPROVED EQUAL. CONTRACTOR TO NOTE LEAD TIMES FOR THESE FIXTURES MAY BE LONG. CONTRACTOR MAY HAVE TO START ORDERING PROCESS AS SOON AS CONTRACTS ARE SIGNED.  
AT NO TIME CAN ALL OF THE STREET LIGHTS BE NOT WORKING. COORDINATE WITH APP.



**ROUNDABOUT ELECTRICAL RISER DIAGRAM**  
NOT TO SCALE

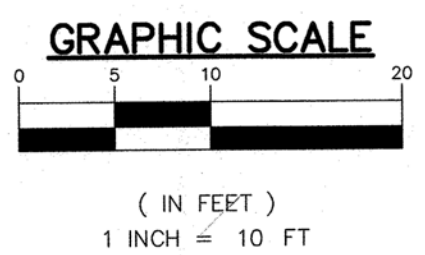
ROUNDABOUT NEW ELECTRICAL PANEL									
CONDUCTORS					MAINS: 100 AMP MAIN BUSS				
(3) #3 CU, # 8 CU GROUND					MAIN BREAKER: 100 AMP MAIN BREAKER VOLTAGE: 120/240V, 1 PH, 3W, 60 HZ				
LOAD	W	C	CCT	VOLTS-AMPS	CCT	C	W	LOAD	
WALL WASH LIGHTS	#10	20	1	200	2	20	#12	IRRIGATION SYSTEM	
MONUMENT SIGN	#10	20	3	500		20	#12	ELECTRIC EYE	
SPACE								SPACE	
RECEPTACLE	#10	20	7	200	8	20	#10	CROSS WALK CONTROLLER (ALTERNATE)	
SPACE								SPACE	
SPACE								SPACE	
DESIGN TOTAL:				700	850				
1,550 WATTS = 6.5 AMPS				SUB-TOTAL WATTAGE					
240 VOLTS				AMPS					
6.5 AMPS (ACTUAL) = 8 AMPS									
0.8 (SAFETY FACTOR)									
USE 60 AMP MAIN BREAKER IN NEW PANEL TESCO BOX									

**ROUNDABOUT ELECTRICAL PANEL**  
NOT TO SCALE



**LANDSCAPE LIGHT FOUNDATION DETAIL**  
NOT TO SCALE

**PLAN GENERAL NOTES:**  
1. PROVIDE NEMA 3R JUNCTION BOX FOR EXTERIOR SIGNAGE. COORDINATE EXACT LOCATION OF BOX PRIOR TO INSTALLATION.



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p: 574.293.7762 p: 574.232.4388 p: 260.422.2522

STEVEN J. ANDERSON  
REGISTERED ARCHITECT  
No. 10200111  
STATE OF INDIANA  
ARCHITECT

*Steve Anderson* 2.11.16  
SIGNATURE DATE

CITY OF SOUTH BEND, INDIANA  
ROUNDABOUT INTERSECTION AT  
MICHIGAN ST. AND MARION ST.

ROUNDABOUT LANDSCAPING  
ELECTRICAL PLAN

REVISIONS	HORIZONTAL SCALE	PROJECT NUMBER
3 ADDED SHEET 02/11/2016	VERTICAL SCALE	114-035
DRAWN: RJH	SURVEY BOOK	SHEETS
CHECKED: CRC	DATE	68-1 OF 107
	Oct. 15, 2015	

\$USERS\$ | \$DATES\$ | \$TIMES\$ | \$FILES\$

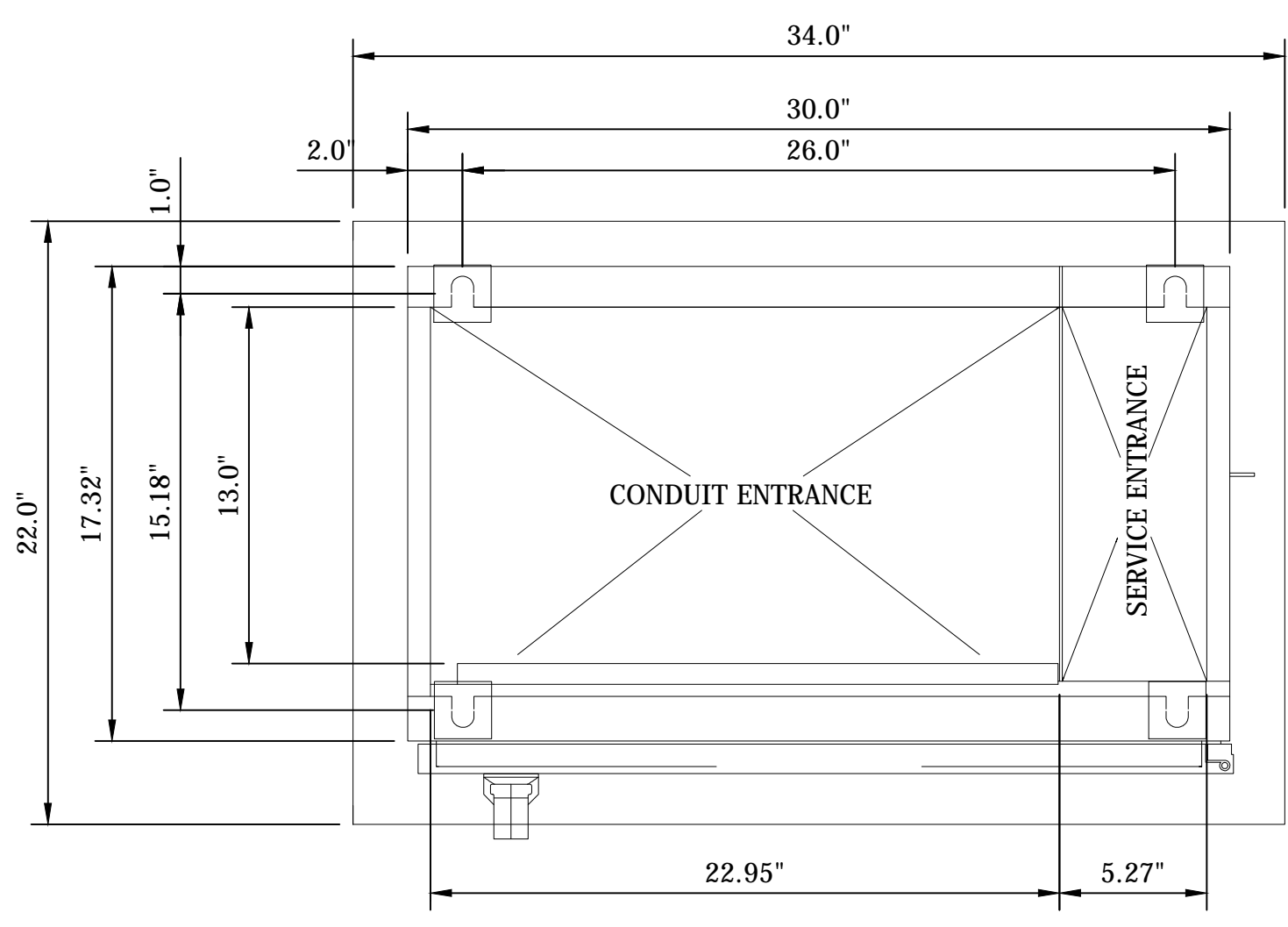
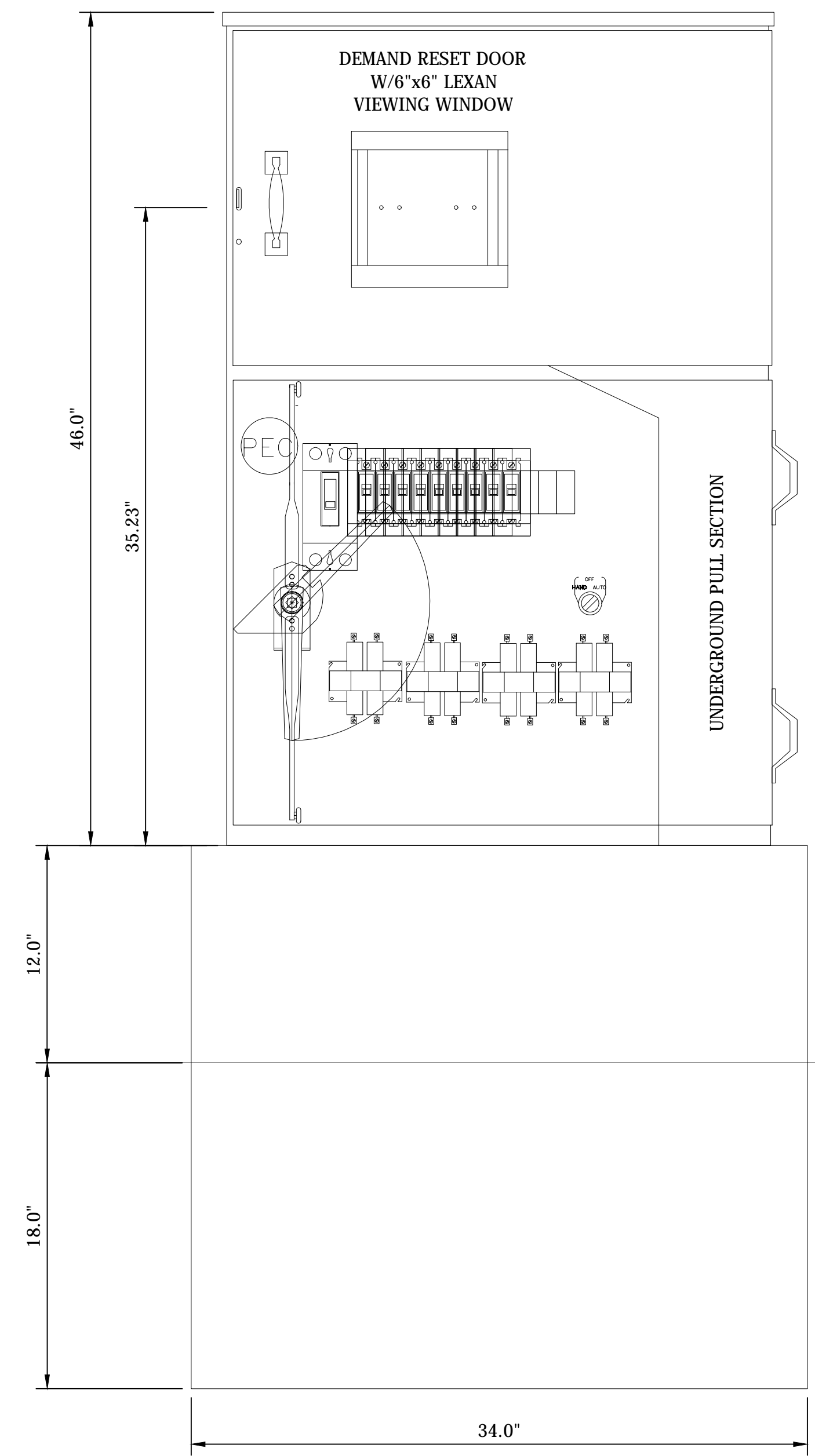
LUMINAIRE SCHEDULE																																																										
Luminaire ID	1	1A	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53				
LED Luminaire Wattage	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145	145			
Connection Type	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Circuit Connection	R	B	B	B	R	R	R	B	B	R	R	B	B	R	R	B	B	R	R	R	B	B	R	R	B	B	R	R	B	B	R	R	R	R	B	B	R	R	R	R	B	B	R	R	B	B	R	R	B	B	R	R	B	B	R	R		
Pole Height (Ft)	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	23	23	23	23	23	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
Twin Arm Light	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	N		

HANDHOLE SCHEDULE																				
Handhole No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Connection Type	1	B	B	B	B	C	C	C	C	C	B	B	B	B	B	C	A	C	A	A

DESIGN DATA TABLE	
Initial Lamp Lumen (LL)	8718
Average Maintained Illumination (Eh)	0.8 Footcandles
Lamp Lumen Depreciation Factor (LLD)	0.93
Luminaire Dirt Depreciation Factor (LDD)	0.87
Maintenance Factor (LLD x LDD)	0.81
Uniformity Ratio	4:1
Luminaire Classification, Conventional	Type V

SERVICE POINT & CONTROLLER CABINET TABLE				
No.	Main Breaker	Branch Circuit	Computed Branch Circuit Average	Branch Circuit Breaker Rating
1	200 Amps	Red	18.15 Amps	30 Amps
		Black	18.15 Amps	30 Amps
2	200 Amps	Red	18.15 Amps	30 Amps
		Black	18.15 Amps	30 Amps

Luminaire shall provide a light distribution equivalent to IES distribution type WIN40-60G-TS-145.IES



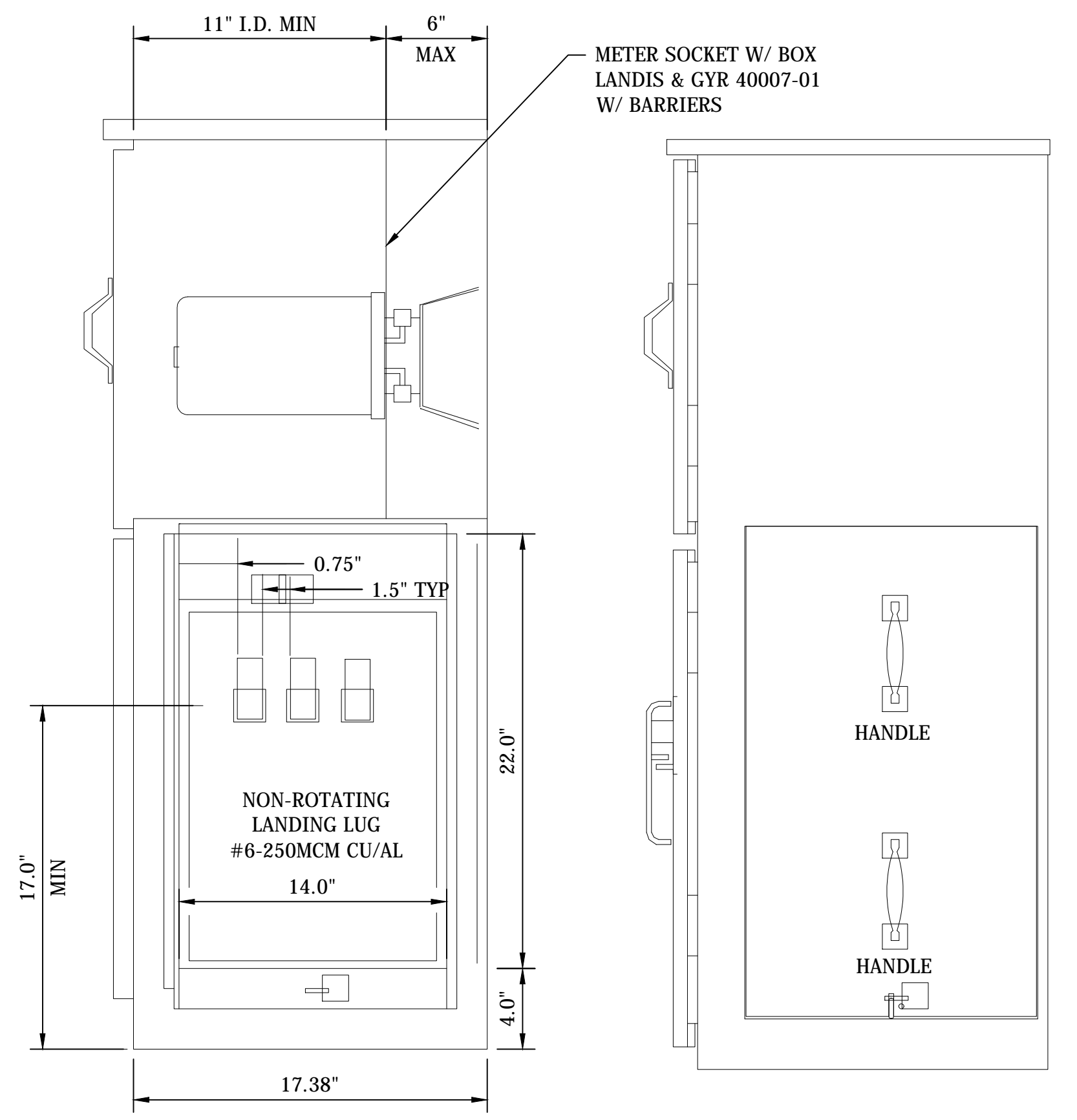
PANEL BASE PLAN

CITY BASE DETAIL NOTES

- BASE MUST BE 34"W X 30"H X 22"D
- 12" (OF 30") MUST BE EXPOSED ABOVE GROUND
- 18" (OF 30") MUST BE BELOW GROUND

TESCO ENCLOSURE CONSTRUCTION NOTES

- EXTERIOR 12 GA. H.D. GALV. STEEL AND INTERIOR 14 GA. COLD ROLLED STEEL ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
- CONSTRUCTION WILL BE NEMA 3R, RAIN TIGHT.
- ALL NUTS, BOLTS AND SCREWS WILL BE STAINLESS STEEL.
- NUTS, BOLTS & SCREWS WILL NOT BE VISIBLE FROM OUTSIDE OF ENCLOSURE.
- NAMEPLATES WILL BE PROVIDED AS REQUIRED.
- CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
- A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- ENCLOSURE WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA AND UL 508A STANDARDS.
- COLOR TO BE: CHAR BROWN
- FOR DUAL METER ENCLOSURES, DECORATIVE LANDSCAPING LIGHTING SHALL BE SEPARATED FROM THE STANDARD ROADWAY LIGHTING.



SIDE VIEW  
(PULL SECTION COVER REMOVED)  
SECTION THRU METERING COMPARTMENT

PANEL SIDE VIEW

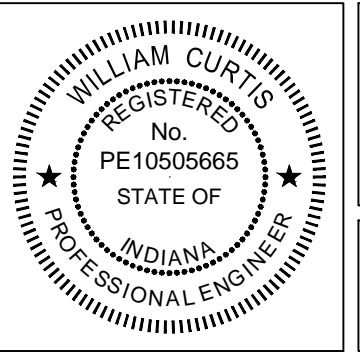
David Kline  
Indiana Michigan Power  
Customer Service Engineer  
Office: (574) 296-5065  
Cell: (574) 274-2029  
Email: dkline@aep.com

JOHN - 2/11/2016 7:32 PM - \\UCS04FS\Road\RoadTeam3\C3D\14-416\Road\Dwg\Plans\Lighting Misc Details.dwg

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Fax 317-895-2596  
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- 1 Revised lighting tables
- 3 Revised luminaire schedule, service point table, design data table, & added luminaire note

*WRC* 2-11-16  
SIGNATURE DATE



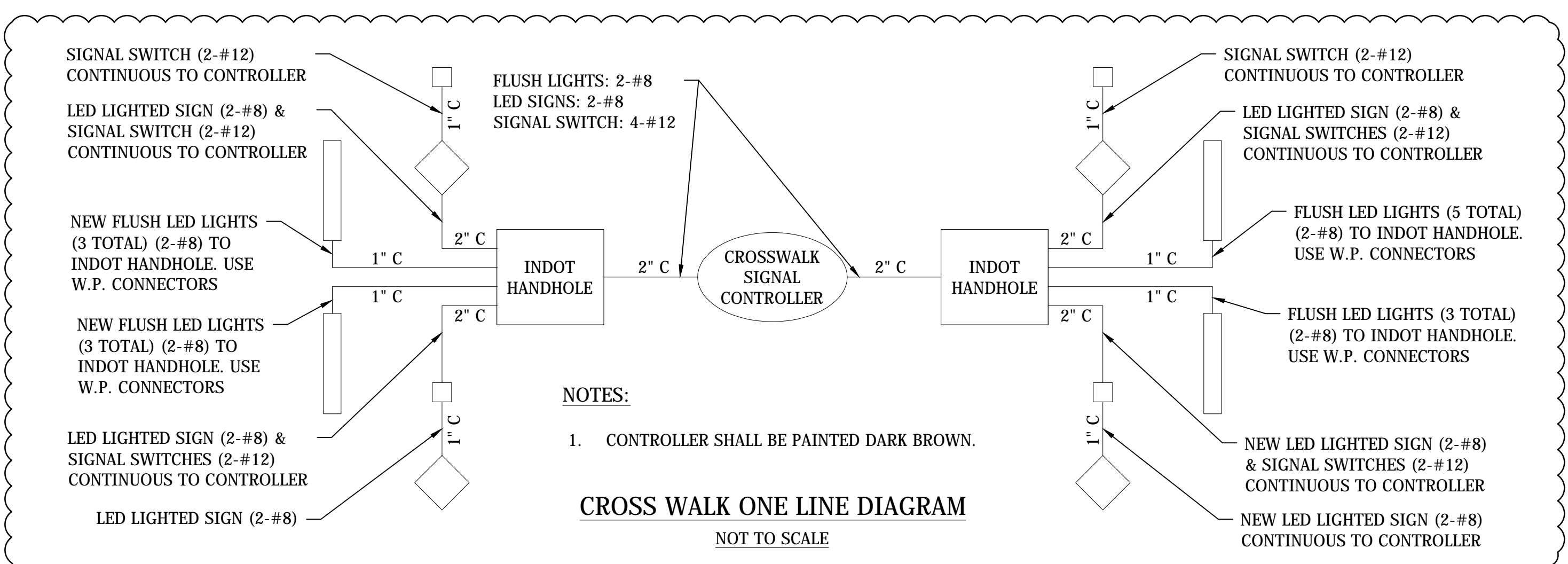
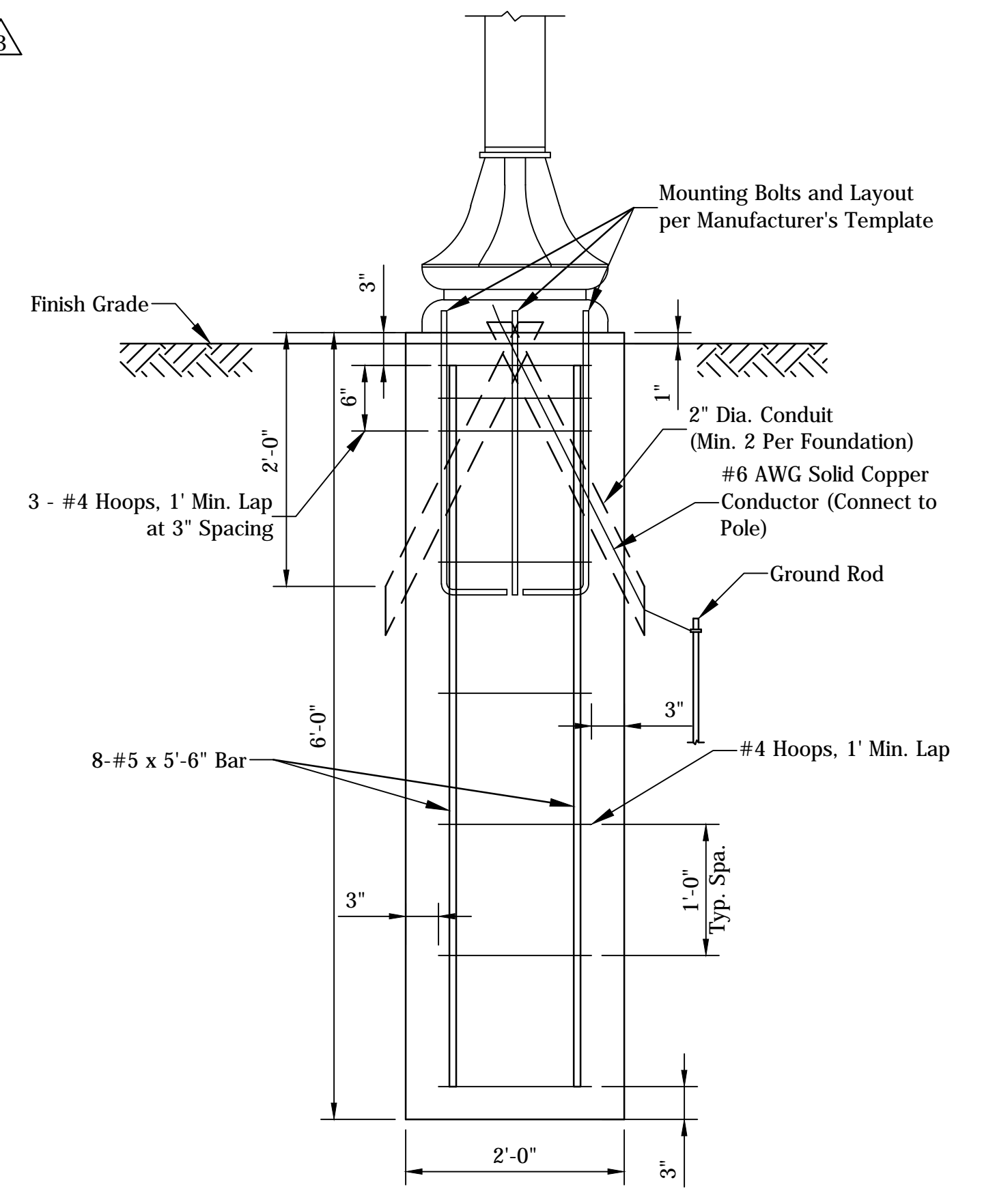
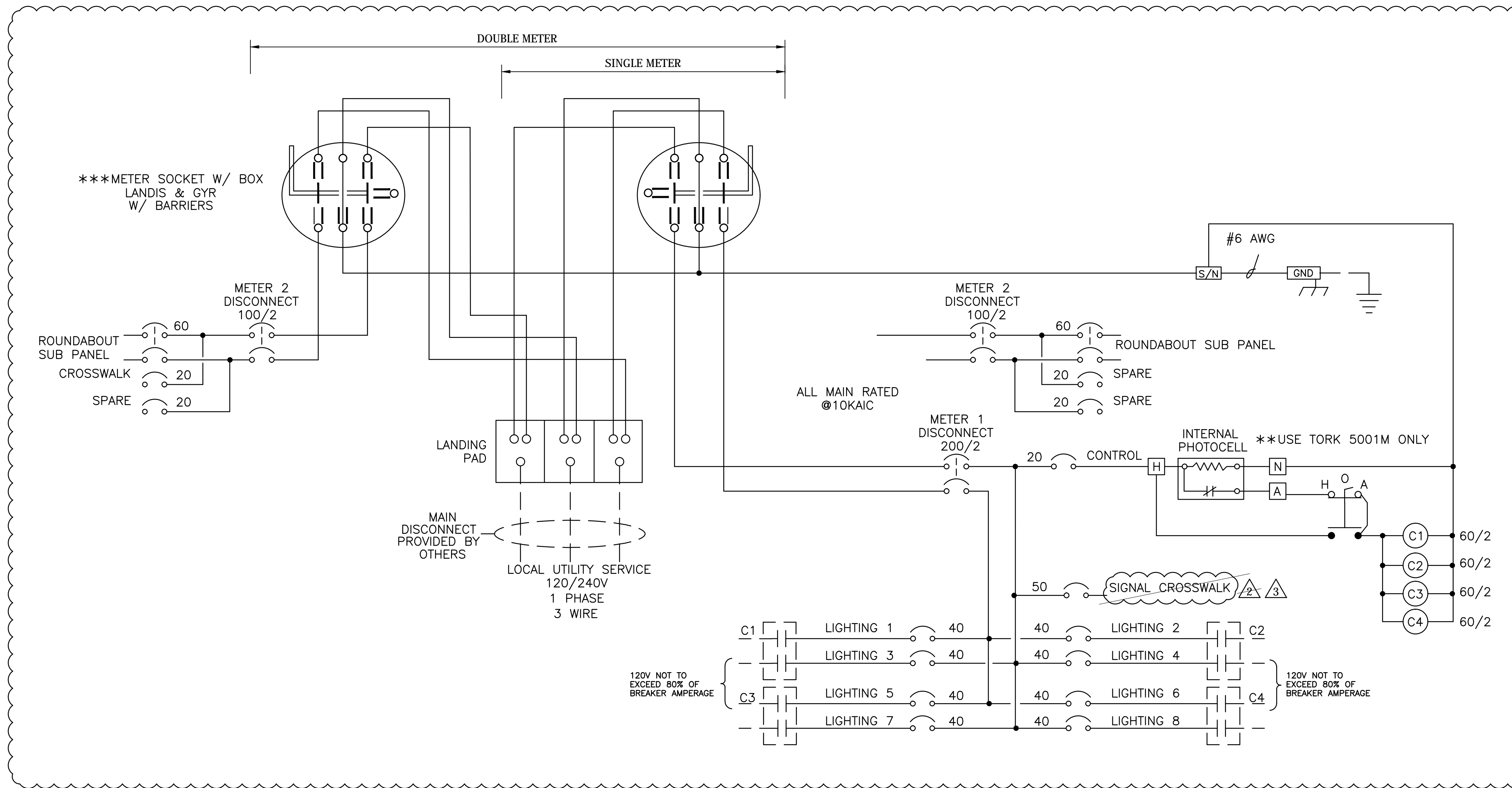
CITY OF SOUTH BEND, INDIANA  
ROUNDBOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS

LIGHTING TABLES &  
MISCELLANEOUS DETAILS

REVISIONS	HORIZONTAL SCALE AS SHOWN	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE AS SHOWN	
DRAWN: JNII	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE / /	<b>69</b> OF <b>107</b>



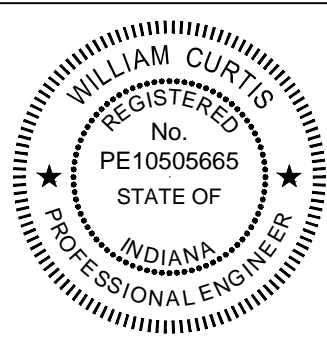
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- ① Revised detail title
- ② Revised tesco cabinet wiring schematic. Added cross walk one line diagram
- ③ Revised tesco cabinet wiring schematic.

*W.R.C.* 2-11-16  
SIGNATURE DATE



CITY OF SOUTH BEND, INDIANA  
ROUNDABOUT INTERSECTION AT  
MARION, MICHIGAN, & MAIN STREETS

**LIGHTING  
MISCELLANEOUS DETAILS**

REVISIONS	HORIZONTAL SCALE AS SHOWN	PROJECT NUMBER <b>114-035</b>
	VERTICAL SCALE AS SHOWN	
DRAWN: JNII	SURVEY BOOK	SHEETS
CHECKED: WRC	DATE / /	<b>70</b> OF <b>107</b>