

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION (MARCH 2009)

**CITY OF DETROIT  
DEPARTMENT OF PUBLIC WORKS**

**MCNICHOLS STREETScape  
GREENLAWN AVENUE TO LIVERNOIS AVENUE**



COUNTY KEY

ROAD	YEAR	TRAFFIC DATA			SPEED DATA		LIMITS
		ADT	DHV	COMM	DESIGN	POSTED	
MCNICHOLS RD	2018	12,000	2,000	425	25	25	GREENLAWN AVE TO LIVERNOIS AVE



THESE PLANS WERE PREPARED BY:



CHRISTOS D. MELISTAS, P.E. DATE  
WSP MICHIGAN, INC.  
500 GRISWOLD ST, SUITE 2600  
DETROIT, MI 48226  
313-963-5760

**APPROVALS**

RECOMMENDED FOR APPROVAL BY:

RICHARD DOHERTY, P.E. - CITY ENGINEER DATE

**CITY OF DETROIT**

MILES: 0.56  
CONTRACT FOR:  
STREETSCAPE IMPROVEMENTS, INCLUDING SIDEWALK RECONSTRUCTION, CONCRETE BUS ISLANDS, HMA PAVING, STORM SEWER, LANDSCAPING, PAVEMENT MARKINGS, SIGNING, SITE FURNISHINGS, NEW STREET LIGHTING AND BIKE LANES.

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

DATE: 06/20/19

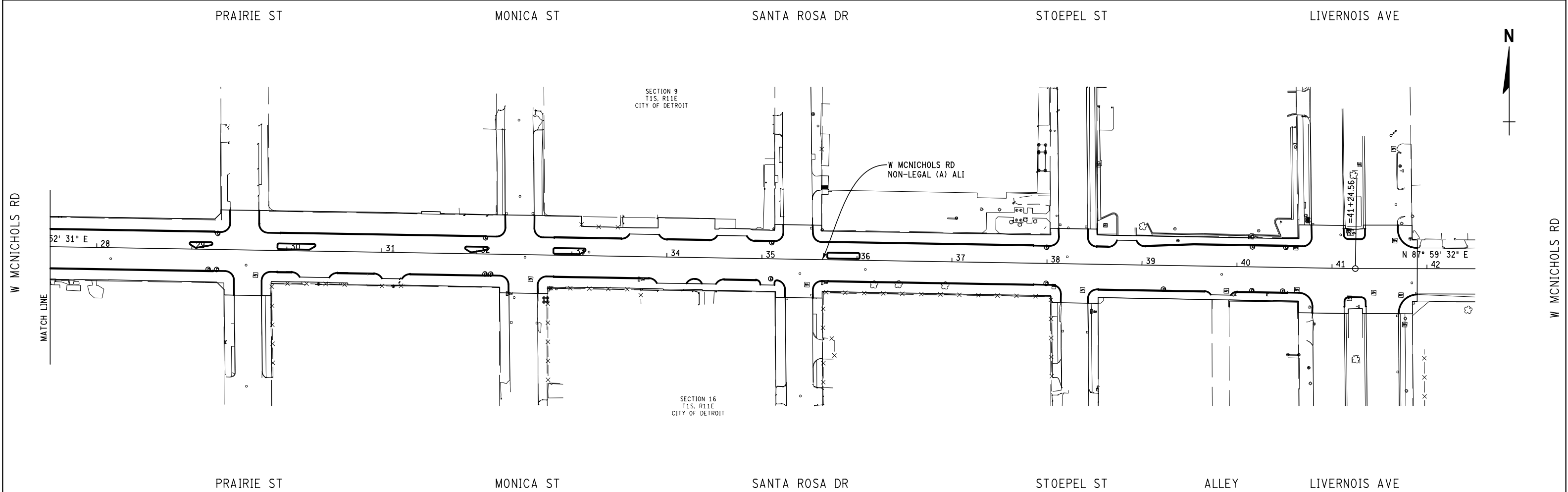
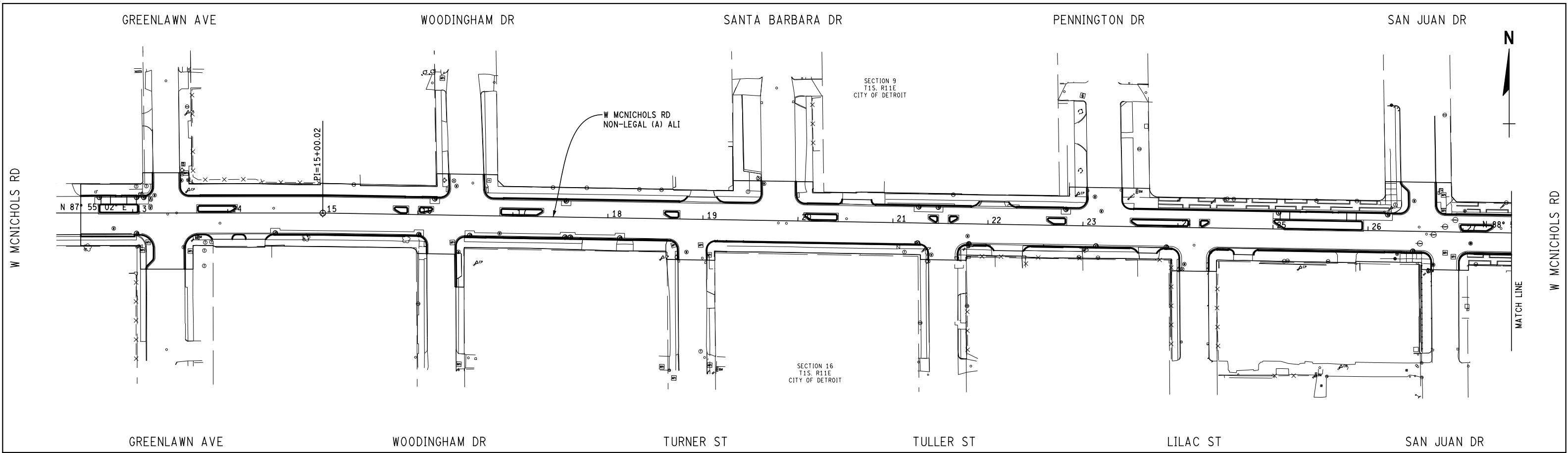
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JN: PW-7004  
MCNICHOLS STREETScape

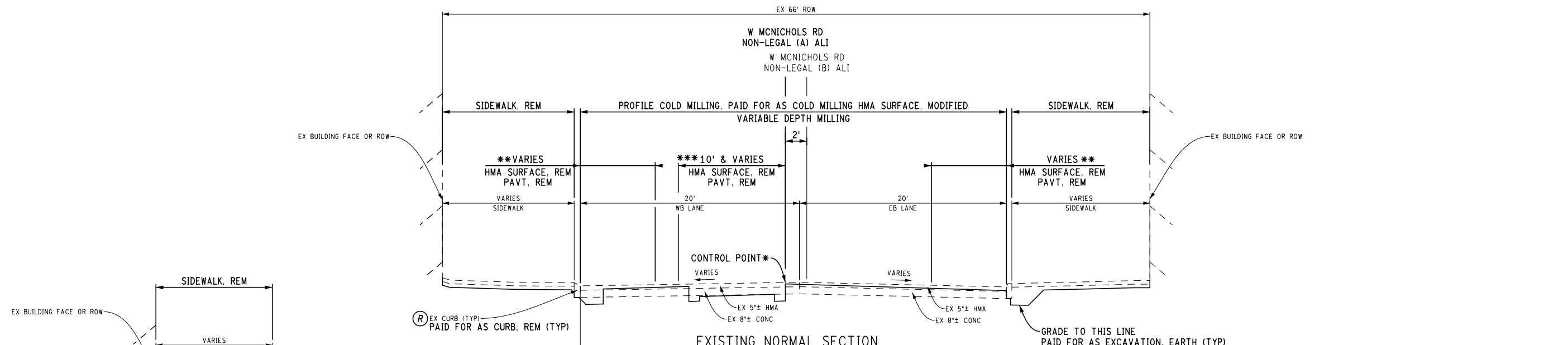
TITLE SHEET  
MCNICHOLS STREETScape

DRAWING	SHEET
MCN TITLE 001	1





FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								wsp			DATE: 06/20/19	JN: PW-7004 McNichols Streetscape	VICINITY SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION						McNICHOLS STREETScape	



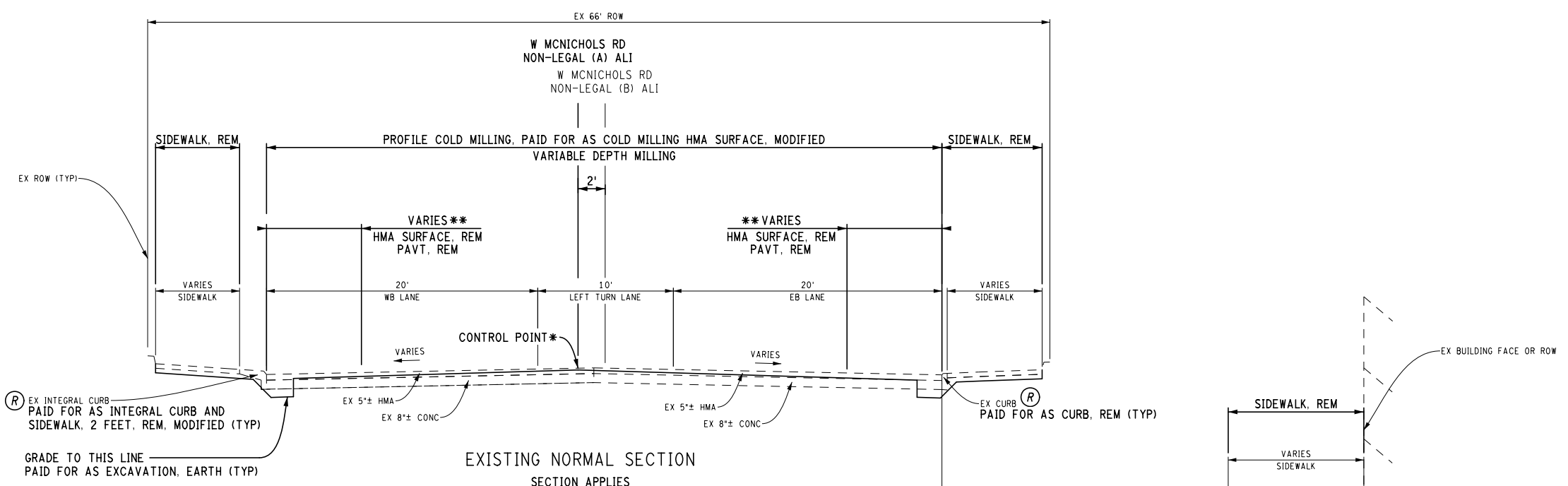
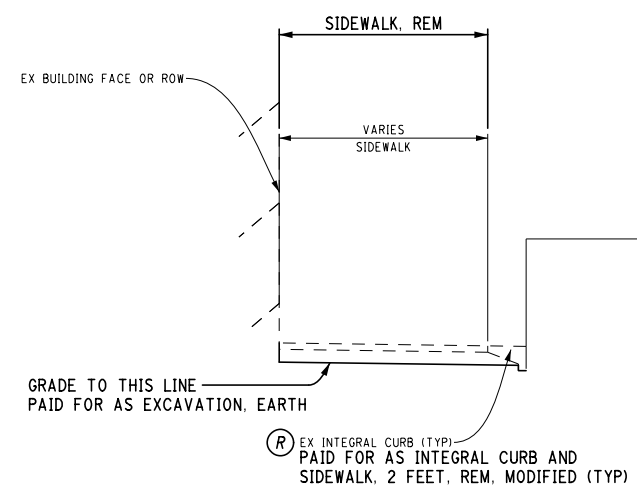
**EXISTING NORMAL SECTION**  
SECTION APPLIES  
STA 12+45.31 (POB) TO STA 38+29.52

\*\*\* HMA SURFACE, REM AND PAVT, REM APPLIES

STA 12+63.64 TO STA 13+06.81	STA 13+67.21 TO STA 14+10.23
STA 15+74.00 TO STA 15+90.45	STA 16+00.45 TO STA 16+16.64
STA 16+86.19 TO STA 17+32.50	STA 18+58.52 TO STA 18+75.85
STA 20+06.07 TO STA 20+42.56	STA 21+36.96 TO STA 21+48.12
STA 21+58.12 TO STA 21+69.28	STA 22+61.39 TO STA 22+82.96
STA 23+49.53 TO STA 24+12.32	STA 24+22.32 TO STA 24+33.45
STA 24+99.86 TO STA 25+95.35	STA 26+95.68 TO STA 27+32.22
STA 28+96.27 TO STA 29+23.09	STA 29+88.64 TO STA 30+31.52
STA 31+86.02 TO STA 32+12.84	STA 32+78.99 TO STA 33+15.84
STA 35+67.29 TO STA 36+04.29	

\*CONTROL POINT TO BE SET AT PROP MCNICHOLS CENTERLINE.  
VARIABLE DEPTH MILLING TO VARY FROM 0.9" TO 4.3" AT THE CONTROL POINT. CONTRACTOR SHALL MILL AT PROPOSED CROSS SLOPE FROM THE CONTROL POINT TO THE EDGE OF MILLING LIMITS.

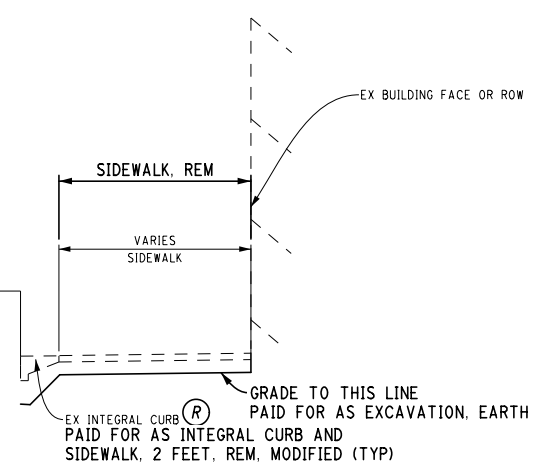
\*\* VARIES 0-6' MEASURED FROM PROPOSED FACE OF CURB  
(VARIES 0-2' FOR PROPOSED CURB INSTALLATION)  
(VARIES 4-6' FOR DRAINAGE STRUCTURE AND STORM SEWER INSTALLATION)



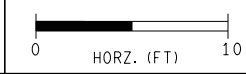
**EXISTING NORMAL SECTION**  
SECTION APPLIES  
STA 38+29.52 (POE) TO STA 41+89.71

\*CONTROL POINT TO BE SET AT PROP MCNICHOLS CENTERLINE.  
VARIABLE DEPTH MILLING TO VARY FROM 1.8" TO 4.4" AT THE CONTROL POINT. CONTRACTOR SHALL MILL AT PROPOSED CROSS SLOPE FROM THE CONTROL POINT TO THE EDGE OF MILLING LIMITS.

\*\* VARIES 0-6' MEASURED FROM PROPOSED FACE OF CURB  
(VARIES 0-2' FOR PROPOSED CURB INSTALLATION)  
(VARIES 4-6' FOR DRAINAGE STRUCTURE AND STORM SEWER INSTALLATION)



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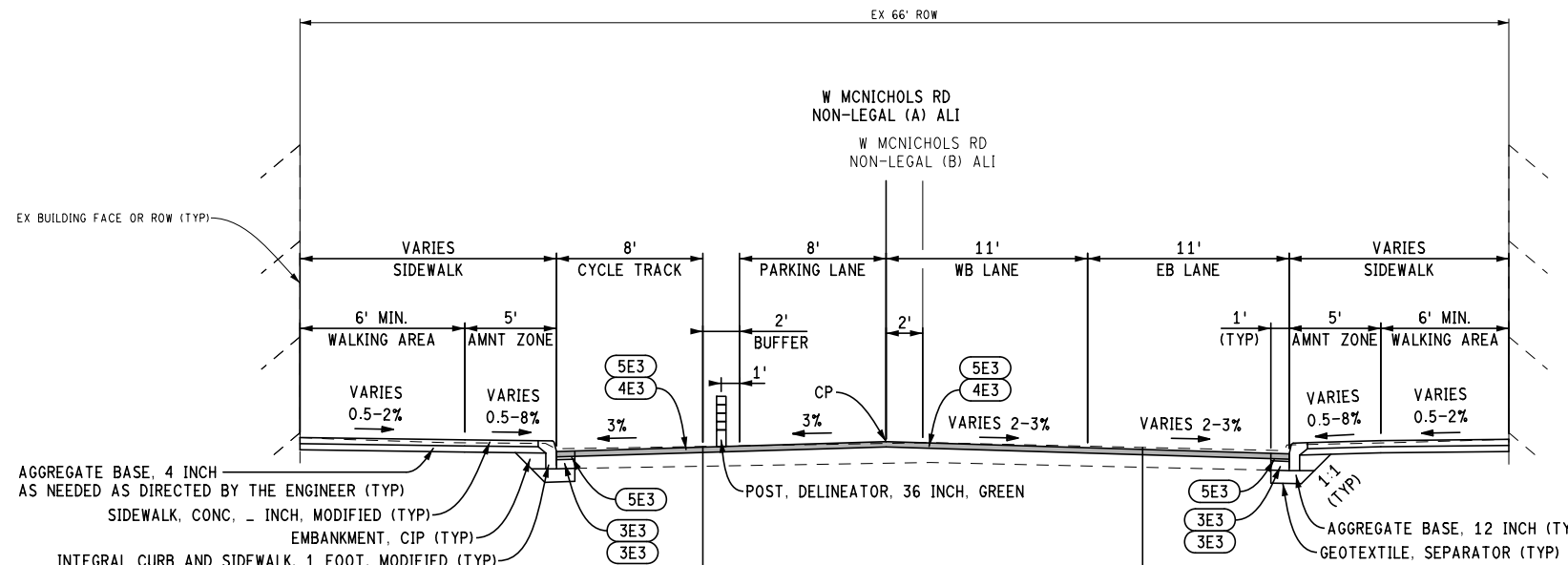


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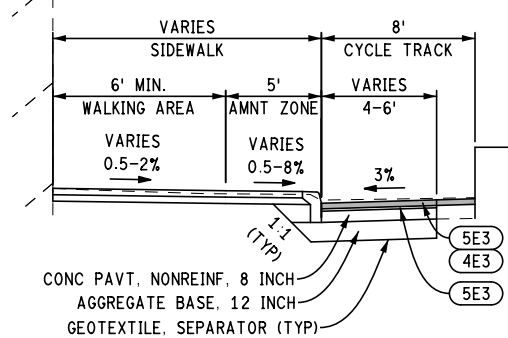
JN: PW-7004  
MCNICHOLS STREETScape

EXISTING TYPICAL SECTIONS  
MCNICHOLS STREETScape

DRAWING SHEET  
MCN TYP 001  
4

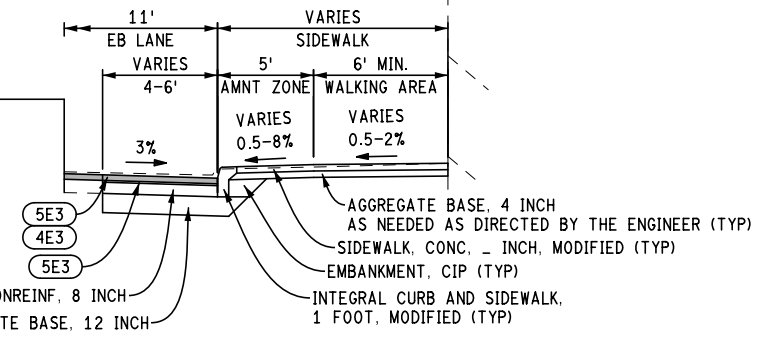


PROPOSED NORMAL SECTION  
SECTION APPLIES  
STA 12+45.31 (POB) TO STA 36+68.17



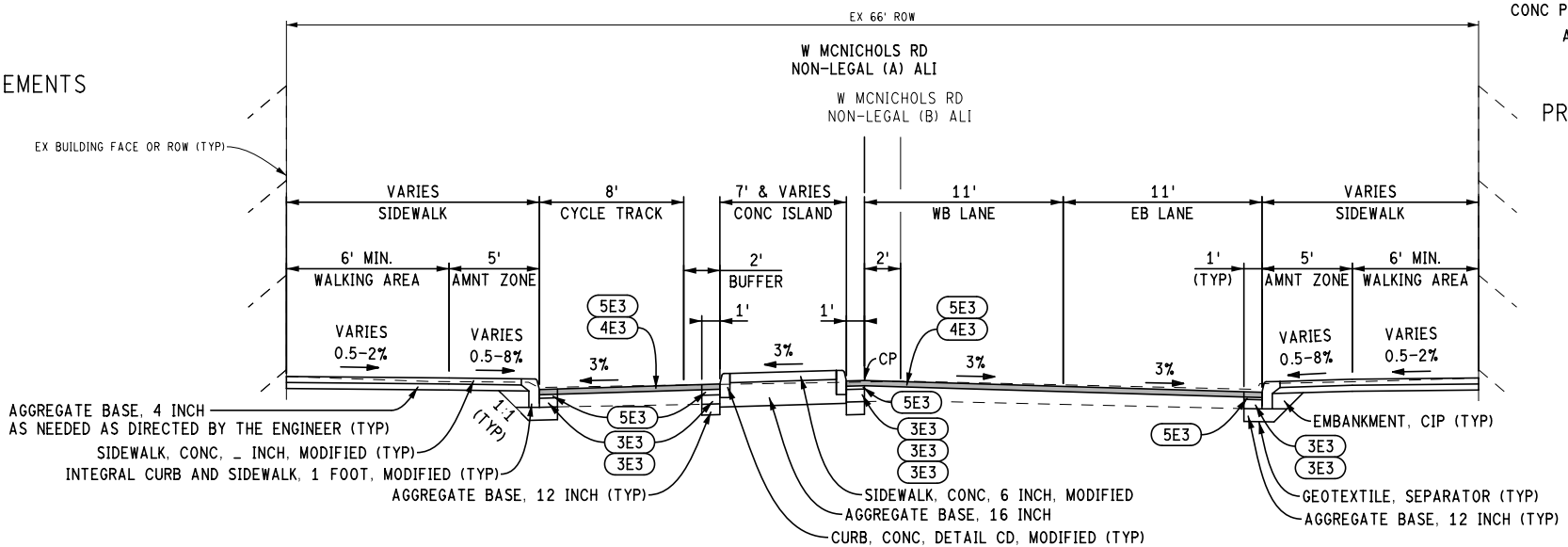
PROPOSED NORMAL SECTION FOR DRAINAGE IMPROVEMENTS

SECTION APPLIES  
 STA 12+59.88 TO STA 13+16.70  
 STA 16+12.68 TO STA 16+22.68  
 STA 17+50.97 TO STA 17+60.97  
 STA 21+21.26 TO STA 21+52.55  
 STA 22+76.91 TO STA 22+86.91  
 STA 24+99.86 TO STA 26+25.56  
 STA 29+22.41 TO STA 29+32.41  
 STA 32+03.87 TO STA 32+13.87  
 STA 35+05.16 TO STA 35+15.16



PROPOSED NORMAL SECTION FOR DRAINAGE IMPROVEMENTS

SECTION APPLIES  
 STA 12+99.05 TO STA 13+09.05  
 STA 14+45.00 TO STA 16+06.48  
 STA 16+50.00 TO STA 18+18.00  
 STA 21+21.36 TO STA 21+31.36  
 STA 21+75.36 TO STA 21+85.36  
 STA 23+09.00 TO STA 23+93.13  
 STA 26+42.52 TO STA 26+52.52  
 STA 29+12.59 TO STA 29+31.41  
 STA 32+03.87 TO STA 32+19.90  
 STA 35+04.63 TO STA 35+14.63



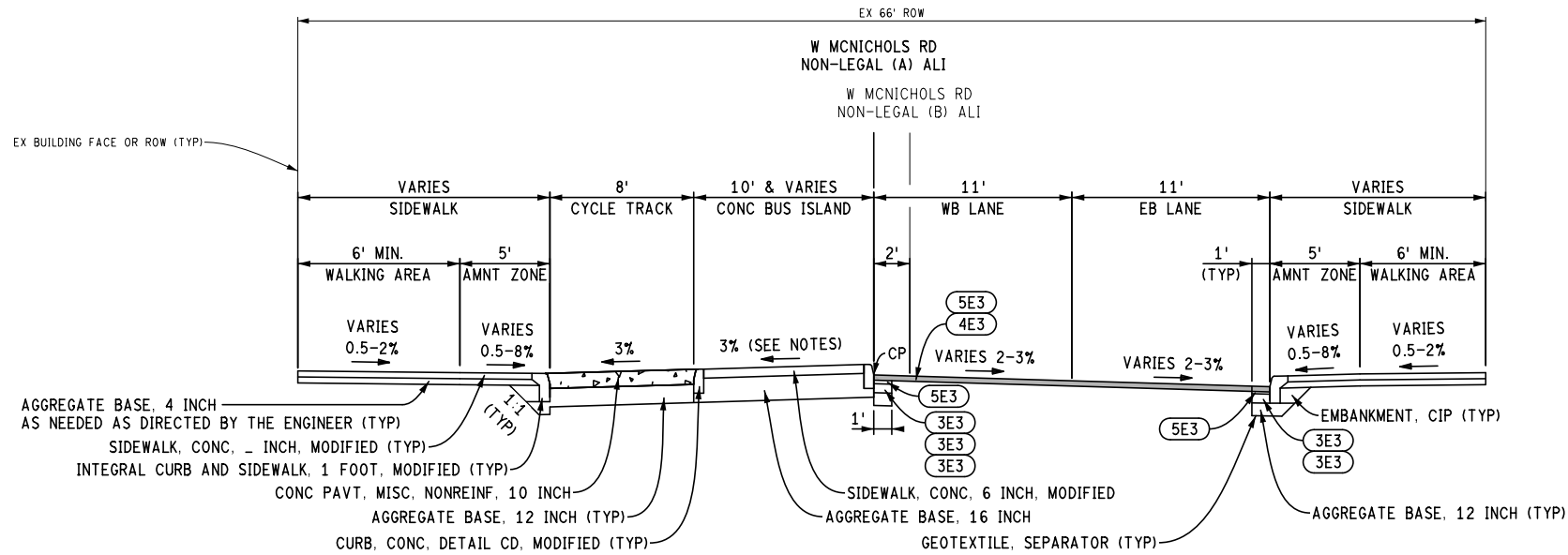
PROPOSED NORMAL SECTION WITH RAISED MEDIAN

SECTION APPLIES  
 STA 13+68.21 TO STA 14+09.23  
 STA 15+75.00 TO STA 15+89.45  
 STA 16+01.45 TO STA 16+15.65  
 STA 16+87.19 TO STA 17+31.50  
 STA 18+59.52 TO STA 18+74.85  
 STA 20+07.07 TO STA 20+41.64  
 STA 21+37.96 TO STA 21+47.12  
 STA 21+59.12 TO STA 21+68.28  
 STA 22+62.39 TO STA 22+81.96  
 STA 23+50.53 TO STA 24+11.32  
 STA 24+23.32 TO STA 24+32.45  
 STA 26+96.68 TO STA 27+31.22  
 STA 28+97.27 TO STA 29+22.09  
 STA 29+89.64 TO STA 30+30.52  
 STA 31+87.10 TO STA 32+11.83  
 STA 32+79.99 TO STA 33+14.84  
 STA 35+68.29 TO STA 36+03.29

HMA APPLICATION ESTIMATE

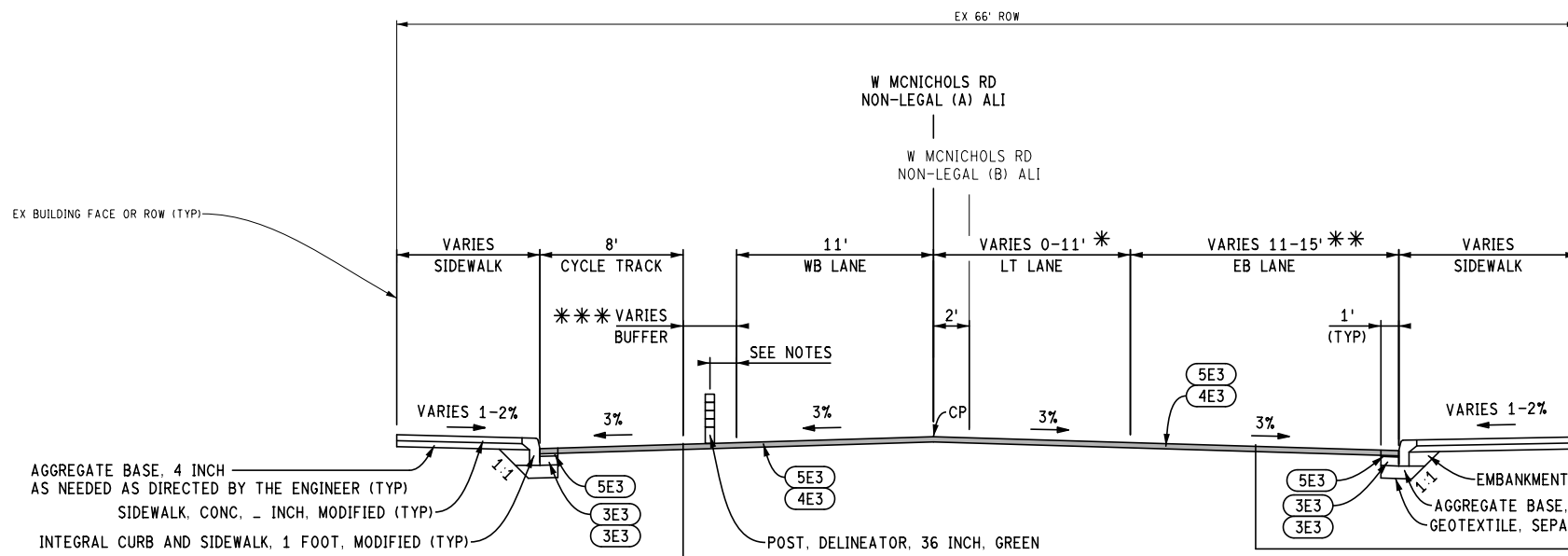
IDENT NO.	ITEM	RATE LBS PER SYD	PERFORMANCE GRADE	REMARKS
5E3	HMA, 5E3	165	64-22	TOP COURSE (AWI = 260)
4E3	HMA, 4E3	220	64-22	LEVELING COURSE
5E3	HMA, 5E3	VARIABLE	64-22	WEDGING COURSE
3E3	HMA, 3E3	330	64-22	BASE COURSE
HA-5E3	HMA APPROACH, MODIFIED	165	64-22	HMA APPROACH: TOP COURSE
HA-4E3	HMA APPROACH, MODIFIED	220	64-22	HMA APPROACH: LEVELING COURSE
	* BOND COAT	0.05-0.15 GAL		

\*FOR INFORMATION ONLY



PROPOSED NORMAL SECTION WITH CONCRETE BUS ISLAND

SECTION APPLIES  
 STA 12+64.64 TO STA 13+05.81  
 STA 25+00.86 TO STA 25+94.35



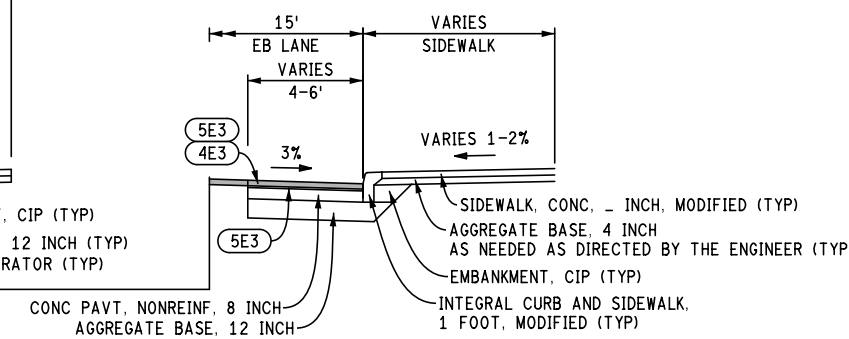
PROPOSED NORMAL SECTION WITH LEFT TURN LANE

SECTION APPLIES  
 STA 36+68.17 TO STA 41+89.71 (POE)

\* VARIES 0-8': STA 36+68.17 TO STA 37+59.59  
 8': STA 37+59.59 TO STA 38+99.50  
 8'-11': STA 38+99.50 TO STA 39+55.68  
 11': STA 39+55.68 TO STA 41+89.71

\*\* 11': STA 36+68.17 TO STA 38+29.52  
 15': STA 38+29.52 TO STA 41+89.71

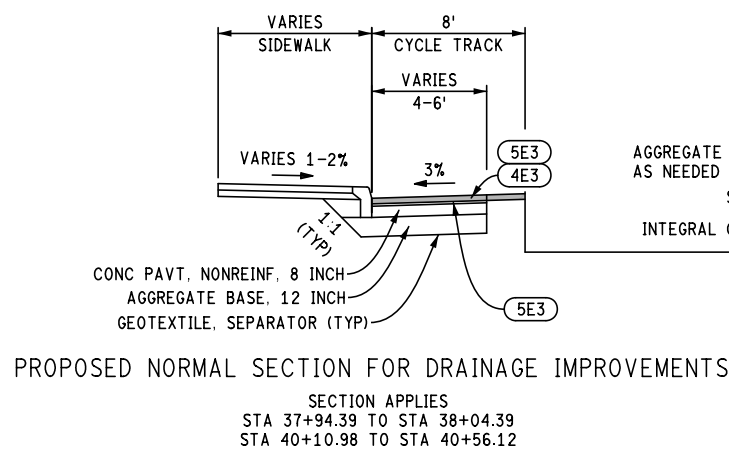
\*\*\* 2': STA 36+68.17 TO STA 39+35.91  
 2'-3': STA 39+35.91 TO STA 39+57.27  
 3': STA 39+57.27 TO STA 41+89.71



PROPOSED NORMAL SECTION FOR DRAINAGE IMPROVEMENTS

SECTION APPLIES  
 STA 37+94.43 TO STA 38+04.43  
 STA 39+18.00 TO STA 40+53.38

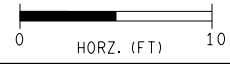
NOTES:  
 ON CONCRETE BUS ISLANDS, CURB HEIGHTS WILL BE ADJUSTED TO PROVIDE A MAXIMUM CROSS SLOPE OF 2%.  
 DELINEATOR POST SHALL BE PLACED IN THE MIDDLE OF THE BUFFER BETWEEN THE CYCLE TRACK AND TRAVEL LANE.



PROPOSED NORMAL SECTION FOR DRAINAGE IMPROVEMENTS

SECTION APPLIES  
 STA 37+94.39 TO STA 38+04.39  
 STA 40+10.98 TO STA 40+56.12

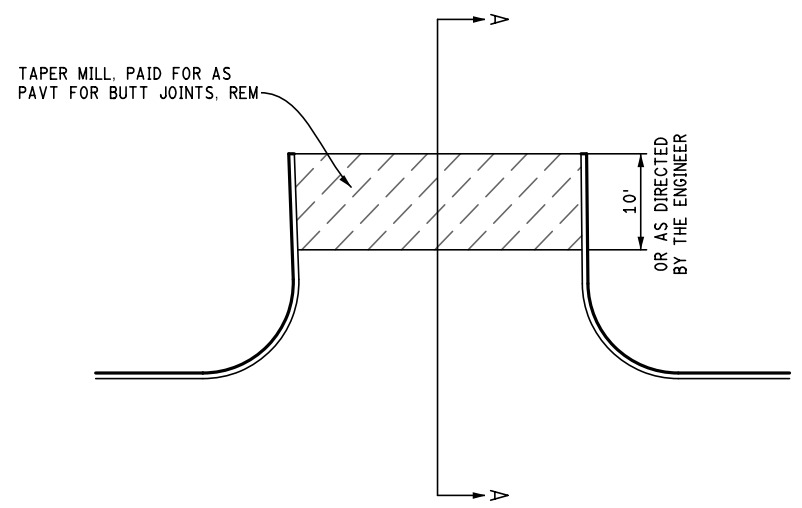
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



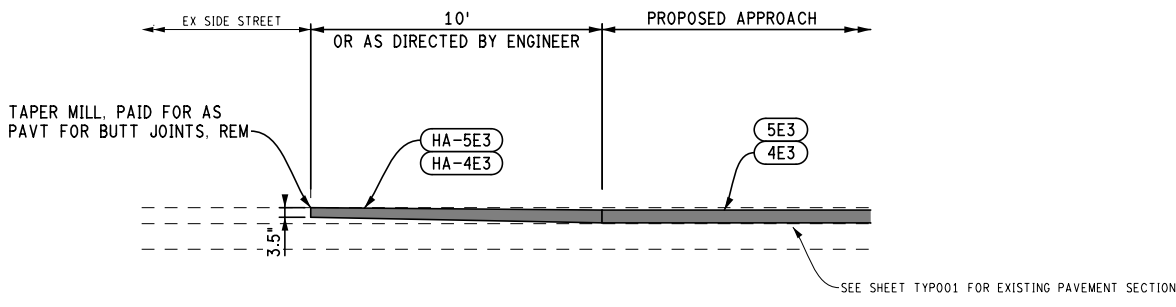
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JN: PW-7004  
 MCNICHOLS STREETScape

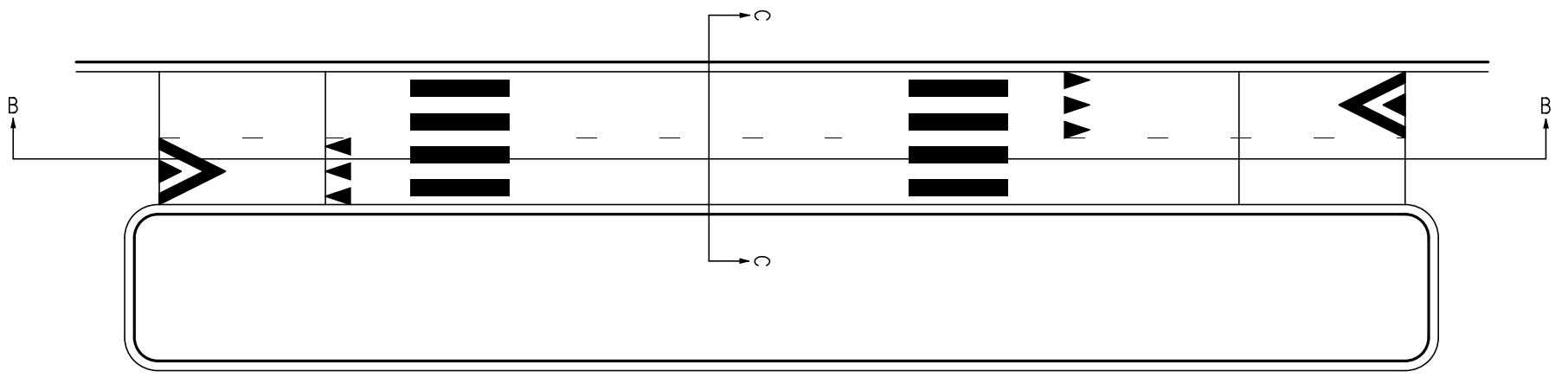
PROPOSED TYPICAL SECTIONS		DRAWING	SHEET
MCNICHOLS STREETScape		MCN TYP 003	6



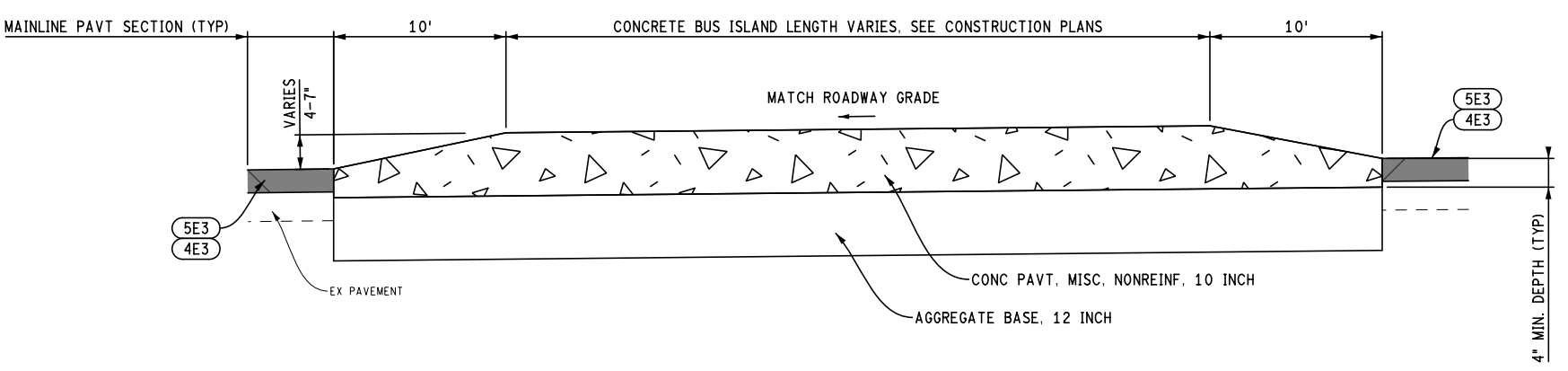
INTERSECTION BUTT JOINT DETAIL



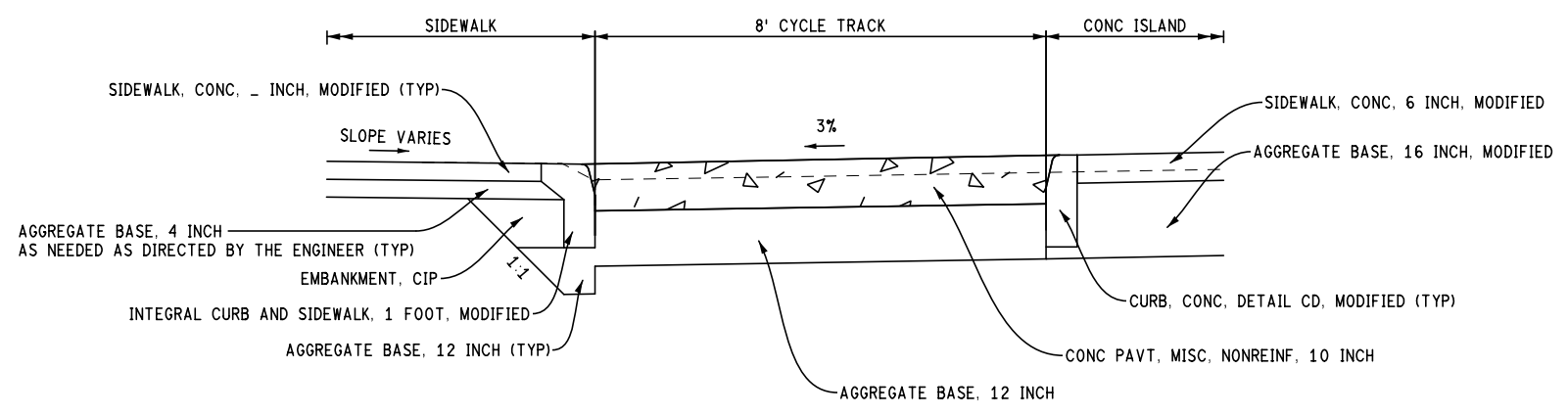
SECTION A-A - BUTT JOINT TYPICAL SECTION



CONCRETE BUS ISLAND BIKE RAMP DETAIL



SECTION B-B - CONCRETE BUS ISLAND BIKE RAMP ELEVATION VIEW



SECTION C-C - CONCRETE BUS ISLAND BIKE RAMP CROSS SECTION

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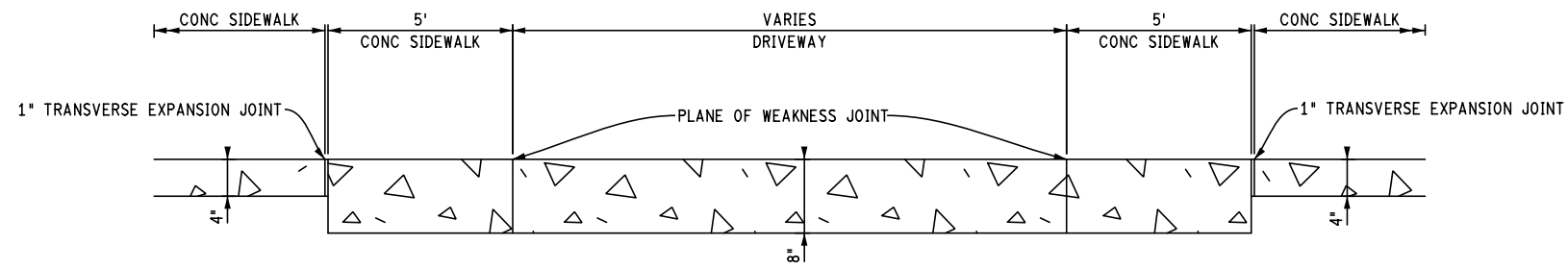
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DATE: 06/20/19  
FILE:

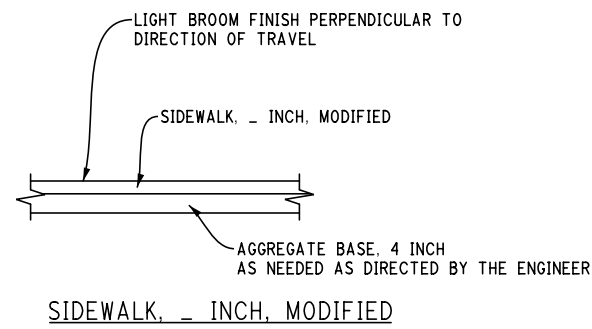
JN: PW-7004  
MCNICHOLS STREETSCAPE

MISCELLANEOUS DETAIL SHEET  
MCNICHOLS STREETSCAPE

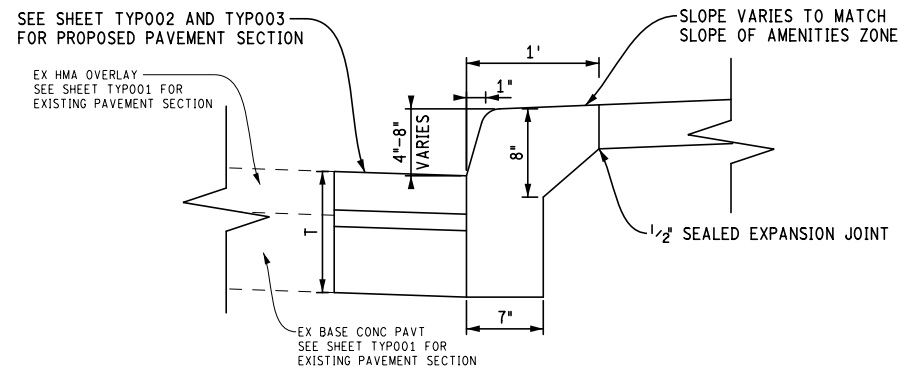
DRAWING SHEET  
MCN MSCDET 001 7



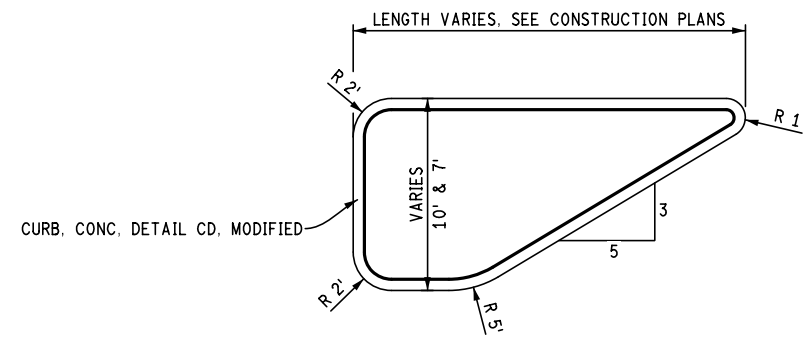
THICKENED CONCRETE SIDEWALK AT DRIVEWAY



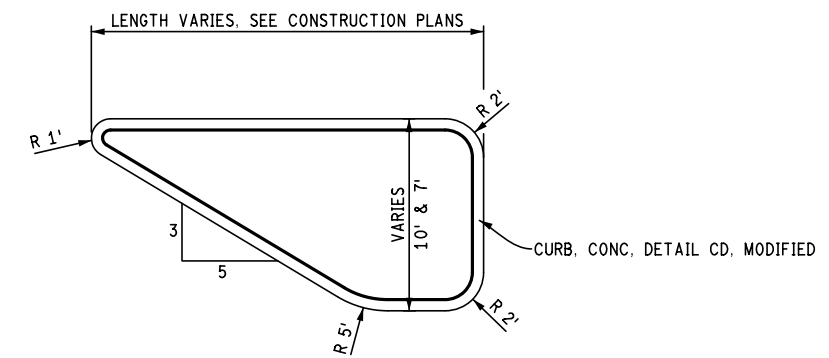
SIDEWALK, \_ INCH, MODIFIED



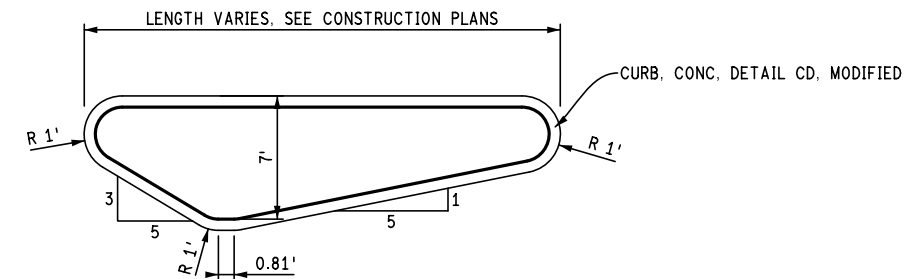
INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED



CURB, CONC, DETAIL CD, MODIFIED



CURB, CONC, DETAIL CD, MODIFIED



CURB, CONC, DETAIL CD, MODIFIED

CONCRETE ISLAND DETAILS

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
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NO SCALE

DATE: 06/20/19

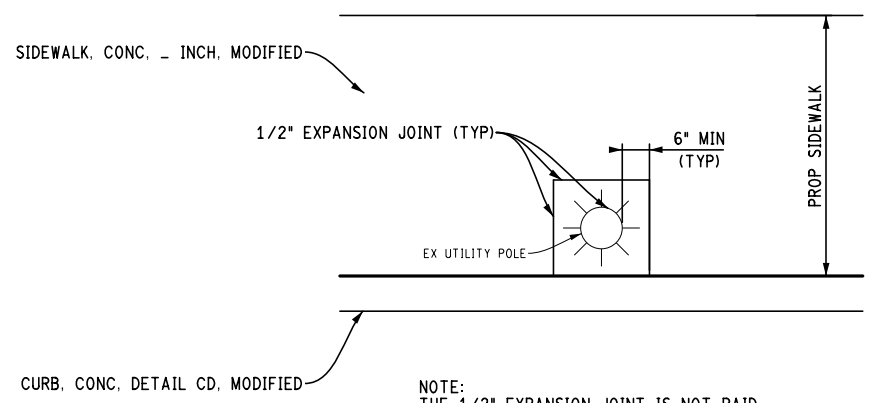
FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

MISCELLANEOUS DETAIL SHEET  
MCNICHOLS STREETSCAPE

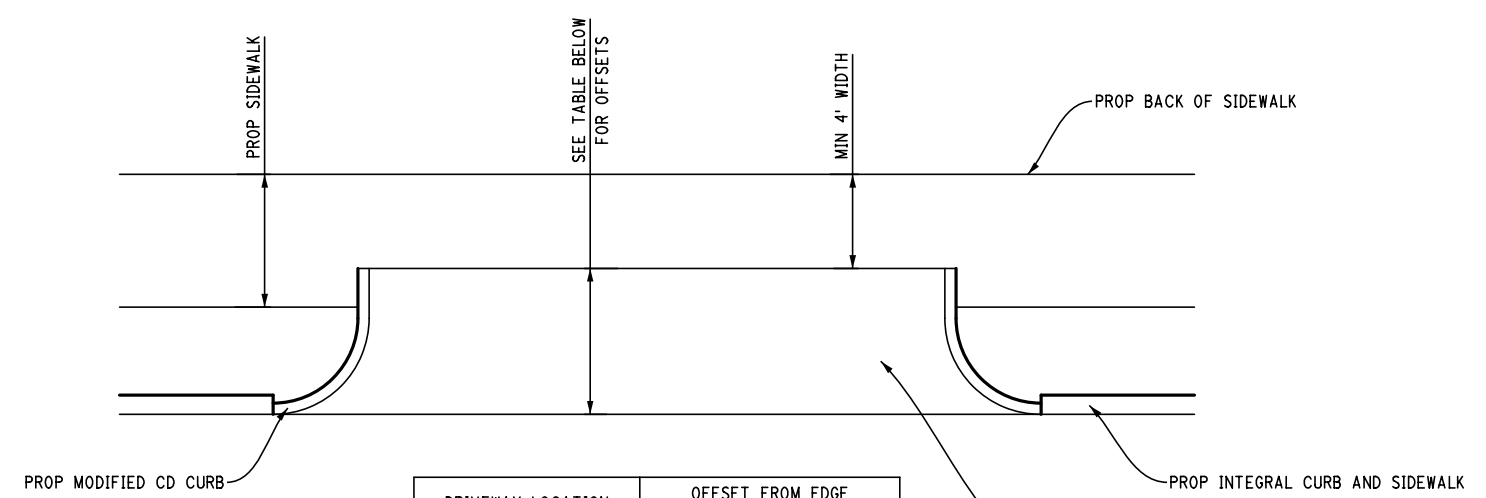
DRAWING SHEET  
MCN MSCDET 002 8





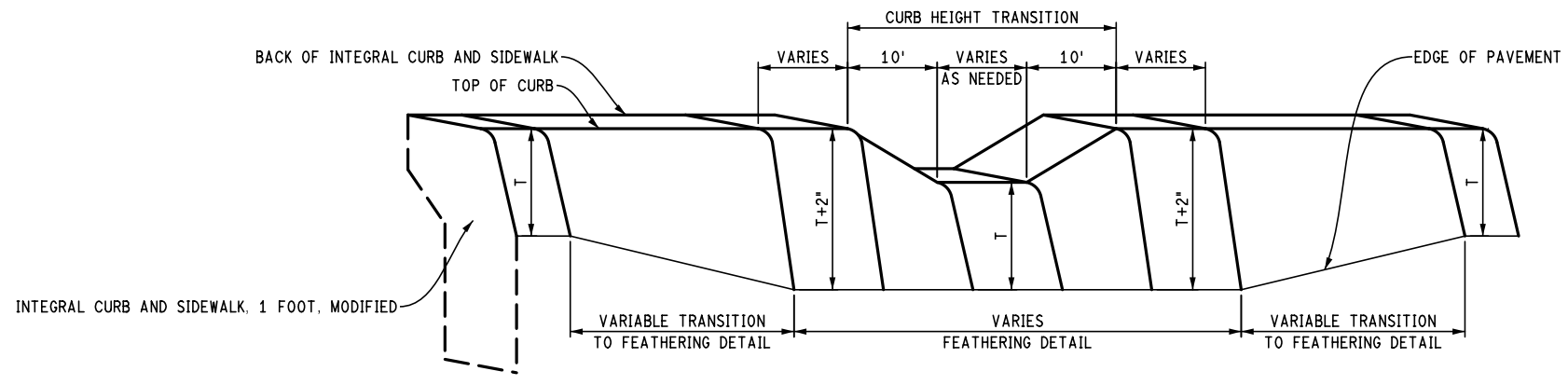
NOTE:  
THE 1/2" EXPANSION JOINT IS NOT PAID FOR SEPARATELY AND IS INCLUDED IN THE PAY ITEMS FOR SIDEWALK WORK.

CONC JOINTING FOR UTILITY POLES IN SIDEWALK



DRIVEWAY LOCATION	OFFSET FROM EDGE OF ROADWAY
STATION	FT
MCNICHOLS 13+94.54 RT	8.08
MCNICHOLS 14+29.47 RT	8.08
MCNICHOLS 18+98.82 LT	8.58
MCNICHOLS 20+61.65 LT	7.58
MCNICHOLS 22+06.12 LT	8.58
MCNICHOLS 22+22.18 RT	7.08
MCNICHOLS 23+68.12 RT	7.58
MCNICHOLS 24+69.82 RT	7.58
MCNICHOLS 31+11.12 RT	8.08
MCNICHOLS 34+44.72 RT	7.58
MCNICHOLS 35+06.23 RT	7.58
MCNICHOLS 38+83.58 LT	8.58

MODIFIED SIDEWALK AT DRIVEWAY DETAIL



NOTE:  
CURB HEIGHT TRANSITION DETAIL SHALL BE USED ONLY WHEN BOTH ADA COMPLIANT SIDEWALK SLOPES AND POSITIVE DRAINAGE TOWARDS THE ROADWAY CANNOT BE MET WITH A CONSISTENT TOP OF CURB HEIGHT FOR THE ENTIRETY OF THE LENGTH OF THE CITY BLOCK USING OTHER ALLOWABLE MEASURES.

CURB HEIGHT TRANSITION DETAIL  
NOT TO SCALE

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MCNICHOLS STREETScape

MISCELLANEOUS DETAIL SHEET  
MCNICHOLS STREETScape

## GENERAL NOTES

### UTILITIES

#### **MISS DIG/UNDERGROUND UTILITY NOTIFICATION**

For the protection of underground utilities and in conformance with Public Act 174 of 2013, the Contractor shall contact MISS DIG System, Inc. by phone at 811 or 800-482-7171 or via the web at either [elocate.missdig.org](http://elocate.missdig.org) for single address or [rte.missdig.org](http://rte.missdig.org), a minimum of 3 work days prior to excavating, excluding weekends and holidays.

MDOT's roadway lighting system, Intelligent Transportation Systems (ITS) and other miscellaneous electrical systems are not a part of Miss Dig. Contractors shall contact the following at least 5 business days in advance for staking requests. Note that these are not emergency contacts for damage to utilities.

LIGHTING AND TRAFFIC SIGNAL CABLE (within the City of Detroit):  
Public Lighting Department: (313) 224-0500

#### **MDOT ELECTRICAL SYSTEMS**

Contractors shall contact the maintenance representative at the MDOT Region / TSC Office to have MDOT electrical systems staked.

### ROW / REAL ESTATE

#### **PROPERTY OWNERS**

The names of property owners shown on the plans are for information only, and their accuracy is not guaranteed.

#### **MARKETABLE TIMBER**

Marketable timber shall be handled in accordance with Section 201.03 of the 2012 Standard Specifications for Construction.

#### **LAWN SPRINKLER SYSTEMS AND LANDSCAPING**

Owners of existing lawn sprinkler systems and/or landscaping shall be notified (in writing with a copy sent to the Engineer) by the Contractor two weeks in advance of any work to be done that will affect those systems and/or landscaping. If the property owner fails to relocate the lawn sprinkler system prior to the Contractor beginning work, and if the Contractor cuts the system during the construction, the Contractor shall cap the system pipe and witness the location of the cap with a wooden stake for the property owner's use. The Contractor shall place the salvaged sprinkler heads on the property owner's property. If the property owner fails to relocate the landscaping prior to the Contractor beginning work, the Contractor shall carefully salvage the landscaping items and stockpile them on the property owner's property for the property owner. Any other modification to the lawn sprinkler systems and/or landscaping is the responsibility of the owner and is not part of this contract. This work is included in other items of the project.

### SURVEY

#### **ADJUSTING MONUMENT BOXES**

All government corners on this project shall be preserved, whether shown or not. It may be necessary to place or adjust monument boxes, as required.

#### **CONTRACTOR STAKING**

All staking for the project will be conducted by the Contractor in accordance with Section 824 of the 2012 Standard Specifications for Construction.

### DETAILED GRADES

#### **GRADES FOR INTERSECTIONS**

All intersections are to be considered as complete units and their grades determined before construction is started.

#### **SIDEWALK AND SIDEWALK RAMP GRADES**

All sidewalk and sidewalk ramp grades shall be staked according to Standard Plan R-28 series and as shown on the plans. Prior to constructing the sidewalk and sidewalk ramps, the Engineer will verify the grades and authorize the construction of the sidewalk and sidewalk ramps.

### EARTHWORK

#### **EARTHWORK**

Earthwork quantities are computed by the average end area method based upon ground survey information.

#### **EARTH DISTURBANCE LIMITS**

The earth disturbance limit for this project will be limited to 10' beyond the slope stake line or to the ROW line whichever is less. Restoration measures have been included in this set of plans for the approved areas of disturbance. The Contractor shall submit an earth change plan for any work beyond the approved limits to the Engineer to review for approval prior to the disturbance. All costs for obtaining and executing an approved earth change plan, including restoration, shall be at the Contractor's expense.

#### **SOIL EROSION MEASURES**

Appropriate soil erosion and sedimentation control measures shall be in place prior to earth-disturbing activities. Place turf establishment items as soon as possible on potential erodable slopes as directed by the Engineer.

### BASES

#### **AGGREGATE BASE**

Aggregate bases shall use aggregate 21AA, unless otherwise specified.

### DRAINAGE

#### **ILLICIT CONNECTIONS TO STORM WATER SYSTEM**

Connections to existing storm conveyance systems not shown on the plans must be reconnected with minimal interruption in service. Size, type and location by station and offset and any suspect illicit discharge observed shall be reported to the Engineer prior to reconnecting. Contractor shall proceed as directed by the Engineer.

#### **TEMPORARY BULKHEADS**

Temporary bulkheads may be required for the part width construction of the culverts and sewers. All cost associated with the temporary bulkheads are included in the item of the pipe.

### PAVEMENT

#### **PAVEMENT AND HMA SURFACE REMOVAL QUANTITIES**

Pavement and HMA Surface removal as shown on the plans will be at the discretion of the Engineer. If in his/her judgment, areas of pavement may be left in place, or additional areas added to provide the proper cross-section and base, changes will be made in the quantities.

#### **SOIL BORINGS**

The soil boring logs represent point information. No inference should be made that subsurface or pavement conditions are the same at other locations.

#### **CONCRETE HAND FINISHING**

Hand finishing of concrete pours to be struck off and consolidated by hand methods will be permitted on variable width lanes and lanes formed by flexible forms for short radius curves, as directed by the Engineer.

#### **INTERSECTION CONCRETE JOINT LAYOUT**

The Contractor shall layout all joints for the intersections 5 days prior to concrete placement for the review of the Engineer. The Engineer will

furnish blank intersection worksheets (11" x 17") to scale (1"=30') showing all proposed curb lines, longitudinal lane lines and all existing and proposed utility/drainage structure covers within the intersections to the Engineer prior to the pre-construction meeting. These worksheets will be available for the Contractor's use.

### LANDSCAPING

Existing vegetation shall not be damaged during construction operations, per the 2012 Standard Specifications for Construction.

Storage of equipment and materials will be restricted to areas designated by the Engineer. No equipment is permitted within the drip line of existing trees to remain.

Branches of all trees to be saved shall not be removed, or damaged by construction equipment. If removal of lower branches is necessary, contact the City of Detroit for proper methods.

Do not trench within the drip line of existing trees to remain unless specifically approved by the Engineer.

All excavated material will become the property of the contractor. Any excavated material not used on the project will be removed from the site and disposed of in accordance with section 205.03.P of the 2012 Standard Specifications for Construction and any applicable state and/or local ordinances.

Protect existing sidewalks from damage.

Plant material, soil, fertilizer and mulch will be inspected/approved by the Engineer or the Landscape Architect prior to installation. Plant inspection may occur at the nursery source or when plants arrive on site.

Final staking may be adjusted to avoid conflicts with utilities and legally permitted billboards.

### SIGNS

#### **GENERAL**

All signs shall be installed, removed and/or salvaged according to the current edition of "Michigan Manual on Uniform Traffic Control Devices" and the current edition of Michigan Department of Transportation (MDOT) "Standard Specifications for Construction."

All signs on the plans or in the log that do not have a recommendation are to be retained.

#### **PLAN SCALE**

The final plans submitted with the proposal are not to scale. Where proposed on plan sheets, the signs and structures shall be fabricated in accordance to Typical Plans, Standards, and/or Details at locations described.

#### **SIGN LAYOUT**

Sign layouts shall be according to the current English edition of "Standard Highway Signs" manual or as detailed in plans. Legend length shall be determined using the "SignCAD" software.

#### **SHEETING**

Handling and installation of all signs shall conform to the sheeting manufacturer's specifications and guidelines.

Splice sheeting used for Type I signs with a 3" overlap.

Signs that have wrinkled or twisted sheeting will be rejected.

#### **SIGN INSTALLATION**

When attaching signs to supports, tighten the nut, not the bolt head. Nylon washers shall be placed between the steel washer and the sign face sheeting. The nylon washers are to be considered part of the

attaching devices and hardware. Nylon washers shall have a 3/8 inch inner diameter, a 7/8 inch outer diameter and a 1/16 inch thickness.

The Contractor shall attach a date sticker to the back of all signs installed on the contract.

### SIGNALS

#### **MAINTAINING AGENCY CONTACT INFORMATION**

- MDOT: Statewide Signal Shop (517-322-3360)
- Wayne County Department of Public Services: (734-955-2346)
- City of Detroit: Traffic Engineering Division: (313-224-1610)

#### **FACILITIES NOT ON PLANS**

Existing O.H. & T.S. facilities are not necessarily shown on plans.

#### **POLE BAND CLAMP ACCEPTANCE**

The current basis of acceptance for this material is now part of the QPL (Qualified Product List). This can be found in the materials Acceptance Requirements Table, published in the MQAP and repeated for convenience in the Materials Source Guide.

### MISCELLANEOUS

#### **AUDIO-VISUAL FILMING**

An audio-visual filming of the project conditions as described in the unique special provision must be completed before and after construction.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DATE: 06/20/19

FILE:

JN: PW-7004

MCNICHOLS STREETSCAPE

NOTE SHEET

MCNICHOLS STREETSCAPE

DRAWING SHEET

MCN NOTE 001 10

**MISCELLANEOUS QUANTITIES**

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the plan and profile sheets.

**MISCELLANEOUS ITEMS FOR CONSTRUCTION**

1	LS	Audio-Visual Filming
1	LS	Monitoring Vibrations
1	LS	Mobilization, Max _
1	LS	Pavt, Cleaning
1	LS	Site Preparation, Max _
1	LS	Watering and Cultivating, First Season, Min _
1	LS	Watering and Cultivating, Second Season, Min _
390	Ft	Exploratory Investigation, Vertical
189	Syd	Pavt Repr, Nonreinf Conc, 9 inch
189	Syd	Pavt Repr, Rem
1000	Syd	Aggregate Base, 4 inch

**MAINTENANCE OF TRAFFIC QUANTITIES**

50	Ea	Barricade, Type III, High Intensity, Lighted, Furn
50	Ea	Barricade, Type III, High Intensity, Lighted, Oper
30	Ea	Pedestrian Type II Barricade, Temp
250	Ft	Pedestrian Type II Channelizer, Temp
4	Ea	Lighted Arrow, Type C, Furn
4	Ea	Lighted Arrow, Type C, Oper
1	LS	Minor Traf Devices
2	Ea	Mobile Attenuator
10800	Ft	Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, Yellow, Temp
8000	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, White, Temp
14000	Ft	Pavt Mrkg, Wet Reflective, Type R, Tape, 4 inch, Yellow, Temp
250	Ea	Plastic Drum, High Intensity, Furn
250	Ea	Plastic Drum, High Intensity, Oper
20	Ea	Sign Cover
4	Ea	Sign, Portable, Changeable Message, NTCIP-Compliant, Furn
4	Ea	Sign, Portable, Changeable Message, NTCIP-Compliant, Oper
2500	Sft	Sign, Type B, Temp, Prismatic, Furn
2500	Sft	Sign, Type B, Temp, Prismatic, Oper
450	Sft	Sign, Type B, Temp, Prismatic, Special, Furn
450	Sft	Sign, Type B, Temp, Prismatic, Special, Oper
1	LS	Traf Regulator Control
400	Ft	Fence, Protective

AS-LET PLAN REVISIONS

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DATE: 06/20/19

FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

MISCELLANEOUS QUANTITIES & ESTIMATES SHEET

MCNICHOLS STREETSCAPE

DRAWING SHEET

MCN MSCQNT 001 11

## SURVEY

### GENERAL

- △ CP ALIGNMENT POINT MONUMENT
- ⊗ MONUMENT BOX

### CONTROL

- △ CP CONTROL POINT
- ⊕ BM BENCHMARK
- △ REFERENCE - GPS
- △ REFERENCE - NGS
- ⊕ REFERENCE - USGS

## BOUNDARY

- CITY LIMIT - MAP
- CITY LIMIT
- PARCEL-L PARCEL - LEGAL
- PARCEL-NL PARCEL - NON-LEGAL
- PLAT-L PLAT - LEGAL
- PLAT-NL PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SEC SECTION LINE
- SEC 1/4 SECTION LINE - QUARTER
- SEC 1/8 SECTION LINE - EIGHTH
- SEC 1/16 SECTION LINE - SIXTEENTH
- TOWNSHIP LINE (MAP)
- ⊠ CONCRETE MONUMENT
- CONTIGUOUS PROPERTY SYMBOL
- ⊗ PARCEL CORNER - CAPPED IRON
- ⊙ PARCEL CORNER - IRON PIN
- ⊙ PARCEL CORNER - IRON PIPE
- PARCEL CORNER - NO ID
- 123456 PARCEL NUMBER BOX
- ⊠ PLAT CORNER
- PROPERTY OWNERSHIP ARROW
- PROPERTY OWNERSHIP ARROW - DOUBLE
- ⊠ ROW MONUMENT
- ⊕ SECTION CORNER - CENTER
- ⊕ SECTION CORNER - MEANDER
- ⊕ SECTION CORNER - QUARTER
- ⊕ SECTION CORNER - QUARTER-HALF
- ⊕ SECTION CORNER - SECTION
- ⊕ SECTION CORNER - SECTION-HALF
- ⊕ SECTION CORNER - SIXTEENTH
- ⊕ SECTION CORNER - WITNESS

## MONUMENT PRESERVATION

- PRESERVE MONUMENT
- PROTECT MONUMENT

## GENERAL LABELING

### GENERAL

- LEFT TURN ARROW
- TRAFFIC FLOW ARROW

### REMOVAL

- (A) ABANDON
- (B) BULKHEAD
- (C) CLEARING
- (R) REMOVE
- (SALV) SALVAGE
- (S) SAVE

### CONSTRUCTION

- (ADJ) ADJUST
- (ADJ-B) ADJUST - STRUC COVER WITH TYPE
- (ADJ-B/O) ADJUST - BY OTHERS

### REMOVAL AND CONSTRUCTION

- (REL-1) RELOCATE - WITH CASE NUMBER
- (REL-B/O) RELOCATE - BY OTHERS

## CONSTRUCTION LIMITS

- SSL SLOPE STAKE LINE

## BORINGS

- ⊗ BH# BORING

## STRUCTURES

- BEAM UNDERCLEARANCE
- REFERENCE POINT
- 501 OF 12345 STRUCTURE NO. + CONTROL SEC. LABEL

## VEGETATION

- BRUSH LINE
- HEDGE LINE
- TREE LINE - CANOPY OR TRUNK
- TREE LINE - TRUNK
- SHRUB
- TREE - CONIFER
- TREE - DECIDUOUS
- TREE - STUMP

## ENVIRONMENTAL

- EROSION CONTROL - SILT FENCE
- WETLAND - LEGAL
- WETLAND - NON-LEGAL
- ⊗ CONTAMINATION - MONITORING WELL
- (12) EROSION CONTROL NUMBER
- EROSION CONTROL - RIPRAP
- W.T. 12' WATER TABLE - PLAN NOTE
- WETLAND - SPOT EL
- POTENTIALLY CONTAMINATED SITE

## ROADSIDE / SITE

- ANTENNA
- BIG ROCK
- FLAG POLE
- PICNIC STOVE
- PICNIC TABLE
- SATELLITE DISH

## NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.  
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

## RAILROAD

- TRACK
- ⊗ CROSSING - GATE
- CROSSING - SIGNAL BOX
- CROSSING - SIGNAL FLASHING
- X CROSSING - SYMBOL

## SIGNS

- TT POST - DOUBLE
- T POST - SINGLE
- STRUCTURE - CANTILEVER (EXISTING)
- STRUCTURE - CANTILEVER
- STRUCTURE - TRUSS (EXISTING)
- STRUCTURE - TRUSS
- SUSPENDED (EXISTING)

## MAINTAINING TRAFFIC

- TYPE III BARRICADE
- CHANNELIZING DEVICE - CONE
- CHANNELIZING DEVICE - DRUM
- LIGHT - HIGH INTENSITY TYPE B
- LIGHT - STEADY BURN TYPE C
- LIGHTED ARROW PANEL - BAR
- LIGHTED ARROW PANEL
- PORTABLE CHANGEABLE MESSAGE SIGN
- TRAFFIC REGULATOR
- T TEMPORARY SIGN
- TEMPORARY TRAFFIC SIGNAL

- WORK AREA

## BARRIERS

- CABLE BARRIER - NOT TO SCALE
- CABLE BARRIER - TRUE SCALE
- CONCRETE BARRIER - DOUBLE FACE
- CONCRETE BARRIER - SINGLE FACE
- X-X-X-X-X-X-X-X- FENCE
- GUARDRAIL - NOT TO SCALE
- GUARDRAIL - TRUE SCALE
- NOISE BARRIER
- ◇ FENCE POST
- (123) GUARDRAIL RUN NUMBER
- IMPACT ATTENUATOR
- POST - MAILBOX
- POST - NO ID

## SURFACING

### REMOVAL

- CONCRETE RUBBLIZING OR HMA CRUSH & SHAPE
- HMA COLDMILLING
- HMA SURFACE REMOVAL AND / OR PAVEMENT REMOVAL

### PROPOSED

- AGGREGATE APPROACH
- BRIDGE APPROACH
- HMA APPROACH
- MISCELLANEOUS CONCRETE

### SIDEWALK

- SIDEWALK - REMOVAL
- SIDEWALK - CONCRETE RAMP
- SIDEWALK - DETECT. WARNING SURF.
- SIDEWALK - LANDING
- (SWR-F) SIDEWALK - RAMP LABEL

## TYPICAL SECTION

- CONCRETE - PROPOSED
- HMA - PROPOSED

## CURB & GUTTER

- CURB & GUTTER REMOVAL

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DATE: 06/20/19

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MCNICHOLS STREETSCAPE

LEGEND SHEET  
MCNICHOLS STREETSCAPE

DRAWING SHEET  
MCN LEG 001  
12

## UTILITIES

### COMBINED SEWER

- COMBINED SEWER
- //→→//→→→→ COMBINED SEWER - OUT OF SERVICE
- COMBINED SEWER - TO BE TAKEN OUT OF SERVICE
- x→→x→→→→ COMBINED SEWER - TO BE REMOVED

### COMMUNICATION

- FO—— FIBER OPTIC
- //——FO—— FIBER OPTIC - OUT OF SERVICE
- FO-OH—— FIBER OPTIC - OVERHEAD
- ⊠ FIBER OPTIC MARKER
- C—— CABLE
- //——C—— CABLE - OUT OF SERVICE
- C-OH—— CABLE - OVERHEAD
- ⊠ CABLE MARKER
- ◇ CABLE PEDESTAL
- T—— TELEPHONE
- //——T—— TELEPHONE - OUT OF SERVICE
- T-OH—— TELEPHONE - OVERHEAD
- ⊠ TELEPHONE BOX
- ⊙ TELEPHONE MANHOLE
- ◇ TELEPHONE PEDESTAL

### FUEL / PETROLEUM

- ⊖ GASOLINE FILLER PIPE
- ⊠ GASOLINE PUMP
- ⊠ GASOLINE UNDERGROUND TANK
- PETRO—— PETROLEUM PIPELINE
- //——PETRO—— PETROLEUM PIPELINE - OUT OF SERVICE
- ⊠ PETROLEUM PIPELINE MARKER
- ⊙ PETROLEUM WELL
- ⊙ PROPANE TANK

### NATURAL GAS

- G—— GAS LINE
- //——G—— GAS LINE - OUT OF SERVICE
- ⊠ MARKER
- ⊠ VALVE
- ⊠ WELL

### SANITARY SEWER

- ⊙ MANHOLE WITH COVER (DIA VARIES)
- )——)——)—— SEWER
- )//)——)——)—— SEWER - OUT OF SERVICE
- )●)——)——)—— SEWER - TO BE TAKEN OUT OF SERVICE
- )x)——)——)—— SEWER - TO BE REMOVED

### WATER

- ⊠ FIRE HYDRANT
- ⊗ GATE VALVE AND BOX
- ⊙ GATE VALVE IN WELL
- ⊠ IRRIGATION CONTROL VALVE
- ⊠ IRRIGATION SPRINKLER HEAD
- ⊠ SERVICE METER
- ⊖ SERVICE SHUTOFF
- ⊙ WATER WELL
- I----- IRRIGATION
- W----- WATER MAIN
- //-----W----- WATER MAIN - OUT OF SERVICE
- W----- WATER MAIN - TO BE TAKEN OUT OF SERVICE
- x-----W----- WATER MAIN - TO BE REMOVED

### STEAM

- STEAM—— STEAM
- //——STEAM—— STEAM - OUT OF SERVICE

### GENERIC EXISTING UTILITIES

- ⊙ □ CATCH BASIN COVER
- MANHOLE COVER
- ⊠ MARKER
- ◇ PEDESTAL
- ⊙ SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- ⊠ UTILITY BOX
- U----- UTILITY

## DRAINAGE

- ⊙ ⊙ ⊙ CATCH BASIN W/ COVER (DIA VARIES)
- 12 DRAINAGE STRUCTURE NUMBER
- DRAIN CASTING
- DROP INLET
- ▷ ▷ ▷ ▷ END SECTION (SIZE VARIES)
- FLOW DIRECTION ARROW
- ⊠ HEADWALL (SIZE VARIES)
- ⊙ MANHOLE W/ COVER (DIA VARIES)
- ⊙ MANHOLE BASE W/ COVER (SIZE VARIES)
- ⊙ MANHOLE TEE W/ COVER (SIZE VARIES)
- ⊠ OUTLET HEADWALL (SIZE VARIES)
- CULVERT - EXISTING
- ===== CULVERT (SIZE VARIES)
- DITCH CENTERLINE
- STORM SEWER - EXISTING
- STORM SEWER
- x→→x→→x→→x→→ STORM SEWER - TO BE REMOVED
- UNDERDRAIN
- WATER EDGE

### NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.  
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

## SPECIAL LEGEND THIS PROJECT

- ⊙ TREE WELL
- ⊠ BUS SHELTER  
SEE ENLARGEMENTS FOR BENCH (BACKLESS LOCATION)
- ⊠ BENCH WITH BACK
- ⊠ BIKE RACK
- ⊠ LITTER RECEPTACLE
- ⊠ BUS STOP SIGN
- ⊙ STREET LIGHT

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**







DATE: 06/20/19

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MCNICHOLS STREETScape









LEGEND SHEET  
MCNICHOLS STREETScape

DRAWING SHEET  
MCN LEG 002 13



## ELECTRICAL

-  CONTROLLER CABINET - PAD MOUNTED
-  HANDHOLE
-  MANHOLE
- POLE UTILITY - EXISTING
- POLE UTILITY
-  TRANSFORMER - PAD MOUNTED
-  TRANSFORMER - POLE MOUNTED
- E — CABLE
- x- E -x- CABLE - TO BE REMOVED
- E-OH — CABLE OVERHEAD
- x- E-OH -x- CABLE OVERHEAD - TO BE REMOVED
- I — E — I — CABLE IN CONDUIT
- x- I — E — I -x- CABLE IN CONDUIT - TO BE REMOVED
-  CABLE IN CONDUIT - DIRECTIONAL BORE

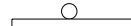
















































## ARCHITECTURAL

-  EXIT SIGN WITH EMERGENCY LIGHT
-  LIGHT RECESSED FIXTURE
-  MOTOR
-  OUTLET BOX
-  OUTLET SINGLE
- △ OUTLET TELEPHONE
-  SERVICE DISCONNECT
-  SERVICE METER
- \$ SWITCH
- \$3 SWITCH THREE WAY
-  WALL BRACKET FIXTURE








## LIGHTING

-  CONTROL PANEL - EXISTING
-  CONTROL PANEL
- \* R&S LIGHT STANDARD EXISTING - TO BE REMOVED & SALVAGED
- \*-o-\* LIGHT STANDARD DOUBLE ARM - EXISTING
- \*-●-\* LIGHT STANDARD DOUBLE ARM
- \* LIGHT STANDARD POST TOP - EXISTING
- \* LIGHT STANDARD POST TOP
- \*-o LIGHT STANDARD SINGLE ARM - EXISTING
- \*-● LIGHT STANDARD SINGLE ARM
- LIGHT POLE - TEMPORARY
- LUMINAIRE WALL MOUNTED UNDERBRIDGE - EXISTING
- LUMINAIRE WALL MOUNTED UNDERBRIDGE
- T- TOWER LIGHTING UNIT - EXISTING
- ⊕-T- TOWER LIGHTING UNIT

## ITS / SIGNALS

-  DYNAMIC MESSAGE SIGN - EXISTING
-  DYNAMIC MESSAGE SIGN
-  ENVIRONMENTAL SENSOR STATION SITE
-  FIBER OPTIC SPLICE PEDESTAL
-  HANDHOLE, ROUND, 3 FOOT DIAMETER
-  HANDHOLE, ROUND, COMMUNICATIONS
-  HANDHOLE, ROUND, ELECTRIC
-  HANDHOLE, TYPE D
-  ITS CABINET - EXISTING
-  ITS CABINET
-  MICROWAVE VEHICLE DETECTION SYSTEM - EXISTING
-  MICROWAVE VEHICLE DETECTION SYSTEM
-  MICROWAVE VEHICLE DETECTION SYSTEM ZONE COVERAGE - EXISTING
-  MICROWAVE VEHICLE DETECTION SYSTEM ZONE COVERAGE
- ◎ SPUN CONCRETE POLE - EXISTING
- SPUN CONCRETE POLE
-  SURVEILLANCE SYSTEM - EXISTING
-  SURVEILLANCE SYSTEM
-  WIRELESS LINK - EXISTING
-  WIRELESS LINK
- === ITS === COMMUNICATIONS CABLE IN CONDUIT
- === -x- ITS -x- === COMMUNICATIONS CABLE IN CONDUIT - TO BE REMOVED
-  ANTENNA
-  CASE SIGN (1-WAY OR 2-WAY)
-  CASE SIGN (4-WAY)
-  DEDICATED SHORT RANGE COMMUNICATIONS
-  CONTROLLER CABINET - POLE MOUNTED
-  CONTROL EMERGENCY PREEMPTION OPTICOM
-  DILEMMA ZONE DETECTION
-  GLOBAL POSITIONING SYSTEM MODULE
-  GUY ANCHOR
-  PEDESTRIAN PEDESTAL
-  PEDESTRIAN PUSHBUTTON
- ○ — POLE MAST ARM (LENGTH VARIES) - EXISTING
- ● — POLE MAST ARM (LENGTH VARIES)
- ⊕ POLE STRAIN
-  ROAD SIGN W/ FLASHING SIGN OPTICAL (1-WAY)
- ⊙ SIGNAL HANDHOLE - 30 INCH ROUND
- ⊙ SIGNAL HANDHOLE - 36 INCH ROUND
-  SIGNAL HANDHOLE - SQUARE
-  SIGNAL HEAD PEDESTRIAN - EXISTING
-  SIGNAL HEAD PEDESTRIAN 1-WAY
-  SIGNAL HEAD PEDESTRIAN 2-WAY
-  SIGNAL HEAD VEHICLE - EXISTING
-  SIGNAL HEAD VEHICLE 1-WAY
-  SIGNAL HEAD VEHICLE 2-WAY
-  SIGNAL HEAD VEHICLE 3-WAY
-  SIGNAL HEAD VEHICLE 4-WAY
-  SIGNAL HEAD VEHICLE BAGGED
-  SIGNAL HEAD VEHICLE PROGRAMMABLE
-  VEHICLE DETECTION CAMERA
-  VEHICLE DETECTION CAMERA - HEMISPHERICAL
-  VEHICLE DETECTION LOOP
-  VEHICLE DETECTION - RADAR
-  WIRELESS VEHICLE DETECTION RADIO RECEIVER
-  WIRELESS VEHICLE DETECTION RADIO REPEATER
-  WIRELESS VEHICLE DETECTION SENSOR - EXISTING
-  WIRELESS VEHICLE DETECTION SENSOR

## CABLING / WIRING DIAGRAM

-  CIRCUIT BREAKER
-  COILED WIRE
-  FUSE
-  FUSE SWITCH
-  GROUND
-  ILLUMINATED CASE SIGN
-  METER
-  SERVICE DISCONNECT
-  SIGNAL HEAD

### NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.  
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETSCAPE

LEGEND SHEET  
MCNICHOLS STREETSCAPE

DRAWING	SHEET
MCN LEG 003	14

**NOTES**

**COORDINATE SYSTEM:** STATE PLANE GRID  
**ZONE:** MICHIGAN SOUTH 2113  
**ELLIPSOID:** GRS 80  
**HORIZONTAL DATUM:** NAD 83 (2011)  
**VERTICAL DATUM:** CITY OF DETROIT  
**GEOID:** NA  
**UNITS:** INTERNATIONAL FEET

**INTERMEDIATE CONTROL**

CONTROL PT #: 100  
 DESCRIPTION: SET PK NAIL IN CONCRETE JOINT EAST OF GREENLAWN, NORTH OF MCNICHOLS.  
 COORDINATES: N = 336695.16 E = 13451582.36  
 EL: = 184.98 STA.= 13+58.22 OFF = 106.24' LT  
 WITNESSES:  
 1. WEST 10' EDGE OF CONC.  
 2. SOUTH 2' GAS TEST  
 3. EAST 5' 8' FENCE

CONTROL PT #: 101  
 DESCRIPTION: SET CAPPED IRON IN SE QUAD OF MCNICHOLS AND WOODINGHAM.  
 COORDINATES: N = 336548.09 E = 13451891.77  
 EL: = 183.71 STA.= 16+62.93 OFF = 49.26' RT  
 WITNESSES:  
 1. NORTH 15' SIDEWALK  
 2. NW 27' STOP SIGN  
 3. EAST 14' SIDEWALK

CONTROL PT #: 102  
 DESCRIPTION: PK NAIL SET IN SWC JOINT SE QUAD OF TULLER AND MCNICHOLS.  
 COORDINATES: N = 336579.41 E = 13452362.54  
 EL: = 183.3 STA.= 21+34.23 OFF = 27.19' RT  
 WITNESSES:  
 1. NORTH 3' CURB  
 2. SW 1' TRUNCATED DOME  
 3. EAST 4' CURB

CONTROL PT #: 103  
 DESCRIPTION: PK NAIL SET IN SIDEWALK JOINT NW QUAD OF SAN JUAN AND MCNICHOLS.  
 COORDINATES: N = 336640.61 E = 13452851.55  
 EL: = 181.53 STA.= 26+24.34 OFF = 24.40' LT  
 WITNESSES:  
 1. NE 5' TELECOMMUNICATIONS MANHOLE  
 2. SW 9' SIGNAL POLE/ LIGHT POLE  
 3. SE 35' MANHOLE IN CENTER OF INTERSECTION.

CONTROL PT #: 104  
 DESCRIPTION: PK NAIL SET AT BACK OF WALK AND PAVED AREA ON WEST SIDE OF SANTA ROSA.  
 COORDINATES: N = 336613.64 E = 13451586.15  
 EL: = 184.44 STA.= 35+11.36 OFF = 123.21' LT  
 WITNESSES:  
 1. SW 27' NE BUILDING CORNER OF 7100 MCNICHOLS  
 2. NW 28' CATCH BASIN IN ALLY  
 3. NE 31.8' S. FACE OF POWER POLE N. SIDE OF ALLEY DRIVE.

CONTROL PT #: 105  
 DESCRIPTION: PK NAIL SET IN SIDEWALK JOINT NW QUAD OF MONICA AND MCNICHOLS.  
 COORDINATES: N = 336656.05 E = 13453454.64  
 EL: = 177.17 STA.= 32+27.62 OFF = 28.00' LT  
 WITNESSES:  
 1. NE 28' LIGHT POLE  
 2. SE 4' TELECOMMUNICATIONS MANHOLE  
 3. SOUTH 14' STOP SIGN

CONTROL PT #: 300  
 DESCRIPTION: PK NAIL SET IN SIDEWALK JOINT NE QUAD OF GREENLAWN AND MCNICHOLS.  
 COORDINATES: N = 336613.64 E = 13451586.15  
 EL: = 184.44 STA.= 13+59.05 OFF = 24.63' LT  
 WITNESSES:  
 1. NORTH 10' SIGNAL POLE  
 2. NW 12' WATER GATE VALVE  
 3. SOUTH 3' TRUNCATED DOME

CONTROL PT #: 301  
 DESCRIPTION: SET CAPPED IRON IN FIELD AT SW QUAD OF TURNER AND MCNICHOLS.  
 COORDINATES: N = 336560.64 E = 13452087.2  
 EL: = 183.51 STA.= 18+58.57 OFF = 40.55' RT  
 WITNESSES:  
 1. NE 6' ABANDONED LP BASE  
 2. SE 16' CATCH BASIN ON TURNER  
 3. EAST 14' FIRE HYDRANT

CONTROL PT #: 302  
 DESCRIPTION: SET CAPPED IRON IN GRASS AT NW QUAD OF PENN AND MCNICHOLS.  
 COORDINATES: N = 336643.60 E = 13452521.89  
 EL: = 183.69 STA.= 22+94.80 OFF = 33.86' LT  
 WITNESSES:  
 1. EAST 7' STOP SIGN  
 2. SE 16' WATER GATE VALVE ON PENN  
 3. SW 20' CATCH BASIN ON MCNICHOLS

CONTROL PT #: 303  
 DESCRIPTION: PK NAIL SET IN ASPHALT BETWEEN PENN AND SAN JAUN, SOUTH OF MCNICHOLS IN AN ABANDONED PARKING LOT.  
 COORDINATES: N = 336574.48 E = 13452758.23  
 EL: = 182.73 STA.= 25+29.74 OFF = 39.88' RT  
 WITNESSES:  
 1. SW 14' ROUND CATCH BASIN  
 2. NE 26' WOODEN LIGHT POLE  
 3. EAST 57' CHAINLINK FENCE

CONTROL PT #: 304  
 DESCRIPTION: PK NAIL LOCATED IN SIDEWALK JOINT AT NE QUAD OF MCNICHOLS AND PRAIRIE.  
 COORDINATES: N = 336651.57 E = 13453206.36  
 EL: = 179.06 STA.= 29+79.30 OFF = 28.40' LT  
 WITNESSES:  
 1. SE 12' FIRE HYDRANT  
 2. NE 15' BUILDING CORNER (NE) QUAD  
 3. NW 33.5' MANHOLE ON PRAIRIE ST.

CONTROL PT #: 305  
 DESCRIPTION: SET PK NAIL IN ASPHALT AT LUCKIS CHEESECAKES PARKING LOT SOUTH OF CROWN LIQUOR.  
 COORDINATES: N = 336581.19 E = 13453611.91  
 EL: = 175.62 STA.= 33+83.39 OFF = 49.93' RT  
 WITNESSES:  
 1. NW 26' WOODNEN LIGHT POLE  
 2. WEST 9' METAL FENCE

3. NE 42' TELECOMMUNICATIONS MANHOLE

CONTROL PT #: 306  
 DESCRIPTION: CAPPED IRON SET IN GRASS AT NE QUAD OF SANTA ROSE AND MCNICHOLS.  
 COORDINATES: N = 336670.50 E = 13453794.16  
 EL: = 174.43 STA.= 35+67.36 OFF = 35.79' LT  
 WITNESSES:  
 1. WEST 15' CATCH BASIN ON SANTA ROSE  
 2. NORTH 42' BUILDING CORNER (7000 MCNICHOLS RD)  
 3. NSOUTH 17' BACK OF CURB MCNICHOLS

CONTROL PT #: 307  
 DESCRIPTION: PK NAIL SET IN SIDEWALK JOINT AT SE QUAD OF STOEPEL AND MCNICHOLS.  
 COORDINATES: N = 336606.08 E = 13454081.23  
 EL: = 172.94 STA.= 38+53.11 OFF = 34.26' RT  
 WITNESSES:  
 1. WEST 8' GATE VALVE  
 2. NORTH 7' BUILDING CORNER (6345 MCNICHOLS)  
 3. NORTH 6' BACK OF CURB MCNICHOLS

CONTROL PT #: 308  
 DESCRIPTION: PK NAIL SET IN SIDEWALK JOINT AT NW QUAD OF LIVERNOIS AND MCNICHOLS.  
 COORDINATES: N = 336671.62 E = 13454291.68  
 EL: = 172.29 STA.= 40+64.80 OFF = 27.14' LT  
 WITNESSES:  
 1. NE 12' SIGNAL POLE  
 2. SW 14' CATCH BASIN ON MCNICHOLS  
 3. NW 16' MCDONALDS SIGN

**BENCHMARKS**

BENCHMARK #: 200  
 DESCRIPTION: SET COTTON SPINDLE ON NORTH FACE OF LIGHT POLE IN SW QUAD OF MCNICHOLS AND GREENLAWN.  
 EL: = 185.53 STA.= 13+66.84 OFF = 24.91' RT

BENCHMARK #: 201  
 DESCRIPTION: SET COTTON SPINDLE NORTH FACE OF UTILITY POLE IN SE QUAD OF S. ALLY AND TURNER.  
 EL: = 185.40 STA.= 19+17.61 OFF = 157.41' RT

BENCHMARK #: 202  
 DESCRIPTION: SET COTTON SPINDLE IN NORTH FACE OF LIGHT POLE IN SE QUAD OF MCNICHOLS AND TULLER.  
 EL: = 184.13 STA.= 21+79.30 OFF = 23.00' RT

BENCHMARK #: 203  
 DESCRIPTION: SET MARK ON ARROW OF FIRE HYDRANT AT SW CORNER OF SAN JUAN AND MCNICHOLS.  
 EL: = 184.23 STA.= 26+63.99 OFF = 41.26' RT

BENCHMARK #: 205  
 DESCRIPTION: SET COTTON SPINDLE IN NE FACE OF LIGHT POLE AT SOUTH SIDE OF MCNICHOLS ACROSS FROM CROWN LIQUOR.  
 EL: = 176.92 STA.= 33+71.02 OFF = 23.81' RT

BENCHMARK #: 206  
 DESCRIPTION: SET COTTON SPINDLE IN NORTH FACE OF POWER POLE AT SE CORNER OF SANTA ROSA AND MCNICHOLS.  
 EL: = 175.15 STA.= 35+63.82 OFF = 24.05' RT

BENCHMARK #: 207  
 DESCRIPTION: ARROW ON FIRE HYDRANT SE CORNER OF STOEPEL AND MCNICHOL.  
 EL: = 174.98 STA.= 38+47.59 OFF = 49.81' RT

BENCHMARK #: 208  
 DESCRIPTION: SET "X" ON SE BOLT OF LIGHT POLE AT S. SIDE OF MCDONALDS PARKING LOT. NORTH SIDE OF MCNICHOLS JUST WEST OF LIVERNOIS.  
 EL: = 177.14 STA.= 40+15.88 OFF = 31.49' LT

BENCHMARK #: 209  
 DESCRIPTION: SET MARK ON ARROW OF FIRE HYDRANT AT SW CORNER OF MONICA AND MCNICHOLS.  
 EL: = 180.47 STA.= 32+32.49 OFF = 40.97' RT

REVISIONS					
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE



NO SCALE

DATE: 06/20/19

JN: PW-7004

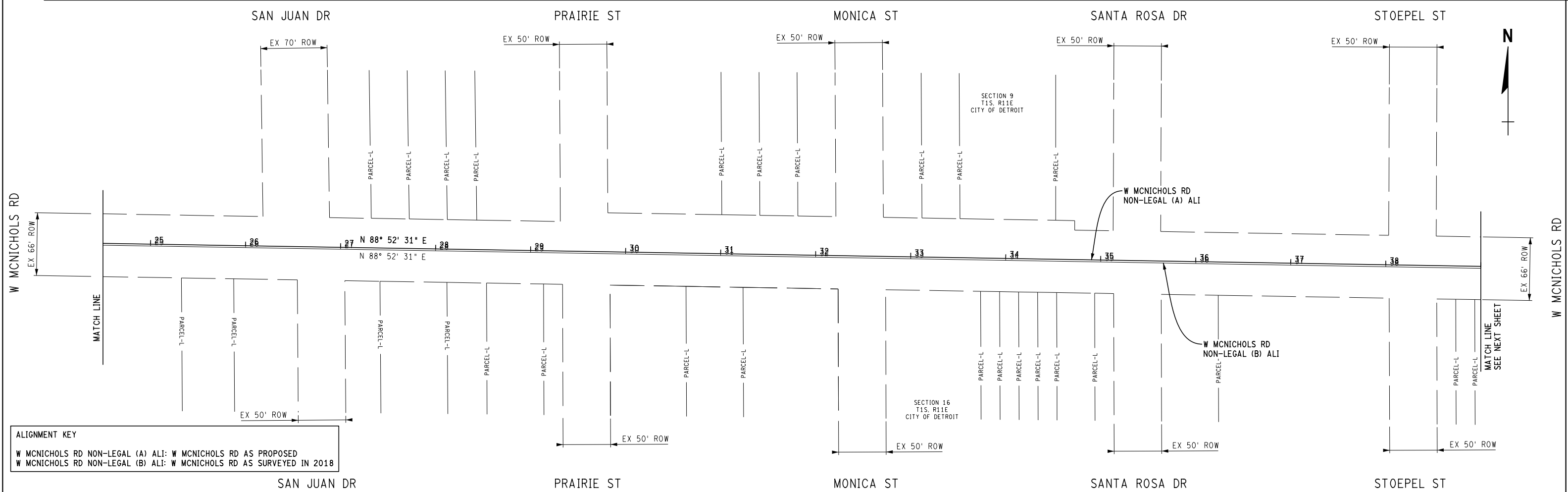
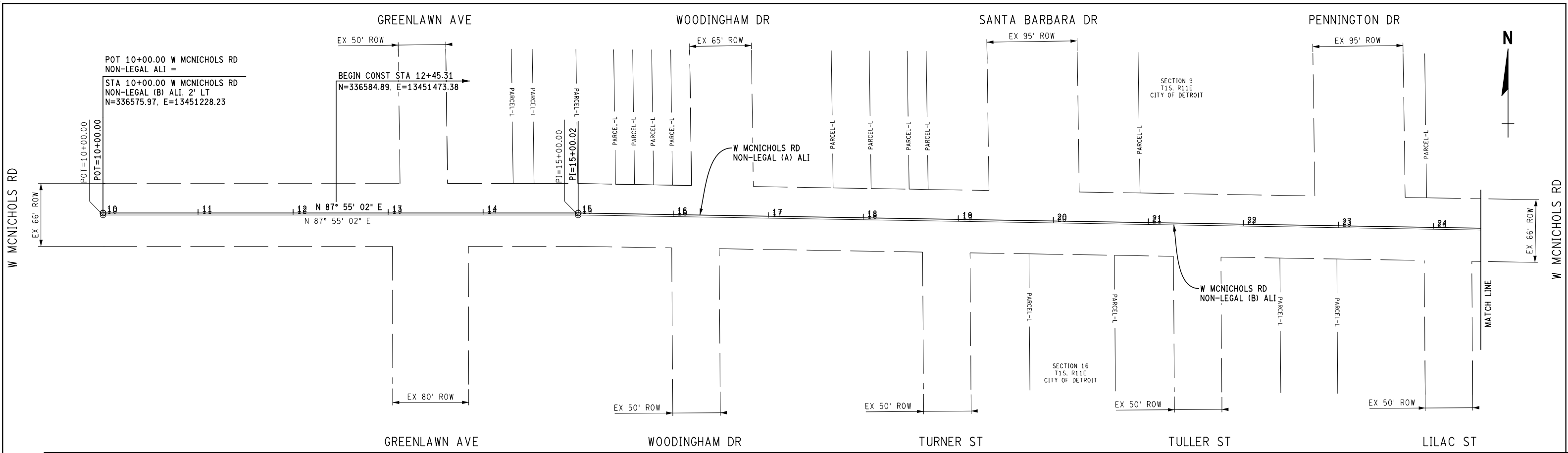
MCNICHOLS STREETSCAPE

SURVEY INFORMATION SHEET

MCNICHOLS STREETSCAPE

DRAWING SHEET

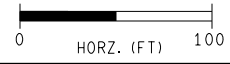
MCN SURVEY 001 15



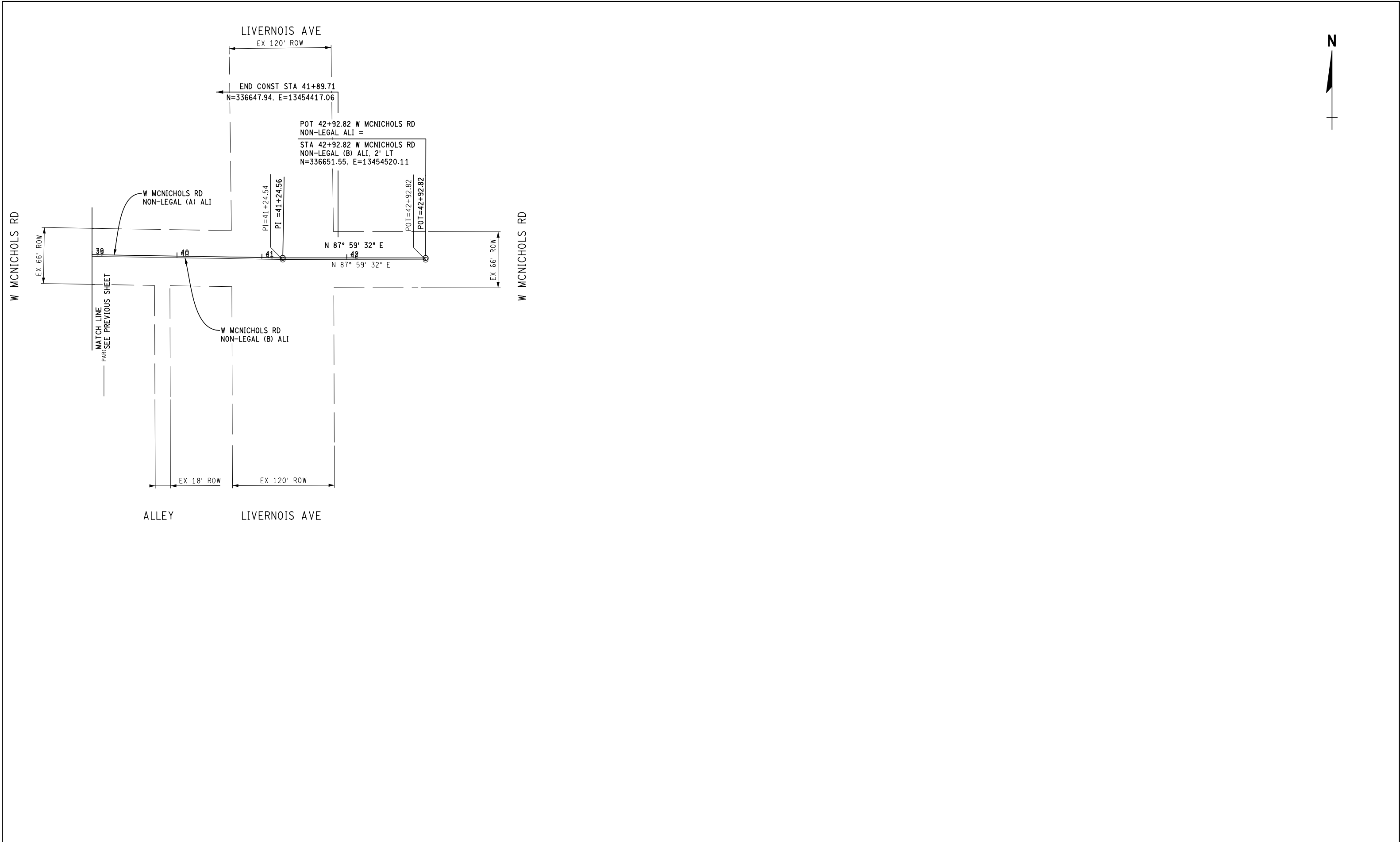
**ALIGNMENT KEY**

W McNichols Rd NON-LEGAL (A) ALI	W McNichols Rd AS PROPOSED
W McNichols Rd NON-LEGAL (B) ALI	W McNichols Rd AS SURVEYED IN 2018

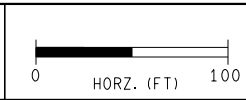
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )				DATE: 06/20/19				ALIGNMENT SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	MCNICHOLS STREETScape		MCN	001
								JN: PW-7004			
								MCNICHOLS STREETScape			16







FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



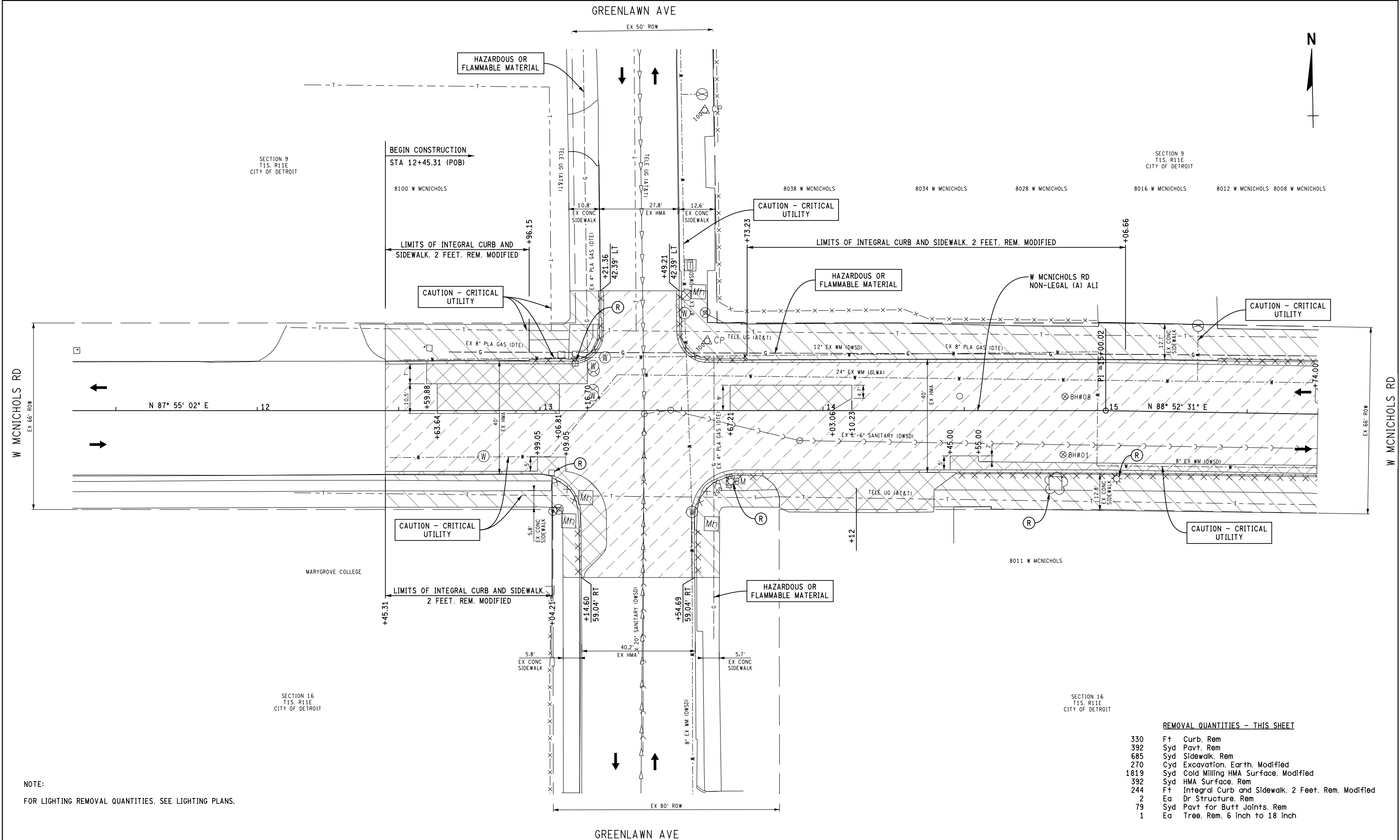
FILE:

DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

ALIGNMENT SHEET  
MCNICHOLS STREETScape

DRAWING SHEET  
MCN ALIGN 002 17



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

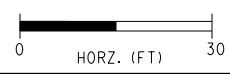
SECTION 16  
T1S, R11E  
CITY OF DETROIT

NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

330	Ft	Curb, Rem
392	Syd	Pavt, Rem
685	Syd	Sidewalk, Rem
270	Cyd	Excavation, Earth, Modified
1819	Syd	Cold Milling HMA Surface, Modified
392	Syd	HMA Surface, Rem
244	Ft	Integral Curb and Sidewalk, 2 Feet, Rem, Modified
2	Ea	Dr Structure, Rem
79	Syd	Pavt for Butt Joints, Rem
1	Ea	Tree, Rem, 6 inch to 18 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 12+45.31 (POB) TO STA 15+75

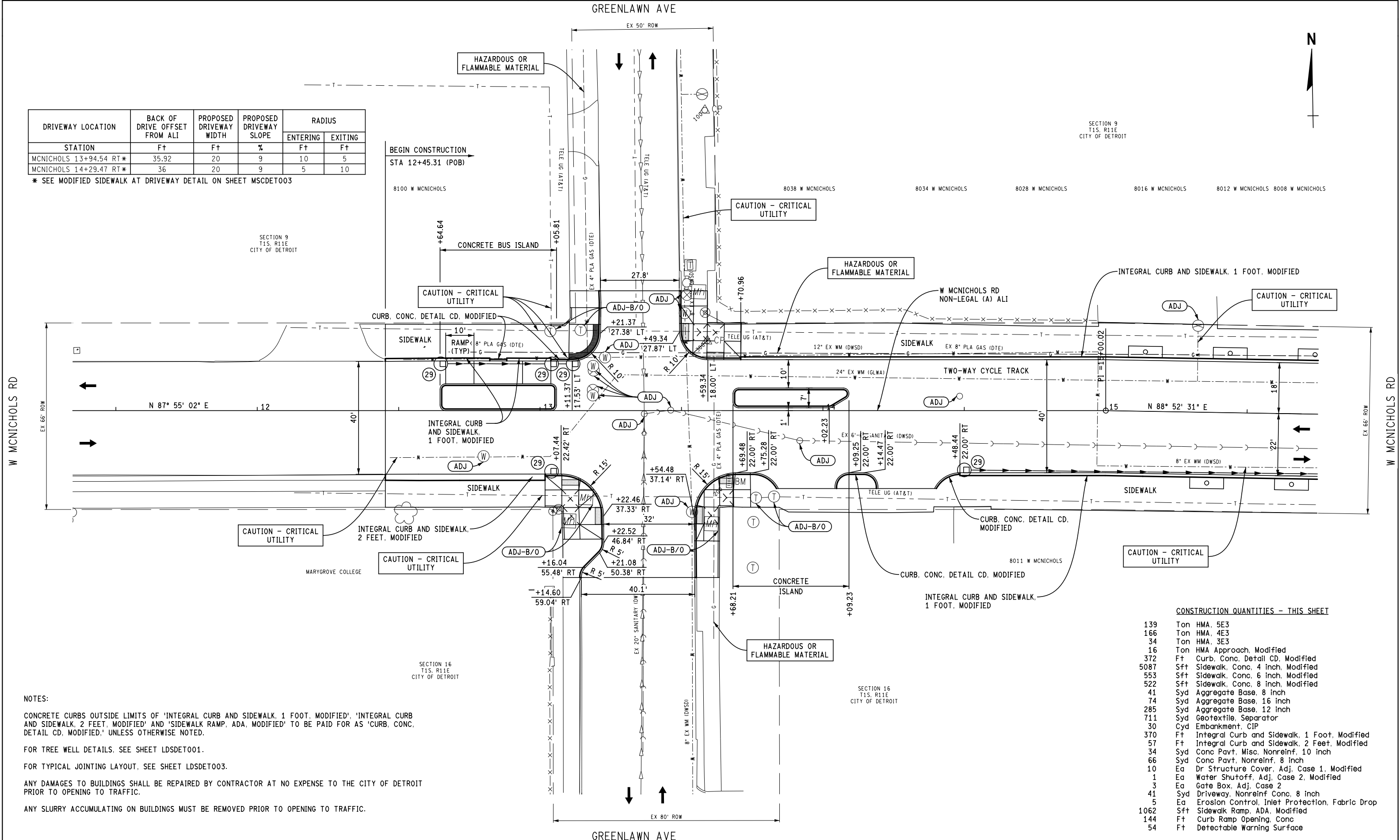
DRAWING SHEET  
MCN REM 001  
18

GREENLAWN AVE



DRIVEWAY LOCATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
STATION	F+	F+	%	F+	F+
MCNICHOLS 13+94.54 RT*	35.92	20	9	10	5
MCNICHOLS 14+29.47 RT*	36	20	9	5	10

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003



W MCNICHOLS RD

W MCNICHOLS RD

NOTES:

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED', 'INTEGRAL CURB AND SIDEWALK, 2 FEET, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC, DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LDSDET001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LDSDET003.

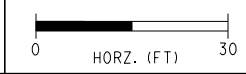
ANY DAMAGES TO BUILDINGS SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO THE CITY OF DETROIT PRIOR TO OPENING TO TRAFFIC.

ANY SLURRY ACCUMULATING ON BUILDINGS MUST BE REMOVED PRIOR TO OPENING TO TRAFFIC.

CONSTRUCTION QUANTITIES - THIS SHEET

139	Ton	HMA, 5E3
166	Ton	HMA, 4E3
34	Ton	HMA, 3E3
16	Ton	HMA Approach, Modified
372	Ft	Curb, Conc, Detail CD, Modified
5087	Sft	Sidewalk, Conc, 4 inch, Modified
553	Sft	Sidewalk, Conc, 6 inch, Modified
522	Sft	Sidewalk, Conc, 8 inch, Modified
41	Syd	Aggregate Base, 8 inch
74	Syd	Aggregate Base, 16 inch
285	Syd	Aggregate Base, 12 inch
711	Syd	Geotextile, Separator
30	Cyd	Embankment, CIP
370	Ft	Integral Curb and Sidewalk, 1 Foot, Modified
57	Ft	Integral Curb and Sidewalk, 2 Feet, Modified
34	Syd	Conc Pavt, Misc, Nonreinf, 10 inch
66	Syd	Conc Pavt, Nonreinf, 8 inch
10	Ea	Dr Structure Cover, Adj, Case 1, Modified
1	Ea	Water Shutoff, Adj, Case 2, Modified
3	Ea	Gate Box, Adj, Case 2
41	Syd	Driveway, Nonreinf Conc, 8 inch
5	Ea	Erosion Control, Inlet Protection, Fabric Drop
1062	Sft	Sidewalk Ramp, ADA, Modified
144	Ft	Curb Ramp Opening, Conc
54	Ft	Detectable Warning Surface

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004

MCNICHOLS STREETScape

CONSTRUCTION SHEET

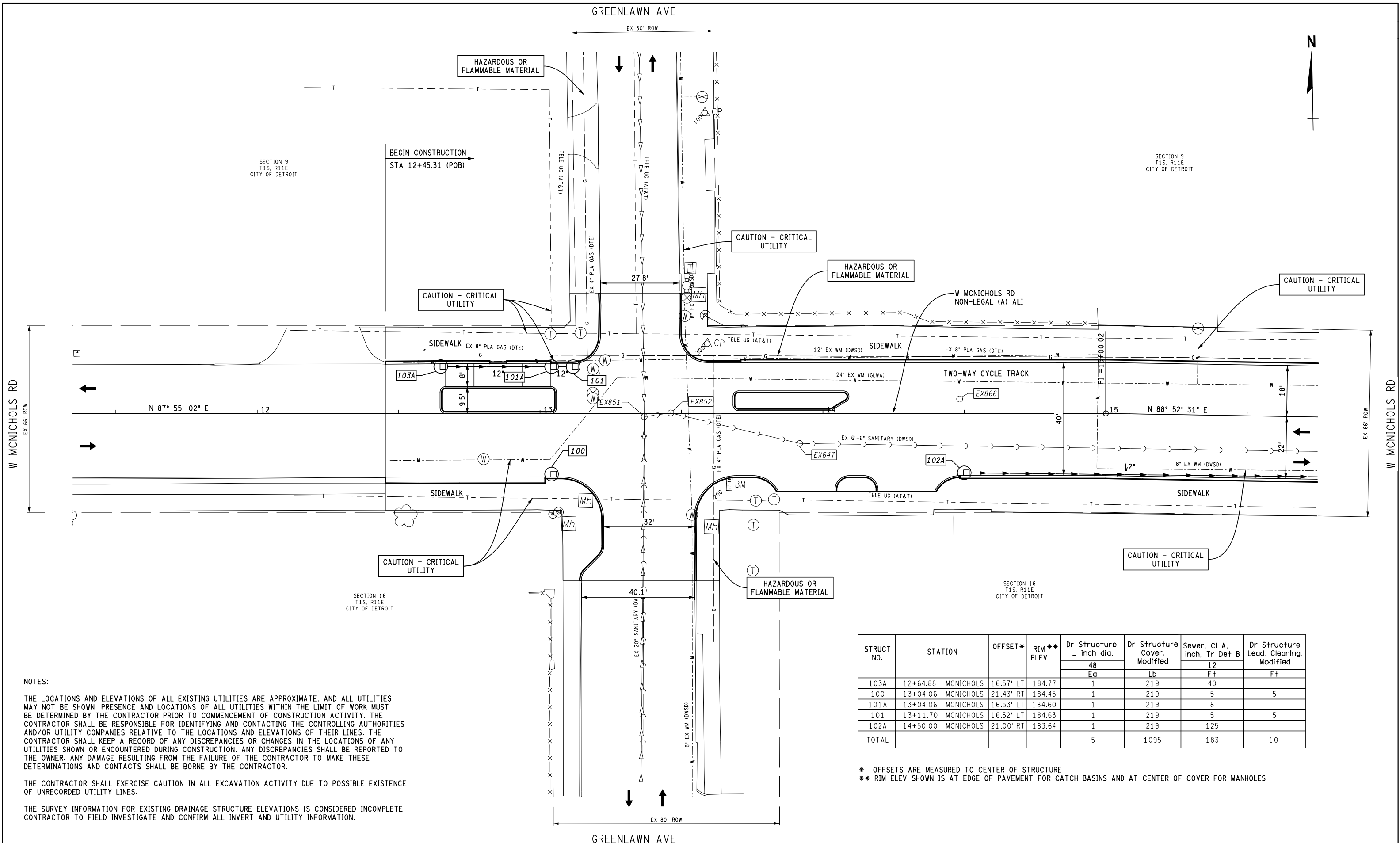
MCNICHOLS STREETScape

STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET

MCN CON 001

19



**NOTES:**

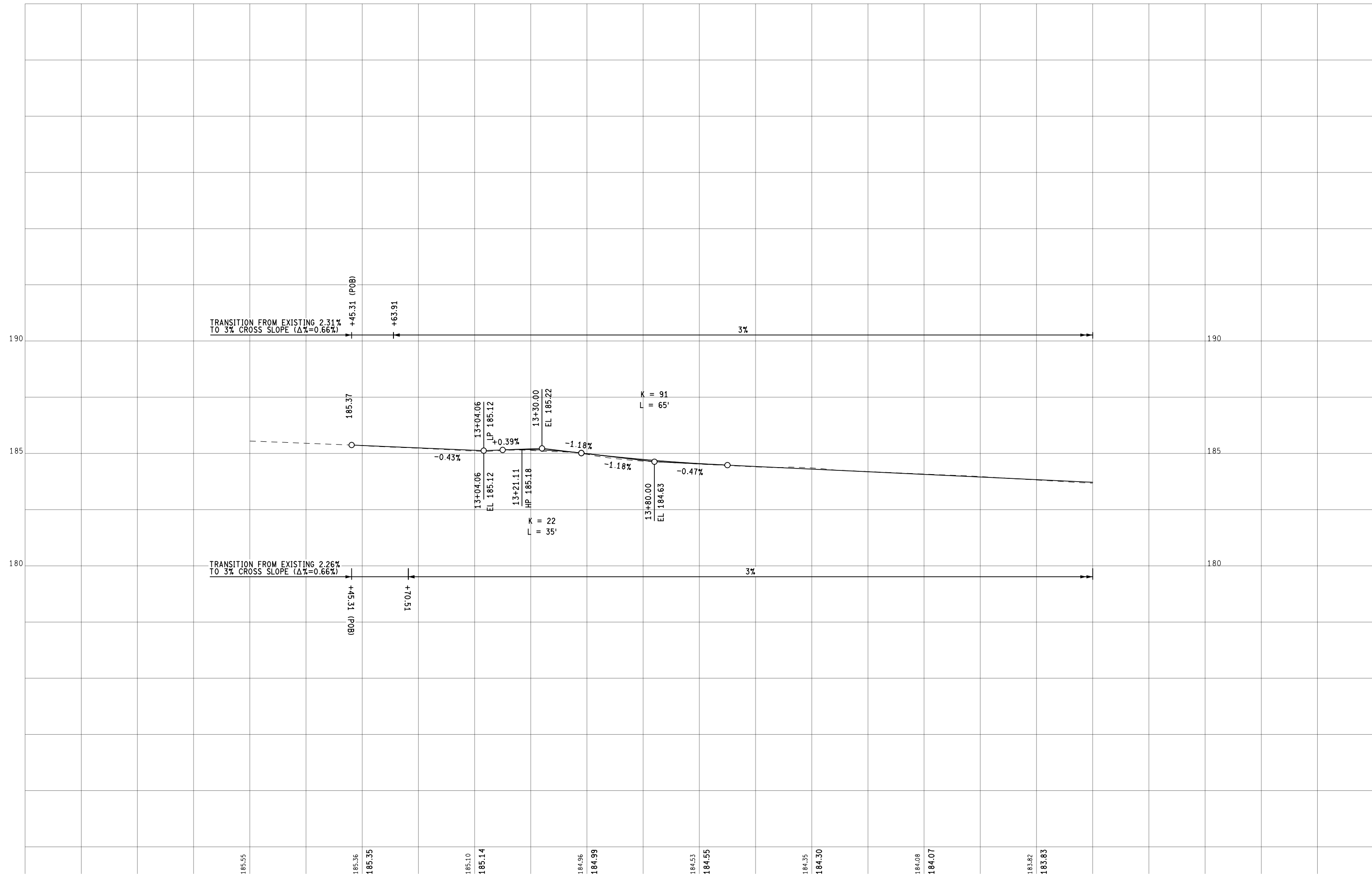
THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE, AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.

THE SURVEY INFORMATION FOR EXISTING DRAINAGE STRUCTURE ELEVATIONS IS CONSIDERED INCOMPLETE. CONTRACTOR TO FIELD INVESTIGATE AND CONFIRM ALL INVERT AND UTILITY INFORMATION.

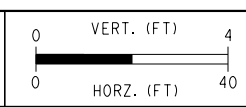
STRUCT NO.	STATION	OFFSET*	RIM** ELEV	Dr Structure, - inch dia.		Sewer, CI A, - inch, Tr Det B		Dr Structure Lead, Cleaning, Modified
				48 Ea	Dr Structure Cover, Modified Lb	12 Ft		
103A	12+64.88	MCNICHOLS 16.57' LT	184.77	1	219	40		Ft
100	13+04.06	MCNICHOLS 21.43' RT	184.45	1	219	5	5	
101A	13+04.06	MCNICHOLS 16.53' LT	184.60	1	219	8		
101	13+11.70	MCNICHOLS 16.52' LT	184.63	1	219	5	5	
102A	14+50.00	MCNICHOLS 21.00' RT	183.64	1	219	125		
<b>TOTAL</b>				<b>5</b>	<b>1095</b>	<b>183</b>		<b>10</b>

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES



EX GROUND PROF AT MCNICHOLS ALI  
 PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

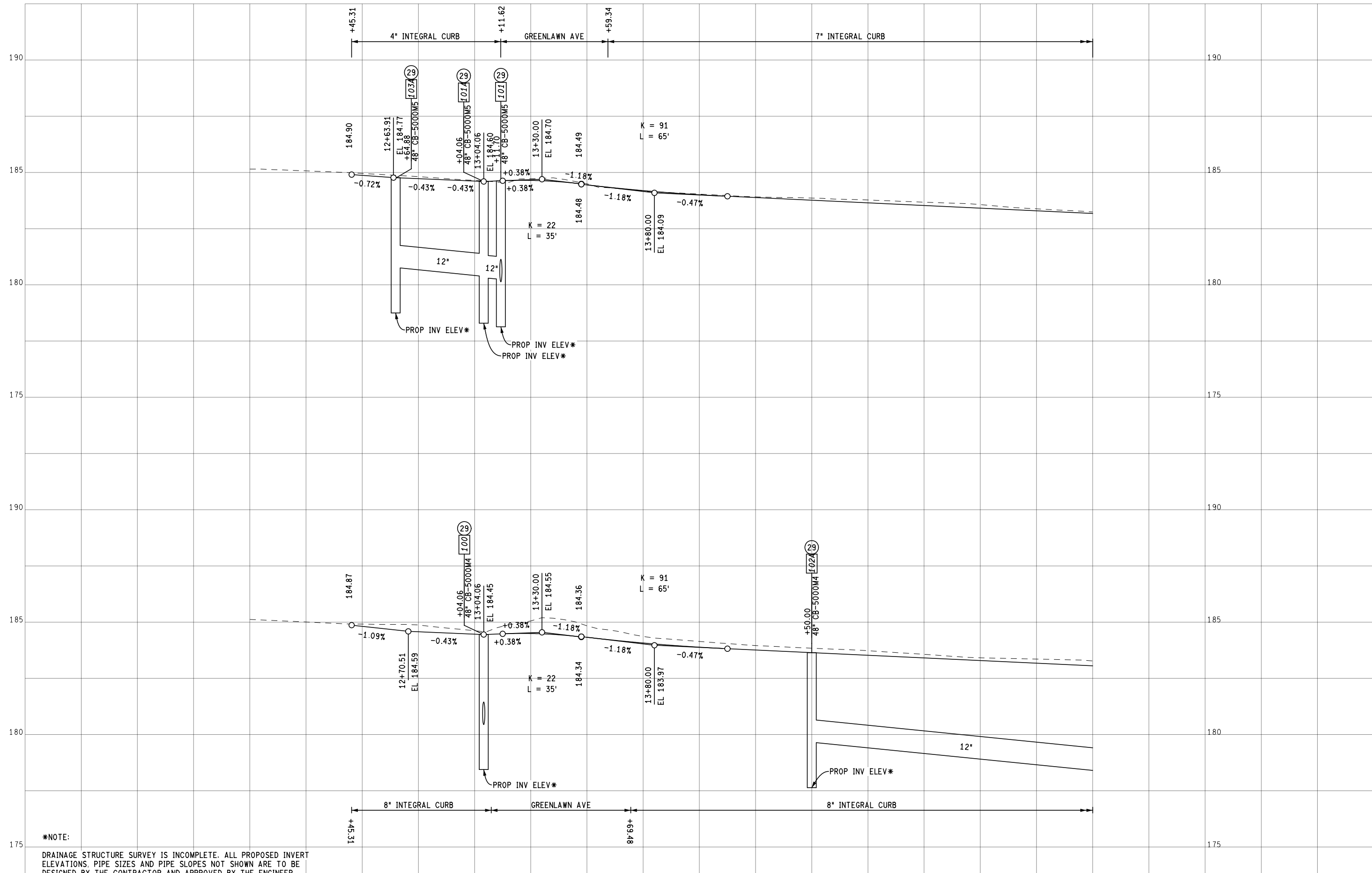


DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETSCAPE

PROFILE SHEET  
 MCNICHOLS STREETSCAPE  
 STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET  
 MCN PROF 001  
 21

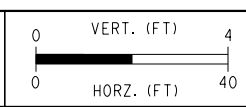


\*NOTE:  
DRAINAGE STRUCTURE SURVEY IS INCOMPLETE. ALL PROPOSED INVERT ELEVATIONS, PIPE SIZES AND PIPE SLOPES NOT SHOWN ARE TO BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
- - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
- - - PROP RT PROF AT FACE OF CURB

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

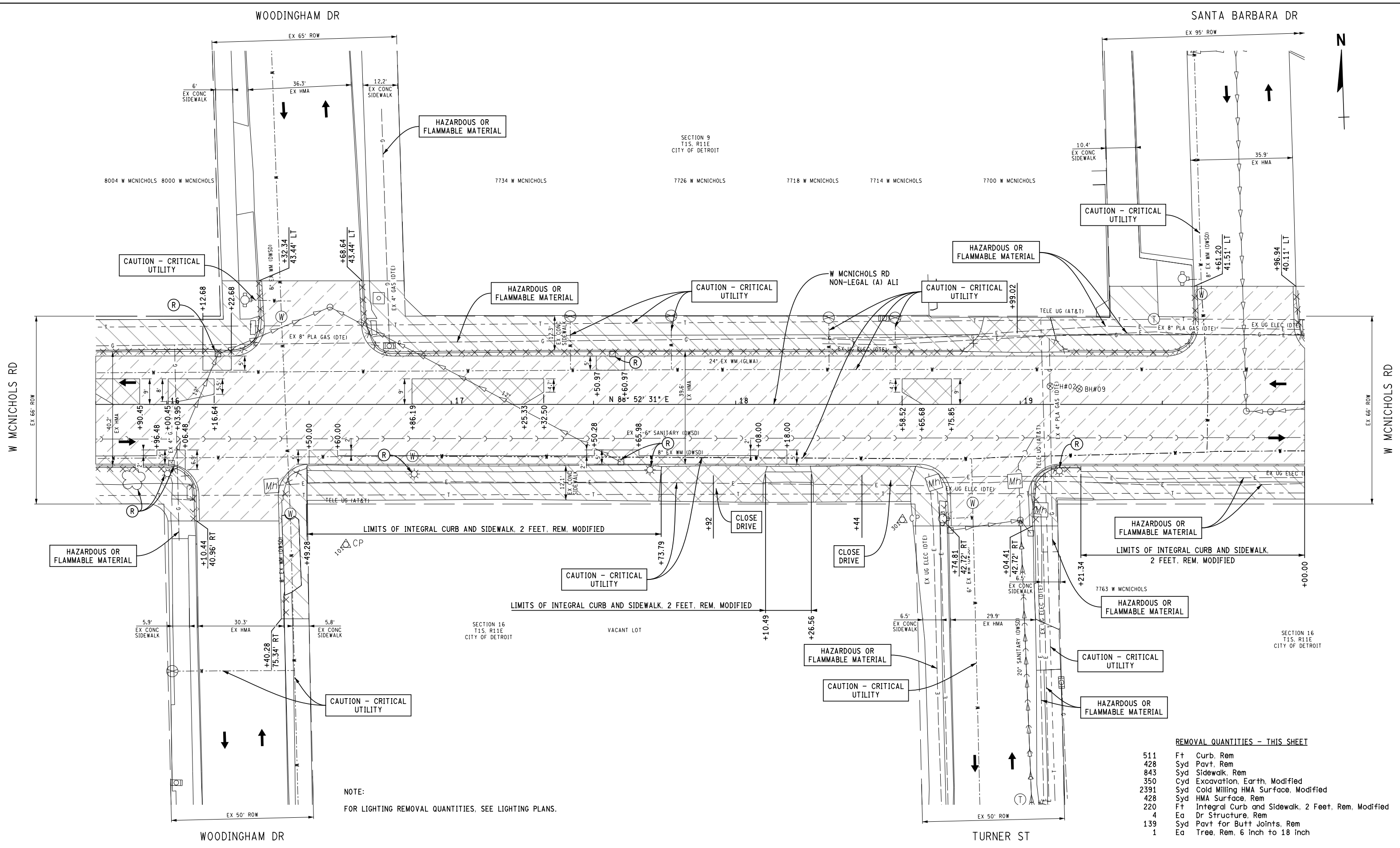


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
MCNICHOLS STREETScape  
STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET  
MCN PROF 002  
22

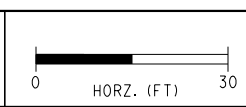


NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

511	Ft	Curb, Rem
428	Syd	Pavt, Rem
843	Syd	Sidewalk, Rem
350	Cyd	Excavation, Earth, Modified
2391	Syd	Cold Milling HMA Surface, Modified
428	Syd	HMA Surface, Rem
220	Ft	Integral Curb and Sidewalk, 2 Feet, Rem, Modified
4	Ea	Dr Structure, Rem
139	Syd	Pavt for Butt Joints, Rem
1	Ea	Tree, Rem, 6 inch to 18 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

REMOVAL SHEET		DRAWING	SHEET
MCNICHOLS STREETSCAPE		MCN	23
STA 15+75 TO STA 20+00		REM	002

WOODINGHAM DR

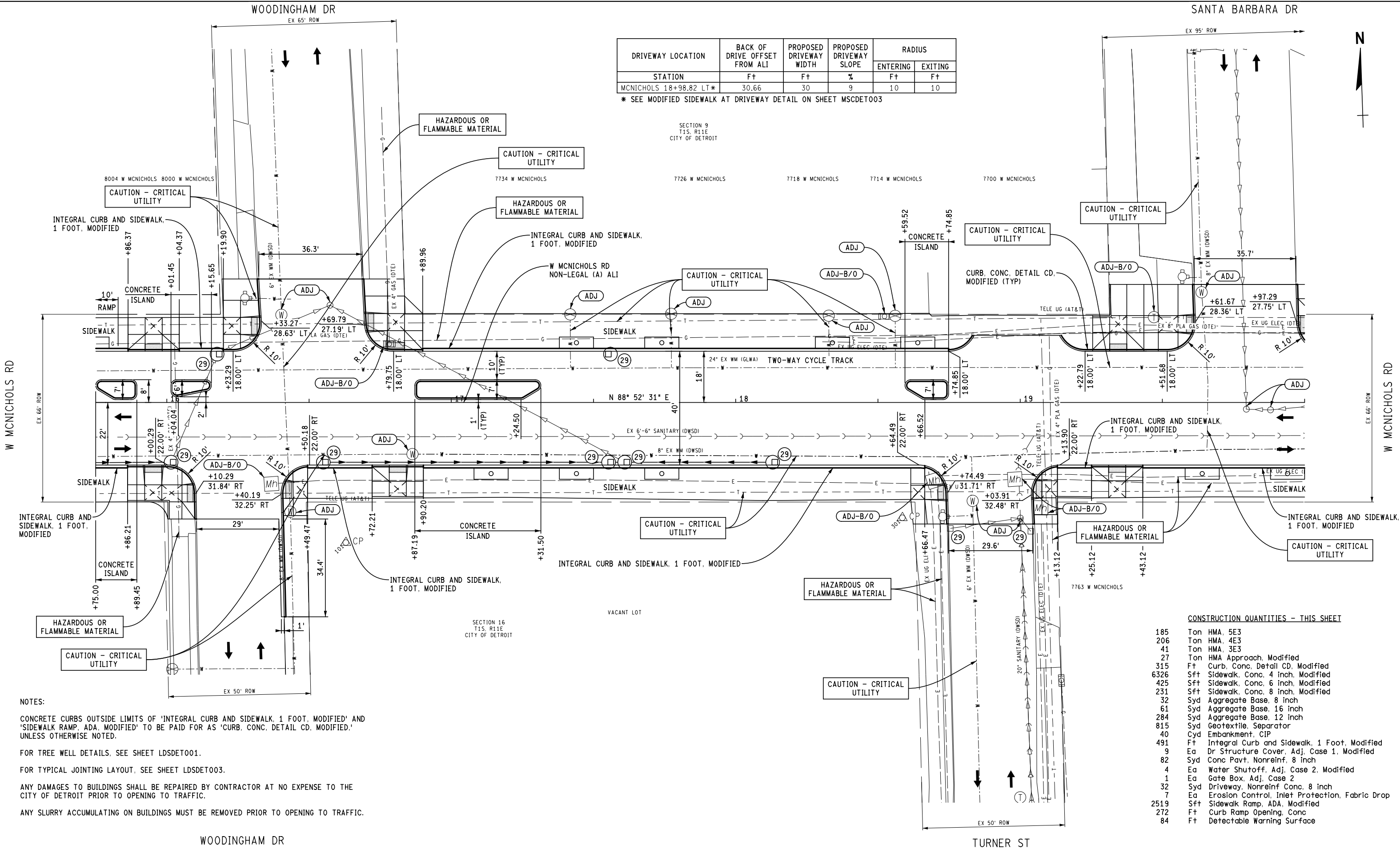
SANTA BARBARA DR

DRIVEWAY LOCATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
STATION	F+	F+	%	F+	F+
MCNICHOLS 18+98.82 LT*	30.66	30	9	10	10

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT



NOTES:

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC. DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LDSDET001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LDSDET003.

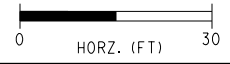
ANY DAMAGES TO BUILDINGS SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO THE CITY OF DETROIT PRIOR TO OPENING TO TRAFFIC.

ANY SLURRY ACCUMULATING ON BUILDINGS MUST BE REMOVED PRIOR TO OPENING TO TRAFFIC.

**CONSTRUCTION QUANTITIES - THIS SHEET**

185	Ton	HMA, 5E3
206	Ton	HMA, 4E3
41	Ton	HMA, 3E3
27	Ton	HMA Approach, Modified
315	Ft	Curb, Conc, Detail CD, Modified
6326	Sft	Sidewalk, Conc, 4 inch, Modified
425	Sft	Sidewalk, Conc, 6 inch, Modified
231	Sft	Sidewalk, Conc, 8 inch, Modified
32	Syd	Aggregate Base, 8 inch
61	Syd	Aggregate Base, 16 inch
284	Syd	Aggregate Base, 12 inch
815	Syd	Geotextile, Separator
40	Cyd	Embankment, CIP
491	Ft	Integral Curb and Sidewalk, 1 Foot, Modified
9	Ea	Dr Structure Cover, Adj, Case 1, Modified
82	Syd	Conc Pavt, Nonreinf, 8 inch
4	Ea	Water Shutoff, Adj, Case 2, Modified
1	Ea	Gate Box, Adj, Case 2
32	Syd	Driveway, Nonreinf Conc, 8 inch
7	Ea	Erosion Control, Inlet Protection, Fabric Drop
2519	Sft	Sidewalk Ramp, ADA, Modified
272	Ft	Curb Ramp Opening, Conc
84	Ft	Detectable Warning Surface

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

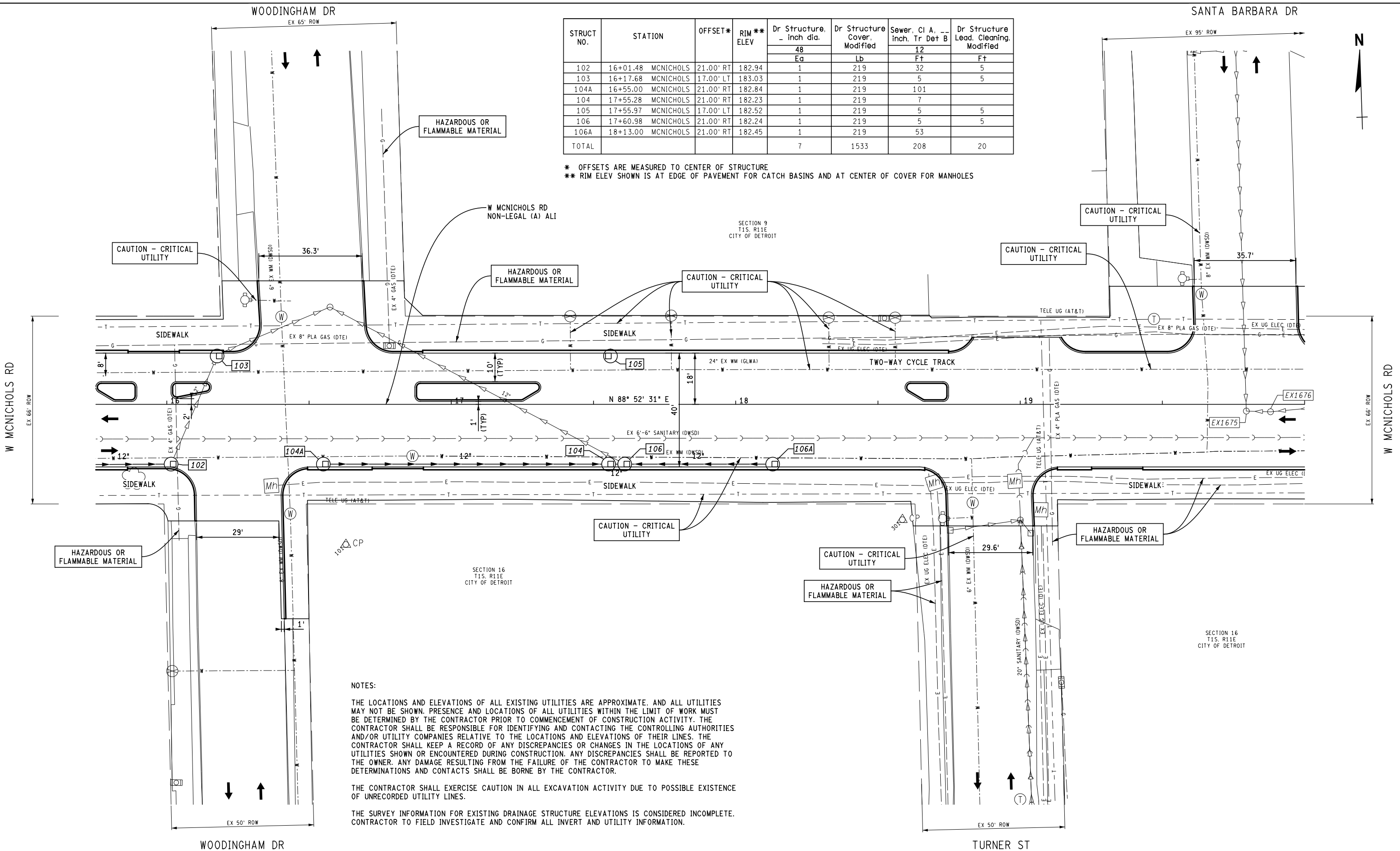
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

CONSTRUCTION SHEET  
MCNICHOLS STREETScape  
STA 15+75 TO STA 20+00

DRAWING SHEET  
MCN CON 002  
24





STRUCT NO.	STATION	OFFSET*	RIM ** ELEV	Dr Structure	Dr Structure	Sewer, CI A, --	Dr Structure
				- inch dia.	Cover Modified	inch, Tr Det B	Lead, Cleaning Modified
				48	Lb	12	Ft
				Ea	Lb	Ft	Ft
102	16+01.48	MCNICHOLS	21.00' RT	182.94	1	219	5
103	16+17.68	MCNICHOLS	17.00' LT	183.03	1	219	5
104A	16+55.00	MCNICHOLS	21.00' RT	182.84	1	219	101
104	17+55.28	MCNICHOLS	21.00' RT	182.23	1	219	7
105	17+55.97	MCNICHOLS	17.00' LT	182.52	1	219	5
106	17+60.98	MCNICHOLS	21.00' RT	182.24	1	219	5
106A	18+13.00	MCNICHOLS	21.00' RT	182.45	1	219	53
TOTAL					7	1533	208

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES

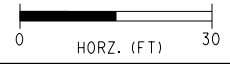
**NOTES:**

THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE, AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.

THE SURVEY INFORMATION FOR EXISTING DRAINAGE STRUCTURE ELEVATIONS IS CONSIDERED INCOMPLETE. CONTRACTOR TO FIELD INVESTIGATE AND CONFIRM ALL INVERT AND UTILITY INFORMATION.

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE:)	
NO.	DATE	AUTH	DESCRIPTION



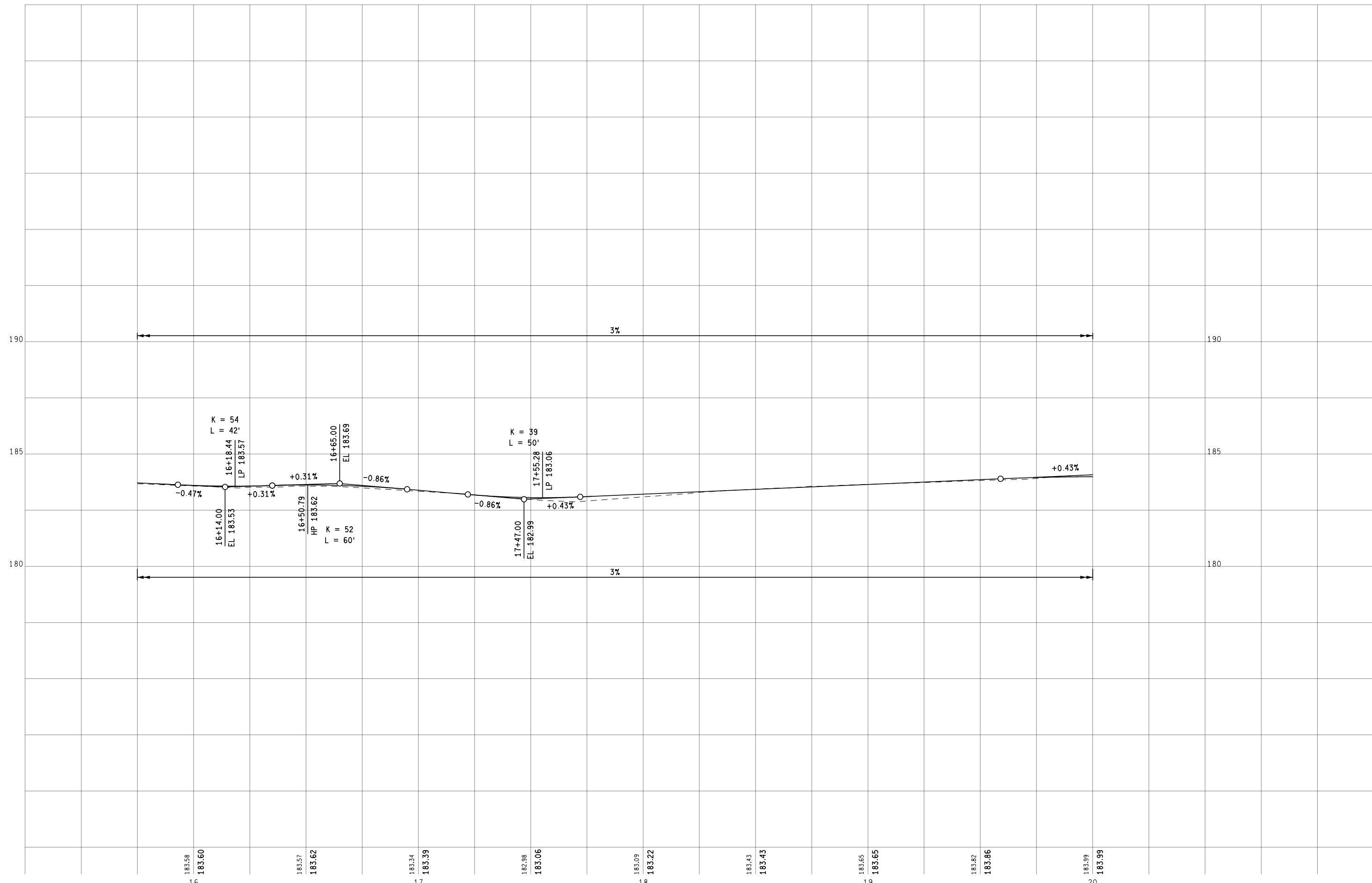
DATE: 06/20/19

FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

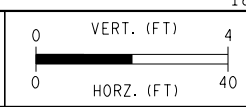
DRAINAGE SHEET  
 MCNICHOLS STREETScape  
 STA 15+75 TO STA 20+00

DRAWING SHEET  
 MCN DRAIN 002  
 25



- - - EX GROUND PROF AT MCNICHOLS ALI  
 ——— PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



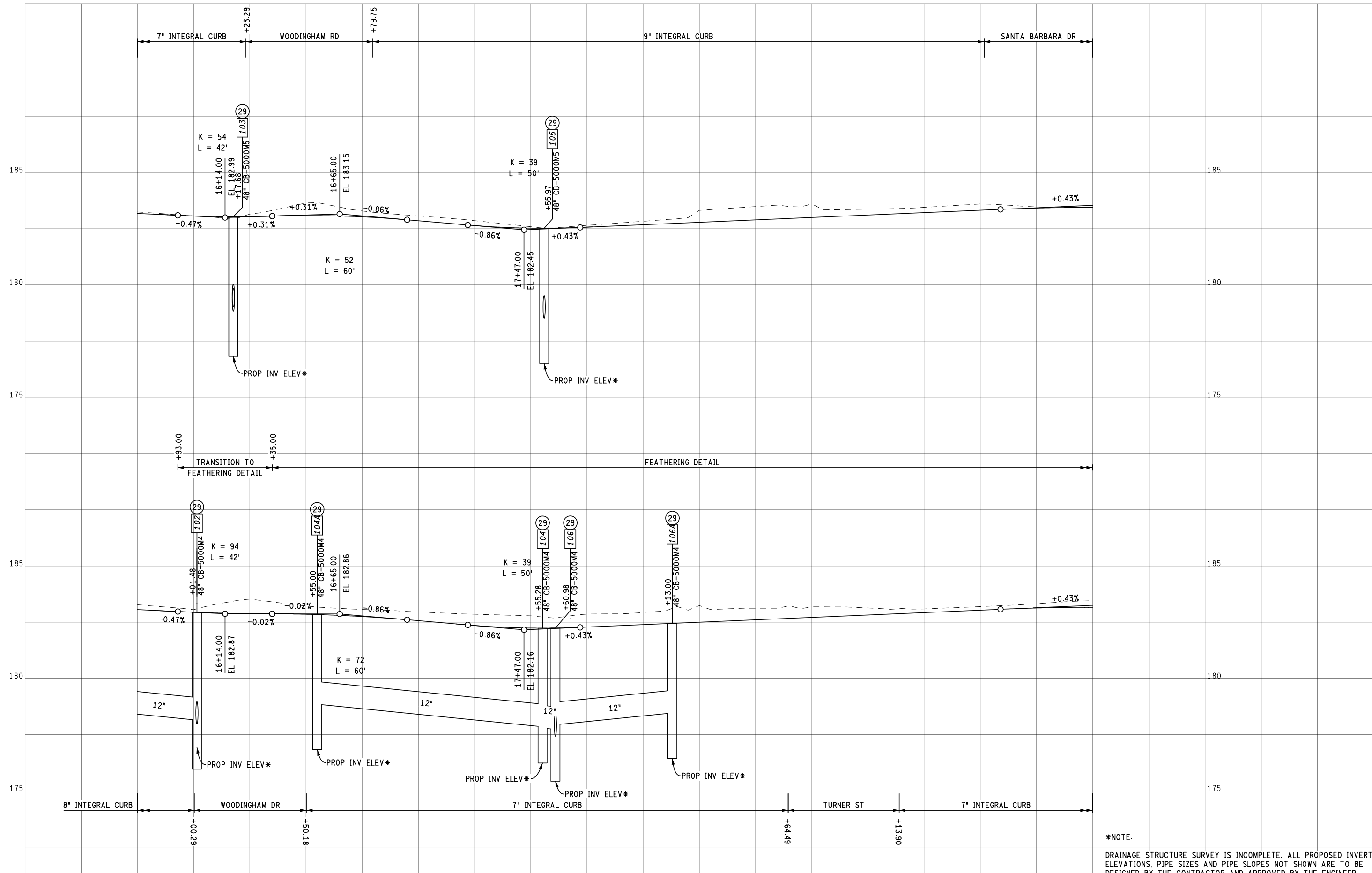
FILE: \_\_\_\_\_

DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
MCNICHOLS STREETScape  
STA 15+75 TO STA 20+00

DRAWING SHEET  
MCN PROF 003  
26

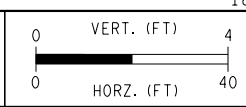


\*NOTE:  
DRAINAGE STRUCTURE SURVEY IS INCOMPLETE. ALL PROPOSED INVERT ELEVATIONS, PIPE SIZES AND PIPE SLOPES NOT SHOWN ARE TO BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
- - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
- - - PROP RT PROF AT FACE OF CURB

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

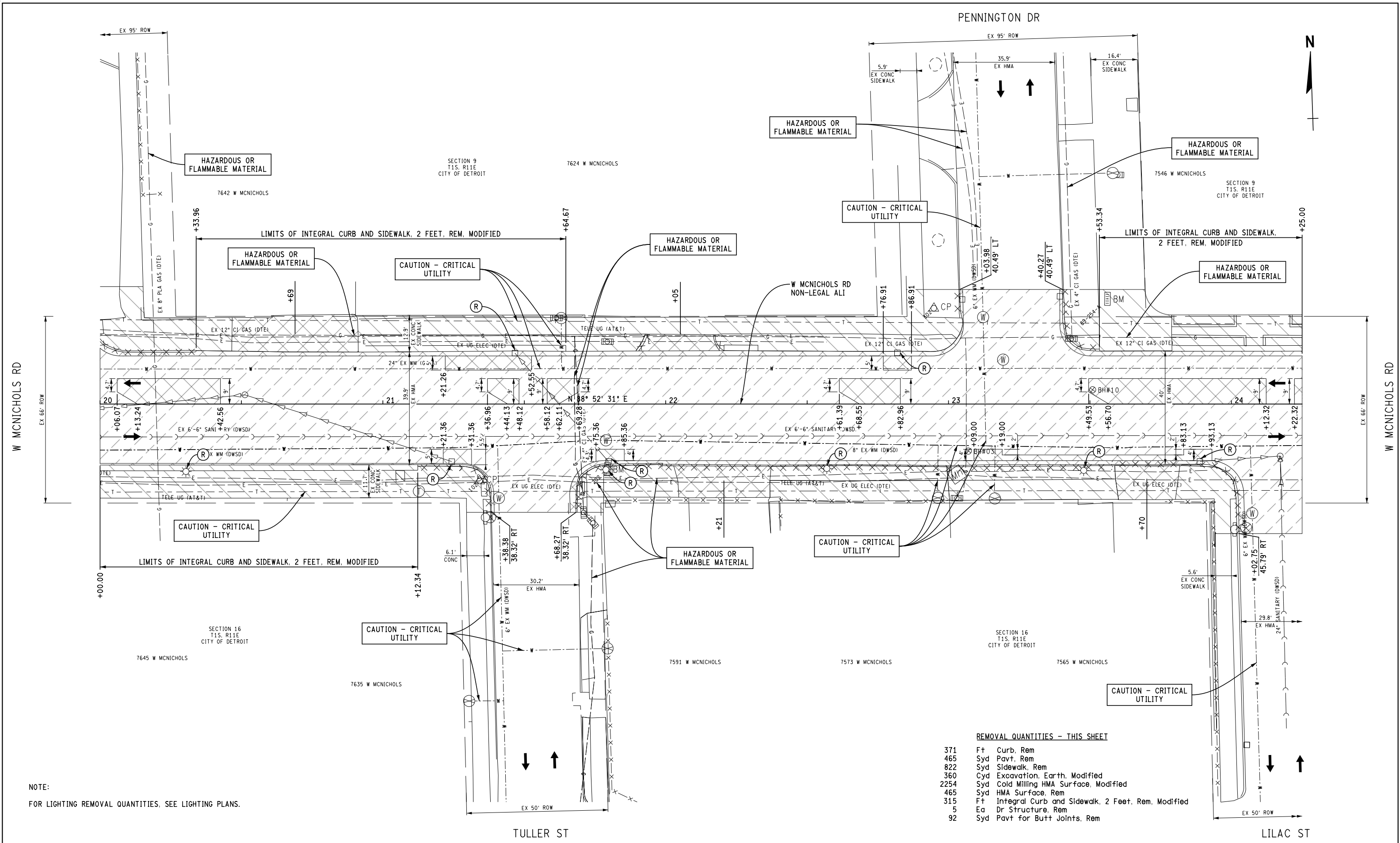


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
MCNICHOLS STREETScape  
STA 15+75 TO STA 20+00

DRAWING SHEET  
MCN PROF 004  
27

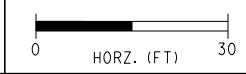


NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

371	F+	Curb, Rem
465	Syd	Pavt, Rem
822	Syd	Sidewalk, Rem
360	Cyd	Excavation, Earth, Modified
2254	Syd	Cold Milling HMA Surface, Modified
465	Syd	HMA Surface, Rem
315	F+	Integral Curb and Sidewalk, 2 Feet, Rem, Modified
5	Ea	Dr Structure, Rem
92	Syd	Pavt for Butt Joints, Rem

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

DRAWING SHEET  
MCN REM 003  
28

SANTA BARBARA DR

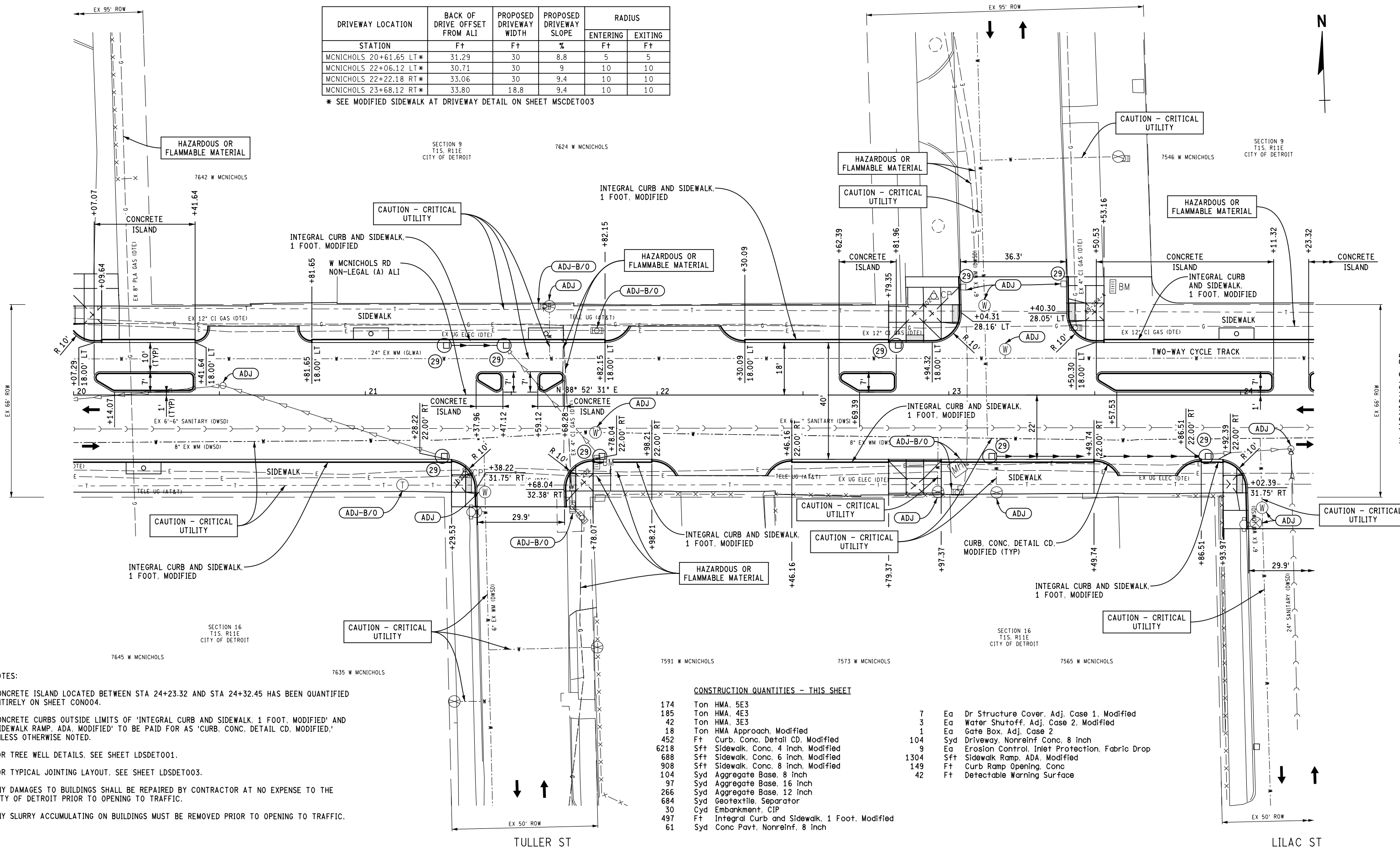
PENNINGTON DR

DRIVEWAY LOCATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
MCNICHOLS 20+61.65 LT*	31.29	30	8.8	5	5
MCNICHOLS 22+06.12 LT*	30.71	30	9	10	10
MCNICHOLS 22+22.18 RT*	33.06	30	9.4	10	10
MCNICHOLS 23+68.12 RT*	33.80	18.8	9.4	10	10

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003

W MCNICHOLS RD

W MCNICHOLS RD



NOTES:

CONCRETE ISLAND LOCATED BETWEEN STA 24+23.32 AND STA 24+32.45 HAS BEEN QUANTIFIED ENTIRELY ON SHEET CON004.

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC, DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LSDT001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LSDT003.

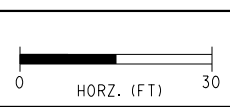
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CONSTRUCTION QUANTITIES - THIS SHEET

174	Ton	HMA, 5E3	7	Ea	Dr Structure Cover, Adj, Case 1, Modified
185	Ton	HMA, 4E3	3	Ea	Water Shutoff, Adj, Case 2, Modified
42	Ton	HMA, 3E3	1	Ea	Gate Box, Adj, Case 2
18	Ton	HMA Approach, Modified	3	Ea	Driveway, Nonreinf Conc, 8 inch
452	Ft	Curb, Conc, Detail CD, Modified	104	Syd	Erosion Control, Inlet Protection, Fabric Drop
6218	Sft	Sidewalk, Conc, 4 inch, Modified	9	Ea	Sidewalk Ramp, ADA, Modified
688	Sft	Sidewalk, Conc, 6 inch, Modified	1304	Sft	Curb Ramp Opening, Conc
908	Sft	Sidewalk, Conc, 8 inch, Modified	149	Ft	Detectable Warning Surface
104	Syd	Aggregate Base, 8 inch	42	Ft	
97	Syd	Aggregate Base, 16 inch			
266	Syd	Aggregate Base, 12 inch			
684	Syd	Geotextile, Separator			
30	Cyd	Embankment, CIP			
497	Ft	Integral Curb and Sidewalk, 1 Foot, Modified			
61	Syd	Conc Pavt, Nonreinf, 8 inch			

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

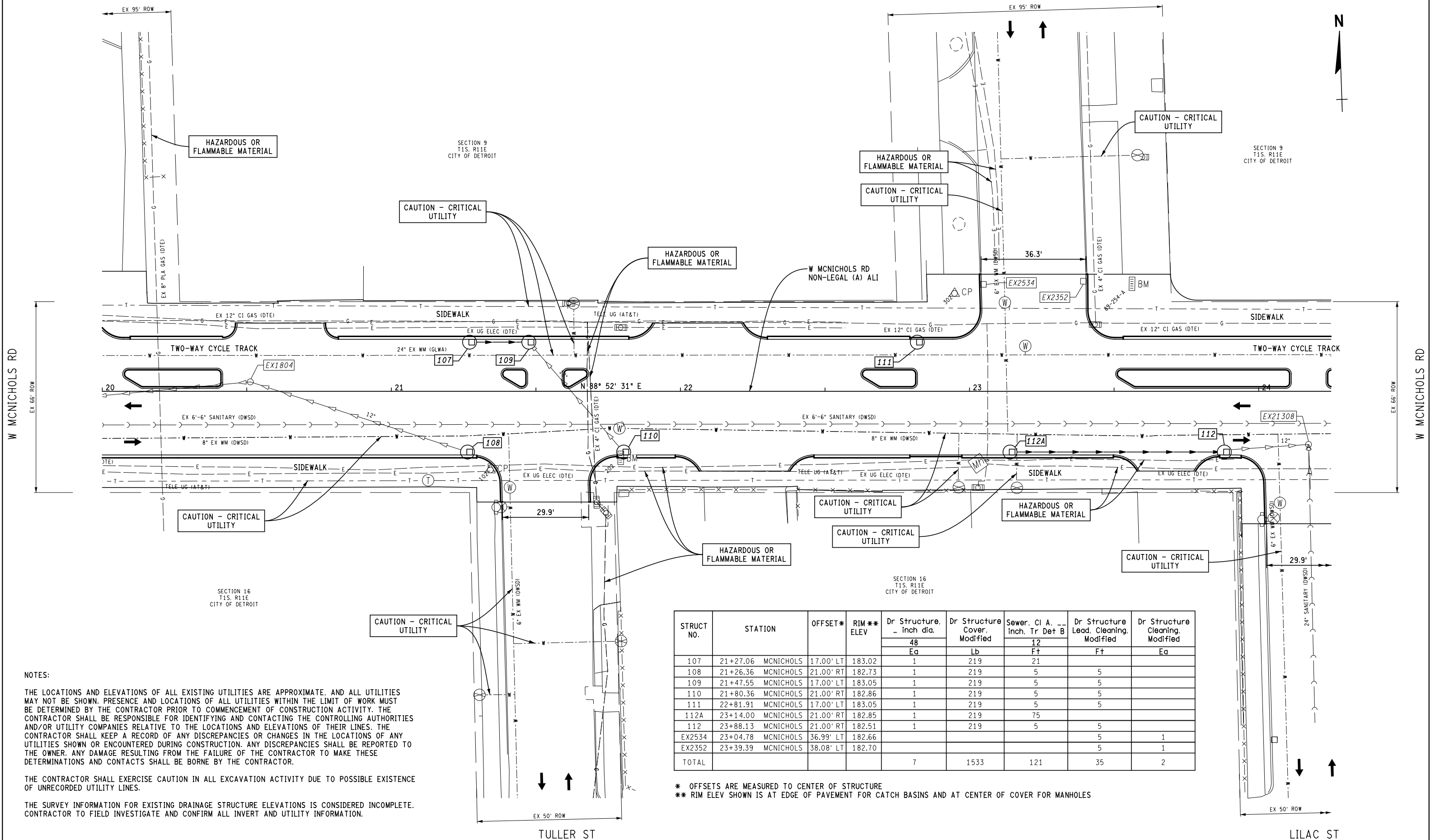
JN: PW-7004  
MCNICHOLS STREETScape

CONSTRUCTION SHEET  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

DRAWING SHEET  
MCN CON 003  
29

SANTA BARBARA DR

PENNINGTON DR



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

NOTES:

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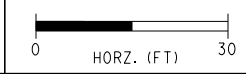
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THE SURVEY INFORMATION FOR EXISTING DRAINAGE STRUCTURE ELEVATIONS IS CONSIDERED INCOMPLETE. CONTRACTOR TO FIELD INVESTIGATE AND CONFIRM ALL INVERT AND UTILITY INFORMATION.

STRUCT NO.	STATION	OFFSET*	RIM** ELEV	Dr Structure, - inch dia.		Sewer, CI A, - inch, Tr Det B	Dr Structure Lead, Cleaning, Modified	Dr Structure Cleaning, Modified	
				Ea	Lb				
107	21+27.06	MCNICHOLS	17.00' LT	183.02	1	219	21	Ft	Ea
108	21+26.36	MCNICHOLS	21.00' RT	182.73	1	219	5		
109	21+47.55	MCNICHOLS	17.00' LT	183.05	1	219	5	5	
110	21+80.36	MCNICHOLS	21.00' RT	182.86	1	219	5	5	
111	22+81.91	MCNICHOLS	17.00' LT	183.05	1	219	5	5	
112A	23+14.00	MCNICHOLS	21.00' RT	182.85	1	219	75		
112	23+88.13	MCNICHOLS	21.00' RT	182.51	1	219	5	5	
EX2534	23+04.78	MCNICHOLS	36.99' LT	182.66			5		1
EX2352	23+39.39	MCNICHOLS	38.08' LT	182.70			5		1
TOTAL					7	1533	121	35	2

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

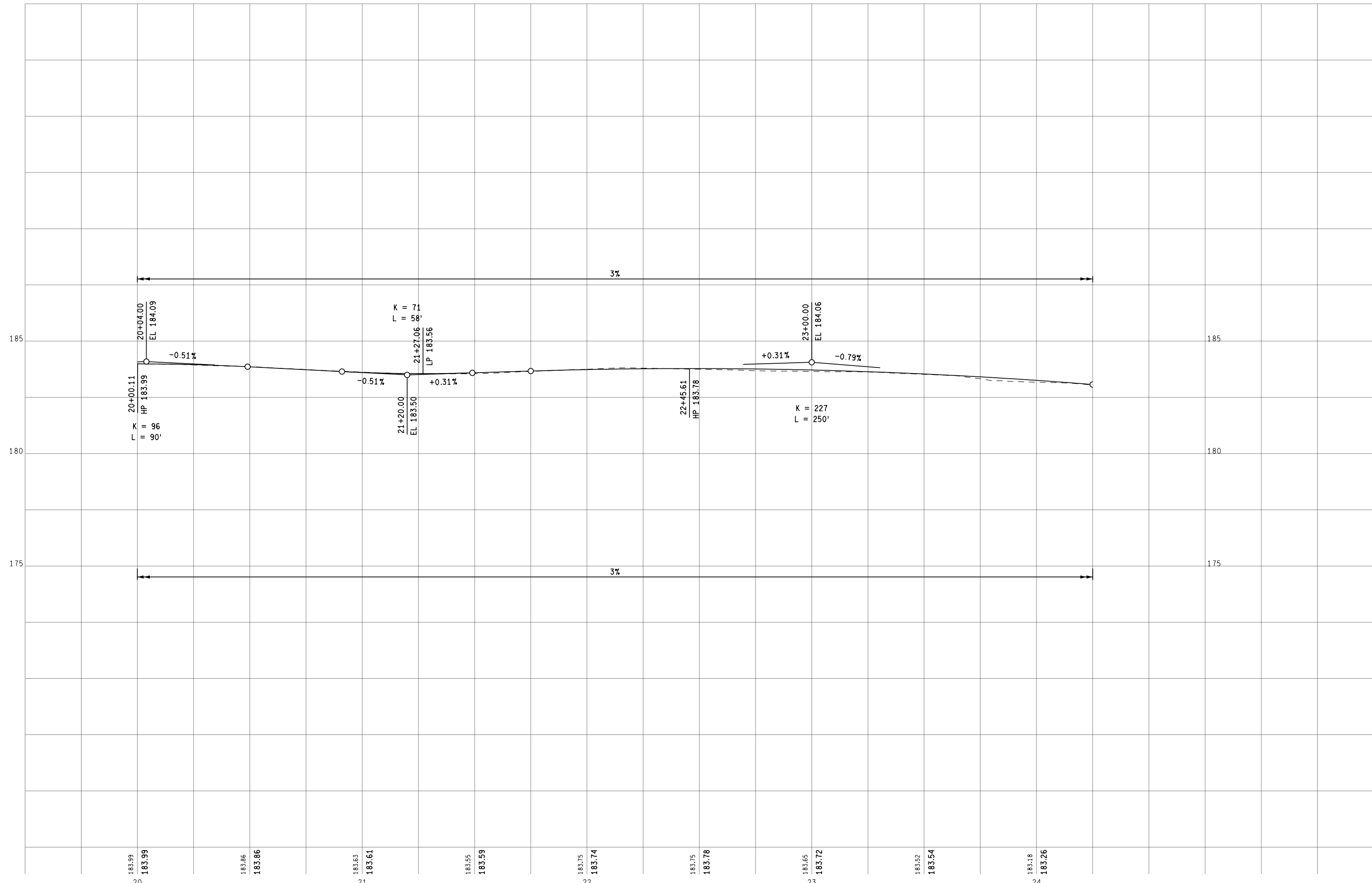


DATE: 06/20/19  
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JN: PW-7004  
 MCNICHOLS STREETSCAPE

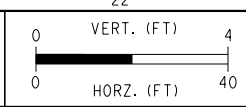
DRAINAGE SHEET  
 MCNICHOLS STREETSCAPE  
 STA 20+00 TO STA 24+25

DRAWING SHEET  
 MCN DRAIN 003  
 30



EX GROUND PROF AT MCNICHOLS ALI  
 PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

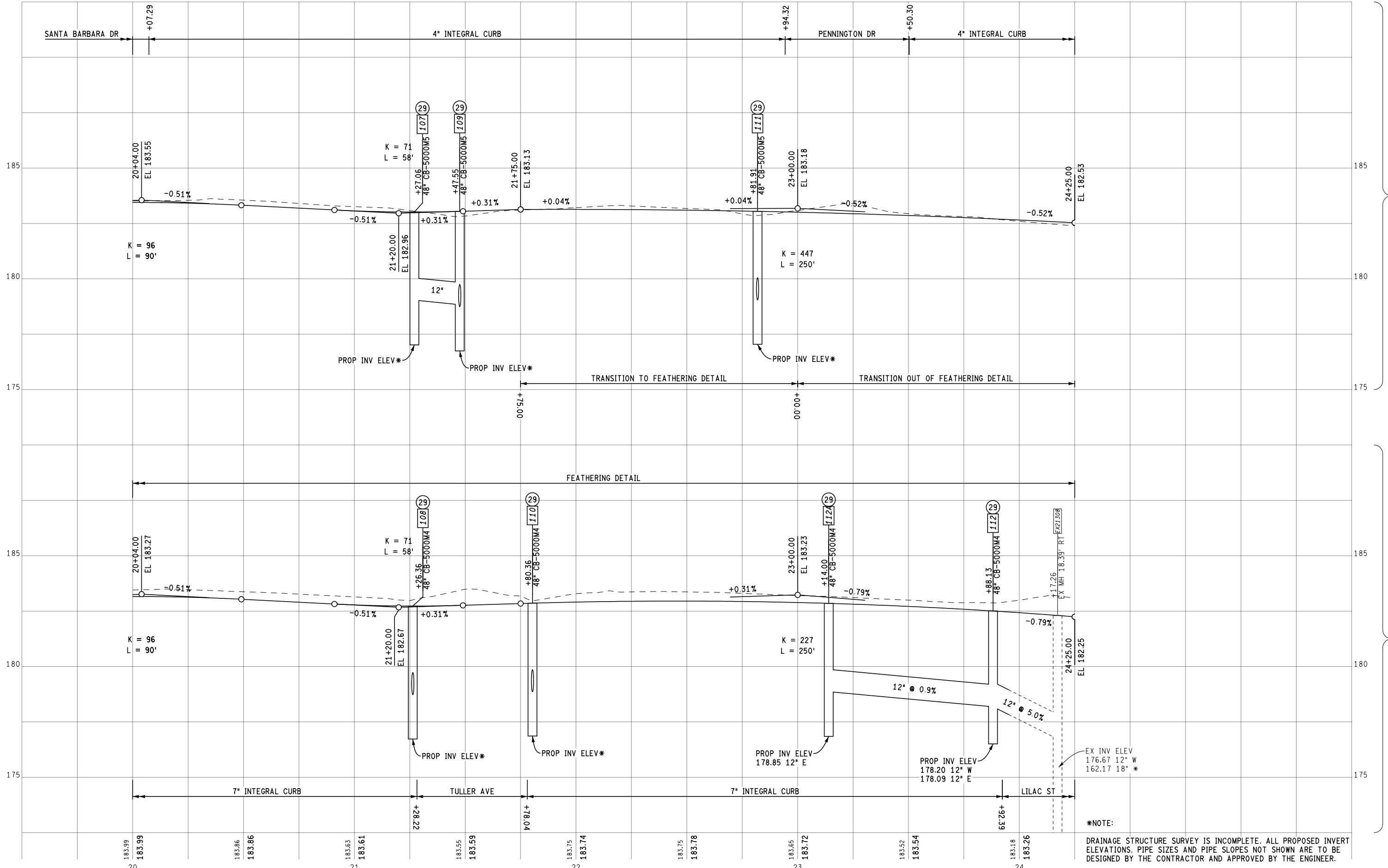


DATE: 06/20/19  
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JN: PW-7004  
 MCNICHOLS STREETSCAPE

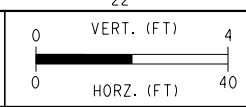
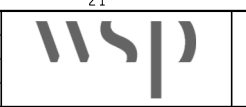
PROFILE SHEET  
 MCNICHOLS STREETSCAPE  
 STA 20+00 TO STA 24+25

DRAWING SHEET  
 MCN PROF 005 31



\*NOTE:  
DRAINAGE STRUCTURE SURVEY IS INCOMPLETE. ALL PROPOSED INVERT ELEVATIONS, PIPE SIZES AND PIPE SLOPES NOT SHOWN ARE TO BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

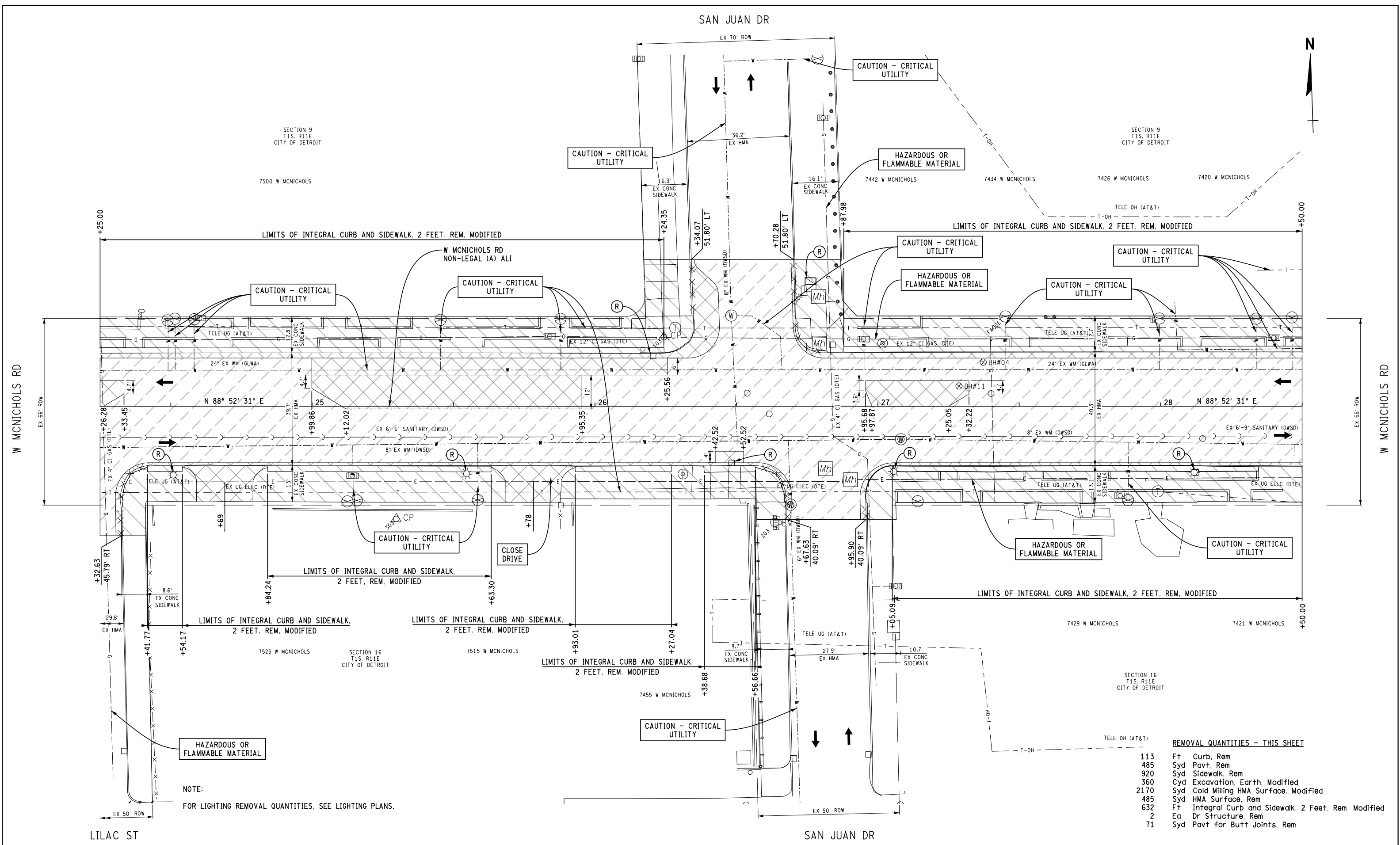
PROFILE SHEET  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

DRAWING SHEET  
MCN PROF 006  
32

--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
- - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
- - - PROP RT PROF AT FACE OF CURB



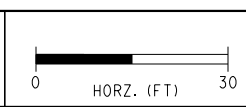


NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

113	Ft	Curb, Rem
485	Syd	Pavt. Rem
920	Syd	Sidewalk, Rem
360	Cyd	Excavation, Earth, Modified
2170	Syd	Cold Milling HMA Surface, Modified
485	Syd	HMA Surface, Rem
632	Ft	Integral Curb and Sidewalk, 2 Feet, Rem, Modified
2	Ea	Dr Structure, Rem
71	Syd	Pavt for Butt Joints, Rem

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

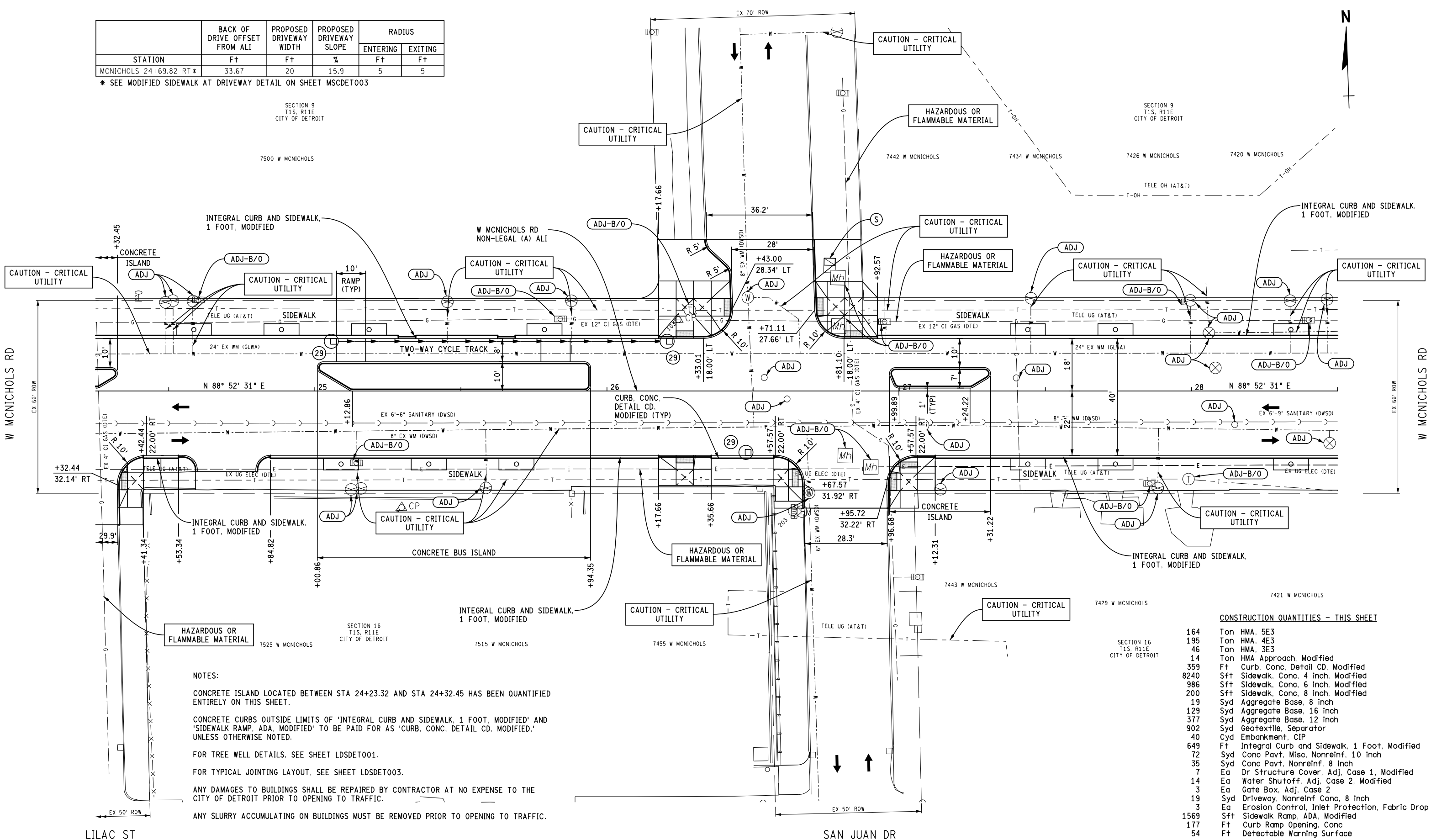
JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 24+25 TO STA 28+50  
DRAWING SHEET  
MCN REM 004 33

SAN JUAN DR

STATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
MCNICHOLS 24+69.82 RT*	F+ 33.67	F+ 20	% 15.9	F+ 5	F+ 5

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003



**NOTES:**

CONCRETE ISLAND LOCATED BETWEEN STA 24+23.32 AND STA 24+32.45 HAS BEEN QUANTIFIED ENTIRELY ON THIS SHEET.

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC. DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LDSDET001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LDSDET003.

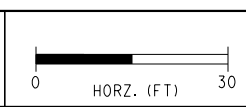
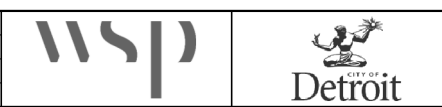
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ANY SLURRY ACCUMULATING ON BUILDINGS MUST BE REMOVED PRIOR TO OPENING TO TRAFFIC.

**CONSTRUCTION QUANTITIES - THIS SHEET**

164	Ton	HMA, 5E3
195	Ton	HMA, 4E3
46	Ton	HMA, 3E3
14	Ton	HMA Approach, Modified
359	Ft	Curb, Conc, Detail CD, Modified
8240	Sft	Sidewalk, Conc, 4 inch, Modified
986	Sft	Sidewalk, Conc, 6 inch, Modified
200	Sft	Sidewalk, Conc, 8 inch, Modified
19	Syd	Aggregate Base, 8 inch
129	Syd	Aggregate Base, 16 inch
377	Syd	Aggregate Base, 12 inch
902	Syd	Geotextile, Separator
40	Cyd	Embankment, CIP
649	Ft	Integral Curb and Sidewalk, 1 Foot, Modified
72	Syd	Conc Pavt, Misc, Nonreinf, 10 inch
35	Syd	Conc Pavt, Nonreinf, 8 inch
7	Ea	Dr Structure Cover, Adj, Case 1, Modified
14	Ea	Water Shutoff, Adj, Case 2, Modified
3	Ea	Gate Box, Adj, Case 2
19	Syd	Driveway, Nonreinf Conc, 8 inch
3	Ea	Erosion Control, Inlet Protection, Fabric Drop
1569	Sft	Sidewalk Ramp, ADA, Modified
177	Ft	Curb Ramp Opening, Conc
54	Ft	Detectable Warning Surface

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

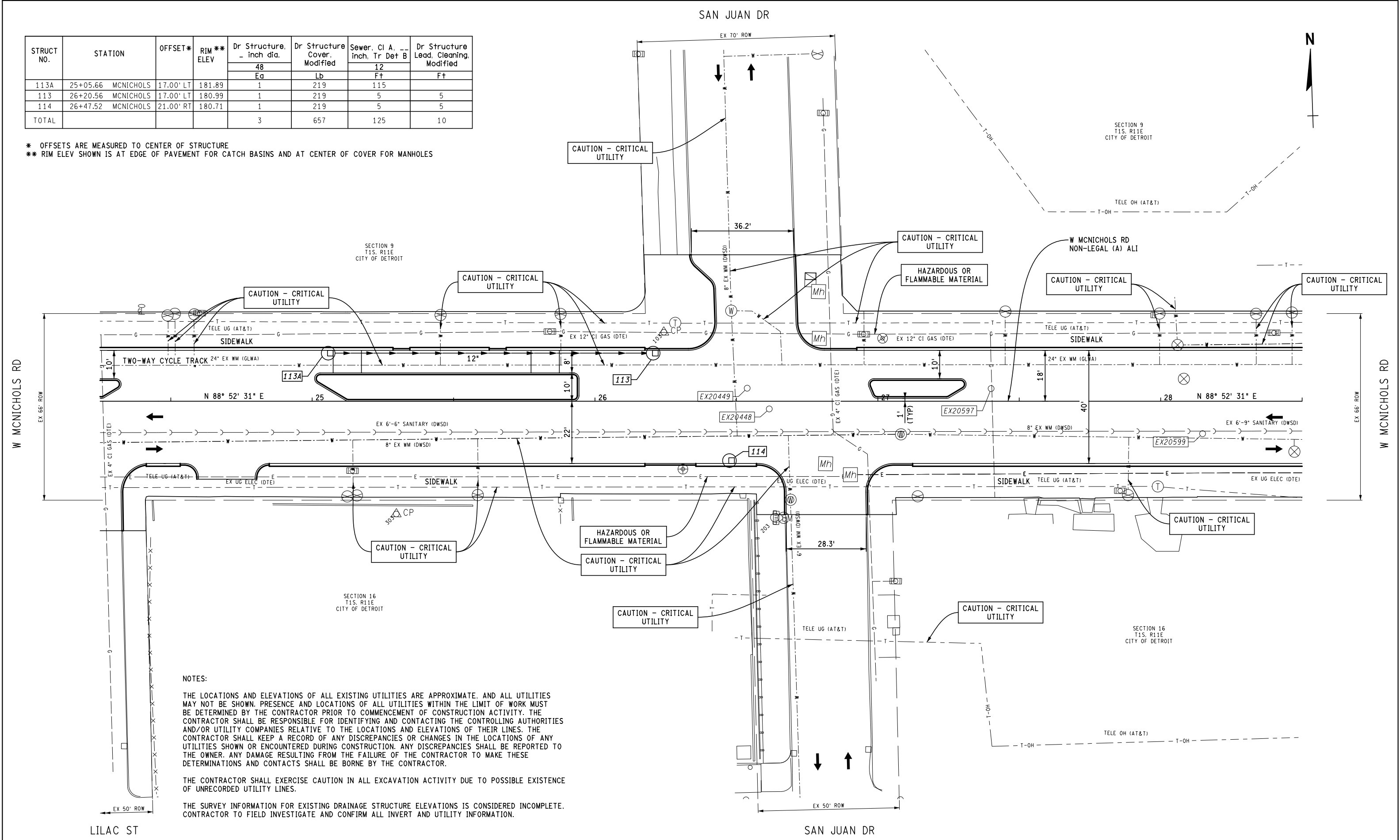
JN: PW-7004  
MCNICHOLS STREETScape

CONSTRUCTION SHEET  
MCNICHOLS STREETScape  
STA 24+25 TO STA 28+50

DRAWING SHEET  
MCN CON 004  
34

STRUCT NO.	STATION	OFFSET*	RIM ELEV**	Dr Structure	Dr Structure	Sewer, CI A, --	Dr Structure
				inch dia.	Cover, Modified	inch, Tr Det B	Lead, Cleaning, Modified
				48	Lb	12	F+
				Ea	Lb	F+	F+
113A	25+05.66	MCNICHOLS	17.00' LT	181.89	1	219	115
113	26+20.56	MCNICHOLS	17.00' LT	180.99	1	219	5
114	26+47.52	MCNICHOLS	21.00' RT	180.71	1	219	5
TOTAL					3	657	125

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES

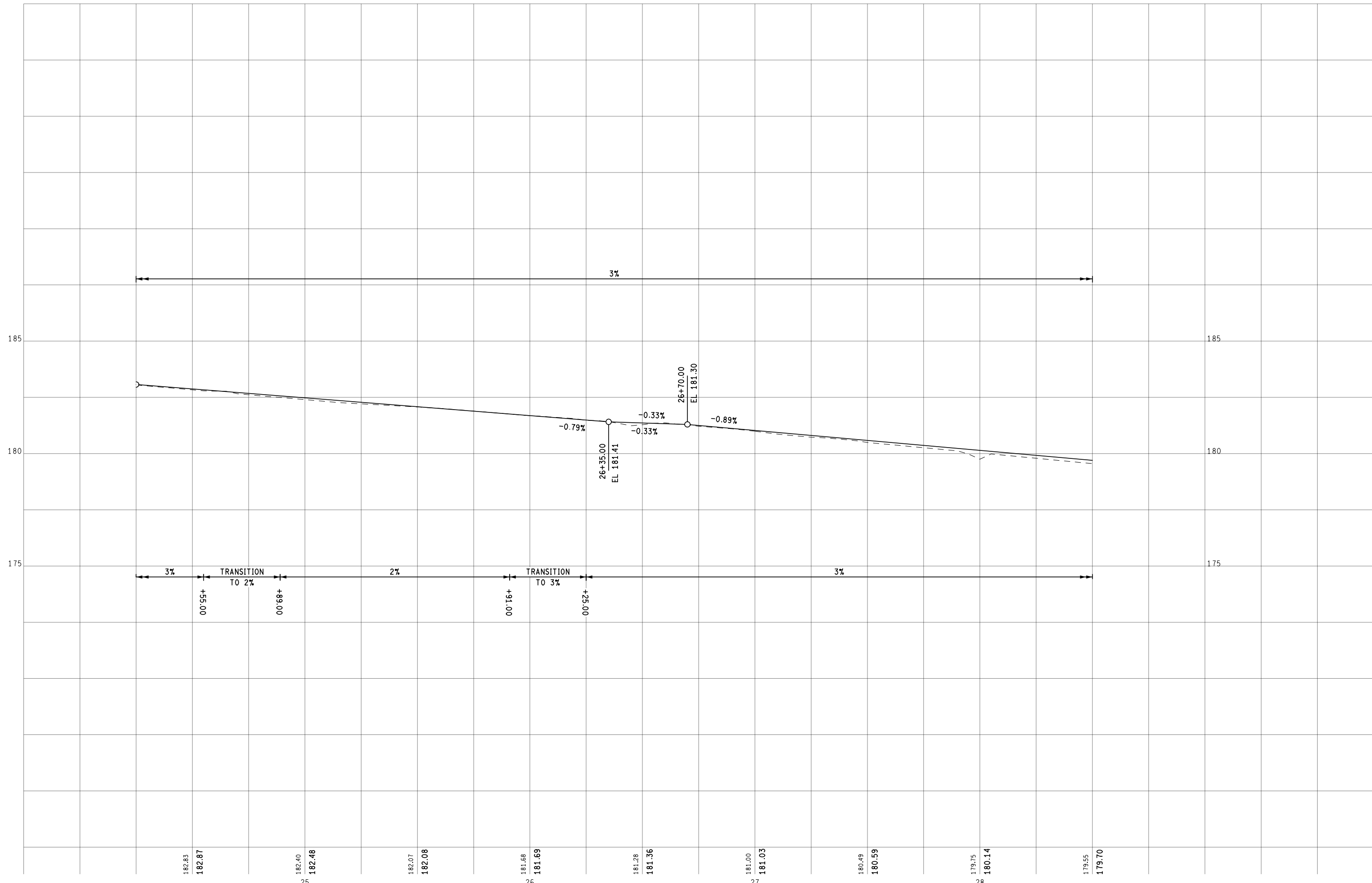


**NOTES:**

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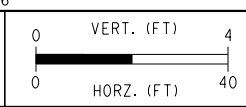
THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.

THE SURVEY INFORMATION FOR EXISTING DRAINAGE STRUCTURE ELEVATIONS IS CONSIDERED INCOMPLETE. CONTRACTOR TO FIELD INVESTIGATE AND CONFIRM ALL INVERT AND UTILITY INFORMATION.



--- EX GROUND PROF AT MCNICHOLS ALI  
 ——— PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004

MCNICHOLS STREETScape

PROFILE SHEET

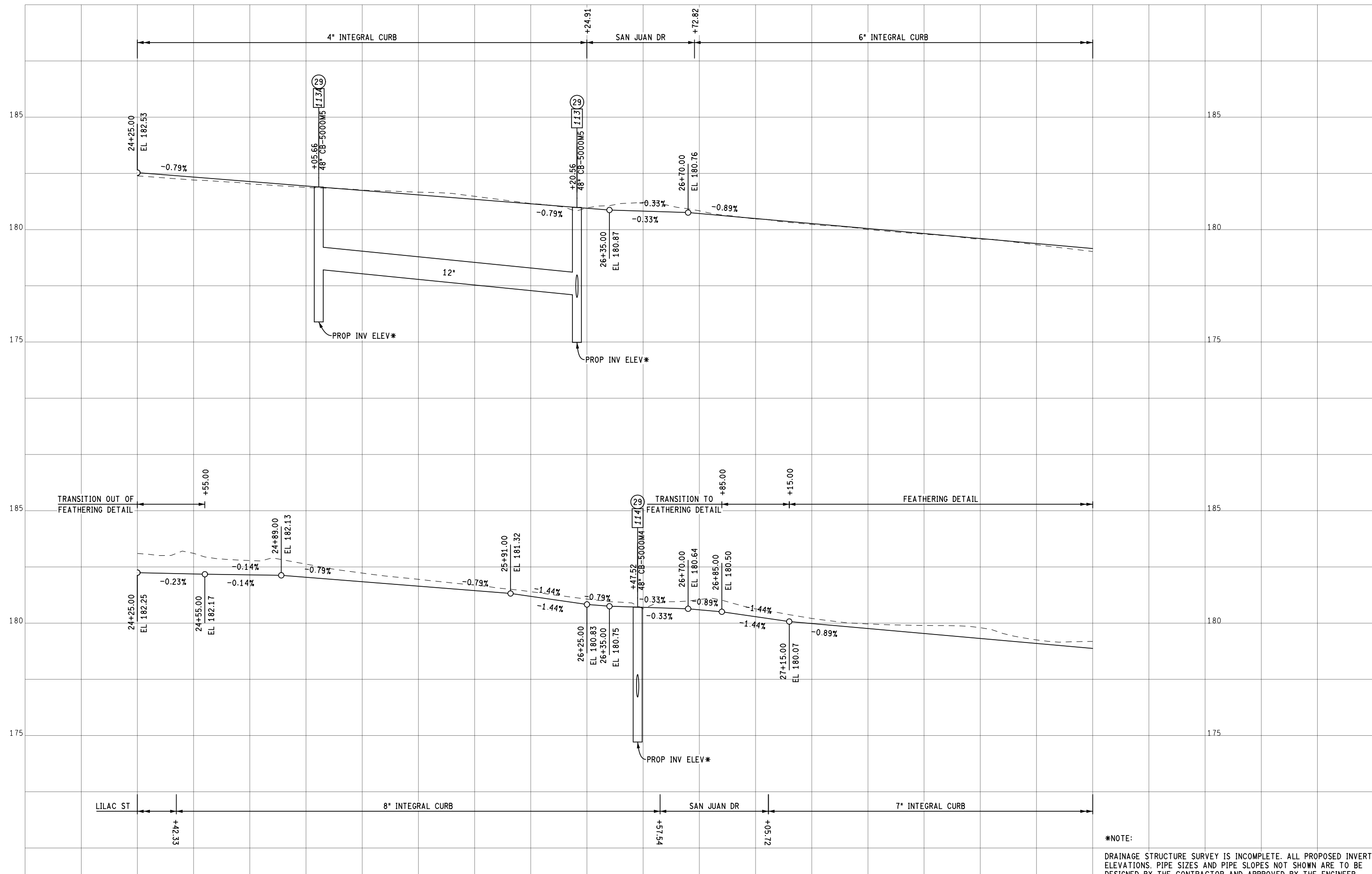
MCNICHOLS STREETScape

STA 24+25 TO STA 28+50

DRAWING SHEET

MCN PROF 007

36

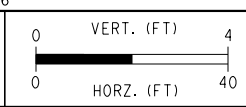


\*NOTE:  
DRAINAGE STRUCTURE SURVEY IS INCOMPLETE. ALL PROPOSED INVERT ELEVATIONS, PIPE SIZES AND PIPE SLOPES NOT SHOWN ARE TO BE DESIGNED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.

--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
- - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
- - - PROP RT PROF AT FACE OF CURB

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

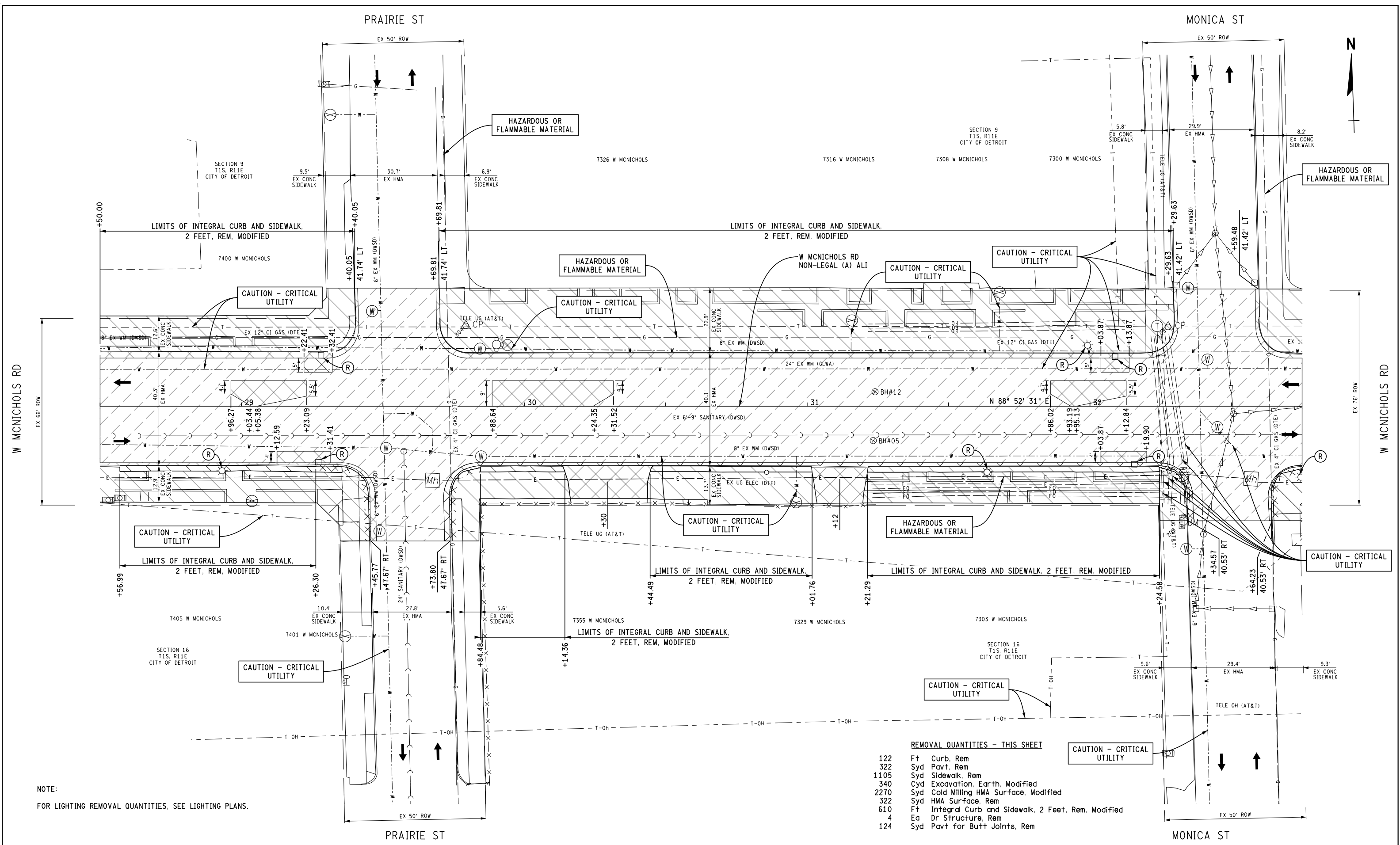


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
MCNICHOLS STREETScape  
STA 24+25 TO STA 28+50

DRAWING SHEET  
MCN PROF 008  
37

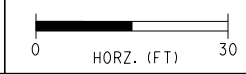
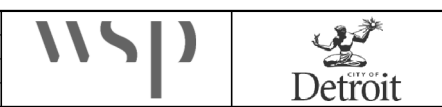


NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

122	Ft	Curb, Rem
322	Syd	Pavt, Rem
1105	Syd	Sidewalk, Rem
340	Cyd	Excavation, Earth, Modified
2270	Syd	Cold Milling HMA Surface, Modified
322	Syd	HMA Surface, Rem
610	Ft	Integral Curb and Sidewalk, 2 Feet, Rem, Modified
4	Ea	Dr Structure, Rem
124	Syd	Pavt for Butt Joints, Rem

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



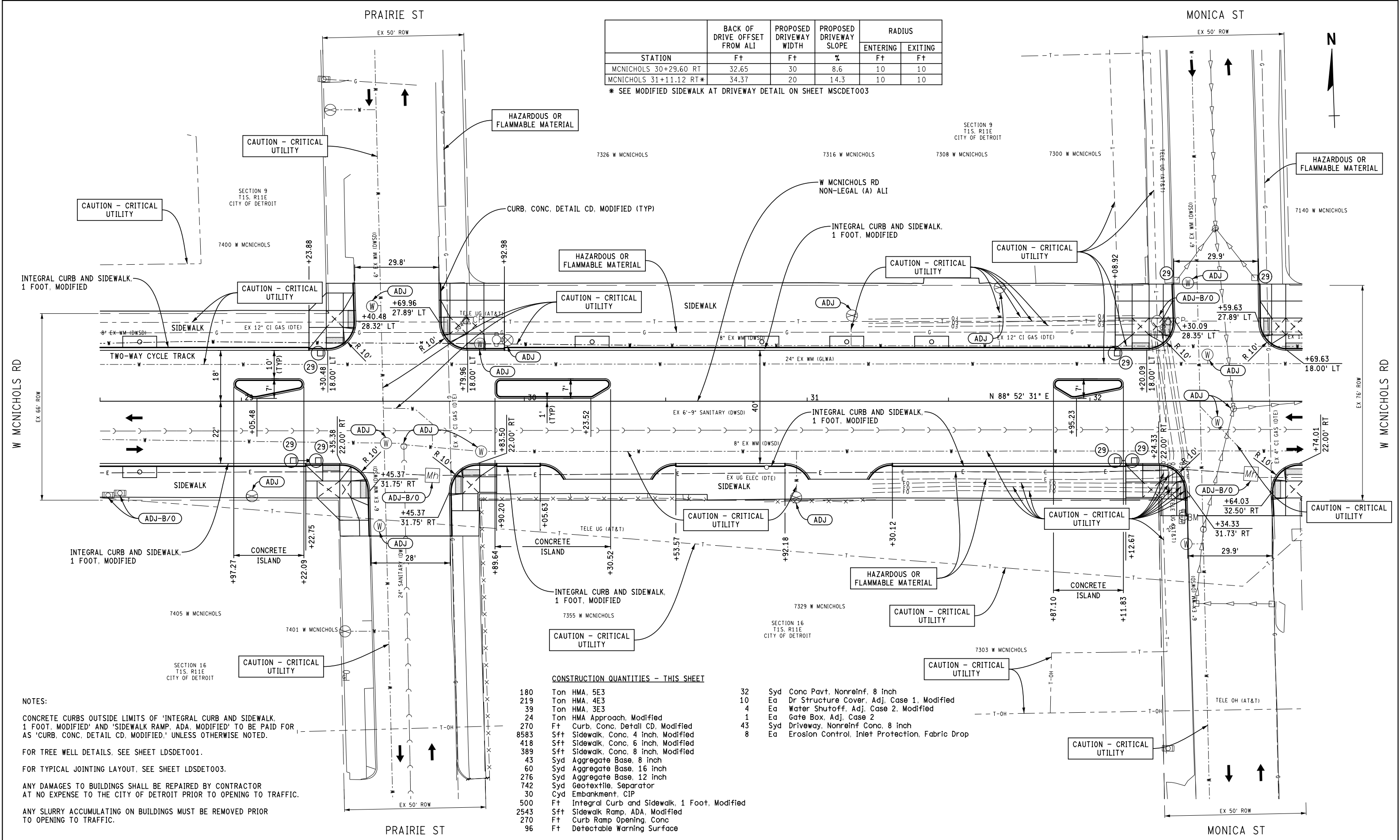
DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN	38
STA 28+50 TO STA 32+75		REM	005

STATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
MCNICHOLS 30+29.60 RT	32.65	30	8.6	10	10
MCNICHOLS 31+11.12 RT*	34.37	20	14.3	10	10

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003



NOTES:

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC. DETAIL CD, MODIFIED' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LSDT001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LSDT003.

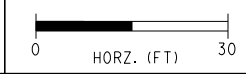
ANY DAMAGES TO BUILDINGS SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO THE CITY OF DETROIT PRIOR TO OPENING TO TRAFFIC.

ANY SLURRY ACCUMULATING ON BUILDINGS MUST BE REMOVED PRIOR TO OPENING TO TRAFFIC.

CONSTRUCTION QUANTITIES - THIS SHEET

180	Ton HMA, 5E3	32	Syd Conc Pavt, Nonreinf, 8 inch
219	Ton HMA, 4E3	10	Ea Dr Structure Cover, Adj, Case 1, Modified
39	Ton HMA, 3E3	4	Ea Water Shutoff, Adj, Case 2, Modified
24	Ton HMA Approach, Modified	1	Ea Gate Box, Adj, Case 2
270	Ft Curb, Conc, Detail CD, Modified	43	Syd Driveway, Nonreinf Conc, 8 inch
8583	Sft Sidewalk, Conc, 4 inch, Modified	8	Ea Erosion Control, Inlet Protection, Fabric Drop
418	Sft Sidewalk, Conc, 6 inch, Modified		
389	Sft Sidewalk, Conc, 8 inch, Modified		
43	Syd Aggregate Base, 8 inch		
60	Syd Aggregate Base, 16 inch		
276	Syd Aggregate Base, 12 inch		
742	Syd Geotextile, Separator		
30	Cyd Embankment, CIP		
500	Ft Integral Curb and Sidewalk, 1 Foot, Modified		
2543	Sft Sidewalk Ramp, ADA, Modified		
270	Ft Curb Ramp Opening, Conc		
96	Ft Detectable Warning Surface		

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

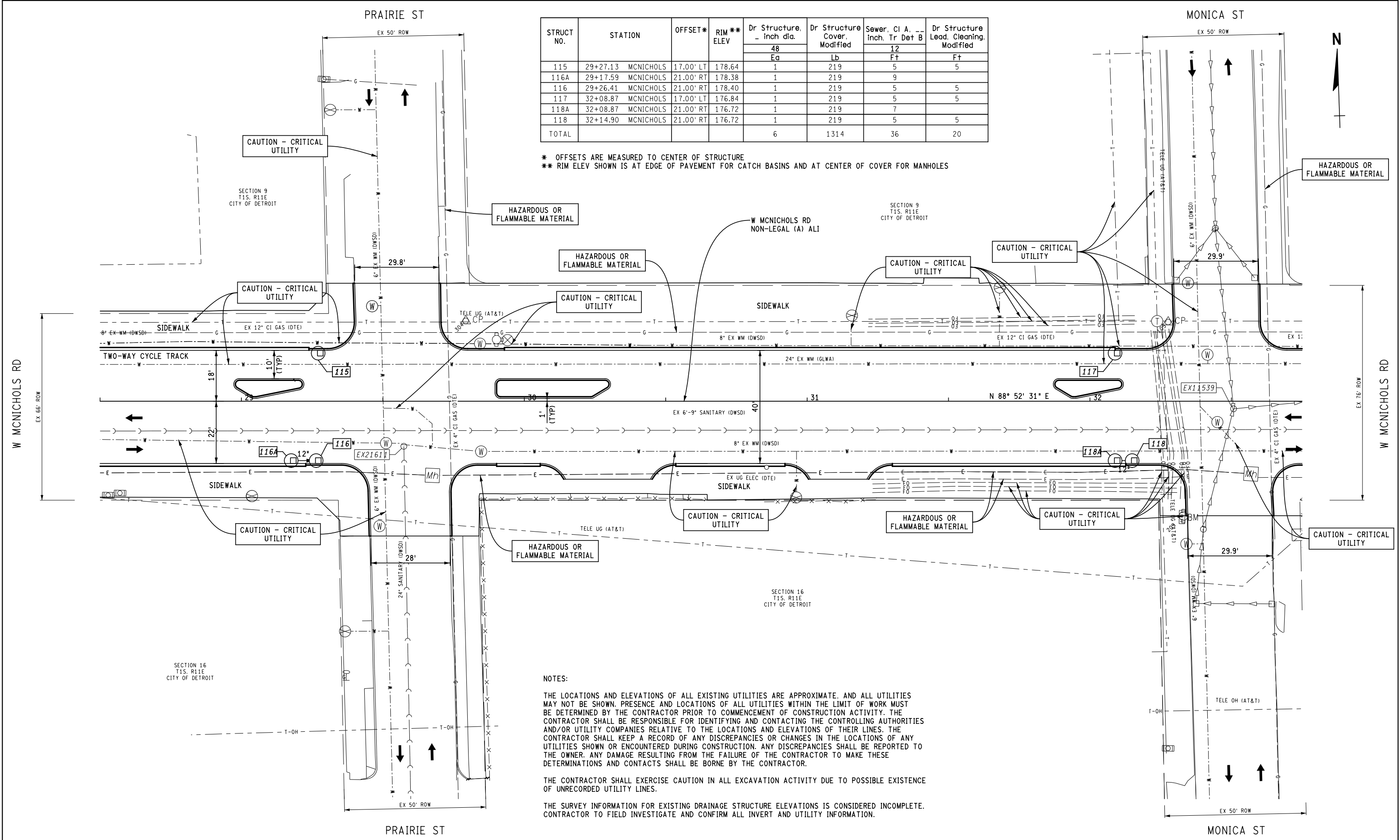
JN: PW-7004  
MCNICHOLS STREETScape

CONSTRUCTION SHEET  
MCNICHOLS STREETScape  
STA 28+50 TO STA 32+75

DRAWING SHEET  
MCN CON 005  
39

STRUCT NO.	STATION	OFFSET*	RIM ** ELEV	Dr Structure - inch dia.		Sewer, CI A, inch, Tr Det B	Dr Structure Lead, Cleaning, Modified
				48	12		
				Ea	Lb	F†	F†
115	29+27.13	MCNICHOLS	17.00' LT	1	219	5	5
116A	29+17.59	MCNICHOLS	21.00' RT	1	219	9	
116	29+26.41	MCNICHOLS	21.00' RT	1	219	5	5
117	32+08.87	MCNICHOLS	17.00' LT	1	219	5	5
118A	32+08.87	MCNICHOLS	21.00' RT	1	219	7	
118	32+14.90	MCNICHOLS	21.00' RT	1	219	5	5
TOTAL				6	1314	36	20

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES



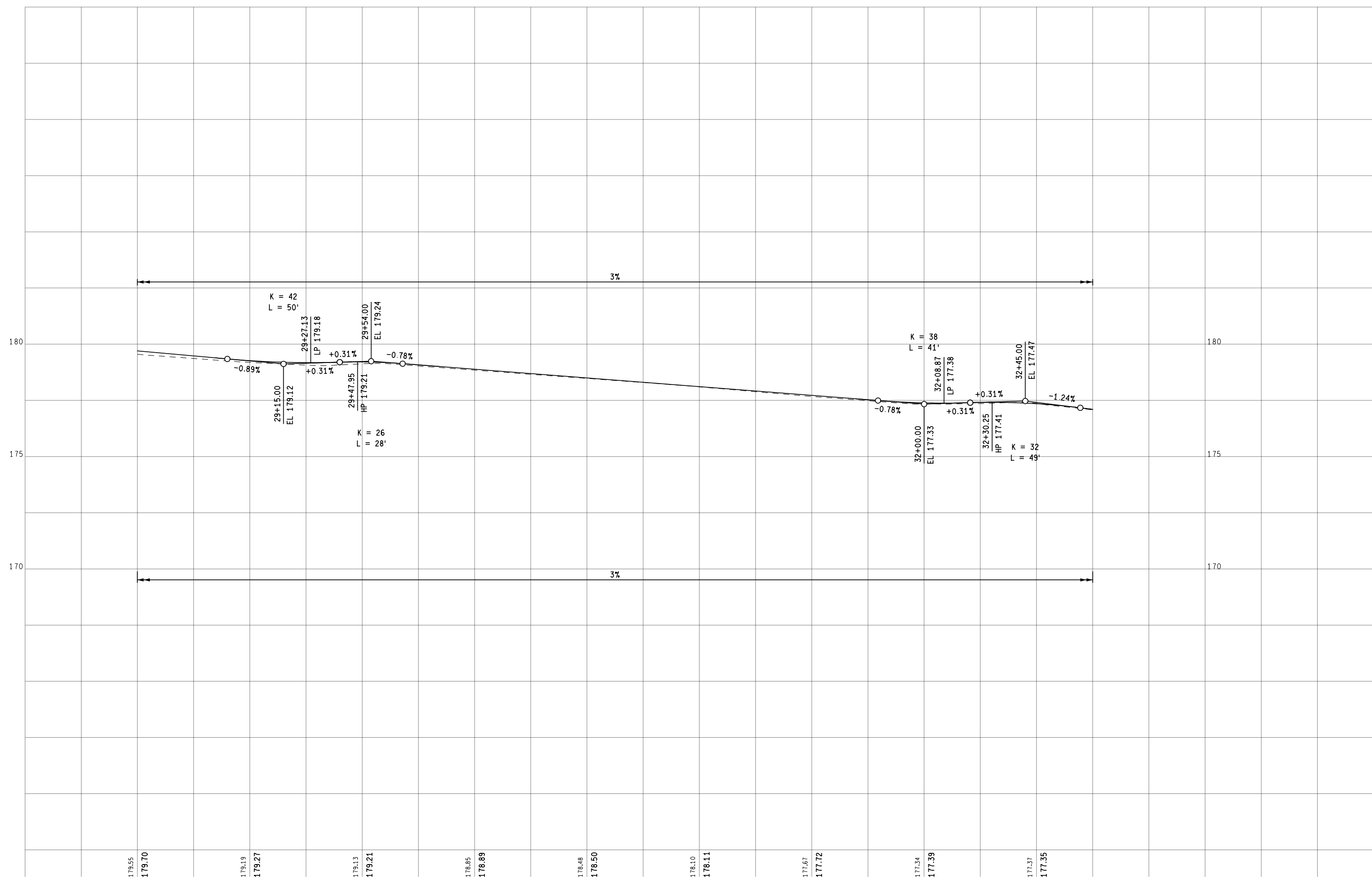
NOTES:

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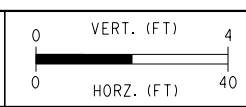




--- EX GROUND PROF AT MCNICHOLS ALI  
 - - - PROP PLAN GRADE AT MCNICHOLS ALI

179.55  
**179.70**  
 179.19  
**179.27**  
 29  
 179.13  
**179.21**  
 178.85  
**178.89**  
 30  
 178.48  
**178.50**  
 178.10  
**178.11**  
 31  
 177.67  
**177.72**  
 177.34  
**177.39**  
 32  
 177.37  
**177.35**

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

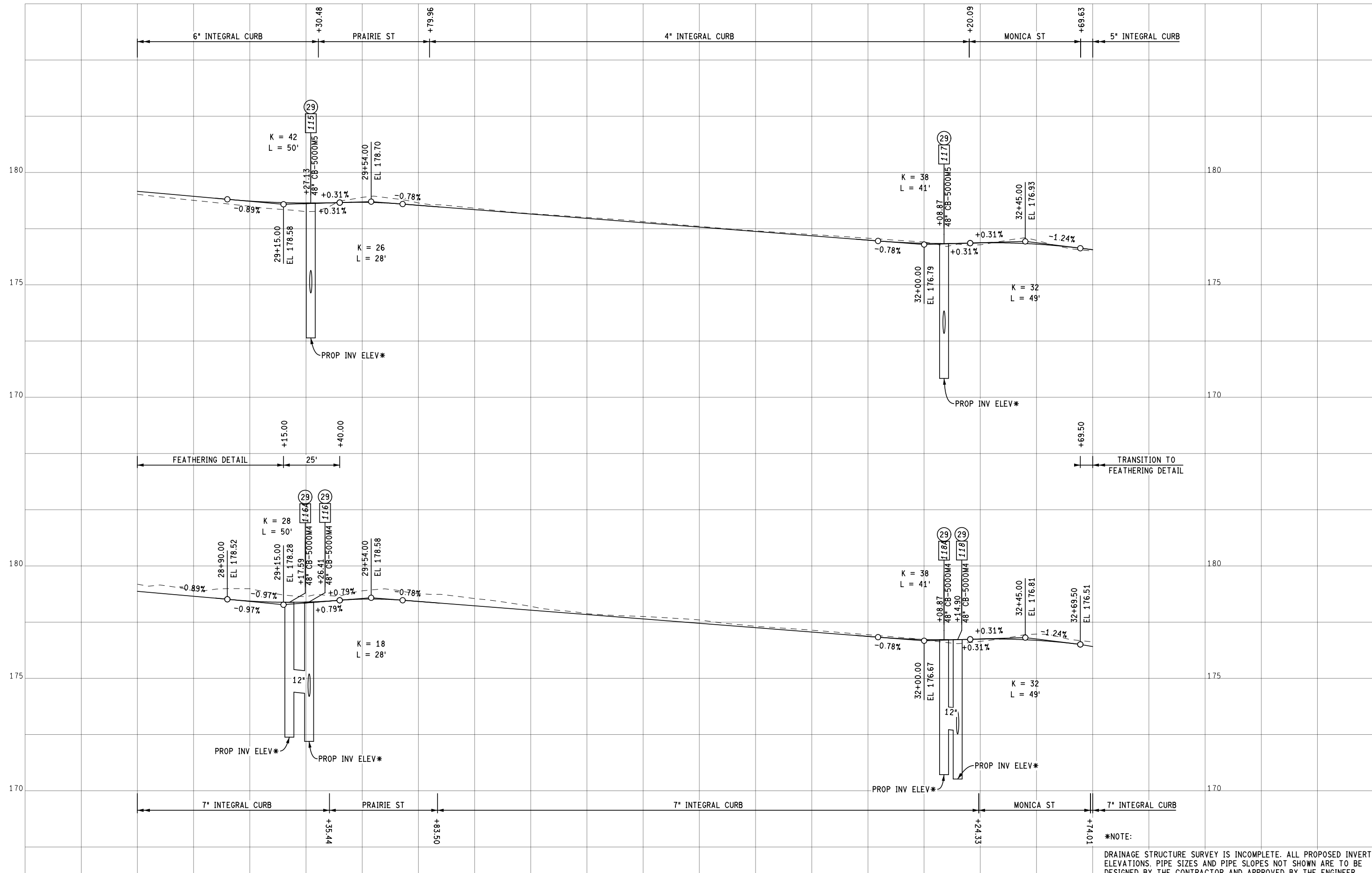


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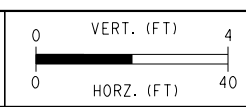
JN: PW-7004  
 MCNICHOLS STREETScape

PROFILE SHEET  
 MCNICHOLS STREETScape  
 STA 28+50 TO STA 32+75

DRAWING SHEET  
 MCN PROF 009  
**41**



FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

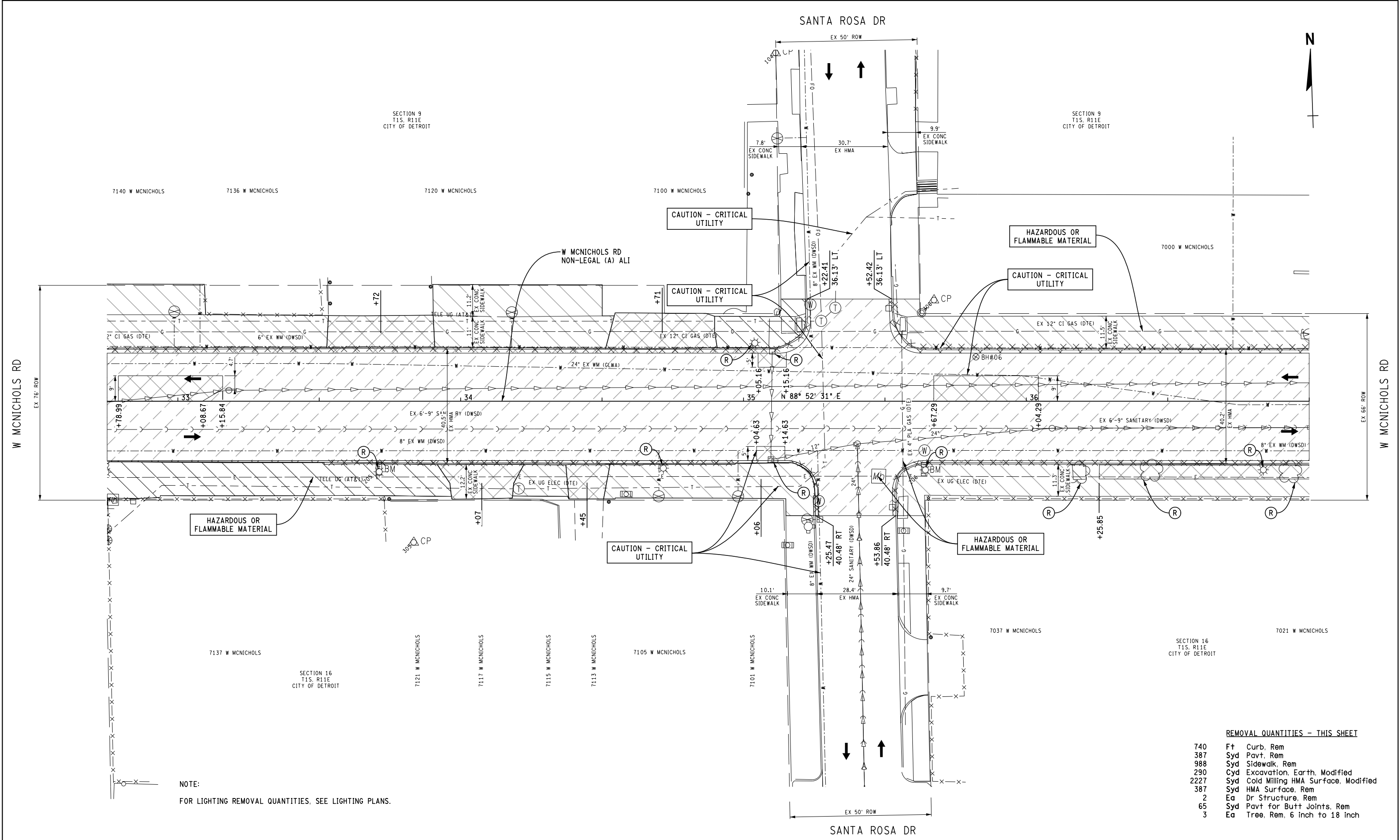


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
MCNICHOLS STREETScape  
STA 28+50 TO STA 32+75

DRAWING SHEET  
MCN PROF 010  
42



SECTION 9  
T15, R11E  
CITY OF DETROIT

SECTION 9  
T15, R11E  
CITY OF DETROIT

W MCNICHOLS RD  
EX 76' ROW

W MCNICHOLS RD  
EX 66' ROW

SANTA ROSA DR  
EX 50' ROW

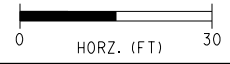
SANTA ROSA DR  
EX 50' ROW

NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

**REMOVAL QUANTITIES - THIS SHEET**

740	Ft	Curb, Rem
387	Syd	Pavt, Rem
988	Syd	Sidewalk, Rem
290	Cyd	Excavation, Earth, Modified
2227	Syd	Cold Milling HMA Surface, Modified
387	Syd	HMA Surface, Rem
2	Ea	Dr Structure, Rem
65	Syd	Pavt for Butt Joints, Rem
3	Ea	Tree, Rem, 6 inch to 18 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

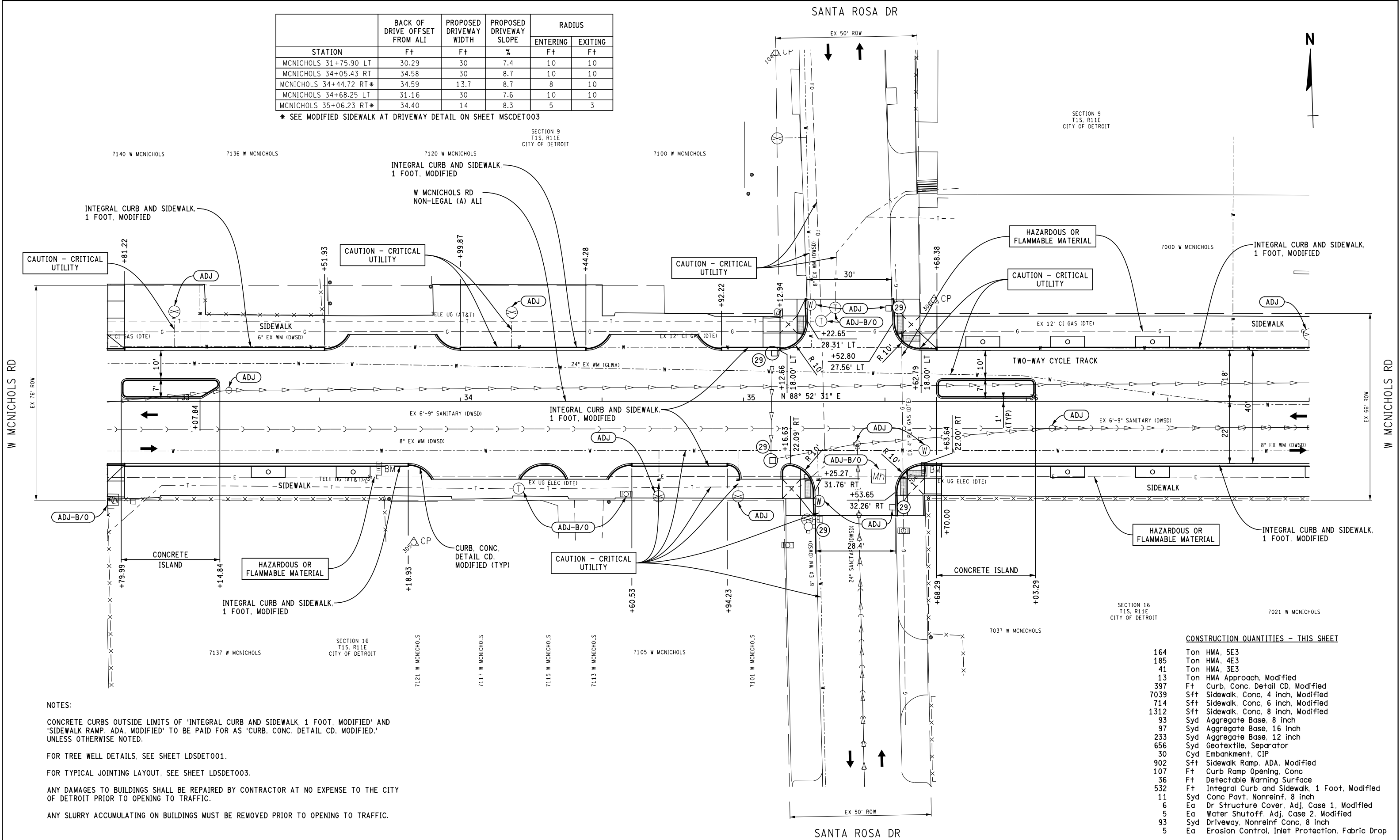
JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 32+75 TO STA 37+00

DRAWING SHEET  
MCN REM 006  
43

STATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
MCNICHOLS 31+75.90 LT	30.29	30	7.4	10	10
MCNICHOLS 34+05.43 RT	34.58	30	8.7	10	10
MCNICHOLS 34+44.72 RT*	34.59	13.7	8.7	8	10
MCNICHOLS 34+68.25 LT	31.16	30	7.6	10	10
MCNICHOLS 35+06.23 RT*	34.40	14	8.3	5	3

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003



**NOTES:**

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC. DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TREE WELL DETAILS, SEE SHEET LDSDET001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LDSDET003.

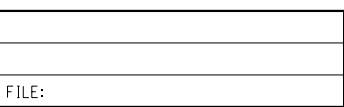
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**CONSTRUCTION QUANTITIES - THIS SHEET**

164	Ton	HMA, 5E3
185	Ton	HMA, 4E3
41	Ton	HMA, 3E3
13	Ton	HMA Approach, Modified
397	Ft	Curb, Conc, Detail CD, Modified
7039	Sft	Sidewalk, Conc, 4 inch, Modified
714	Sft	Sidewalk, Conc, 6 inch, Modified
1312	Sft	Sidewalk, Conc, 8 inch, Modified
93	Syd	Aggregate Base, 8 inch
97	Syd	Aggregate Base, 16 inch
233	Syd	Aggregate Base, 12 inch
656	Syd	Geotextile, Separator
30	Cyd	Embankment, CIP
902	Sft	Sidewalk Ramp, ADA, Modified
107	Ft	Curb Ramp Opening, Conc
36	Ft	Detectable Warning Surface
532	Ft	Integral Curb and Sidewalk, 1 Foot, Modified
11	Syd	Conc Pavt, Nonreinf, 8 inch
6	Ea	Dr Structure Cover, Adj, Case 1, Modified
5	Ea	Water Shutoff, Adj, Case 2, Modified
93	Syd	Driveway, Nonreinf Conc, 8 inch
5	Ea	Erosion Control, Inlet Protection, Fabric Drop

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

JN: PW-7004

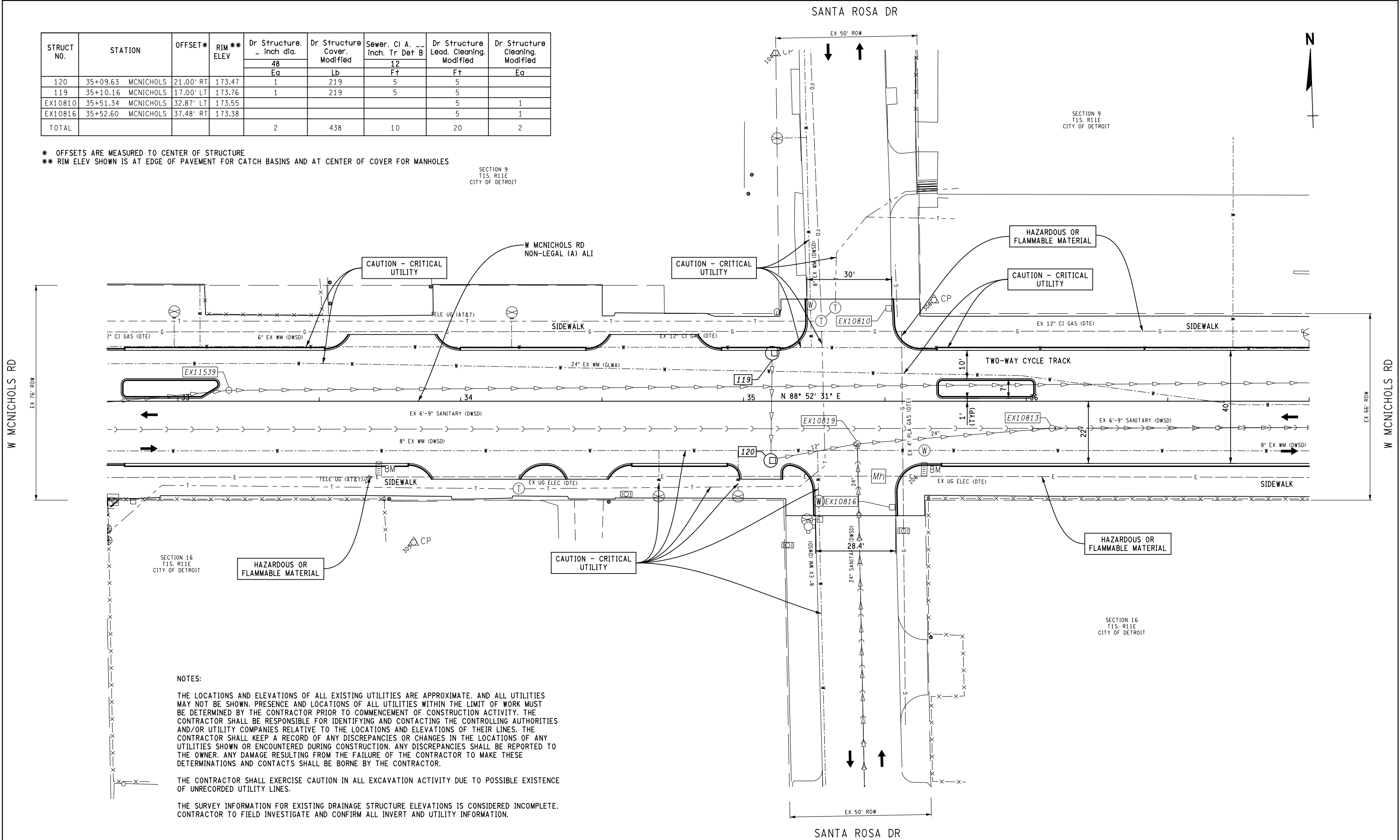
MCNICHOLS STREETScape

CONSTRUCTION SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN CON 006	44
STA 32+75 TO STA 37+00			

STRUCT NO.	STATION	OFFSET*	RIM** ELEV	Dr Structure, - inch dia.	Dr Structure Cover, Modified	Sewer, CI A, - inch, Tr Det B	Dr Structure Lead, Modified	Dr Structure Cleaning, Modified
				Eg	Lb	F†	F†	Eg
120	35+09.63	MCNICHOLS	21.00' RT	173.47	1	219	5	5
119	35+10.16	MCNICHOLS	17.00' LT	173.76	1	219	5	5
EX10810	35+51.34	MCNICHOLS	32.87' LT	173.55			5	1
EX10816	35+52.60	MCNICHOLS	37.48' RT	173.38			5	1
TOTAL					2	438	10	20

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES

SECTION 9  
 T1S, R11E  
 CITY OF DETROIT



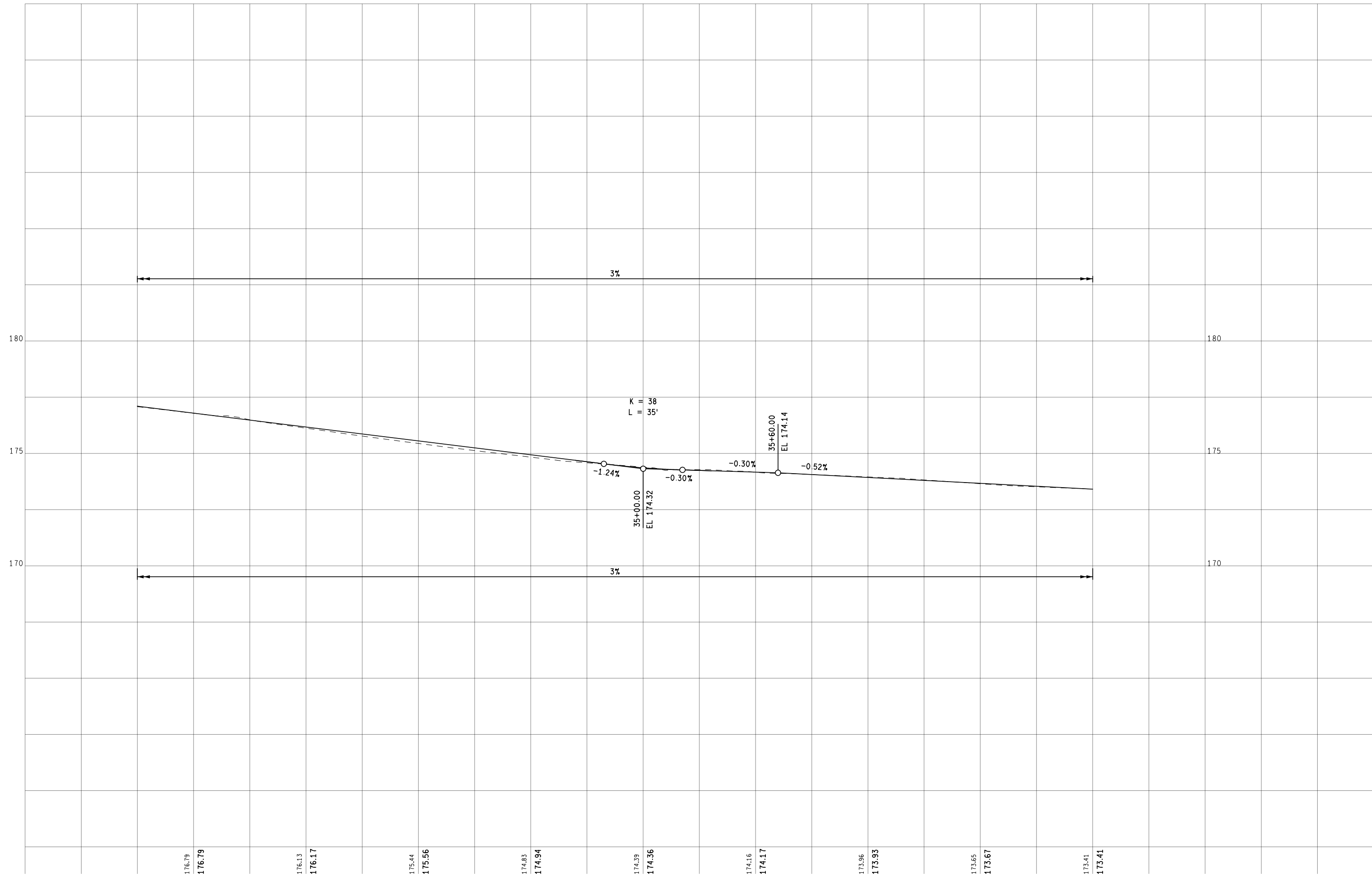
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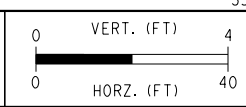
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FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							DATE: 06/20/19	JN: PW-7004 MCNICHOLS STREETScape	DRAINAGE SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION						NO.	DATE		



EX GROUND PROF AT MCNICHOLS ALI  
 PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

PROFILE SHEET  
 MCNICHOLS STREETScape  
 STA 32+75 TO STA 37+00

DRAWING SHEET  
 MCN PROF 011  
 46



STOEPEL ST

LIVERNOIS AVE



SECTION 9  
T15, R11E  
CITY OF DETROIT

17101 LIVERNOIS

7000 W MCNICHOLS

HAZARDOUS OR  
FLAMMABLE MATERIAL

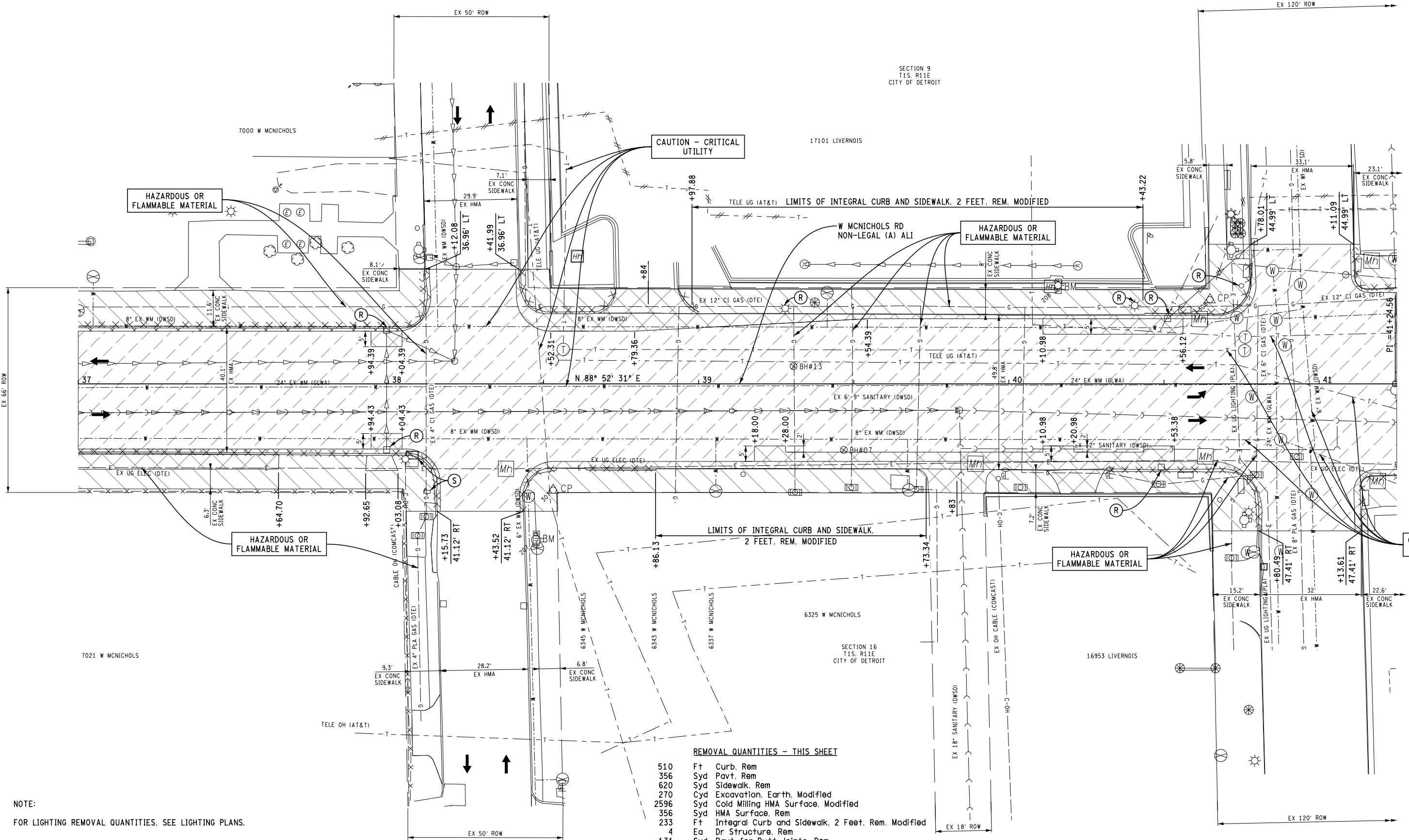
CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

W MCNICHOLS RD

W MCNICHOLS RD

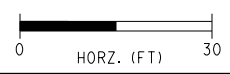
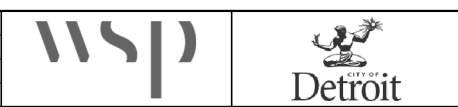


**REMOVAL QUANTITIES - THIS SHEET**

- 510 Ft Curb, Rem
- 356 Syd Pavt, Rem
- 620 Syd Sidewalk, Rem
- 270 Cyd Excavation, Earth, Modified
- 2596 Syd Cold Milling HMA Surface, Modified
- 356 Syd HMA Surface, Rem
- 233 Ft Integral Curb and Sidewalk, 2 Feet, Rem, Modified
- 4 Ea Dr Structure, Rem
- 131 Syd Pavt for Butt Joints, Rem

NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 37+00 TO STA 41+25

DRAWING SHEET  
MCN REM 007  
48



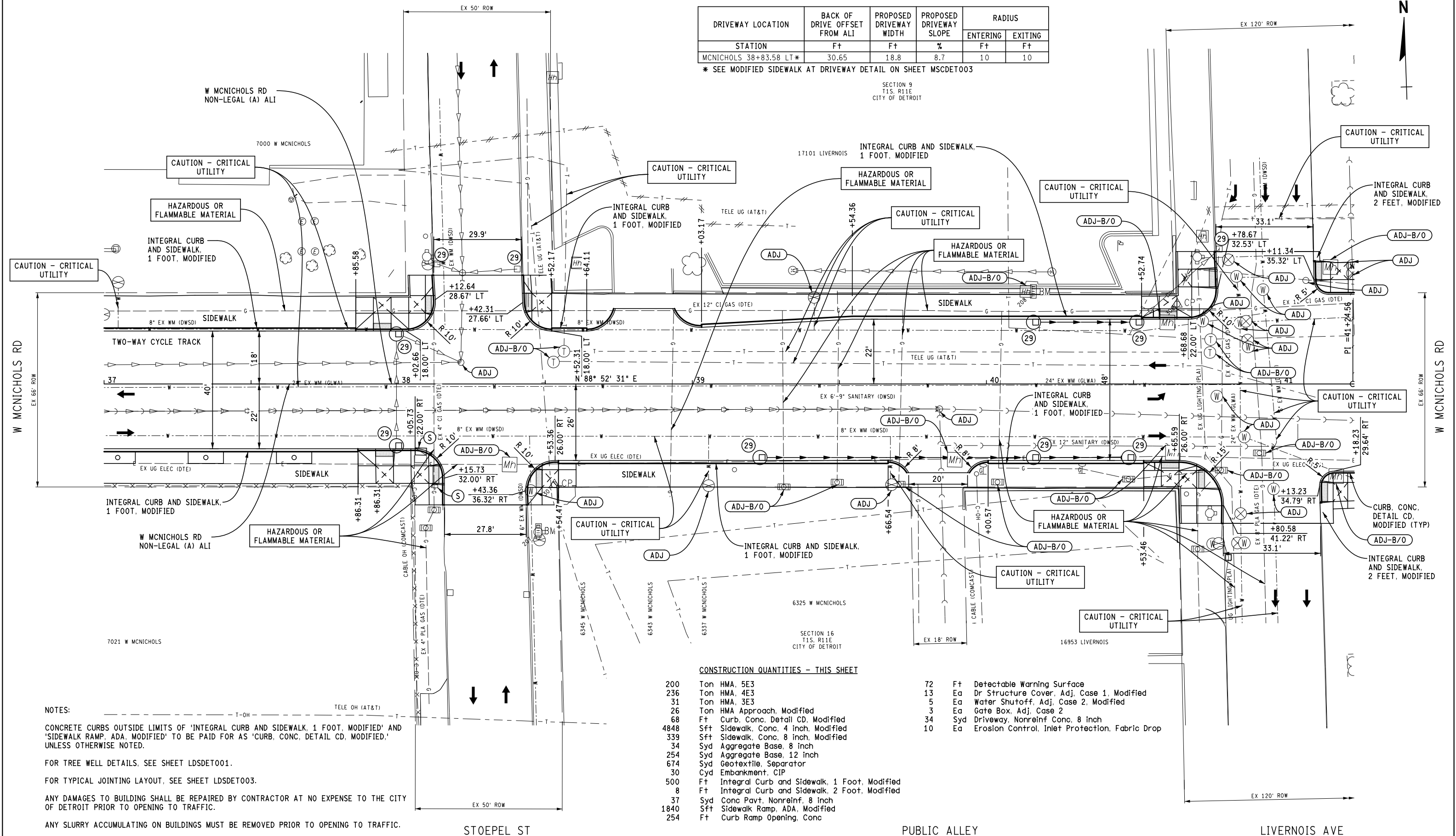
STOEPEL ST

LIVERNOIS AVE

DRIVEWAY LOCATION	BACK OF DRIVE OFFSET FROM ALI	PROPOSED DRIVEWAY WIDTH	PROPOSED DRIVEWAY SLOPE	RADIUS	
				ENTERING	EXITING
STATION	Ft	Ft	%	Ft	Ft
MCNICHOLS 38+83.58 LT*	30.65	18.8	8.7	10	10

\* SEE MODIFIED SIDEWALK AT DRIVEWAY DETAIL ON SHEET MSCDET003

SECTION 9  
T15, R11E  
CITY OF DETROIT



CONSTRUCTION QUANTITIES - THIS SHEET

200	Ton	HMA, 5E3	72	Ft	Detachable Warning Surface
236	Ton	HMA, 4E3	13	Ea	Dr Structure Cover, Adj, Case 1, Modified
31	Ton	HMA, 3E3	5	Ea	Water Shutoff, Adj, Case 2, Modified
26	Ton	HMA Approach, Modified	3	Ea	Gate Box, Adj, Case 2
68	Ft	Curb, Conc, Detail CD, Modified	34	Syd	Driveway, Nonreinf Conc, 8 inch
4848	Sft	Sidewalk, Conc, 4 inch, Modified	10	Ea	Erosion Control, Inlet Protection, Fabric Drop
339	Sft	Sidewalk, Conc, 8 inch, Modified			
34	Syd	Aggregate Base, 8 inch			
254	Syd	Aggregate Base, 12 inch			
674	Syd	Geotextile, Separator			
30	Cyd	Embankment, CIP			
500	Ft	Integral Curb and Sidewalk, 1 Foot, Modified			
8	Ft	Integral Curb and Sidewalk, 2 Foot, Modified			
37	Syd	Conc Pavt, Nonreinf, 8 inch			
1840	Sft	Sidewalk Ramp, ADA, Modified			
254	Ft	Curb Ramp Opening, Conc			

NOTES:

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC, DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

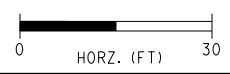
FOR TREE WELL DETAILS, SEE SHEET LSDDET001.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LSDDET003.

ANY DAMAGES TO BUILDING SHALL BE REPAIRED BY CONTRACTOR AT NO EXPENSE TO THE CITY OF DETROIT PRIOR TO OPENING TO TRAFFIC.

ANY SLURRY ACCUMULATING ON BUILDINGS MUST BE REMOVED PRIOR TO OPENING TO TRAFFIC.

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



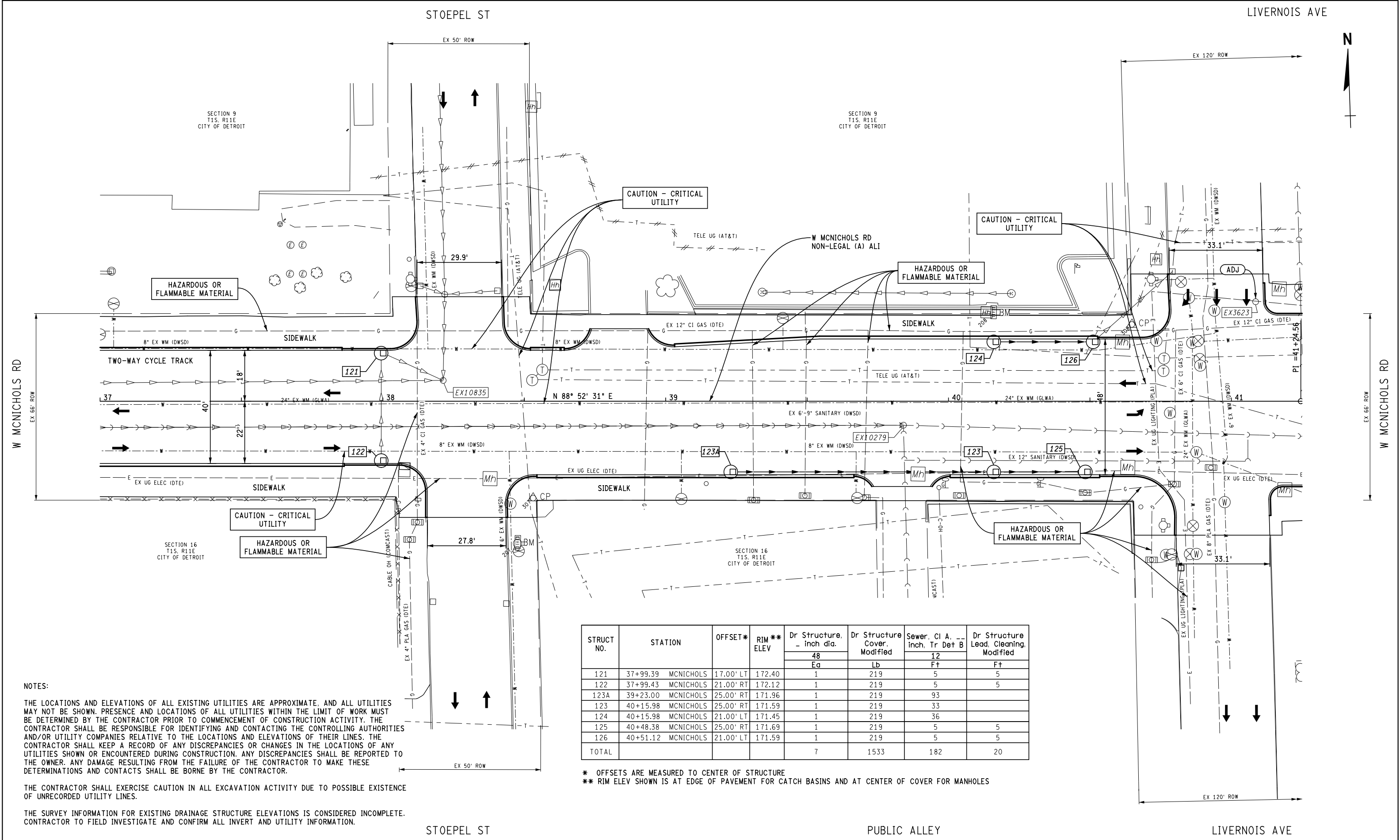
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FILE:

JN: PW-7004  
MCNICHOLS STREETScape

CONSTRUCTION SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN CON 007	49
STA 37+00 TO STA 41+25			

STOEPEL ST

LIVERNOIS AVE



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

CAUTION - CRITICAL  
UTILITY

CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

NOTES:

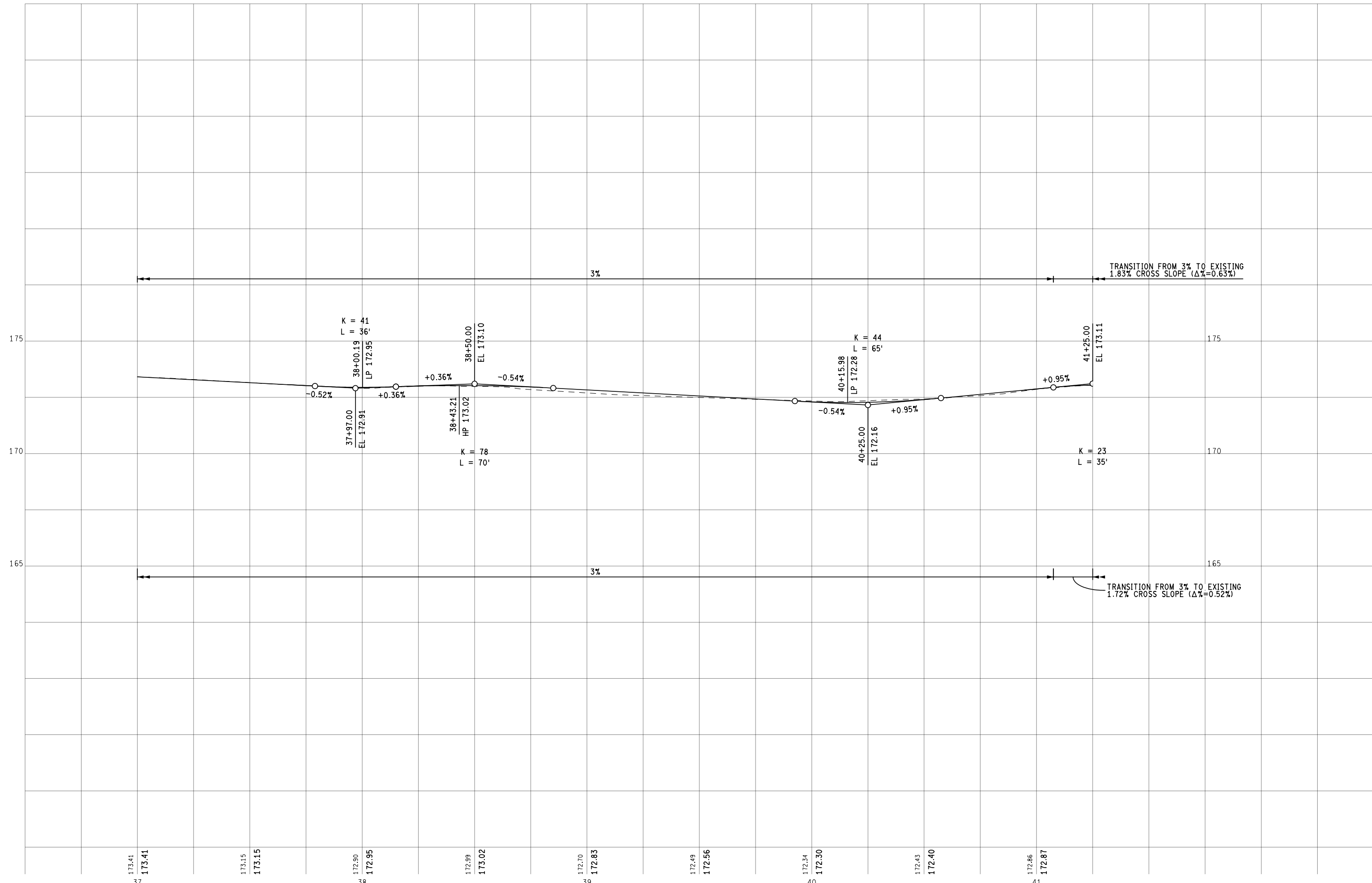
THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE, AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.

THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.

THE SURVEY INFORMATION FOR EXISTING DRAINAGE STRUCTURE ELEVATIONS IS CONSIDERED INCOMPLETE. CONTRACTOR TO FIELD INVESTIGATE AND CONFIRM ALL INVERT AND UTILITY INFORMATION.

STRUCT NO.	STATION	OFFSET*	RIM ** ELEV	Dr Structure, inch dia.		Sewer, CI A, inch, Tr Def B	Dr Structure Lead, Cleaning, Modified
				48	12		
				Ea	Lb		F†
121	37+99.39 MCNICHOLS	17.00' LT	172.40	1	219	5	5
122	37+99.43 MCNICHOLS	21.00' RT	172.12	1	219	5	5
123A	39+23.00 MCNICHOLS	25.00' RT	171.96	1	219	93	
123	40+15.98 MCNICHOLS	25.00' RT	171.59	1	219	33	
124	40+15.98 MCNICHOLS	21.00' LT	171.45	1	219	36	
125	40+48.38 MCNICHOLS	25.00' RT	171.69	1	219	5	5
126	40+51.12 MCNICHOLS	21.00' LT	171.59	1	219	5	5
TOTAL				7	1533	182	20

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
\*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES



EX GROUND PROF AT MCNICHOLS ALI  
 PROP PLAN GRADE AT MCNICHOLS ALI

173.41  
173.41  
37

173.15  
173.15

172.90  
172.95  
38

172.99  
173.02

172.70  
172.83  
39

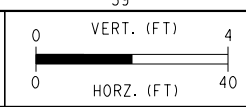
172.49  
172.56

172.34  
172.30  
40

172.43  
172.40

172.86  
172.87  
41

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



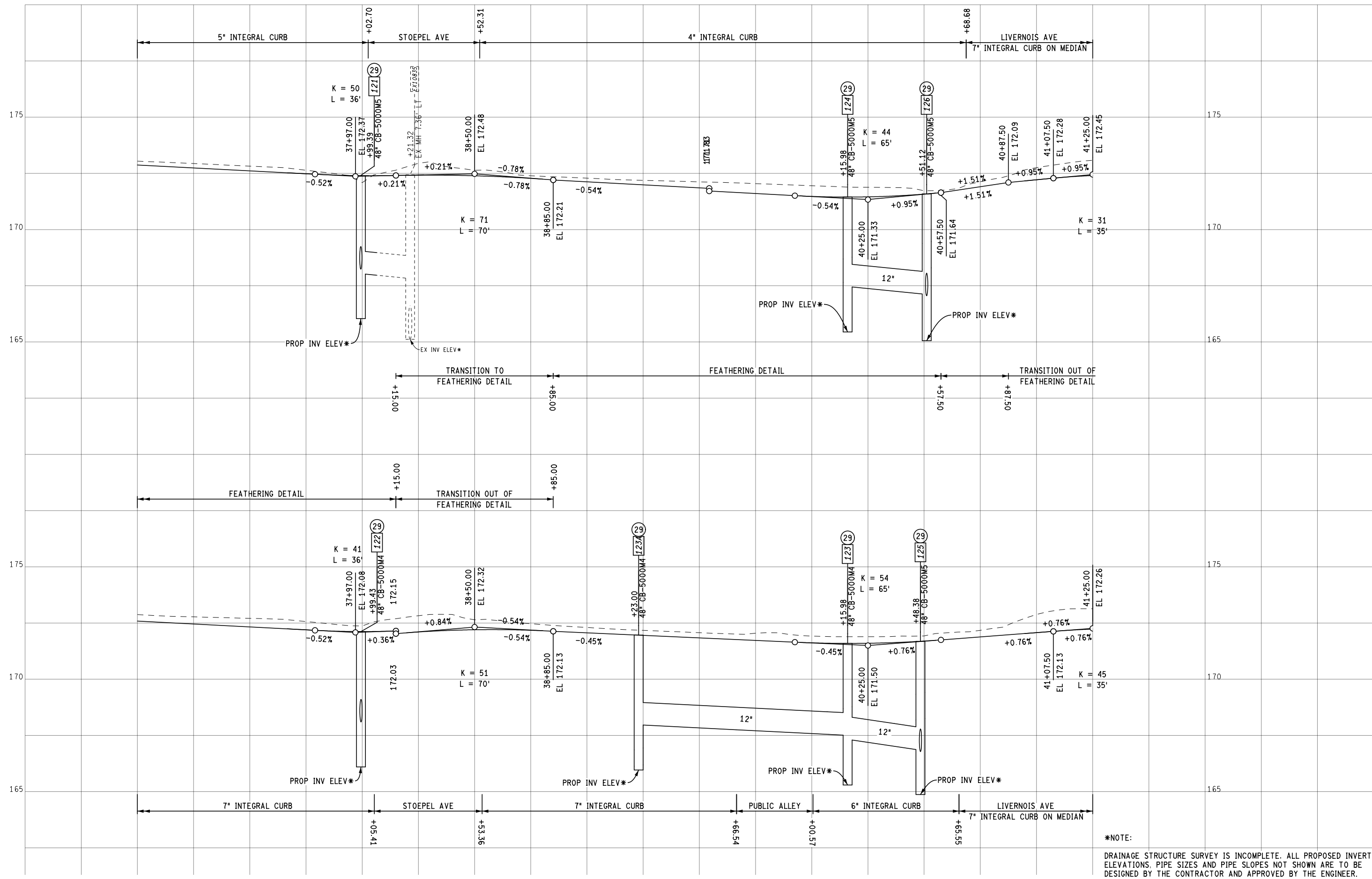
DATE: 06/20/19

FILE:

JN: PW-7004  
 MCNICHOLS STREETSCAPE

PROFILE SHEET  
 MCNICHOLS STREETSCAPE  
 STA 37+00 TO STA 41+25

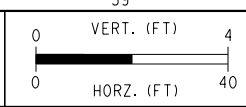
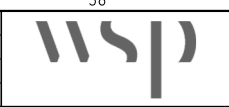
DRAWING SHEET  
 MCN PROF 013  
 51



--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
 - - - - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
 - - - - - PROP RT PROF AT FACE OF CURB

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

PROFILE SHEET  
 MCNICHOLS STREETScape  
 STA 37+00 TO STA 41+25

DRAWING SHEET  
 MCN PROF 014  
 52

LIVERNOIS AVE

WARRINGTON DR



SECTION 9  
T1S, R11E  
CITY OF DETROIT

17100 LIVERNOIS

W MCNICHOLS RD  
NON-LEGAL (A) ALI

UNIVERSITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

NOTE:  
FOR LIGHTING REMOVAL QUANTITIES, SEE LIGHTING PLANS.

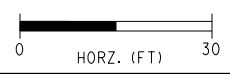
REMOVAL QUANTITIES - THIS SHEET

100	Ft	Curb, Rem
17	Syd	Pavt, Rem
85	Syd	Sidewalk, Rem
20	Cyd	Excavation, Earth, Modified
549	Syd	Cold Milling HMA Surface, Modified
17	Syd	HMA Surface, Rem
124	Syd	Pavt for Butt Joints, Rem

W MCNICHOLS RD

W MCNICHOLS RD

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



FILE:

DATE: 06/20/19

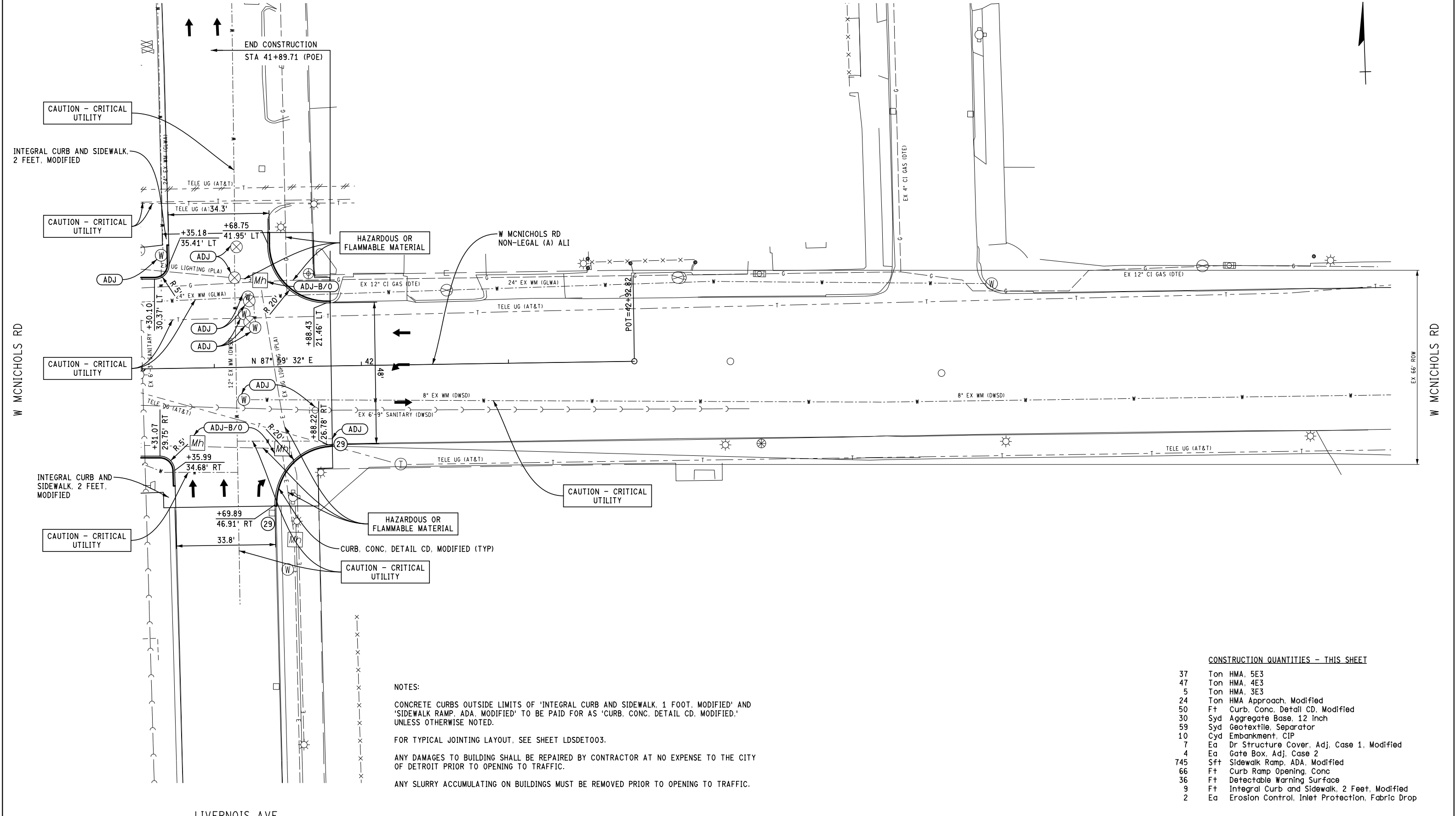
JN: PW-7004  
MCNICHOLS STREETScape

REMOVAL SHEET  
MCNICHOLS STREETScape  
STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
MCN REM 008 53

LIVERNOIS AVE

WARRINGTON DR



NOTES:

CONCRETE CURBS OUTSIDE LIMITS OF 'INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED' AND 'SIDEWALK RAMP, ADA, MODIFIED' TO BE PAID FOR AS 'CURB, CONC, DETAIL CD, MODIFIED,' UNLESS OTHERWISE NOTED.

FOR TYPICAL JOINTING LAYOUT, SEE SHEET LDSDET003.

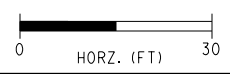
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CONSTRUCTION QUANTITIES - THIS SHEET

37	Ton	HMA, 5E3
47	Ton	HMA, 4E3
5	Ton	HMA, 3E3
24	Ton	HMA Approach, Modified
50	Ft	Curb, Conc, Detail CD, Modified
30	Syd	Aggregate Base, 12 inch
59	Syd	Geotextile, Separator
10	Cyd	Embankment, CIP
7	Ea	Dr Structure Cover, Adj, Case 1, Modified
4	Ea	Gate Box, Adj, Case 2
745	Sft	Sidewalk Ramp, ADA, Modified
66	Ft	Curb Ramp Opening, Conc
36	Ft	Detectable Warning Surface
9	Ft	Integral Curb and Sidewalk, 2 Feet, Modified
2	Ea	Erosion Control, Inlet Protection, Fabric Drop

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004

MCNICHOLS STREETScape

CONSTRUCTION SHEET

MCNICHOLS STREETScape

STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET

MCN CON 008

54

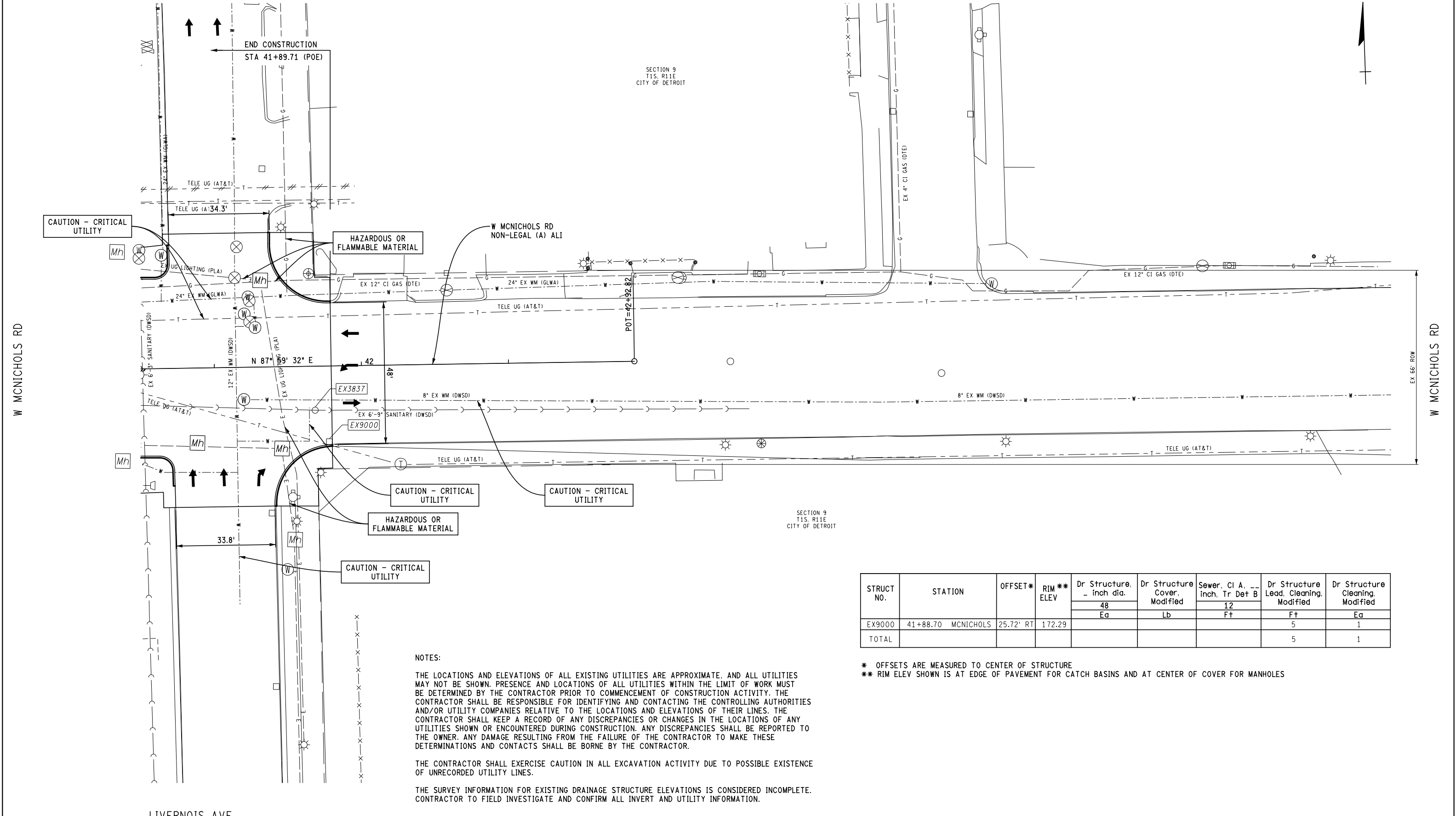
LIVERNOIS AVE

WARRINGTON DR



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

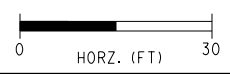


STRUCT NO.	STATION	OFFSET*	RIM** ELEV	Dr Structure, - inch dia.		Sewer, CI A, - inch, Tr Det B	Dr Structure Lead. Cleaning, Modified	Dr Structure Cleaning, Modified
				48 Ea	Lb			
EX9000	41+88.70 MCNICHOLS	25.72' RT	172.29			Ft	5	1
TOTAL							5	1

\* OFFSETS ARE MEASURED TO CENTER OF STRUCTURE  
 \*\* RIM ELEV SHOWN IS AT EDGE OF PAVEMENT FOR CATCH BASINS AND AT CENTER OF COVER FOR MANHOLES

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FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
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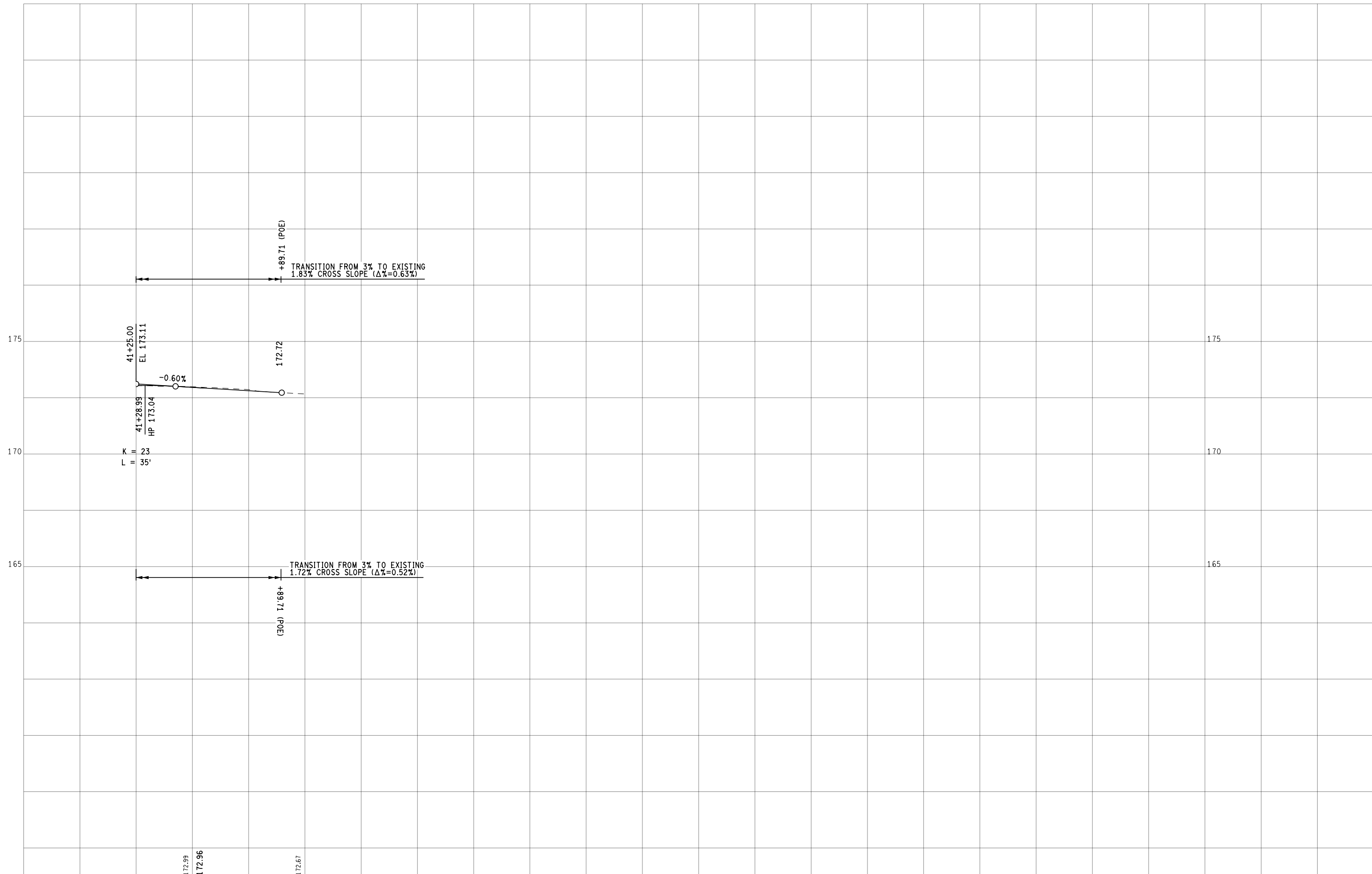


DATE: 06/20/19  
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JN: PW-7004  
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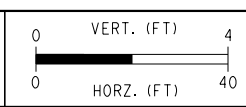
DRAINAGE SHEET  
 MCNICHOLS STREETScape  
 STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
 MCN DRAIN 008  
 55



EX GROUND PROF AT MCNICHOLS ALI  
 PROP PLAN GRADE AT MCNICHOLS ALI

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



FILE: \_\_\_\_\_

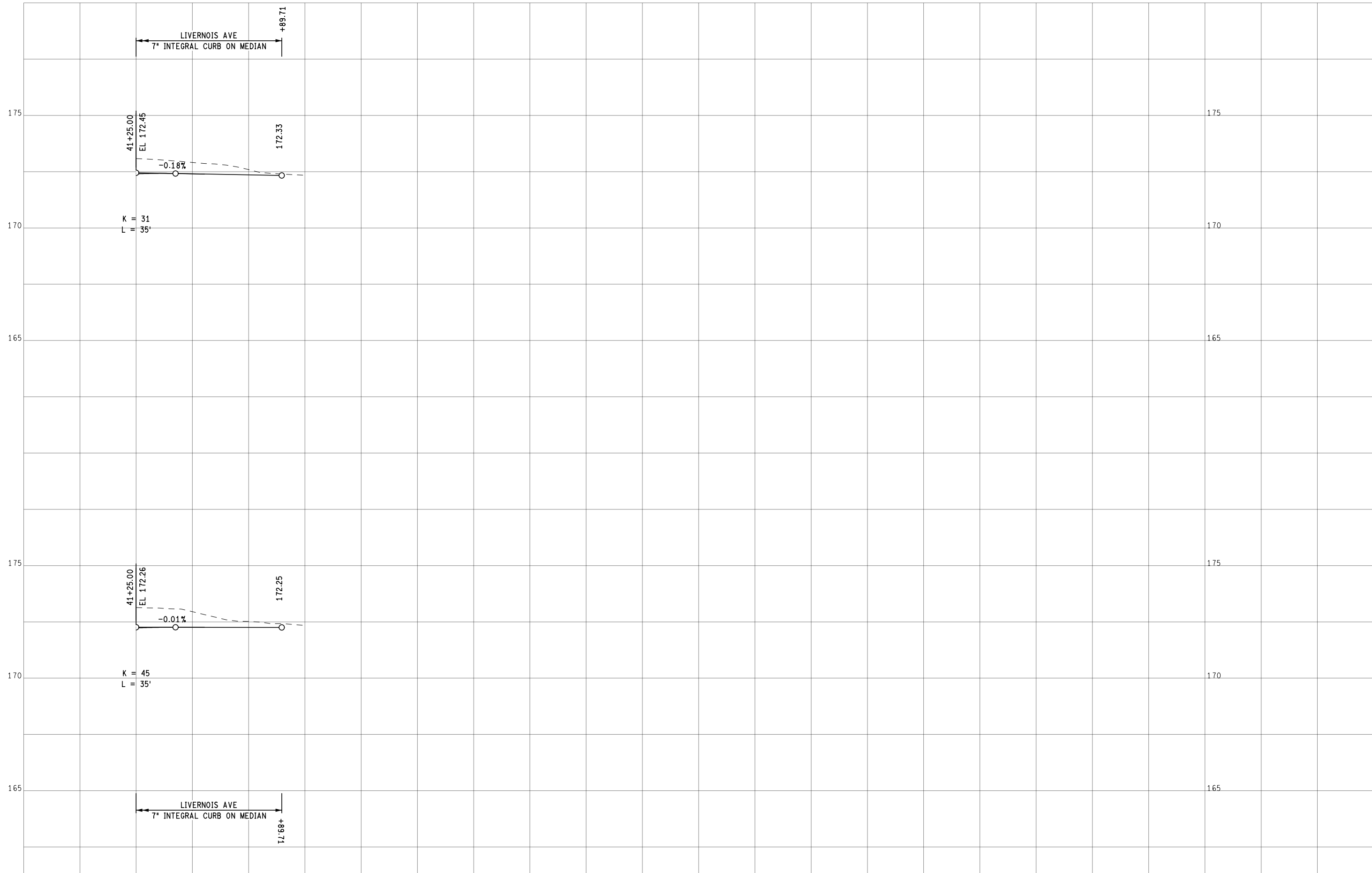
DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

PROFILE SHEET  
 MCNICHOLS STREETScape  
 STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
 MCN PROF 015  
**56**



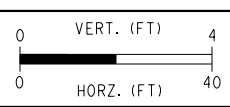


--- EX GROUND LT PROF AT 17' OFFSET MCNICHOLS ALI  
 - - - - - PROP LT PROF AT FACE OF CURB

--- EX GROUND RT PROF AT 21' OFFSET MCNICHOLS ALI  
 - - - - - PROP RT PROF AT FACE OF CURB

42

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



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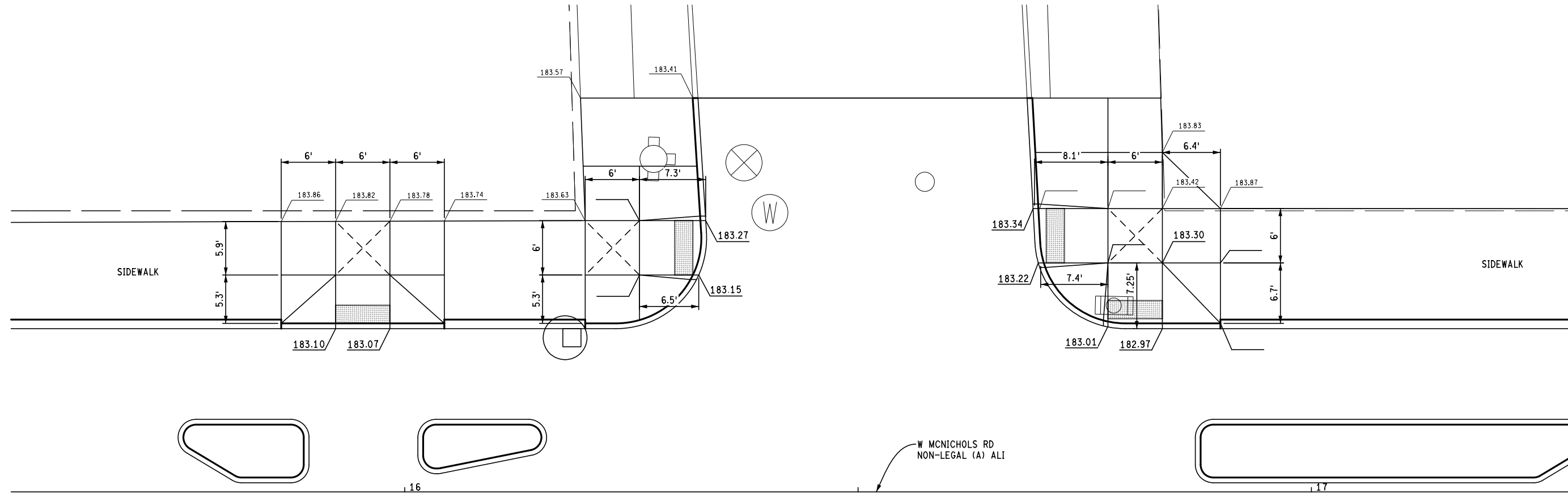
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PROFILE SHEET  
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 STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
 MCN PROF 016  
 57

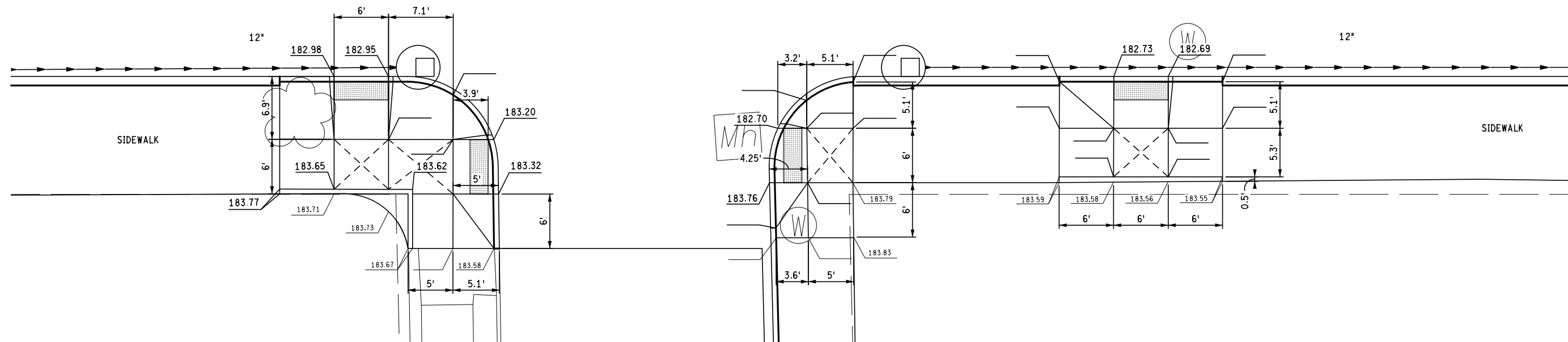


WOODINGHAM DR



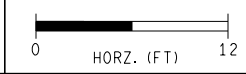
W MCNICHOLS RD

W MCNICHOLS RD



WOODINGHAM DR

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
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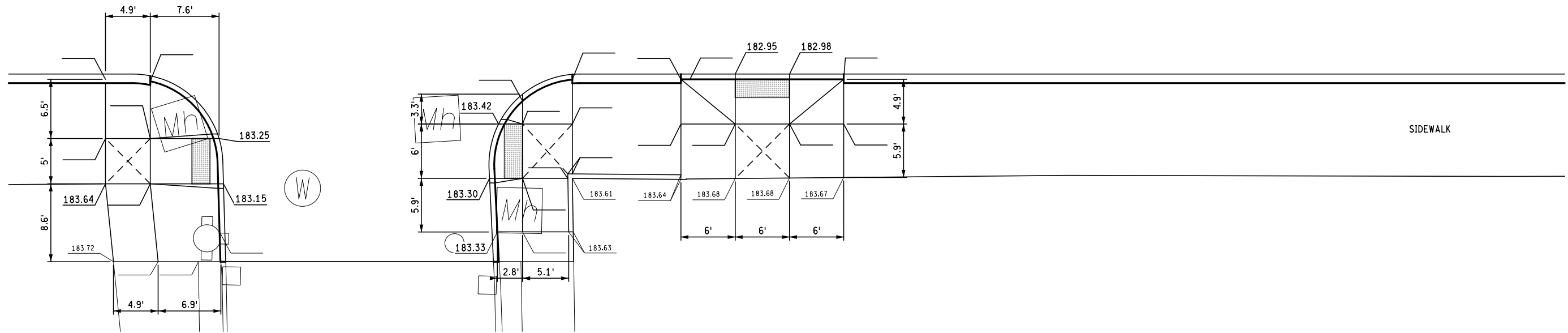
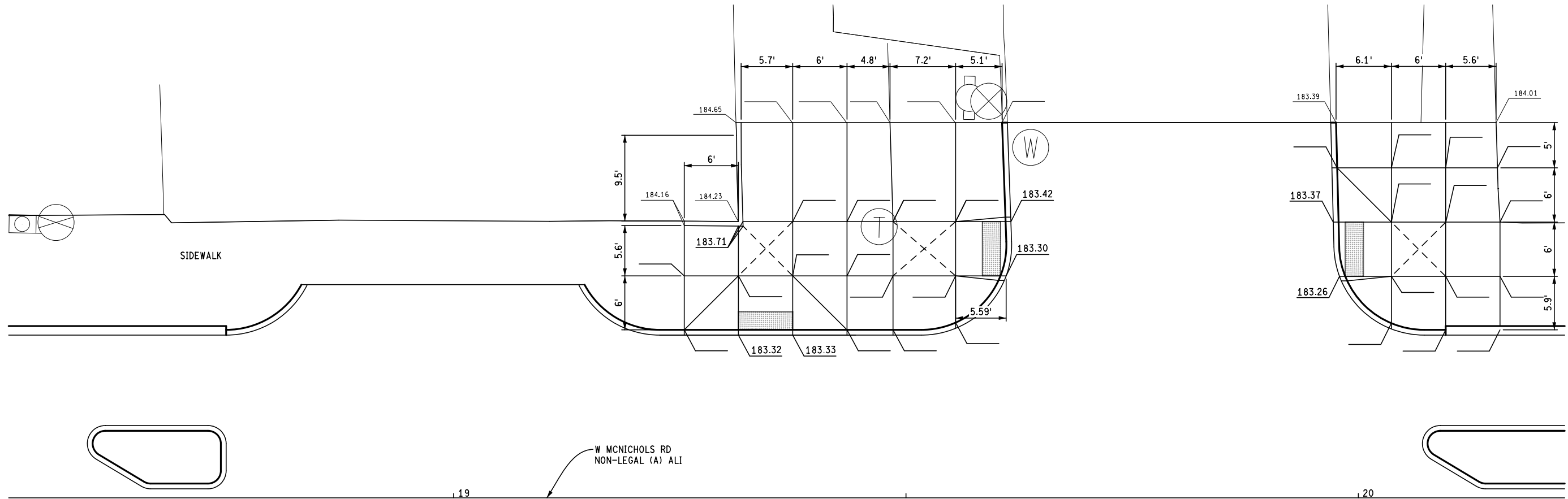


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MCNICHOLS STREETScape

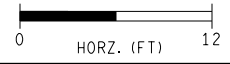
DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
WOODINGHAM AT MCNICHOLS

DRAWING SHEET  
MCN DETGRD 002  
59



TURNER ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



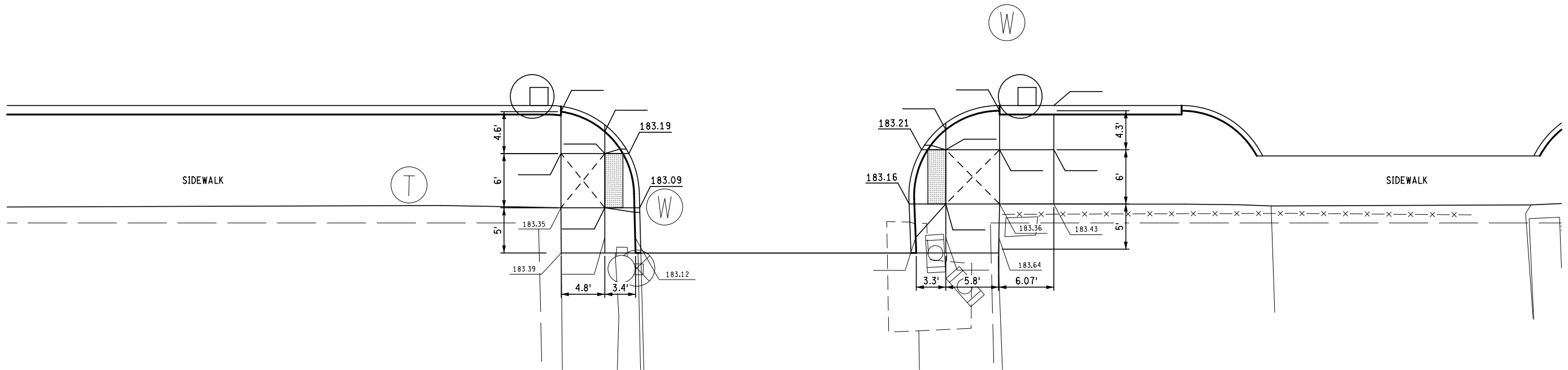
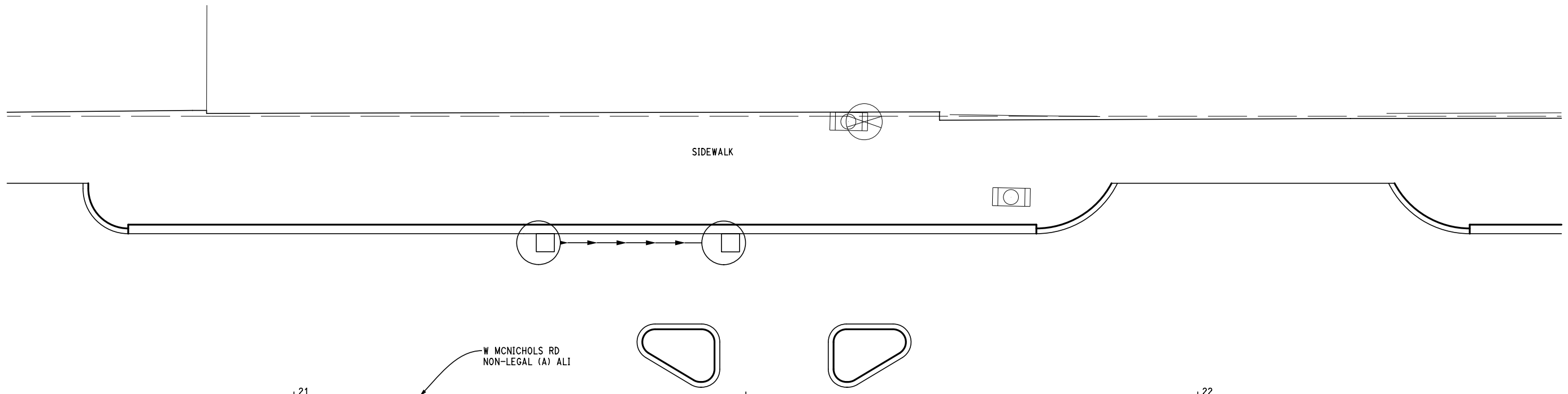
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DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
SANTA BARBARA, TURNER AT MCNICHOLS

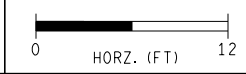
DRAWING	SHEET
MCN DET GRD 003	60



W MCNICHOLS RD

W MCNICHOLS RD

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

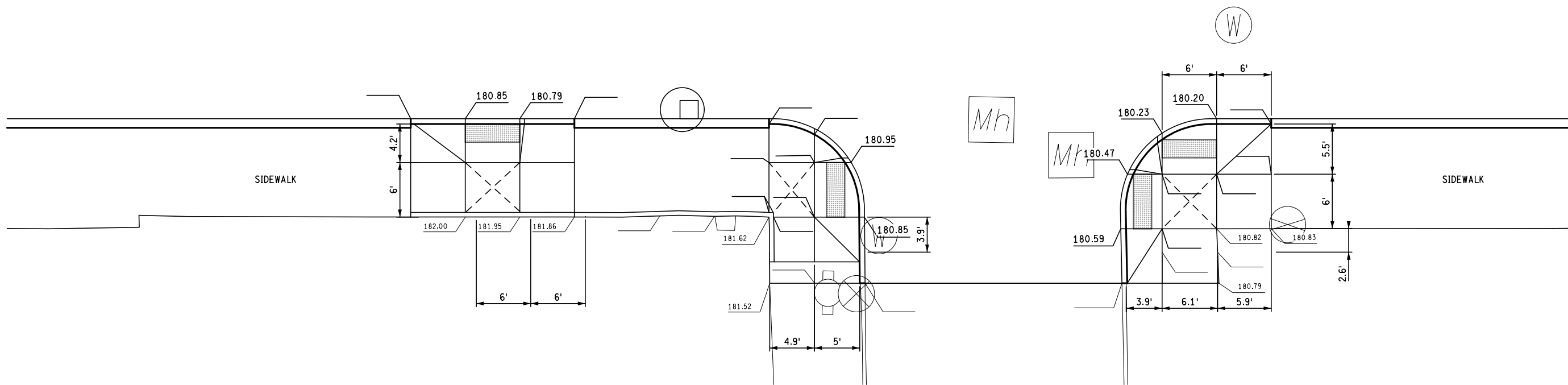
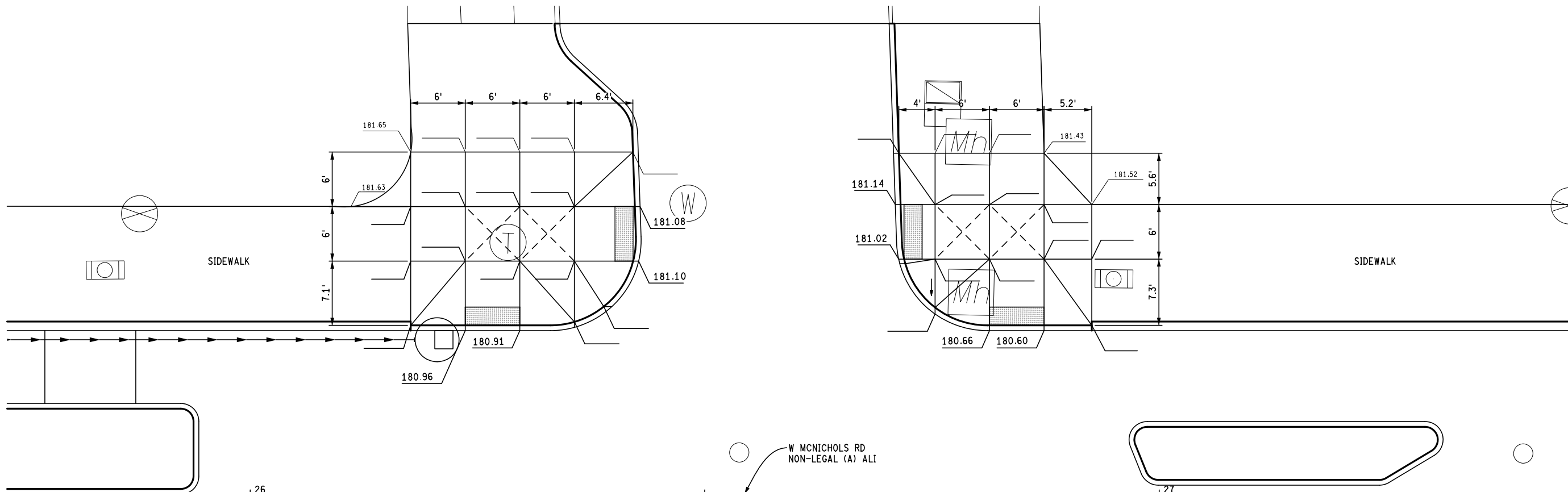
JN: PW-7004  
MCNICHOLS STREETScape

DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
TULLER AT MCNICHOLS

DRAWING SHEET  
MCN DETGRD 004  
61

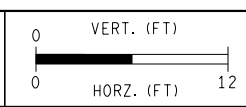


SAN JUAN DR



SAN JUAN DR

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

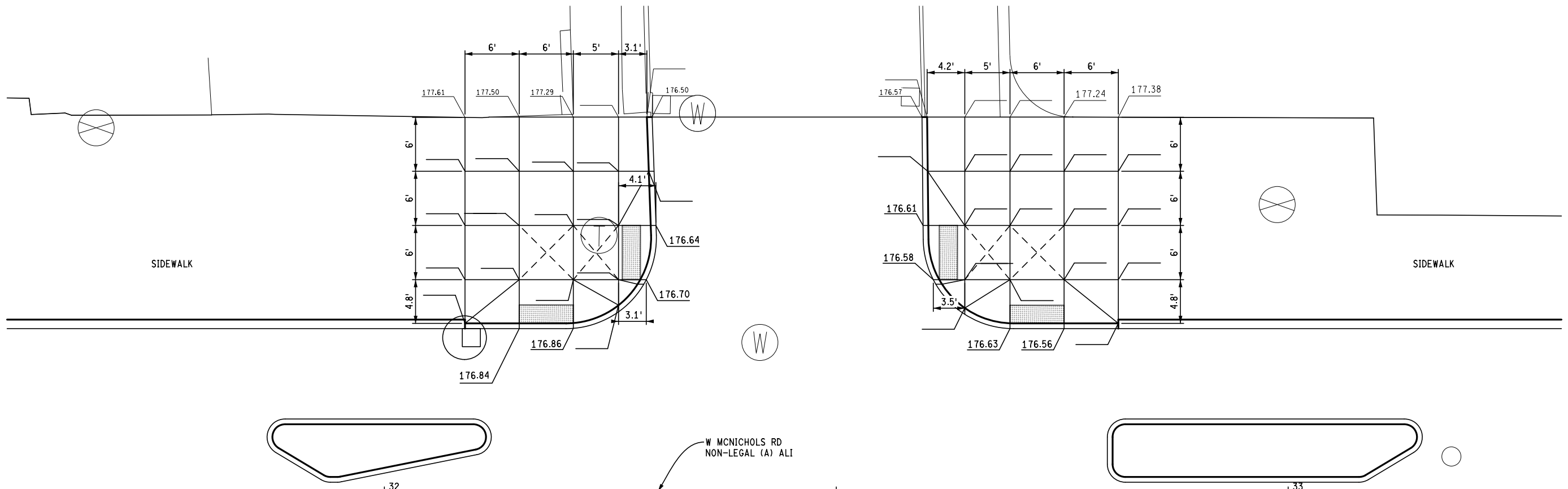
DETAIL GRADING SHEET  
 MCNICHOLS STREETScape  
 SAN JUAN AT MCNICHOLS

DRAWING SHEET  
 MCN DETGRD 006  
**63**

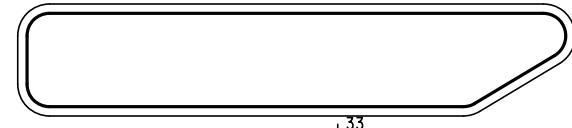




MONICA ST

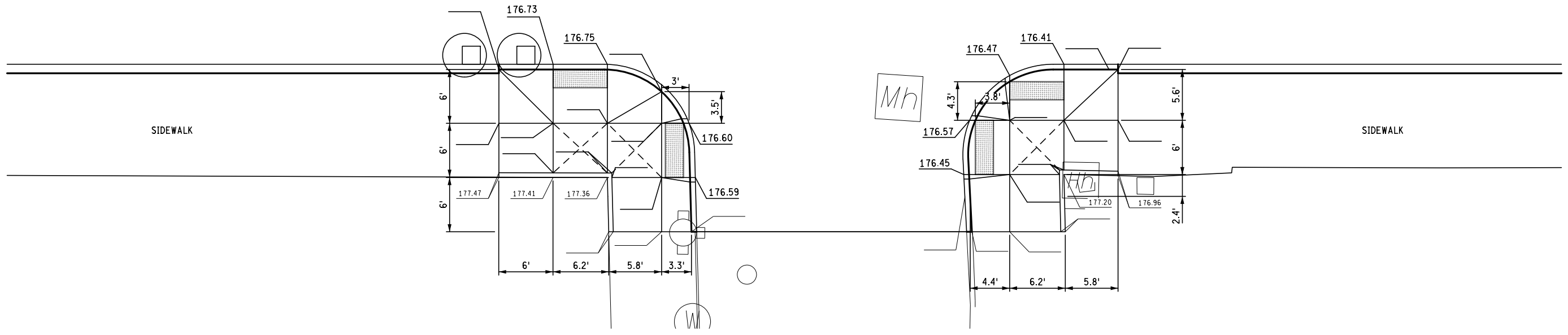


W MCNICHOLS RD  
NON-LEGAL (A) ALI



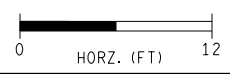
W MCNICHOLS RD

W MCNICHOLS RD



MONICA ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



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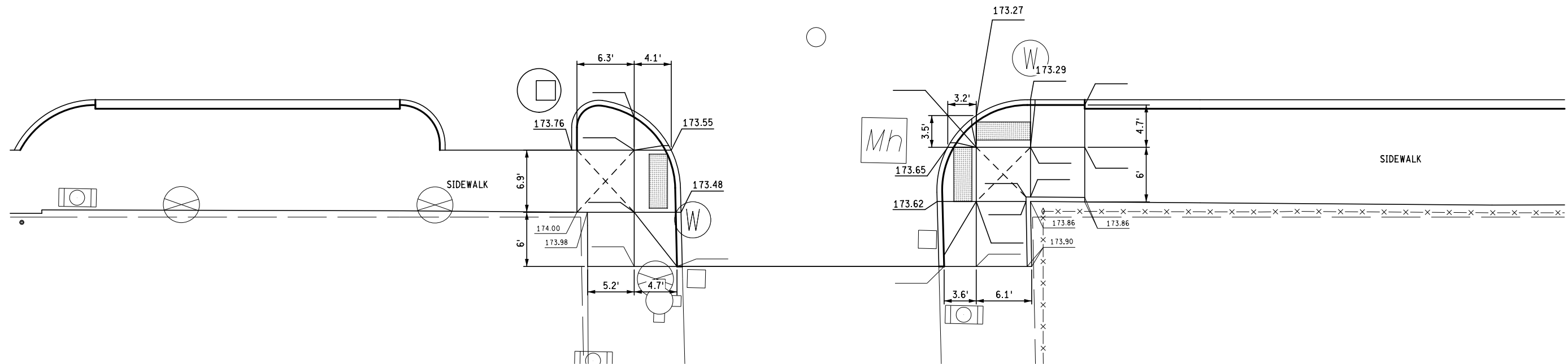
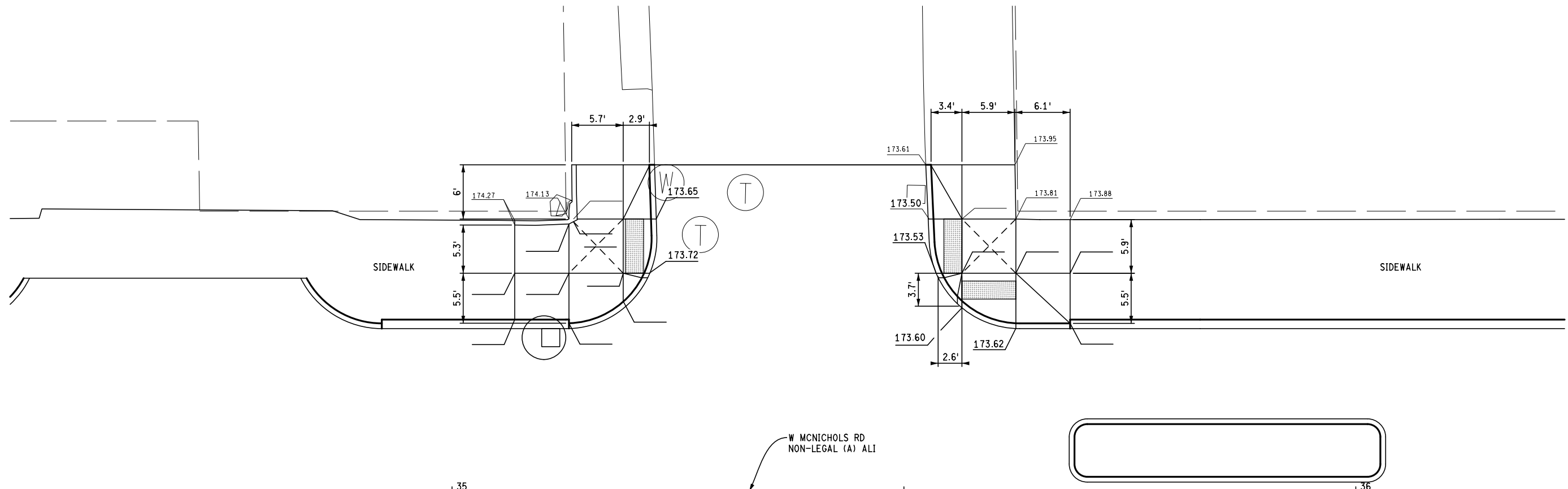
DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
MONICA AT MCNICHOLS

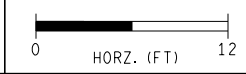
DRAWING SHEET  
MCN DETGRD 008  
65

SANTA ROSA DR



SANTA ROSA DR

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



FILE: \_\_\_\_\_

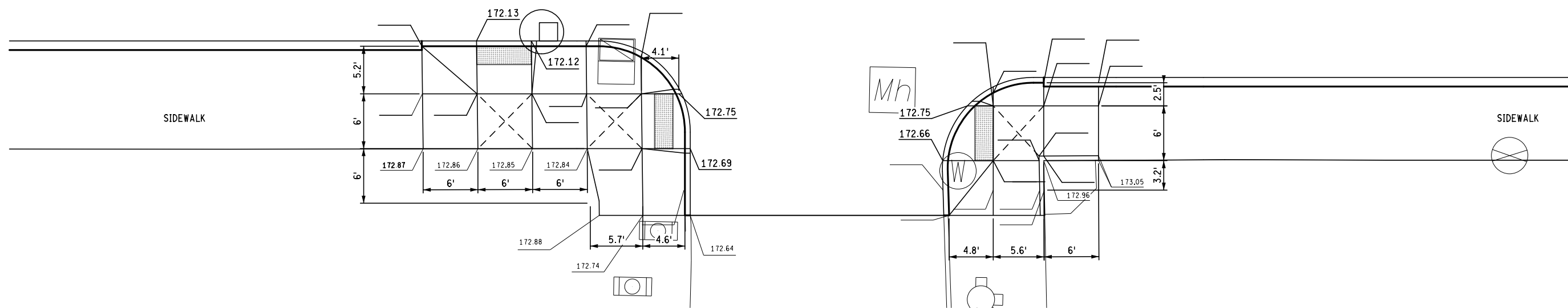
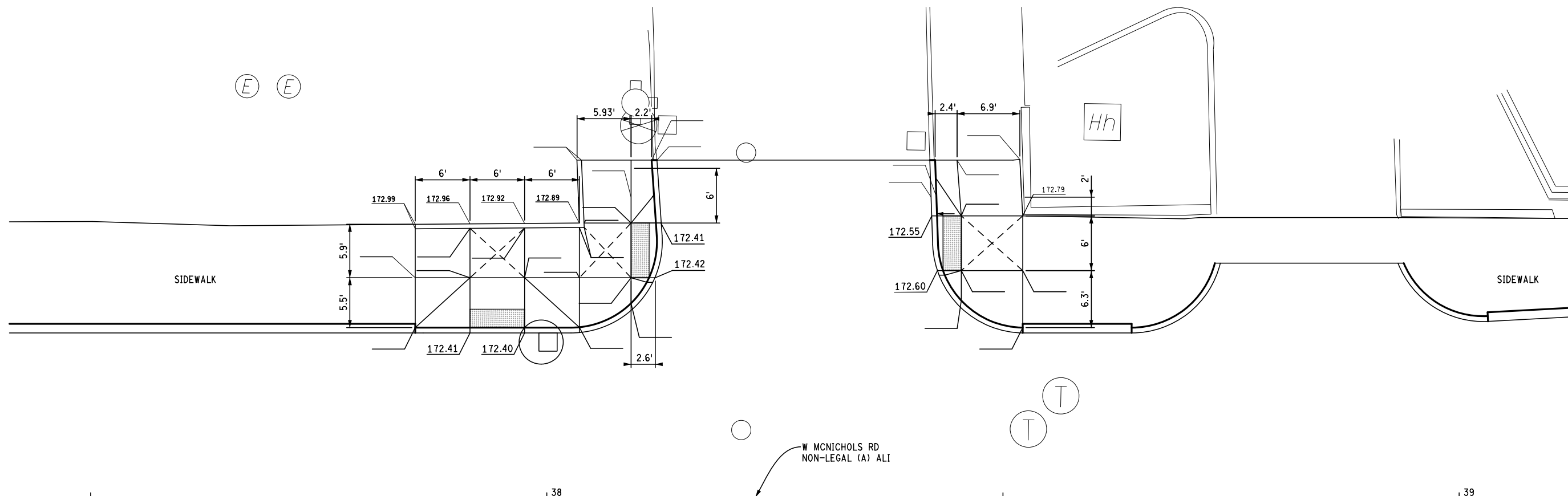
DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETScape

DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
SANTA ROSA AT MCNICHOLS

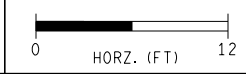
DRAWING SHEET  
MCN DETGRD 009  
66

STOEPEL ST



STOEPEL ST

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



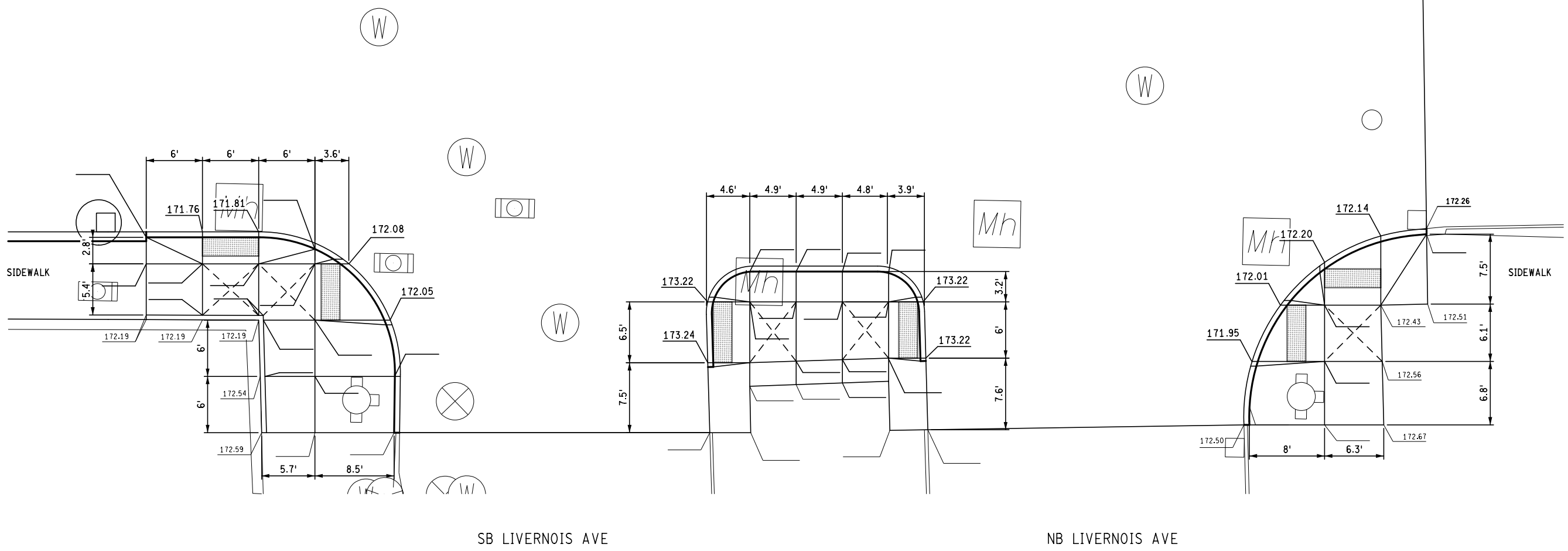
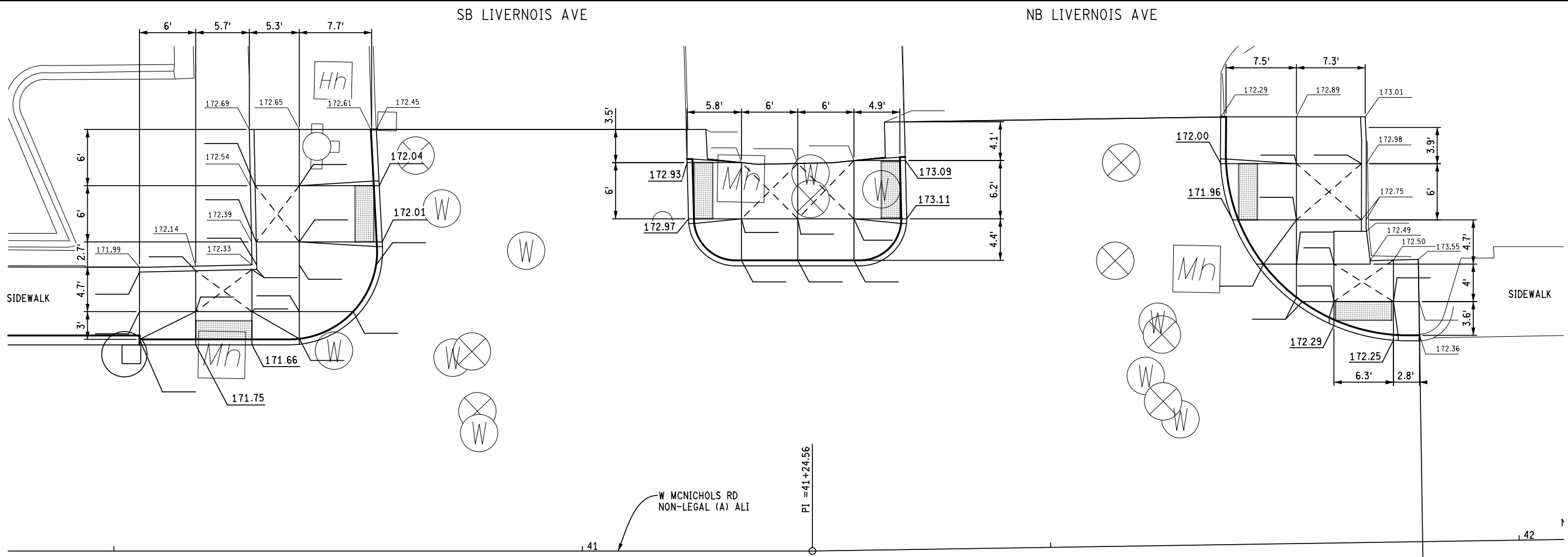
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DATE: 06/20/19

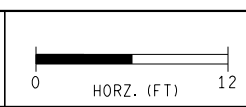
JN: PW-7004  
MCNICHOLS STREETScape

DETAIL GRADING SHEET  
MCNICHOLS STREETScape  
STOEPEL AT MCNICHOLS

DRAWING SHEET  
MCN DETGRD 010  
67



FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004

MCNICHOLS STREETScape

DETAIL GRADING SHEET

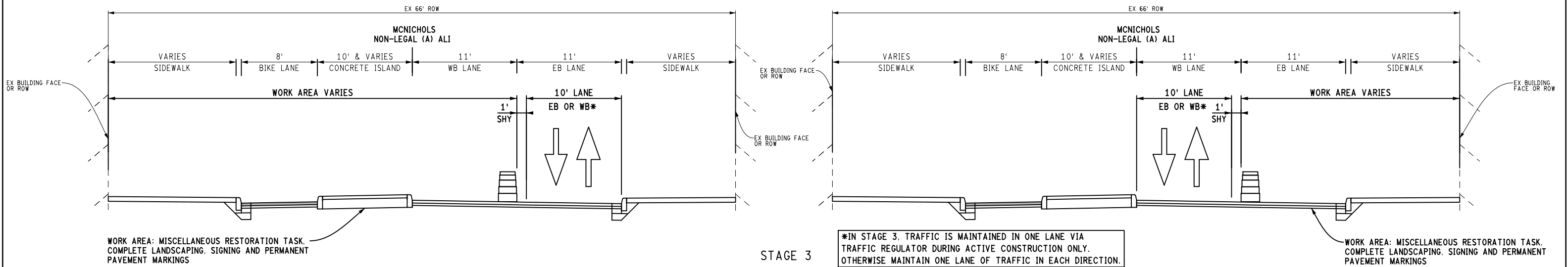
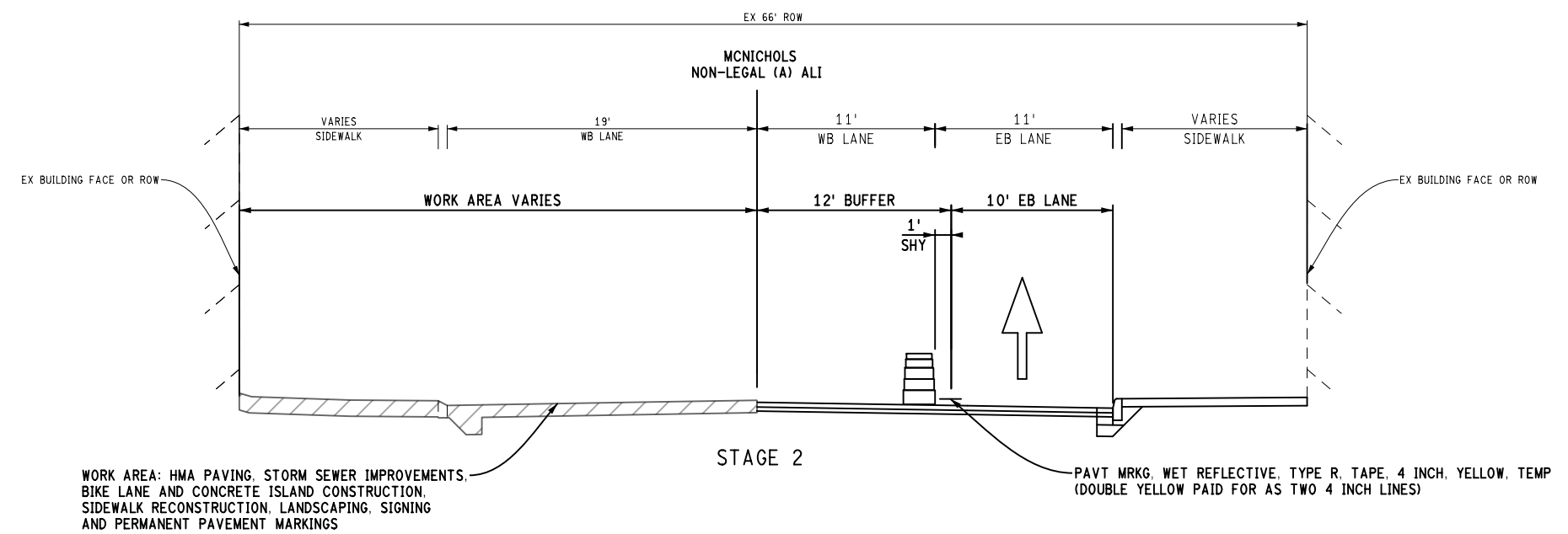
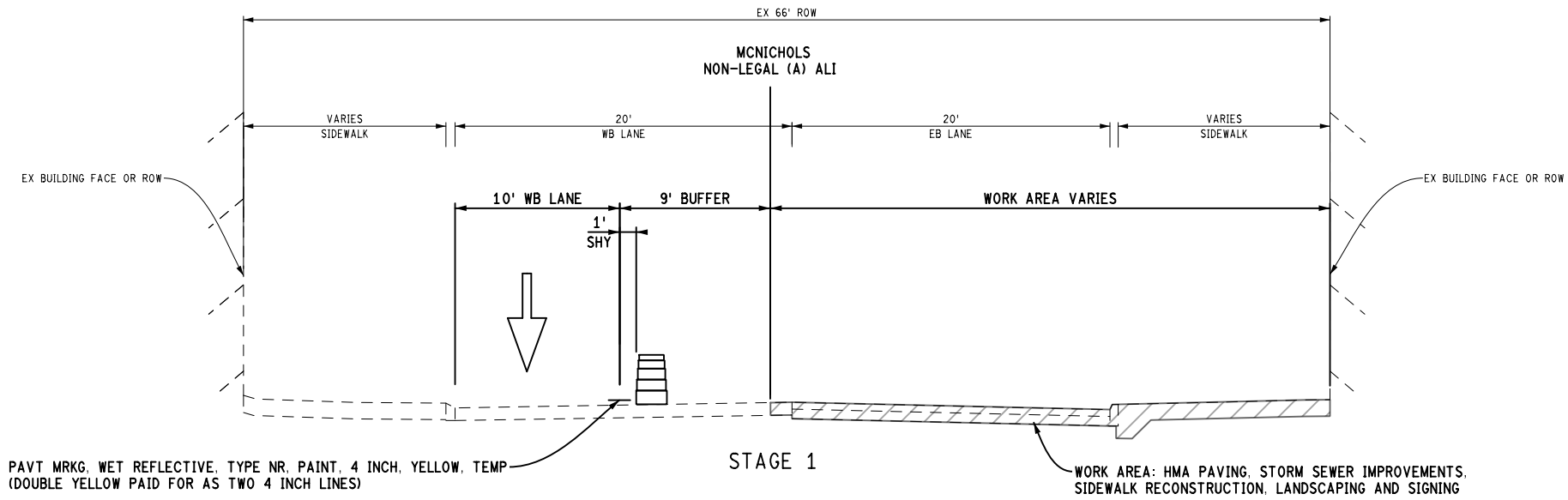
MCNICHOLS STREETScape

LIVERNOIS AT MCNICHOLS

DRAWING SHEET

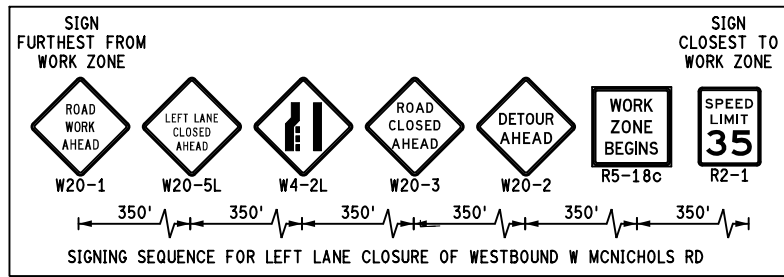
MCN DETGRD 011

68

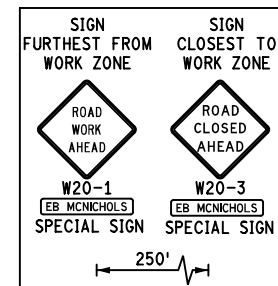
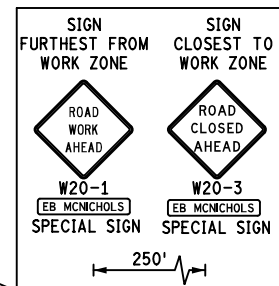


ILENE ST

WASHBURN ST

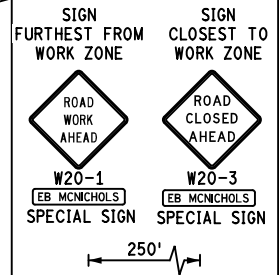
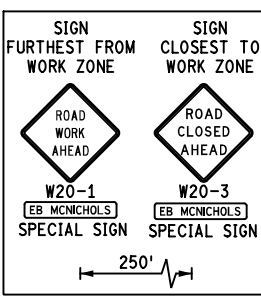
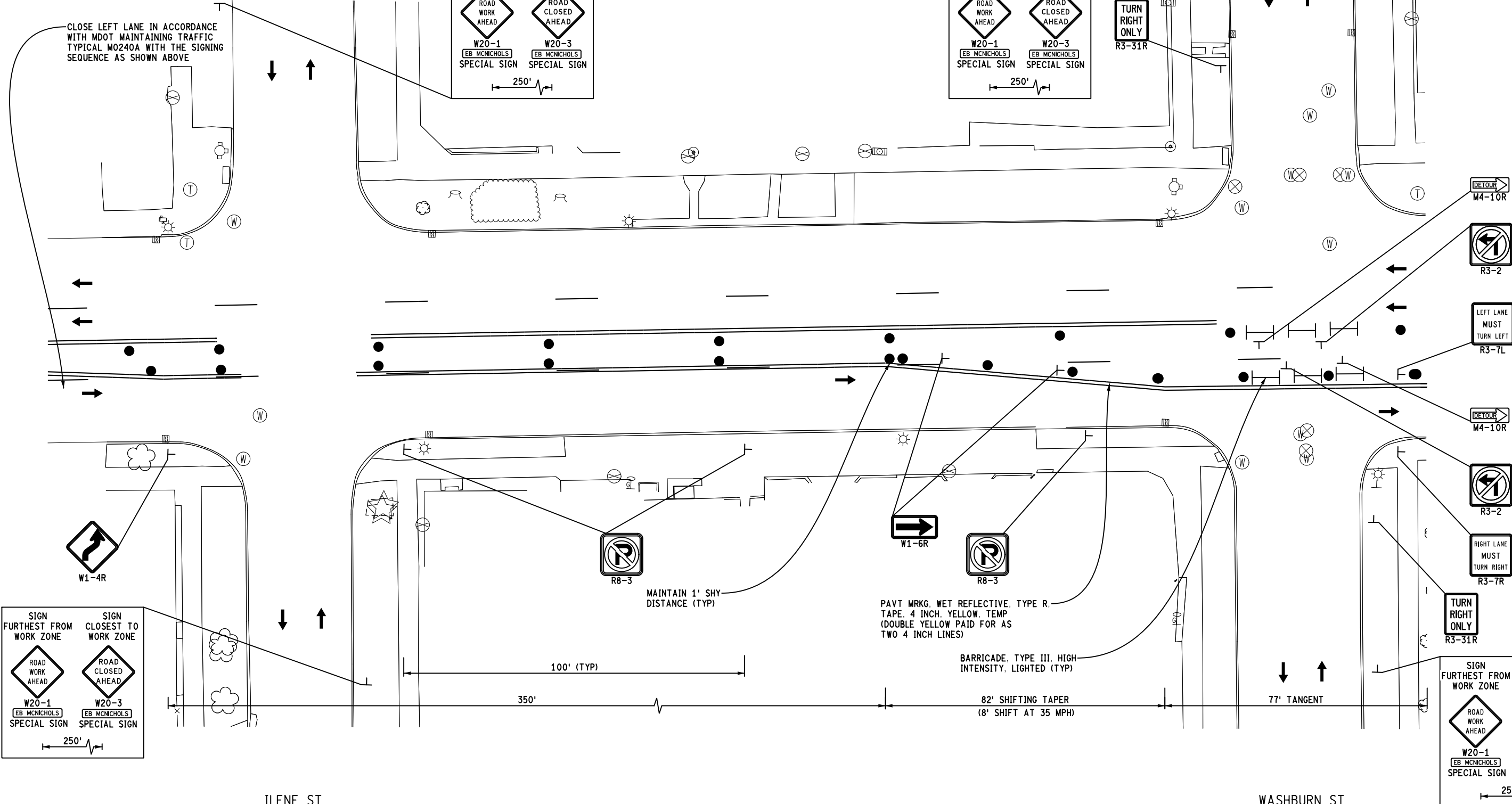


NOTES:  
 SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
 50 FEET IN TANGENTS  
 25 FEET IN SHIFTS AND TAPERS  
 10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED



W McNICHOLS RD

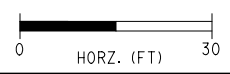
W McNICHOLS RD



ILENE ST

WASHBURN ST

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

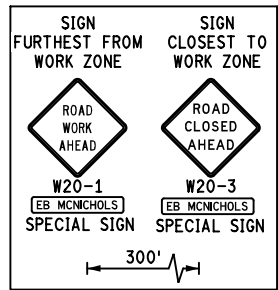
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JN: PW-7004  
 McNICHOLS STREETScape

MAINTAINING TRAFFIC STAGE 1  
 McNICHOLS STREETScape  
 WEST OF WYOMING AVE

DRAWING SHEET  
 MCN MTSTG1 001      70

WYOMING AVE



MAINTAIN 1' SHY DISTANCE (TYP)

PAVT MRKG. WET REFLECTIVE, TYPE R, TAPE, 4 INCH, WHITE, TEMP (SOLID LANE LINE)

BAG SIGNAL HEADS AND CASE SIGN FOR SOUTHBOUND WYOMING LEFT TURN AND FOR WESTBOUND W MCNICHOLS LEFT TURN

CLOSE LEFT TURN LANE BY PLACING DRUMS AT THE START OF THE LEFT TURN LANE TAPER AND CONTINUE TO STOP BAR

PAVT MRKG. WET REFLECTIVE, TYPE R, TAPE, 4 INCH, WHITE, TEMP (SOLID LANE LINE)

W MCNICHOLS RD

W MCNICHOLS RD



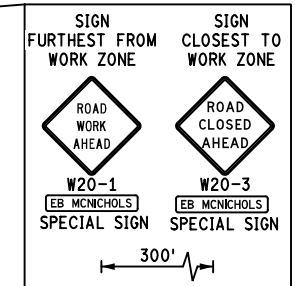
PAVT MRKG. WET REFLECTIVE, TYPE R, TAPE, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

PAVT MRKG. WET REFLECTIVE, TYPE R, TAPE, 4 INCH, WHITE, TEMP (SOLID LANE LINE)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)



NOTES:  
SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
50 FEET IN TANGENTS  
25 FEET IN SHIFTS AND TAPERS  
10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

50' TAPER

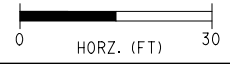
100' (TYP)

160' TANGENT

CLOSE RIGHT LANE BY PLACING DRUMS STARTING AT THE END OF THE ON-STREET PARKING AND CONTINUE TO THE STOP BAR

WYOMING AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



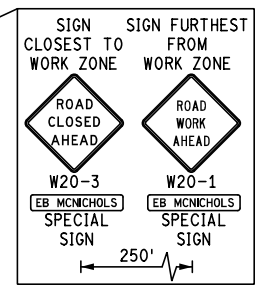
DATE: 06/20/19
FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

MAINTAINING TRAFFIC DETAILS  
MCNICHOLS STREETSCAPE  
FROM WYOMING AVE

DRAWING SHEET  
MCN MTSTG1 002  
71

GREENLAWN AVE



100' (TYP)

CONSTRUCTION BETWEEN WYOMING AND GREENLAWN  
 BEGIN CONSTRUCTION STA 12+45.31 (POB) (BETWEEN GREENLAWN AND LIVERNOIS)

CONTINUE CONSTRUCTION AS SHOWN AND THIS MAINTAINING TRAFFIC SCHEME TO WYOMING AVE

CONTINUE PLACEMENT OF R8-3 (NO PARKING) SIGNS AT 100' SPACING TO WYOMING AVE

MAINTAIN 1' SHY DISTANCE (TYP)

PAVT MRKG, WET REFLECTIVE, TYPE NR. PAINT, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

CONTINUE PLACEMENT OF R8-3 (NO PARKING) SIGNS AT 100' SPACING TO LIVERNOIS AVE



W MCNICHOLS RD

W MCNICHOLS RD

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

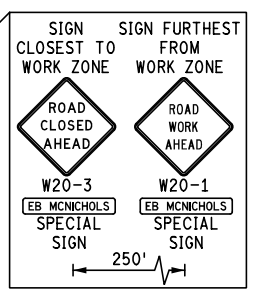
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)

PAVT MRKG, WET REFLECTIVE, TYPE NR. PAINT, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

ROAD CLOSED R11-2



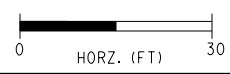
CONTINUE CONSTRUCTION AS SHOWN AND THIS MAINTAINING TRAFFIC SCHEME TO LIVERNOIS AVE



NOTES:  
 SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
 50 FEET IN TANGENTS  
 25 FEET IN SHIFTS AND TAPERS  
 10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

GREENLAWN AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETSCAPE

MAINTAINING TRAFFIC STAGE 1  
 MCNICHOLS STREETSCAPE  
 STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET  
 MCN MTSTG1 003 72



STOEPEL ST

LIVERNOIS AVE



SEE MAINTAINING TRAFFIC DETAIL 1 FOR CROSS STREET TRAFFIC CONTROL

TURN RIGHT ONLY  
R3-31R

CONTINUE PLACEMENT OF R8-3 (NO PARKING) SIGNS AT 100' SPACING TO GREENLAWN AVE

MAINTAIN 1' SHY DISTANCE (TYP)

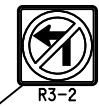
100' (TYP)

PAVT MRKG. WET REFLECTIVE, TYPE NR. PAINT, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

ROAD WORK AHEAD  
W20-1  
MCNICHOLS SPECIAL SIGN



ONE WAY  
R6-1R



W MCNICHOLS RD

W MCNICHOLS RD

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

CONTINUE CONSTRUCTION AS SHOWN AND THIS MAINTAINING TRAFFIC SCHEME TO GREENLAWN AVE

USE SUFFICIENT NUMBER OF BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED TO CLOSE ROADWA FROM BACK OF CURB TO BACK OF CURB (TYP)

WORK AREA

BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)

ROAD CLOSED  
R11-2

ROAD CLOSED  
R11-2

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

ROAD CLOSED  
R11-2

PLACE TYPE III BARRICADE NORTH OF LAST DRIVEWAY OR ALLEY SOUTH OF MCNICHOLS

SEE MAINTAIN TRAFFIC DETAIL 1 FOR CROSS STREET TRAFFIC CONTROL

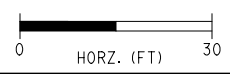
NOTES:  
SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
50 FEET IN TANGENTS  
25 FEET IN SHIFTS AND TAPERS  
10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

STOEPEL ST

PUBLIC ALLEY

LIVERNOIS AVE

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

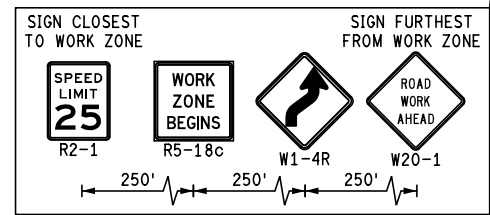
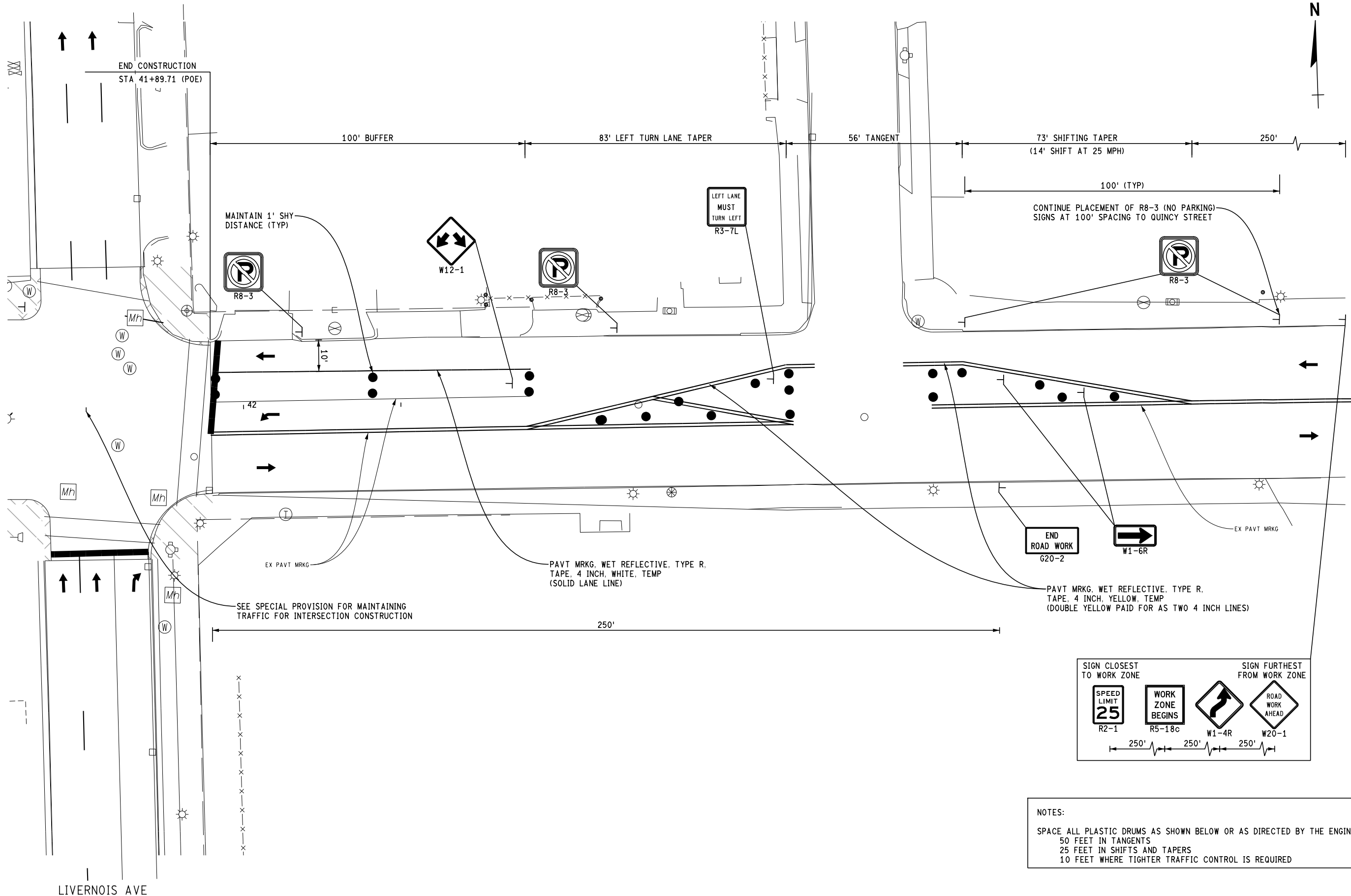
JN: PW-7004  
MCNICHOLS STREETScape

MAINTAINING TRAFFIC STAGE 1  
MCNICHOLS STREETScape  
STA 37+00 TO STA 41+25

DRAWING SHEET  
MCN MTSTG1 004  
73

LIVERNOIS AVE

WARRINGTON DR



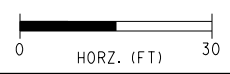
NOTES:  
 SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
 50 FEET IN TANGENTS  
 25 FEET IN SHIFTS AND TAPERS  
 10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

W MCNICHOLS RD

W MCNICHOLS RD

LIVERNOIS AVE

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

MAINTAINING TRAFFIC STAGE 1  
 MCNICHOLS STREETScape  
 STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
 MCN MTSTG1 005  
 74

WYOMING AVE



ROAD WORK AHEAD  
W20-1  
EB MCNICHOLS  
SPECIAL SIGN

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)

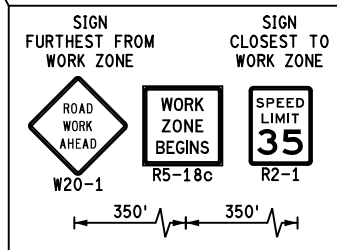
BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)

ROAD CLOSED  
R11-2

WORK AREA

W MCNICHOLS RD

W MCNICHOLS RD



SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

R8-3

ROAD WORK AHEAD  
W20-1  
EB MCNICHOLS  
SPECIAL SIGN

CONTINUE PLACEMENT OF R3-8 (NO PARKING) SIGNS AT 100' SPACING TO GREENLAWN

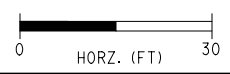
PAVT MRKG, WET REFLECTIVE, TYPE R, TAPE, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

100' (TYP)

NOTES:  
SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
50 FEET IN TANGENTS  
25 FEET IN SHIFTS AND TAPERS  
10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

WYOMING AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



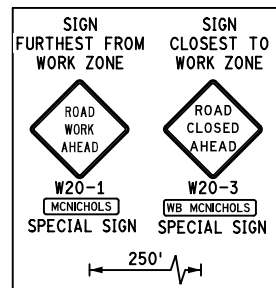
DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

MAINTAINING TRAFFIC STAGE 2  
MCNICHOLS STREETSCAPE  
FROM WYOMING AVE

DRAWING SHEET  
MCN MTSTG2 001  
75

GREENLAWN AVE



CONSTRUCTION BETWEEN WYOMING AND GREENLAWN  
 BEGIN CONSTRUCTION STA 12+45.31 (POB) (BETWEEN GREENLAWN AND LIVERNOIS)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)

PAVT MRKG, WET REFLECTIVE, TYPE R, TAPE, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

WORK AREA



BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)



CONTINUE CONSTRUCTION AS SHOWN AND THIS MAINTAINING TRAFFIC SCHEME TO LIVERNOIS AVE

WORK AREA

W MCNICHOLS RD

W MCNICHOLS RD



100' (TYP)

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

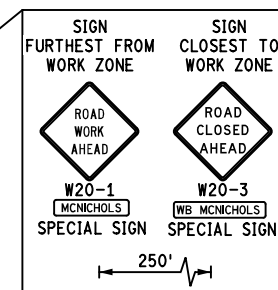


CONTINUE PLACEMENT OF R8-3 (NO PARKING) SIGNS AT 100' SPACING TO LIVERNOIS AVE

PAVT MRKG, WET REFLECTIVE, TYPE R, TAPE, 4 INCH, YELLOW, TEMP (DOUBLE YELLOW PAID FOR AS TWO 4 INCH LINES)

MAINTAIN 1' SHY DISTANCE (TYP)

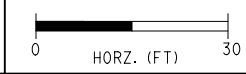
100' (TYP)



NOTE:  
 SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
 50 FEET IN TANGENTS  
 25 FEET IN SHIFTS AND TAPERS  
 10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

GREENLAWN AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

MAINTAINING TRAFFIC STAGE 2  
 MCNICHOLS STREETScape  
 STA 12+96.15 (POB) TO STA 15+75

DRAWING SHEET  
 MCN MTSTG2 002 76

STOEPEL ST

LIVERNOIS AVE



SEE MAINTAINING TRAFFIC DETAIL 2 FOR CROSS STREET TRAFFIC CONTROL

CONTINUE CONSTRUCTION AS SHOWN AND THIS MAINTAINING TRAFFIC SCHEME TO GREENLAWN AVE

ROAD CLOSED R11-2

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION RESTRICTIONS

USE SUFFICIENT NUMBER OF BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED TO CLOSE ROADWAY FROM BACK OF CURB TO BACK OF CURB (TYP) PLACE TYPE III BARRICADE NORTH OF THE LAST DRIVEWAY OR ALLEY NORTH OF MCNICHOLS

CLOSE RIGHT TURN LANE PER MDOT MAINTAINING TRAFFIC TYPICAL M0730a (TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON A DIVIDED ROADWAY, NO SPEED REDUCTION)



W20-3  
WB MCNICHOLS  
SPECIAL SIGN



SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR TRAFFIC CONTROL FOR SIDEWALK CLOSURE (TYP)

BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED (TYP)

ROAD CLOSED R11-2

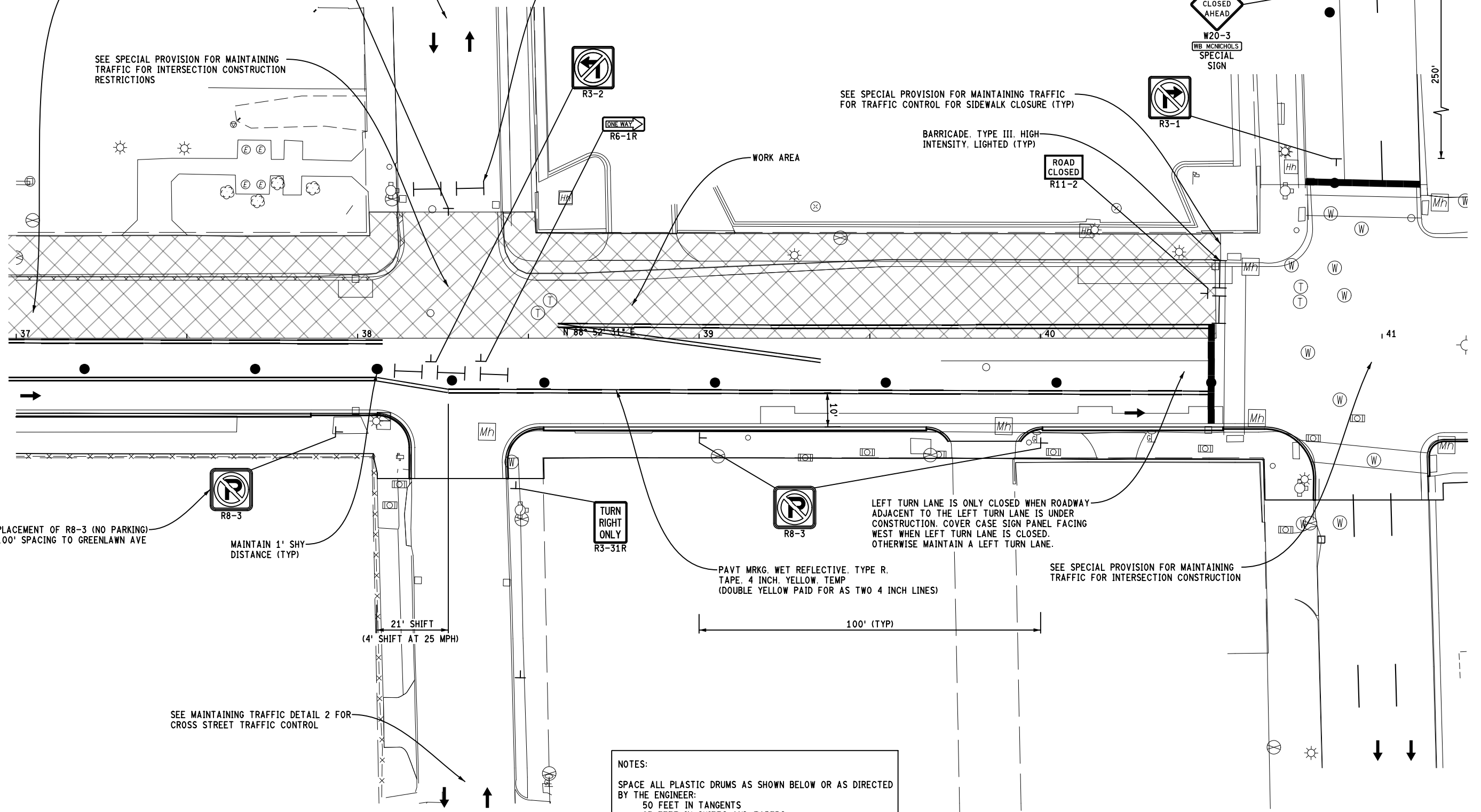


ONE WAY R6-1R

WORK AREA

W MCNICHOLS RD

W MCNICHOLS RD



CONTINUE PLACEMENT OF R8-3 (NO PARKING) SIGNS AT 100' SPACING TO GREENLAWN AVE



MAINTAIN 1' SHY DISTANCE (TYP)

TURN RIGHT ONLY R3-31R



LEFT TURN LANE IS ONLY CLOSED WHEN ROADWAY ADJACENT TO THE LEFT TURN LANE IS UNDER CONSTRUCTION. COVER CASE SIGN PANEL FACING WEST WHEN LEFT TURN LANE IS CLOSED. OTHERWISE MAINTAIN A LEFT TURN LANE.

SEE SPECIAL PROVISION FOR MAINTAINING TRAFFIC FOR INTERSECTION CONSTRUCTION

SEE MAINTAINING TRAFFIC DETAIL 2 FOR CROSS STREET TRAFFIC CONTROL

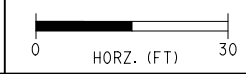
NOTES:  
SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
50 FEET IN TANGENTS  
25 FEET IN SHIFTS AND TAPERS  
10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

STOEPEL ST

PUBLIC ALLEY

LIVERNOIS AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

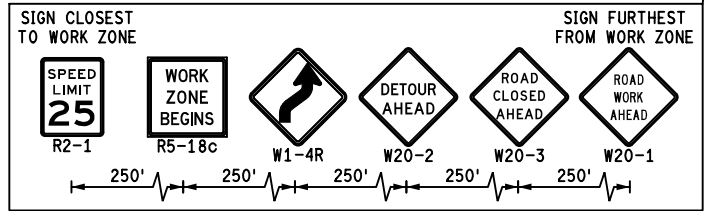
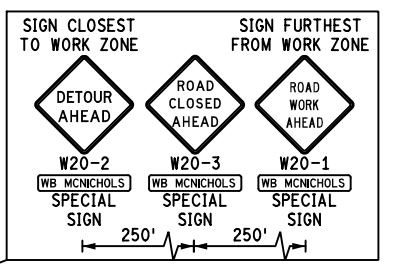
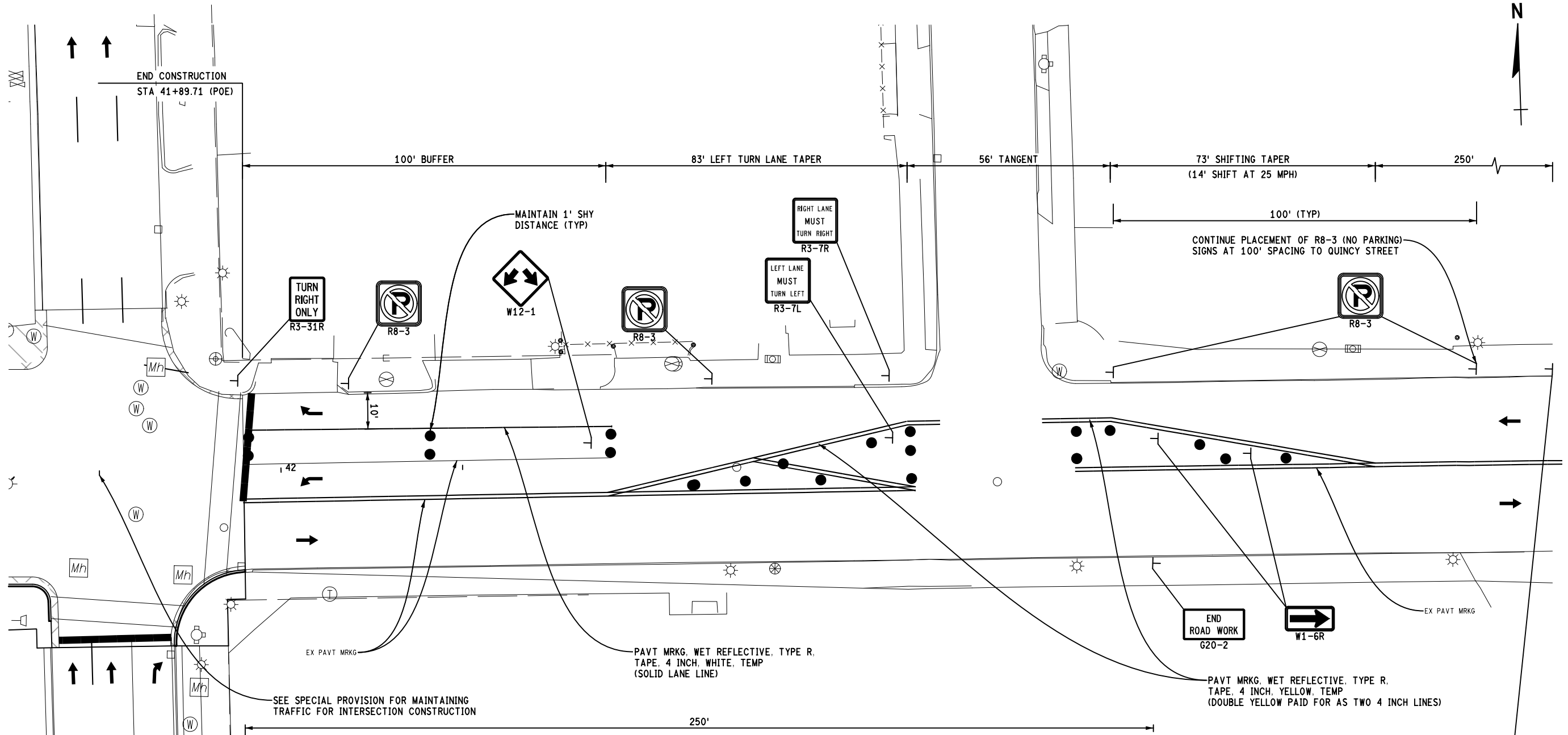
JN: PW-7004  
MCNICHOLS STREETScape

MAINTAINING TRAFFIC STAGE 2  
MCNICHOLS STREETScape  
STA 37+00 TO STA 41+25

DRAWING SHEET  
MCN MTSTG2 003 77

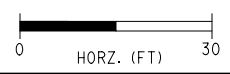
LIVERNOIS AVE

WARRINGTON DR



NOTES:  
 SPACE ALL PLASTIC DRUMS AS SHOWN BELOW OR AS DIRECTED BY THE ENGINEER:  
 50 FEET IN TANGENTS  
 25 FEET IN SHIFTS AND TAPERS  
 10 FEET WHERE TIGHTER TRAFFIC CONTROL IS REQUIRED

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
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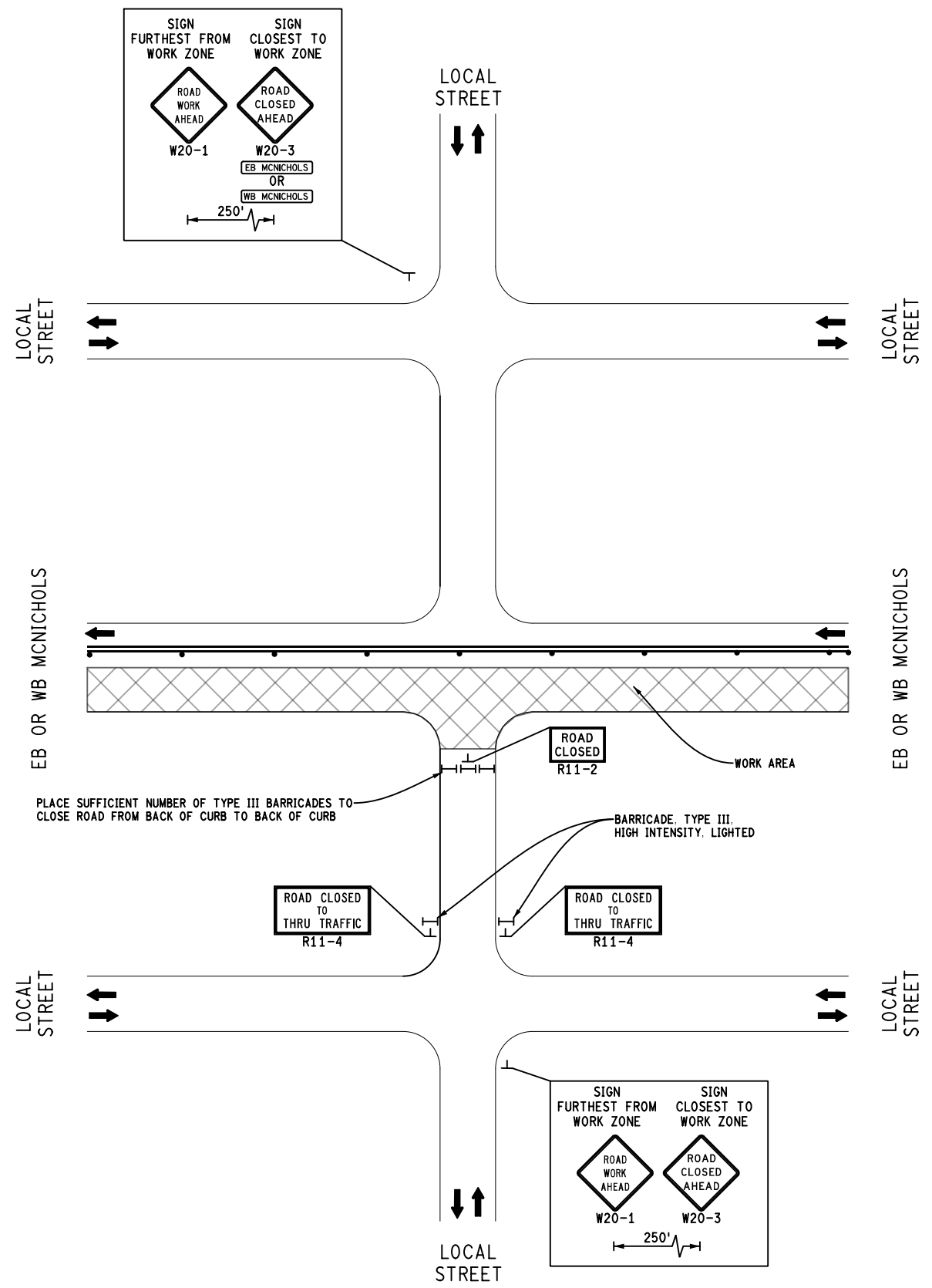


DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETSCAPE

MAINTAINING TRAFFIC STAGE 2  
 MCNICHOLS STREETSCAPE  
 STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
 MCN MTSTG2 004  
 78



DETAIL 1  
DETAIL FOR LOCAL STREET CLOSURE

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

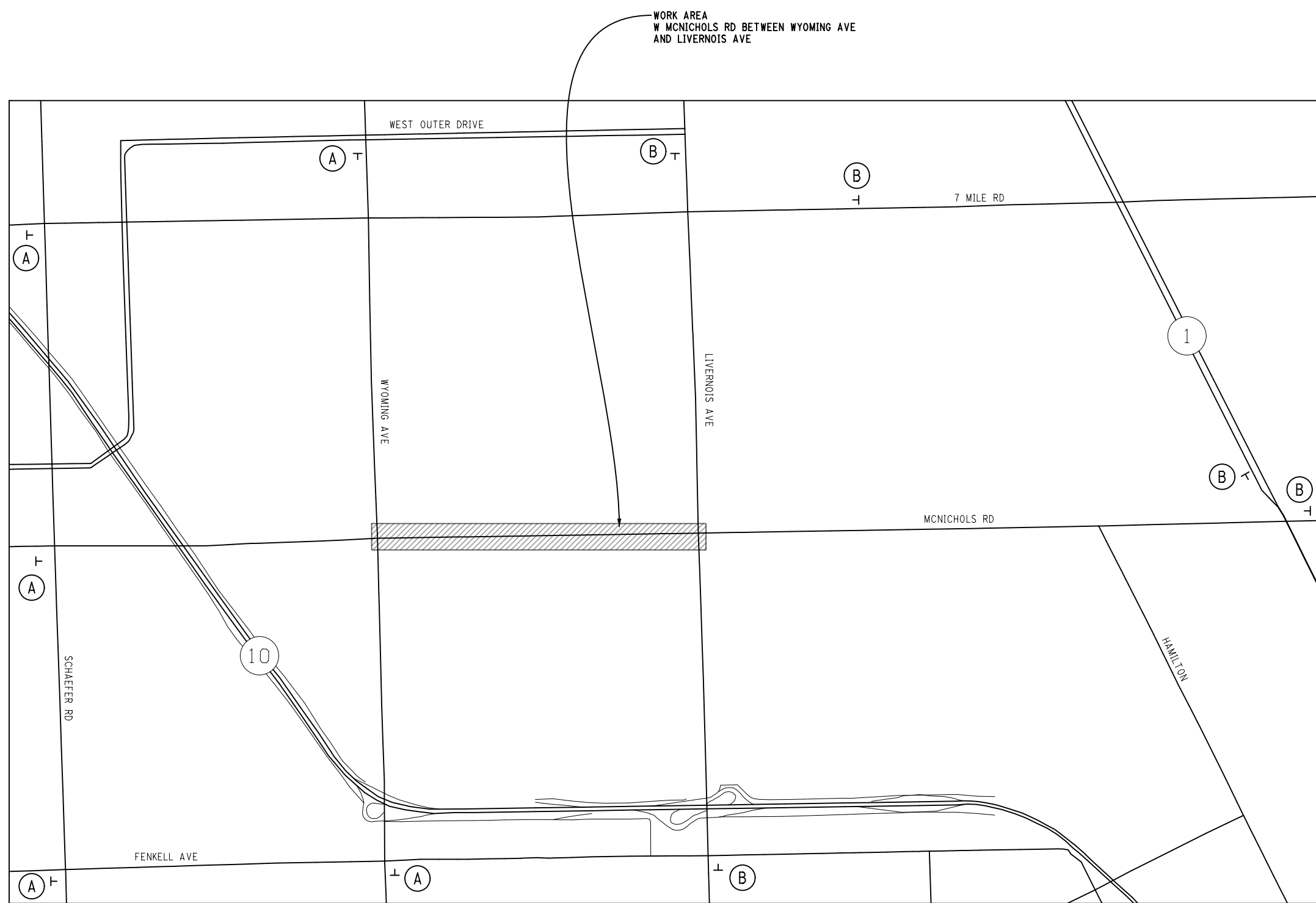
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DATE: 06/20/19

JN: PW-7004  
MCNICHOLS STREETSCAPE

MAINTAINING TRAFFIC DETAILS  
MCNICHOLS STREETSCAPE

DRAWING SHEET  
MCN  
MTSDET  
001 **79**



SIGN TO BE USED IN STAGE 1 ONLY

**EB McNichols  
CLOSED  
Wyoming to  
Livernois**

(A)

SIGN TO BE USED IN STAGE 2 ONLY

**WB McNichols  
CLOSED  
Livernois to  
Wyoming**

(B)

**NOTE:**  
SIGNING SHOWN APPLIES TO EITHER STAGE 1 OR STAGE 2

**DETAIL 2**  
ADVANCED SIGNING MAP

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



**NO SCALE**

FILE: \_\_\_\_\_

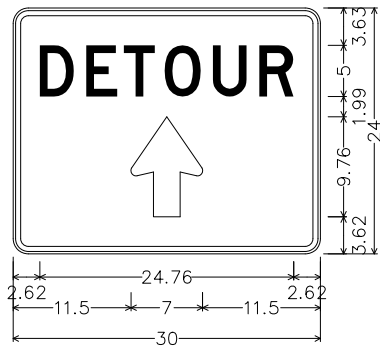
DATE: 06/20/19

JN: PW-7004  
McNICHOLS STREETSCAPE

MAINTAINING TRAFFIC DETAILS  
McNICHOLS STREETSCAPE

DRAWING SHEET  
MCN  
MTSDDET  
002 **80**





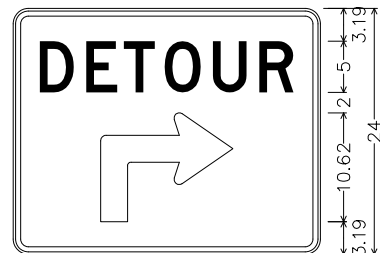
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 [DETOUR] D;  
 Standard Arrow Custom 9.75" X 7.00" 90°;  
 Table of distances between letter and object lefts.

	D	E	T	O	U	R	
	2.62	4.53	3.67	3.98	4.69	4.53	3.36
	11.50	7.00	11.50				



Identifier : M4-9 (MOD);  
 1.50" Radius, 0.50" Border, 0.25" Indent, Black on Orange;  
 [DETOUR] D;  
 Table of distances between letter and object lefts.

	D	E	T	O	U	R	
	2.62	4.53	3.67	3.98	4.69	4.53	3.36
	8.54	12.92	8.54				



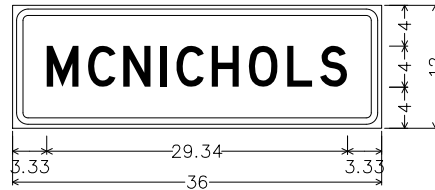
Identifier : M4-9 (MOD)?;  
 1.50" Radius, 0.50" Border, 0.25" Indent, Black on Orange;  
 [DETOUR] D;  
 Table of distances between letter and object lefts.

	D	E	T	O	U	R	
	2.62	4.53	3.67	3.98	4.69	4.53	3.36
	8.54	12.92	8.54				



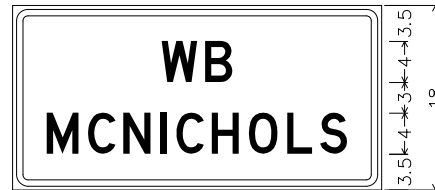
1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;  
 [EB] D; [MCNICHOLS] D;  
 Table of distances between letter and object lefts.

	E	B	
	15.06	3.19	2.69
	3.33	4.03	3.44
	3.44	3.62	1.56
	3.44	3.63	3.75
	3.19	2.68	3.33



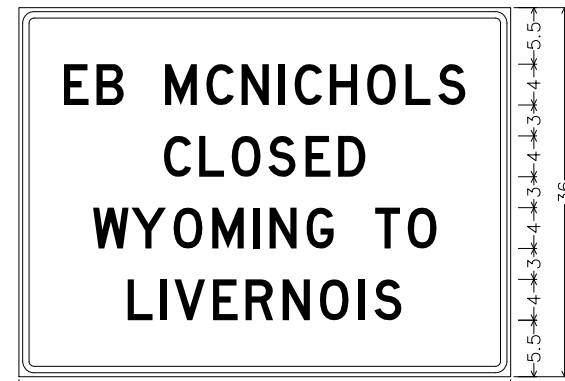
1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;  
 [MCNICHOLS] D;  
 Table of distances between letter and object lefts.

	M	C	N	I	C	H	O	L	S
	3.33	4.03	3.44	3.62	1.56	3.44	3.63	3.75	3.19
	2.68	3.33							



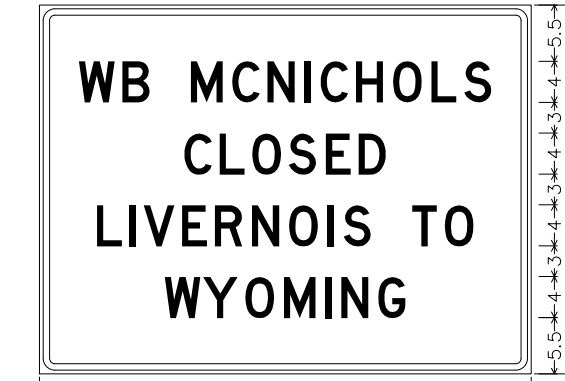
1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;  
 [WB] D; [MCNICHOLS] D;  
 Table of distances between letter and object lefts.

	W	B	
	14.53	4.25	2.69
	3.33	4.03	3.44
	3.44	3.62	1.56
	3.44	3.63	3.75
	3.19	2.68	3.33



1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;  
 [EB MCNICHOLS] D; [CLOSED] D; [WYOMING TO] D;  
 [LIVERNOIS] D;  
 Table of distances between letter and object lefts.

	E	B	
	4.39	3.19	2.69
	6.68	4.04	3.43
	3.43	3.63	1.56
	3.44	3.62	3.76
	3.18	2.69	4.39
	14.16	3.43	3.19
	3.56	3.63	3.19
	2.68	14.16	
	7.23	3.75	4.13
	3.75	4.03	1.56
	3.63	6.69	3.18
	2.82	7.23	
	10.62	3.19	1.38
	3.75	3.18	3.63
	3.62	3.76	1.56
	2.69	10.62	



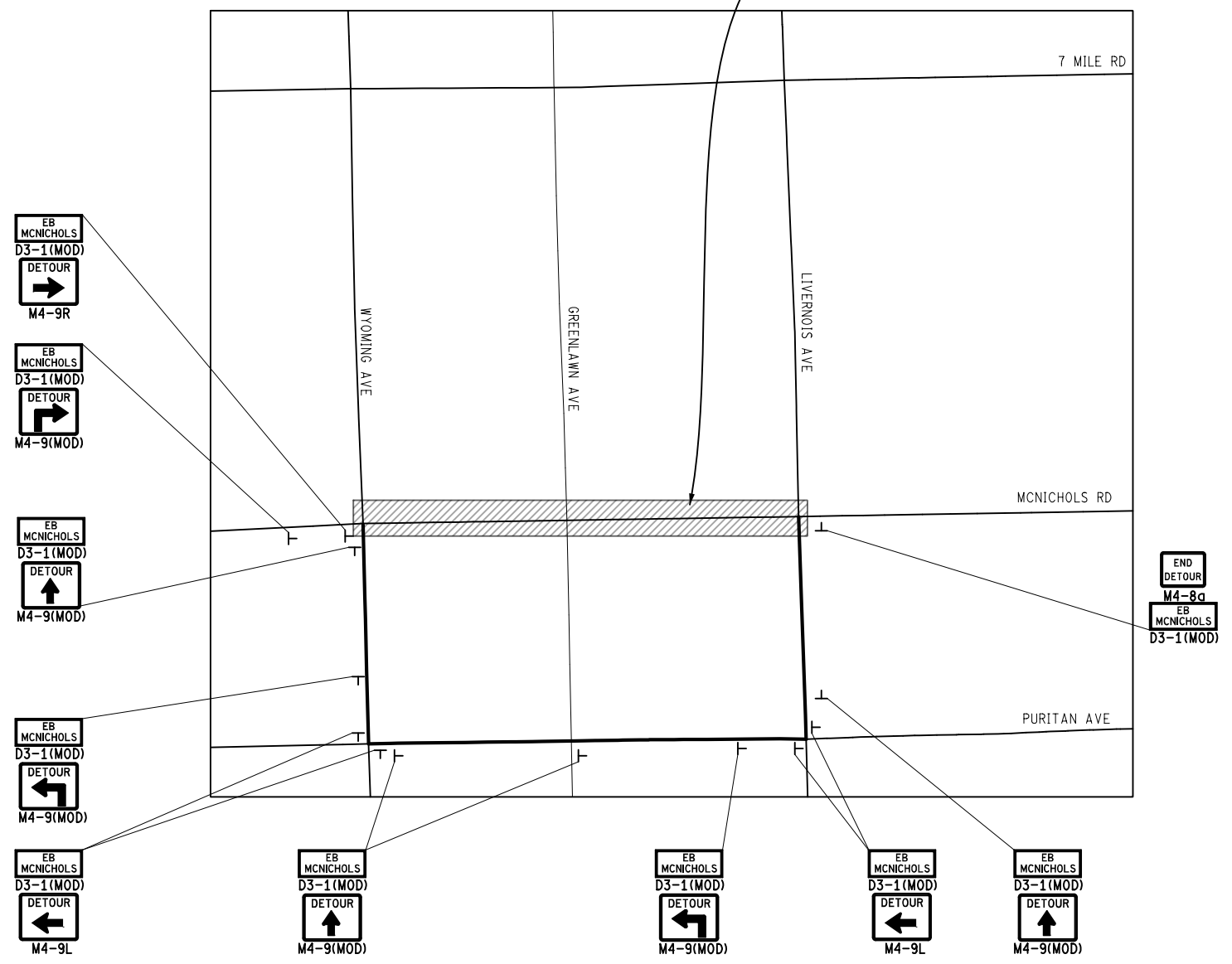
1.50" Radius, 0.63" Border, 0.38" Indent, Black on Orange;  
 [WB MCNICHOLS] D; [CLOSED] D; [LIVERNOIS TO] D;  
 [WYOMING] D;  
 Table of distances between letter and object lefts.

	W	B	
	3.86	4.25	2.69
	6.69	4.03	3.44
	3.44	3.62	1.56
	3.44	3.63	3.75
	3.18	2.69	3.86
	14.16	3.43	3.19
	3.56	3.63	3.19
	2.68	14.16	
	5.62	3.19	1.38
	3.75	3.18	3.63
	3.63	3.75	1.56
	6.69	3.18	2.82
	5.62		
	12.23	3.75	4.13
	3.75	4.03	1.56
	3.63	2.69	12.23

SPECIAL SIGN DETAILS



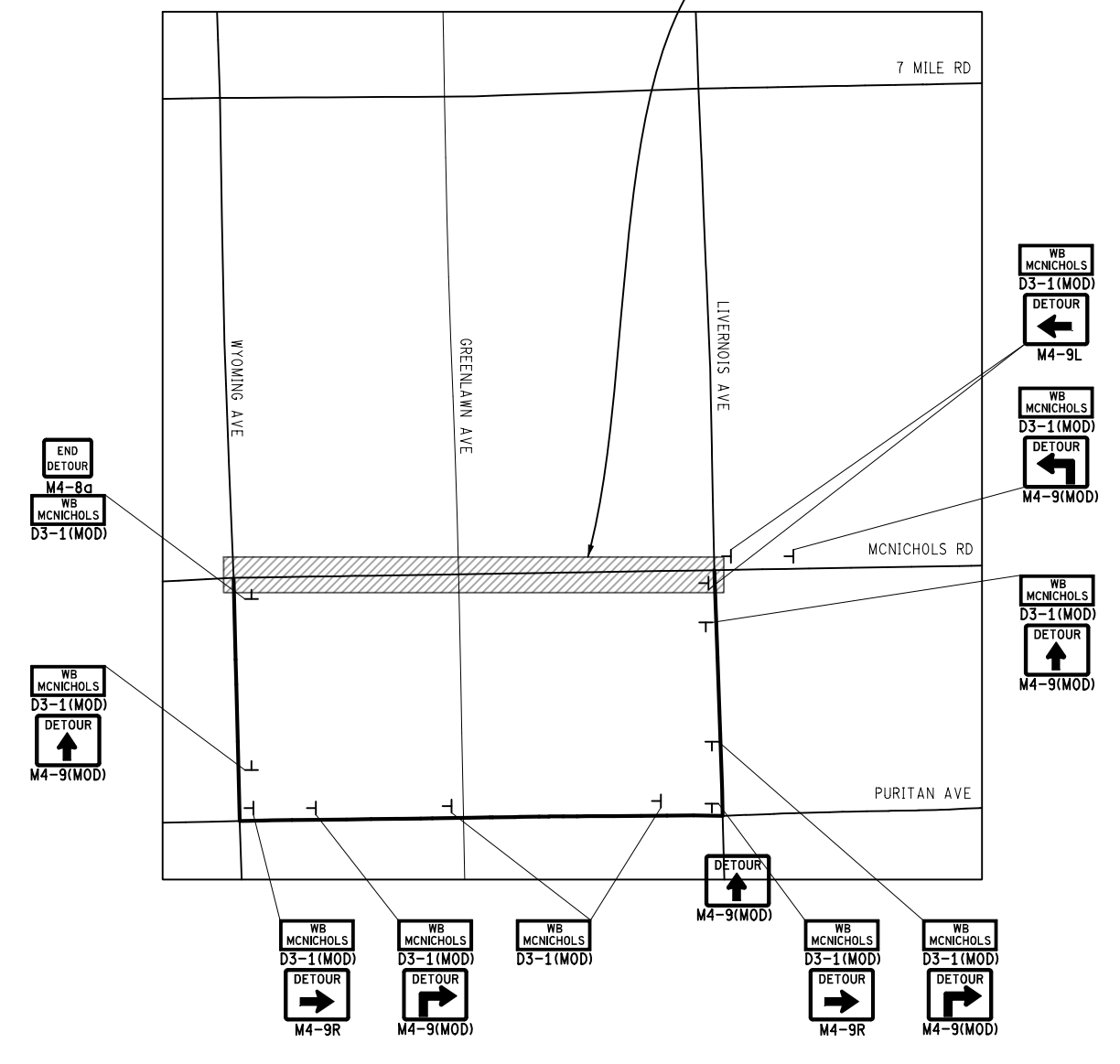
WORK AREA  
 MAINTAIN 1 LANE OF WESTBOUND MCNICHOLS  
 CLOSE AND DETOUR EASTBOUND MCNICHOLS



DETOUR 1  
 DETOUR FOR EASTBOUND MCNICHOLS



WORK AREA  
 MAINTAIN 1 LANE OF EASTBOUND MCNICHOLS  
 CLOSE AND DETOUR WESTBOUND MCNICHOLS



DETOUR 2  
 DETOUR FOR WESTBOUND MCNICHOLS

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

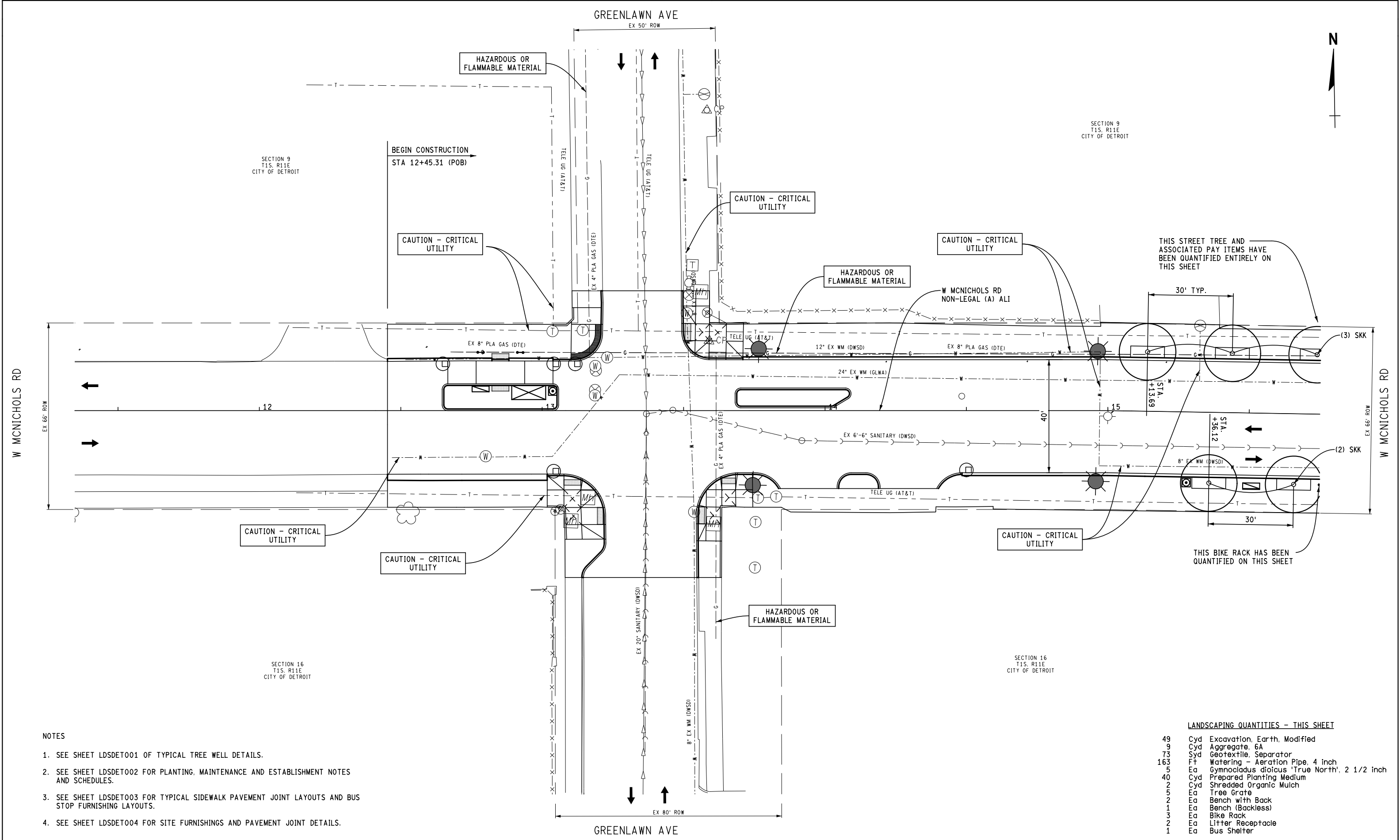
DATE: 06/20/19

JN: PW-7004

MCNICHOLS STREETScape

MAINTAINING TRAFFIC DETOUR PLANS  
 MCNICHOLS STREETScape

DRAWING SHEET  
 MCN MTDETR 001 82



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

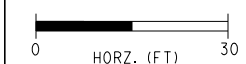
NOTES

1. SEE SHEET LSDDET001 OF TYPICAL TREE WELL DETAILS.
2. SEE SHEET LSDDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
3. SEE SHEET LSDDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
4. SEE SHEET LSDDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

LANDSCAPING QUANTITIES - THIS SHEET

49	Cyd	Excavation, Earth, Modified
9	Cyd	Aggregate, 6A
73	Syd	Geotextile, Separator
163	Ft	Watering - Aeration Pipe, 4 inch
5	Ea	Gymnocladus dioica 'True North', 2 1/2 inch
40	Cyd	Prepared Planting Medium
2	Cyd	Shredded Organic Mulch
5	Ea	Tree Grate
2	Ea	Bench with Back
1	Ea	Bench (Backless)
3	Ea	Bike Rack
2	Ea	Litter Receptacle
1	Ea	Bus Shelter

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

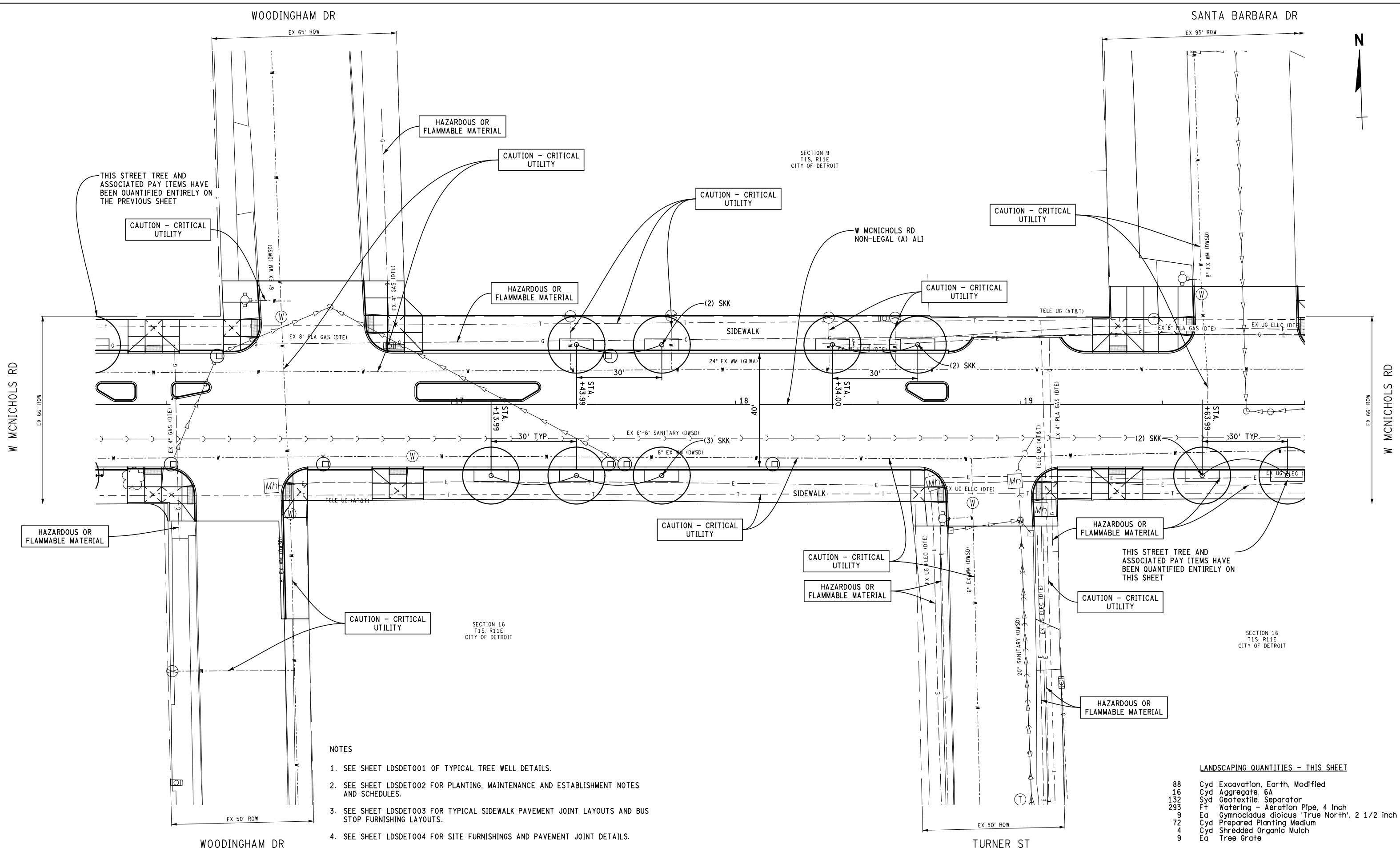


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

LANDSCAPING SHEET  
MCNICHOLS STREETScape  
STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET  
MCN LND5 001 83

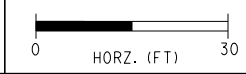


- NOTES**
1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
  2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
  3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
  4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

**LANDSCAPING QUANTITIES - THIS SHEET**

88	Cyd	Excavation, Earth, Modified
16	Cyd	Aggregate, 6A
132	Syd	Geotextile, Separator
293	Ft	Watering - Aeration Pipe, 4 inch
9	Ea	Gymnocladus dioica 'True North', 2 1/2 inch
72	Cyd	Prepared Planting Medium
4	Cyd	Shredded Organic Mulch
9	Ea	Tree Grate

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

LANDSCAPING SHEET  
 MCNICHOLS STREETScape  
 STA 15+75 TO STA 20+00

DRAWING SHEET  
 MCN LND5 002  
**84**

SANTA BARBARA DR

PENNINGTON DR



HAZARDOUS OR FLAMMABLE MATERIAL

SECTION 9  
T1S, R11E  
CITY OF DETROIT

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

SECTION 9  
T1S, R11E  
CITY OF DETROIT

CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

W MCNICHOLS RD  
NON-LEGAL (A) ALI

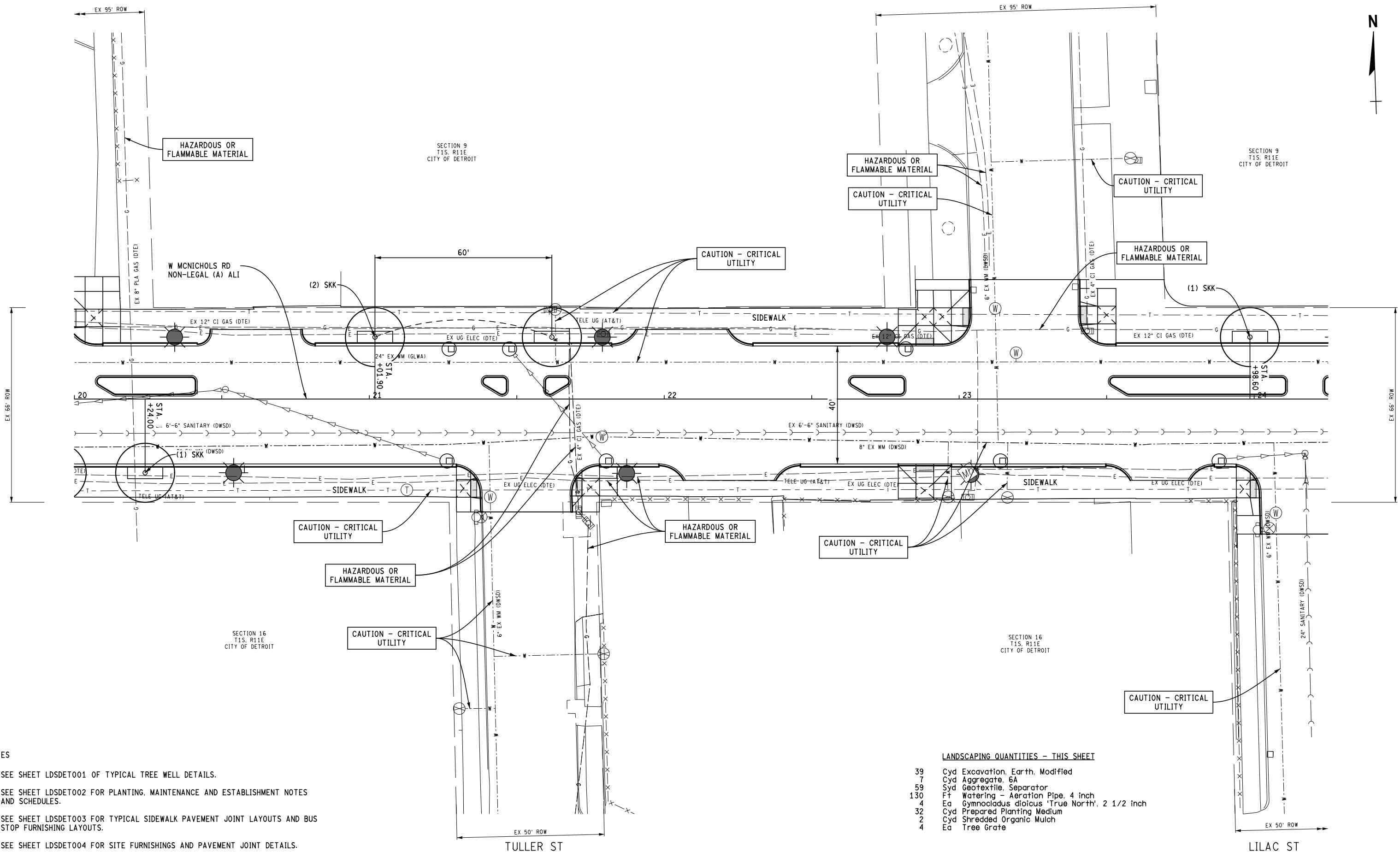
(2) SKK

CAUTION - CRITICAL UTILITY

(1) SKK

W MCNICHOLS RD

W MCNICHOLS RD



CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

SECTION 16  
T1S, R11E  
CITY OF DETROIT

CAUTION - CRITICAL UTILITY

SECTION 16  
T1S, R11E  
CITY OF DETROIT

CAUTION - CRITICAL UTILITY

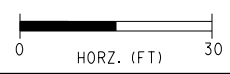
NOTES

1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

LANDSCAPING QUANTITIES - THIS SHEET

- 39 Cyd Excavation, Earth, Modified
- 7 Cyd Aggregate, 6A
- 59 Syd Geotextile, Separator
- 130 Ft Watering - Aeration Pipe, 4 inch
- 4 Ea Gymnocladus dioica 'True North', 2 1/2 inch
- 32 Cyd Prepared Planting Medium
- 2 Cyd Shredded Organic Mulch
- 4 Ea Tree Gate

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

LANDSCAPING SHEET  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

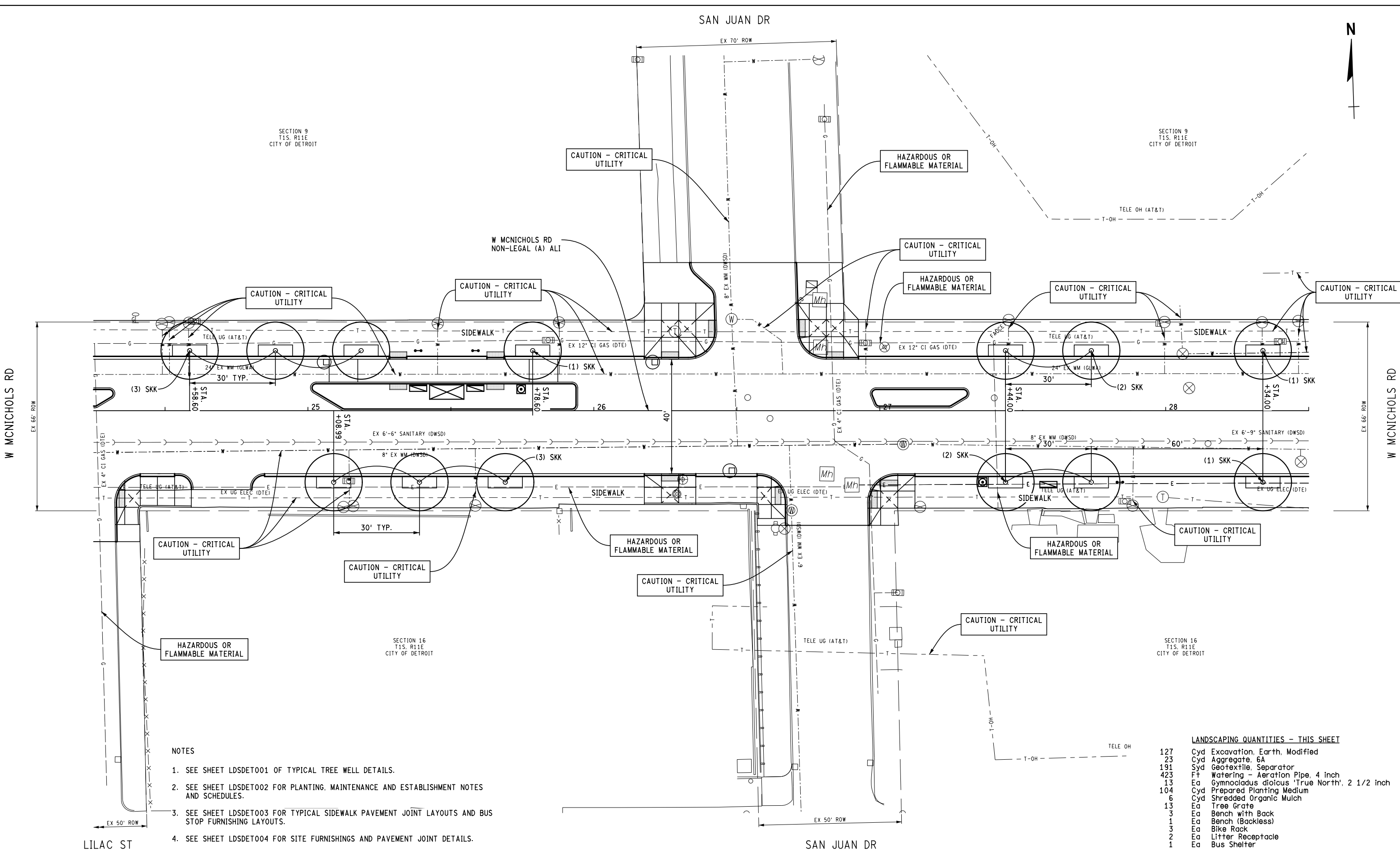
DRAWING SHEET  
MCN LND5 003  
85

SAN JUAN DR



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT



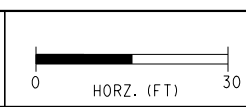
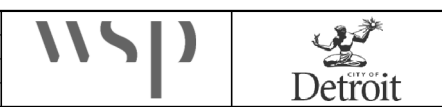
NOTES

1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

LANDSCAPING QUANTITIES - THIS SHEET

127	Cyd	Excavation, Earth, Modified
23	Cyd	Aggregate, 6A
191	Syd	Geotextile, Separator
423	Ft	Watering - Aeration Pipe, 4 inch
13	Ea	Gymnocladus dioica 'True North', 2 1/2 inch
104	Cyd	Prepared Planting Medium
6	Cyd	Shredded Organic Mulch
13	Ea	Tree Gate
3	Ea	Bench with Back
1	Ea	Bench (Backless)
3	Ea	Bike Rack
2	Ea	Litter Receptacle
1	Ea	Bus Shelter

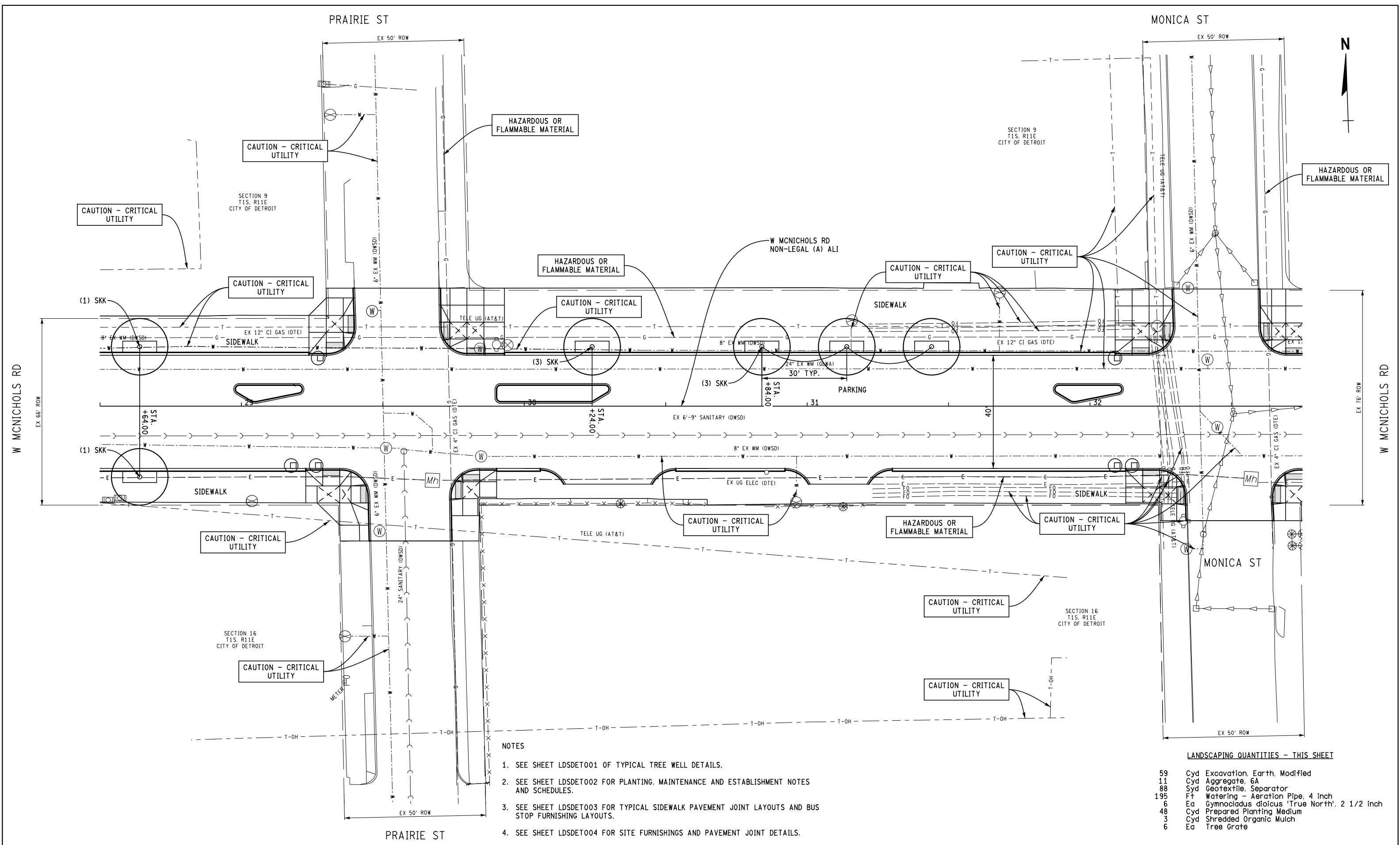
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE: JN: PW-7004  
MCNICHOLS STREETScape

LANDSCAPING SHEET  
MCNICHOLS STREETScape  
STA 24+25 TO STA 28+50

DRAWING	MCN LNS 004	SHEET	86
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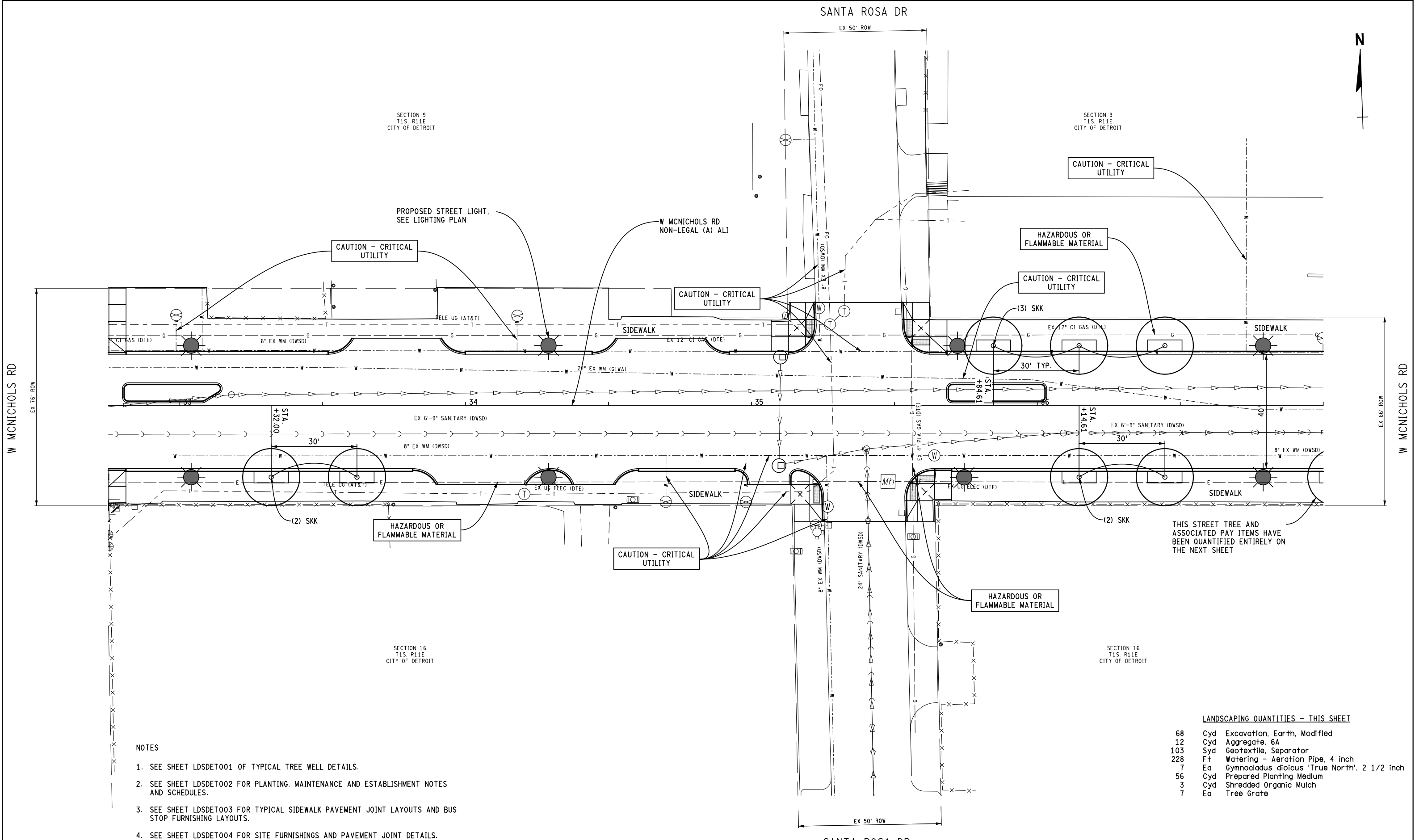


- NOTES**
1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
  2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
  3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
  4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

**LANDSCAPING QUANTITIES - THIS SHEET**

59	Cyd	Excavation, Earth, Modified
11	Cyd	Aggregate, 6A
88	Syd	Geotextile, Separator
195	Ft	Watering - Aeration Pipe, 4 inch
6	Ea	Gymnocladus dioica 'True North', 2 1/2 inch
48	Cyd	Prepared Planting Medium
3	Cyd	Shredded Organic Mulch
6	Ea	Tree Grate

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )						DATE: 06/20/19		JN: PW-7004		LANDSCAPING SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	MCNICHOLS STREETScape		MCN LND5 005			
								STA 28+50 TO STA 32+75					87



W MCNICHOLS RD  
EX 76' ROW

W MCNICHOLS RD  
EX 66' ROW

SANTA ROSA DR  
EX 50' ROW

SANTA ROSA DR  
EX 50' ROW

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

NOTES

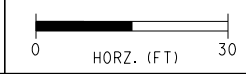
1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

**LANDSCAPING QUANTITIES - THIS SHEET**

68	Cyd	Excavation, Earth, Modified
12	Cyd	Aggregate, 6A
103	Syd	Geotextile, Separator
228	Ft	Watering - Aeration Pipe, 4 inch
7	Ea	Gymnocladus dioicus 'True North', 2 1/2 inch
56	Cyd	Prepared Planting Medium
3	Cyd	Shredded Organic Mulch
7	Ea	Tree Gate

THIS STREET TREE AND ASSOCIATED PAY ITEMS HAVE BEEN QUANTIFIED ENTIRELY ON THE NEXT SHEET

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

LANDSCAPING SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN	88
STA 32+75 TO 37+00		LND	006



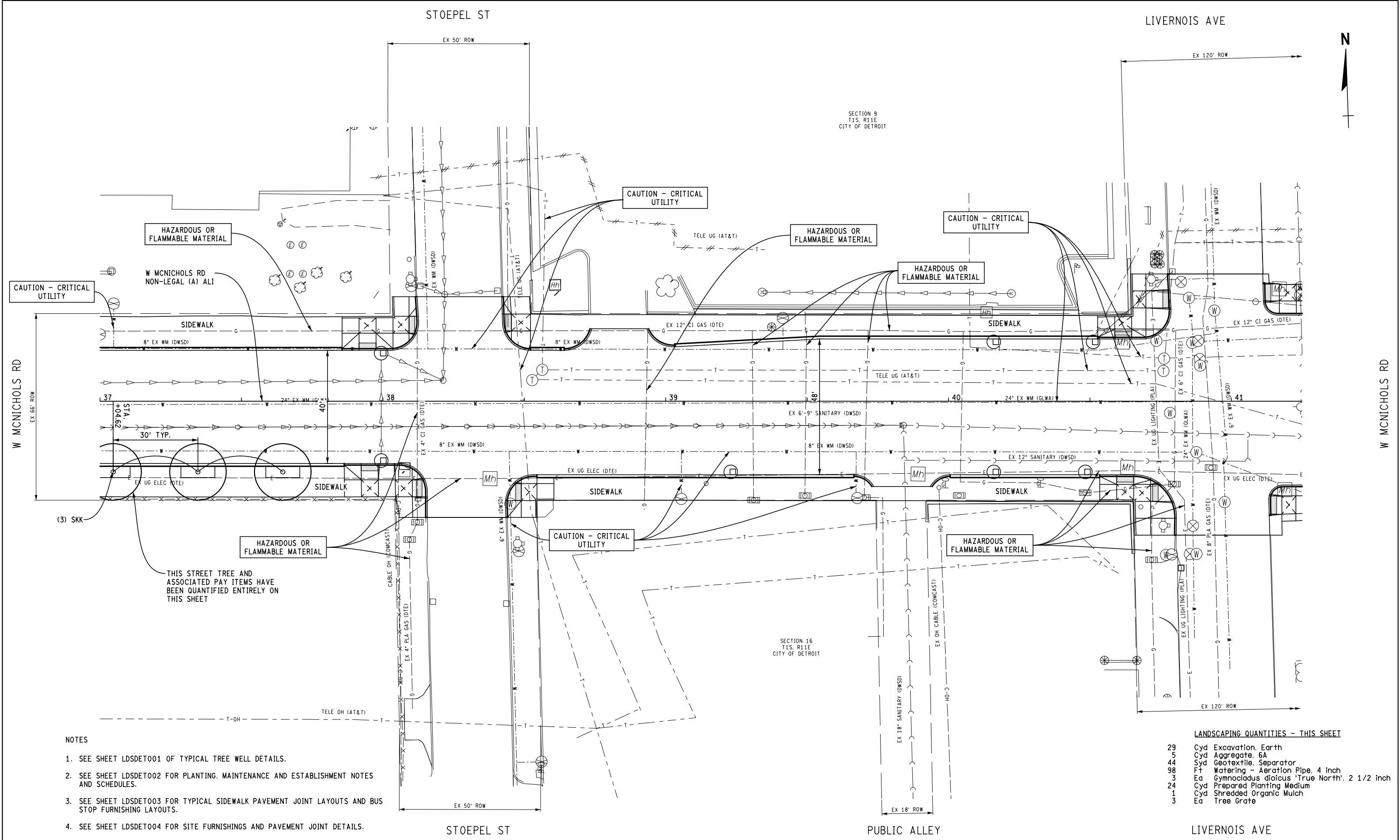
STOEPEL ST

LIVERNOIS AVE



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT



CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

HAZARDOUS OR FLAMMABLE MATERIAL

CAUTION - CRITICAL UTILITY

HAZARDOUS OR FLAMMABLE MATERIAL

THIS STREET TREE AND ASSOCIATED PAY ITEMS HAVE BEEN QUANTIFIED ENTIRELY ON THIS SHEET

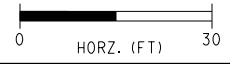
NOTES

1. SEE SHEET LDSDET001 OF TYPICAL TREE WELL DETAILS.
2. SEE SHEET LDSDET002 FOR PLANTING, MAINTENANCE AND ESTABLISHMENT NOTES AND SCHEDULES.
3. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS AND BUS STOP FURNISHING LAYOUTS.
4. SEE SHEET LDSDET004 FOR SITE FURNISHINGS AND PAVEMENT JOINT DETAILS.

LANDSCAPING QUANTITIES - THIS SHEET

29	Cyd	Excavation, Earth
5	Cyd	Aggregate, 6A
44	Syd	Geotextile, Separator
98	Ft	Watering - Aeration Pipe, 4 inch
3	Ea	Gymnocladus dioica 'True North', 2 1/2 inch
24	Cyd	Prepared Planting Medium
1	Cyd	Shredded Organic Mulch
3	Ea	Tree Grate

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

LANDSCAPING SHEET  
MCNICHOLS STREETScape  
STA 37+00 TO 41+25.00

DRAWING SHEET  
MCN LND5 007  
89

LIVERNOIS AVE

WARRINGTON DR



EX 120' ROW

END CONSTRUCTION  
STA 41+89.71 (POE)

SECTION 9  
T15, R11E  
CITY OF DETROIT

17100 LIVERNOIS

HAZARDOUS OR  
FLAMMABLE MATERIAL

W MCNICHOLS RD  
NON-LEGAL (A) ALI

POT=42+32.82

EX 12" CI GAS (DTE)

EX 66' ROW

W MCNICHOLS RD

W MCNICHOLS RD

CAUTION - CRITICAL  
UTILITY

CAUTION - CRITICAL  
UTILITY

CAUTION - CRITICAL  
UTILITY

CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

HAZARDOUS OR  
FLAMMABLE MATERIAL

CAUTION - CRITICAL  
UTILITY

UNIVERSITY OF DETROIT

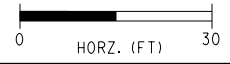
SECTION 9  
T15, R11E  
CITY OF DETROIT

NOTES

- 1. SEE SHEET LDSDET003 FOR TYPICAL SIDEWALK PAVEMENT JOINT LAYOUTS.
- 2. SEE SHEET LDSDET004 PAVEMENT JOINT DETAILS.

LIVERNOIS AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

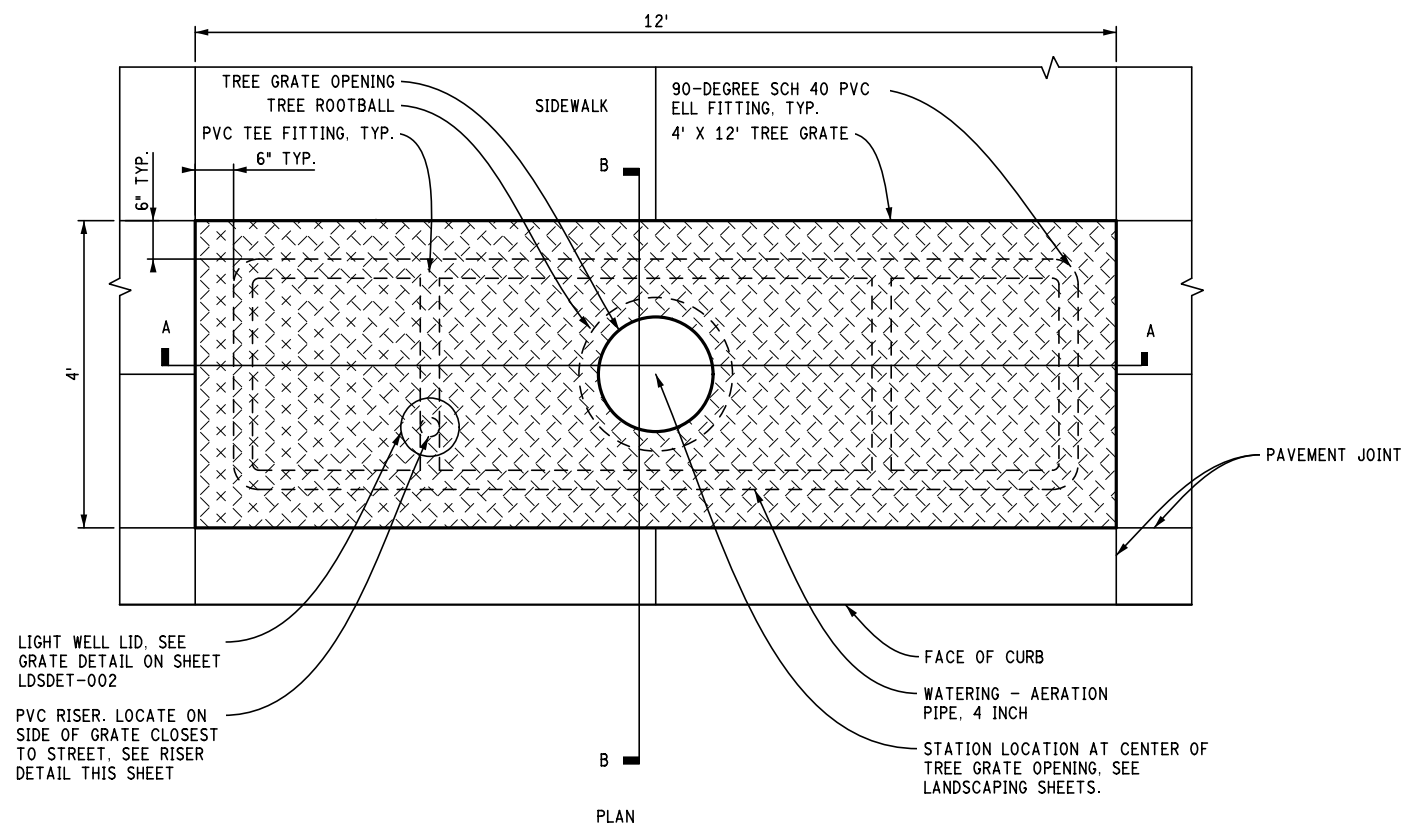


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

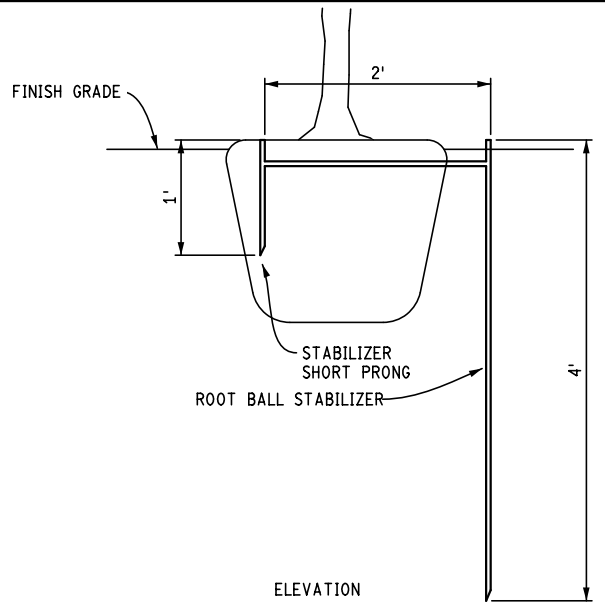
LANDSCAPING SHEET  
MCNICHOLS STREETScape  
STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
MCN LND5 008  
90

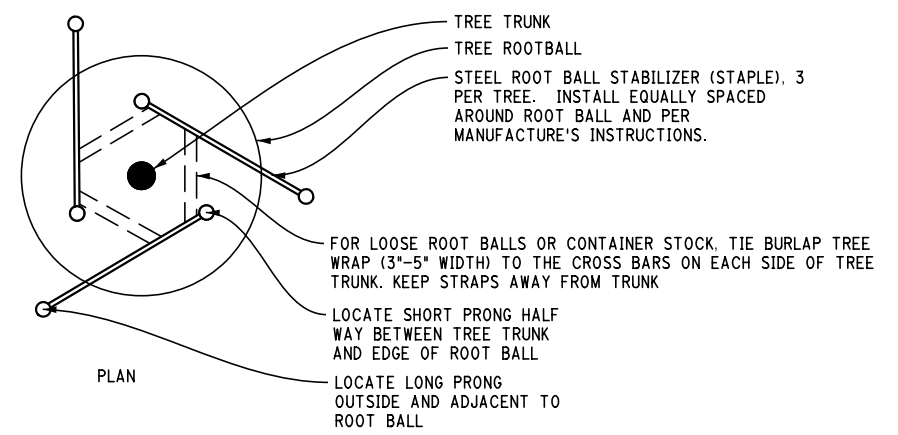


LIGHT WELL LID, SEE GRATE DETAIL ON SHEET LDSDET-002  
 PVC RISER, LOCATE ON SIDE OF GRATE CLOSEST TO STREET, SEE RISER DETAIL THIS SHEET

PLAN



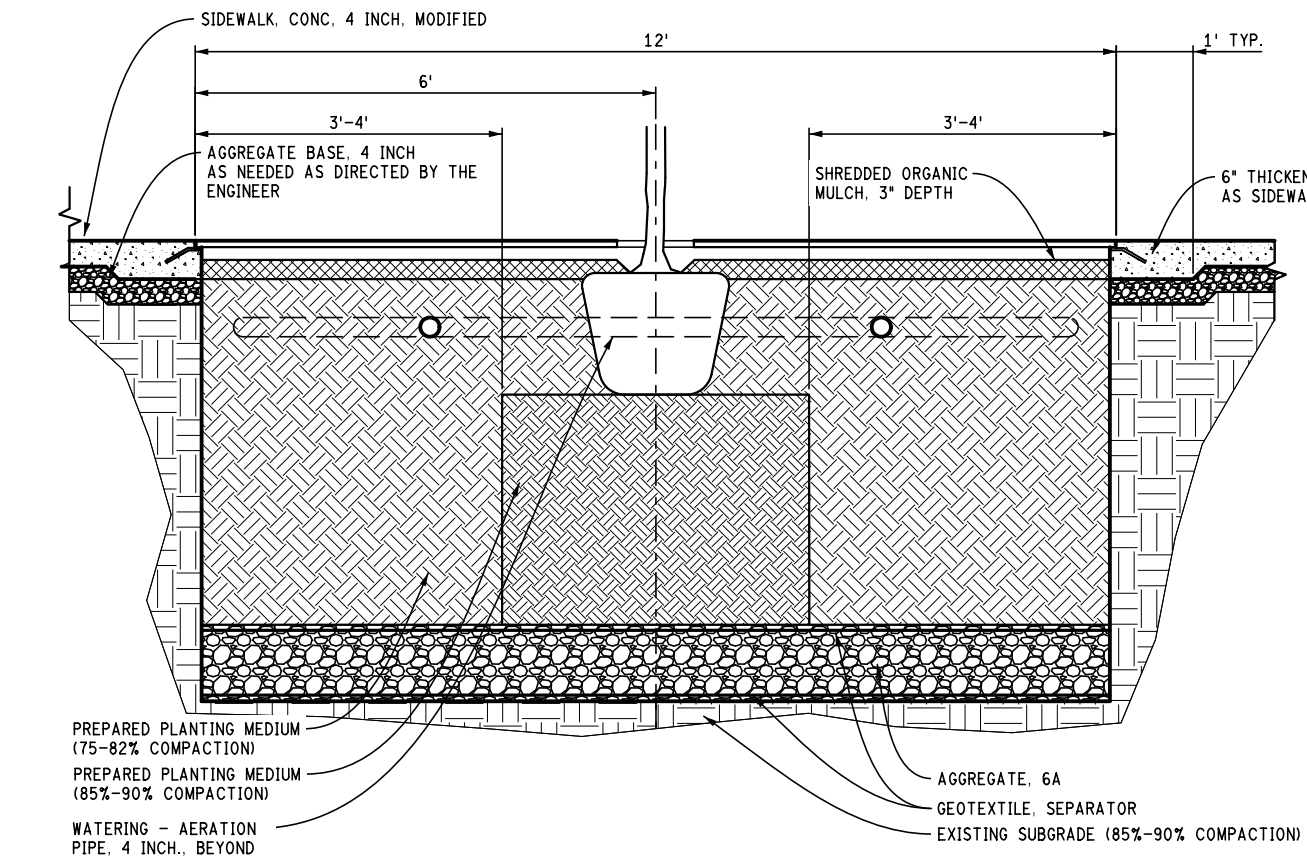
ELEVATION



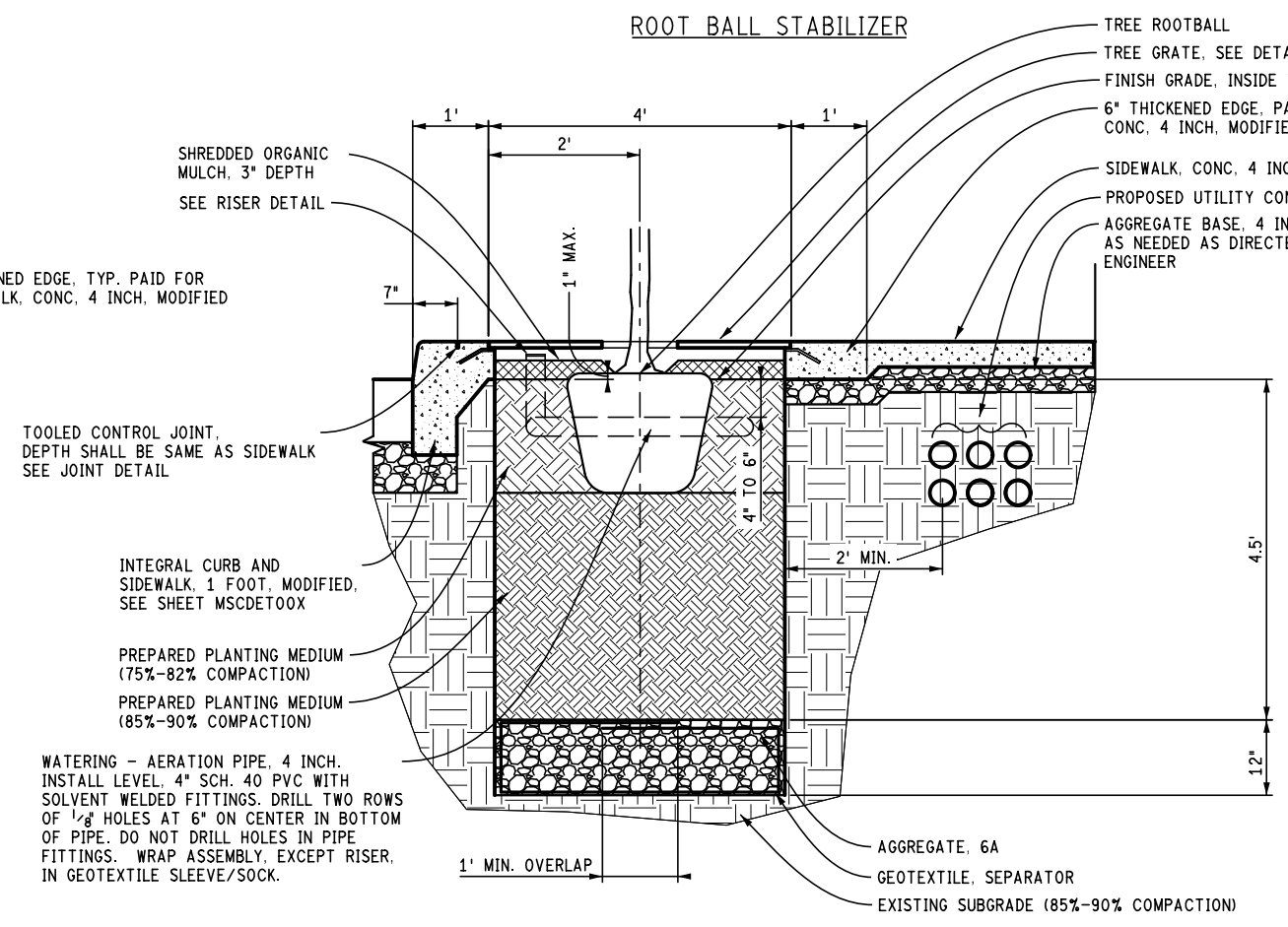
PLAN

NOTES:

1. ONCE STABILIZER IS INSTALLED CUT AWAY BURLAP FROM UPPER 1/2 OF ROOTBALL. LEAVE TREE WRAP INTACT WITHIN 3 INCHES OF STABILIZERS. PLACE MANUFACTURER SUPPLIED SAFETY CAP ON EXPOSED ENDS OF STABILIZERS.
2. ROOT BALL STABILIZER SHALL BE BY TREE STAPLE, INC. OR APPROVED EQUAL.
3. VERIFY LOCATION OF UTILITIES AND PLACE ROOT STABILIZERS TO AVOID CONTACT.



SECTION A-A



SECTION B-B

TOOLED CONTROL JOINT, DEPTH SHALL BE SAME AS SIDEWALK SEE JOINT DETAIL

INTEGRAL CURB AND SIDEWALK, 1 FOOT, MODIFIED, SEE SHEET MSCDET00X

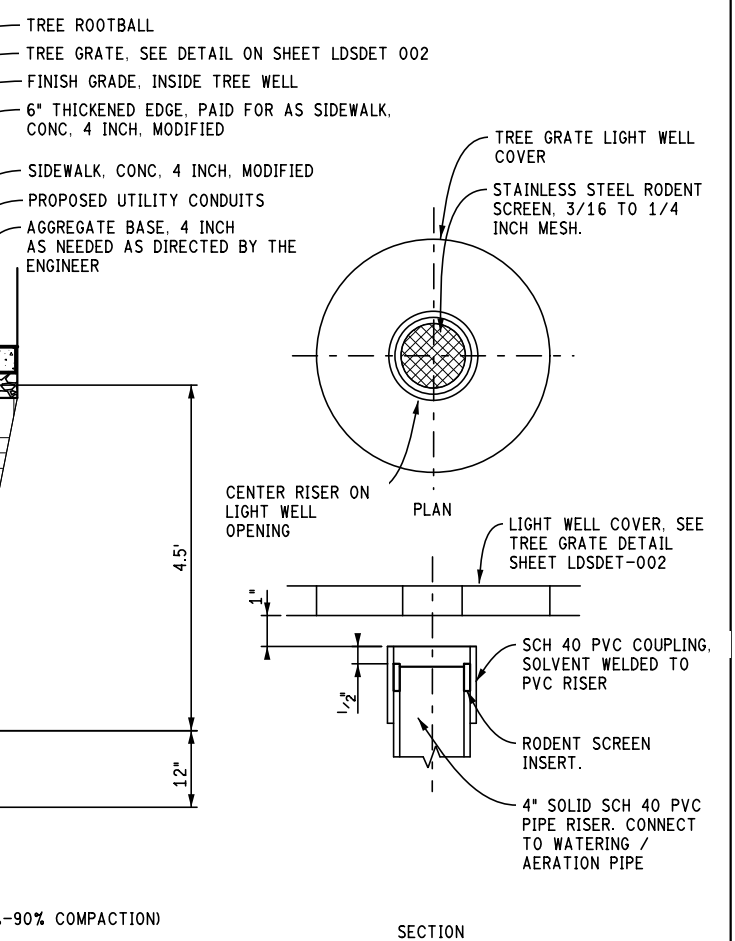
PREPARED PLANTING MEDIUM (75%-82% COMPACTION)  
 PREPARED PLANTING MEDIUM (85%-90% COMPACTION)

WATERING - AERATION PIPE, 4 INCH. INSTALL LEVEL, 4\"/>

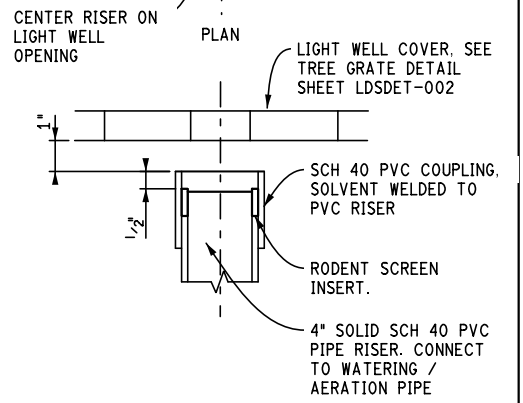
- NOTES:
1. SEE PLANTING NOTES ON SHEET LDSDET-002 FOR ADDITIONAL TREE PLANTING REQUIREMENTS.

TYPICAL TREE WELL DETAILS

ROOT BALL STABILIZER



SECTION



- NOTES:
1. RODENT SCREEN BY NIXALITE OF AMERICA, INC. OR APPROVED EQUAL.

RISER DETAIL

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



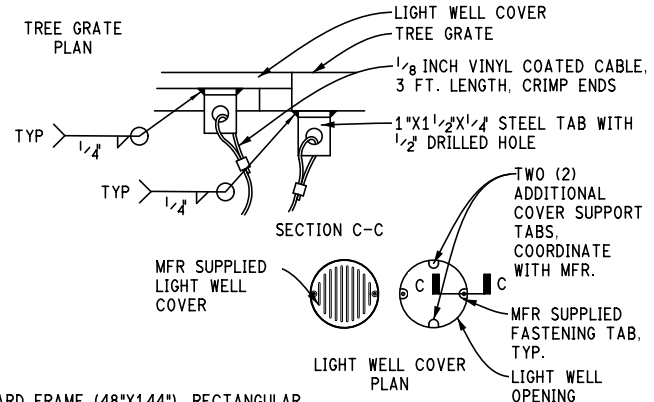
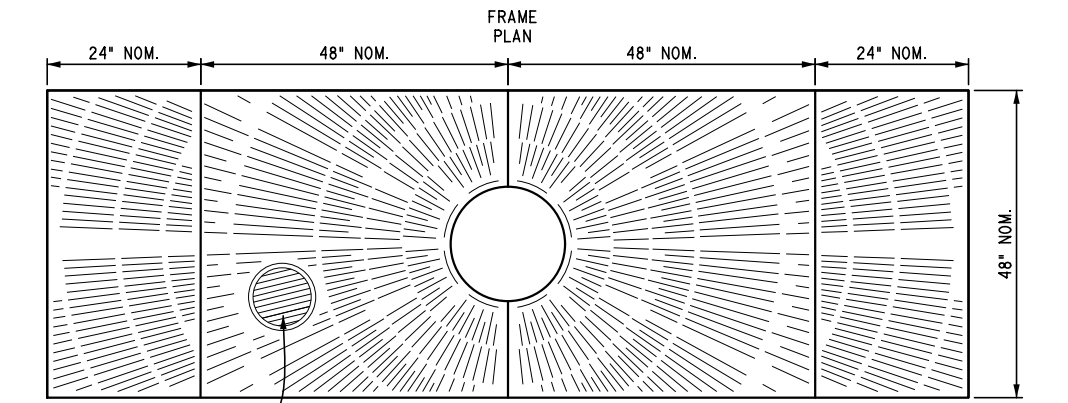
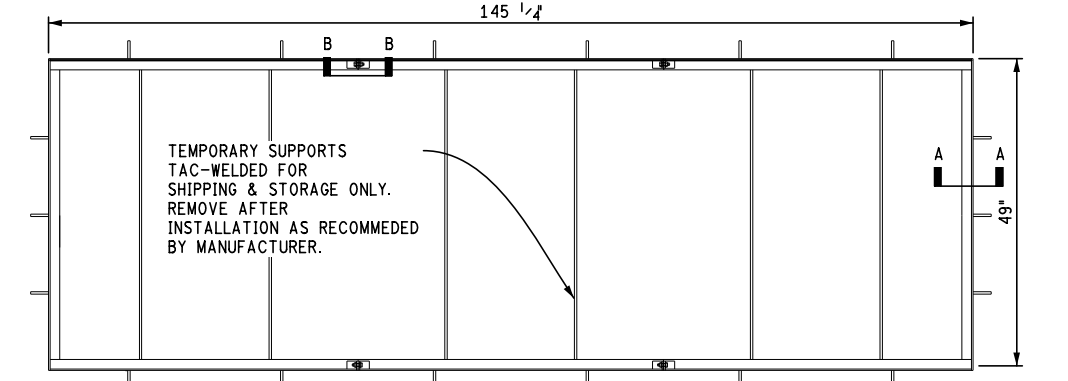
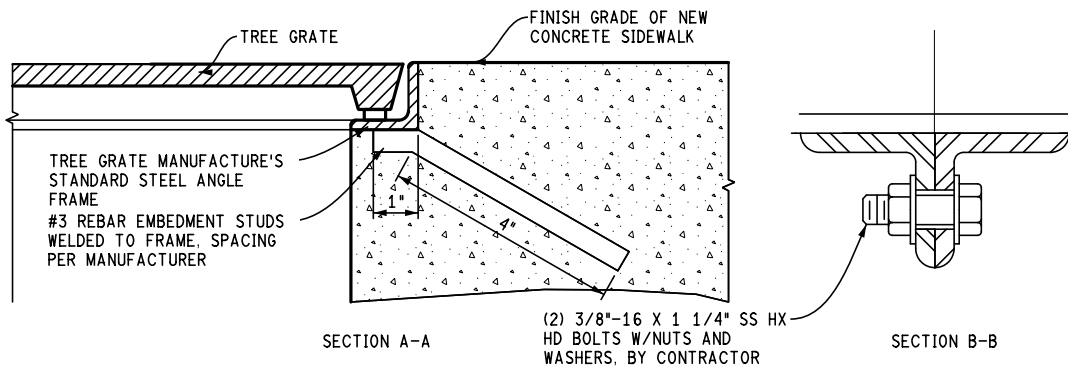
NO SCALE

DATE: 06/20/19
FILE:

JN: PW-7004
MCNICHOLS STREETScape

LANDSCAPING SHEET
MCNICHOLS STREETScape
LANDSCAPE DETAILS

DRAWING	SHEET
MCN LDSDET 001	91



- ACCESS COVER CLOSEST TO STREET SHALL SERVE AS ACCESS POINT OF WATERING TUBE INSIDE THE TREE WELL. SEE NOTES.
- NOTES:
- TREE GRATE: SUNRAY TREE GRATE, MODEL 8854 BY EAST JORDAN IRON WORKS.
    - ACCESS PORTS: ONE
    - MATERIAL: GREY IRON
    - FINISH: NATURAL / UNFINISHED
    - TREE OPENING: 18" ROUND
    - ASSEMBLY SIZE: 48"x144"
    - MAXIMUM OPENING SIZE: 1/4 INCH
    - ADA COMPLIANT
    - CERTIFICATIONS: ASTM A48
  - TREE GRATE FRAME: GRATE MANUFACTURER'S STANDARD FRAME (48"x144"), RECTANGULAR.
    - TYPE: EMBEDDED
    - MATERIAL: STEEL (ASTM A36)
    - FINISH: BY MANUFACTURER'S STANDARD FLAT BLACK PAINTED FINISH.
  - INSTALL GRATE AND FRAME IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND DETAILS. PROVIDE SPREADERS OR ADEQUATE STAKING OF FORM WORK TO PREVENT THE FRAME FROM DEFORMING DURING CONCRETE PLACEMENT.
  - LIGHT WELLS SERVING WATERING-AERATION PIPE BELOW SHALL NOT BE FASTENED TO GRATE, UNLESS OTHERWISE INDICATED BY THE ENGINEER. TURN OVER FACTORY SUPPLIED LIGHT COVER SET SCREWS TO OWNER. COVERS SHALL BE ABLE TO SUPPORT WEIGHT WHEN NOT SECURED. COORDINATE ADDITIONAL SUPPORT TAB AS REQUIRED WITH MANUFACTURER AS SHOWN. WELD CABLE ATTACHMENT TABS ON UNDERSIDE OF LIGHT WELL COVER AND TREE GRATE. TETHER LIGHT WELL COVER TO TREE GRATE ATTACHMENT TABS WITH CABLE AS SHOWN.

**TREE GRATE AND FRAME  
NOTES**

**LANDSCAPE MAINTENANCE SCHEDULE**

PERFORM THE FOLLOWING MAINTENANCE TASKS

TASK	FREQUENCY	J	F	M	A	M	J	J	A	S	O	N	D	SCOPE OF WORK
PRUNING	AS NEEDED, INSPECT WEEKLY		✓	✓	✓	✓	✓	✓	✓	✓				PRUNE ONLY DEAD OR BROKEN BRANCHES. DO NOT USE PRUNING PAINT. (2)
SUPPLEMENTAL WATERING	WEEKLY.			✓	✓	✓	✓	✓	✓	✓				SEE SUPPLEMENTAL WATERING REQUIREMENTS ON THIS SHEET
ADJUSTING PLANTS	AS NEEDED, INSPECT WEEKLY			✓	✓	✓	✓	✓	✓	✓				ADJUST PLANTINGS THAT ARE NOT PLUMB OR HAVE SHIFTED.
PLANT REPLACEMENTS	ONCE PER GROWING SEASON, AS NEEDED.			✓	✓						✓	✓		REPLACE DISEASED, DYING OR DEAD MATERIALS AT NO ADDITIONAL COST. (1)
DEBRIS REMOVAL	AS NEEDED, INSPECT WEEKLY			✓	✓	✓	✓	✓	✓	✓				REMOVE LITTER ACCUMULATED IN OR ADJACENT TO TREE WELLS.
PLANT BRACING AND TREE WRAP	AS NEEDED, INSPECT WEEKLY			✓	✓	✓	✓	✓	✓	✓				ADJUST OR REPLACE ROOTBALL STABILIZER AS REQUIRED. REPAIR TREE WRAP AS REQUIRED. (3)
INSECT, DISEASE AND ANIMAL CONTROL	AS NEEDED, INSPECT WEEKLY			✓	✓	✓	✓	✓	✓	✓				SPRAY FOR INSECT AND FUNGAL INFESTATIONS. PESTICIDE AND FUNGICIDE APPLICATIONS SHALL BE BY LICENSED APPLICATORS.

- ALL PLANT MATERIALS DETERMINED TO BE UNACCEPTABLE BY THE ENGINEER BY THE END OF THE ESTABLISHMENT PERIOD SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER. REPLACE PLANTS IN ACCORDANCE WITH SPECIFIED SEASONAL LIMITATIONS (MARCH 1 TO MAY 15 AND OCTOBER 1 UNTIL GROUND FREEZES).
- REMOVE ONLY DEAD, DYING OR BROKEN BRANCHES. DO NOT PRUNE FOR SHAPE UNLESS DIRECTED BY THE ENGINEER AND THEN ONLY ACCORDING TO HORTICULTURAL BEST PRACTICES AND ANSI A 300. DO NOT CUT TREE LEADERS. DO NOT APPLY PRUNING PAINT TO WOUNDS.
- ROOTBALL STABILIZER MAY REMAIN IN PLACE AT THE END OF ESTABLISHMENT PERIOD. REMOVE ALL TREE WRAP AT THE END OF ESTABLISHMENT PERIOD.

**PLANT SCHEDULE**

KEY	COMMON NAME	BOTANICAL NAME	SIZE / CONDITION	SPACING
SKK	SEEDLESS KENTUCKY COFFEETREE	GYMNOCLADUS DIOICA 'UMNSYNER' TRUE NORTH	2 1/2" CAL B&B	AS SHOWN

**PLANTING NOTES**

- MARK THE LOCATIONS OF ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK. REPORT ANY CONFLICTS TO THE ENGINEER PRIOR TO BEGINNING WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITY LINES.
- UNLESS INDICATED FOR REMOVAL, PROTECT EXISTING UTILITIES, AND FACILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING FACILITIES AND UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- PRIOR TO PLANTING, VERIFY CONDITIONS IN TREE WELLS ARE AS DETAILED. OBTAIN APPROVAL FROM ENGINEER PRIOR TO PROCEEDING.
- TREE WELL LOCATIONS INDICATED ON THE PLANS ARE COORDINATED WITH OTHER SITE ELEMENTS. HOWEVER, THE CONTRACTOR MAY BE REQUIRED TO ADJUST THE LOCATION OF TREE WELLS TO AVOID CONFLICTS FOUND IN THE FIELD, AS APPROVED BY THE ENGINEER.
- MARK PLANT LOCATIONS AND TREE WELL EXCAVATIONS OUTLINES. OBTAIN APPROVAL FROM THE ENGINEER OF ALL LOCATIONS PRIOR TO INSTALLATION. THE ENGINEER WILL REVIEW THE LAYOUT AND APPROVE NECESSARY ADJUSTMENTS.
- THE ENGINEER RESERVES THE RIGHT TO INSPECT ALL PLANT MATERIALS BEFORE OR AFTER PLANTING. PLANT MATERIAL MAY BE REJECTED AT ANY TIME DUE TO CONDITION, FORM, DAMAGE AND IMPROPER INSTALLATION.
- ALL PLANT SUBSTITUTION REQUESTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL 10 WORKING DAYS MINIMUM PRIOR TO ORDERING PLANTS. SUBSTITUTIONS ARE NOT PERMITTED UNLESS AUTHORIZED.
- PROVIDE IDENTIFICATION TAG FROM THE SUPPLYING NURSERY SHOWING COMMON AND BOTANICAL PLANT NAMES FOR ONE OR MORE PLANTS OF EACH SPECIES DELIVERED TO THE SITE.
- PROTECT ALL PLANTS AGAINST HEAT, SUN, WIND AND FROST DURING TRANSPORTATION TO THE SITE AND WHILE BEING HELD AT THE SITE. DO NOT STORE PLANTS IN TOTAL DARKNESS MORE THAN ONE DAY.
- PLANT MATERIALS: ALL PLANT MATERIALS SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF ANSI Z60.1 OF THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION. PLANTS SHALL BE HEALTHY, VIGOROUS, FREE OF DISEASES, INSECT PESTS AND THEIR EGGS. PLANT MATERIALS SHALL BE WELL FORMED WITH FULL FOLIAGE MASS. PLANT ROOT BALLS, BRANCH STRUCTURE AND TRUNKS SHALL NOT BE DAMAGED. ROOT GROWTH SHALL BE TO THE EDGE OF CONTAINERS, BUT THERE SHALL BE LITTLE OR NO CIRCLING ROOTS OUTSIDE THE ROOT BALL OF PLANTINGS. ROOT BOUND PLANTS AND PLANT CONDITIONS THAT DO NOT CONFORM TO THESE STANDARDS SHALL BE REJECTED.
- THIN CIRCLING ROOTS SHALL BE CUT 3-4 TIMES AT A DEPTH OF APPROXIMATELY 1/2 INCH AT VARIOUS LOCATIONS AROUND THE ROOT BALL AT TIME OF INSTALLATION.
- INSTALL ALL PLANT MATERIAL IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS.

**SUPPLEMENTAL WATERING REQUIREMENTS**

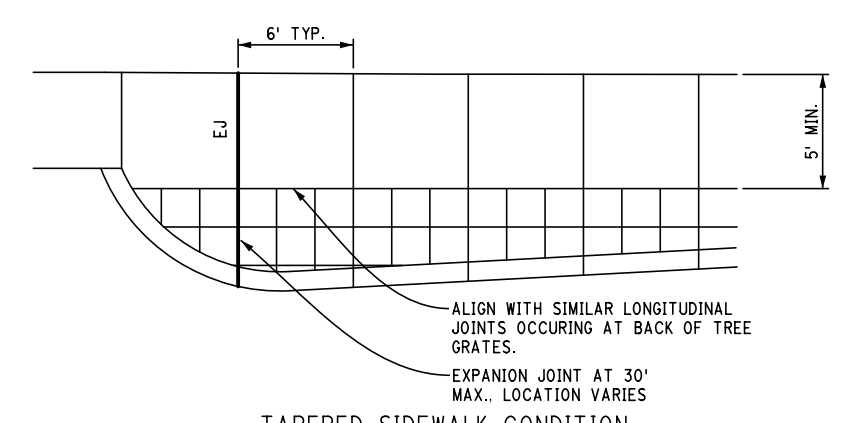
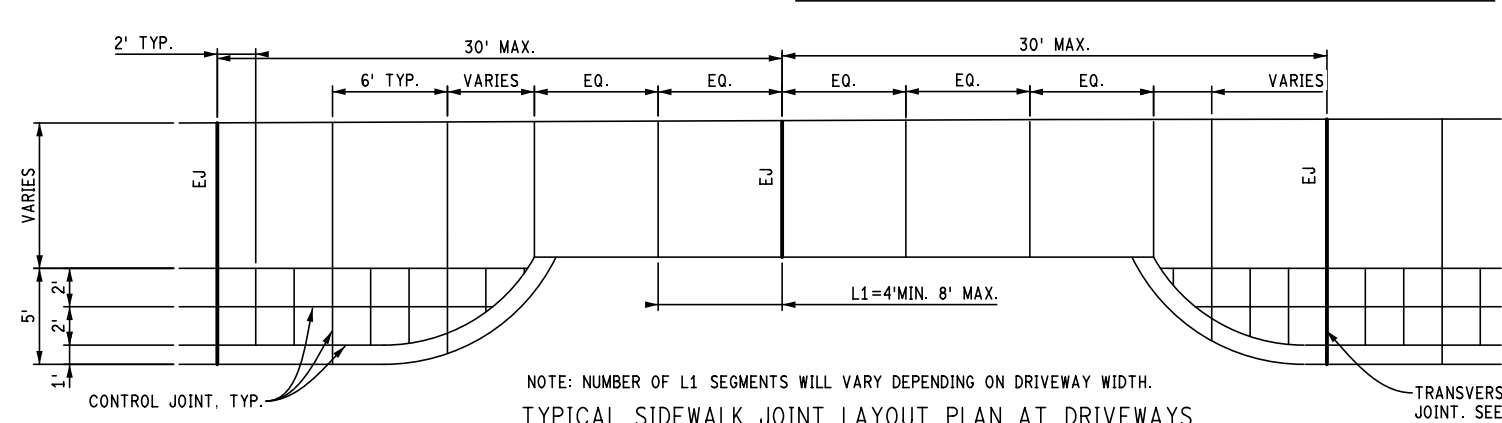
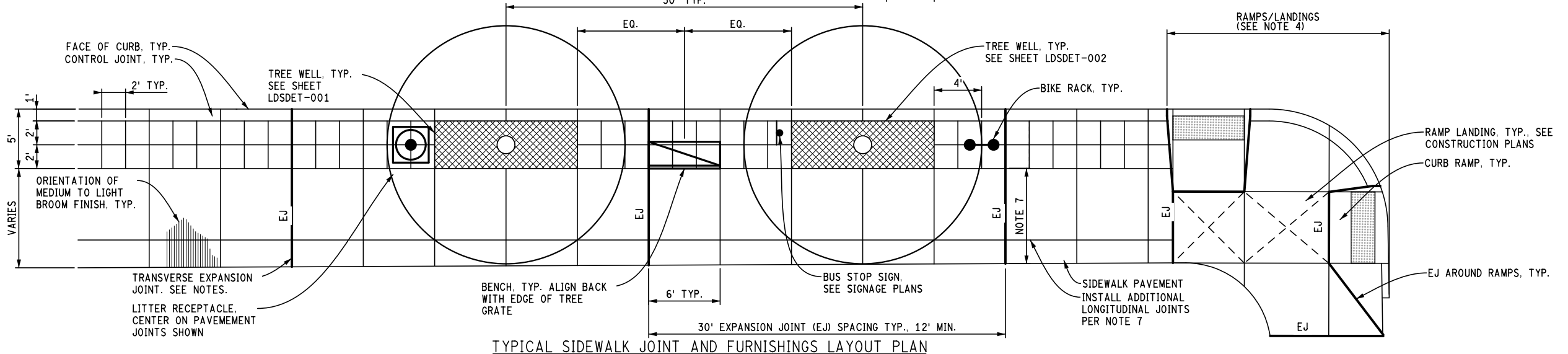
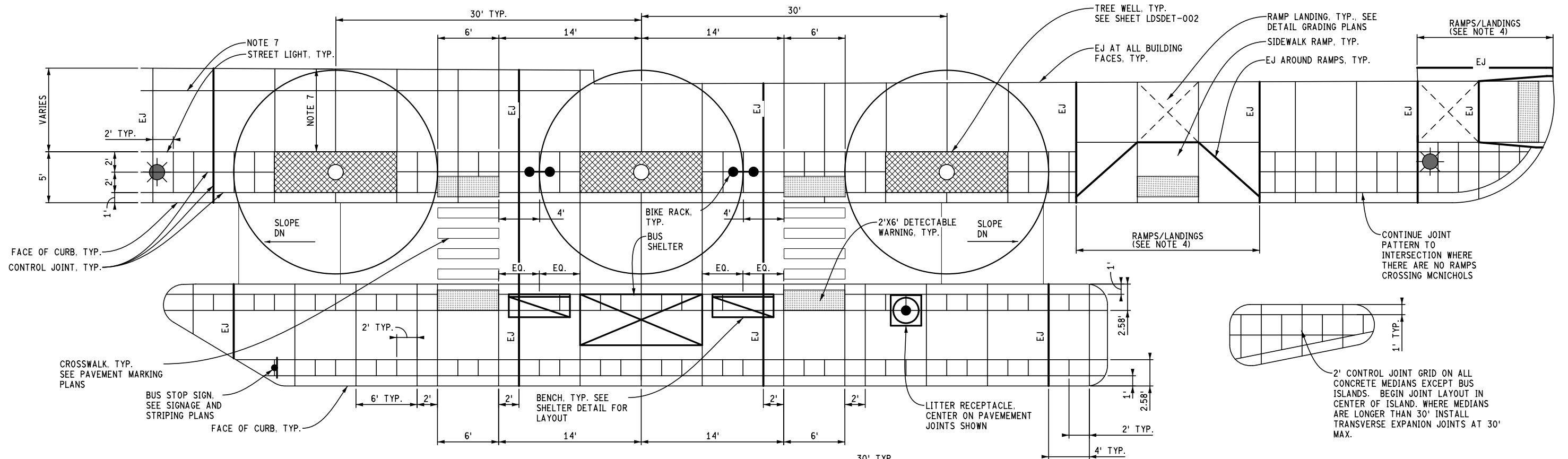
- INITIAL WATERING: WATER ALL PLANTS IMMEDIATELY AFTER INSTALLATION. FLOOD PLANTS TWICE DURING FIRST TWENTY-FOUR HOUR PERIOD FOLLOWING PLANTING. INITIAL WATERING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE FOR TREE PLANTING AND NO SEPARATE PAYMENT SHALL BE MADE. ALL OTHER WATERING SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR WATERING AND CULTIVATING.
- SUPPLY THE FOLLOWING AMOUNTS OF WATER TO PLANTS DURING THE ESTABLISHMENT AND MAINTENANCE PERIOD:
  - TREES: 35 GALLONS PER WEEK. FILL WATERING TUBES (APPROXIMATELY 20 GALLONS). THEN PROVIDE THE BALANCE OF REQUIRED WATER (APPROXIMATELY 15 GALLONS) APPLIED DIRECTLY AROUND THE ROOTBALL.
- IN PERIODS OF HOT WEATHER, TEMPERATURES ABOVE 90 DEGREES FAHRENHEIT, ADDITIONAL SUPPLEMENTAL WATERING SHALL BE REQUIRED AND AS DIRECTED BY THE ENGINEER.
- APPLY ROOT STIMULATOR, DURING INITIAL WATERING, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ROOT STIMULATOR SHALL BE AN ORGANIC / NON-CHEMICAL LIQUID CONCENTRATE BIO-STIMULANT AND ROOT STIMULATOR, SIMILAR SUPER SEAWEED BY MICROLIFE. ALL OTHER WATERING SHALL INCLUDE A NITROGEN-ENRICHED SOLUTION AS SPECIFIED.

**ESTABLISHMENT AND MAINTENANCE REQUIREMENTS**

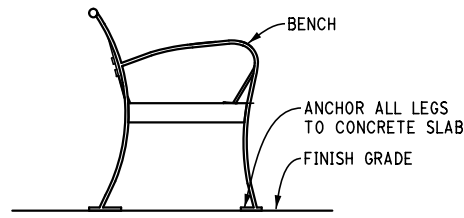
- THE ESTABLISHMENT PERIOD BEGINS IMMEDIATELY AFTER ALL PLANTINGS ARE INSTALLED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND ACCEPTANCE OF THE PLANTINGS HAS BEEN ISSUED BY THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO WATER AND CARE FOR PLANTINGS UNTIL ALL PLANTINGS ARE REVIEWED AND ACCEPTED BY THE ENGINEER.
- PERFORM ACTIVITIES IDENTIFIED IN THE MAINTENANCE SCHEDULE ON THIS SHEET FOR THE DURATION OF THE ESTABLISHMENT PERIOD.
- PERIOD OF ESTABLISHMENT: 2 GROWING SEASONS. A GROWING SEASON IS FROM MARCH 1 TO NOVEMBER 1.
- MAINTENANCE AND ESTABLISHMENT SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR WATERING AND CULTIVATING, FIRST SEASON AND WATERING AND CULTIVATING, SECOND SEASON.

**PLANTING NOTES (CONT'D)**

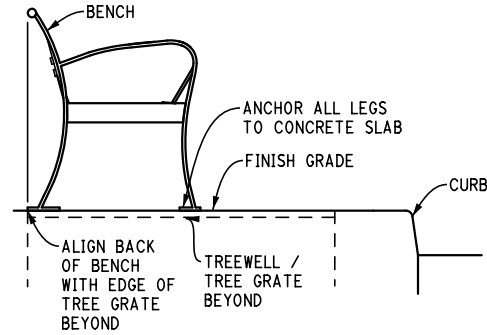
- REMOVE ALL PLANT BINDING MATERIALS AT THE TIME OF PLANTING. CONTAINERS SHALL BE COMPLETELY REMOVED FROM THE PLANT ROOT BALL AT TIME OF PLANTING. ALL WIRE BASKETS, TREE ROOT BALL WRAP/BURLAP, AND OTHER BINDINGS SHALL BE CUT AND REMOVED FROM THE UPPER 1/2 OF ROOT BALL. BINDINGS AROUND THE TRUNKS OF TREES SHALL BE REMOVED WITHOUT EXCEPTION. RETAIN PLANT TAGS AND TREE WRAP ON PLANTINGS UNTIL FINAL INSPECTION AND APPROVAL OF PLANT MATERIAL BY THE ENGINEER.
- ALL PLANTS SHALL BE SET PLUMB AND HAVE THE BEST SIDE OF PLANT FACING THE STREET.
- SCARIFY EDGES OF EXCAVATION WHERE SMOOTHED DURING EXCAVATION.
- REMOVE EXCESS DEBRIS, MULCH AND LOOSE SOIL TO EXPOSE THE NATURAL ROOT COLLAR/FLARE PRIOR TO INSTALLATION.
- TREES SHALL BE PLANTED SO ROOT COLLAR/FLARE IS SLIGHTLY ABOVE (1" MAX.) ADJACENT GRADE. SET TREE PLUMB AND IN CENTER OF PLANTING PIT AS DETAILED.
- DO NOT DISTURB ROOT BALL WHEN PLANTING. CRACKED OR OTHERWISE DAMAGED ROOT BALLS SHALL BE REJECTED.
- INSTALL TREE ROOT BALL STABILIZERS ON ALL TREES AS DETAILED.
- WHEN BACKFILLING AROUND PLANT ROOT BALL, TAMP PLANTING SOIL AND WATER THOROUGHLY. ADD REMAINING PLANTING SOIL AND THEN WATER UNTIL NO MORE WATER IS ABSORBED BY THE SOIL.
- INSTALL A LAYER OF SHREDDED ORGANIC MULCH OVER ENTIRE TREE WELL AREA AS DETAILED.
- ALL PLANT MATERIAL HEIGHTS SPECIFIED ARE SHOWN BEFORE PRUNING. ALL DEPTHS DETAILED ARE SHOWN AFTER SETTLING.



- NOTES:
1. INSTALL 1/2 INCH EXPANSION JOINTS AT SPACING INDICATED AND AT INTERFACE WITH BUILDINGS, FOUNDATIONS AND CURB RAMPS.
  2. FORM PAVEMENT JOINTS TRUE TO LINE, WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE. CONSTRUCT TRANSVERSE JOINTS AT RIGHT ANGLES TO BACK OF CURB UNLESS OTHERWISE INDICATED.
  3. TRANSVERSE SIDEWALK EXPANSION JOINTS SHALL FALL BETWEEN TREE GRATES AS SHOWN.
  4. THIS DETAIL REPRESENTS TYPICAL JOINT LAYOUTS FOR THE PROJECT. BEGIN SIDEWALK JOINT LAYOUTS AT CENTER OF TREE GRATE (LOCATIONS IDENTIFIED ON THE LANDSCAPE PLANS) AND PROCEED TO THE ENDS OF EACH BLOCK. FOR CONDITIONS WHERE NO TREE GRATES EXIST IN A BLOCK, BEGIN JOINT LAYOUT AT THE CENTER OF THE BLOCK. JOINT LAYOUTS SHOWN ARE INTERRUPTED BY DRIVEWAYS, RAMPS AND LANDINGS. SEE THE CONSTRUCTION PLANS FOR SIDEWALK JOINT LAYOUTS DIRECTLY ADJACENT TO RAMPS AND RAMP LANDINGS.
  5. TRANSVERSE EXPANSION JOINTS SHALL EXTEND ENTIRELY THROUGH THE INTEGRAL CURB AND SIDEWALK. WHERE CONTROL JOINTS ARE SHOWN EXTENDING TO THE FACE OF CURB, THE JOINT SHALL CONTINUE DOWN FACE OF CURB AS WELL.
  6. SEE LDSDET004 FOR SITE FURNISHING AND SIDEWALK JOINT DETAILS.
  7. WHERE SIDEWALK BETWEEN TREE GRATE AND BACK OF SIDEWALK IS 8' OR WIDER INSTALL 6'X6' JOINT GRID FROM TREE GRATE TO BACK OF SIDEWALK AT THE RIGHT-OF-WAY OR BUILDING FACE (WHERE OCCURS).

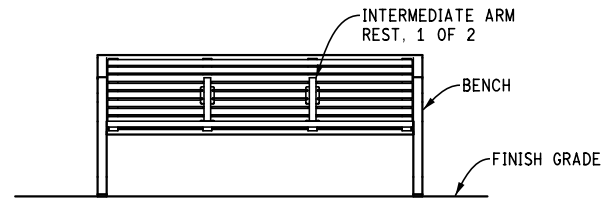


\* - SEE BUS SHETLER DETAIL FOR LAYOUT AT BUS ISLANDS.



SECTION  
(BUS ISLAND CONDITION)

SECTION  
(BUS STOP CONDITION)

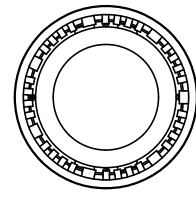


FRONT ELEVATION

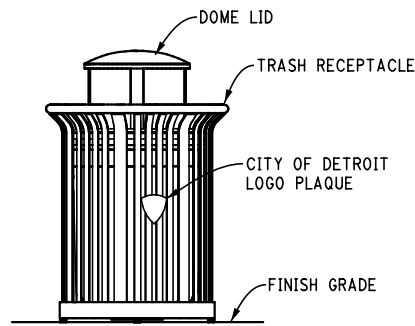
NOTES:

1. BASIS OF BENCH SHALL BE STEELSITES RB COLLECTION BY VICTOR STANLEY, MODEL RBF-28.
  - MOUNTING: MANUFACTURER'S STANDARD SURFACE MOUNT
  - FINISH: MANUFACTURER'S STANDARD POWDERCOAT, BLACK
  - ARM RESTS: SIDES AND INTERMEDIATE
  - LENGTH: 6' FEET, NOMINAL
2. INSTALL PER MANUFACTURE'S WRITTEN INSTRUCTIONS.
3. MARK BENCH LOCATION AND ORIENTATION FOR APPROVAL PRIOR TO INSTALLATION.
4. PROTECT BENCH THROUGHOUT CONSTRUCTION. CLEAN ALL DEBRIS FROM BENCH PRIOR TO FINAL ACCEPTANCE.
5. SECURE TO PAVEMENT WITH STAINLESS STEEL EXPANSION ANCHORS, ONE PER LEG. MINIMUM 2" EMBEDMENT.

BENCH WITH BACK



PLAN

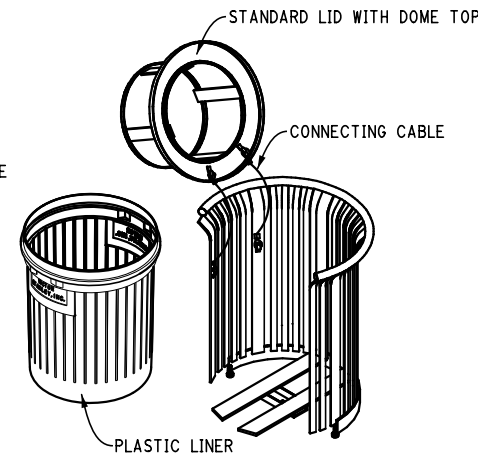


ELEVATION

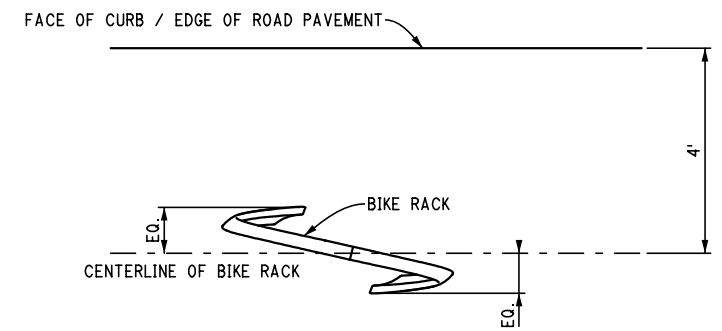
NOTES:

1. BASIS OF DESIGN TRASH RECEPTACLE SHALL BE ECONOMY SERIES BY VICTOR STANLEY, MODEL ES-342.
  - MOUNTING: MANUFACTURER'S STANDARD SURFACE MOUNT
  - FINISH: MANUFACTURER'S STANDARD POWDERCOAT, BLACK
  - CAPACITY: 36 GALLONS
  - LINER: PLASTIC, MANUFACTURER'S STANDARD.
  - SELECTED OPTIONS: S2-A FORMED DOMED LID, CUSTOM CITY OF DETROIT LOGO PLAQUE
2. INSTALL PER MANUFACTURE'S WRITTEN INSTRUCTIONS.
3. MARK RECEPTACLE LOCATION FOR APPROVAL PRIOR TO INSTALLATION.
4. ORIENT RECEPTACLE WITH CITY LOGO FACING SIDEWALK.
5. PROTECT RECEPTACLE THROUGHOUT CONSTRUCTION. CLEAN ALL DEBRIS FROM RECEPTACLE PRIOR TO FINAL ACCEPTANCE.
6. SECURE TO PAVEMENT WITH MINIMUM 3/8" STAINLESS STEEL EXPANSION ANCHOR. MINIMUM 2" EMBEDMENT. BOLT SUPPLIED BY CONTRACTOR.

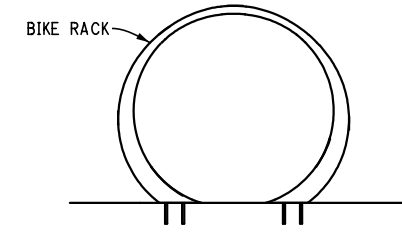
LITTER RECEPTACLE



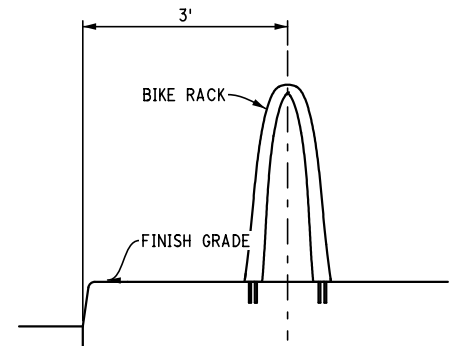
PLAN



PLAN



ELEVATION

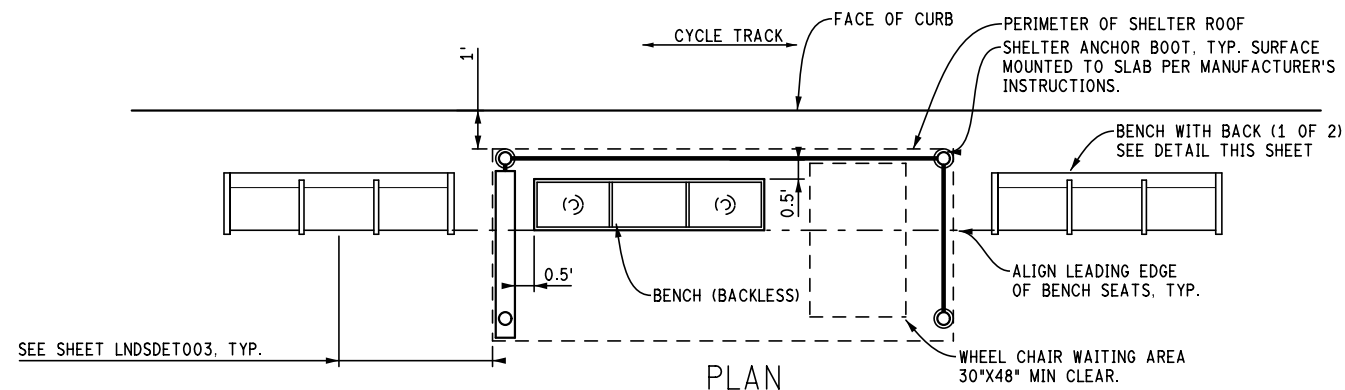


SECTION

NOTES:

1. BASIS OF DESIGN BIKE RACK SHALL BE LOOP MODEL BY LANDSCAPE FORMS.
  - MOUNTING: MANUFACTURER'S STANDARD EMBEDDED
  - FINISH: MANUFACTURER'S STANDARD POWDERCOAT, MATTE BLACK
2. INSTALL PER MANUFACTURE'S WRITTEN INSTRUCTIONS.
3. MARK BIKE RACK LOCATION FOR APPROVAL PRIOR TO INSTALLATION.
4. ORIENT RACK AS SHOWN, UNLESS OTHERWISE INDICATED ON THE LANDSCAPE PLANS.
5. PROTECT BIKE RACKS THROUGHOUT CONSTRUCTION. CLEAN ALL DEBRIS FROM RACK PRIOR TO FINAL ACCEPTANCE.

BIKE RACK

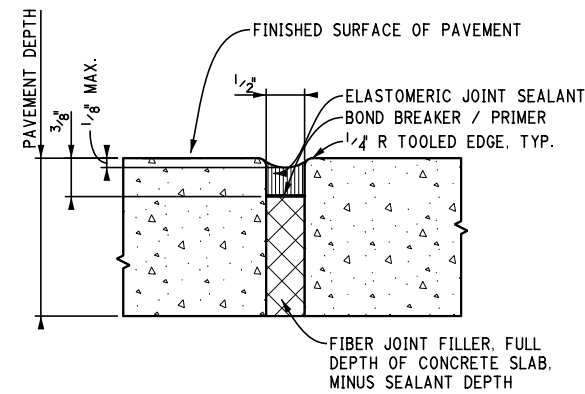


PLAN

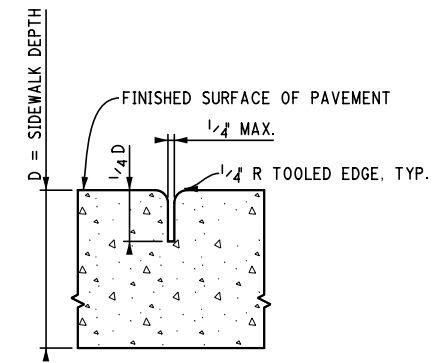
BUS SHELTER

NOTES:

1. BASIS OF DESIGN BUS SHELTER AND SHELTER BENCH SHALL BE ECLIPSE SERIES BY BRASCO INTERNATIONAL. SEE SPECIFICATIONS FOR OPTIONS.
2. SIZE: 5'X12' SHELTER AND 6' BENCH
3. INSTALL PER MANUFACTURE'S WRITTEN INSTRUCTIONS.
4. MARK SHELTER LOCATION FOR APPROVAL PRIOR TO INSTALLATION.
5. PROTECT SHELTER AND BENCH THROUGHOUT CONSTRUCTION. CLEAN ALL DEBRIS FROM SHELTER AND BENCH PRIOR TO FINAL ACCEPTANCE.
6. SECURE TO PAVEMENT WITH MANUFACTURE RECOMMENDED STAINLESS STEEL ANCHORS. MINIMUM EMBEDMENT PER MANUFACTURE'S INSTRUCTIONS.



EXPANSION JOINT SECTION



CONTROL JOINT SECTION

NOTES:

1. EXCEPT FOR THE JOINT, LEAVE NO EMBEDDED TOOL MARKS IN THE SURFACE OF FINISHED CONCRETE.

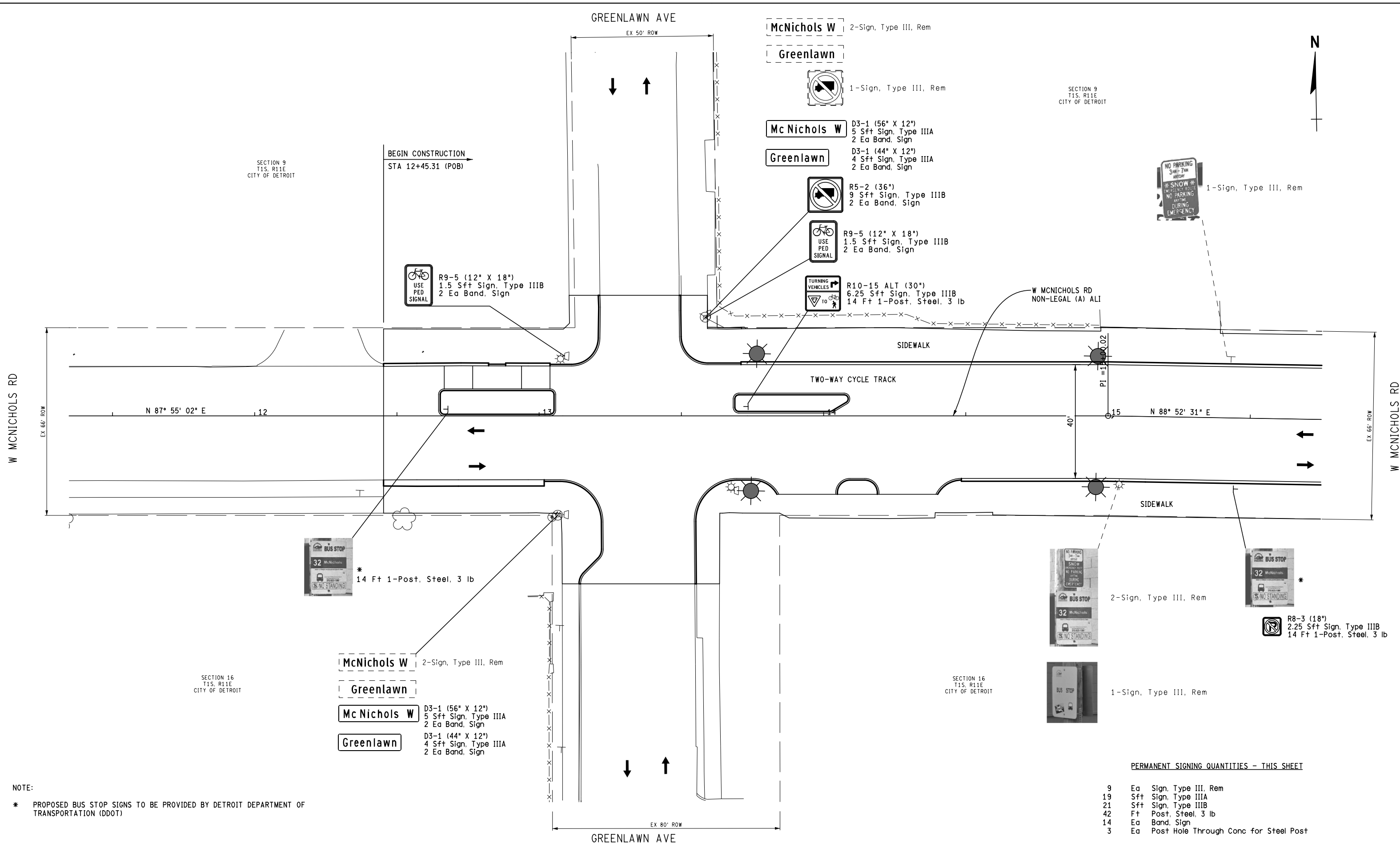
SIDEWALK PAVEMENT JOINTS

FINAL ROW PLAN REVISIONS				(SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DATE: 06/20/19	JN: PW-7004	LANDSCAPING SHEET	DRAWING	SHEET
FILE:	MCNICHOLS STREETSCAPE	MCNICHOLS STREETSCAPE	MCN	94
		LANDSCAPE DETAILS	LDSDET	004



SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

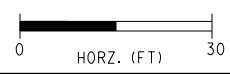
SECTION 16  
T1S, R11E  
CITY OF DETROIT

NOTE:  
\* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

**PERMANENT SIGNING QUANTITIES - THIS SHEET**

- 9 Ea Sign, Type III, Rem
- 19 Sft Sign, Type IIIA
- 21 Sft Sign, Type IIIB
- 42 Ft Post, Steel, 3 lb
- 14 Ea Band, Sign
- 3 Ea Post Hole Through Conc for Steel Post

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

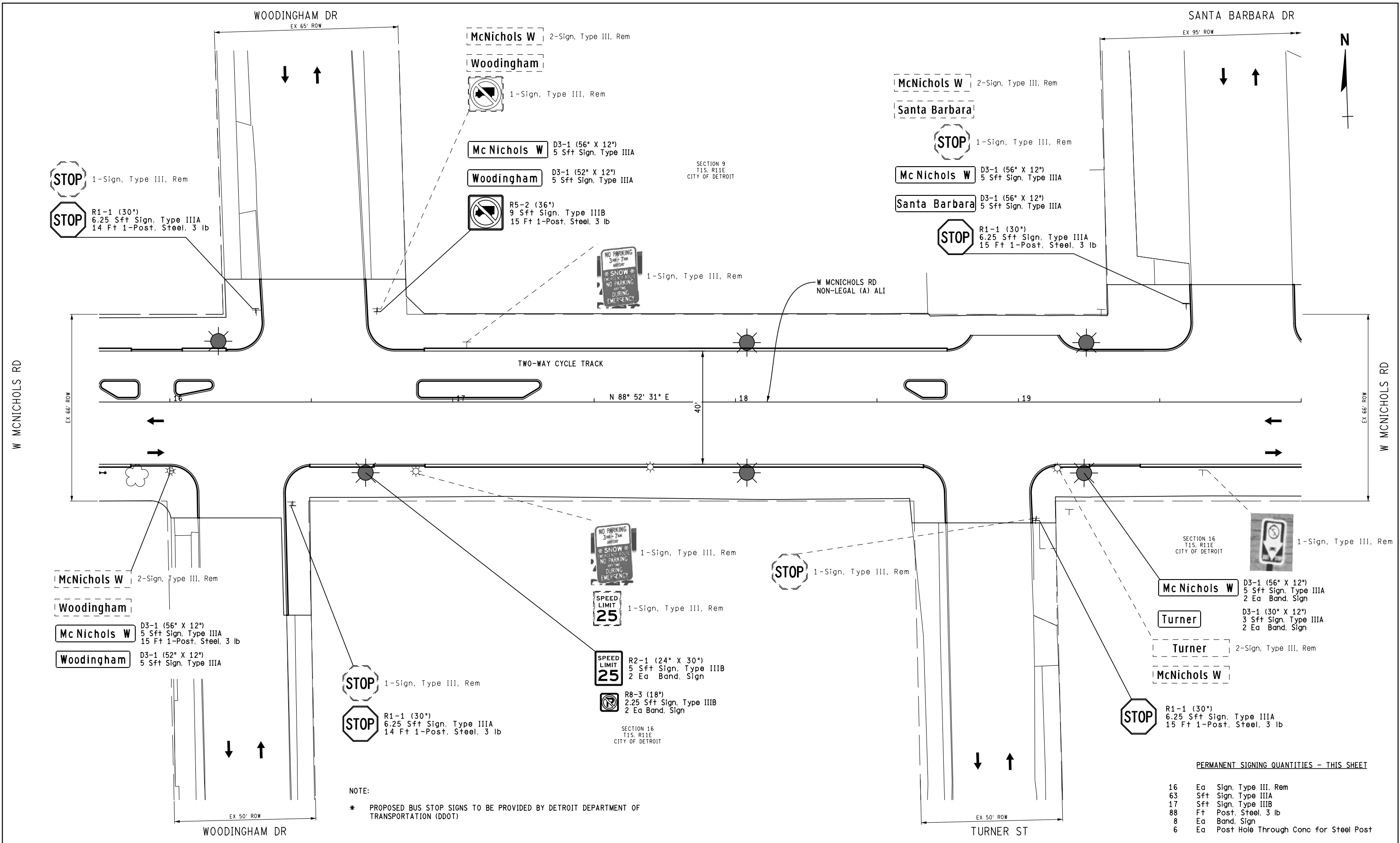


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

SIGNING SHEET  
MCNICHOLS STREETScape  
STA 12+45.31 (POB) TO STA 15+75

DRAWING SHEET  
MCN SIGN 001  
95

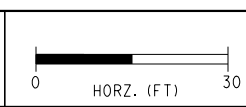


NOTE:  
 \* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

PERMANENT SIGNING QUANTITIES - THIS SHEET

16	Ea	Sign, Type III, Rem
63	Sft	Sign, Type IIIA
17	Sft	Sign, Type IIIB
88	Ft	Post, Steel, 3 lb
8	Ea	Band, Sign
6	Ea	Post Hole Through Conc for Steel Post

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

SIGNING SHEET  
 MCNICHOLS STREETScape  
 STA 15+75 TO STA 20+00

DRAWING SHEET  
 MCN SIGN 002  
 96



SANTA BARBARA DR

PENNINGTON DR



Pennington 2-Sign, Type III, Rem

McNichols W 1-Sign, Type III, Rem

McNichols W D3-1 (56" X 12") 5 Sft Sign, Type IIIA

Pennington D3-1 (48" X 12") 4 Sft Sign, Type IIIA

R5-2 (36") 9 Sft Sign, Type IIIB 15 Ft 1-Post, Steel, 3 lb

SECTION 9 T1S, R11E CITY OF DETROIT

SECTION 9 T1S, R11E CITY OF DETROIT

STOP 1-Sign, Type III, Rem

R1-1 (30") 6.25 Sft Sign, Type IIIA 14 Ft 1-Post, Steel, 3 lb

1-Sign, Type III, Rem

W McNichols Rd NON-LEGAL (A) ALI

TWO-WAY CYCLE TRACK

N 88° 52' 31" E

W McNichols Rd

W McNichols Rd

R8-3 (18") 2.25 Sft Sign, Type IIIB 2 Ea Band, Sign

1-Sign, Type III, Rem

SECTION 16 T1S, R11E CITY OF DETROIT

STOP 1-Sign, Type III, Rem

McNichols W D3-1 (56" X 12") 5 Sft Sign, Type IIIA 2 Ea Band, Sign

Tuller D3-1 (28" X 12") 3 Sft Sign, Type IIIA 2 Ea Band, Sign

McNichols W 2-Sign, Type III, Rem

Tuller

STOP R1-1 (30") 6.25 Sft Sign, Type IIIA 15 Ft 1-Post, Steel, 3 lb

TO SOUTH LODGE FWY 1-Sign, Type II, Rem

E6-2 (30" X 60") 13 Sft Sign, Type IIA 2 Ea Band, Sign

1-Sign, Type III, Rem

R8-3 (18") 2.25 Sft Sign, Type IIIB 2 Ea Band, Sign

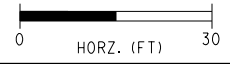
PERMANENT SIGNING QUANTITIES - THIS SHEET

- 1 Ea Sign, Type II, Rem
- 9 Ea Sign, Type III, Rem
- 13 Sft Sign, Type IIIA
- 30 Sft Sign, Type IIIA
- 14 Sft Sign, Type IIIB
- 44 Ft Post, Steel, 3 lb
- 10 Ea Band, Sign
- 3 Ea Post Hole Through Conc for Steel Post

NOTE:

\* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

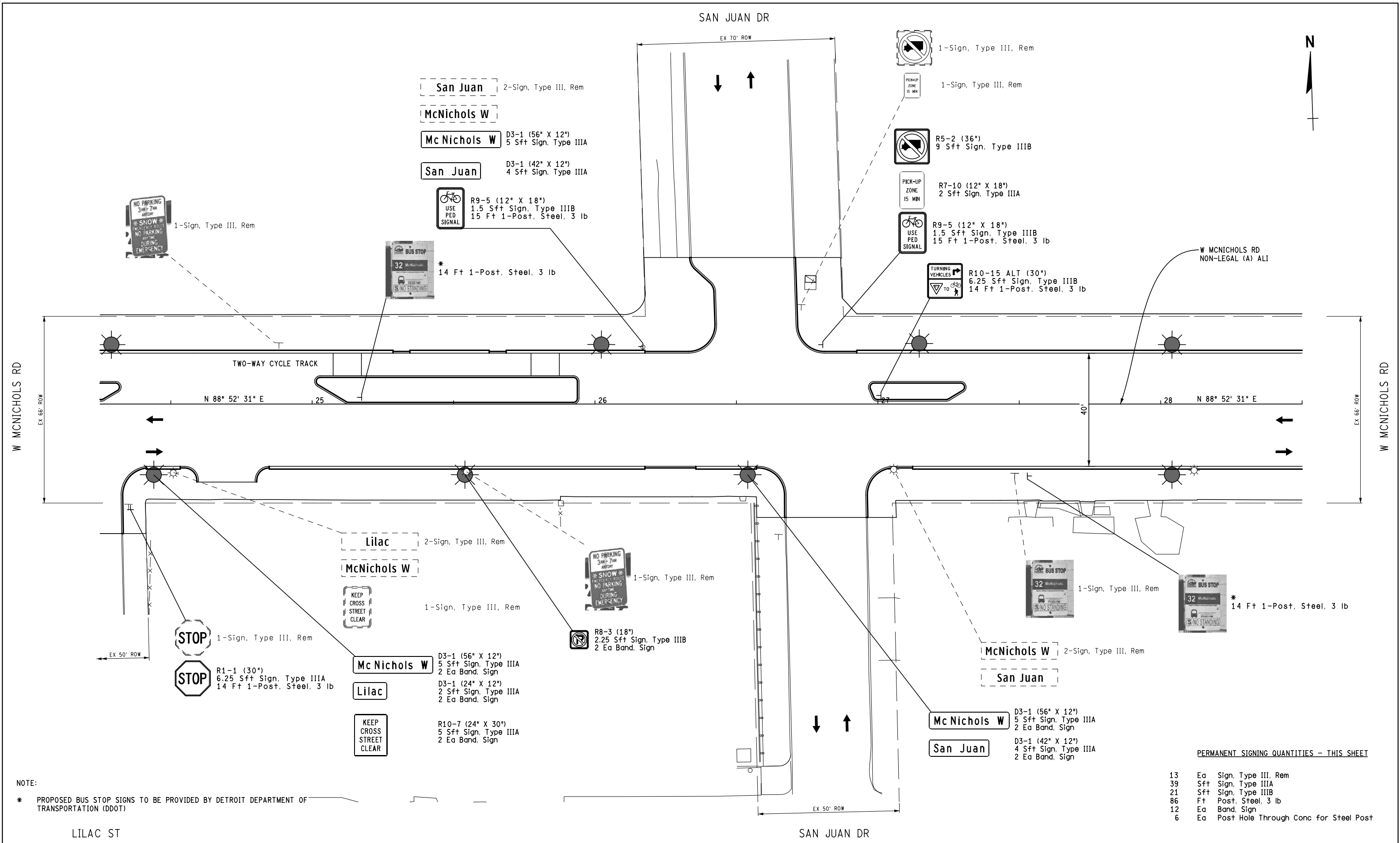


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

SIGNING SHEET  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

DRAWING SHEET  
MCN SIGN 003  
97

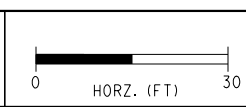


NOTE:  
 \* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

**PERMANENT SIGNING QUANTITIES - THIS SHEET**

13	Ea	Sign, Type III, Rem
39	Sft	Sign, Type IIIA
21	Sft	Sign, Type IIIB
86	Ft	Post, Steel, 3 lb
12	Ea	Band, Sign
6	Ea	Post Hole Through Conc for Steel Post

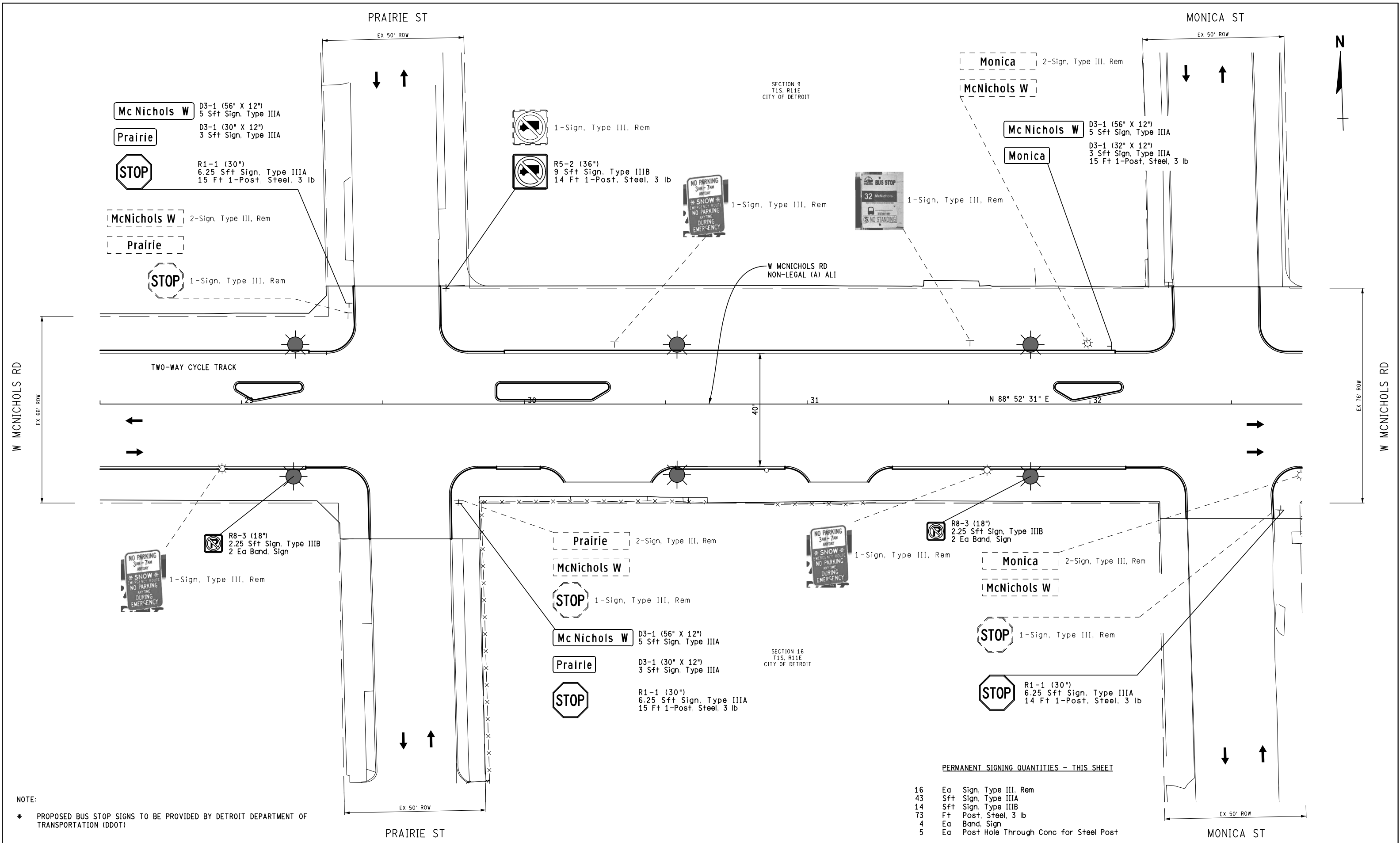
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

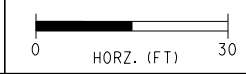
JN: PW-7004  
 MCNICHOLS STREETScape

SIGNING SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN SIGN 004	98
STA 24+25 TO STA 28+50			



NOTE:  
\* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

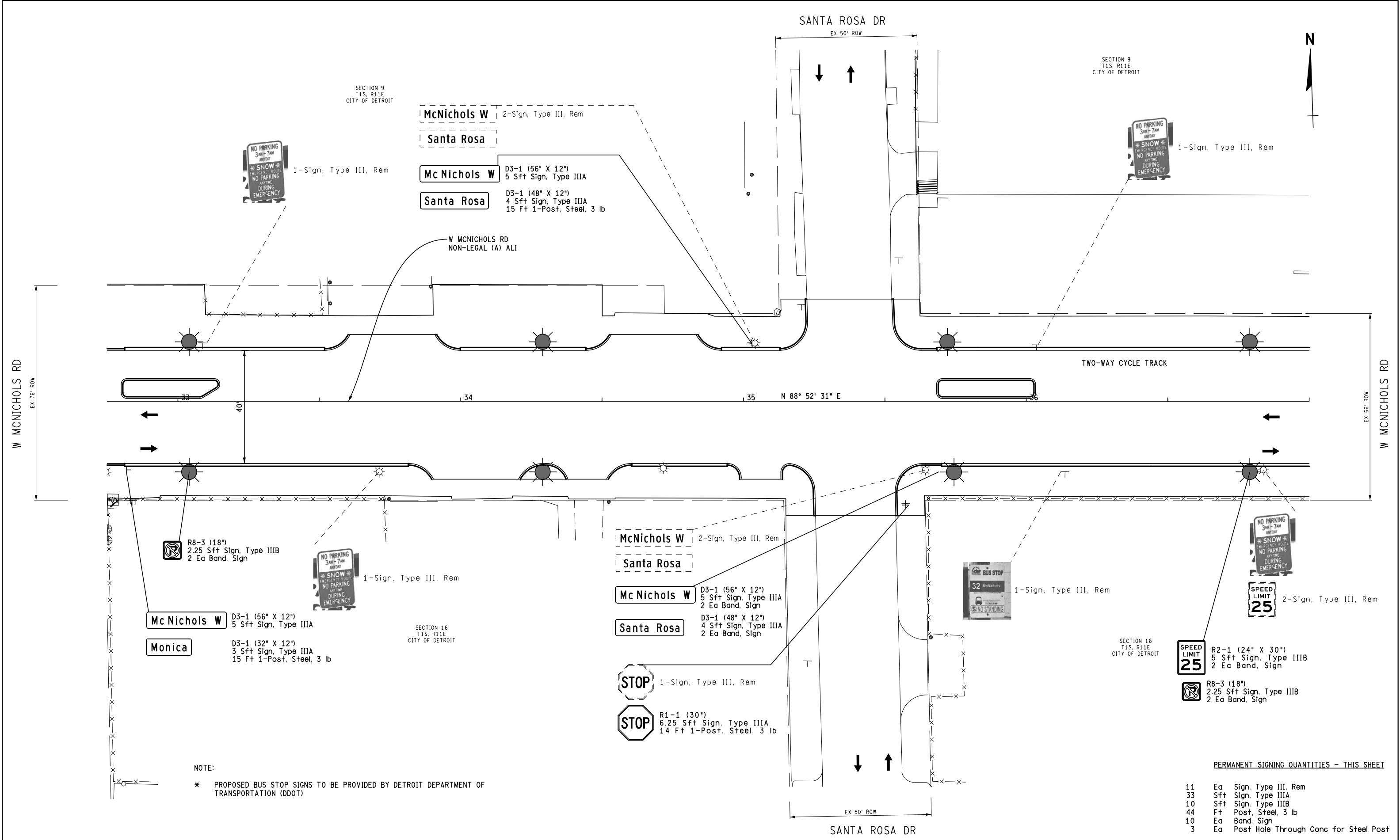


DATE: 06/20/19

FILE:

JN: PW-7004  
MCNICHOLS STREETScape

SIGNING SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN SIGN 005	99
STA 28+50 TO STA 32+75			

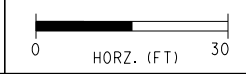


NOTE:  
 \* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

PERMANENT SIGNING QUANTITIES - THIS SHEET

11	Ea	Sign, Type III, Rem
33	Sft	Sign, Type IIIA
10	Sft	Sign, Type IIIIB
44	Ft	Post, Steel, 3 lb
10	Ea	Band, Sign
3	Ea	Post Hole Through Conc for Steel Post

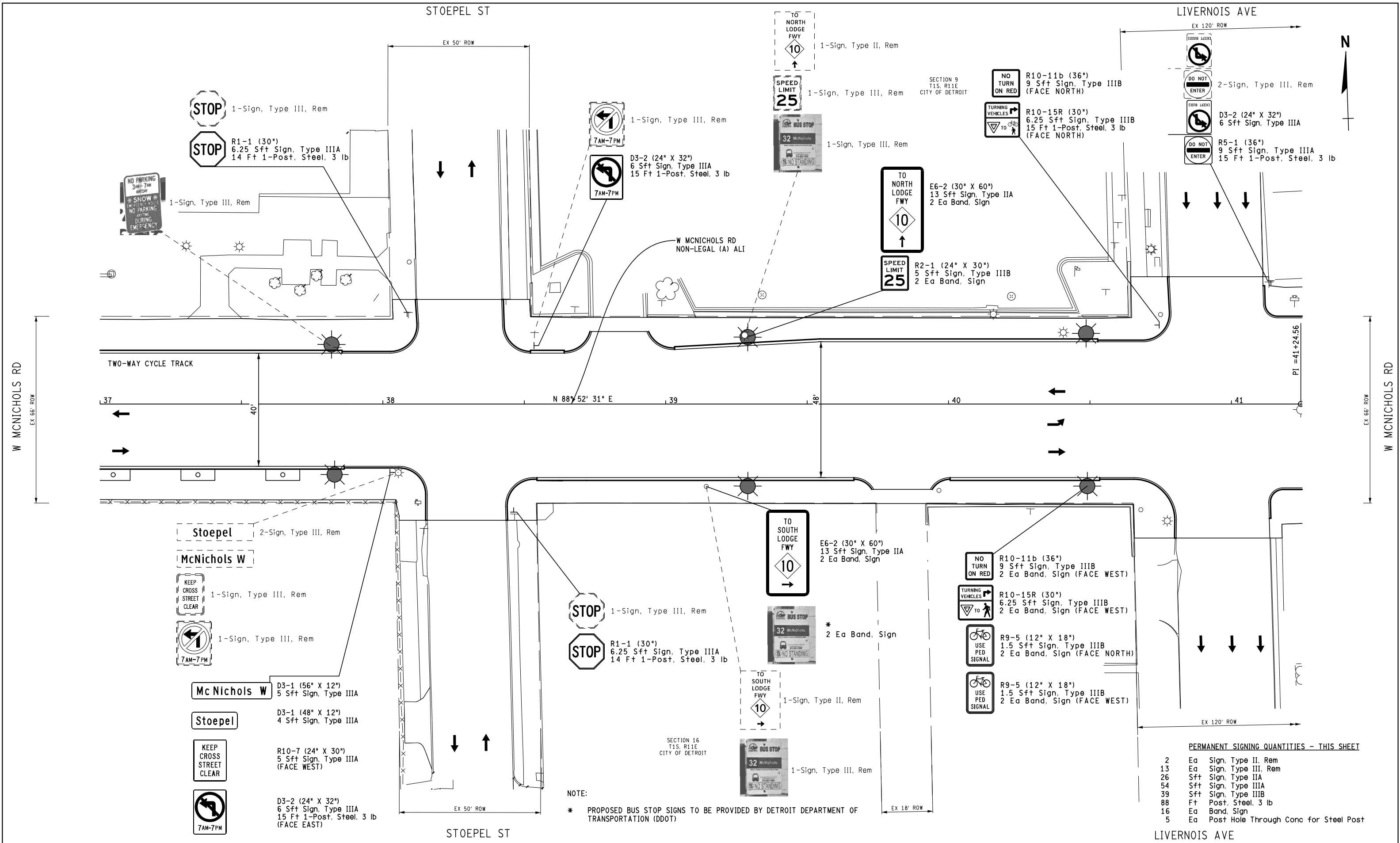
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

SIGNING SHEET		DRAWING	SHEET
MCNICHOLS STREETScape		MCN SIGN 006	100
STA 32+75 TO STA 37+00			

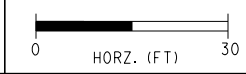
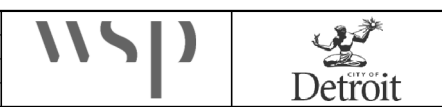


**PERMANENT SIGNING QUANTITIES - THIS SHEET**

2	Ea	Sign, Type II, Rem
13	Ea	Sign, Type III, Rem
26	Sft	Sign, Type IIIA
54	Sft	Sign, Type IIIA
39	Sft	Sign, Type IIIB
88	Ft	Post, Steel, 3 lb
16	Ea	Band, Sign
5	Ea	Post Hole Through Conc for Steel Post

NOTE:  
 \* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



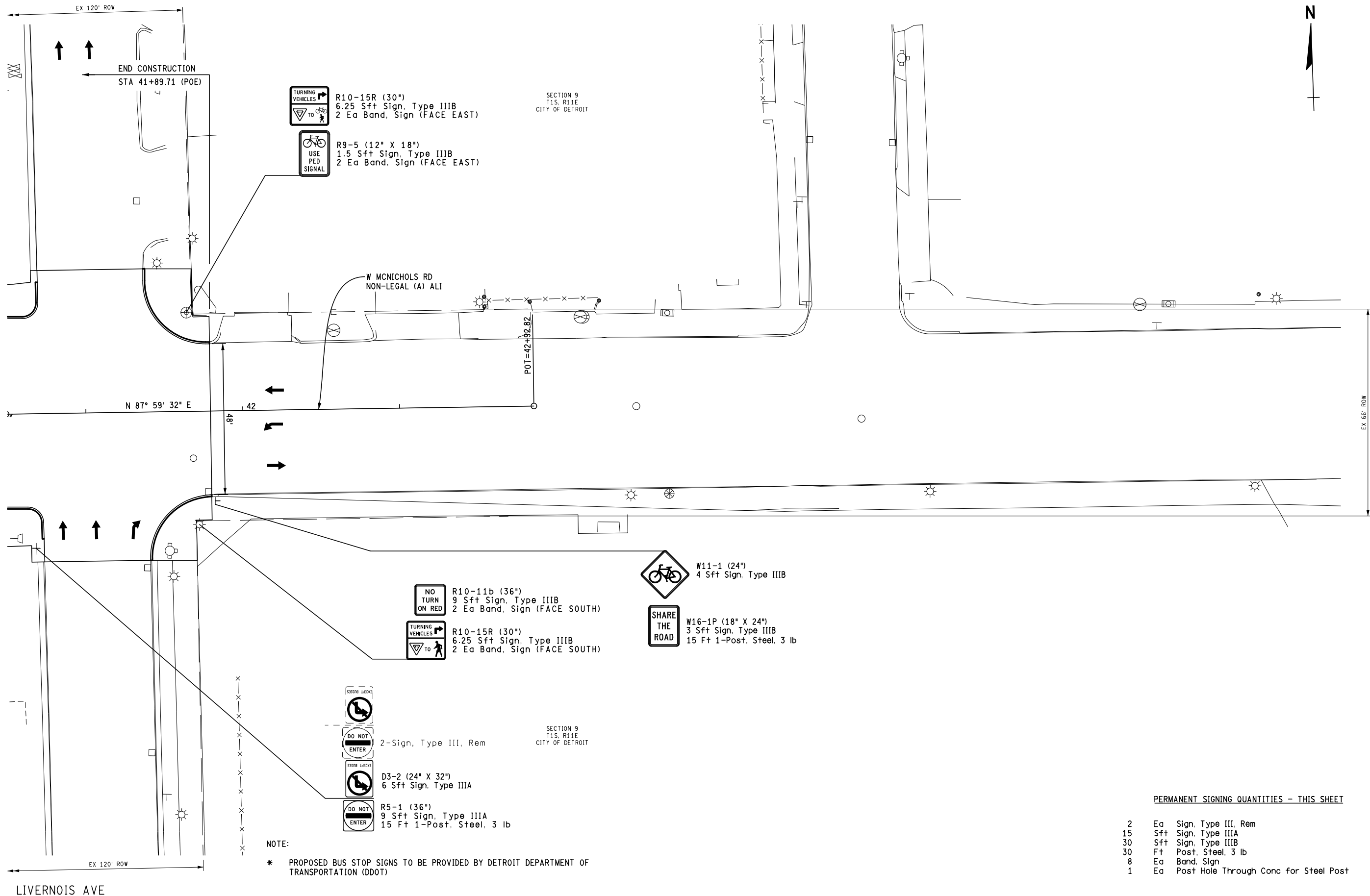
DATE: 06/20/19  
 FILE:

JN: PW-7004  
 MCNICHOLS STREETScape

SIGNING SHEET  
 MCNICHOLS STREETScape  
 STA 37+00 TO STA 41+25  
 DRAWING SHEET  
 MCN SIGN 007 101

LIVERNOIS AVE

WARRINGTON DR



LIVERNOIS AVE

W McNichols Rd

W McNichols Rd

NOTE:  
\* PROPOSED BUS STOP SIGNS TO BE PROVIDED BY DETROIT DEPARTMENT OF TRANSPORTATION (DDOT)

PERMANENT SIGNING QUANTITIES - THIS SHEET

2	Ea	Sign, Type III, Rem
15	Sft	Sign, Type IIIA
30	Sft	Sign, Type IIIB
30	Ft	Post, Steel, 3 lb
8	Ea	Band, Sign
1	Ea	Post Hole Through Conc for Steel Post

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION

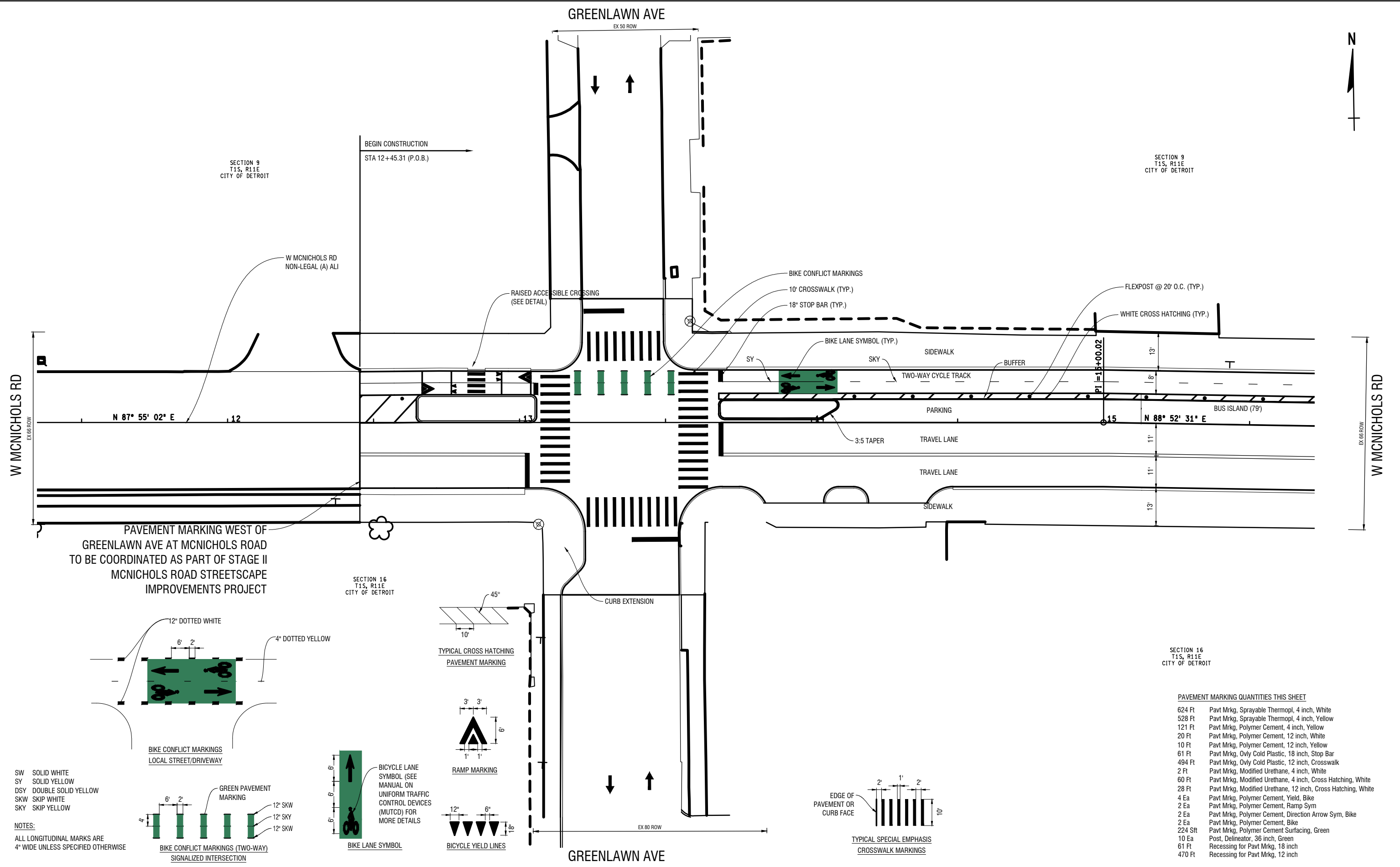


DATE: 06/20/19  
FILE:

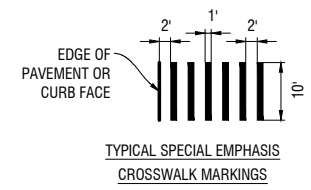
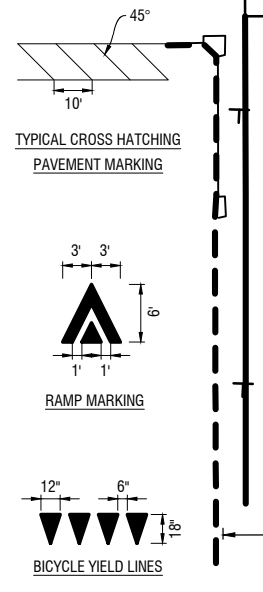
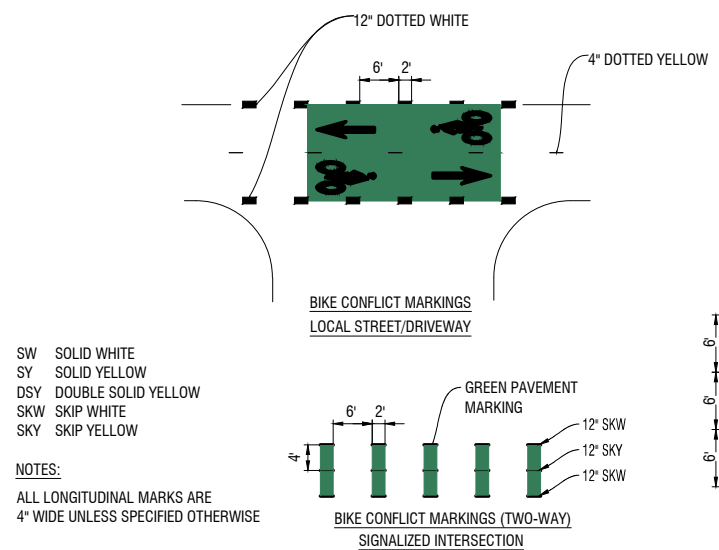
JN: PW-7004  
MCNICHOLS STREETScape

SIGNING SHEET  
MCNICHOLS STREETScape  
STA 41+25 TO STA 41+89.71 (POE)

DRAWING SHEET  
MCN SIGN 008  
102



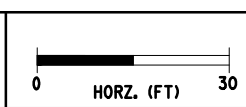
PAVEMENT MARKING WEST OF GREENLAWN AVE AT MCNICHOLS ROAD TO BE COORDINATED AS PART OF STAGE II MCNICHOLS ROAD STREETScape IMPROVEMENTS PROJECT



**PAVEMENT MARKING QUANTITIES THIS SHEET**

624 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
528 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
121 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
20 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
10 Ft	Pavt Mrkg, Polymer Cement, 12 inch, Yellow
61 Ft	Pavt Mrkg, Ovlv Cold Plastic, 18 inch, Stop Bar
494 Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
2 Ft	Pavt Mrkg, Modified Urethane, 4 inch, White
60 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
28 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
4 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
2 Ea	Pavt Mrkg, Polymer Cement, Ramp Sym
2 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
2 Ea	Pavt Mrkg, Polymer Cement, Bike
224 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
10 Ea	Post, Delineator, 36 inch, Green
61 Ft	Recessing for Pavt Mrkg, 18 inch
470 Ft	Recessing for Pavt Mrkg, 12 inch

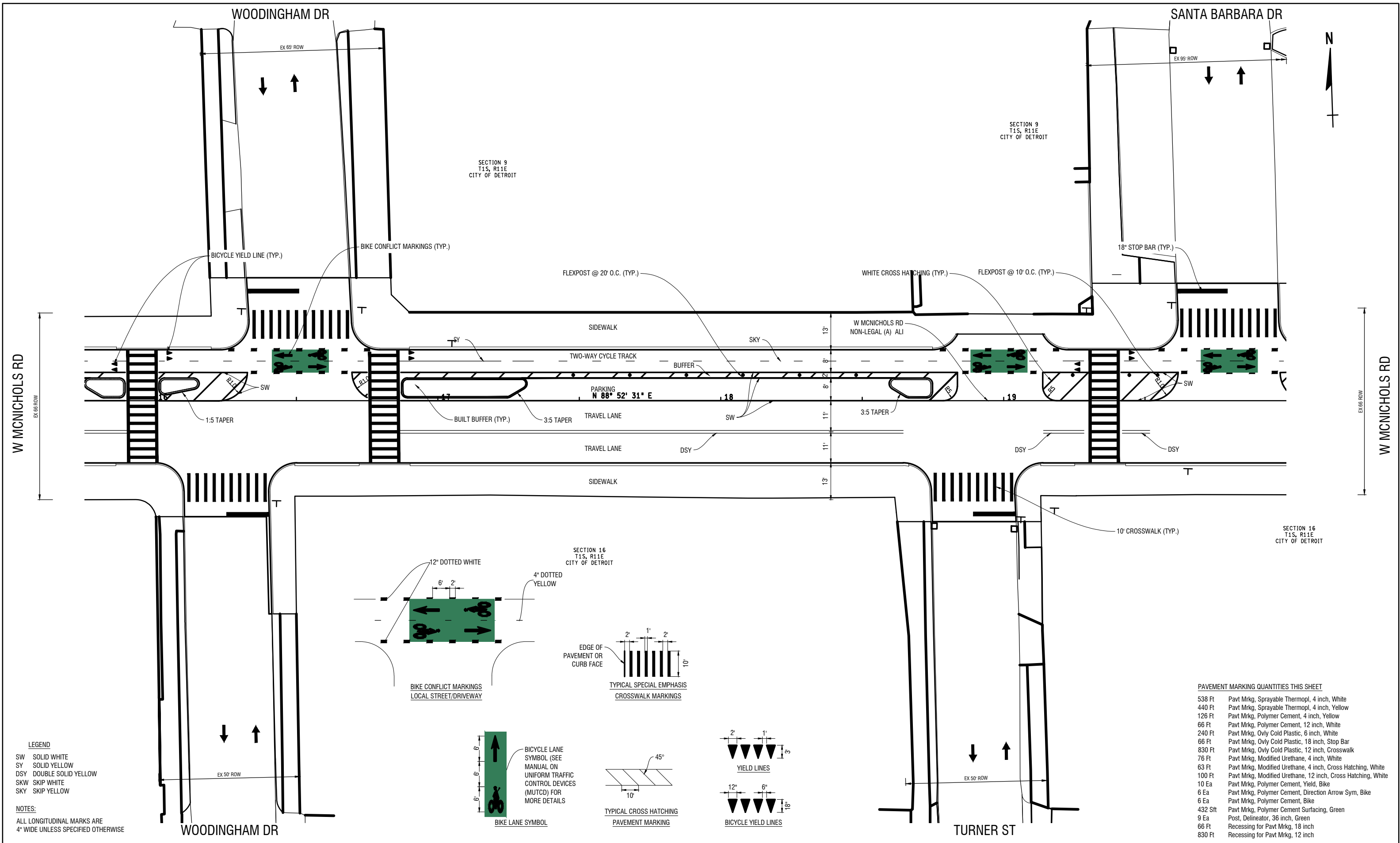
FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PAVEMENT MARKING PLANS		DRAWING	SHEET
MCNICHOLS STREETScape		MCN PVTMRK 001	103
STA 12+45.31 (POB) TO STA 15+75			



W McNICHOLS RD  
EX 66' ROW

W McNICHOLS RD  
EX 66' ROW

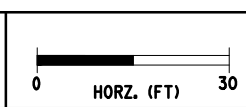


- LEGEND**
- SW SOLID WHITE
  - SY SOLID YELLOW
  - DSY DOUBLE SOLID YELLOW
  - SKW SKIP WHITE
  - SKY SKIP YELLOW
- NOTES:**
- ALL LONGITUDINAL MARKS ARE 4" WIDE UNLESS SPECIFIED OTHERWISE

**PAVEMENT MARKING QUANTITIES THIS SHEET**

538 Ft	Pav't Mrkg, Sprayable Thermopt, 4 inch, White
440 Ft	Pav't Mrkg, Sprayable Thermopt, 4 inch, Yellow
126 Ft	Pav't Mrkg, Polymer Cement, 4 inch, Yellow
66 Ft	Pav't Mrkg, Polymer Cement, 12 inch, White
240 Ft	Pav't Mrkg, Ovly Cold Plastic, 6 inch, White
66 Ft	Pav't Mrkg, Ovly Cold Plastic, 18 inch, Stop Bar
830 Ft	Pav't Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk
76 Ft	Pav't Mrkg, Modified Urethane, 4 inch, White
63 Ft	Pav't Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
100 Ft	Pav't Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
10 Ea	Pav't Mrkg, Polymer Cement, Yield, Bike
6 Ea	Pav't Mrkg, Polymer Cement, Direction Arrow Sym, Bike
6 Ea	Pav't Mrkg, Polymer Cement, Bike
432 Sft	Pav't Mrkg, Polymer Cement Surfacing, Green
9 Ea	Post, Delineator, 36 inch, Green
66 Ft	Recessing for Pav't Mrkg, 18 inch
830 Ft	Recessing for Pav't Mrkg, 12 inch

FINAL ROW PLAN REVISIONS			(SUBMITTAL DATE: )		
NO.	DATE	AUTH	NO.	DATE	AUTH



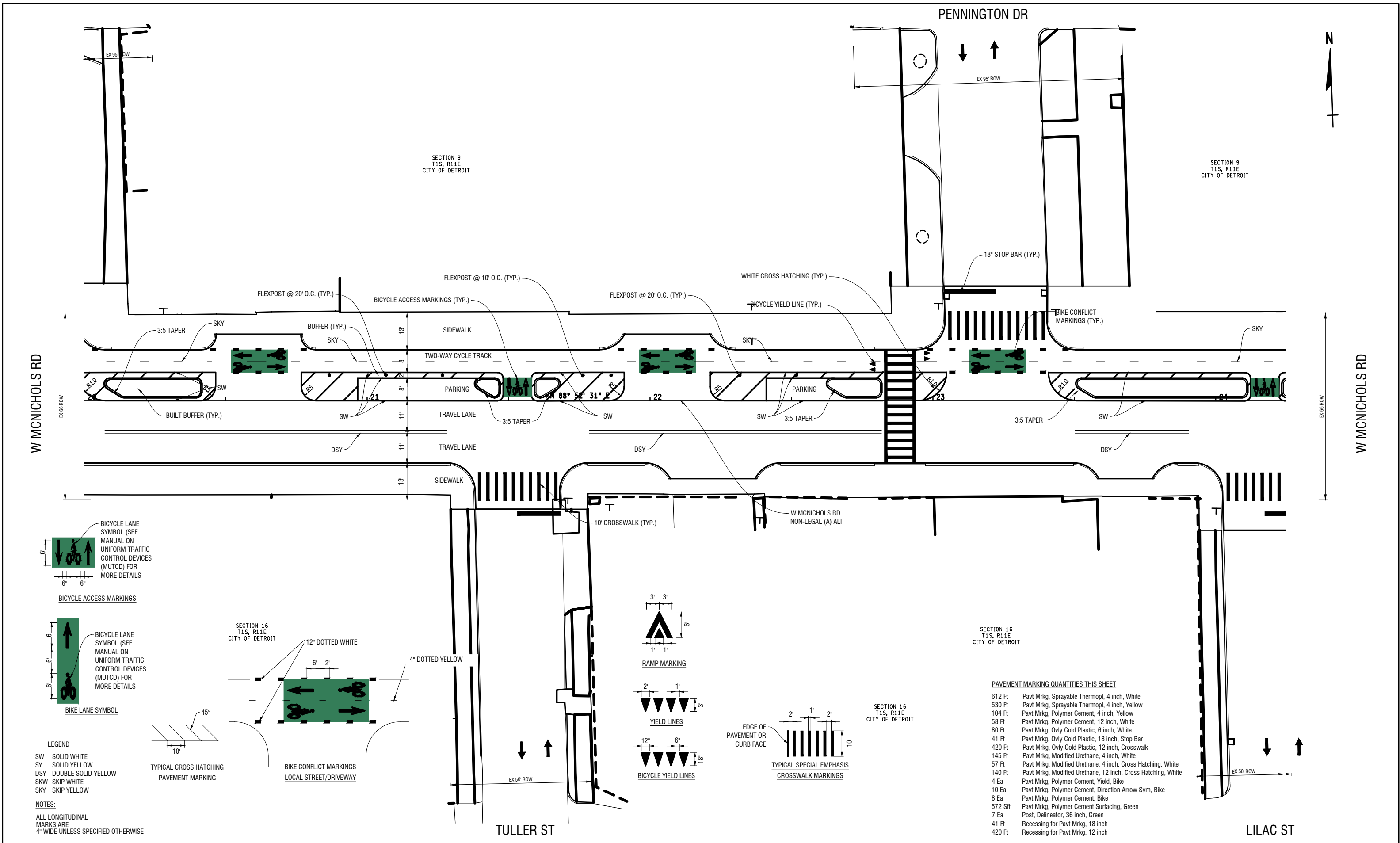
DATE: 06/20/19

FILE:

JN: PW-7004  
McNICHOLS STREETScape

PAVEMENT MARKING PLANS	DRAWING	SHEET
McNICHOLS STREETScape	MCN PVTMRK 002	104
STA 15+75 TO STA 20+00		





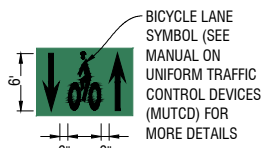
SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT

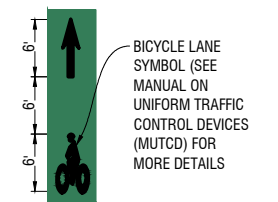
PENNINGTON DR

W MCNICHOLS RD

W MCNICHOLS RD



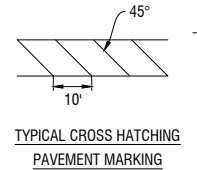
BICYCLE LANE SYMBOL (SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR MORE DETAILS)



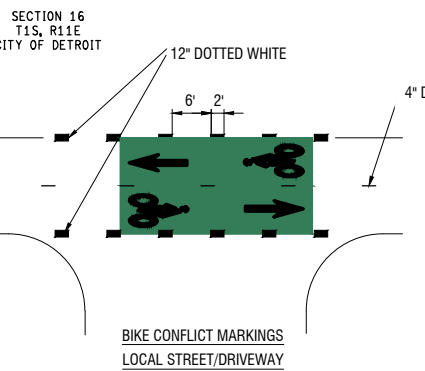
BICYCLE LANE SYMBOL (SEE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR MORE DETAILS)

- LEGEND**
- SW SOLID WHITE
  - SY SOLID YELLOW
  - DSY DOUBLE SOLID YELLOW
  - SKW SKIP WHITE
  - SKY SKIP YELLOW

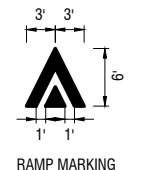
**NOTES:**  
ALL LONGITUDINAL MARKS ARE 4" WIDE UNLESS SPECIFIED OTHERWISE



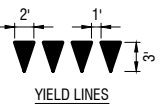
TYPICAL CROSS HATCHING PAVEMENT MARKING



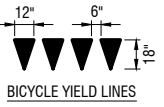
BIKE CONFLICT MARKINGS LOCAL STREET/DRIVEWAY



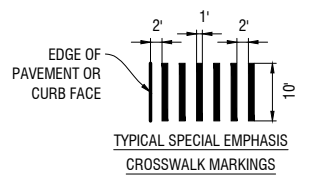
RAMP MARKING



YIELD LINES



BICYCLE YIELD LINES

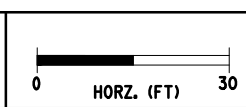


TYPICAL SPECIAL EMPHASIS CROSSWALK MARKINGS

**PAVEMENT MARKING QUANTITIES THIS SHEET**

612 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
530 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
104 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
58 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
80 Ft	Pavt Mrkg, Ovy Cold Plastic, 6 inch, White
41 Ft	Pavt Mrkg, Ovy Cold Plastic, 18 inch, Stop Bar
420 Ft	Pavt Mrkg, Ovy Cold Plastic, 12 inch, Crosswalk
145 Ft	Pavt Mrkg, Modified Urethane, 4 inch, White
57 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
140 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
4 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
10 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
8 Ea	Pavt Mrkg, Polymer Cement, Bike
572 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
7 Ea	Post, Delineator, 36 inch, Green
41 Ft	Recessing for Pavt Mrkg, 18 inch
420 Ft	Recessing for Pavt Mrkg, 12 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PAVEMENT MARKING PLANS  
MCNICHOLS STREETScape  
STA 20+00 TO STA 24+25

DRAWING  
MCN PVTMRK 003  
SHEET  
105

SAN JUAN DR

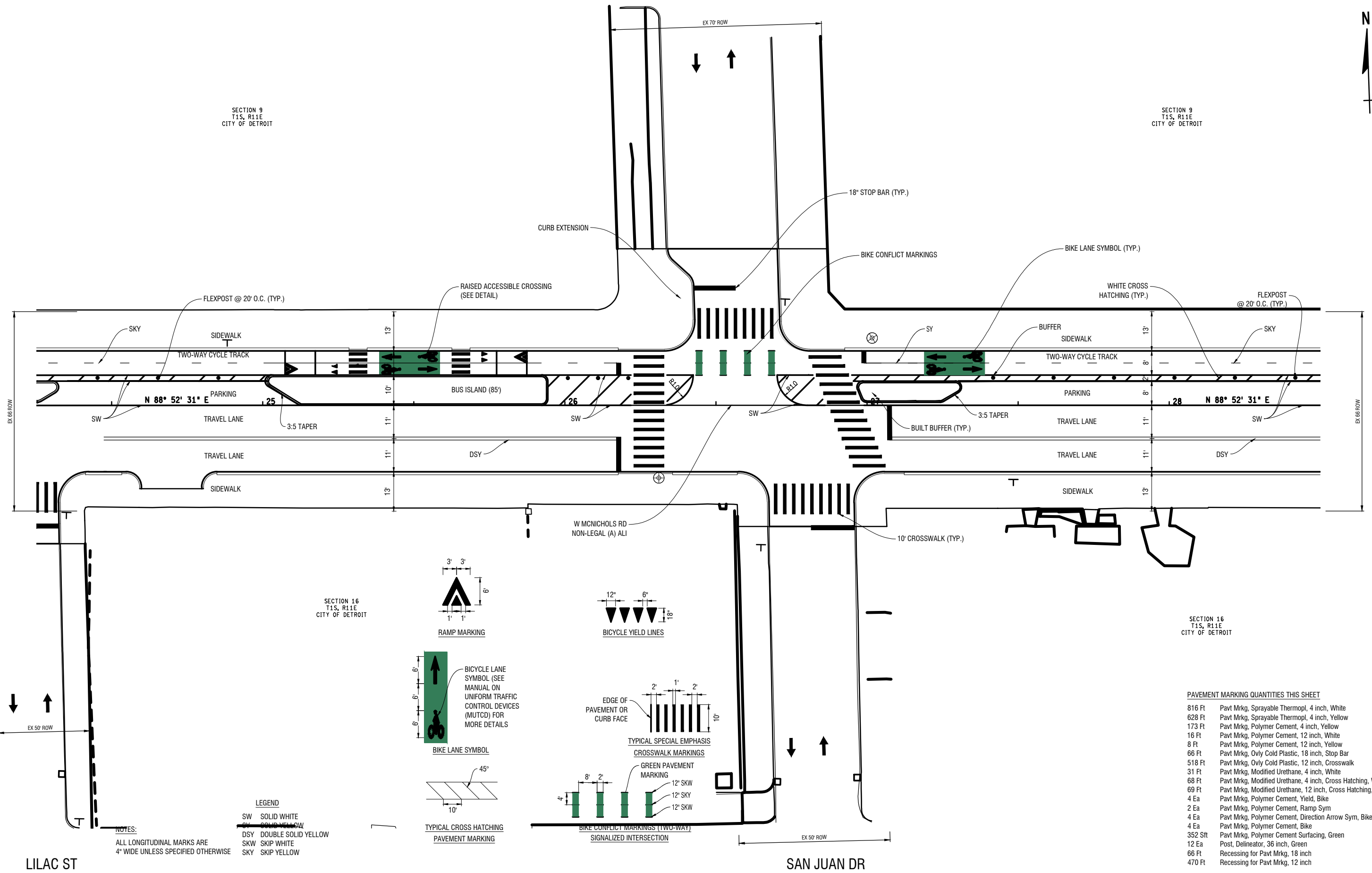
SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT



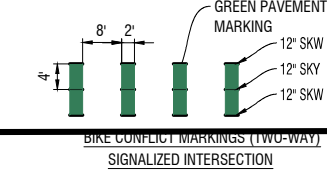
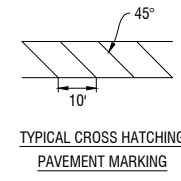
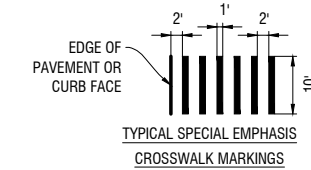
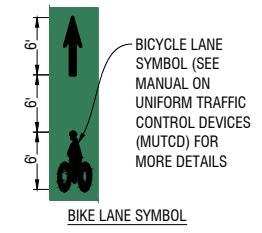
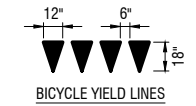
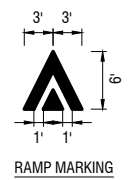
W MCNICHOLS RD

W MCNICHOLS RD



SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT



PAVEMENT MARKING QUANTITIES THIS SHEET

816 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
628 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
173 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
16 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
8 Ft	Pavt Mrkg, Polymer Cement, 12 inch, Yellow
66 Ft	Pavt Mrkg, Ovly Cold Plastic, 18 inch, Stop Bar
518 Ft	Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk
31 Ft	Pavt Mrkg, Modified Urethane, 4 inch, White
68 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
69 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
4 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
2 Ea	Pavt Mrkg, Polymer Cement, Ramp Sym
4 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
4 Ea	Pavt Mrkg, Polymer Cement, Bike
352 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
12 Ea	Post, Delineator, 36 inch, Green
66 Ft	Recessing for Pavt Mrkg, 18 inch
470 Ft	Recessing for Pavt Mrkg, 12 inch

LEGEND

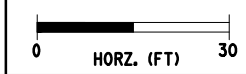
SW	SOLID WHITE
SY	SOLID YELLOW
DSY	DOUBLE SOLID YELLOW
SKW	SKIP WHITE
SKY	SKIP YELLOW

NOTES:  
ALL LONGITUDINAL MARKS ARE  
4" WIDE UNLESS SPECIFIED OTHERWISE

LILAC ST

SAN JUAN DR

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



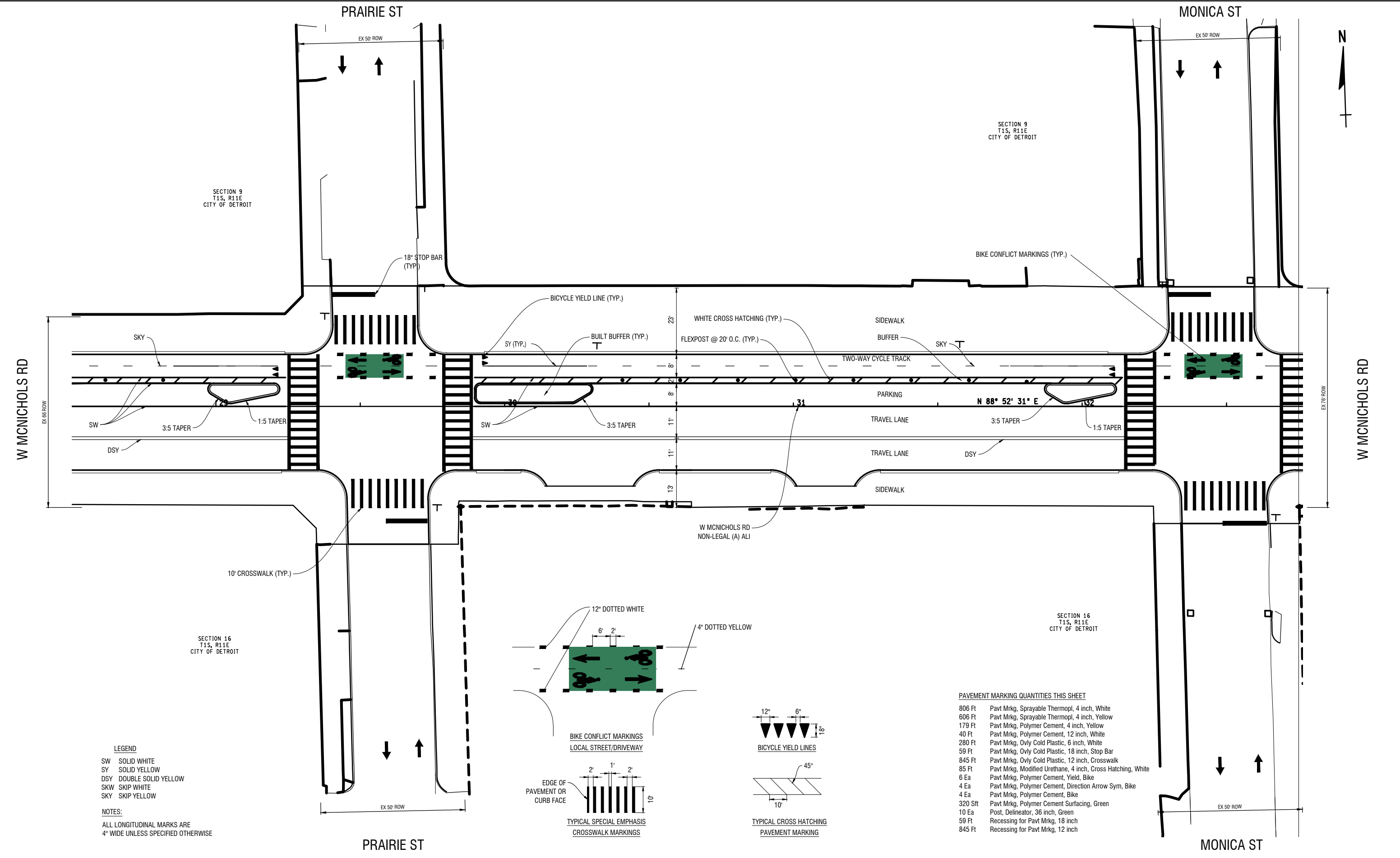
DATE: 06/20/19

FILE:

JN: PW-7004  
MCNICHOLS STREETScape

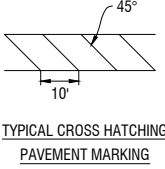
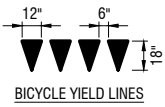
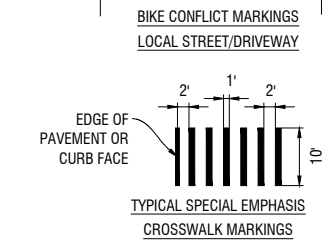
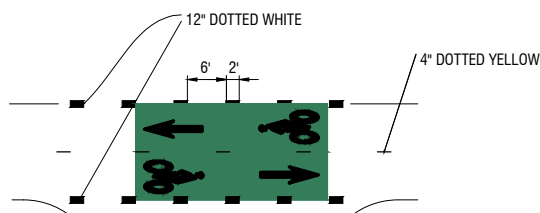
PAVEMENT MARKING PLANS  
MCNICHOLS STREETScape  
STA 24+25 TO STA 28+50

DRAWING  
MCN  
PVTMRK  
004  
SHEET  
106



**LEGEND**  
 SW SOLID WHITE  
 SY SOLID YELLOW  
 DSY DOUBLE SOLID YELLOW  
 SKW SKIP WHITE  
 SKY SKIP YELLOW

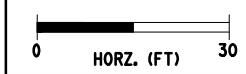
**NOTES:**  
 ALL LONGITUDINAL MARKS ARE  
 4" WIDE UNLESS SPECIFIED OTHERWISE



**PAVEMENT MARKING QUANTITIES THIS SHEET**

806 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
606 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
179 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
40 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
280 Ft	Pavt Mrkg, Ovly Cold Plastic, 6 inch, White
59 Ft	Pavt Mrkg, Ovly Cold Plastic, 18 inch, Stop Bar
845 Ft	Pavt Mrkg, Ovly Cold Plastic, 12 inch, Crosswalk
85 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
6 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
4 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
4 Ea	Pavt Mrkg, Polymer Cement, Bike
320 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
10 Ea	Post, Delineator, 36 inch, Green
59 Ft	Recessing for Pavt Mrkg, 18 inch
845 Ft	Recessing for Pavt Mrkg, 12 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
 FILE: \_\_\_\_\_

JN: PW-7004  
 MCNICHOLS STREETScape

PAVEMENT MARKING PLANS  
 MCNICHOLS STREETScape  
 STA 28+50 TO STA 32+75

DRAWING  
 MCN  
 PVTMRK  
 005  
 SHEET  
 107

SANTA ROSA DR

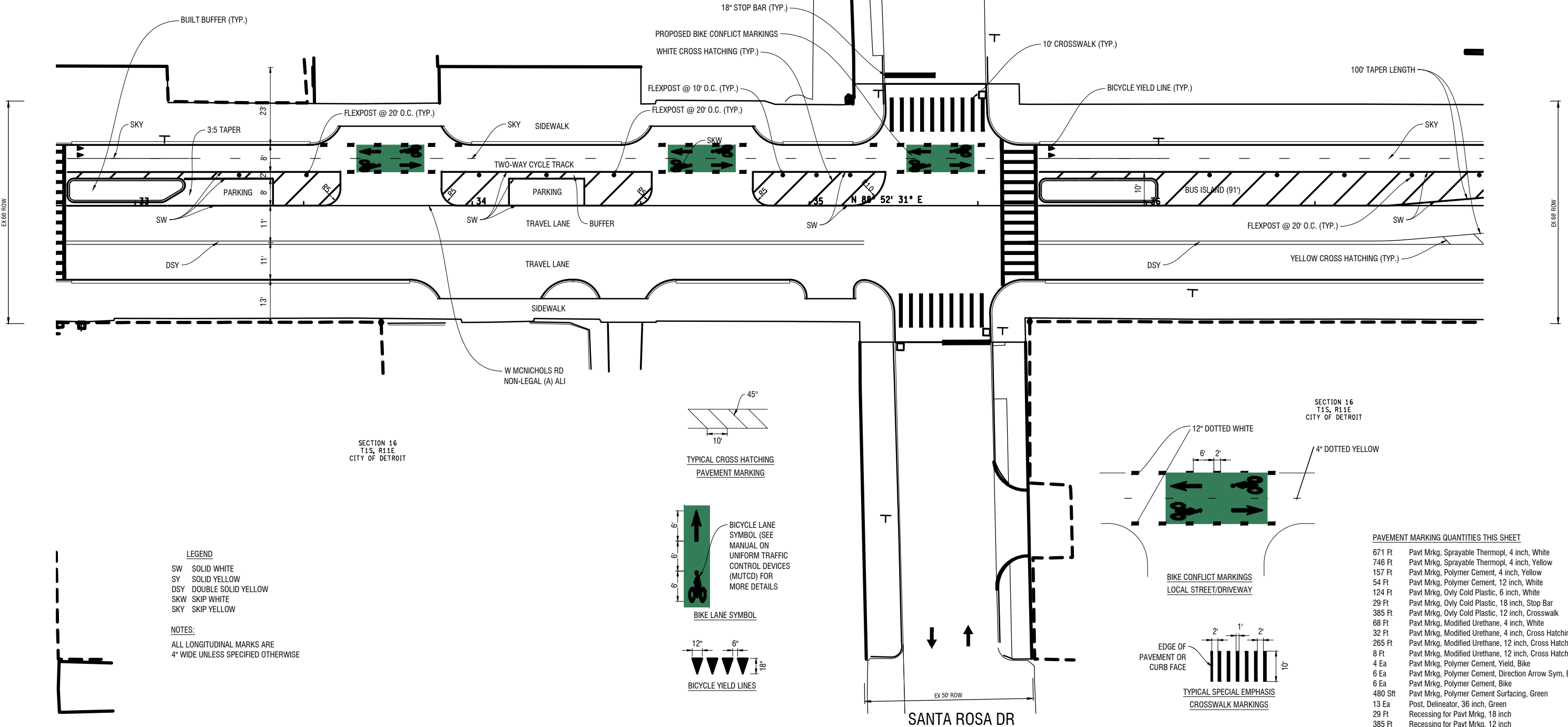
SECTION 9  
T1S, R11E  
CITY OF DETROIT

SECTION 9  
T1S, R11E  
CITY OF DETROIT



W MCNICHOLS RD

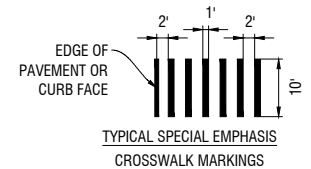
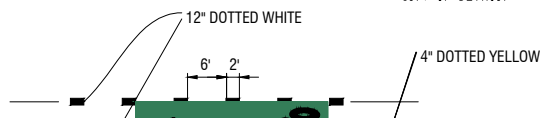
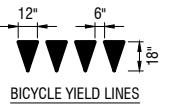
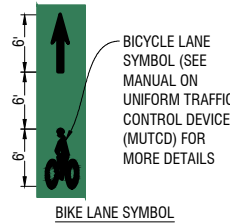
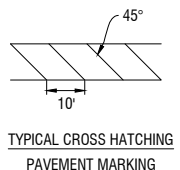
W MCNICHOLS RD



SECTION 16  
T1S, R11E  
CITY OF DETROIT

SECTION 16  
T1S, R11E  
CITY OF DETROIT

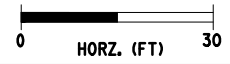
- LEGEND**
- SW SOLID WHITE
  - SY SOLID YELLOW
  - DSY DOUBLE SOLID YELLOW
  - SKW SKIP WHITE
  - SKY SKIP YELLOW
- NOTES:**
- ALL LONGITUDINAL MARKS ARE 4" WIDE UNLESS SPECIFIED OTHERWISE



**PAVEMENT MARKING QUANTITIES THIS SHEET**

671 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
746 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
157 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
54 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
124 Ft	Pavt Mrkg, Ovlv Cold Plastic, 6 inch, White
29 Ft	Pavt Mrkg, Ovlv Cold Plastic, 18 inch, Stop Bar
385 Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
68 Ft	Pavt Mrkg, Modified Urethane, 4 inch, White
32 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
265 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
8 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, Yellow
4 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
6 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
6 Ea	Pavt Mrkg, Polymer Cement, Bike
480 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
13 Ea	Post, Delineator, 36 inch, Green
29 Ft	Recessing for Pavt Mrkg, 18 inch
385 Ft	Recessing for Pavt Mrkg, 12 inch

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PAVEMENT MARKING PLANS  
MCNICHOLS STREETScape  
STA 32+75 TO STA 37+00

DRAWING  
MCN  
PVTMRK  
006

SHEET  
108

STOEPEL ST

LIVERNOIS AVE

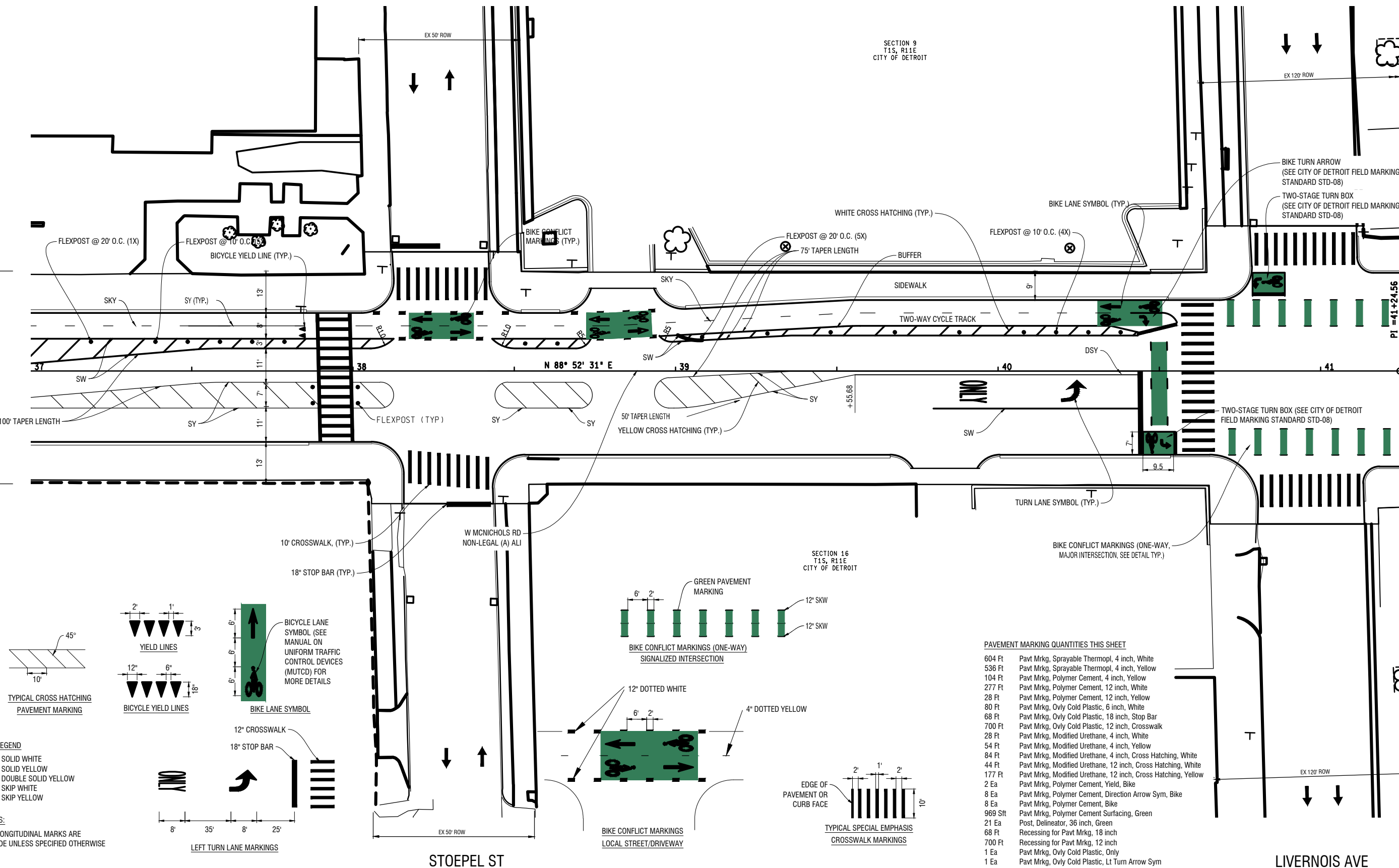


SECTION 9  
T1S, R11E  
CITY OF DETROIT



EX 120' ROW

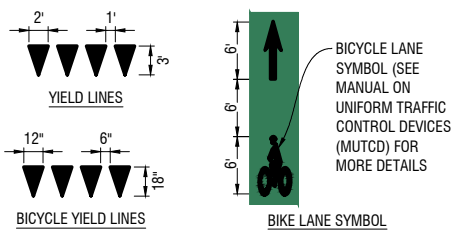
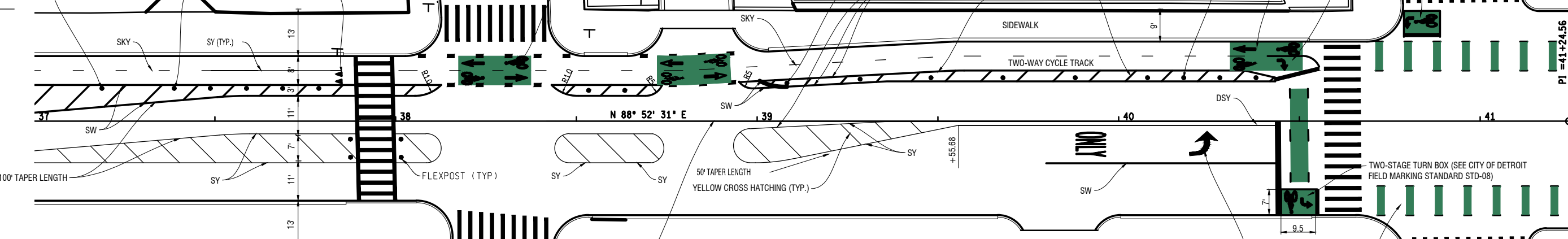
BIKE TURN ARROW  
(SEE CITY OF DETROIT FIELD MARKING  
STANDARD STD-08)  
TWO-STAGE TURN BOX  
(SEE CITY OF DETROIT FIELD MARKING  
STANDARD STD-08)



W MCNICHOLS RD

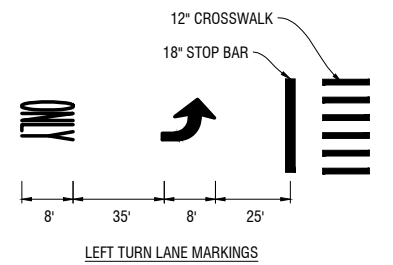
W MCNICHOLS RD

N 88° 52' 31" E



LEGEND  
SW SOLID WHITE  
SY SOLID YELLOW  
DSY DOUBLE SOLID YELLOW  
SKW SKIP WHITE  
SKY SKIP YELLOW

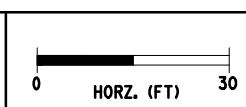
NOTES:  
ALL LONGITUDINAL MARKS ARE  
4" WIDE UNLESS SPECIFIED OTHERWISE



PAVEMENT MARKING QUANTITIES THIS SHEET

604 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
536 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
104 Ft	Pavt Mrkg, Polymer Cement, 4 inch, Yellow
277 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
28 Ft	Pavt Mrkg, Polymer Cement, 12 inch, Yellow
80 Ft	Pavt Mrkg, Ovlv Cold Plastic, 6 inch, White
68 Ft	Pavt Mrkg, Ovlv Cold Plastic, 18 inch, Stop Bar
700 Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
28 Ft	Pavt Mrkg, Modified Urethane, 4 inch, White
54 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Yellow
84 Ft	Pavt Mrkg, Modified Urethane, 4 inch, Cross Hatching, White
44 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, White
177 Ft	Pavt Mrkg, Modified Urethane, 12 inch, Cross Hatching, Yellow
2 Ea	Pavt Mrkg, Polymer Cement, Yield, Bike
8 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
8 Ea	Pavt Mrkg, Polymer Cement, Bike
969 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
21 Ea	Post, Delineator, 36 inch, Green
68 Ft	Recessing for Pavt Mrkg, 18 inch
700 Ft	Recessing for Pavt Mrkg, 12 inch
1 Ea	Pavt Mrkg, Ovlv Cold Plastic, Only
1 Ea	Pavt Mrkg, Ovlv Cold Plastic, Lt Turn Arrow Sym

FINAL ROW PLAN REVISIONS			(SUBMITTAL DATE: )				
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

PAVEMENT MARKING PLANS  
MCNICHOLS STREETScape  
STA 37+00 TO STA 41+25

DRAWING  
MCN  
PVTMRK  
007  
SHEET  
109

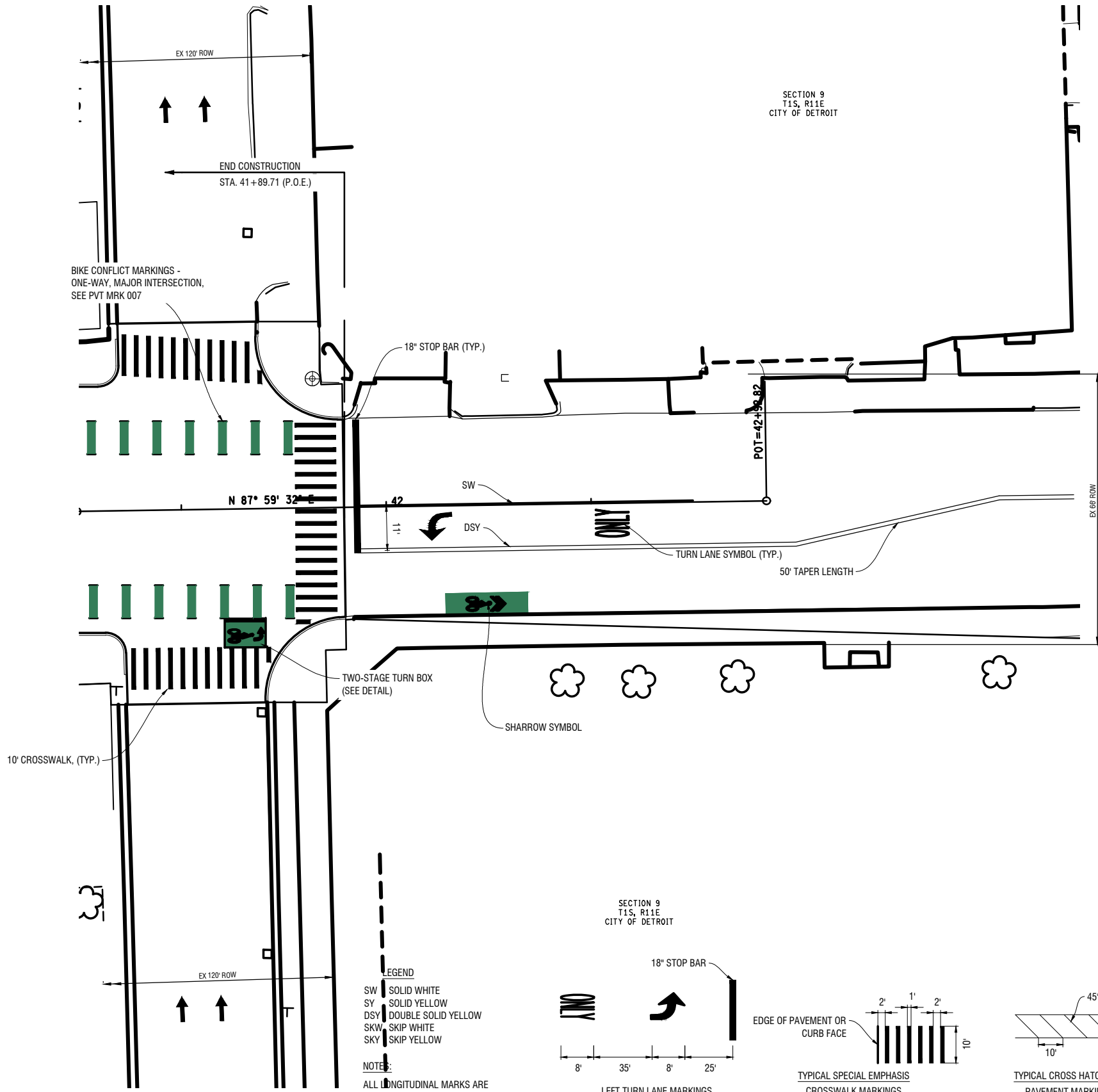
LIVERNOIS AVE



SECTION 9  
T1S, R11E  
CITY OF DETROIT

W MCNICHOLS RD

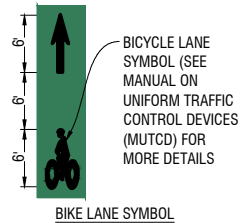
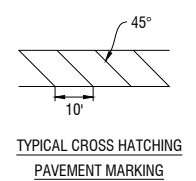
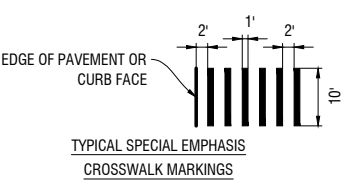
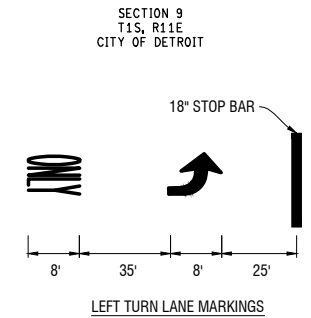
W MCNICHOLS RD



LEGEND

- SW SOLID WHITE
- SY SOLID YELLOW
- DSY DOUBLE SOLID YELLOW
- SKW SKIP WHITE
- SKY SKIP YELLOW

NOTE:  
ALL LONGITUDINAL MARKS ARE 4" WIDE UNLESS SPECIFIED OTHERWISE

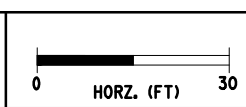


PAVEMENT MARKING QUANTITIES THIS SHEET

190 Sft	Rem Spec Mrkg
82 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, White
352 Ft	Pavt Mrkg, Sprayable Thermopl, 4 inch, Yellow
56 Ft	Pavt Mrkg, Polymer Cement, 12 inch, White
28 Ft	Pavt Mrkg, Polymer Cement, 12 inch, Yellow
32 Ft	Pavt Mrkg, Ovlv Cold Plastic, 18 inch, Stop Bar
410 Ft	Pavt Mrkg, Ovlv Cold Plastic, 12 inch, Crosswalk
1 Ea	Pavt Mrkg, Polymer Cement, Direction Arrow Sym, Bike
1 Ea	Pavt Mrkg, Polymer Cement, Bike
374 Sft	Pavt Mrkg, Polymer Cement Surfacing, Green
32 Ft	Recessing for Pavt Mrkg, 18 inch
410 Ft	Recessing for Pavt Mrkg, 12 inch
1 Ea	Pavt Mrkg, Ovlv Cold Plastic, Only
1 Ea	Pavt Mrkg, Ovlv Cold Plastic, Lt Turn Arrow Sym
1 Ea	Pavt Mrkg, Ovlv Cold Plastic, Sharrow Symbol

LIVERNOIS AVE

FINAL ROW PLAN REVISIONS		(SUBMITTAL DATE: )	
NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19

FILE:

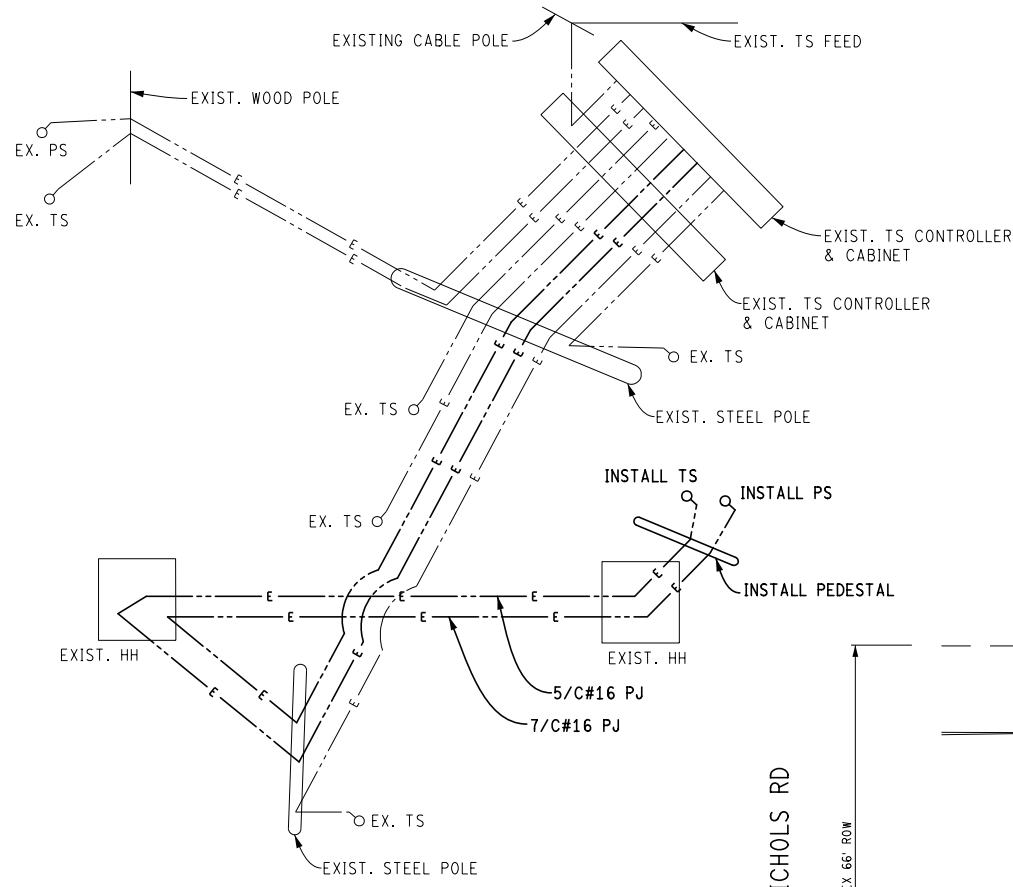
JN: PW-7004  
MCNICHOLS STREETScape

PAVEMENT MARKING PLANS  
MCNICHOLS STREETScape  
STA 41+25 TO STA 41+89.71 (POE)

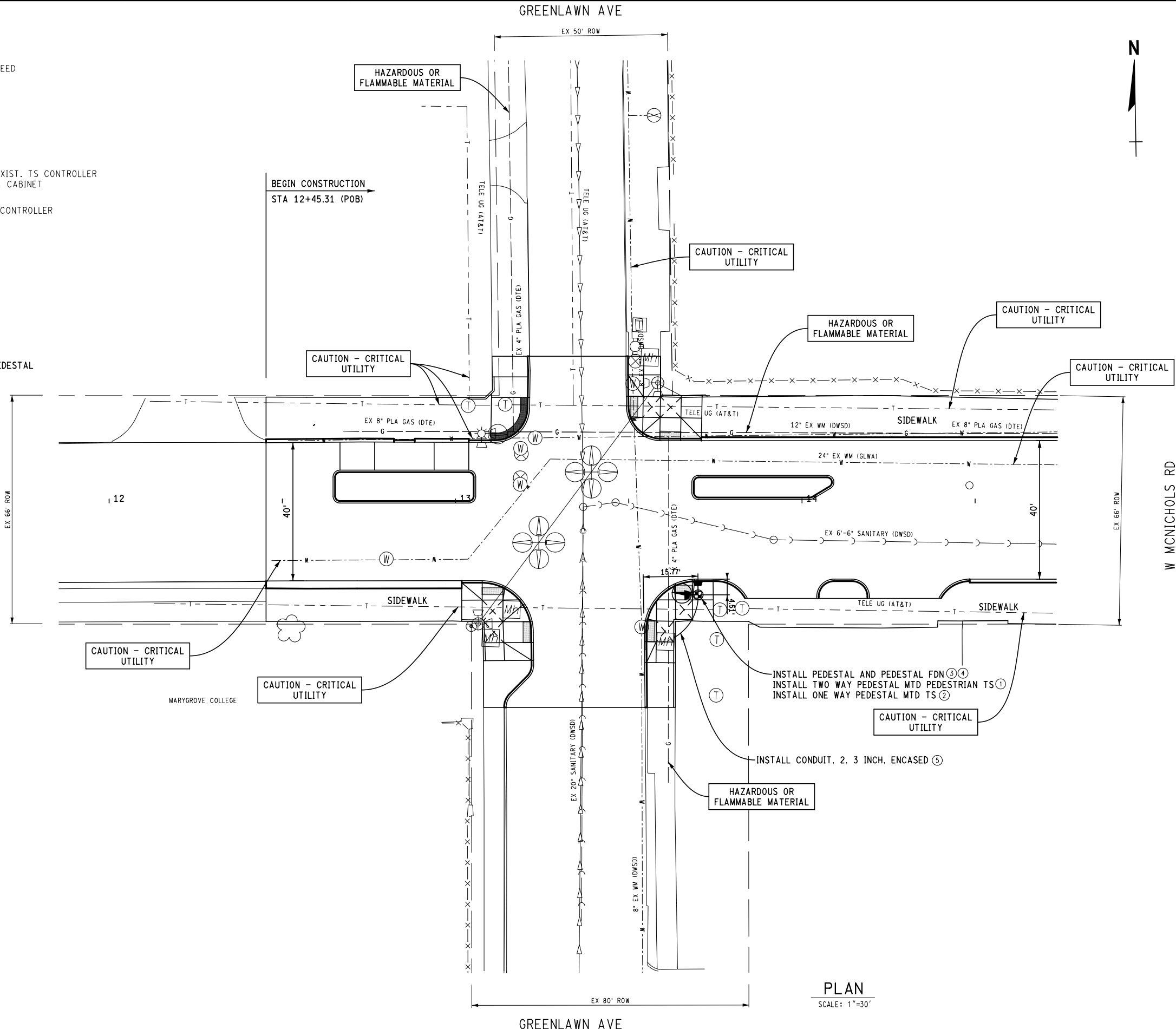
DRAWING  
MCN PVTMRK 008

SHEET  
110





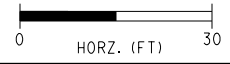
**WIRING DIAGRAM**  
N.T.S.



**PLAN**  
SCALE: 1"=30'

LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
1	TS, Pedestrian, Two Way Pedestal Mtd (LED) Countdown	1 ea	8200347
2	TS, One Way Pedestal Mtd (LED)	1 ea	8200340
3	Pedestal, Alum, Modified	1 ea	8207050
4	Pedestal, Fdn, Modified	1 ea	8207050
5	Conduit, Encased, 2, 3 inch, Modified	20 ea	8197001

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



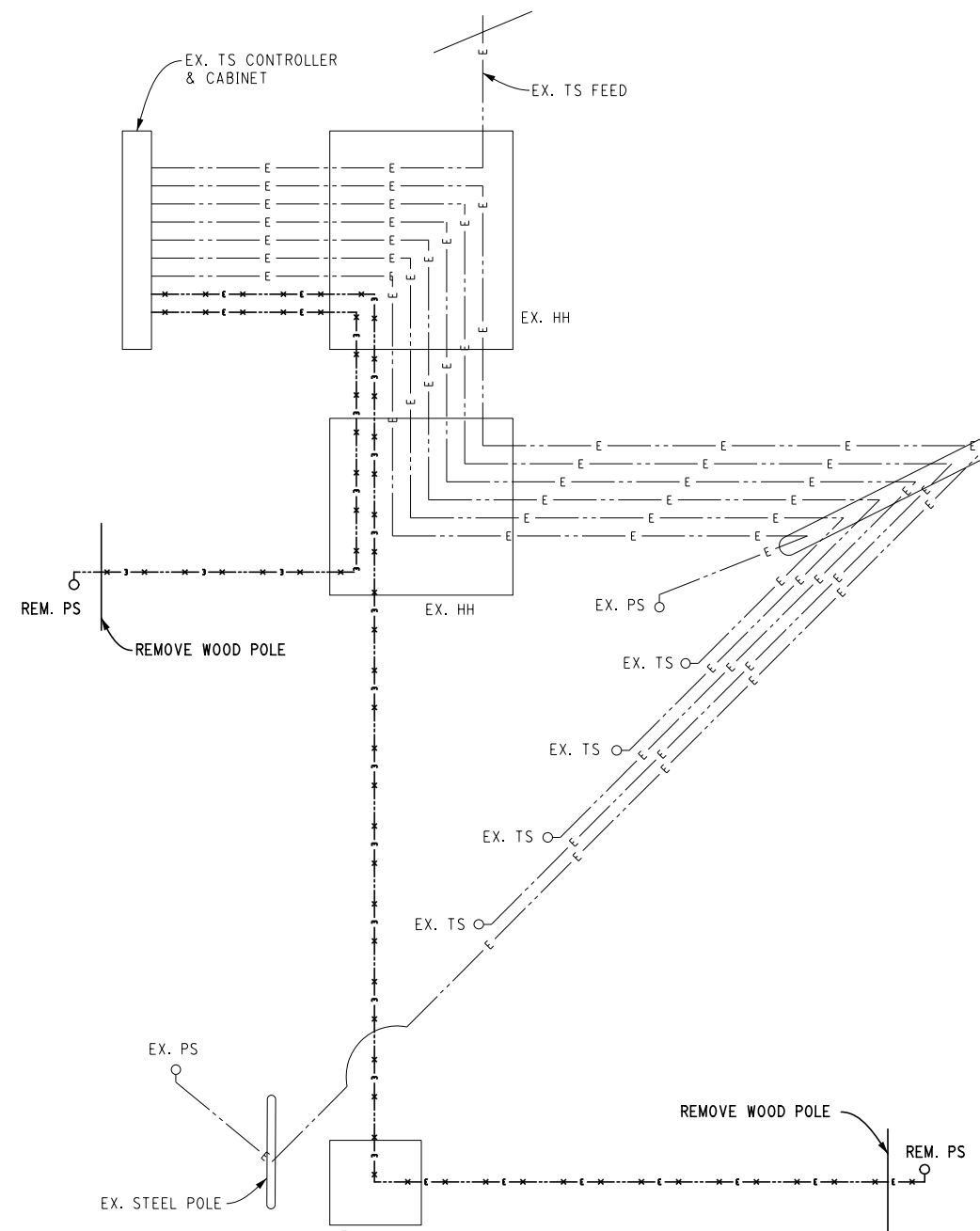
DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

TRAFFIC SIGNAL PLAN SHEET  
MCNICHOLS STREETScape  
W MCNICHOLS RD AT GREENLAWN AVE

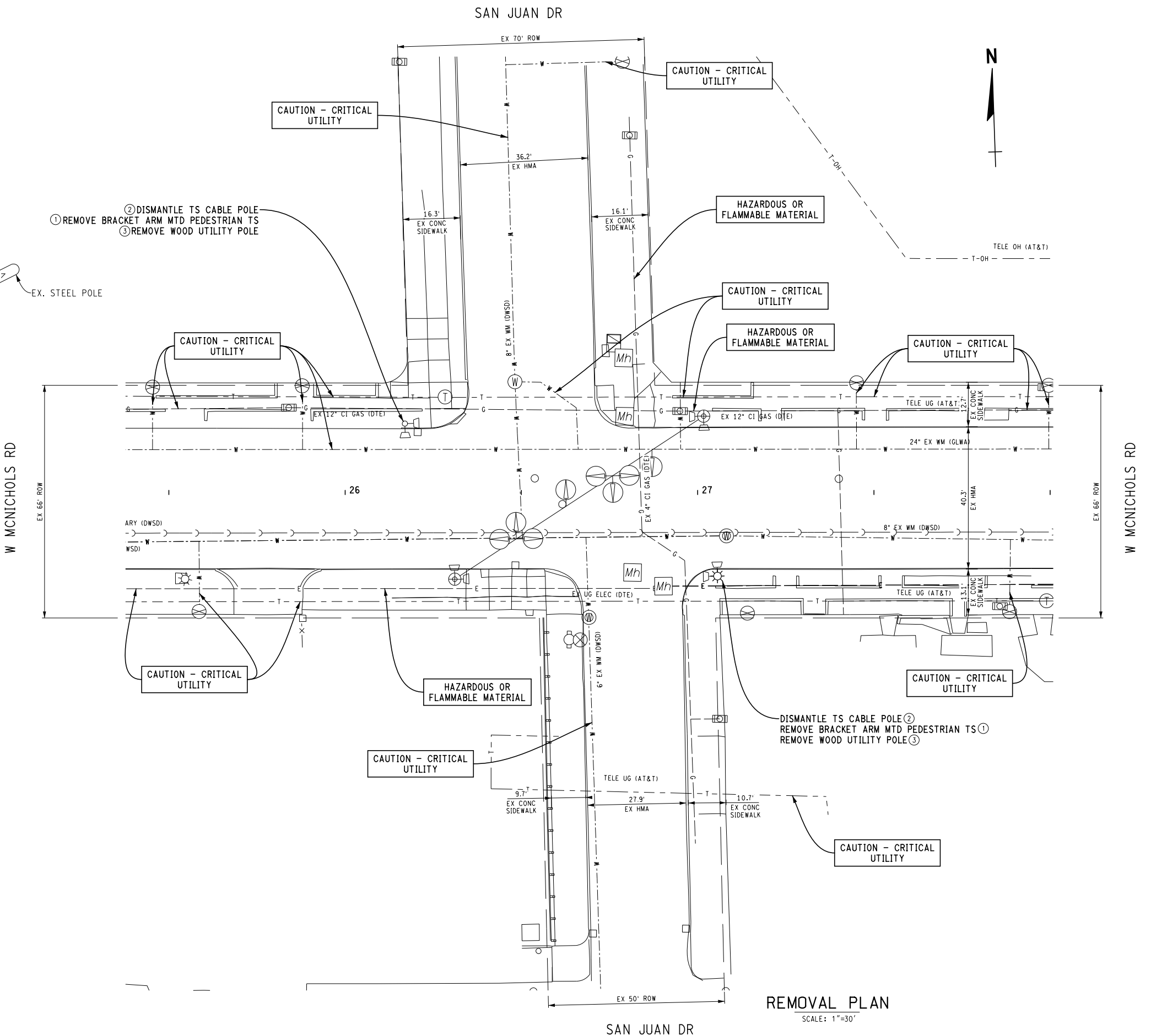
DRAWING SHEET  
MCN SIGNAL 002  
**112**





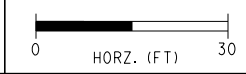
**REMOVAL WIRING DIAGRAM**  
N.T.S.

LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
1	TS, Pedestrian, Bracket Arm Mtd, Rem	2 ea	8200180
2	Cable Pole, TS, Dismant	2 ea	8190010
3	Wood Pole, Rem	2 ea	8190505



**REMOVAL PLAN**  
SCALE: 1"=30'

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

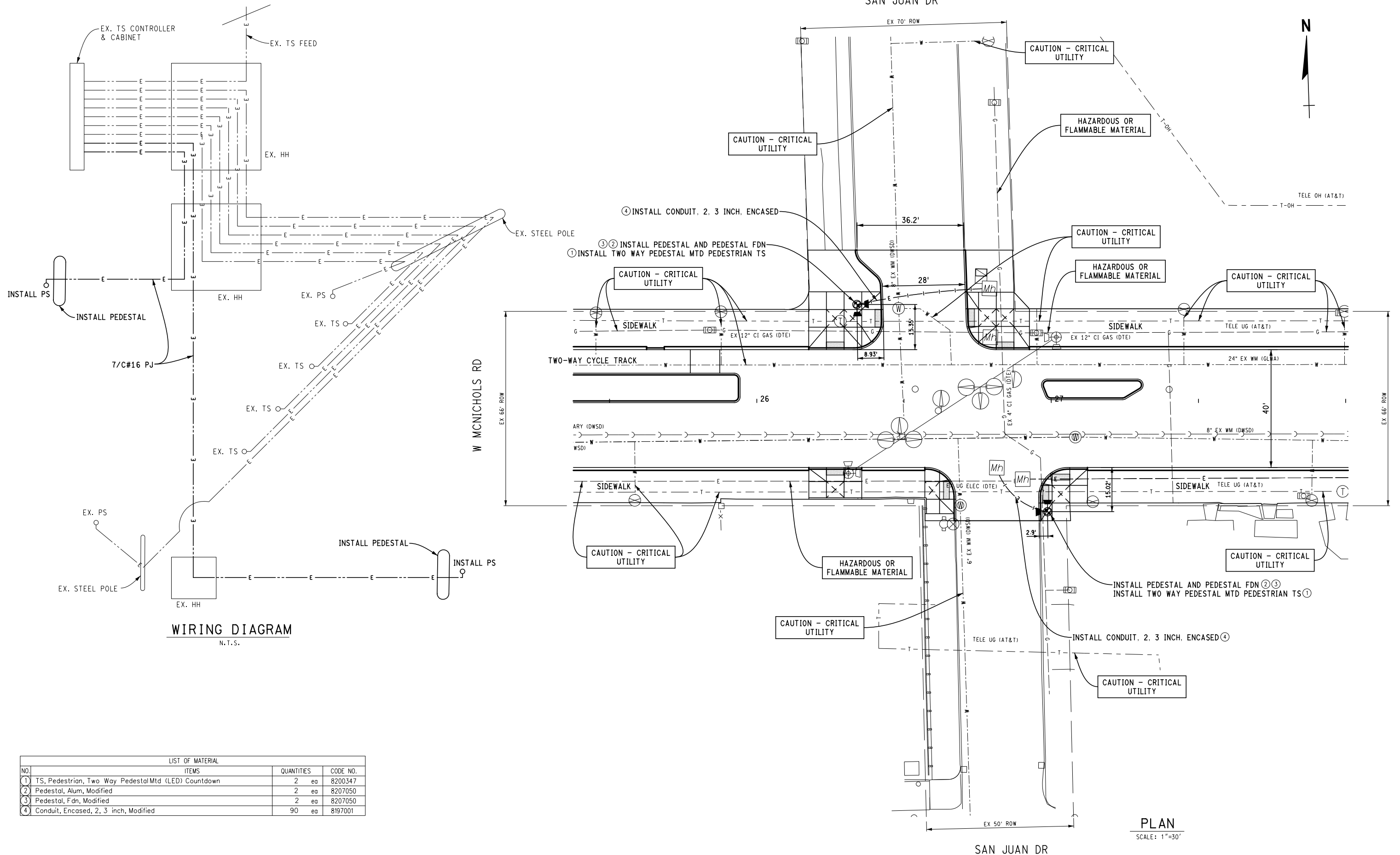


DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETScape

TRAFFIC SIGNAL REMOVAL SHEET  
MCNICHOLS STREETScape  
W MCNICHOLS RD AT SAN JUAN ST

DRAWING SHEET  
MCN SIGNAL 003  
**113**

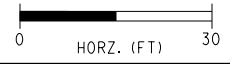


**WIRING DIAGRAM**  
N.T.S.

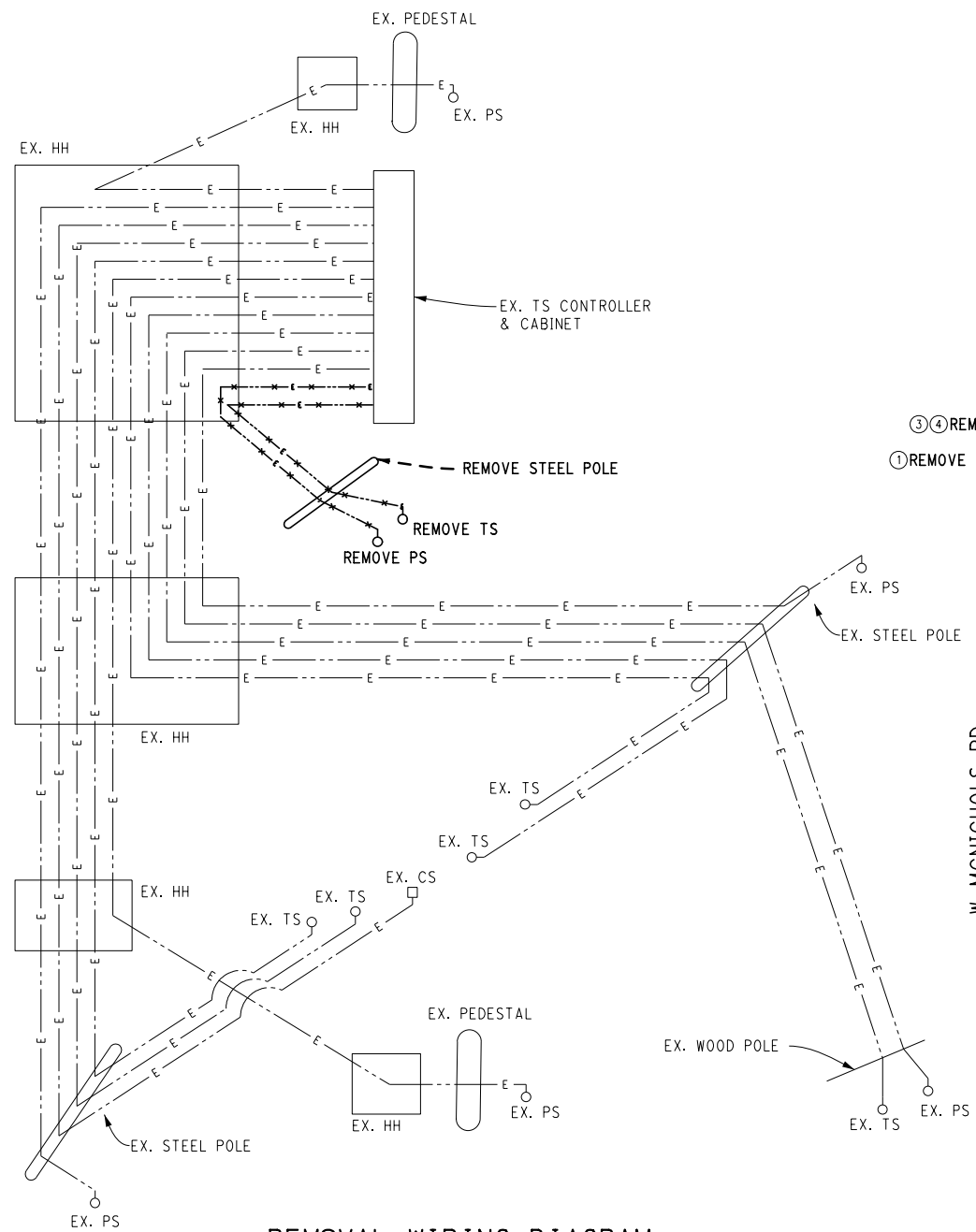
**PLAN**  
SCALE: 1"=30'

LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
1	TS, Pedestrian, Two Way PedestalMtd (LED) Countdown	2 ea	8200347
2	Pedestal, Alum, Modified	2 ea	8207050
3	Pedestal, Fdn, Modified	2 ea	8207050
4	Conduit, Encased, 2, 3 inch, Modified	90 ea	8197001

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



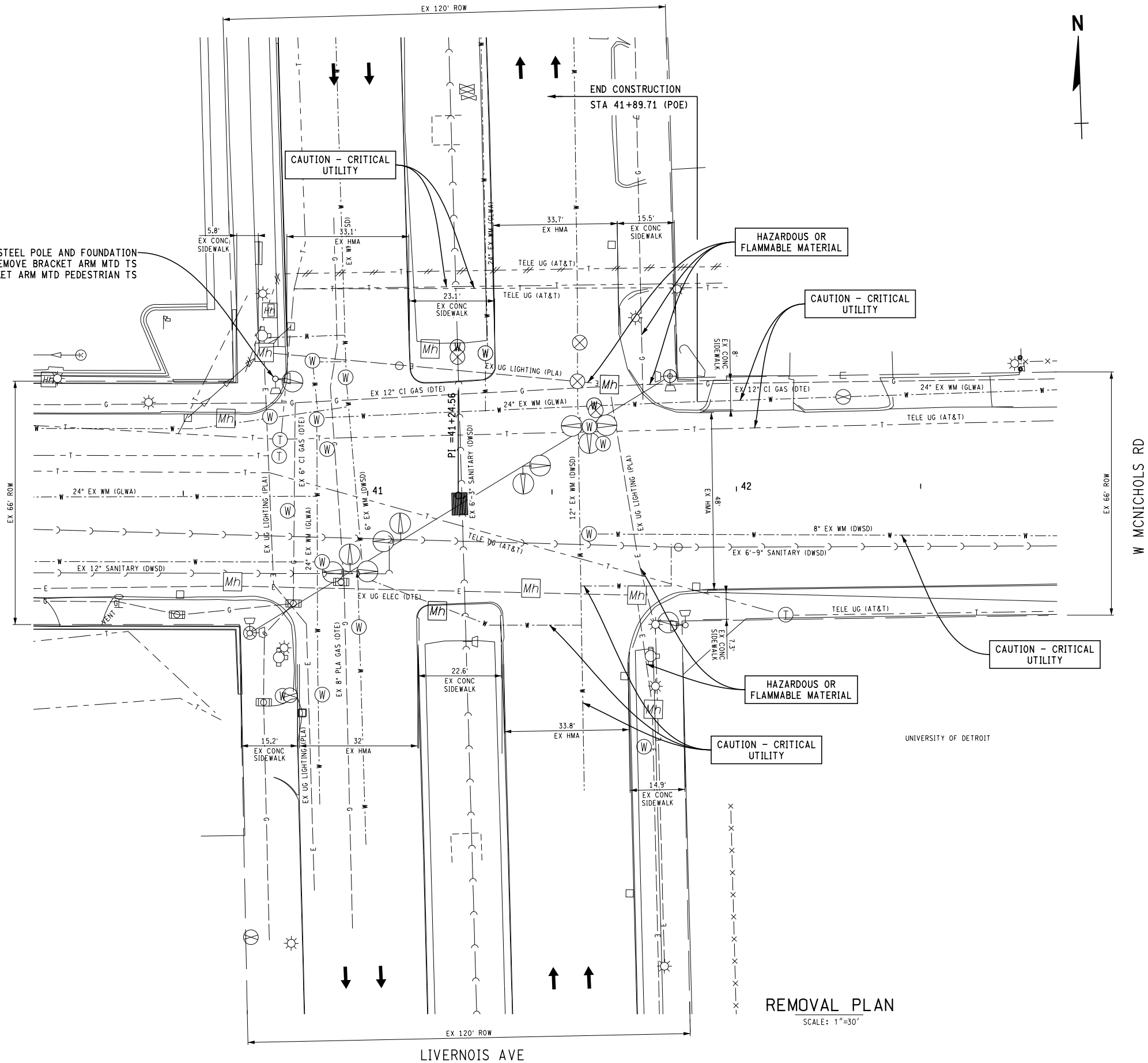
DATE: 06/20/19	JN: PW-7004	TRAFFIC SIGNAL PLAN SHEET	DRAWING	SHEET
FILE:	MCNICHOLS STREETSCAPE	MCNICHOLS STREETSCAPE	MCN SIGNAL 004	114
		W MCNICHOLS RD AT SAN JUAN ST		



**REMOVAL WIRING DIAGRAM**  
N.T.S.

- ③④ REMOVE STEEL POLE AND FOUNDATION
- ② REMOVE BRACKET ARM MTD TS
- ① REMOVE BRACKET ARM MTD PEDESTRIAN TS

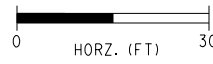
W MCNICHOLS RD



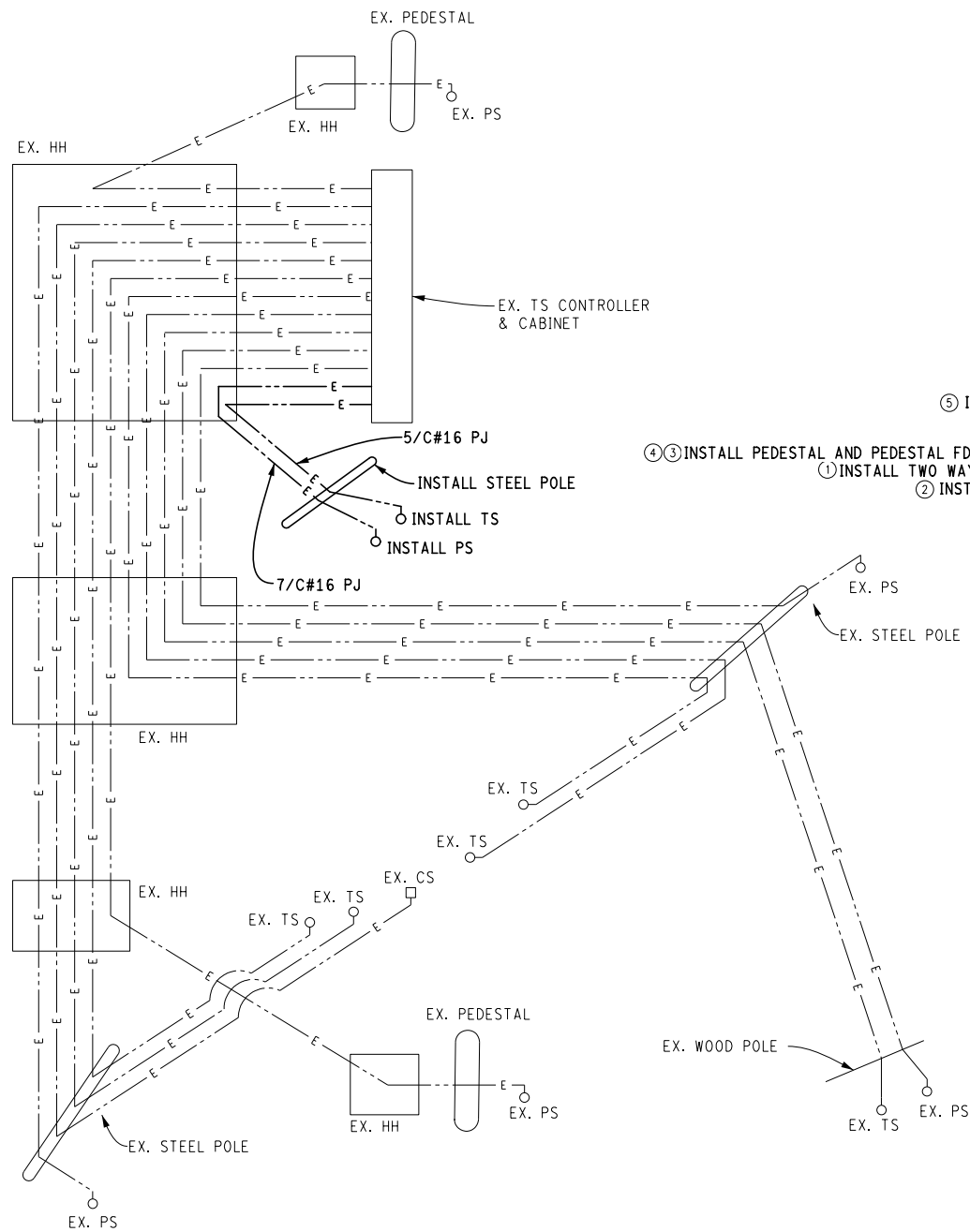
**REMOVAL PLAN**  
SCALE: 1"=30'

LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
①	TS, Pedestrian, Bracket Arm Mtd, Rem	1 ea	8200180
②	TS, Bracket Arm Mtd, Rem	1 ea	8200175
③	Steel Pole, Rem	1 ea	8200145
④	Fdn, Rem	1 ea	8200065

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



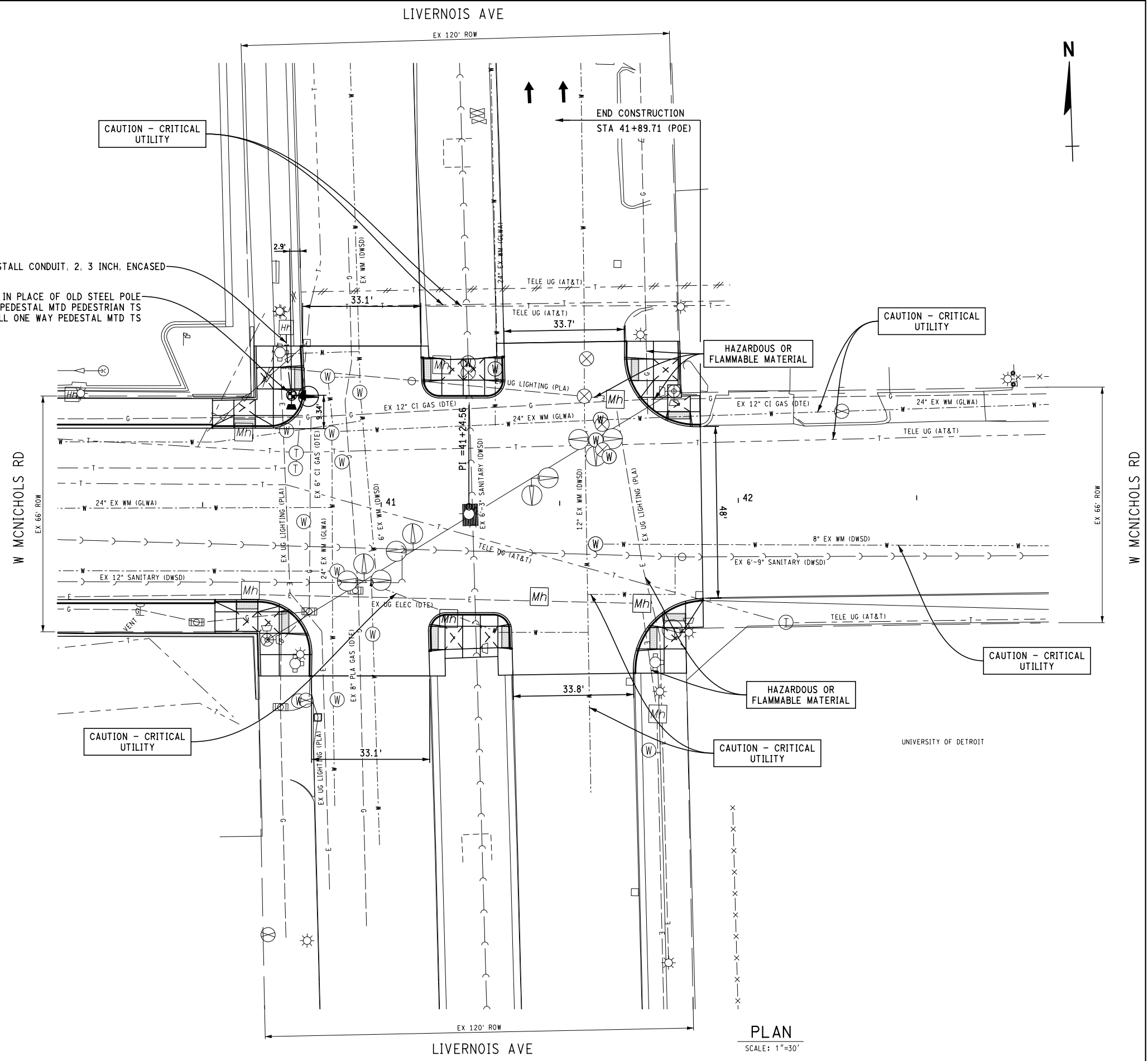
DATE: 06/20/19	JN: PW-7004	TRAFFIC SIGNAL REMOVAL SHEET	DRAWING	SHEET
FILE:	MCNICHOLS STREETSCAPE	MCNICHOLS STREETSCAPE	MCN SIGNAL 005	115
		W MCNICHOLS RD AT LIVERNOIS AVE		



**WIRING DIAGRAM**  
N.T.S.

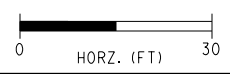
LIST OF MATERIAL			
NO.	ITEMS	QUANTITIES	CODE NO.
1	TS, Pedestrian, Two Way PedestalMtd (LED) Countdown	1 ea	8200347
2	TS, One Way PedestalMtd (LED)	1 ea	8200340
3	Pedestal, Alum, Modified	1 ea	8207050
4	Pedestal, Fdn, Modified	1 ea	8207050
5	Conduit, Encased, 2, 3 inch, Modified	30 ea	8197001

- ⑤ INSTALL CONDUIT, 2, 3 INCH, ENCASED
- ④③ INSTALL PEDESTAL AND PEDESTAL FDN IN PLACE OF OLD STEEL POLE
  - ① INSTALL TWO WAY PEDESTAL MTD PEDESTRIAN TS
  - ② INSTALL ONE WAY PEDESTAL MTD TS



**PLAN**  
SCALE: 1"=30'

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



DATE: 06/20/19  
FILE:

JN: PW-7004  
MCNICHOLS STREETSCAPE

TRAFFIC SIGNAL PLAN SHEET  
MCNICHOLS STREETSCAPE  
W MCNICHOLS RD AT LIVERNOIS AVE

DRAWING SHEET  
MCN SIGNAL 006  
**116**

**PUBLIC LIGHTING AUTHORITY OF DETROIT**  
 CITY OF DETROIT, WAYNE COUNTY, MICHIGAN  
**CONSTRUCTION PLANS FOR McNICHOLS STREET LIGHTING - 48221**  
 STREETScape PROJECT

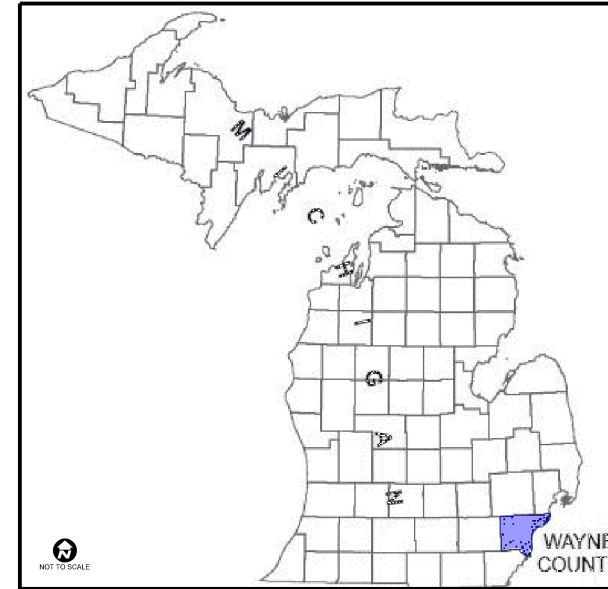
**PROJECT DESCRIPTION**

THIS PROJECT CONSISTS OF UPGRADING THE STREET LIGHTING ON McNICHOLS FROM GREENLAWN TO LIVERNOIS TO DUAL FIXTURE LIGHTING STANDARDS WITH STREET SIDE AND SIDEWALK SIDE LUMINAIRES.

**CONSTRUCTION PLANS SHEET INDEX**

CO-01	COVER
LQ-01	LEGEND AND QUANTITIES
GI-01	GENERAL INFORMATION
UG-01 TO UG-03	UNDERGROUND CONSTRUCTION AND REMOVALS PLANS
IN-01 TO IN-03	OVERHEAD CONSTRUCTION AND CABLING PLANS
ED-01	LC 21W10 ELECTRICAL DIAGRAM
ED-02	LC 21W11 ELECTRICAL DIAGRAM
ED-03	LC 21M14 ELECTRICAL DIAGRAM
DT-01	ROUND TAPERED ALUMINUM STANDARD DETAILS
DT-02	139W STREET LUMINAIRE DETAILS (2 SHEETS)
DT-03	101W SIDEWALK LUMINAIRE DETAILS
DT-04	UNDERGROUND ALUMINUM 4 AWG 600V XHHW-2 CABLE DETAILS
DT-05	OVERHEAD ALUMINUM 4 AWG 600V TRIPLEX CABLE DETAILS (2 SHEETS)
DT-06	UNDERGROUND FED LIGHTING STANDARD BASE ELECTRICAL CONNECTIONS DETAILS (2 SHEETS)
DT-07	LAMP CORD CABLE DETAILS (2 SHEETS)
DT-08	RECEPTACLE CORD CABLE DETAILS (2 SHEETS)
DT-09	FUSE HOLDER DETAILS (2 SHEETS)
DT-10	OVERHEAD CONSTRUCTION DETAILS (2 SHEETS)
DT-11	IDENTIFICATION TAG DETAILS (2 SHEETS)
DT-12	STREET LIGHTING PHOTO CONTROLLER DETAILS
DT-13	UNDERGROUND LIGHTING AND RECEPTACLE CIRCUITS TYPICAL WIRING SCHEMA DETAILS (3 SHEETS)
DT-14	OVERHEAD LIGHTING CIRCUITS TYPICAL WIRING SCHEMA DETAILS (3 SHEETS)
DT-15	UNDERGROUND STRUCTURES DETAILS (7 SHEETS)

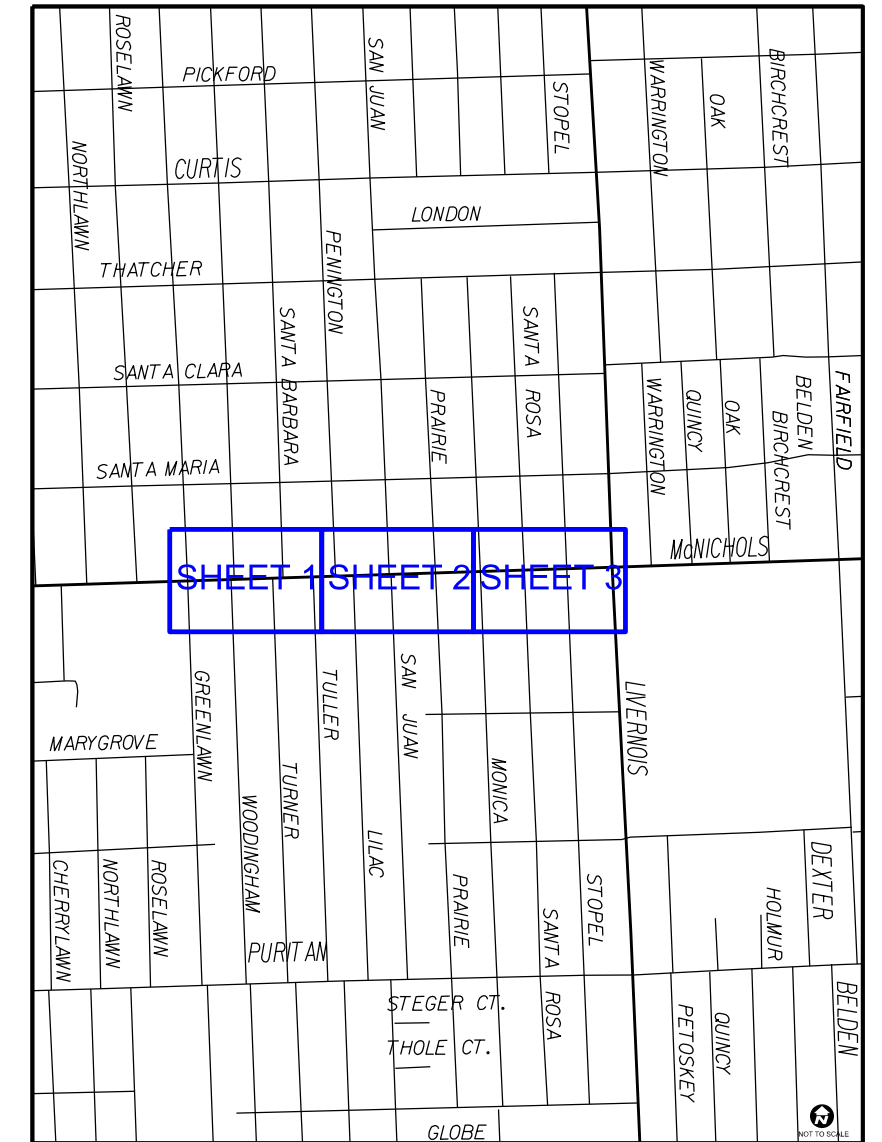
**COUNTY LOCATION MAP**



**PROJECT LOCATION MAP**



**PLAN SHEET INDEX**



# LEGENDS

## GENERAL LEGEND

- EGC Equipment Ground Conductor
- PLA Detroit Public Lighting Authority
- PLD Detroit Public Lighting Department
- EGC Equipment Ground Conductor
- C.P. Cable Pole
- Existing Lighting Controller (LC)
- Existing Wood Pole
- Existing Wood Pole with Bracket Arm and Luminaire
- Existing Lighting Standard
- Existing Double Fixture Lighting Standard
- Existing Strain Pole with Bracket Arm and Luminaire
- Existing Traffic Signal Pedestal
- Existing Polymer Handhole
- Existing Polymer Manhole
- Existing PLA Precast Concrete Round Handhole
- PLD Existing Polymer Handhole

## LUMINAIRE ID TAG FORMAT

- TAG FORMAT WYYYZZZZZ-OO
- CODES DESCRIPTION
- W Luminaire Type - Options Are:  
L = LED Luminaire  
S = Sodium Luminaire
- YYY Luminaire Wattage Such as 150 for a 150W Luminaire
- ZZZZZ The Assigned Alphanumeric ID Code Such as ABC123
- OO Work Code Option That Is Not Part of ID Tag - Options Are:
- AX = Connect Luminaire to Circuit AX Phase Where X Is:  
A1 = A1 Phase - Multiple Circuits  
A2 = A2 Phase - Multiple Circuits
- BX = Connect Luminaire to Circuit BX Phase Where X Is:  
B1 = B1 Phase - Multiple Circuits  
B2 = B2 Phase - Multiple Circuits
- O = Connect Luminaire to Next Phase in Sequence to Source Luminaire Location
- X = Luminaire Circuit Phase Connection Unknown
- RT = Install or Replace Luminaire ID Tag Where No Other Work is Being Performed
- RA = Replace Bracket Arm While Replacing the Luminaire
- R = Location With a Receptacle

## UNDERGROUND CONSTRUCTION AND REMOVAL PLANS

- Remove Luminaire, Bracket Arm, Lighting Standard and Foundation
- Remove (2) Luminaires, (2) Bracket Arms, Lighting Standard and Foundation
- Remove and Salvage Luminaire, Bracket Arm and Lighting Standard Remove Lighting Standard Foundation
- Remove Luminaire, Bracket Arm and Lighting Standard Remove the Lighting Standard Foundation as Necessary Install a New Lighting Standard Foundation as Necessary
- Install Bagley Decorative Lighting Standard Foundation (Unless Noted Otherwise)
- Remove Wood Pole
- Remove Luminaire, Bracket Arm and Wood Pole
- Install Wood Pole
- Remove Strain Pole and Foundation
- Existing Conduit
- Existing Overhead Street Lighting Cable (Unless Otherwise Noted) Remove Cable
- Remove Underground (3) 1/C Phase Conductors (Unless Otherwise Noted)
- Remove Underground Cable (3) 1/C Phase Conductors for Street Lighting Along With (3) 1/C Phase Conductors for Receptacles in Existing Conduit (Unless Otherwise Noted)
- Install (2) 3" Direct Buried Conduits (Unless Otherwise Noted)
- Install (6) 3" Direct Buried Conduits (Unless Otherwise Noted)
- Install (6) 3" Encased Conduits (Unless Otherwise Noted)
- Install (2) 3" Directional Bored Conduits (Unless Otherwise Noted)
- Install Polymer Handhole
- Install Precast Concrete Round Handhole
- Install Polymer Manhole
- Install Ground Rod

## OVERHEAD CONSTRUCTION AND CABLING PLANS

- Install Bagley Decorative Lighting Standard Assembly With a 118W Luminaire
- Existing Overhead Street Lighting Cable (Unless Otherwise Noted)
- Remove Overhead Cable Overhead Triplex (Unless Otherwise Noted)
- Install 600V Aluminum Underground Cable (2) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Street Lighting Along With (2) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Receptacles Along With (2) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Strand Lighting (Unless Otherwise Noted)
- Install 600V Aluminum Underground Cable (3) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Street Lighting Along With (3) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Receptacles Along With (3) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Strand Lighting (Unless Otherwise Noted)
- Install 600V Aluminum Overhead Quadruplex Cable - Hackney (1) 1/C 4 AWG Phase Conductors and (1) 1/C 4 AWG EGC for Street Lighting (Unless Otherwise Noted)
- Remove Luminaire on Existing Bracket Arm and Wood Pole
- Install Luminaire on Existing Bracket Arm and Wood Pole
- Remove Luminaire and Install 118W Luminaire on Existing Bracket Arm and Lighting Standard
- Remove Luminaire and Bracket Arm on Existing Wood Pole
- Install Luminaire and Bracket Arm on Existing Wood Pole
- Install Lighting Controller (LC)
- Remove Lighting Controller (LC)

## ELECTRICAL DIAGRAMS

- Existing Lighting Controller Not Connected to Circuit
- Lighting Controller Connected to Circuit
- Lighting Standard Luminaire Not Connected to the Lighting Controller
- Lighting Standard Luminaire Connected to the Lighting Controller
- Pole Mounted Luminaire Not Connected to the Lighting Controller
- Pole Mounted Luminaire Connected to the Lighting Controller
- Overhead Street Lighting Cable Not Connected to the Lighting Controller
- 600V Aluminum Underground Cable Connected to the Lighting Controller (2) 1/C #4 AWG Phase Conductors and (1) 1/C #4 EGC (Unless Otherwise Noted)
- 600V Aluminum Underground Cable Connected to the Lighting Controller (3) 1/C #4 AWG Phase Conductors and (1) 1/C #4 EGC (Unless Otherwise Noted)
- 600V Aluminum Overhead Quadruplex Cable Connected to the Lighting Controller (3) 1/C #4 AWG Phase Conductors and (1) 1/C #4 EGC (Unless Otherwise Noted)

## LIST OF PAY ITEM QUANTITIES

MDOT CODE	DESCRIPTION	QUANTITIES									TOTAL	UOM
		SHEET	UG-01	UG-02	UG-03	IN-01	IN-02	IN-03	MISC			
2040055	Sidewalk, Rem			120							120	Syd
8037010	Sidewalk, Conc, 6 inch, Modified			1075							1,075	Sft
8190016	Cable, Rem						995	1,425	1,005		3,425	Ft
8190032	Conduit, DB, 2, 3 inch		125	225	100						450	Ft
8190063	Conduit, Encased, 6, 3 inch		395	690	330						1,415	Ft
8190365	Luminaire, Rem and Salv		9	11	8						28	Ea
8190473	Wood Pole, Cl 4, 40 foot				1						1	Ea
8190490	Wood Pole, Fit Up, Metered Sec Elec Serv with Photo Control							2			2	Ea
8190495	Wood Pole, Fit Up, Sec Cable Pole							2			2	Ea
8190505	Wood Pole, Rem		7	9	9						25	Ea
8190604	Conduit, Directional Bore, 2, 3 inch			295							295	Ft
8197001	Cable, Equipment Grounding Wire, 1/C#4, Modified					4,220	5,710	3,435			13,365	Ft
8197001	Cable, Sec, 600V, 2, 1/C#4, Modified					275	495	220			990	Ft
8197001	Cable, Sec, 600V, 3, 1/C#4, Modified					3,945	5,215	3,215			12,375	Ft
8197001	Cable, Sec, Triplex, Aluminum, 4 AWG							220			220	Ft
8197001	Conduit, DB, 6, 3 inch		1,395	1,385	1,130						3,910	Ft
8197050	Bracket Arm, Bolt On, Install					14	18	12			44	Ea
8197050	Bracket Arm, Bolt On, Rem		9	11	8						28	Ea
8197050	Bracket Arm, Clamp On, Install					14	18	12			44	Ea
8197050	Hh, Polymer Conc, Modified		6	11	6						23	Ea
8197050	Hh, Round, Modified									1	1	Ea
8197050	Light Std Fdn, Modified		14	18	12						44	Ea
8197050	Light Std, Tapered Aluminum									5	5	Ea
8197050	Light Std, Tapered Aluminum, Install					14	18	12			44	Ea
8197050	Luminaire, 101W									5	5	Ea
8197050	Luminaire, 101W, Install					14	18	12			44	Ea
8197050	Luminaire, 139W									5	5	Ea
8197050	Luminaire, 139W, Install					14	18	12			44	Ea
8197050	Mh, Polymer Conc		13	15	10						38	Ea
8197050	Photo Control, Lighting							2			2	Ea
8197050	Photo Control, Lighting, Rem				1						1	Ea
8197050	Tag Pole									1	1	Ea

**GENERAL INFORMATION**

1. ALL MATERIAL AND EQUIPMENT FURNISHED BY THE CONTRACTOR MUST BE NEW AND MUST COMPLY WITH THE SPECIFICATIONS FOR THAT MATERIAL AND EQUIPMENT. THE OWNER SHALL HAVE THE RIGHT TO REJECT ANY EQUIPMENT WHICH DOES NOT MEET WITH SPECIFICATIONS.
2. CONSTRUCTION MUST BE PERFORMED BY QUALIFIED AND EXPERIENCED PERSONNEL. ALL WORK MUST MEET THE STANDARDS AND PRACTICES OF THE PUBLIC LIGHTING AUTHORITY (PLA), THE NATIONAL ELECTRICAL CODE, THE ELECTRIC CODE OF THE CITY OF DETROIT AND THE NATIONAL ELECTRICAL SAFETY CODE.
3. THE CONTRACTOR MUST USE PUBLIC LIGHTING AUTHORITY (PLA) SPECIFICATIONS FOR THIS PROJECT.
4. THE CONSTRUCTION CONTRACTOR SHALL RETURN ALL SALVAGED PUBLIC LIGHTING AUTHORITY (PLA) EQUIPMENT TO THE PLA.

LOCATION: 1135 BEAUFAIT STREET, DETROIT, MICHIGAN 48207  
 CONTACT: MELANIE STEELE (STATELINE) AT (313) 909-7509 AND JOHN VERNON (PLA) AT (313) 324-8290  
 HOURS: MONDAY FRIDAY FROM 9:30 A.M. TO 3:30 P.M. MUST PROVIDE 48 HOURS NOTICE.

THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING ALL SALVAGED EQUIPMENT TO THE PLA YARD.

5. THE CONSTRUCTION CONTRACTOR SHALL RETURN ALL REMOVED DETROIT PUBLIC LIGHTING DEPARTMENT (PLD) EQUIPMENT TO THE PLD.  
  
THE CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR TRANSPORTING DECOMMISSIONED EQUIPMENT TO THE PLD YARD.
6. ALL SHOP DRAWINGS MUST BE APPROVED BY THE PUBLIC LIGHTING AUTHORITY (PLA). CONTACT (313) 324-8290.
7. CALL MISS DIG AT 811 OR (800) 482-7171 A FULL THREE WORKING DAYS BEFORE TO ANY EXCAVATION FOR THE LOCATIONS OF UNDERGROUND UTILITIES.
8. THE CONTRACTOR IS TO NOTIFY DTE GAS AT (800) 477-4747 IF A PROTECTIVE COATED GAS MAIN IS EXPOSED OR DAMAGED.
9. THE CONTRACTOR IS TO NOTIFY DTE ELECTRIC AT (800) 477-4747 IF THE PROTECTIVE COATING OF ANY DTE ELECTRIC HIGH VOLTAGE UNDERGROUND LINE IS EXPOSED OR DAMAGED.

10. ALL EXISTING DETROIT PUBLIC LIGHTING DEPARTMENT (PLD) LIGHTING, PRIMARY TRANSMISSION, ETC., CIRCUITS MUST ALWAYS BE MAINTAINED IN AN OPERATIONAL CONDITION. NOTIFY THE PLD SYSTEM OPERATOR AT (313) 961-1364 48 HOURS BEFORE TO BEGINNING WORK ON PLD CIRCUITS AND KEEP THE OPERATOR INFORMED DAILY.
11. ALL VEHICLE DIRECTION, STREET NAME, AND PARKING SIGNS ON CITY OF DETROIT ROADS ARE THE PROPERTY OF THE CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS (DPW). THE CONTRACTOR WILL NOT REMOVE OR RELOCATE ANY VEHICLE DIRECTION, STREET NAME OR PARKING SIGNS UNLESS CITY OF DETROIT DPW GRANTS ADVANCE AUTHORIZATION. FOR ANY VEHICLE DIRECTION, STREET NAME OR PARKING SIGN ENCOUNTERED ON A STREET LIGHT POLE, THE CONTRACTOR WILL STOP WORK AND CALL THE DETROIT DPW SIGN SHOP AT (313) 224-6950 TO COORDINATE 72 HOURS PRIOR TO THE REMOVAL OR RELOCATION.
12. ANY PERMANENT SIGNS THAT ARE DAMAGED OR REMOVED MUST EITHER BE REINSTALLED, IF IN USABLE CONDITION, OR REPLACED WITH A UNIT THAT MEETS THE CURRENT SPECIFICATIONS OF THE SIGN'S MAINTAINING AGENCY.
13. REMOVAL, REPLACEMENT, EXCAVATION, AND BACKFILL RELATED TO PAVEMENT, SIDEWALKS AND CURBS MUST BE DONE ACCORDING TO THE CITY OF DETROIT, DEPARTMENT OF PUBLIC WORKS, CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION OR THE SPECIFICATION OF THE AUTHORITY HAVING JURISDICTION.
14. WITHIN FIVE DAYS OF COMPLETING EACH SECTION OF THE UNDERGROUND OR OVERHEAD WORK, THE CONTRACTOR SHALL FURNISH TO THE PUBLIC LIGHTING AUTHORITY (PLA) AN EXACT RECORD, AS-BUILT DRAWINGS, OF ALL UNDERGROUND AND OVERHEAD WORK INSTALLED. THE AS-BUILT DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO, STREET LIGHTING COMPONENTS, STRUCTURES, CONDUIT LENGTHS AND CABLE ROUTING INCLUDING THEIR LOCATIONS.
15. THE CONTRACT UNIT PRICE SHALL BE PAYMENT IN FULL FOR FOUNDATION REMOVAL AND BACKFILLING THE HOLE WITH GRANULAR MATERIAL. DISPOSAL OF WASTE EXCAVATED MATERIAL ALONG WITH REMOVING PAVEMENT, SIDEWALK, CURB AND GUTTER ALONG WITH ANY ASSOCIATED REPLACEMENT IS ALSO INCLUDED.

16. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS COVERING CONSTRUCTION OPERATIONS INCLUDING PERMITS FROM THE PUBLIC AUTHORITIES HAVING JURISDICTION OVER THE STREETS OR OTHER PUBLIC PROPERTIES IN WHICH THE WORK IS LOCATED AND THE IMPROVEMENT THEREIN. THE BIDDER SHALL ASCERTAIN THE AMOUNT OF ANY CHARGES REQUIRED BY SUCH AUTHORITIES AND WILL INCLUDE THE COST THEREOF IN THE BID PRICES.

17. THE CONTRACTOR MUST ASCERTAIN THE REQUIREMENTS OF THE PUBLIC AUTHORITIES HAVING JURISDICTION OVER THE STREETS OR OTHER PUBLIC PROPERTIES; OR THE PRIVATE PROPERTY OWNER AND INCLUDE IN HIS BID PRICE ALL EXISTING INFRASTRUCTURE RESTORATION COSTS INCLUDING SIDEWALKS, PAVEMENT AND LANDSCAPING TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION OR PROPERTY OWNER IN EACH CASE, WHICH MAY INCLUDE UPGRADES FROM THE EXISTING CONDITION.
18. THE CONTRACTOR ASSUMES ALL RISKS AND RESPONSIBILITIES BECAUSE OF EXISTING SOIL CONDITIONS AND MUST COMPLETE THE WORK IN WHATEVER MATERIAL AND UNDER WHATEVER GROUND CONDITIONS MAY BE ENCOUNTERED OR CREATED WITHOUT ADDITIONAL COST TO THE PUBLIC LIGHTING AUTHORITY (PLA).
19. THE LOCATIONS OF EXISTING UNDERGROUND OBSTRUCTIONS OR UTILITY FACILITIES ARE NOT NECESSARILY INDICATED ON THE PLANS. WHERE UTILITY FACILITIES ARE SHOWN, LOCATIONS ARE ONLY APPROXIMATIONS. CORRECTNESS OF EXACT UTILITY LOCATIONS IS NOT GUARANTEED. THE CONTRACTOR MUST EXERCISE CAUTION IN AVOIDING DAMAGE TO UTILITIES AND MUST NOTIFY THE UTILITIES THAT THEY ARE PROPOSING TO BREAK PAVEMENT OR EXCAVATE SO THAT THEY MAY PROVIDE THE CONTRACTOR WITH THE VERY LATEST LOCATION INFORMATION OF THEIR EXISTING FACILITIES.
20. HANDHOLE AND MANHOLE STRUCTURE LOCATIONS ARE SHOWN IN PROXIMITY TO WHERE THEY ARE TO BE INSTALLED. STRUCTURES ARE NOT TO BE INSTALLED IN ADA RAMPS. STRUCTURE INSTALLATION IN SIDEWALKS, ROADWAYS OR DRIVEWAYS IS TO BE AVOIDED WHERE POSSIBLE UNLESS CALLED FOR BY THE PLANS. STRUCTURES INSTALLED IN ROADWAYS OR DRIVEWAYS SHALL BE OF THE PRECAST CONCRETE TYPE. STRUCTURES SHALL NOT BE INSTALLED ON PRIVATE PROPERTY UNLESS CALLED FOR SPECIFICALLY BY THE PLANS WITH AN AUTHORIZED EASEMENT. FURTHER, STRUCTURES ARE TO BE INSTALLED CLEAR OF FIRE HYDRANTS, TREES, UTILITIES, AND ANY OTHER UNDERGROUND STRUCTURES.
21. NO SPLICING WILL BE ALLOWED BETWEEN THE CONTROL CABINET AND HANDHOLE/MANHOLE; HANDHOLE/MANHOLE TO HANDHOLE/MANHOLE; HANDHOLE/MANHOLE TO UNDERGROUND STREET LIGHTING STANDARD; AND HANDHOLE/MANHOLE TO CABLE RISER.
22. THE FOLLOWING WIRE COLOR CODING IS TO BE USED FOR THE UNDERGROUND STREET LIGHTING AND RECEPTACLES ON THIS PROJECT: BLACK (A PHASE); RED (B PHASE); WHITE (NEUTRAL); GREEN (GROUND).
23. THE FOLLOWING CABLE IDENTIFICATION IS TO BE USED FOR GROUNDED OVERHEAD TRIPLEX AND QUADRUPLX ON THIS PROJECT: NO RIB (A PHASE); ONE RIB (NEUTRAL); TWO RIBS (B PHASE); BARE MESSENGER (EQUIPMENT GROUNDING CONDUCTOR OR EGC).

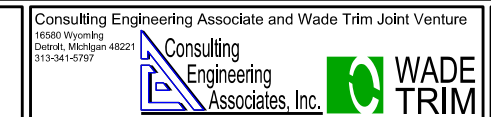
THE CABLE IDENTIFICATION FOR INSTANCES OF EXISTING UNGROUNDED OVERHEAD DUPLEX OR TRIPLEX ALONG WITH CONNECTIONS TO THE EXISTING UNGROUNDED OVERHEAD ON THIS PROJECT: NO RIB (A PHASE); ONE RIB (B PHASE); BARE MESSENGER (NEUTRAL).

IF ANY EXISTING OVERHEAD CABLE DOES NOT MATCH EITHER OF THESE SCENARIOS, CONTACT THE PROJECT ENGINEER BEFORE MAKING ANY CONNECTIONS.

24. THE CONTRACTOR MUST CORE INTO PRECAST HANDHOLES AND MANHOLES.
25. THE CONTRACTOR IS TO TRIM EXISTING TREES TO PROVIDE A CLEAR 10 FOOT RADIUS AROUND EACH LUMINAIRE.
26. ALL UNDERGROUND STREET LIGHTING STANDARD LOCATIONS ARE TO BE INSTALLED WITH THE CENTER 3 FEET BACK OF CURB FACE (BOC) UNLESS OTHERWISE INDICATED ON THE PLANS.
27. THE CONTRACTOR IS TO CALL THE DETROIT PUBLIC LIGHTING DEPARTMENT (PLD) SENIOR SYSTEM OPERATOR AT (313) 267-4151 FOR ANY PLD FACILITIES COORDINATION. COORDINATION INCLUDES BEING GRANTED ACCESS TO PLD MANHOLES AND HANDHOLES; GAINING LOCKOUT/TAGOUT PROTECTION FOR WORKING ON PLD EQUIPMENT; ANY OTHER WORK INVOLVING PLD FACILITIES.
28. THE CONTRACTOR IS TO CALL (313) 224-1610 FOR COORDINATING ANY DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC SIGNAL WORK.
29. LUMINAIRE WOOD POLE MOUNTING HEIGHT SHALL BE AT 30 FEET UNLESS THE PLANS SPECIFY OTHERWISE.
30. REPLACEMENT LUMINAIRE LOCATIONS SHALL BE CONNECTED TO THE SAME CIRCUIT PHASE OF THE LUMINAIRE LOCATION THEY ARE REPLACING. NEW LUMINAIRE LOCATIONS WILL BE CONNECTED TO THE CIRCUIT PHASE CALLED FOR ON THE PLAN SHEETS.
31. INSTALL SHORTING CAPS ON ALL LUMINAIRES UNLESS OTHERWISE DIRECTED BY THE PLANS.
32. REFER TO THE STREETScape PAVING PLANS FOR UNDERGROUND UTILITY LOCATIONS.

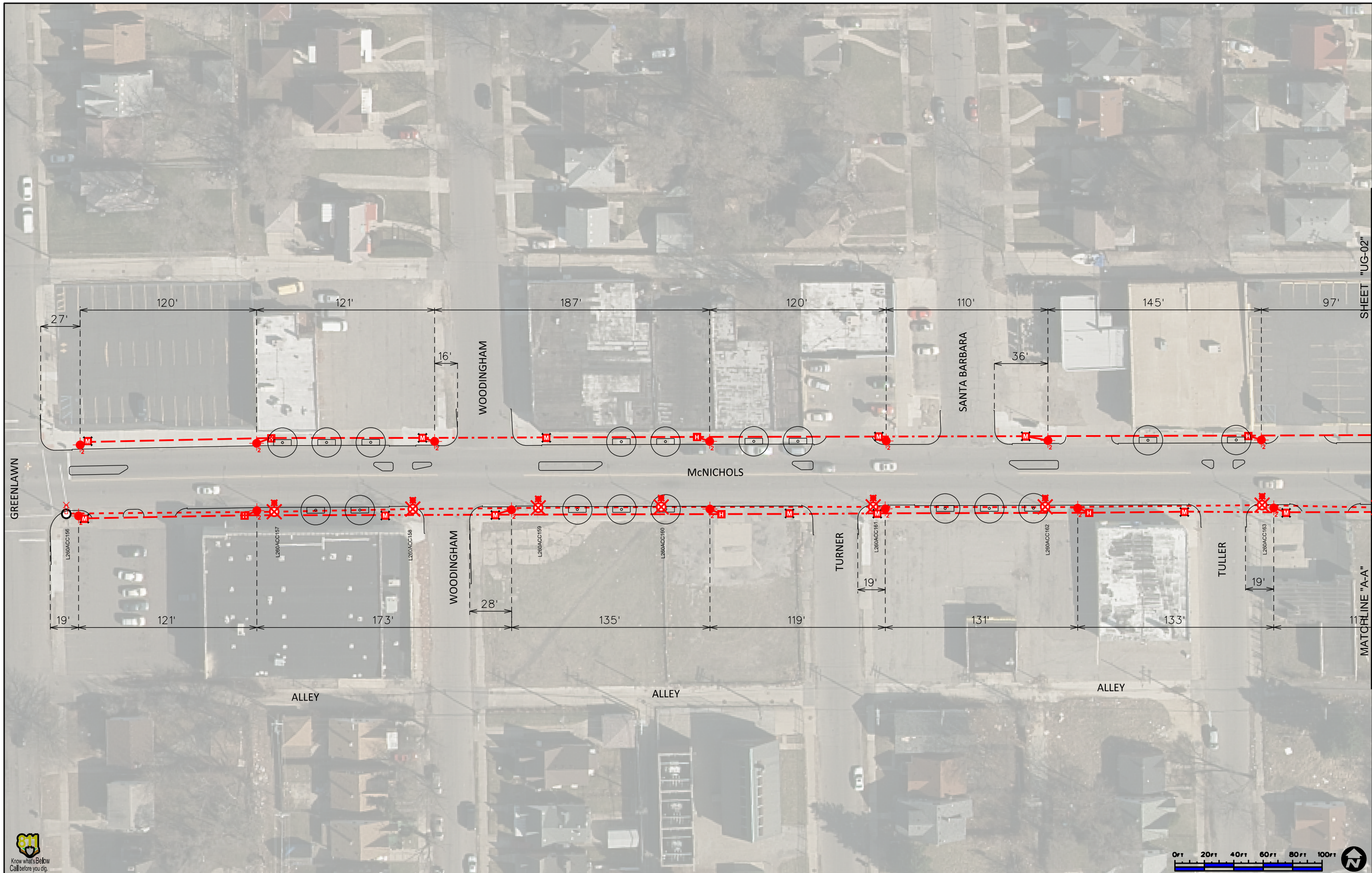


PROJECT DESCRIPTION  
 DESIGN ENGINEERING FOR McNICHOLS STREETScape  
 GENERAL INFORMATION



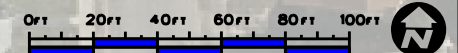
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2019-05-17	95% REVIEW SUBMITTAL
2019-06-13	100% REVIEW SUBMITTAL
2019-06-18	PAYMENT ITEMS UPDATE

SHEET	
<b>GI-01</b>	
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SHEET "UG-02"

MATCHLINE "A-A"



**Public Lighting Authority of Detroit**  
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 313-636-2805 fax  
 pla@detroit.org

**PROJECT DESCRIPTION**  
 DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE  
 UNDERGROUND CONSTRUCTION AND REMOVALS PLANS  
 SHEET 1 OF 3

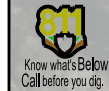
Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyoming  
 Detroit, Michigan 48221  
 313-341-5797

**Consulting Engineering Associates, Inc.** **WADE TRIM**

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UG-01	
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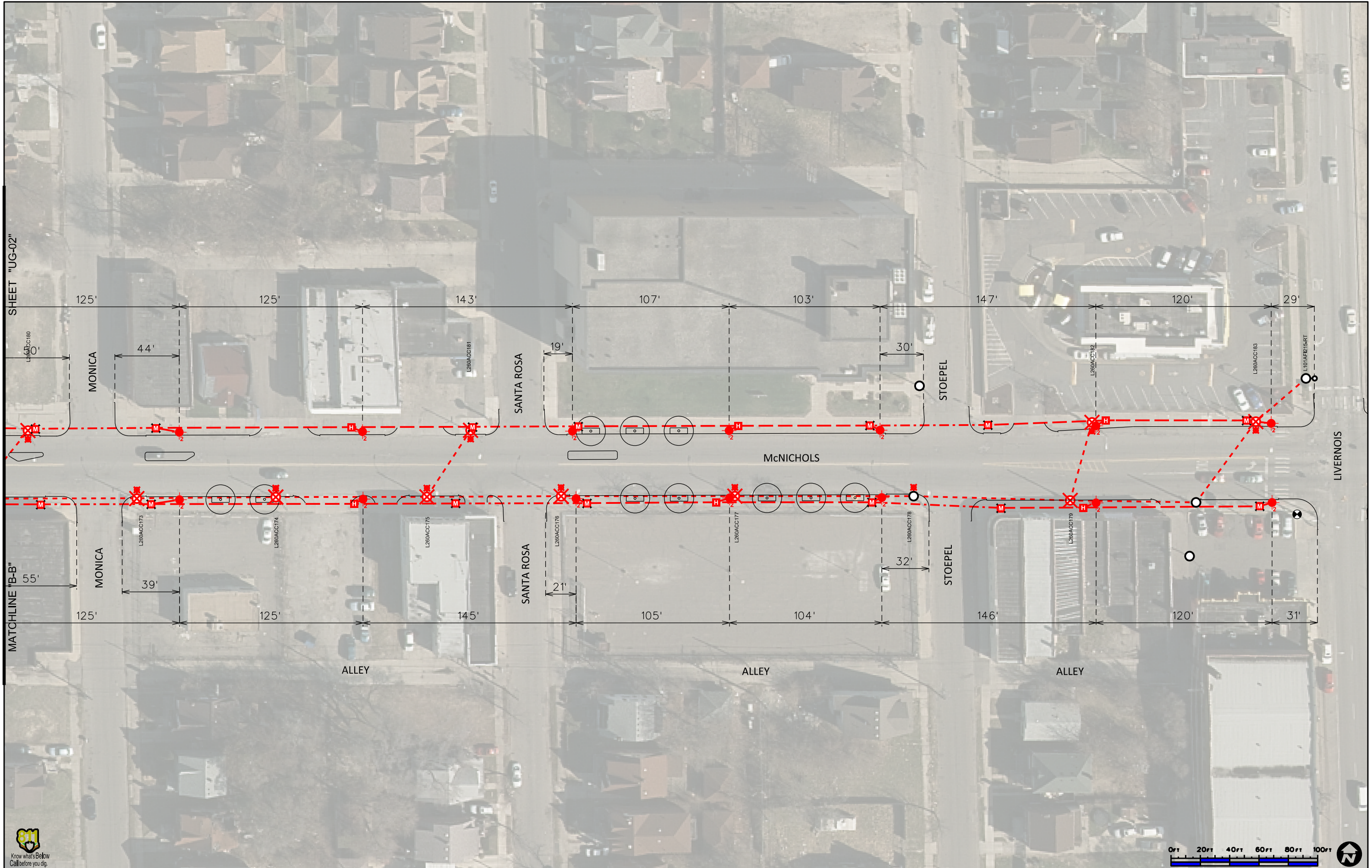
Public Lighting Authority of Detroit  
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PROJECT DESCRIPTION  
**DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE**  
 UNDERGROUND CONSTRUCTION AND REMOVALS PLANS  
 SHEET 2 OF 3

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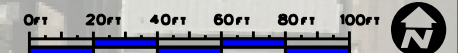
Consulting Engineering Associates, Inc. WADE TRIM

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2019-06-13	100% REVIEW SUBMITTAL	P.O. NO. 1792 JOB NO. 142817
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SHEET "UG-02"

MATCHLINE 'B-B'



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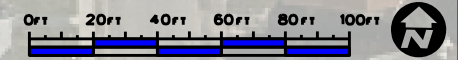
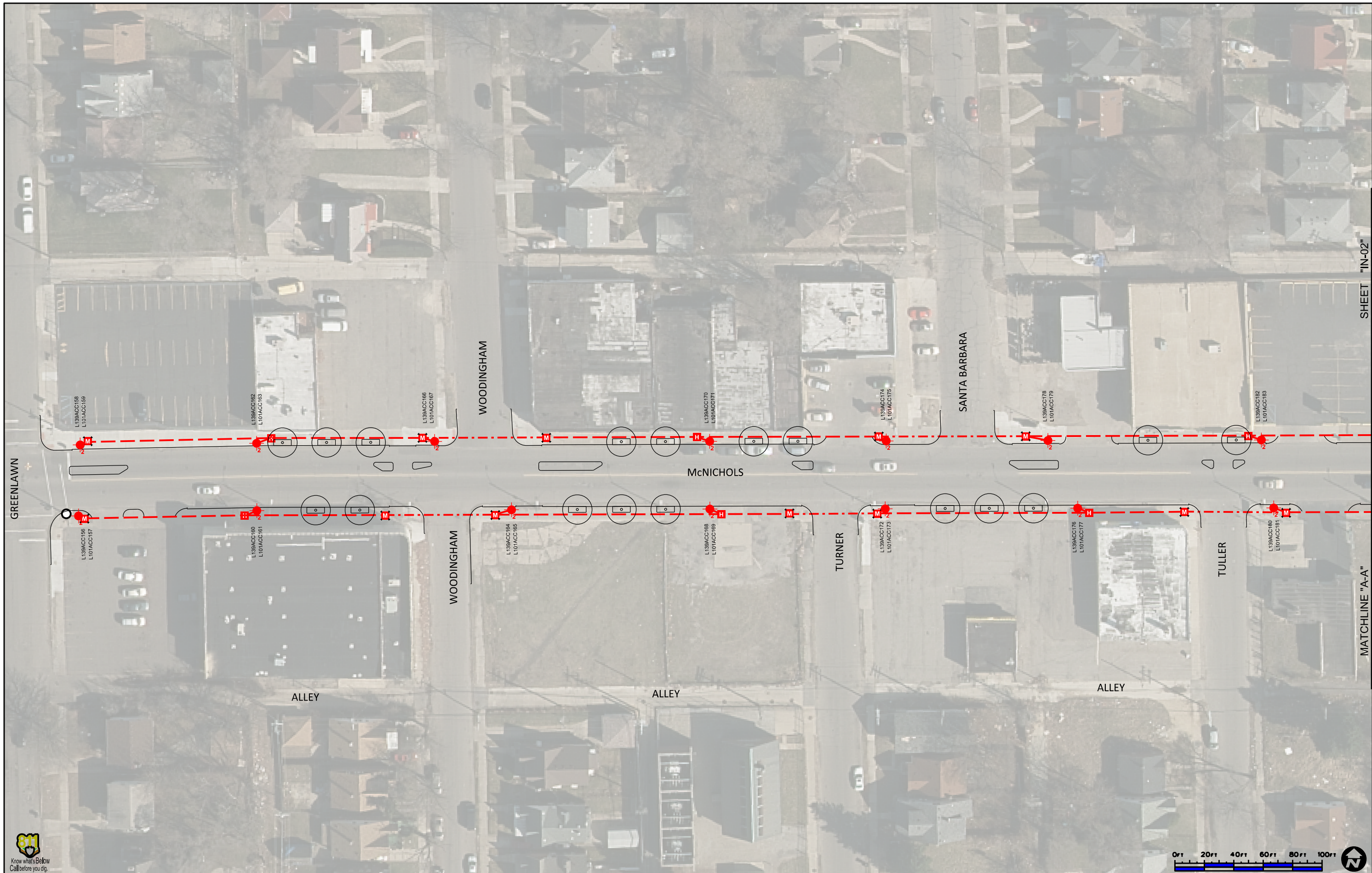
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 UNDERGROUND CONSTRUCTION AND REMOVALS PLANS  
 SHEET 3 OF 3

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SHEET  
**UG-03**  
 PLO. NO. 1792 JOB NO. 142817  
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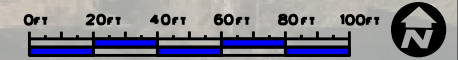
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 OVERHEAD INSTALLATION AND CABLING PLANS  
 SHEET 1 OF 3

Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyoming  
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 313-341-5797

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2019-06-18	PAYMENT ITEMS UPDATE

SHEET  
**IN-01**  
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PROJECT DESCRIPTION  
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 SHEET 2 OF 3

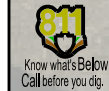
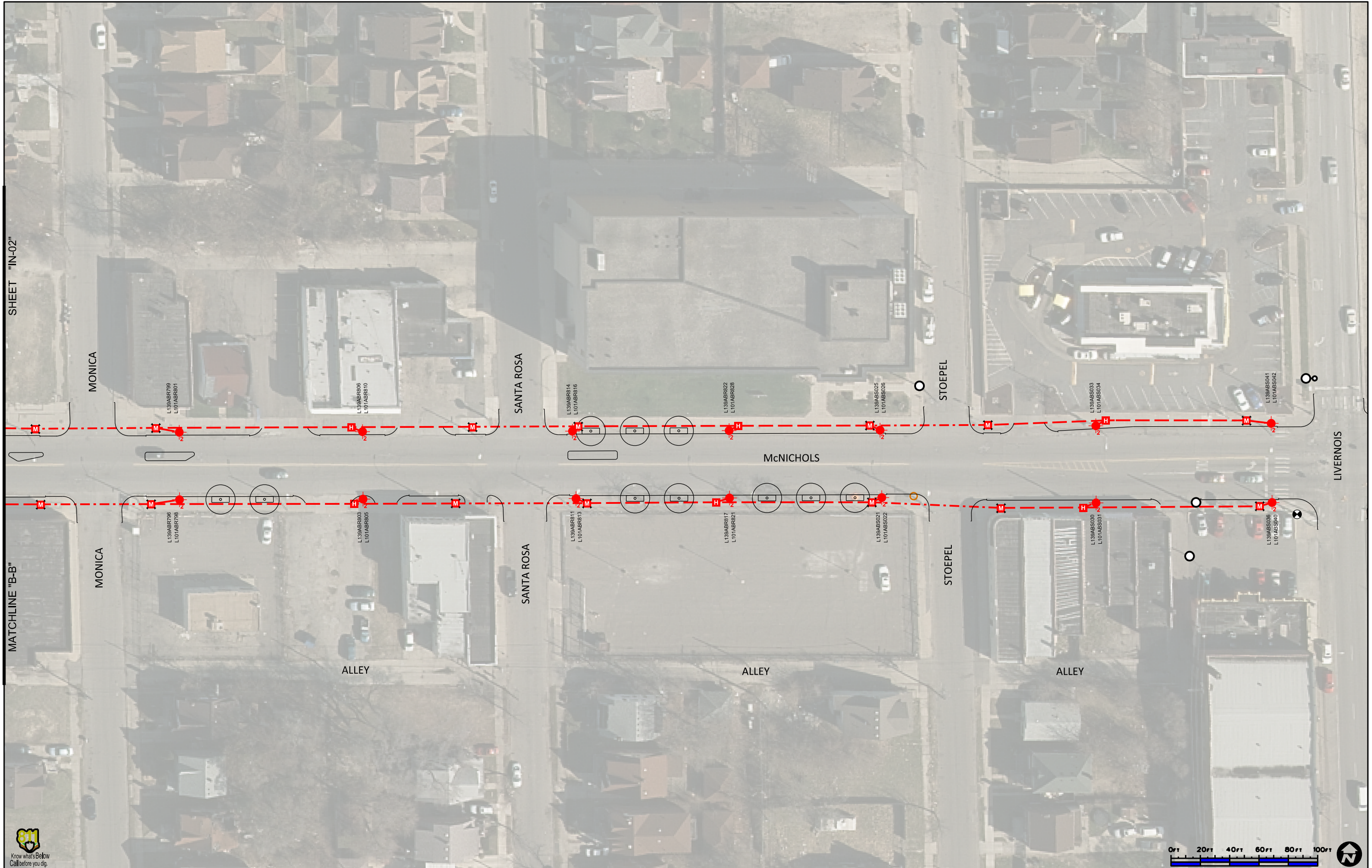
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SHEET "IN-02"

MATCHLINE "B-B"



Public Lighting Authority of Detroit  
 65 Cadillac Square, Suite 3100  
 Detroit, Michigan 48226  
 313-224-8290 office  
 313-636-2805 fax  
 pla@detroit.org

PROJECT DESCRIPTION  
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 OVERHEAD INSTALLATION AND CABLING PLANS  
 SHEET 3 OF 3

Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyoming  
 Detroit, Michigan 48221  
 313-341-5797

Consulting Engineering Associates, Inc. WADE TRIM



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2019-06-13	100% REVIEW SUBMITTAL	
2019-06-18	PAYMENT ITEMS UPDATE	
		PROJ. NO. 1792 JOB NO. 142817
		PAGE 9 OF 46

# PLACEHOLDER SHEET



Public Lighting Authority  
of Detroit  
65 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8200 office  
313-636-2805 fax  
pladetroit.org

PROJECT DESCRIPTION  
DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE  
LC 21W10 ELECTRICAL DIAGRAM

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyoming  
Detroit, Michigan 48221  
313-341-5797  
 



DATE:	PROJECT REVISION DESCRIPTIONS:
2019-05-17	95% REVIEW SUBMITTAL
2019-06-13	100% REVIEW SUBMITTAL
2019-06-18	PAYMENT ITEMS UPDATE

SHEET  
**ED-01**  
P.O. No. 1792 JOB No. 142817  
PAGE 10 OF 46



# PLACEHOLDER SHEET



Public Lighting Authority of Detroit  
 65 Cadillac Square, Suite 3100  
 Detroit, Michigan 48226  
 313-324-8200 office  
 313-636-2805 fax  
 pladetroit.org

PROJECT DESCRIPTION  
 DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE  
 LC 21W11 ELECTRICAL DIAGRAM

Consulting Engineering Associate and Wade Trim Joint Venture  
 16580 Wyoming  
 Detroit, Michigan 48221  
 313-341-5797

DATE:	PROJECT REVISION DESCRIPTIONS:
2019-05-17	95% REVIEW SUBMITTAL
2019-06-13	100% REVIEW SUBMITTAL
2019-06-18	PAYMENT ITEMS UPDATE

SHEET  
**ED-02**  
 P.O. NO. 1792 JOB NO. 142817  
 PAGE 11 OF 46



# PLACEHOLDER SHEET



Public Lighting Authority  
of Detroit  
65 Cadillac Square, Suite 3100  
Detroit, Michigan 48226  
313-324-8290 office  
313-636-2805 fax  
pladetroit.org

PROJECT DESCRIPTION  
DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE  
LC 21M14 ELECTRICAL DIAGRAM

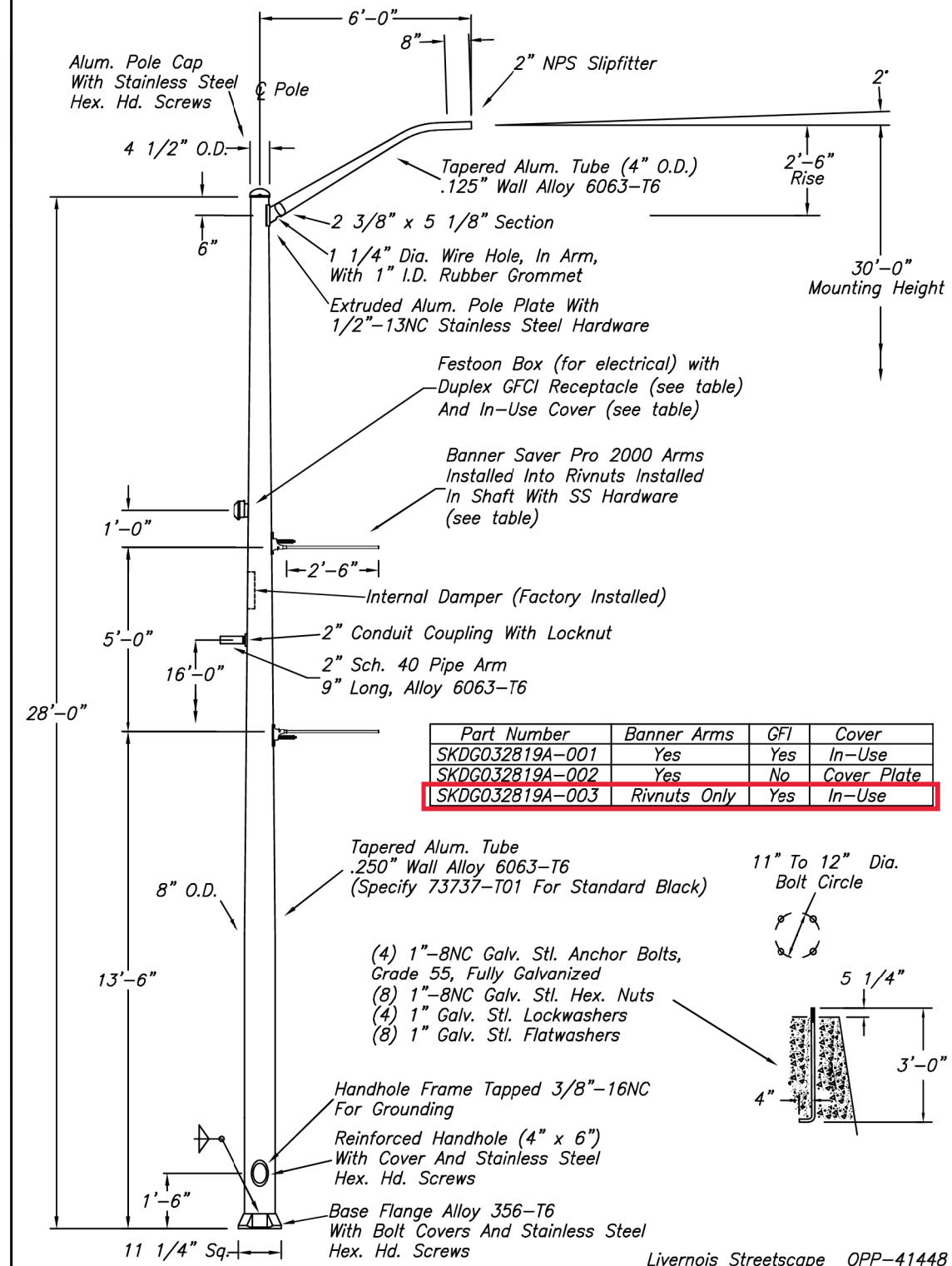
Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyoming  
Detroit, Michigan 48221  
313-341-5797

DATE:	PROJECT REVISION DESCRIPTIONS:
2019-05-17	95% REVIEW SUBMITTAL
2019-06-13	100% REVIEW SUBMITTAL
2019-06-18	PAYMENT ITEMS UPDATE

SHEET  
**ED-03**  
P.O. No. 1792 JOB No. 142817  
PAGE 12 OF 46





Part Number	Banner Arms	GFI	Cover
SKDGO32819A-001	Yes	Yes	In-Use
SKDGO32819A-002	Yes	No	Cover Plate
SKDGO32819A-003	Rivnuts Only	Yes	In-Use

- Tapered Alum. Tube  
.250" Wall Alloy 6063-T6  
(Specify 73737-T01 For Standard Black)
- 11" To 12" Dia. Bolt Circle
- (4) 1"-8NC Galv. Stl. Anchor Bolts, Grade 55, Fully Galvanized
- (8) 1"-8NC Galv. Stl. Hex. Nuts
- (4) 1" Galv. Stl. Lockwashers
- (8) 1" Galv. Stl. Flatwashers
- Handhole Frame Tapped 3/8"-16NC For Grounding
- Reinforced Handhole (4" x 6") With Cover And Stainless Steel Hex. Hd. Screws
- Base Flange Alloy 356-T6 With Bolt Covers And Stainless Steel Hex. Hd. Screws

Livernois Streetscape OPP-41448  
 Kercheval Streetscape OPP-44129  
 McNichols Streetscape OPP-44129

Ref: 33265, 52925

NO.	REVISIONS	DATE
1	Add Table And Project Notes (DG)	5.19

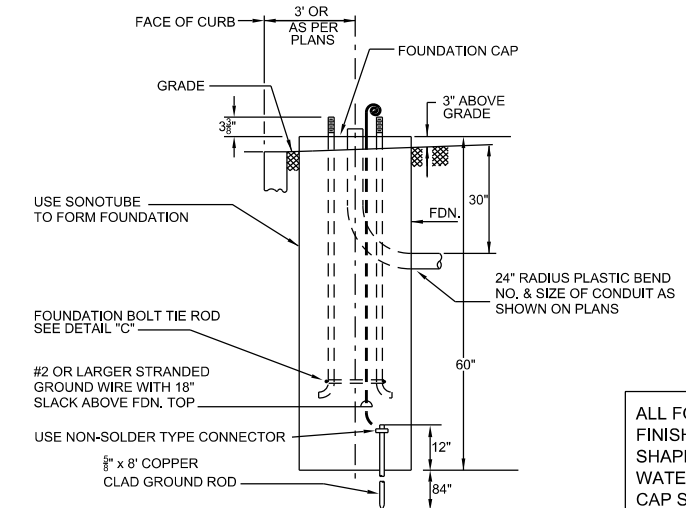
**WARNING: DO NOT INSTALL LIGHTING POLES WITHOUT LUMINAIRES**

**hapco**  
Abingdon, Va.

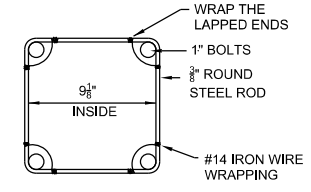
TITLE 30' Light Pole  
 CUSTOMER PLA - Detroit -ELUS  
 SCALE NTS DATE 3.28.19  
 BY RDG DWG. NO.  
 CHK'D SKDGO32819A

SKDGO32819A

**ANCHOR BASE FOUNDATION PLAN**  
NOT TO SCALE



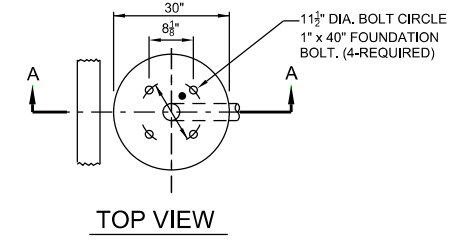
**SECTION A-A**



**DETAIL "C"**

**ANCHOR BOLT TIE ROD**

ALL FOUNDATION CAPS SHALL HAVE A SMOOTH FINISH WITH BEVELED EDGES & SHALL BE SHAPED TO ALLOW COMPLETE DRAINAGE OF WATER. ANCHOR BOLT PROJECTIONS ABOVE CAP SHALL BE CLEANED OF ALL CONCRETE & FULLY USABLE THEIR FULL LENGTH.



**TOP VIEW**

# XSP Series

XSP2™ LED Street/Area Luminaire – Double Module – Version C

## Product Description

Designed from the ground up as a totally optimized LED street and area lighting system, the XSP Series delivers incredible efficiency without sacrificing application performance. Beyond substantial energy savings and reduced maintenance, Cree achieves greater optical control with our NanoOptic® Precision Delivery Grid™ optic when compared to traditional cobra head luminaires. The XSP Series is the better alternative for traditional street and area lighting with quick payback and improved performance.

**Applications:** Roadway, parking lots, walkways and general area spaces

## Performance Summary

NanoOptic® Precision Delivery Grid™ optic

Assembled in the U.S.A. of U.S. and imported parts

**CRI:** Minimum 70 CRI

**CCT:** 3000K (+/- 300K); 4000K (+/- 300K); 5700K (+/- 500K)

**Limited Warranty\*:** 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

\*See <http://lighting.cree.com/warranty> for warranty terms

## Accessories

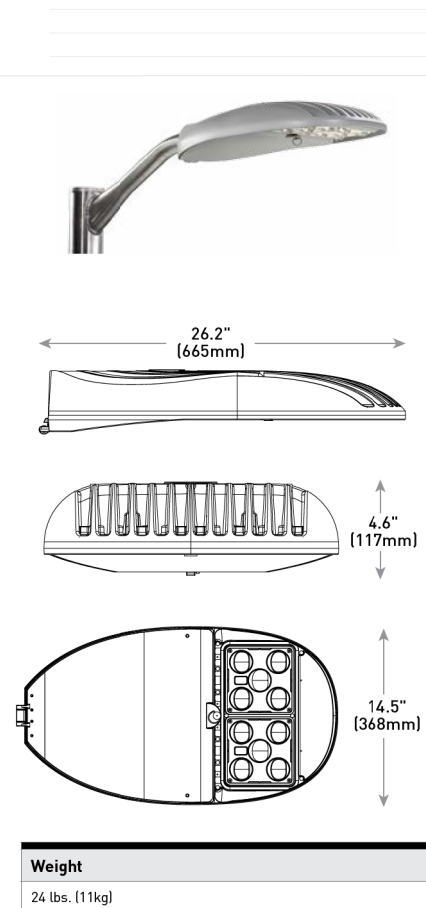
Field-Installed	
<b>Backlight Control Shield</b> XA-SP2BLS - Provides 1/2 mounting height cutoff	<b>Bird Spikes</b> XA-SP2BRDSPK

## Ordering Information

Example: BXSP-C-HT-2ME-F-30K-UL-SV

BXSP	C	HT	Optic	Input Power Designator	CCT	Voltage	Color Options	Options
<b>BXSP</b>	<b>C</b>	<b>HT</b> Horizontal Tenon	<b>2LG*</b> Type II Long <b>2ME*</b> Type II Medium <b>3ME*</b> Type II Medium <b>4ME*</b> Type IV Medium	<b>F</b> 139W	<b>30K</b> 3000K <b>40K</b> 4000K <b>57K</b> 5700K	<b>UL</b> Universal 120-277V <b>UH</b> Universal 347-480V	<b>BK</b> Black <b>BZ</b> Bronze <b>SV</b> Silver <b>WH</b> White	<b>G</b> Small Four Point Mounting - Mounts to 1.25" [32mm] IP, 1.66" [42mm] O.D. horizontal tenon <b>J</b> Large Four Point Mounting - Mounts to 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon <b>N-09/08/07/06/05/04</b> Utility Label, NEMA® 7-Pin Photocell Receptacle & Field Adjustable Output - Must select Q9, Q8, Q7, Q6, Q5 or Q4 - Settings Q3-Q1 are not available with N option - External wattage label per ANSI C136.15 based on Q setting selected - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others - Power/Lumens may only be adjusted down in the field - Refer to page 6 for power and lumen values <b>Q9/Q8/Q7/Q6/Q5/Q4/Q3/Q2/Q1</b> Field Adjustable Output - Must select Q9, Q8, Q7, Q6, Q5, Q4, Q3, Q2, or Q1 - Power/Lumens are fully adjustable in the field - Refer to page 6 for power and lumen values <b>R</b> NEMA® 7-Pin Photocell Receptacle - 7-pin receptacle per ANSI C136.41 - Factory connected 0-10V dim leads - Photocell and shorting cap by others <b>UTL</b> Utility Label - Includes exterior wattage label per ANSI C136.15 that indicates the maximum available wattage of the luminaire

\* Available with Backlight Shield when ordered with field-installed accessory (see table above)



XSP2™ LED Street/Area Luminaire – Double Module – Version C

## Product Specifications

### CONSTRUCTION & MATERIALS

- Die cast aluminum housing
- Tool-less entry
- Mounts on 1.25" [32mm] IP, 1.66" [42mm] O.D. or 2" [51mm] IP, 2.375" [60mm] O.D. horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5° to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Luminaire secures with two mounting bolts standard; optional four point mounting available
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultra-durable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Black, bronze, silver and white are available
- Weight:** 24 lbs. (11kg)

### ELECTRICAL SYSTEM

- Input Voltage:** 120-277V or 347-480V, 50/60Hz
- Power Factor:** > 0.9 at full load
- Total Harmonic Distortion:** < 20% at full load
- Class 1 driver
- Integral 10kV surge suppression protection standard
- When code dictates fusing, a slow blow fuse or type C/D breaker should be used to address inrush current
- Designed with 0-10V dimming capabilities. Controls by others
- 10V Source Current:** 0.15mA

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- Meets CALTRANS 611 Vibration testing
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15, Subpart B, Class A standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA
- RoHS compliant. Consult factory for additional details
- Dark Sky Friendly, IDA Approved when ordered with 30K CCT. Please refer to <http://darksky.org/fsa/fsa-products/> for most current information

### Electrical Data\*

Input Power Designator	System Watts 120-277V	System Watts 347-480V	Total Current (A)					
			120V	208V	240V	277V	347V	480V
F	139	135	1.22	0.68	0.59	0.52	0.40	0.29

\* Electrical data at 25°C (77°F). Actual wattage may differ by +/- 10% when operating between 120-480V +/- 10%

### XSP Series Version C Ambient Adjusted Lumen Maintenance<sup>1</sup>

Ambient	Initial LMF	25K hr Projected <sup>2</sup> LMF	50K hr Projected <sup>2</sup> LMF	75K hr Calculated <sup>3</sup> LMF	100K hr Calculated <sup>3</sup> LMF
5°C (41°F)	1.04	1.02	1.01	1.00	0.99
10°C (50°F)	1.03	1.01	1.00	0.99	0.98
15°C (59°F)	1.02	1.00	0.99	0.98	0.97
20°C (68°F)	1.01	0.99	0.98	0.97	0.96
25°C (77°F)	1.00	0.98	0.97	0.96	0.95

<sup>1</sup> Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing. Luminaire ambient temperature factors (LATF) have been applied to all lumen maintenance factors

<sup>2</sup> In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip

<sup>3</sup> In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing (DUT) i.e. the packaged LED chip



US: [lighting.cree.com](http://lighting.cree.com)



T (800) 236-6800 F (262) 504-5415



Rev. Date: V7 10/19/2017



Canada: [www.cree.com/canada](http://www.cree.com/canada)

T (800) 473-1234 F (800) 890-7507

US: [lighting.cree.com](http://lighting.cree.com)

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Canada: [www.cree.com/canada](http://www.cree.com/canada)



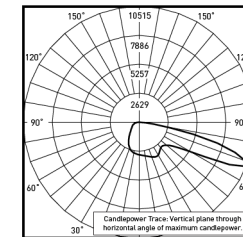
T (800) 473-1234 F (800) 890-7507

XSP2™ LED Street/Area Luminaire – Double Module – Version C

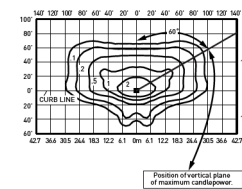
**Photometry**

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: <http://lighting.cree.com/products/outdoor/street-and-roadway/xsp-series-1>

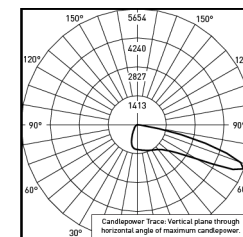
**3ME**



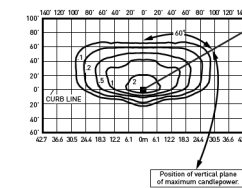
RESTL Test Report #: PL10532-001A  
BXSP-C-\*\*-3ME-F-40K-UL  
Initial Delivered Lumens: 13,408



BXSP-C-\*\*-3ME-F-40K-UL  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 13,434  
Initial FC at grade



RESTL Test Report #: PL10388-002A  
BXSP-C-\*\*-3ME-E-40K-UL w/XA-SP1BLS  
Initial Delivered Lumens: 6,086



BXSP-C-\*\*-3ME-F-40K-UL w/XA-SP2BLS  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 11,195  
Initial FC at grade

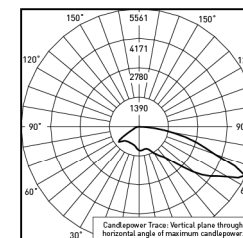
Type III Medium Distribution						
Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
F	11,011	B2 U0 G2	13,434	B2 U0 G3	14,095	B2 U0 G3

\* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

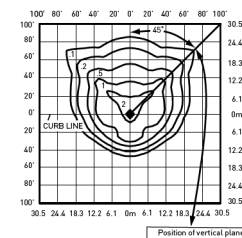
Type III Medium w/BLS Distribution						
Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
F	9,176	B1 U0 G2	11,195	B2 U0 G2	11,746	B2 U0 G2

\* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

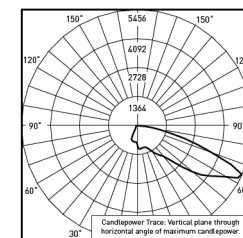
**4ME**



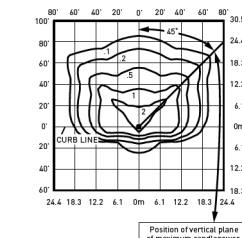
CESTL Test Report #: PL04091-001  
BXSP-C-\*\*-4ME-E-30K-UL  
Initial Delivered Lumens: 6,923



BXSP-C-\*\*-4ME-F-30K-UL  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 11,134  
Initial FC at grade



CESTL Test Report #: PL04092-001  
BXSP-C-\*\*-4ME-E-30K-UL w/XA-SP1BLS  
Initial Delivered Lumens: 5,530



BXSP-C-\*\*-4ME-F-30K-UL w/XA-SP2BLS  
Mounting Height: 25' (7.6m) A.F.G.  
Initial Delivered Lumens: 8,687  
Initial FC at grade

Type IV Medium Distribution						
Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
F	11,134	B2 U0 G2	13,583	B3 U0 G3	14,251	B3 U0 G3

\* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>

Type IV Medium w/BLS Distribution						
Input Power Designator	3000K		4000K		5700K	
	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11	Initial Delivered Lumens*	BUG Ratings** Per TM-15-11
F	8,687	B1 U0 G2	10,598	B2 U0 G2	11,119	B2 U0 G2

\* Initial delivered lumens at 25° C (77° F). Actual production yield may vary between -10 and +10% of initial delivered lumens  
\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit: <https://www.ies.org/wp-content/uploads/2017/03/TM-15-11BUGRatingsAddendum.pdf>



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Canada: [www.cree.com/canada](http://www.cree.com/canada) T (800) 473-1234 F (800) 890-7507

# XSP2™

XSP Series LED Street Light - Horizontal Tenon - Type II

Detroit "150W equivalent"  
Quantity: 30,500  
BXSPA02HA-USN-SPX

## Product Description

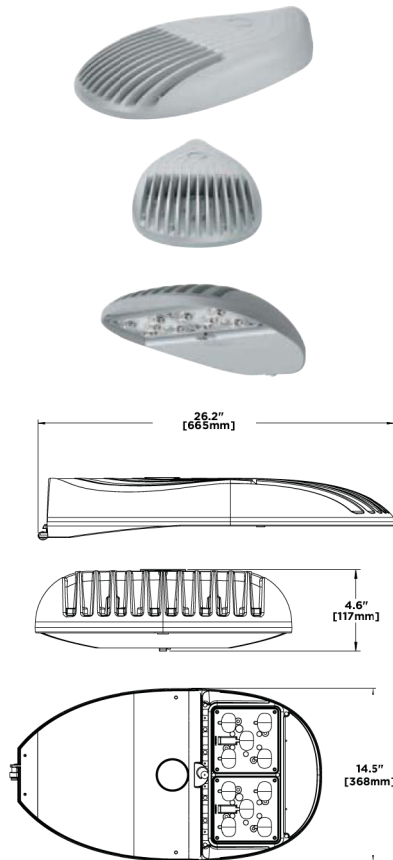
Designed from the ground up as a totally optimized LED street light system, the XSP Series delivers incredible efficiency and is designed to provide L70 lifetime over 100,000 hours without sacrificing application performance. Beyond substantial energy savings and reduced maintenance, Cree achieves better optical control with our NanoOptic® Precision Delivery Grid™ optic than a traditional cobra head luminaire. The Cree XSP Series LED Street Light is the best alternative for traditional street lighting with better payback and better performance.

## Performance Summary

- Utilizes BetaLED® Technology
- NanoOptic Precision Delivery Grid optic
- CRI: Minimum 70 CRI
- CCT: 4000K (+/- 300K), 5700K (+/- 500K)
- Warranty: 10 years on luminaire/limited 10 years on Colorfast DeltaGuard® finish
- Made in the U.S.A. of U.S. and imported parts

## Accessories

Field Installed Accessories	
<b>XA-SP2BLS</b>	Backlight Control Shield - Provides 1/2 Mounting Height Cutoff
<b>XA-SP2BRDSPK</b>	Bird Spikes



## Ordering Information

Example: BXSPA022A-USF

BXSP	A	O	2	H	A	-	U	S	N-SPX (SPX = ANSI C136.41 receptacle)
Product	Version	Mounting	Optic	Modules	Input Power	-	Voltage	Color Options	Options
BXSP	A	O Horizontal Tenon	2 Type II G Type II w/ BLS	2 Standard 4000K B Standard 5700K H High Efficacy 4000K* P High Efficacy 5700K*	A 101W	-	U Universal 120-277V V Universal 347-480V**	S Silver (Standard) T Black Z Bronze B Platinum Bronze W White	<b>A ROAM® Controls</b> - Installation of ROAM dimming control module only. Services provided by others. - Includes R option  <b>F Fuse</b> - When code dictates fusing, use time delay fuse - Not available with V voltage  <b>K Occupancy Control</b> - Refer to Occupancy Control spec sheet for details  <b>N Utility Label and NEMA Photocell Receptacle</b> - Includes Q option - Refer to Field Adjustable Output spec sheet for details  <b>Q Field Adjustable Output</b> - Refer to Field Adjustable Output spec sheet for details  <b>R NEMA Photocell Receptacle</b> - Photocell by others  <b>U Utility</b> - Includes exterior wattage label that indicates the maximum available wattage of the luminaire - Includes Q option - Refer to Field Adjustable Output spec sheet for details

\* Available Q3 2012. Preliminary data shown.

\*\* 347-480V utilizes magnetic step-down transformer. For input power for 347-480V, refer to the Lumen Output, Electrical, and Lumen Maintenance data table below.



Rev. Date: 9/14/2012



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# XSP Series LED Street Light - Horizontal Tenon - Type II

## Product Specifications

### CONSTRUCTION & MATERIALS

- Die cast aluminum housing
- Tool-less entry
- Mounts on 1.25" IP (1.66" [42mm] O.D.) or 2" IP (2.375" [60mm] O.D.) horizontal tenon (minimum 8" [203mm] in length) and is adjustable +/- 5" to allow for fixture leveling (includes two axis T-level to aid in leveling)
- Designed with 0-10V dimming capabilities. Controls by others
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Standard is silver. Black, bronze, platinum bronze and white are also available

### ELECTRICAL SYSTEM

- Input Voltage: 120-277V or 347-480V, 50/60Hz
- Class 2 output
- Power Factor: > 0.9 at full load
- Total Harmonic Distortion: < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used

### REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- Product qualified on the DesignLights Consortium ("DLC") Qualified Products List ("QPL"). Exceptions apply when N, U, or Q options are ordered - see Field Adjustable Output spec sheet for details.
- Certified to ANSI C136.31-2001, 3G bridge and overpass vibration standards
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets CALTrans 611 Vibration testing and GR-63-CORE Section 4.4.1/5.4.2 C62.41.2
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- RoHS Compliant
- Meets Buy American requirements within ARRA

### PATENTS

- Visit website for patents that cover these products: Patents <http://www.cree.com/patents>

## Lumen Output, Electrical, and Lumen Maintenance Data

Module	Input Power Designator	Type 2 Distribution										50K Hours Calculated Lumen Maintenance Factor @ 15° C (59° F)***		
		4000K		5700K		System Watts 120-277V	TOTAL CURRENT				TOTAL CURRENT			
		Initial Delivered Lumens	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11		120V	208V	240V	277V	System Watts 347-480V		347V	480V
Standard	A	7,000	B2 U0 G1	7,700	B2 U0 G2	101	0.84	0.50	0.44	0.39	106	0.31	0.22	91%
High Efficacy*	A	9,612	B2 U0 G2	10,680	B2 U0 G2	101	0.84	0.50	0.44	0.39	106	0.31	0.22	91%

Module	Input Power Designator	Type 2 Distribution w/ BLS										50K Hours Calculated Lumen Maintenance Factor @ 15° C (59° F)***		
		4000K		5700K		System Watts 120-277V	TOTAL CURRENT				TOTAL CURRENT			
		Initial Delivered Lumens	BUG Ratings** Per TM-15-11	Initial Delivered Lumens	BUG Ratings** Per TM-15-11		120V	208V	240V	277V	System Watts 347-480V		347V	480V
Standard	A	6,130	TBD	6,742	TBD	101	0.84	0.50	0.44	0.39	106	0.31	0.22	91%
High Efficacy*	A	8,417	TBD	9,352	TBD	101	0.84	0.50	0.44	0.39	106	0.31	0.22	91%

\* Available Q3 2012. Preliminary data shown.

\*\* For more information on the IES BUG (Backlight-Uplight-Glare) Rating visit [www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf](http://www.iesna.org/PDF/Erratas/TM-15-11BugRatingsAddendum.pdf)

\*\*\* Projected L<sub>70</sub>(6K) Hours: >36,000. For recommended lumen maintenance factor data see TD-13

## EPA and Weight

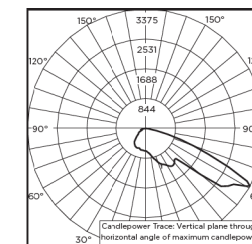
Input Power Designator	Weight 120-277V	Weight 347-480V	EPA				
			1@90	2@90	2@180	3@90	4@90
A	26 lbs (12kg)	29 lbs (13.2kg)	0.692	1.140	1.384	1.832	2.280

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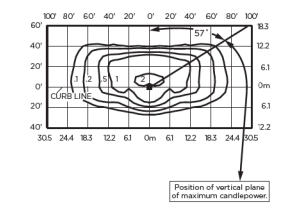
www.cree.com/lighting T (800) 236-6800 F (262) 504-5415

## Photometry

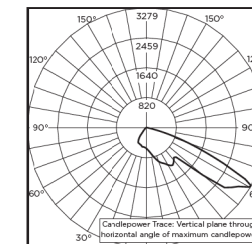
All published luminaire photometric testing performed to IESNA LM-79-08 standards by Independent Testing Laboratories, a NVLAP certified laboratory.



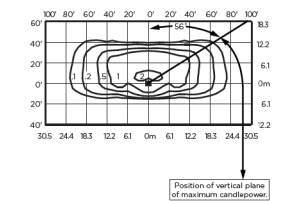
ITL Test Report #: 72723  
BXSPA\*21A-U  
Initial Delivered Lumens: 3,954



BXSPA\*22A-U  
Mounting Height: 25' (7.6m)  
Initial Delivered Lumens: 7,000  
Initial FC at grade.



ITL Test Report #: 72722  
BXSPA\*G1A-U  
Initial Delivered Lumens: 3,427



BXSPA\*G2A-U  
Mounting Height: 25' (7.6m)  
Initial Delivered Lumens: 6,130  
Initial FC at grade.

# SIMpull XHHW-2®

## Aluminum XHHW Wire & Cable



600 Volt Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. Cross-linked Polyethylene (XLPE) Insulation. Moisture Resistant High Heat. Sunlight Resistant in Sizes 6 AWG and Larger. CT Rated in Sizes 1/0 AWG and Larger.

### APPLICATIONS

Southwire SIMpull XHHW-2® aluminum conductors are primarily used in conduit or recognized raceways for service and feeder wiring as specified in the National Electrical Code. XHHW-2 conductors may be used in wet or dry locations at temperatures not to exceed 90°C. Voltage rating for XHHW-2 conductors is 600 volts. Suitable for use in Health Care Facilities per section 517.160 of the NEC where a dielectric constant of 3.5 or less may be specified. This product is designed to be installed without the application of pulling lubricant.



### STANDARDS & REFERENCES

Southwire Aluminum Type XHHW-2 conductors comply with the following:

- ASTM- All Applicable Standards
- UL Standard 44
- NOM-ANCE 90° C
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70
- NEMA WC-70 (ICEA S-95-658) Construction Requirements
- RoHS/Reach Compliant

### CONSTRUCTION

Southwire Type XHHW-2 aluminum conductors are Alumaflex® brand AA-8000 series aluminum alloy, compact stranded. The insulation is an abrasion, moisture and heat resistant SIMpull® thermoset cross-linked polyethylene. Conductor sizes 6 AWG and larger are listed and marked sunlight resistant in all colors. Available in black, white, red, blue, brown, orange, yellow, purple, gray, and green. Some colors are subject to economic order quantity.

Revised March 12, 2018

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One Southwire Drive, Carrollton, GA 30119, USA



Revised March 12, 2018

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One Southwire Drive, Carrollton, GA 30119, USA



Conductor		Insulation Thickness (mils)	Nominal O.D. (mils)	Approx. Net Wt. Per 1000' (lbs.)	Allowable Ampacities+			Standard Package
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C	
8	7	45	227	30	35	40	45	BCD
6	7	45	259	39	40	50	55	BCD
4	7	45	303	57	55	65	75	BCD
2	6	45	358	85	75	90	100	BCD
1	8	55	413	108	85	100	115	BC
1/0	10	80	450	180	115	135	150	ABC
2/0	12	55	490	161	115	135	150	ABCD
3/0	16	55	537	198	130	155	175	BCD
4/0	19	55	589	243	150	180	205	ABCD
250	22	55	650	293	170	205	230	BCD
300	35	65	700	346	195	230	260	BC
350	35	65	746	398	210	250	280	BCD
400	35	65	789	449	225	270	305	CD
500	35	65	866	552	260	310	350	ABCDE
600	58	80	973	675	285	340	385	ABD
700	58	80	1037	777	315	375	425	N/A
750	58	80	1068	829	320	385	435	ABCE
900	58	80	1162	979	355	425	480	N/A
1000	58	80	1220	1085	375	445	500	C

+ Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors. 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15.

Package Codes  
A-500'  
B-2,500'  
C-1,000'  
D-5,000'

#### RECOMMENDED SAMPLE SPECIFICATIONS:

Conductors shall be UL-listed Type XHHW-2, suitable for operation at 600 volts or less in wet or dry locations at temperatures not to exceed 90 °C. Conductors shall be annealed Alumaflex® brand aluminum alloy as manufactured by Southwire Company or approved equal.

Conductor		
Size (AWG or kcmil)	No. of strands	Stock Numbers
8	7	Stock #: N/A
6	7	Stock #: BK:112706, BN:591209, OE:591210, YW:591211, GN:585321
4	7	Stock #: BK:112714, RD:591114, BE:591115, WE:591116, BN:591201, OE:591202, YW:591203, GN:585320
2	7	Stock #: BK:112722, BN:591213, OE:591214, YW:591215, GN:585319
1	18	Stock #: BK:112730, RD:591204, BE:591205, WE:591206, BN:591207, OE:591208, YW:591216, GN:585318, GY:596497
1/0	18	Stock #: BK:112748, RD:591284, BE:591285, WE:591286, BN:585291, OE:585292, YW:585293, GY:585294, GN:585290, PE:596423
2/0	18	Stock #: BK:112755, RD:591288, BE:591289, WE:591290, BN:585296, OE:585297, YW:585298, GY:585300, GN:585295, PE:596422
3/0	18	Stock #: BK:112763, RD:585302, BE:585303, WE:585304, BN:585305, OE:585306, YW:585308, GY:585309, GN:585301, PE:596421
4/0	18	Stock #: BK:112771, RD:585317, BE:585316, WE:585314, BN:585313, OE:585312, YW:585311, GY:585310, GN:567439, PE:592563
250	22	Stock #: BK:278341, RD:576390, BE:576391, WE:576392, BN:576385, OE:576386, YW:576387, GY:576388, GN:567440, PE:592468
300	35	Stock #: BK:278358, RD:576382, BE:576383, WE:576384, BN:576133, OE:576134, YW:576135, GY:576136, GN:576361, PE:593380
350	35	Stock #: BK:278366, RD:576378, BE:576379, WE:576380, BN:576374, OE:576375, YW:576376, GY:576377, GN:567437, PE:592562
400	35	Stock #: BK:278374, RD:576370, BE:576372, WE:576373, BN:576127, OE:576129, YW:576130, GY:576131, GN:567384, PE:593379
500	35	Stock #: BK:278382, RD:576367, BE:576368, WE:576369, BN:576362, OE:576364, YW:576365, GY:576366, GN:576394, PE:589196
600	58	Stock #: BK:278390, RD:576350, BE:576351, WE:576352, BN:576345, OE:576346, YW:576347, GY:576349, GN:567375, PE:589197
700	58	Stock #: BK:278408, RD:591293, BE:591294, WE:591295, BN:576341, OE:576342, YW:576343, GY:576344, GN:591296
750	58	Stock #: BK:278416, RD:592233, BE:592234, WE:592235, BN:567432, OE:567433, YW:567434, GY:567435, GN:567436, PE:592469
900	58	Stock #: BK:554059, BN:560445, OE:560446, YW:560447, GY:560448, PE:596424
1000	58	Stock #: BK:278424

**Color Abbreviations**  
 BK-Black RD- Red BE-Blue WE-White BN-Brown  
 OE-Orange YW- Yellow GY-Grey GN-Green PE-Purple

Revised March 12, 2018

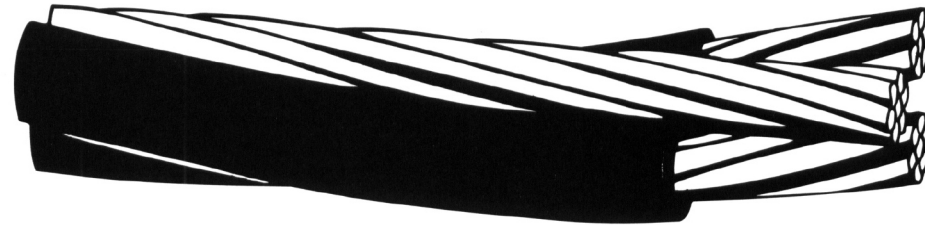
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 One Southwire Drive, Carrollton, GA 30119, USA

# Triplex Service Drop

Aluminum Conductors. Polyethylene or Crosslinked Polyethylene Insulation.



## APPLICATIONS

Used to supply power, usually from a pole-mounted transformer, to the user's service head where connection to the service entrance cable is made. To be used at voltages of 600 volts phase-to-phase or less and at conductor temperatures not to exceed 75°C for polyethylene insulated conductors or 90°C for crosslinked polyethylene (XLP) insulated conductors.

## SPECIFICATIONS

Southwire's triplex service drop cable meets or exceeds the following ASTM specifications:

- B-230 Aluminum Wire, 1350-H19 for Electrical Purposes.
- B-231 Aluminum Conductors, Concentric-Lay-Stranded.
- B-232 Aluminum Conductors, Concentric-Lay-Stranded, Coated Steel Reinforced(ACSR).
- B-399 Stranded 6201-T81 Aluminum Alloy Conductors.
- B-901 Compressed Round Stranded Aluminum Conductors Using Single Input Wire.

Southwire's triplex service drop cable meets or exceeds all applicable requirements of ANSI/ICEA S-76-474.

## CONSTRUCTION

Conductors are concentrically stranded, compressed 1350-H19 aluminum. Insulated with either polyethylene or crosslinked polyethylene (XLP). Neutral messengers are concentrically stranded 6201, AAC, or ACSR.



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# Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger				Weight Per 1000 ft.(lbs.)		Allowable Ampacities+	
	Size (AWG)	Strand- ing	Insul. Thick. (mils)	Equiv. Dia. (AWG)++	Size++ (kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>6201 ALLOY NEUTRAL-MESSENGER</b>											
Minex	6	1	45	6	30.58	7	1110	101	101	85	70
Hippa	6	7	45	6	30.58	7	1110	107	107	85	70
Prawn	4	1	45	4	48.69	7	1760	152	152	115	90
Barnacle	4	7	45	4	48.69	7	1760	160	160	115	90
Shrimp	2	7	45	2	77.47	7	2800	243	243	150	120
Gammarus	1/0	7	60	1/0	123.3	7	4460	390	390	205	160
Leda	1/0	9	60	1/0	123.3	7	4460	384	384	205	160
Dungenese	2/0	7	60	2/0	155.4	7	5390	483	483	235	185
Cyclops	2/0	11	60	2/0	155.4	7	5390	474	474	235	185
Flustra	3/0	17	60	3/0	195.7	7	6790	587	587	275	215
Lepas	4/0	18	60	4/0	246.9	7	8560	728	728	315	245

\*Code words for XLP insulated products are formed by adding "/XLP" to the conventional code words above (e.g.-Haiotis/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.  
 ++Designated sizes are: ACSR 6/1 diameter equivalent and AAC with equivalent resistivity per ASTM B-399 for 6201.

Code* Word	Phase Conductor			Bare Neutral Messenger				Weight Per 1000 ft. (lbs.)		Allowable Ampacities+	
	Size (AWG)	Strand- ing	Insul. Thick. (mils)	Equiv. Dia. (AWG)++	Size (kcmil)	Strand- ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>6201 ALLOY REDUCED NEUTRAL-MESSENGER</b>											
Artemia	4	1	45	6	30.58	7	1110	135	135	115	90
Crab	4	7	45	6	30.58	7	1110	143	143	115	90
Solaster	2	7	45	4	48.69	7	1760	216	216	150	120
Sandcrab	1/0	7	60	2	77.47	7	2800	347	347	205	160
Echinus	1/0	9	60	2	77.47	7	2800	341	341	205	160
Fulgar	3/0	17	60	1/0	123.3	7	4460	519	519	275	215
Arca	4/0	18	60	2/0	155.4	7	5390	643	643	315	245

\*Code words for XLP insulated products are formed by adding "/XLP" to the conventional code words above (e.g.-Haiotis/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.  
 ++Designated sizes are: ACSR 6/1 diameter equivalent and AAC with equivalent resistivity per ASTM B-399 for 6201.



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# Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities+	
	Size (AWG or kcmil)	Strand-ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>AAC NEUTRAL-MESSENGER</b>										
Patella	6	7	45	6	7	563	103	103	85	70
Oyster	4	7	45	4	7	881	154	154	115	90
Clam	2	7	45	2	7	1350	233	233	150	120
Murex	1/0	7	60	1/0	7	1990	374	374	205	160
Purpura	1/0	9	60	1/0	7	1990	368	368	205	160
Nassa	2/0	7	60	2/0	7	2510	462	462	235	185
Melita	3/0	17	60	3/0	19	3310	562	562	275	215
Portunus	4/0	18	60	4/0	19	4020	696	696	315	245
Nannynose	336.4	19	80	336.4	19	6146	1118	1118	420	325

\* Code words for XLP insulated products are formed by adding "/XLP" to the conventional code words above (e.g.-Haiotis/XLP).  
 + Conductor temperature of 90°C for XLP, 75°C for Poly; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities+	
	Size (AWG or kcmil)	Strand-ing	Insul. Thick. (mils)	Size (AWG or kcmil)	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>ACSR NEUTRAL-MESSENGER</b>										
Paludina	6	1	45	6	6/1	1190	109	109	85	70
Voluta	6	7	45	6	6/1	1190	114	114	85	70
Whelk	4	1	45	4	6/1	1860	--	164	115	90
<b>Periwinkle</b>	<b>4</b>	<b>7</b>	<b>45</b>	<b>4</b>	<b>6/1</b>	<b>1860</b>	<b>172</b>	<b>172</b>	<b>115</b>	90
Conch	2	7	45	2	6/1	2850	262	262	150	120
Neritina	1/0	7	60	1/0	6/1	4380	420	420	205	160
Cenia	1/0	9	60	1/0	6/1	4380	414	414	205	160
Runcina	2/0	7	60	2/0	6/1	5310	520	520	235	185
Triton	2/0	11	60	2/0	6/1	5310	512	512	235	185
Mursia	3/0	17	60	3/0	6/1	6620	635	635	275	215
Zuzara	4/0	18	60	4/0	6/1	8350	789	789	315	245
Limpet	336.4	19	80	336.4	18/1	8680	1167	1167	420	325

\*Code words for XLP insulated products are formed by adding "/XLP" to the conventional code words above (e.g.-Haiotis/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.



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# Triplex Service Drop

Code* Word	Phase Conductor			Bare Neutral Messenger			Weight Per 1000 ft. (lbs.)		Allowable Ampacities+	
	Size (AWG)	Strand-ing	Insul. Thick. (mils)	Size (AWG)	Strand-ing	Rated Strength (lbs.)	XLP	POLY	XLP	POLY
<b>ACSR REDUCED NEUTRAL-MESSENGER</b>										
Scallop	4	1	45	6	6/1	1190	--	142	115	90
Strombus	4	7	45	6	6/1	1190	151	151	115	90
Cockle	2	7	45	4	6/1	1860	228	228	150	120
Janthina	1/0	7	60	2	6/1	2853	366	366	205	160
Ranella	1/0	9	60	2	6/1	2853	360	360	205	160
Cavolinia	2/0	7	60	1	6/1	3550	453	453	235	185
Clio	2/0	11	60	1	6/1	3550	444	444	235	185
Aega	3/0	17	60	1/0	6/1	4380	549	549	275	215
Cerapus	4/0	18	60	2/0	6/1	5310	681	681	315	245

\*Code words for XLP insulated products are formed by adding "/XLP" to the conventional code words above (e.g.-Haiotis/XLP).  
 +Conductor temperature of 90°C for XLP, 75°C for Poly; ambient temperature of 40°C; emissivity 0.9; 2 ft./sec. wind in sun.



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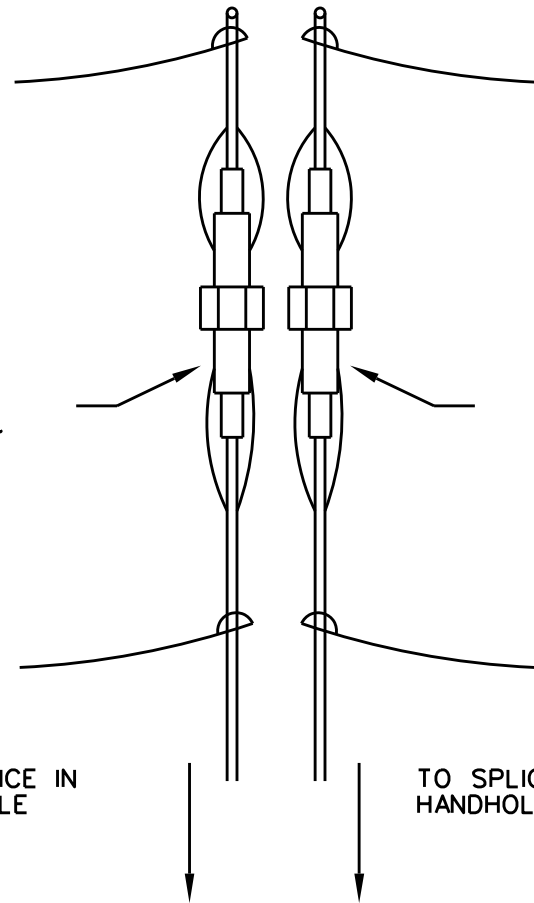


LAMP CORD  
120V FEED  
BLACK INSULATED  
MINIMUM SIZE:  
ALUMINUM 12 AWG  
COPPER 14 AWG

LAMP CORD  
INSTALL TRON-HEB FUSE  
HOLDER WITH 5A FUSE.  
FUSE TO BE CAPTIVE ON  
LOAD END (LUMINAIRE).  
INSULATE ENDS CAREFULLY.

STREET LIGHTING CIRCUIT  
120V FEED  
BLACK INSULATED  
MINIMUM SIZE:  
ALUMINUM 12 AWG  
COPPER 14 AWG

TO SPLICE IN  
HANDHOLE



RECEPTACLE CORD  
120V FEED  
BLACK INSULATED  
MINIMUM SIZE 12 AWG  
COPPER ONLY

RECEPTACLE CORD  
INSTALL TRON-HEB FUSE  
HOLDER WITH 3A FUSE.  
FUSE TO BE CAPTIVE ON  
LOAD END (RECEPTACLE).  
INSULATE ENDS CAREFULLY.

RECEPTACLE CIRCUIT  
120V FEED  
BLACK INSULATED  
MINIMUM SIZE:  
ALUMINUM 10 AWG  
COPPER 12 AWG

TO SPLICE IN  
HANDHOLE

\*\* ALL CABLES TO BE SIZED AT MINIMUM SIZE OR AS INDICATED ON PLANS  
\*\* ADDITIONAL LUMINAIRES REQUIRE ADDITIONAL FUSE HOLDERS

# LUMINAIRE AND RECEPTACLE 120V POWER FEED POLE BASE CONNECTION

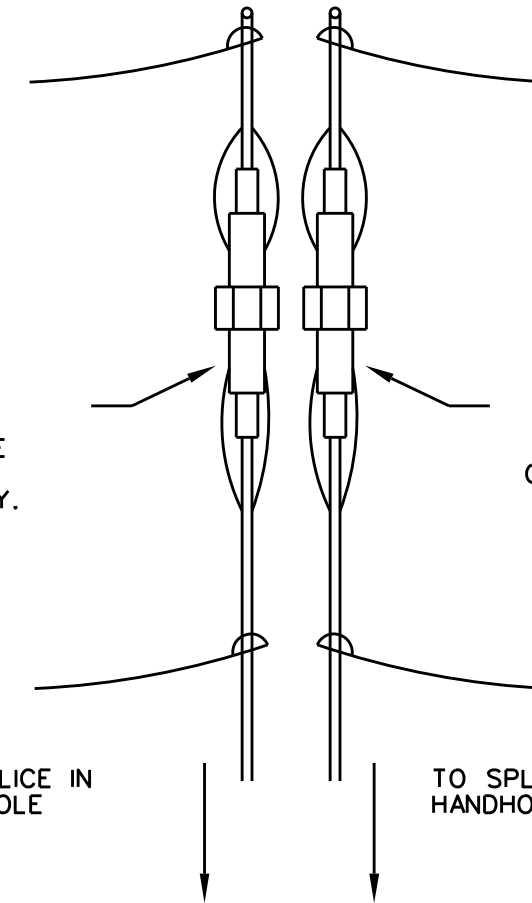
NOT TO SCALE

LAMP CORD  
NEUTRAL  
WHITE INSULATED  
MINIMUM SIZE:  
ALUMINUM 12 AWG  
COPPER 14 AWG

LAMP CORD  
INSTALL TRON-HEB FUSE  
HOLDER WITH A DUMMY  
"NEUTRAL". THE DUMMY  
"NEUTRAL" TO BE CAPTIVE  
ON LOAD END (LUMINAIRE).  
INSULATE ENDS CAREFULLY.

STREET LIGHTING CIRCUIT  
NEUTRAL  
WHITE INSULATED  
MINIMUM SIZE:  
ALUMINUM 12 AWG  
COPPER 14 AWG

TO SPLICE IN  
HANDHOLE



RECEPTACLE CORD  
NEUTRAL  
WHITE INSULATED  
MINIMUM SIZE 12 AWG  
COPPER ONLY

RECEPTACLE CORD  
INSTALL TRON-HEB FUSE  
HOLDER WITH A DUMMY  
NEUTRAL. THE DUMMY  
NEUTRAL TO BE CAPTIVE  
ON LOAD END (RECEPTACLE).  
INSULATE ENDS CAREFULLY.

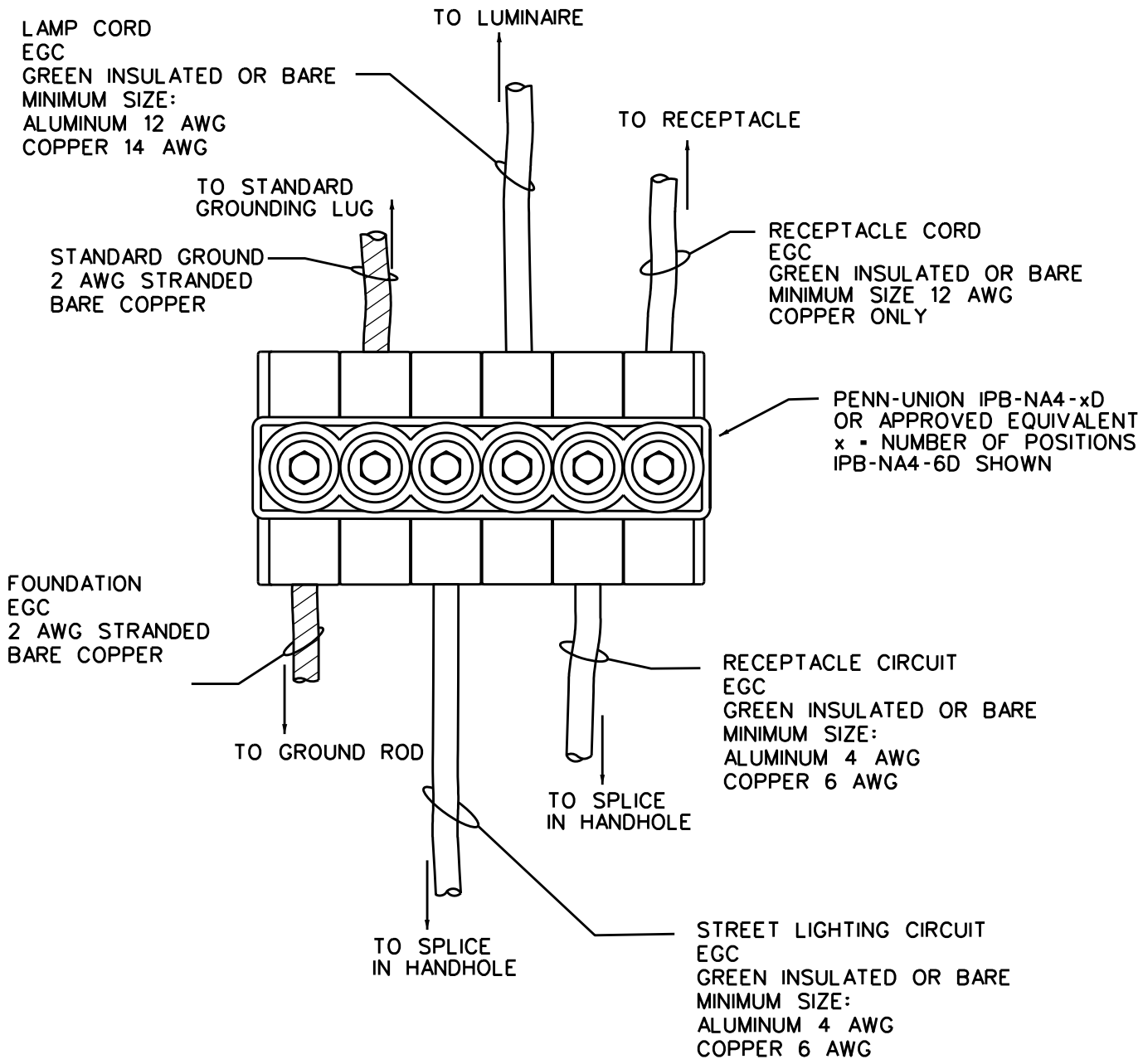
RECEPTACLE CIRCUIT  
NEUTRAL  
WHITE INSULATED  
MINIMUM SIZE:  
ALUMINUM 10 AWG  
COPPER 12 AWG

TO SPLICE IN  
HANDHOLE

\*\* ALL CABLES TO BE SIZED AT MINIMUM SIZE OR AS INDICATED ON PLANS  
\*\* ADDITIONAL LUMINAIRES REQUIRE ADDITIONAL FUSE HOLDERS

# LUMINAIRE AND RECEPTACLE 120V NEUTRAL POLE BASE CONNECTION

NOT TO SCALE



\*\* ALL CABLES TO BE SIZED AT MINIMUM SIZE OR AS INDICATED ON PLANS  
 \*\* SIZE THE POWER BAR AS NEEDED FOR LUMINAIRES AND RECEPTACLE

## EQUIPMENT GROUND CONDUCTOR (EGC) POLE BASE CONNECTION

NOT TO SCALE

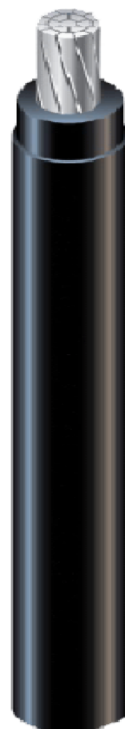
# SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand Conductors



600 Volt Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. Thermoplastic Insulation/SIM Nylon Sheath, Heat, Moisture, Gasoline and Oil Sunlight Resistant. Also Rated THWN-2. SIM Technology® for Easier Pulling

## APPLICATIONS

Southwire SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the 2011 National Electrical Code. When used as Type THHN or T90 Nylon conductor is suitable for use in dry locations at temperatures not to exceed 90°C. When used as Type THWN-2 or TWN75, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant. Voltage for all applications is 600 volts. This cable should be installed without application of pulling lubricant.



## STANDARDS & REFERENCES

Southwire Aluminum SIMpull THHN® conductors comply with the following:

- ASTM B-800 and B-801
- UL Standard 83
- CSA
- Federal Specification A-A-59544
- VW-1 – Sizes 4 through 1 AWG
- CT - Sizes 1/0 AWG and larger Sizes Rated for CT use
- FT1 - Sizes 4 AWG through 750 kcmil
- T90 Nylon – Sizes 4 AWG through 750 kcmil
- TWN 75 – Sizes 8 AWG through 750 kcmil
- National Electrical Code, NFPA 70
- NEMA WC-70 Construction Requirements
- RoHS/Reach Compliant

## CONSTRUCTION

Southwire SIMpull THHN® conductors are Alumaflex® Brand AA-8000 series aluminum alloy, compact stranded. Insulated with a tough heat and moisture-resistant polyvinyl chloride (PVC), over which a SIM (SLIKQWIK® Infused Membrane) nylon (polyamide) or UL-listed equal jacket is applied. Conductor sizes 1/0 AWG and larger are listed and marked sunlight resistant in colors. Available in black, white, red, blue,

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purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity.

Conductor Size (AWG or kcmil)	No. of strands	Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal O.D. (mils)	Net Wt. Per 1000' (lbs.)	Allowable Ampacities+			Standard Package
						60°C	75°C	90°C	
8	7	30	5	204	27	35	40	45	B
6	7	30	5	239	38	40	50	60	C
4	7	40	6	305	62	55	65	75	BCD
2	6	40	6	360	91	75	90	100	BC
1	8	50	7	413	117	85	100	115	BC
1/0	10	50	7	450	141	100	120	135	BCD
2/0	12	50	7	490	172	115	135	150	BCD
3/0	16	50	7	537	210	130	155	175	BCD
4/0	19	50	7	589	257	150	180	205	BCD
250	22	60	8	656	311	170	205	230	ABC
300	35	60	8	706	365	190	230	255	BC
350	35	60	8	752	418	210	250	280	BC
400	35	60	8	795	471	225	270	305	BC
500	35	60	8	872	576	260	310	350	BC
600	58	70	9	971	700	285	340	385	BC
700	58	70	9	1035	804	310	375	420	C
750	58	70	9	1066	856	320	385	435	ABC
900	58	70	9	1139	1013	355	425	480	N/A
1000	58	70	9	1218	1117	375	445	500	N/A

+ Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors. 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15.H17

Package Codes  
A-500'  
B-2,500'  
C-1,000'  
D-5,000'

## RECOMMENDED SAMPLE SPECIFICATIONS:

Conductors shall be UL-listed Type THHN and THWN-2, suitable for operation at 600 volts, as specified in the National Electrical Code. Sizes 8 through 1 AWG shall be rated VW-1, larger sizes shall be rated for CT Use. Conductors shall be Alumaflex aluminum alloy, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL-listed equivalent as manufactured by Southwire Company or approved equal.

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Conductor		Stock Numbers
Size (AWG or kcmil)	No. of strands	
8	7	Stock #: N/A
6	7	Stock #: BK:563768, RD:573834, BE:573835, WE:578332, GN:566358
4	7	Stock #: BK:563769, RD:573544, BE:573833, WE:577628, GN:562211
2	7	Stock #: BK:563770, RD:573541, BE:573542, WE:563493, BN:587026, OE:587027, YW:587028, GY:578329, GN:562745
1	18	Stock #: BK:563771, RD:583155, BE:583156, WE:578328, BN:587023, OE:587024, YW:587025, GY:578327, GN:562746
1/0	18	Stock #: BK:562747, RD:562748, BE:562749, WE:562750, BN:562753, OE:562754, YW:562752, GY:562755, GN:562756, PE:573380
2/0	18	Stock #: BK:562212, RD:562214, BE:562621, WE:562213, BN:562758, OE:562759, YW:562757, GY:562760, GN:562761, PE:573370
3/0	18	Stock #: BK:562663, RD:562665, BE:562666, WE:562664, BN:562763, OE:562764, YW:562762, GY:562765, GN:562766, PE:573371
4/0	18	Stock #: BK:562671, RD:562673, BE:562674, WE:562672, BN:561805, OE:561806, YW:561807, GY:562767, GN:562768, PE:573372
250	22	Stock #: BK:560444, RD:562626, BE:562627, WE:562625, BN:561863, OE:561864, YW:561865, GY:561866, GN:561867, PE:573373
300	35	Stock #: BK:562667, RD:562669, BE:562670, WE:562668, BN:562771, OE:562772, YW:562770, GY:562773, GN:562774, PE:573374
350	35	Stock #: BK:560443, RD:562623, BE:562624, WE:562622, BN:561858, OE:561859, YW:561861, GY:561862, GN:562775, PE:573375
400	35	Stock #: BK:562677, RD:562776, BE:562778, WE:562779, BN:562781, OE:562782, YW:562780, GY:562783, GN:562699, PE:573376
500	35	Stock #: BK:560442, RD:562696, BE:562697, WE:562698, BN:561853, OE:561854, YW:561855, GY:561856, GN:561857, PE:573377
600	58	Stock #: BK:560441, RD:562630, BE:562631, WE:562628, BN:561847, OE:561848, YW:561849, GY:561850, GN:561851, PE:573379
700	58	Stock #: BK:562689, RD:562690, BE:562691, WE:562692, BN:561843, OE:561844, YW:561846, GY:562693
750	58	Stock #: BK:562632, RD:562634, BE:562635, WE:562633, BN:561838, OE:561839, YW:561840, GY:561841, GN:561842, PE:573481
900	58	Stock #: BK:562679, RD:562681, BE:562682, WE:562683, BN:561782, OE:561783, YW:561785, GY:561786, GN:562684
1000	58	Stock #: BK:562680, BN:564280, OE:564281, YW:564282, GY:564283

<b>Color Abbreviations</b>					
BK-Black	RD-Red	BE-Blue	WE-White	BN-Brown	
	OE-Orange	YW-Yellow	GY-Grey	GN-Green	

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One Southwire Drive, Carrollton, GA 30119, USA

# SIMPull THHN®

## Copper THHN Wire & Cable



600 Volts. Copper Conductor. Thermoplastic Insulation/Nylon Sheath, Heat, Moisture, Gasoline and Oil Resistant II. All Sizes Rated Both THHN and either THWN (sizes 14, 12, and 10 AWG) or THWN-2 (sizes 8 AWG and larger). Also Rated MTW and AWM (See Below). SIMpull® Technology for Easier Pulling.

### APPLICATIONS

Southwire® SIMpull THHN® copper conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the National Electrical Code. Voltage for all applications is 600 volts. SIMpull THHN® copper conductors are designed to be installed without application of a pulling lubricant.

These conductors have multiple ratings. Depending upon the product application, allowable temperatures are as follows:

- THHN or T90 Nylon- Dry locations not to exceed 90° C
- THWN-2- Wet or dry locations not to exceed 90° C or locations not to exceed 75° C when exposed to oil
- THWN- Wet locations not to exceed 75° C or dry locations not to exceed 90° C or locations not to exceed 75° C when exposed to oil
- TWN75- Wet locations not to exceed 75° C
- MTW- Wet locations or when exposed to oil at temperatures not to exceed 60° C or dry locations not to exceed 90° C (with ampacity limited to that for 75° C conductor temperature per NFPA 79)
- AWM- Dry locations not to exceed 105° C only when rated and used as appliance wiring material

### STANDARDS & REFERENCES

Southwire® SIMpull THHN® copper conductors comply with the following:

- ASTM - B3, B8, and B787 (19 Wire Combination Unilay-Stranded)
- UL Standards 83, 758, 1063, and 1581
- CSA C22.2 No. 75, T90 Nylon/TWN75 Sizes through 1000 kcmil
- NOM-ANCE 90° C
- Federal Specification A-A-59544
- NEMA WC-70 (ICEA S-95-658) Construction Requirements
- National Electrical Code, NFPA 70
- CT Rated in Sizes 1/0 AWG and larger
- VW-1 - Sizes 14 through 1 AWG
- FT1 - All Sizes
- Sunlight Resistant – Sizes 2 AWG and larger
- AWM - Sizes 14 through 6 AWG
- MTW - Stranded Constructions Only
- RoHS/REACH Compliant

### CONSTRUCTION

Southwire® SIMpull THHN® copper conductors are made with soft drawn copper. Sizes 14 through 4/0 AWG use a combination-unilay stranding while 250 kcmil and larger sizes use a compressed copper stranding. The wire is covered with a tough heat and moisture resistant PVC insulation with an overall nylon jacket utilizing SIMpull® Technology. Available in black, white, red, blue, purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity. Marked as THHN in all sizes. Also marked as THWN-2 in sizes 8 AWG and larger or marked as THWN in sizes 14, 12, and 10 AWG. Marked sunlight resistant in sizes 2 AWG and larger. Sizes 14, 12, and 10 AWG are available with SIMpull® Technology only in SIMpull BARREL™ cable drum or SIMpull® CoiPAK™ configurations.



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Conductor		Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal O.D. (mils)	Approx. Net Wt. Per 1000' (lbs.)	Allowable Ampacities+			Standard Package
Size (AWG or kcmil)	No. of strands					60 °C	75 °C	90 °C	
14*	1	15	4	102	15	15	15	AC	
12*	1	15	4	119	23	20	20	AC	
10*	1	20	4	150	36	30	30	AC	
14*	19	15	4	109	16	15	15	AC	
12*	19	15	4	128	24	20	20	AC	
10*	19	20	4	161	38	30	30	AC	
8	19	30	5	213	63	40	50	ABCD	
6	19	30	5	249	95	55	65	ABCD	
4	19	40	6	318	152	70	85	ABCD	
3	19	40	6	346	189	85	100	ABCD	
2	19	40	6	378	234	95	115	ABCD	
1	19	50	7	435	299	110	130	ABCD	
1/0	19	50	7	474	372	125	150	ABCD	
2/0	19	50	7	518	462	145	175	ABCD	
3/0	19	50	7	568	575	165	200	ABCD	
4/0	19	50	7	624	718	195	230	ABCD	
250	37	60	8	694	851	215	255	ABCD	
300	37	60	8	747	1012	240	285	ABC	
350	37	60	8	797	1174	260	310	ABC	
400	37	60	8	842	1334	280	335	ABC	
500	37	60	8	926	1655	320	380	ABCD	
600	61	70	9	1024	1987	350	420	ABC	
750	61	70	9	1126	2464	400	475	BC	
1000	61	70	9	1275	3257	455	545	C	

\* Sizes 14, 12, and 10 AWG are available with SIMpull® Technology only in SIMpull® Barrel or CoiPAK® configurations. Standard put ups vary from the ones shown on this chart for standard 14-10 AWG THHN.

+Allowable ampacities shown are for general use as specified by the 2014 Edition of the National Electrical Code Sections 310.15 and 240.4(D).

Unless the equipment is marked for use at higher temperatures the conductor shall be limited to the following per NEC 110.14(C):

60° C - When terminated to equipment for circuits rated 100 amperes or less or marked for 14 - 1 AWG conductors.

75° C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90° C - THHN dry locations and THWN-2 wet or dry locations for ampacity adjustment purposes using NEC section 310.15.

Package Codes:  
A - 2500' Reel  
B - 1000' Reel  
C - 500' Spool  
D - 5000' Reel

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Conductor		Stock Numbers			
Size (AWG or kcmil)	No. of strands				
14*	1	SIMpull THHN® CU Stock #: BK:580285, WE:580294, WE/RD:580622, RD:580293, BE:580287, GN:580291, YW:580295, OE:580292, BN:580288, PE:580286, GY:580289 Standard THHN CU Stock #: BK:115790, WE:115808, RD:115816, BE:115824, GN:115832, YW:115840, OE:115857, BN:115865, PE:211243, GY:214668, TN:302539, PK:255331			
12*	1	SIMpull THHN® CU Stock #: BK:580265, WE:580275, WE/BK:580280, WE/BE:580281, WE/RD:580283, RD:580273, GN:580271, GN/YW:584566, BE:580267, PE:580264, YW:580276, OE:580272, BN:580268, GY:580269, GY/BN:580277, GY/OE:580278, GY/PE:580263, GY/YW:580279, PK:581931 Standard THHN CU Stock #: BK:115873, WE:115881, WE/BK:565284, WE/BE:611410, WE/RD:565285, Red:115899, GN:115915, GN/YW:401000, BE:115907, PE:212043, YW:115923, OE:115931, BN:115949, GY:228700, GY/BN:575303, GY/OE:575304, GY/YW:575305, PK:256479, TN:320127			
10*	1	SIMpull THHN® CU Stock #: BK:580203, WE:580215, WE/BK:580216, WE/BE:580218, WE/RD:580219, RD:580214, GN:580211, GN/YW:580212, BE:580204, PE:580202, YW:580220, OE:580213, BN:580205, GY:580206, GY/BN:580226, GY/OE:580208, GY/PE:580201, GY/YW:580210 Standard THHN CU Stock #: BK:115956, WE:115964, WE/BK:551545, WE/BE:551547, WE/RD:551546, RD:115972, GN:115998, GN/YW:611757, BE:115980, YW:116004, OE:116012, BN:116020, GY:229823, GY/BN:575300, GY/OE:575301, GY/YW:575302, PK:258384, PE:253336			
14*	19	SIMpull THHN® CU Stock #: BK:585485, WE:580180, WE/BK:585484, WE/BE:581899, RD:585494, BE:585486, BE/WE:592686, GN:585490, YW:580181, OE:580177, BN:580172, BN/RD:592685, PE:580178, GY:580173, PK:581933 Standard THHN CU Stock #: BK:229559, WE:229567, RD:229575, RD/BK:662817, BE:229583, GN:229591, YW:229609, OE:229617, BN:229625, PE:239566, GY:229633, PK:244863, TN:320150			
12*	19	SIMpull THHN® CU Stock #: BK:580182, WE:580199, WE/BK:580192, WE/BE:580193, WE/RD:580194, RD:580198, BE:580222, GN:580195, GN/YW:583863, YW:580200, OE:580196, BN:585461, PE:580197, GY:580250, GY/BN:580207, GY/OE:580189, GY/PE:580188, GY/YW:580190, PK:581932 Standard THHN CU Stock #: BK:229641, WE:229658, WE/BK:311514, WE/BE:566441, WE/RD:566440, RD:229666, BE:229674, BE/WE:662981, GN:229682, GN/YW:663013, YW:229690, OE:229708, BN:229716, PE:232124, GY:229724, GY/BN:575307, GY/OE:575309, GY/YW:575310, TN:320168, PK:242503			
10*	19	SIMpull THHN® CU Stock #: BK:580221, WE:580255, WE/BK:580260, WE/BE:580261, WE/RD:580262, RD:580254, BE:580222, GN:585464, GN/YW:584567, YW:585470, OE:585465, BN:580223, PE:580253, GY:580250, GY/BN:580207, GY/OE:580257, GY/PE:580227, GY/YW:580259, PK:581930 Standard THHN CU Stock #: BK:229732, WE:229740, WE/BK:610028, WE/BE:556199, WE/RD:556198, RD:229757, RD/WE:663039, BE:229765, GN:229773, GN/YW:663112, PE:256594, YW:229781, OE:229799, BN:229807, GY:229815, GY/BN:575297, GY/OE:575298, GY/YW:575299, PK:260539, TN:320176			
Color Abbreviations					
BK-Black	WE-White	RD-Red	BE-Blue	GN-Green	YW-Yellow
OE-Orange	BN-Brown	GY-Grey	PK-Pink	PE-Purple	TN-Tan

Conductor		Stock Numbers			
Size (AWG or kcmil)	No. of strands				
8	19	SIMpull THHN® CU Stock #: BK:204883, WE:204891, RD:204909, BE:204917, GN:204925, YW:238485, OE:238493, BN:238477, GY:238501, PK:577515, PE:256586			
6	19	SIMpull THHN® CU Stock #: BK:204933, WE:204941, RD:204958, BE:204966, GN:204974, YW:260687, OE:260679, BN:260695, GY:254649, PE:485607			
4	19	SIMpull THHN® CU Stock #: BK:204990, WE:205005, RD:204982, BE:205633, GN:251728, YW:411694, OE:411710, BN:411702, GY:611778, PE:552486			
3	19	SIMpull THHN® CU Stock #: BK:243469, WE:243477, RD:243485, BE:372763, GN:601971, YW:551080, OE:551079, BN:551078, GY:551081, PE:552533			
2	19	SIMpull THHN® CU Stock #: BK:205021, WE:205039, RD:205013, BE:315812, GN:295832, YW:420653, OE:610171, BN:610169, GY:610172, PE:552534			
1	19	SIMpull THHN® CU Stock #: BK:205047, WE:344580, RD:344598, BE:481945, GN:400192, YW:550887, OE:550888, BN:550890, GY:550891, PE:552488			
1/0	19	SIMpull THHN® CU Stock #: BK:205054, WE:558771, RD:558773, BE:558774, GN:556315, YW:558777, OE:558779, BN:558778, GY:558781, PE:551539			
2/0	19	SIMpull THHN® CU Stock #: BK:205062, WE:556111, RD:556113, BE:556114, GN:556115, YW:556116, OE:556117, BN:556119, GY:558784, PE:552535			
3/0	19	SIMpull THHN® CU Stock #: BK:205070, WE:556120, RD:556121, BE:556122, GN:556123, YW:556124, OE:556125, BN:556127, GY:556698, PE:551541			
4/0	19	SIMpull THHN® CU Stock #: BK:205088, WE:556128, RD:556129, BE:556130, GN:556131, YW:556132, OE:556133, BN:556135, GY:556697, PE:551540			
250	37	SIMpull THHN® CU Stock #: BK:205096, WE:556136, YW:556140, OE:556141, BN:556143, GY:556552, BE:556138, GN:556139, PK:592681, PE:551025, RD:556137, TN:592682			
300	37	SIMpull THHN® CU Stock #: BK:205104, WE:556144, RD:556145, BE:556146, GN:556147, YW:556148, OE:556149, BN:556150, GY:556551, PE:551026			
350	37	SIMpull THHN® CU Stock #: BK:205112, WE:556151, RD:556152, BE:556153, GN:556154, YW:556155, OE:556156, BN:556157, GY:556707, PE:551027			
400	37	SIMpull THHN® CU Stock #: BK:205120, WE:556158, RD:556160, BE:556161, GN:556162, YW:556163, OE:556164, BN:556165, GY:556550, PK:581797, PE:551029, TN:581798			
500	37	SIMpull THHN® CU Stock #: BK:205138, WE:556166, RD:556168, BE:556169, GN:556170, YW:556171, OE:556172, BN:556173, GY:556549, PK:581782, PE:551599, TN:581783			
600	61	SIMpull THHN® CU Stock #: BK:321471, WE:556174, RD:556176, BE:556177, GN:556178, YW:556179, OE:556180, BN:556181, GY:558859, PE:552485			
750	61	SIMpull THHN® CU Stock #: BK:320994, WE:564945, RD:564946, BE:564944, GN:551700, YW:550907, OE:550908, BN:550909, GY:550910, PE:552536			
1000	61	SIMpull THHN® CU Stock #: BK:289710, BN:552644, OE:552645, YW:552647			
Color Abbreviations					
BK-Black	WE-White	RD-Red	BE-Blue	GN-Green	YW-Yellow
OE-Orange	BN-Brown	GY-Grey	PK-Pink	PE-Purple	TN-Tan

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pladetroit.org

PROJECT DESCRIPTION  
DESIGN ENGINEERING FOR McNICHOLS STREETSCAPE  
RECEPTACLE CORD CABLE DETAILS  
SHEET 2 OF 2

Consulting Engineering Associate and Wade Trim Joint Venture  
16580 Wyoming  
Detroit, Michigan 48221  
313-341-5797  
Consulting Engineering Associates, Inc. WADE TRIM

DATE:	DETAIL REVISIONS:

SHEET  
DT-08.2  
JOB NO. 142817  
PAGE 26 OF 46



# TRON® In-Line Fuse Holders

## HEB Series Single-Pole Breakaway & Non-Breakaway for 1 3/32" x 1 1/2" Fuses



### Non-Breakaway Fuse Holders

See page 2 for breakaway holders

**Catalog Symbol:** HEB

### Description:

Water resistant, single-pole non-breakaway in-line fuse holders for 1 3/32" x 1 1/2" midget fuses. Typical fuse types: BAF, DCM, FNM, FNQ and KTK.

### Ratings:

Volts: 600V (or less)

Amps: Up to 30A\*

### Agency Information:

(1)UL Recognized, Guide IZLT2, File E14853

(2)CSA Certified, Class 6225-01, File 47235

(3)CE

**Coupling Nut Torque:** 10-20lb-in.

### Part Number Explanation

Example: HEB-AK

- HEB = Holder series
- A = Loadside terminal (copper crimp for #12 copper wire)
- K = Lineside terminal (copper setscrew for two #6 copper wires)

### Part Number Selection

From the table on page three, select the combination of desired loadside and lineside terminals for the application (define terminal type, wire size, number of wires per terminal and whether the terminal accepts solid and/or stranded conductors). Then in the right hand two columns, select either the non-breakaway or breakaway holder part number to order.

### Available Part Numbers

HEB-AA<sup>(1)</sup> (2) (3), HEB-AB<sup>(2)</sup>, HEB-AC<sup>(2)</sup>, HEB-AD<sup>(2)</sup>, HEB-AE<sup>(2)</sup>, HEB-AJ, HEB-AK, HEB-AL, HEB-AR, HEB-AY, HEB-BA<sup>(2)</sup>, HEB-BB<sup>(2)</sup>, HEB-BC<sup>(2)</sup>, HEB-BD<sup>(2)</sup>, HEB-CC<sup>(2)</sup>, HEB-DD<sup>(2)</sup>, HEB-JJ, HEB-JK, HEB-JL, HEB-JY, HEB-LL, HEB-NN, HEB-PP<sup>(2)</sup>, HEB-QQ<sup>(2)</sup>, HEB-RR<sup>(2)</sup>, HEB-SS, HEB-TT<sup>(2)</sup>, HEB-ZA.

### Insulating Boots

For insulating boots, see page 2. Insulating boots are not included with non-breakaway holders and must be ordered separately. They come standard with the breakaway holders. When insulating boots are utilized, extra heat retention requires that fuses are sized at a minimum of 200% of the RMS load current.

\*Amp rating limited by conductor size.

### Specification Data - Non-Breakaway & Loadside Breakaway

Terminal Type	Conductor Data			Catalog Symbol Load & Line (2) & (3)
	Size	No. Per Terminal	Solid / Stranded	
Copper Crimp	#12 to #8	1	• •	A
	#12	2	• •	B
	#10	2	• •	
	#6	1	• •	C
	#8	2	• •	
	#4	1	—	D
	#6	2	• •	
#2	1	—	E	
#4	2	• •		
#20 to #18	1	• •		Z
Copper Setscrew	#12 to #3	1	• •	J
	#12 to #3	2	• •	K
Solid Copper Terminal for Aluminum Wire Connector	#8 to #12	1	• —	S
	#10 to #4	1	— •	N
Aluminum Crimp	#8	1	— •	
	#6	1	— •	
	#4	1	• —	Q
	#3, #4	1	— •	
	#2	1	• —	R
	#1, #2	1	— •	
	#1/0	1	— •	T
Aluminum Setscrew	#12 to #2	1	• •	L
	#12 to #3	2	• •	Y

### Breakaway Fuse Holders

**Catalog Symbol:** HEB

### Description:

Single-pole breakaway in-line fuse holders for 1 3/32" x 1 1/2" midget fuses. Typical fuse types: BAF, DCM, FNM, FNQ AND KTK.

### Ratings:

Volts: 600V (or less)

Amps: Up to 30A\*

### Agency Information:

(1)UL Recognized, Guide IZLT2, File E14853

(2)CSA Certified, Class 6225-01, File 47235

(3)CE

**Coupling Nut Torque:** 10-20lb-in.

### Part Number Explanation

Example: HEB-AW-RYC

- HEB = Holder series
- AW = Loadside terminal (copper crimp for #12 copper wire)
- RYC = Lineside terminal (copper setscrew for two #6 copper wires)

### Part Number Selection

From the table on page three, select the combination of desired loadside and lineside terminals for the application (define terminal type, wire size, number of wires per terminal and whether the terminal accepts solid and/or stranded conductors). Then in the right hand two columns, select either the non-breakaway or breakaway holder part number to order.

### Available Part Numbers

#### Breakaway Units:

(Includes fuse holder, breakaway part and insulating boots):

HEB-AW-RLA, HEB-AW-RLC-A<sup>(1)</sup> (2) (3), HEB-AW-RLC-B, HEB-AW-RLC-C, HEB-AW-RLC-J, HEB-AW-RYA, HEB-AW-RYC, HEB-BW-RLC-A, HEB-BW-RLC-B, HEB-BW-RYC, HEB-JW-RLC-J, HEB-JW-RYC, HEB-KW-RLC-J, HEB-KW-RYC, HEB-LW-RLA, HEB-LW-RLC-J, HEB-LW-RYA

**Fuse Holder Only:** HEB-AW<sup>(2)</sup>, HEB-BW<sup>(2)</sup>, HEB-DW<sup>(2)</sup>, HEB-JW, HEB-LW

**Breakaway Part:** RLC-A, RLC-B, RLC-C, RLC-J, RYC, RLA, RYA

### Specification Data - Lineside Breakaway

Terminal Type	Conductor Data			Catalog Symbol
	Size	No. Per Terminal	Solid / Stranded	
Copper Crimp	#12 to #8	1	• •	-RLC-A
	#6	1	• •	-RLC-B
	#4	1	• •	-RLC-C
Copper Setscrew	#12 to #2	1	• •	-RLC-J
	#12 to #3	2	• •	-RYC
Aluminum Setscrew	#12 to #2	1	• •	-RLA
	#12 to #3	2	• •	-RYA
Solid Breakaway	(Required with Breakaway Receptacle)			W

### Insulating Boots

Part Numbers	Type
2A0660	Single conductor
2A0661	Two conductor

Two insulating boots come standard with the breakaway holders (example: HEB-AW-RLC-A). The insulating boots are not included with the non-breakaway holders (example: HEB-AA) or the individual pieces of the breakaway holders (example: HEB-AW, RCL-A). Two insulating boots must be ordered for each holder when ordering them separately. When insulating boots are utilized, extra heat retention requires that fuses are sized at a minimum of 200% of the RMS load current.

\*Amp rating limited by conductor size.

# For HEB Holders Only

Directions: To select complete holder P/N, work from left to right starting with loadside terminal options and then lineside terminal options. Then determine breakaway or non-breakaway style.

Loadside Terminal					Lineside Terminal					Available P/N's	
Terminal Type	Wire Size	No. of Wires per Terminal	Solid Wire	Stranded Wire	Terminal Type	Wire Size	No. of Wires per Terminal	Solid Wire	Stranded Wire	Non-Breakaway P/N (Boots not included)	Breakaway P/N (Boots included)
Copper Crimp	#12 to #8	1	Y	Y	Copper Crimp	#12 to #8	1	Y	Y	HEB-AA <sup>(1)(2)</sup> (3)	HEB-AW-RLC-A <sup>(1)(2)</sup> (3)
Copper Crimp	#12	2	Y	Y	Copper Crimp	#12	2	Y	Y	HEB-AB <sup>(2)</sup>	HEB-AW-RLC-B
Copper Crimp	#12 to #8	1	Y	Y	Copper Crimp	#6	1	Y	Y	HEB-AC <sup>(2)</sup>	HEB-AW-RLC-C <sup>(4)</sup>
Copper Crimp	#12	2	Y	Y	Copper Crimp	#10	2	Y	Y	HEB-AD <sup>(2)</sup>	N/A
Copper Crimp	#12 to #8	1	Y	Y	Copper Crimp	#4	1	N	Y	HEB-AE <sup>(2)</sup>	N/A
Copper Crimp	#12	2	Y	Y	Copper Crimp	#8	2	Y	Y	HEB-AJ	HEB-AW-RLC-J
Copper Crimp	#12 to #8	1	Y	Y	Copper Crimp	#2	1	N	Y	HEB-AK	HEB-AW-RYC
Copper Crimp	#12	2	Y	Y	Copper Crimp	#6	2	Y	Y	HEB-AL	HEB-AW-RLA
Copper Crimp	#12 to #8	1	Y	Y	Copper Crimp	2/0	1	N	Y	HEB-AY	HEB-AW-RYA
Copper Crimp	#12	2	Y	Y	Copper Crimp	#3	2	N	Y	HEB-AR	N/A
Copper Crimp	#12 to #8	1	Y	Y	Copper Setscrew	#12 to #3	1	Y	Y	HEB-BA <sup>(2)</sup>	HEB-BW-RLC-A
Copper Crimp	#12	2	Y	Y	Copper Setscrew	#12 to #3	2	Y	Y	HEB-BB <sup>(2)</sup>	HEB-BW-RLC-B
Copper Crimp	#12 to #8	1	Y	Y	Aluminum Setscrew	#12 to #2	1	Y	Y	HEB-BC <sup>(2)</sup>	N/A
Copper Crimp	#12	2	Y	Y	Aluminum Setscrew	#12 to #2	2	Y	Y	HEB-BD <sup>(2)</sup>	N/A
Copper Crimp	#12 to #8	1	Y	Y	Aluminum Crimp	#1, #2	1	N	Y	HEB-CC <sup>(2)</sup>	N/A
Copper Crimp	#12	2	Y	Y	Copper Crimp	#12 to #8	1	Y	Y	HEB-DD <sup>(2)</sup>	N/A
Copper Crimp	#6	1	Y	Y	Copper Crimp	#10	2	Y	Y	HEB-ZA	N/A
Copper Crimp	#10	2	Y	Y	Copper Crimp	#6	1	Y	Y	HEB-JJ	HEB-JW-RLC-J
Copper Crimp	#6	1	Y	Y	Copper Crimp	#10	2	Y	Y	HEB-JK	HEB-JW-RYC
Copper Crimp	#10	2	Y	Y	Copper Crimp	#4	1	N	Y	HEB-JL	N/A
Copper Crimp	#6	1	Y	Y	Copper Crimp	#8	2	Y	Y	HEB-JY	N/A
Copper Crimp	#10	2	Y	Y	Copper Crimp	#2	1	N	Y	HEB-LL	HEB-LW-RLA
Copper Crimp	#6	1	Y	Y	Copper Crimp	#6	2	Y	Y	HEB-NN	N/A
Copper Crimp	#4	1	N	Y	Copper Crimp	#4	1	N	Y	HEB-PP <sup>(2)</sup>	N/A
Copper Crimp	#8	2	Y	Y	Copper Crimp	#8	2	Y	Y	HEB-QQ <sup>(2)</sup>	N/A
Copper Crimp	#2	1	N	Y	Copper Crimp	#2	1	N	Y	HEB-RR <sup>(2)</sup>	N/A
Copper Crimp	#6	2	Y	Y	Copper Crimp	#6	2	Y	Y	HEB-TT <sup>(2)</sup>	N/A
Copper Crimp	#20, #18	1	Y	Y	Copper Crimp	#12 to #8	1	Y	Y	HEB-SS	N/A
Copper Crimp	#12 to #3	1	Y	Y	Copper Crimp	#12	2	Y	Y		
Copper Setscrew	#12 to #3	1	Y	Y	Copper Setscrew	#12 to #3	1	Y	Y		
Copper Setscrew	#12 to #3	1	Y	Y	Copper Setscrew	#12 to #3	2	Y	Y		
Copper Setscrew	#12 to #3	1	Y	Y	Aluminum Setscrew	#12 to #2	1	Y	Y		
Copper Setscrew	#12 to #3	1	Y	Y	Aluminum Setscrew	#12 to #2	2	Y	Y		
Aluminum Setscrew	#12 to #2	1	Y	Y	Aluminum Setscrew	#12 to #2	1	Y	Y		
Aluminum Crimp	#8	1	N	Y	Aluminum Crimp	#8	1	N	Y		
Aluminum Crimp	#6	1	Y	N	Aluminum Crimp	#6	1	Y	N		
Aluminum Crimp	#6	1	N	Y	Aluminum Crimp	#6	1	N	Y		
Aluminum Crimp	#4	1	Y	N	Aluminum Crimp	#4	1	Y	N		
Aluminum Crimp	#3, #4	1	N	Y	Aluminum Crimp	#3, #4	1	N	Y		
Aluminum Crimp	#2	1	Y	N	Aluminum Crimp	#2	1	Y	N		
Aluminum Crimp	#1, #2	1	N	Y	Aluminum Crimp	#1, #2	1	N	Y		
Aluminum Crimp	1/0	1	N	Y	Aluminum Crimp	1/0	1	N	Y		
Solid Terminal for aluminum connector	#8 to #12	1	Y	N	Solid Terminal for aluminum connector	#8 to #12	1	Y	N		
Solid Terminal for aluminum connector	#10 to #14	1	N	Y	Solid Terminal for aluminum connector	#10 to #14	1	N	Y		

(1)UL Recognized, Guide IZLT2, File E14853  
 (2)CSA Certified, Class 5225-01, File 47235  
 (3)CE  
 (4)HEB-AW-RLC-C is for (1) #4 stranded wire only.

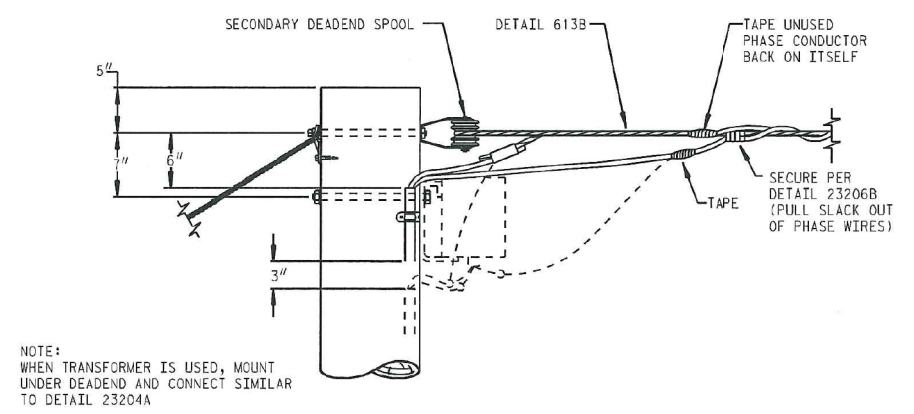
Contact your local Cooper Bussmann representative for other possible terminations not listed.

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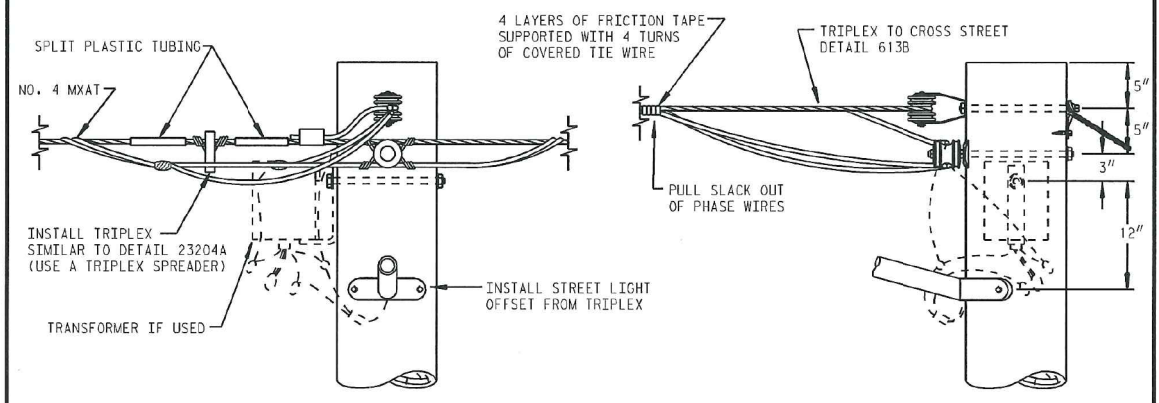


23-STREET LIGHTING



NOTE: WHEN TRANSFORMER IS USED, MOUNT UNDER DEADEND AND CONNECT SIMILAR TO DETAIL 23204A

DEADEND POLE  
DETAIL 23206A

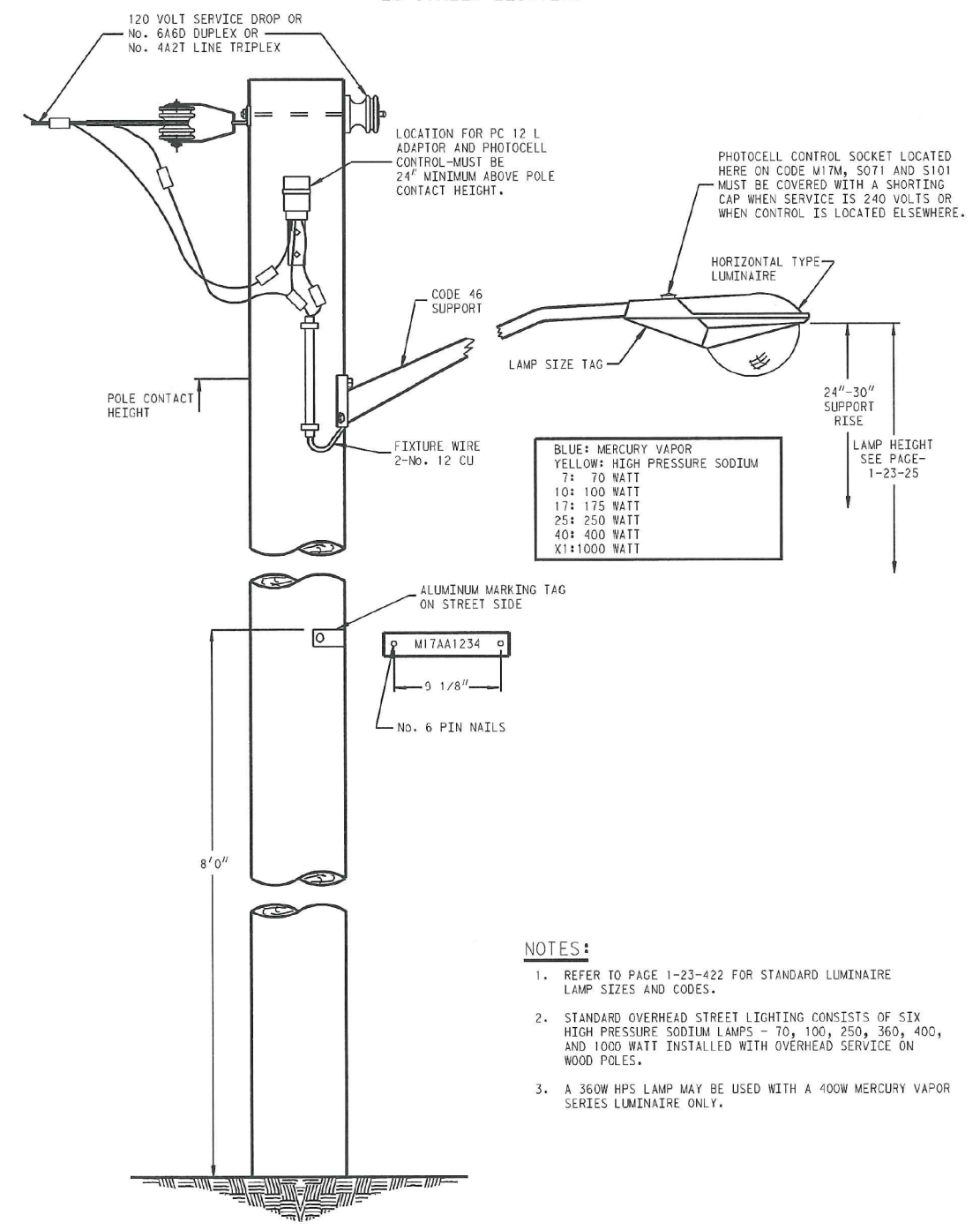


TRIPLEX TEE FEED  
DETAIL 23206B

120 OR 240 VOLT CIRCUIT  
NO. 4A2T LINE TRIPLEX

NIDGN-JGH123206.DGN  
JUN-06-2000 DKR/RUSSELL REVIEWED 10/2002

23-STREET LIGHTING



BLUE:	MERCURY VAPOR
YELLOW:	HIGH PRESSURE SODIUM
7:	70 WATT
10:	100 WATT
17:	175 WATT
25:	250 WATT
40:	400 WATT
X1:	1000 WATT

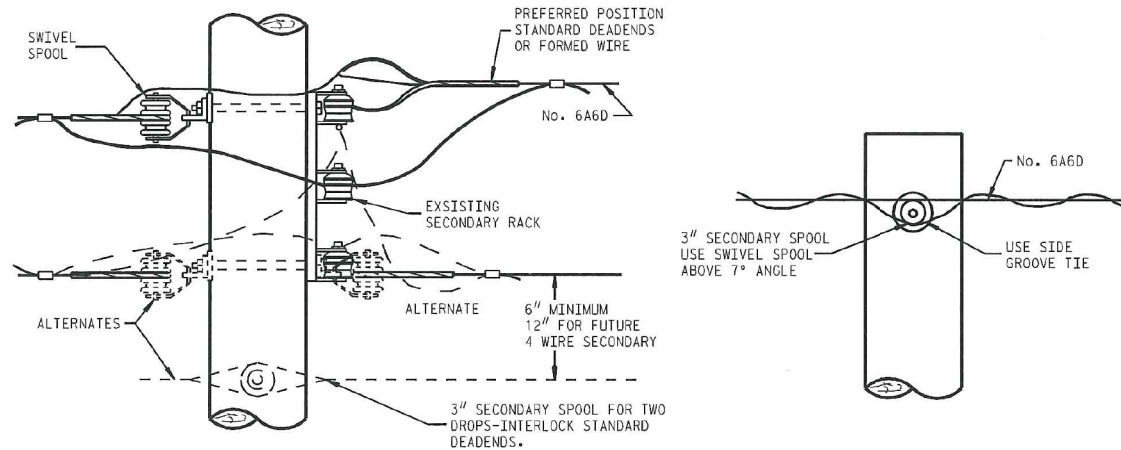
- NOTES:
- REFER TO PAGE 1-23-422 FOR STANDARD LUMINAIRE LAMP SIZES AND CODES.
  - STANDARD OVERHEAD STREET LIGHTING CONSISTS OF SIX HIGH PRESSURE SODIUM LAMPS - 70, 100, 250, 360, 400, AND 1000 WATT INSTALLED WITH OVERHEAD SERVICE ON WOOD POLES.
  - A 360W HPS LAMP MAY BE USED WITH A 400W MERCURY VAPOR SERIES LUMINAIRE ONLY.

REFER TO PG. 1-23-236 FOR POLE SETTING AND RAKING

STANDARD OVERHEAD  
STREET LIGHT INSTALLATION

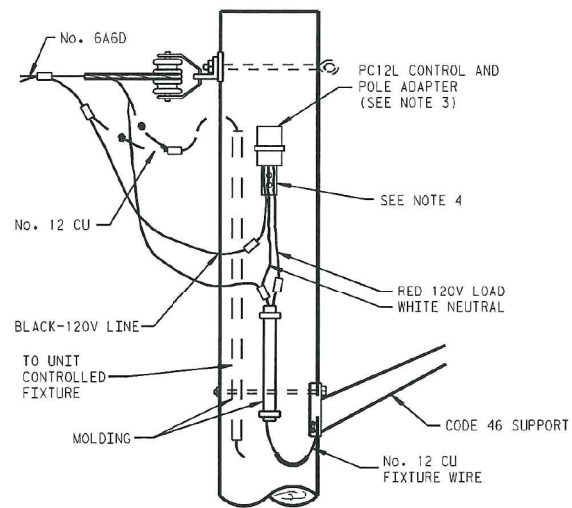
DETROIT, MICHIGAN  
C:\DGM\123201.DGN (120,17)  
FEB-06-1998 TRH/WHRING REVIEWED 10/2002

23-STREET LIGHTING



120 VOLT DUPLEX DROP FROM LINE POLE  
DETAIL 23202A

120 VOLT DUPLEX DROP TANGENT POLE  
DETAIL 23202C



120 VOLT DUPLEX DROP ON FIXTURE POLE  
DETAIL 23202B

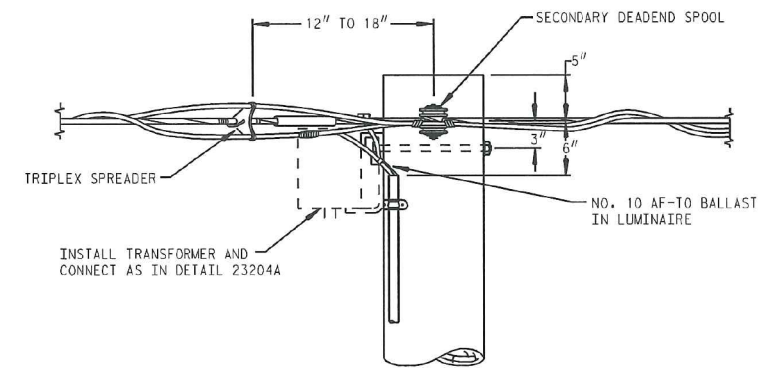
NOTES:

- DROP MAY BE:
1. 120 VOLT SERVICE TO A STREET LIGHT CONTROL.
  2. 120 VOLT STREET CIRCUIT FROM A STREET LIGHT CONTROL.
  3. SEE CONTROL DETAILS FOR MOUNTING & CONNECTION.
  4. FUSED FEED TO ORNAMENTAL LIGHTS-SEE PAGE 1-23-227.

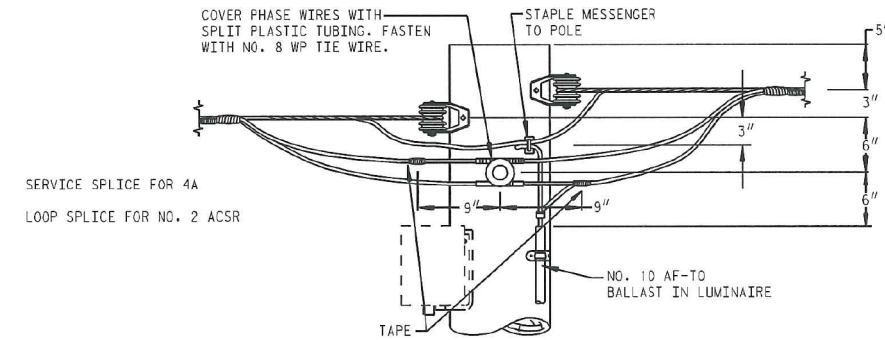
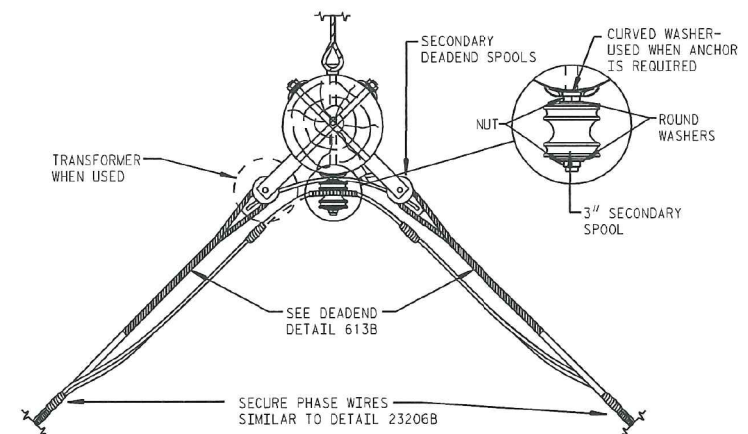
STREET LIGHT DROP  
120 VOLT SERVICE OR CIRCUIT

C:\DGM\123202.DGN(120,17)  
FEB-06-1999 TRW/HRHS REVIEWED 10/2002

23-STREET LIGHTING



ANGLE POLE (5° TO 15°)  
DETAIL 23205A



ANGLE POLE OVER 15°  
DETAIL 23205B

120 OR 240 VOLT  
CIRCUIT NO. 4A2T LINE TRIPLEX

.DGN\UG123205.DGN  
MAY-30-2000 DKR/RUSSELL REVIEWED 10/2002

# IDENTIFICATION TAG TEXT LEGEND

## LIGHTING CONTROLLER (LC) NAMING CONVENTION ID TAG LEGEND

THE FORMAT FOR LIGHTING CONTROLLER ID TAGS SHALL FOLLOW THE FOLLOWING PATTERN:

LCVVWXX

THE SECTIONS SEPARATED FOR CLARITY ARE LC-VV-W-XX. THE LC STAND FOR LIGHTING CONTROLLER. THE V, W AND X ARE AS FOLLOWS:

VV LAST TWO DIGITS OF THE ZIP CODE WHERE THE LIGHTING CONTROLLER IS LOCATED

W ID ASSIGNED TO THE FIRM DESIGNING THE CIRCUIT. EXAMPLES INCLUDE:

M	METRO ENGINEERING SOLUTIONS
T	TETRA TECH
W	C.E.A. AND WADE TRIM JOINT VENTURE

XX ID ASSIGNED TO THE LIGHTING CONTROLLER (LC)

THE TAG SHALL HAVE THE LETTERS MOUNTED HORIZONTALLY WITH THE HOLDER MOUNTED VERTICALLY.

AN EXAMPLE LIGHTING CONTROLLER ID TAG IS:

LC16W30 AN LC INSTALLED IN THE 48230 ZIP THAT WAS LAID OUT BY THE C.E.A AND WADE TRIM JOINT VENTURE AND HAS BEEN ASSIGNED AN ID OF 30 IN THAT ZIP CODE.

## CABLE NAMING CONVENTION ID TAG LEGEND

THE FORMAT FOR CABLE TAGS SHALL FOLLOW THE FOLLOWING PATTERN:

UUUVVWXXYZ

THE SECTIONS SEPARATED FOR CLARITY ARE UUU-VV-W-XX-Y-Z. THE VV-W-XX COMES FROM THE ASSIGNED LIGHTING CONTROLLER ID. THE VARIOUS VALUES STAND FOR:

UUU	PLA	FOR STREET LIGHTING CIRCUITS
	REC	FOR RECEPTACLE CIRCUITS

VVWXX THE ASSIGNED LC ID. SEE THE LC NAMING CONVENTION

Y THE CIRCUIT BRANCH ID (1, 2, 3, 4, ETC.)

Z THE CONDUCTOR CLASSIFICATION

CLASSIFICATIONS ARE:

A	A PHASE CONDUCTOR
B	B PHASE CONDUCTOR
N	NEUTRAL CONDUCTOR
G	EQUIPMENT GROUND CONDUCTOR (EGC)

THE TAG SHALL HAVE THE LETTERS MOUNTED AND THE HOLDER MOUNTED HORIZONTALLY.

NOTE: CABLE TAG LABELS ARE GENERATED FOR THE CABLE(S) BEING TAGGED DEPENDING ON WHAT IS INCLUDED UNDER THE TAG. FOR INSTANCE, AN ENTIRE BRANCH CIRCUIT 4 CABLE BUNDLE INCLUDING 2 POWER LEGS, 1 NEUTRAL AND 1 EGC COULD BE TAGGED WITH A SINGLE UUU-VV-W-XXY TAG AS LONG AS THE CABLES ARE ALL PHYSICALLY TIED TOGETHER. WHEN AN ENTIRE BRANCH CIRCUIT IS BUNDLED AND TAGGED TOGETHER WITH A CIRCUIT IDENTIFIER OF UUU-VV-W-XX-Y THEN THE INDIVIDUAL CABLES IN THAT BUNDLE CAN BE TAGGED WITH JUST AN "A", "B", "N" OR "G".

NOTE: AN EQUIPMENT GROUND CONDUCTOR (EGC) CAN BE SHARED BETWEEN BRANCH CIRCUITS OR EVEN LIGHTING CONTROLLER CIRCUITS IF ALL THE CABLES SHARE THE SAME CONDUIT WHICH CREATES A UNIQUE TAGGING CONVENTION. THE EGC, IF TAGGED SEPARATELY, IS TAGGED TO INDICATE WHAT LEVEL OF SHARING IS USING THE EGC. THE LEVELS OF EGC TAGGING ARE:

UUUVVWXXYG	AN EGC FOR A BRANCH CIRCUIT OR INDIVIDUAL PHASE BUNDLE
UUUVVWXXG	AN EGC SHARED BETWEEN MULTIPLE BRANCH CIRCUITS
EGC	AN EGC SHARED BETWEEN DIFFERENT TYPES OF CIRCUITS OR LCS

NOTE: THERE EXISTS DECORATIVE LIGHTING WITHIN THE DETROIT LIGHTING AREA UTILIZING STRAND LIGHTING. THOSE CIRCUITS ARE BUNDLED TOGETHER AND GET A UNIQUE TAG OF "STRAND".

EXAMPLE CABLES TAGS ARE:

PLA26W5A1A	PLA STREET LIGHTING BRANCH CIRCUIT BUNDLE
PLA26W5A1AA	PLA STREET LIGHTING BRANCH CIRCUIT LAMP LOOP
REC26W5A1A	RECEPTACLE BRANCH CIRCUIT BUNDLE
STRAND	STRAND LIGHTING FEED CABLE BUNDLE

# IDENTIFICATION TAG TEXT LEGEND

## LIGHTING CONTROLLER (LC) NAMING CONVENTION ID TAG LEGEND

THE FORMAT FOR LIGHTING CONTROLLER ID TAGS SHALL FOLLOW THE FOLLOWING PATTERN:

LCVVWXX

THE SECTIONS SEPARATED FOR CLARITY ARE LC-VV-W-XX. THE LC STAND FOR LIGHTING CONTROLLER. THE V, W AND X ARE AS FOLLOWS:

VV LAST TWO DIGITS OF THE ZIP CODE WHERE THE LIGHTING CONTROLLER IS LOCATED

W ID ASSIGNED TO THE FIRM DESIGNING THE CIRCUIT. EXAMPLES INCLUDE:

M	METRO ENGINEERING SOLUTIONS
T	TETRA TECH
W	C.E.A. AND WADE TRIM JOINT VENTURE

XX ID ASSIGNED TO THE LIGHTING CONTROLLER (LC)

THE TAG SHALL HAVE THE LETTERS MOUNTED HORIZONTALLY WITH THE HOLDER MOUNTED VERTICALLY.

AN EXAMPLE LIGHTING CONTROLLER ID TAG IS:

LC16W30 AN LC INSTALLED IN THE 48230 ZIP THAT WAS LAID OUT BY THE C.E.A AND WADE TRIM JOINT VENTURE AND HAS BEEN ASSIGNED AN ID OF 30 IN THAT ZIP CODE.

## CABLE NAMING CONVENTION ID TAG LEGEND

THE FORMAT FOR CABLE TAGS SHALL FOLLOW THE FOLLOWING PATTERN:

UUUVVWXXYZ

THE SECTIONS SEPARATED FOR CLARITY ARE UUU-VV-W-XX-Y-Z. THE VV-W-XX COMES FROM THE ASSIGNED LIGHTING CONTROLLER ID. THE VARIOUS VALUES STAND FOR:

UUU	PLA	FOR STREET LIGHTING CIRCUITS
	REC	FOR RECEPTACLE CIRCUITS

VVWXX THE ASSIGNED LC ID. SEE THE LC NAMING CONVENTION

Y THE CIRCUIT BRANCH ID (1, 2, 3, 4, ETC.)

Z THE CONDUCTOR CLASSIFICATION

CLASSIFICATIONS ARE:

A	A PHASE CONDUCTOR
B	B PHASE CONDUCTOR
N	NEUTRAL CONDUCTOR
G	EQUIPMENT GROUND CONDUCTOR (EGC)

THE TAG SHALL HAVE THE LETTERS MOUNTED AND THE HOLDER MOUNTED HORIZONTALLY.

NOTE: CABLE TAG LABELS ARE GENERATED FOR THE CABLE(S) BEING TAGGED DEPENDING ON WHAT IS INCLUDED UNDER THE TAG. FOR INSTANCE, AN ENTIRE BRANCH CIRCUIT 4 CABLE BUNDLE INCLUDING 2 POWER LEGS, 1 NEUTRAL AND 1 EGC COULD BE TAGGED WITH A SINGLE UUU-VV-W-XXY TAG AS LONG AS THE CABLES ARE ALL PHYSICALLY TIED TOGETHER. WHEN AN ENTIRE BRANCH CIRCUIT IS BUNDLED AND TAGGED TOGETHER WITH A CIRCUIT IDENTIFIER OF UUU-VV-W-XX-Y THEN THE INDIVIDUAL CABLES IN THAT BUNDLE CAN BE TAGGED WITH JUST AN "A", "B", "N" OR "G".

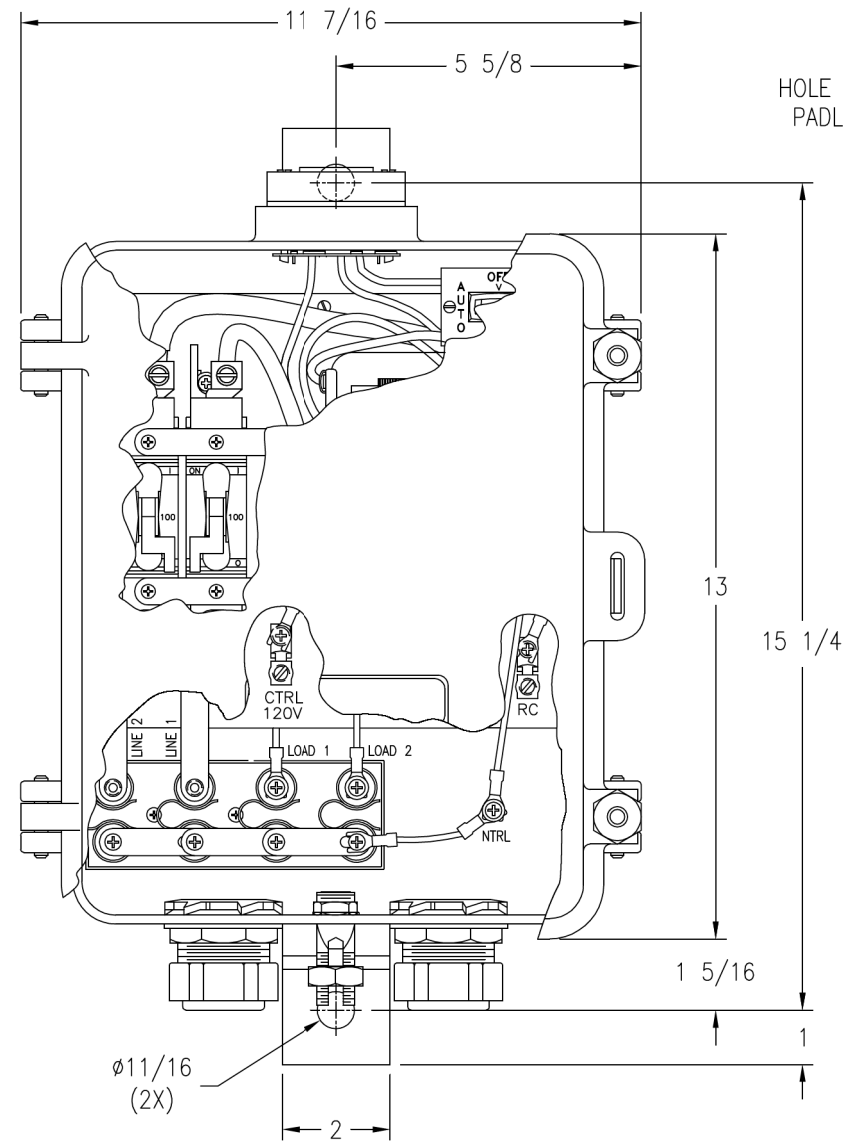
NOTE: AN EQUIPMENT GROUND CONDUCTOR (EGC) CAN BE SHARED BETWEEN BRANCH CIRCUITS OR EVEN LIGHTING CONTROLLER CIRCUITS IF ALL THE CABLES SHARE THE SAME CONDUIT WHICH CREATES A UNIQUE TAGGING CONVENTION. THE EGC, IF TAGGED SEPARATELY, IS TAGGED TO INDICATE WHAT LEVEL OF SHARING IS USING THE EGC. THE LEVELS OF EGC TAGGING ARE:

UUUVVWXXYG	AN EGC FOR A BRANCH CIRCUIT OR INDIVIDUAL PHASE BUNDLE
UUUVVWXXG	AN EGC SHARED BETWEEN MULTIPLE BRANCH CIRCUITS
EGC	AN EGC SHARED BETWEEN DIFFERENT TYPES OF CIRCUITS OR LCS

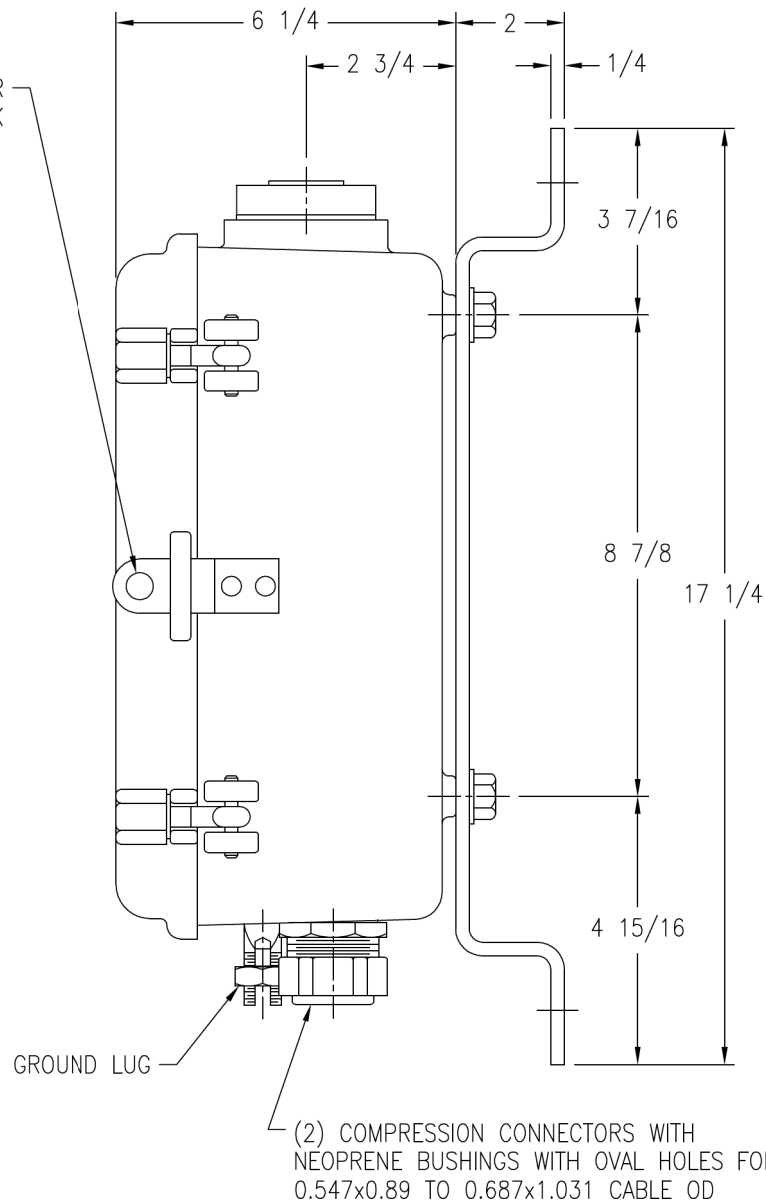
NOTE: THERE EXISTS DECORATIVE LIGHTING WITHIN THE DETROIT LIGHTING AREA UTILIZING STRAND LIGHTING. THOSE CIRCUITS ARE BUNDLED TOGETHER AND GET A UNIQUE TAG OF "STRAND".

EXAMPLE CABLES TAGS ARE:

PLA26W5A1A	PLA STREET LIGHTING BRANCH CIRCUIT BUNDLE
PLA26W5A1AA	PLA STREET LIGHTING BRANCH CIRCUIT LAMP LOOP
REC26W5A1A	RECEPTACLE BRANCH CIRCUIT BUNDLE
STRAND	STRAND LIGHTING FEED CABLE BUNDLE



CONTROL TERMINALS WILL ACCEPT #6 THRU #14 AWG WIRE  
 LINE/LOAD TERMINALS WILL ACCEPT #4 THRU #1/0 AWG WIRE



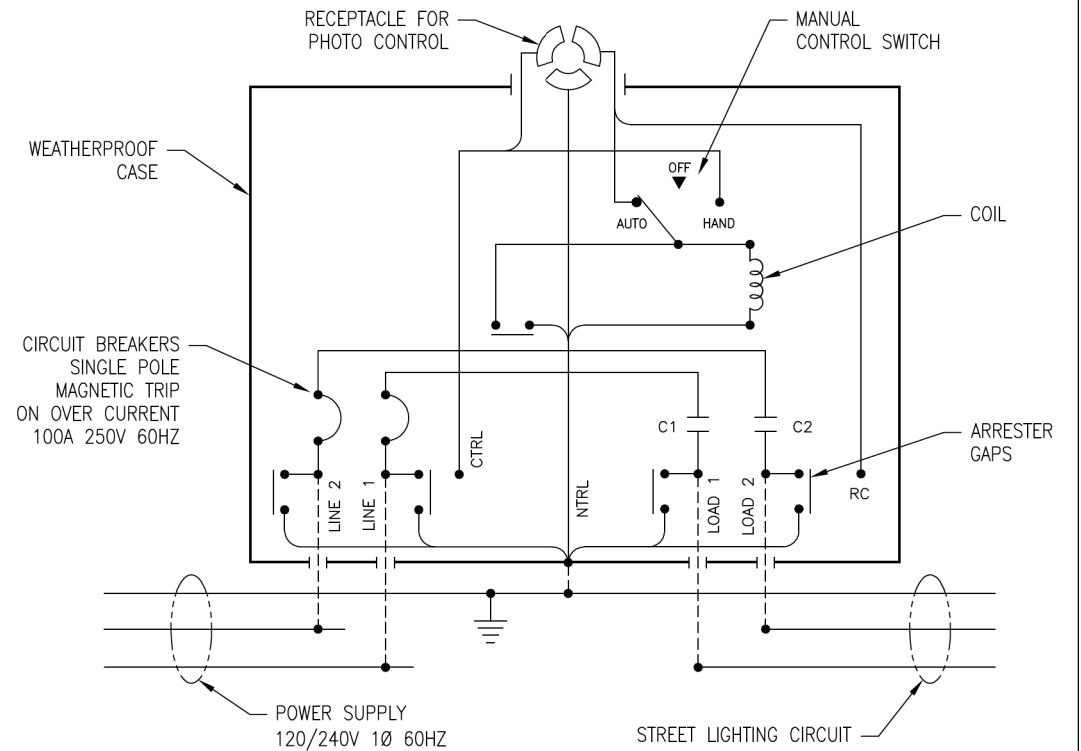
(2) COMPRESSION CONNECTORS WITH NEOPRENE BUSHINGS WITH OVAL HOLES FOR 0.547x0.89 TO 0.687x1.031 CABLE OD

CAST ALUMINUM WEATHERPROOF CASE WITH BRACKET

<b>TRINETICS</b>		Menomonee Falls, Wisconsin U.S.A.	
TYPE MR-YO	LINE	POLE 2	
SPEC. NO. 6442	SERIAL NO. XXXX	FOR INSTRUCTIONS REFER IS-11939	
CONTROL CIRCUIT RATING			
120 VOLTS		60 HZ	
A-C LOAD CIRCUIT 100 AMPS 120/240 VOLTS			

NAMEPLATE DETAIL

CONNECTIONS FOR TYPE MR-YO SPEC 6442 STREET LIGHT CONTROL ASS'Y WITH SINGLE POLE MAGNETIC TRIP ON OVERLOAD CIRCUIT BREAKERS.



TWO POLE STREET LIGHT CONTROL ASS'Y WIRED FOR OPERATION WITH 120V PHOTO CONTROL UNIT AND RATED FOR SWITCHING A STREET LIGHTING LOAD WITH NORMAL CURRENT WHICH DOES NOT EXCEED THE LOAD CURRENT RATING SHOWN ON THE NAMEPLATE. IF SUPPLY IS 240/480V, A SEPARATE 120V SOURCE MUST BE CONNECTED TO "CTRL" TERMINAL FOR PC OPERATION.

THE LOCATION OF THE PHOTO CONTROL UNIT MAY BE EITHER AT THE CONTROL ASS'Y AND PLUGGED INTO THE RECEPTACLE PROVIDED FOR SAME, OR AT A REMOTE POINT SUCH AS AN AUXILIARY PHOTO CONTROL MOUNTING ADAPTER OR ANOTHER STREET LIGHT CONTROL ASS'Y.

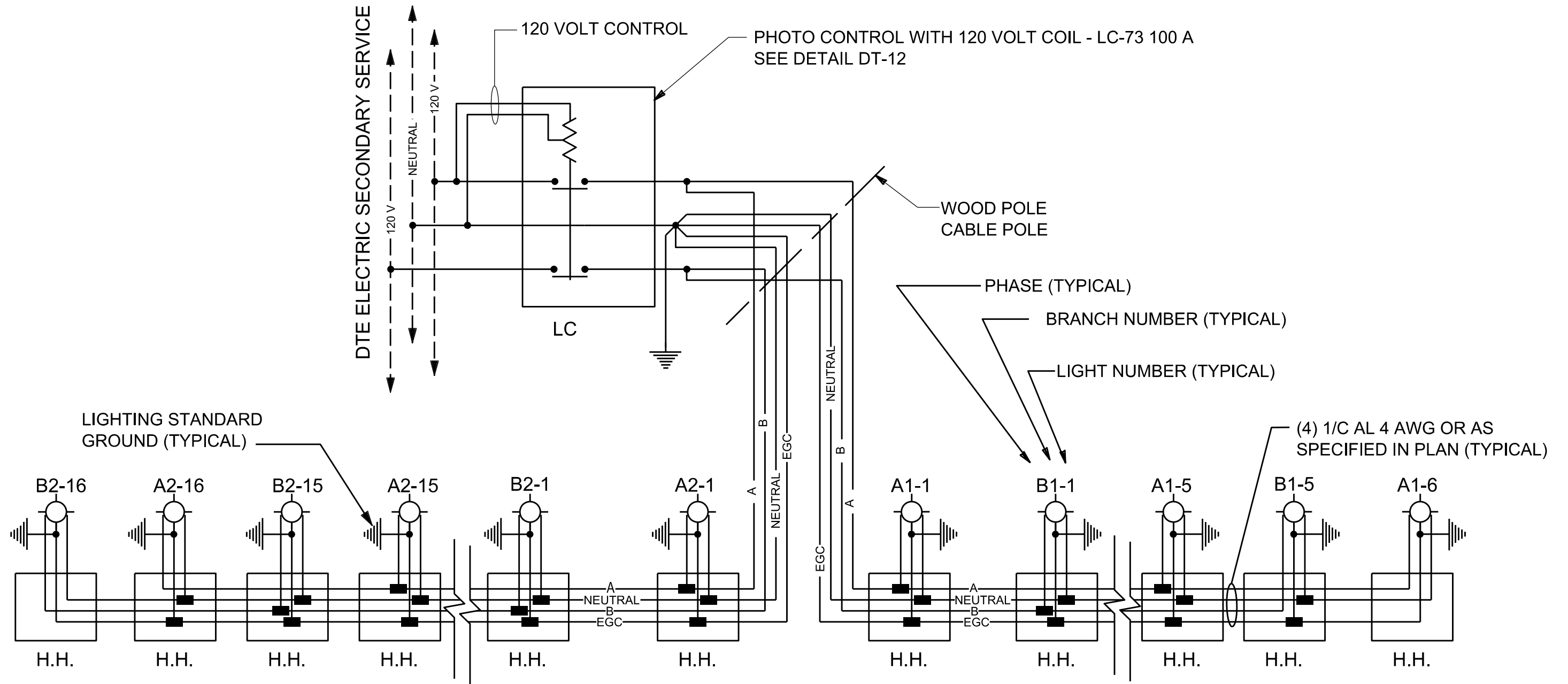
WHEN PHOTO CONTROL IS TO BE REMOTE, CLOSE THE SELF CONTAINED RECEPTACLE FOR PHOTO CONTROL WITH AN OPEN CIRCUITED CAP. ESTABLISH THE OPERATING CIRCUIT BY WIRING FROM THE "RC" TERMINAL TO THE LOAD LEAD OF THE REMOTELY LOCATED AUXILIARY PHOTO CONTROL MOUNTING ADAPTER, OR TO THE "RC" TERMINAL OF ANOTHER STREET LIGHT CONTROL ASS'Y. INTERCONNECTION OF "RC" TERMINALS OF TWO OR MORE STREET LIGHT CONTROL ASSEMBLIES PROVIDES GANG OPERATION WITH A SINGLE PC UNIT.

MANUAL CONTROL SWITCH IS SHOWN IN "AUTO" POSITION AND PHOTO CONTROL ESTABLISHES ON-OFF STREET LIGHT OPERATING SCHEDULE. MANUAL CONTROL SWITCH IN HAND OR OFF POSITIONS BY-PASSES PHOTO CONTROL TO PROVIDE, RESPECTIVELY, STREET LIGHT CIRCUIT ON OR OFF OPERATION. REMOTE PC LOCATION OR GANG OPERATION CONNECTIONS ARE NOT AFFECTED BY OPERATION OF INDIVIDUAL MANUAL CONTROL SWITCHES. HOWEVER, 120V MUST BE AVAILABLE AT EACH STREET LIGHT CONTROL ASSEMBLY TO PERMIT HAND-ON CIRCUIT OPERATION WITH RESPECTIVE MANUAL CONTROL SWITCH.

THE RELAY MUST BE ENERGIZED CONTINUOUSLY AT 120V DURING THE TIME OF RELAY CONTACT CLOSURE.

THIS DRAWING AND ALL INFORMATION THEREON IS THE SOLE PROPERTY OF TRINETICS. IT MUST NOT BE COPIED, REPRODUCED OR SUBMITTED TO OTHERS WITHOUT WRITTEN AUTHORIZATION. ALL REPRODUCTIONS ARE SUBJECT TO RETURN ON DEMAND.

<b>TRINETICS</b>		RELAY ASSEMBLY	
		MR-YO SPEC 6442	
THIRD ANGLE PROJECTION	SIZE B	DRAWN BY G Pietschmann	DATE 7/14/11
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED	FAMILY ID C1643	APPROX. WEIGHT 24 LB	SCALE 5/16
			PART NUMBER 31183000

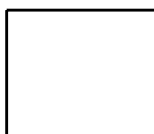


## UNDERGROUND STREET LIGHTING CIRCUIT TYPICAL WIRING SCHEMATIC THREE CONDUCTOR AND EQUIPMENT GROUND CONDUCTOR (EGC)

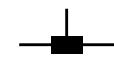
NOT TO SCALE



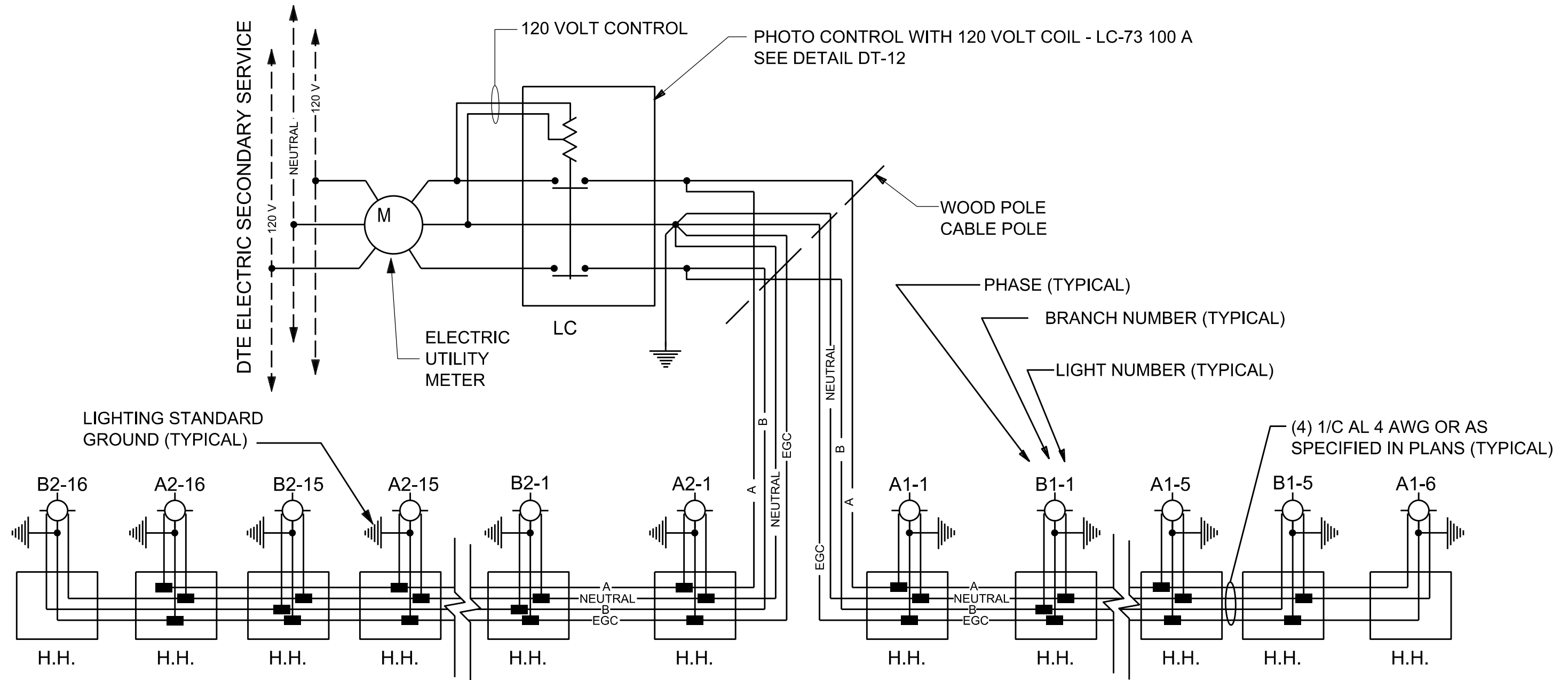
UNDERGROUND FED LIGHTING STANDARD



HANDHOLE



HOMAC RAB 1/0-xx MECHANICAL CONNECTOR INSTALLED IN HANDHOLE  
xx = IS THE OUTLET CONFIGURATION RAB 1/0-21 IS SHOWN  
SIZE AS NECESSARY FOR MULTIPLE LUMINAIRES OR CIRCUIT BRANCHES

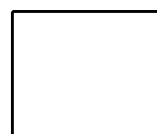


## RECEPTACLE CIRCUIT TYPICAL WIRING SCHEMATIC THREE CONDUCTOR AND EQUIPMENT GROUND CONDUCTOR (EGC)

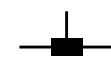
NOT TO SCALE



UNDERGROUND FED LIGHTING STANDARD



HANDHOLE



HOMAC RAB 1/0-xx MECHANICAL CONNECTOR INSTALLED IN HANDHOLE  
xx = IS THE OUTLET CONFIGURATION RAB 1/0-21 IS SHOWN  
SIZE AS NECESSARY FOR MULTIPLE RECEPTACLES OR CIRCUIT BRANCHES

**CABLES IN HANDHOLES AND MANHOLES:**

**STREET LIGHTING AND RECEPTACLE CABLES IN HANDHOLES AND MANHOLES SHALL BE PULLED STRAIGHT THROUGH THE STRUCTURE UNLESS THERE IS A TAP REQUIRED TO SERVICE A STREET LIGHT, RECEPTACLE OR CIRCUIT BRANCH LOCATION.**

**LOCATIONS REQUIRING A SERVICE TAP WILL HAVE THE SERVICE PHASE TAPPED WITH THE APPROPRIATE HOMAC RAB CONNECTOR AND THE NON-SERVICE PHASE PULLED STRAIGHT THROUGH.**

**LOCATIONS REQUIRING CIRCUIT TAPS FOR CIRCUIT BRANCHES WILL BE IDENTIFIED ON THE PLANS WITH THE REQUIRED TAP SIZE AND PHASE PROVIDED.**

**EXAMPLE 1 - LAMP LOOP:**

**AN EXAMPLE IS A HANDHOLE LOCATION WITH BOTH THE A PHASE AND THE B PHASE COMING IN AND CONTINUING ALONG TO FEED ADDITIONAL STREET LIGHT LOCATIONS. THE HANDHOLE ALSO FEEDS A STREET LIGHT STANDARD THAT HAS 2 LUMINAIRES THAT ARE TO BE CONNECTED TO THE B PHASE CABLE AND NO RECEPTACLE. THE B PHASE CABLE WILL HAVE A 4-WAY HOMAC RAB CONNECTOR INSTALLED. THE NEUTRAL WILL HAVE A 4-WAY HOMAC RAB CONNECTOR INSTALLED. THE EGC WILL HAVE A 3-WAY HOMAC RAB CONNECTOR INSTALLED. THE A PHASE CABLE WILL BE PULLED STRAIGHT THROUGH.**

**EXAMPLE 2 - CIRCUIT BRANCH:**

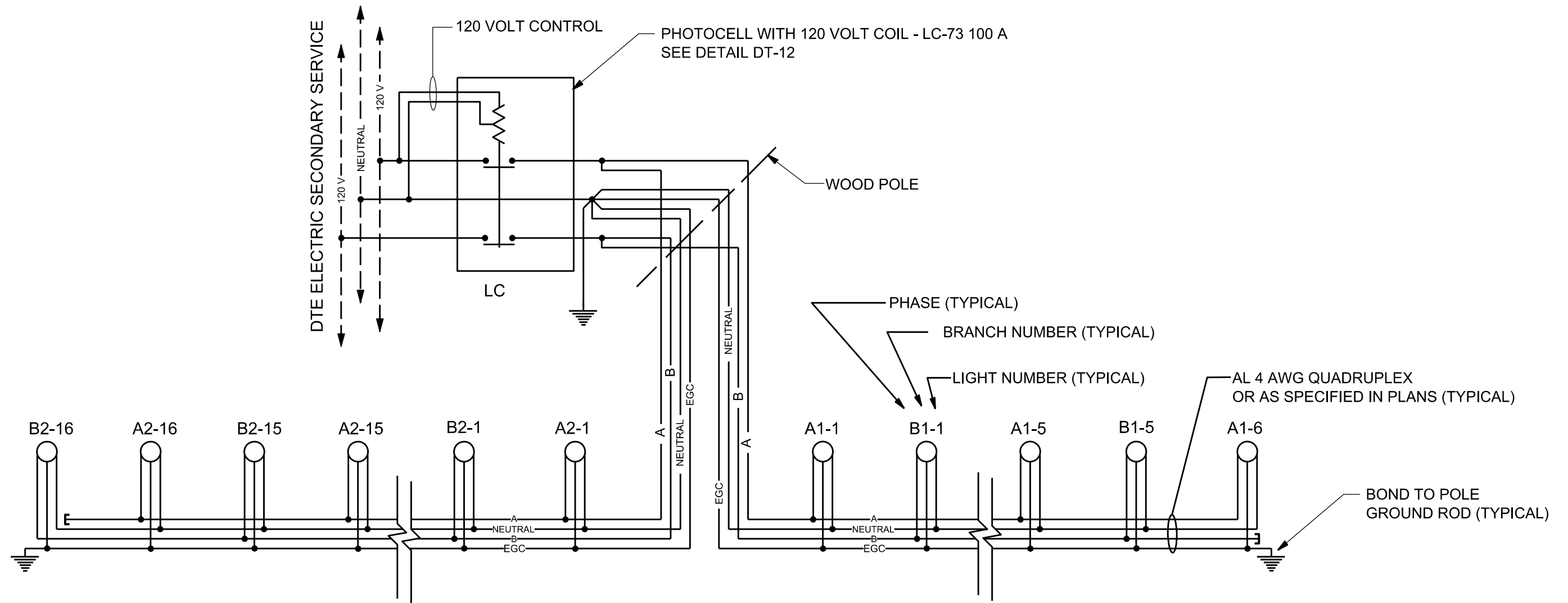
**AN EXAMPLE IS A HANDHOLE LOCATION WITH BOTH THE A PHASE AND THE B PHASE COMING IN AND FEEDING TWO DIFFERENT DIRECTIONS GOING OUT WITHOUT A STREET LIGHT LOCATION DIRECTLY CONNECTED TO THE HANDHOLE. THIS EXAMPLE REQUIRES CABLE 3-WAYS (ALSO CALLED A T-TAP OR BRANCH) TO BE INSTALLED TO FEED THE TWO DIFFERENT DIRECTIONS. A 3-WAY HOMAC RAB WILL BE INSTALLED ONTO EACH OF THE A PHASE, B PHASE, NEUTRAL AND EGC CABLES.**

**UNDERGROUND PHASE IDENTIFICATION**

<b>CURRENT UNDERGROUND CONSTRUCTION WIRING STANDARD</b>				
<b>CONDUCTOR ID</b>	<b>BLACK</b>	<b>WHITE/WHITE STRIPE</b>	<b>RED/RED STRIPE</b>	<b>GREEN/BARE</b>
<b>PHASE</b>	A PHASE	NEUTRAL	B PHASE	EGC
<b>OBSOLETE UNDERGROUND CONSTRUCTION WIRING STANDARD</b>				
<b>CONDUCTOR ID</b>	<b>BLACK</b>	<b>WHITE/WHITE STRIPE</b>	<b>RED/RED STRIPE</b>	<b>GREEN/BARE</b>
<b>PHASE</b>	A PHASE	NEUTRAL	B PHASE	---

- \*\*\* WHEN MODIFICATIONS OR ADDITIONS ARE REQUIRED ON OBSOLETE STYLE CONSTRUCTION CIRCUITS, THE CHANGES SHOULD BE MADE WITH THE OBSOLETE STYLE OR THE ENTIRE CIRCUIT MUST BE UPDATED.
- \*\*\* THE CURRENT UNDERGROUND CONSTRUCTION AND THE OBSOLETE UNDERGROUND CONSTRUCTION STANDARDS SHALL NOT BE INTERMINGLED EXCEPT AT THE CIRCUIT SOURCE POINT WHERE THE NEUTRAL IS BONDED TO THE GROUND AT THE MAIN BREAKER.
- \*\*\* THERE ARE INSTALLATIONS WHERE NEITHER COLOR-CODED, EITHER COLORED INSULATION OR PHASE MARKED, CONDUCTORS ARE USED SO THAT ALL THE CONDUCTORS ARE THE SAME COLOR, TYPICALLY BLACK. PHASING MUST BE FIELD VERIFIED PRIOR TO CONNECTING ANY COLOR-CODED CONDUCTORS TO NON-CODED CONDUCTORS.
- \*\*\* PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING, CARE IS TO BE TAKEN BY VERIFYING THE EXISTING CIRCUIT CABLING PHASING TO ENSURE THAT PROPER ELECTRICAL CONNECTIONS ARE MADE. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.
- \*\*\* THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CIRCUIT PHASE IDENTIFICATIONS PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.





## CURRENT LIGHTING CONTROL DIAGRAM QUADRUPLEX WITH EQUIPMENT GROUND CONDUCTOR (EGC)

NOT TO SCALE



OVERHEAD FED STREET LIGHT STANDARD OR POLE



## OVERHEAD PHASE IDENTIFICATION

### CURRENT OVERHEAD CONSTRUCTION WIRING STANDARD

CABLE TYPE	NO RIB	1 RIB	2 RIBS	MESSENGER
<b>QUADRUPLIX</b>	A PHASE	NEUTRAL	B PHASE	EGC
<b>TRIPLEX</b>	A PHASE	NEUTRAL	----	EGC
<b>DUPLEX</b>	----	----	----	----

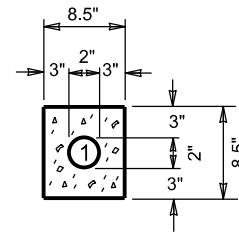
### OBSOLETE OVERHEAD CONSTRUCTION WIRING STANDARD

CABLE TYPE	NO RIB	1 RIB	2 RIBS	MESSENGER
<b>QUADRUPLIX</b>	----	----	----	----
<b>TRIPLEX</b>	A PHASE	B PHASE	----	NEUTRAL
<b>DUPLEX</b>	A PHASE	----	----	NEUTRAL

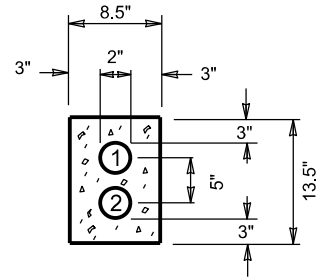
\*\*\* WHEN MODIFICATIONS OR ADDITIONS ARE REQUIRED ON OBSOLETE STYLE CONSTRUCTION CIRCUITS, THE CHANGES SHOULD BE MADE WITH THE OBSOLETE STYLE OR THE ENTIRE CIRCUIT MUST BE UPDATED.

\*\*\* THE CURRENT OVERHEAD CONSTRUCTION AND THE OBSOLETE OVERHEAD CONSTRUCTION STANDARDS SHALL NOT BE INTERMINGLED EXCEPT AT THE CIRCUIT SOURCE POINT WHERE THE NEUTRAL IS BONDED TO THE GROUND AT THE MAIN BREAKER.

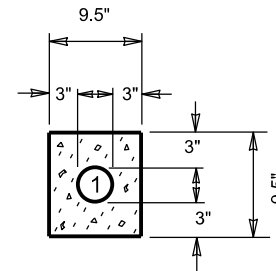
\*\*\* THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING CIRCUIT PHASE IDENTIFICATIONS PRIOR TO CONNECTING ANY NEW CIRCUIT CABLING TO EXISTING CIRCUIT CABLING. IF THE EXISTING CIRCUIT CABLING IS FOUND TO HAVE IMPROPER PHASE IDENTIFICATIONS THEN THE EXISTING CIRCUIT CABLING MUST BE CORRECTED PRIOR TO CONNECTING ANY NEW CABLING.



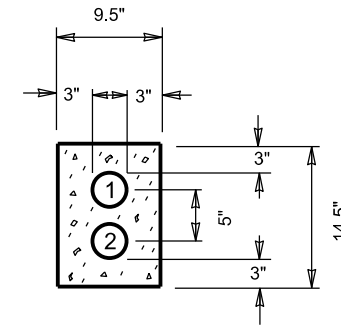
1 - 2" CONDUIT



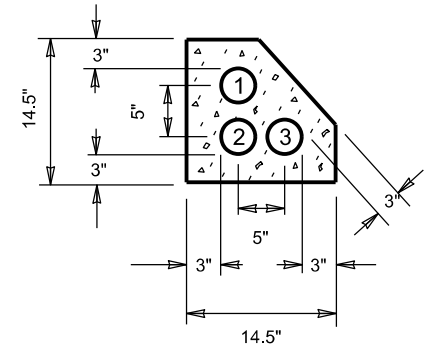
2 - 2" CONDUITS



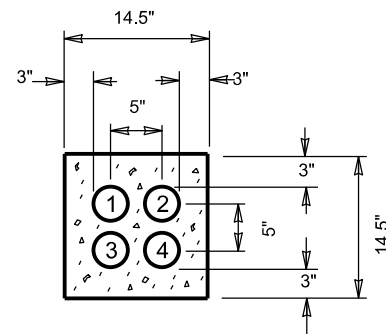
1 - 3" CONDUIT



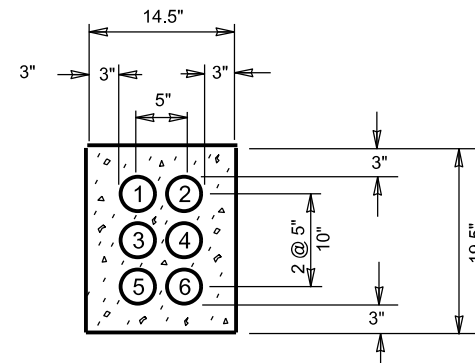
2 - 3" CONDUITS



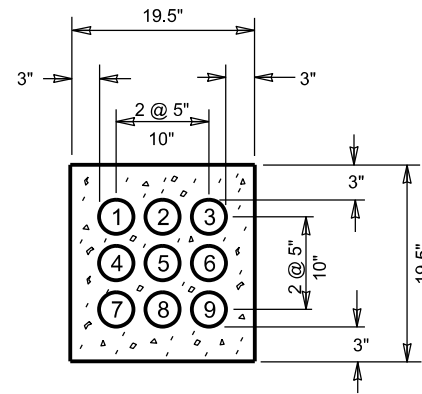
3 - 3" CONDUITS



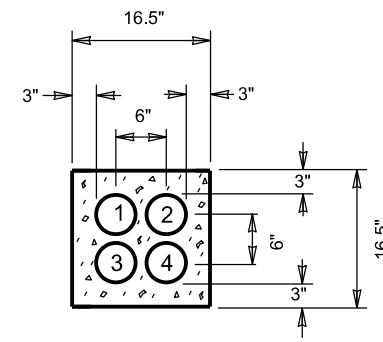
4 - 3" CONDUITS



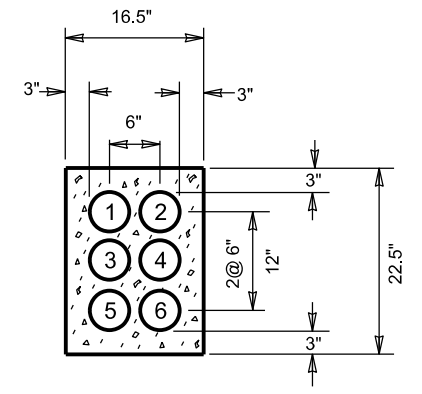
6 - 3" CONDUITS



9 - 3" CONDUITS



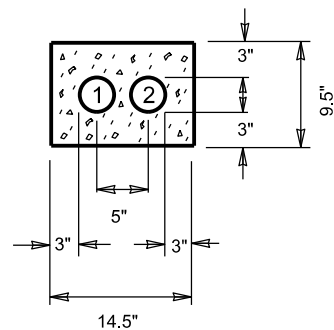
4 - 4" CONDUITS



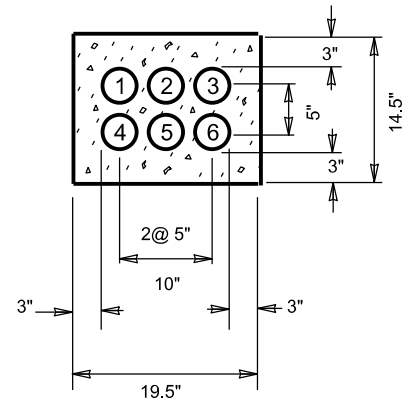
6 - 4" CONDUITS

### ALTERNATE ARRANGEMENT OF 3" CONDUIT

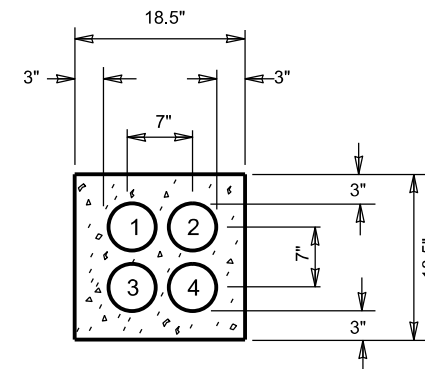
(TO SUIT FIELD CONDITIONS)  
(TO BE APPROVED BY THE ENGINEER)



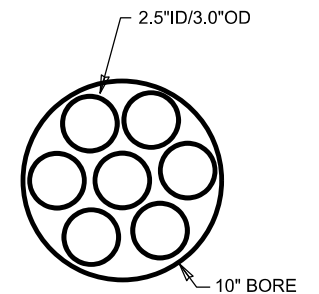
2-3" CONDUITS



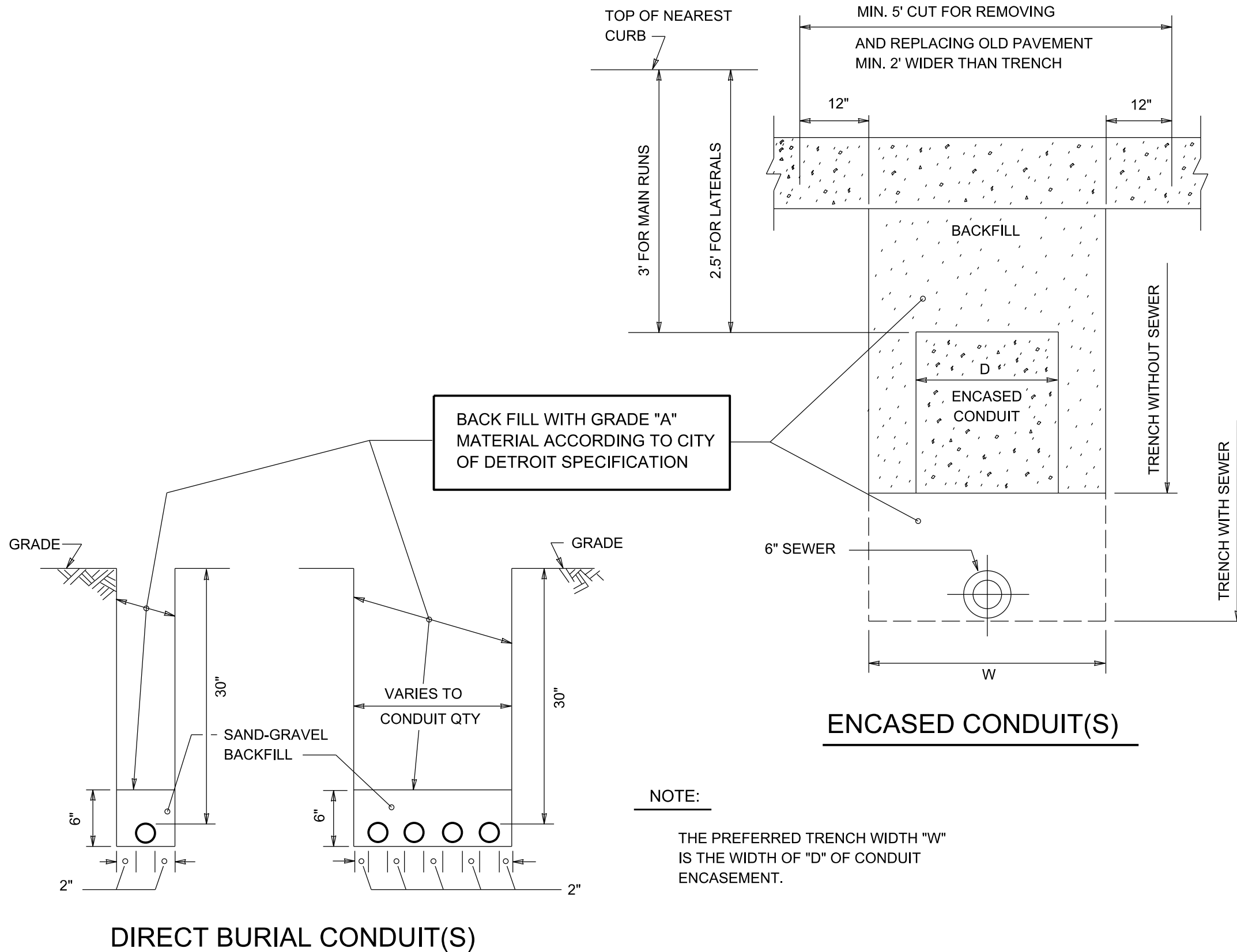
6-3" CONDUITS

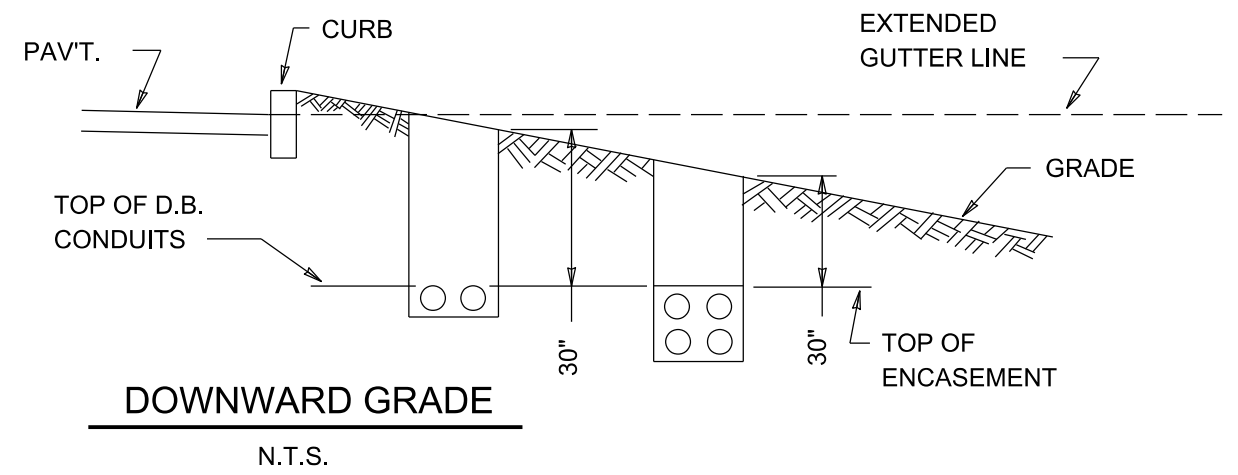
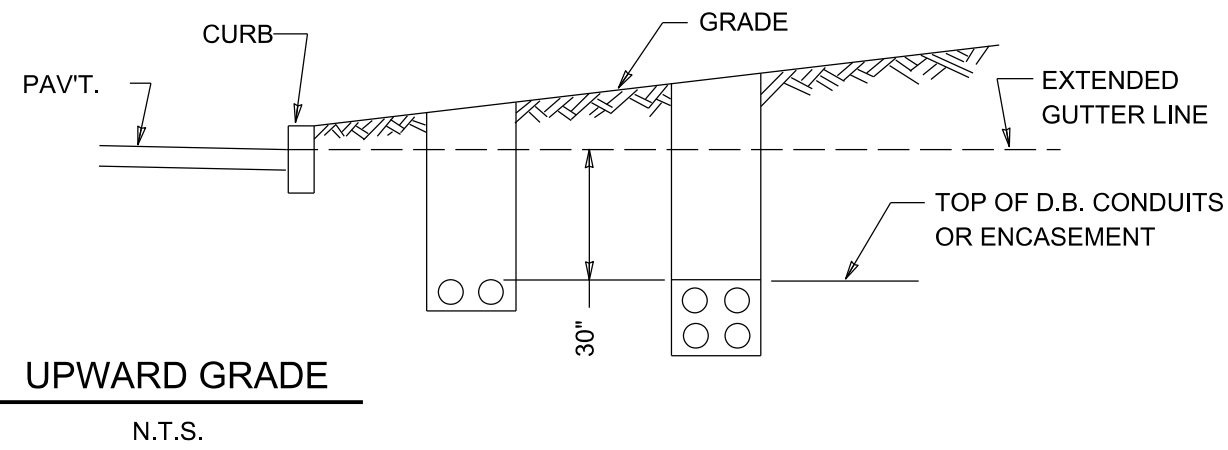


4 - 5" CONDUITS

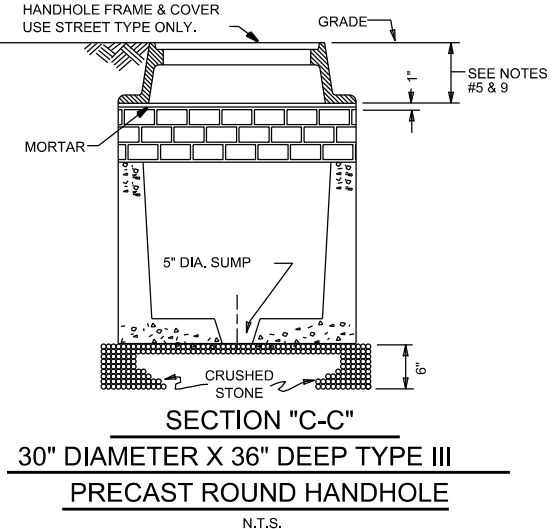
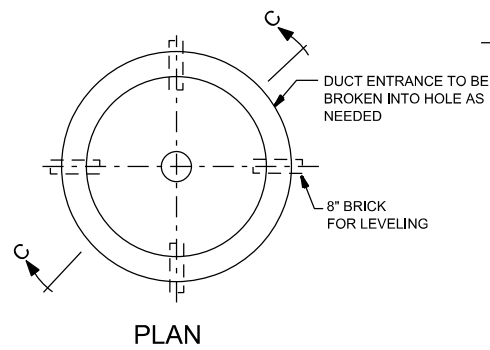


7-2.5" CONDUITS  
IN  
10" DIRECTIONAL BORE

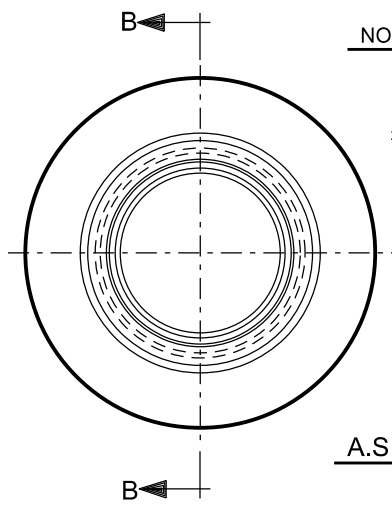




# ROUND PRECAST HANDHOLE DETAILS



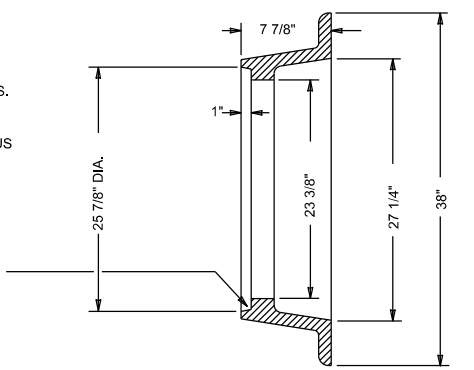
**NOTE:**  
 BELL ENDS ARE REQUIRED ON EACH CONDUIT BROKEN OUT IN HANDHOLE. TYPE AND SIZE SHALL BE IDENTICAL TO CONDUIT TYPE AND SIZE.



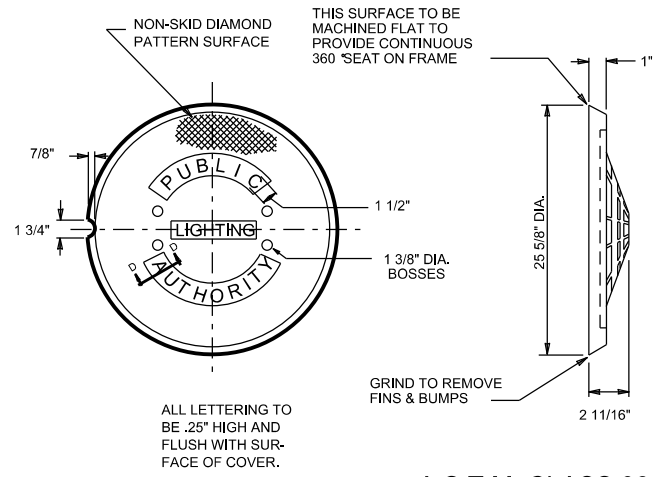
**NOTE:**  
 1. FRAMES MAY BE A.S.T.M. CLASS 30 GRAY IRON IF THE CONTRACTOR SO ELECTS.  
 2. ALL FILLETS ARE .5" RADIUS & ALL ROUNDS ARE .25" RADIUS

THIS SURFACE TO BE MACHINED FLAT TO PROVIDE CONTINUOUS 360° SEAT FOR COVER

**A.S.T.M. CLASS 20 OR 30 GRAY IRON**  
**APPROX. 255 LBS.**  
**HANDHOLE FRAME**  
 N.T.S.

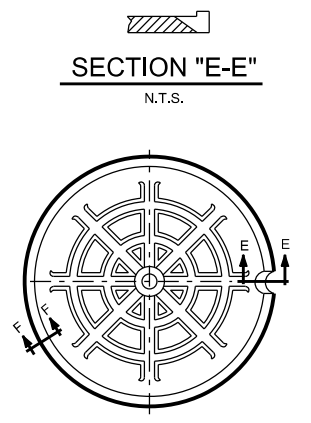


**SECTION "B-B"**  
 N.T.S.

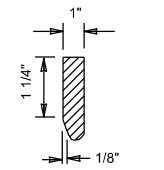


**SECTION "D-D"**  
 N.T.S.

**A.S.T.M. CLASS 30 GRAY IRON**  
**APPROX. WT. 145 LBS.**  
**STREET TYPE COVER**  
**TO BE USED IN STREETS & DRIVES**  
 N.T.S.



**SECTION "E-E"**  
 N.T.S.



**SECTION "F-F"**  
 N.T.S.

# 13" x 24" BOX ASSEMBLY

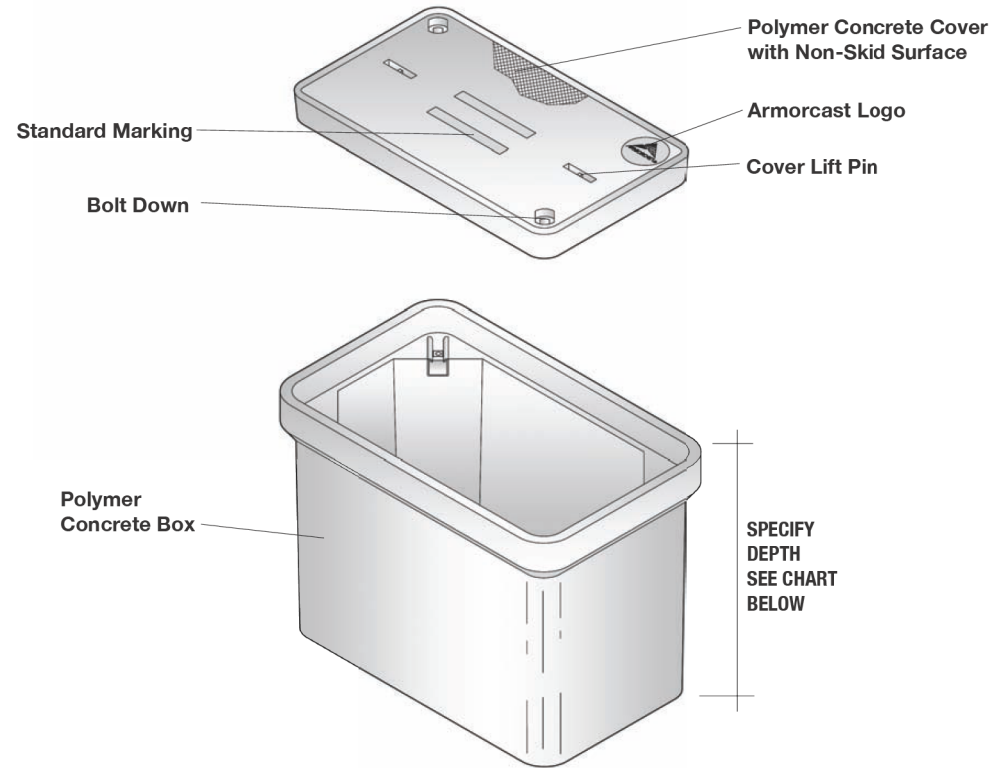
## 12" to 24" DEPTHS



**POLYMER CONCRETE**

ARMORCAST PRODUCTS COMPANY

A6001946



### 13"W x 24"L BOX ASSEMBLIES Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	13" x 24" x 12"	10K	8	A6001946APCX12	83 lbs.	15
	13" x 24" x 12"	20K	15 / 22	A6001946TAPCX12 / A6001946HDAPCX12	91 lbs.	15
Box & Cover Assembly	13" x 24" x 18"	10K	8	A6001946APCX18	117 lbs.	10
	13" x 24" x 18"	20K	15 / 22	A6001946TAPCX18 / A6001946HDAPCX18	125 lbs.	10
Box & Cover Assembly	13" x 24" x 24"	10K	8	A6001946APCX24	125 lbs.	5
	13" x 24" x 24"	20K	15 / 22	A6001946TAPCX24 / A6001946HDAPCX24	133 lbs.	5

### COMPONENTS

MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	13" x 24"	10K	8	A6001866	33 lbs.	50
	13" x 24"	20K	15 / 22	A6001969 / A6001969HD	41 lbs.	50
Replacement Boxes	13" x 24" x 12"	10K / 20K	8 / 15	A6001946PCX12	50 lbs.	15
	13" x 24" x 18"	10K / 20K	8 / 15	A6001946PCX18	84 lbs.	10
	13" x 24" x 24"	10K / 20K	8 / 15	A6001946PCX24	92 lbs.	5

- Boxes are Open Bottom and Stackable, also available with Solid Bottoms.
- For sizes not shown please contact Armorcast Products for more information.

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Tel: (818) 982-3600 Fax: (818) 982-7742

# 13" x 24" BOX ASSEMBLY

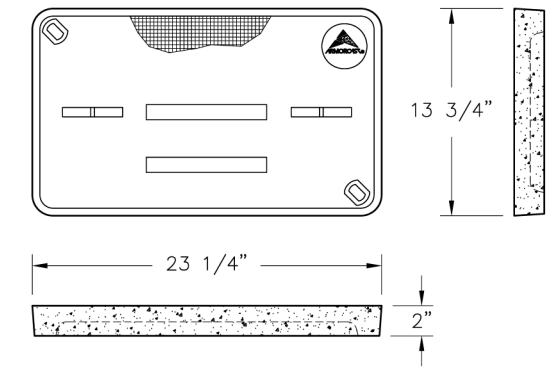
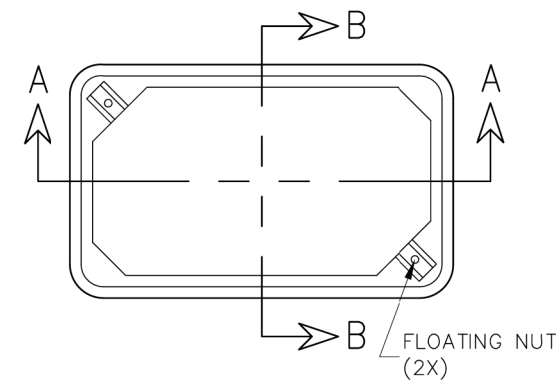
## STANDARD DIMENSIONS



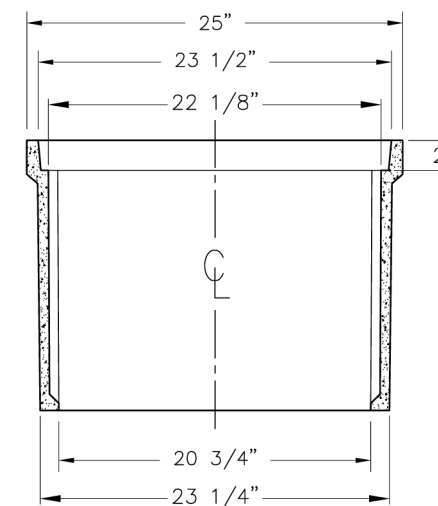
ARMORCAST PRODUCTS COMPANY

**POLYMER CONCRETE**

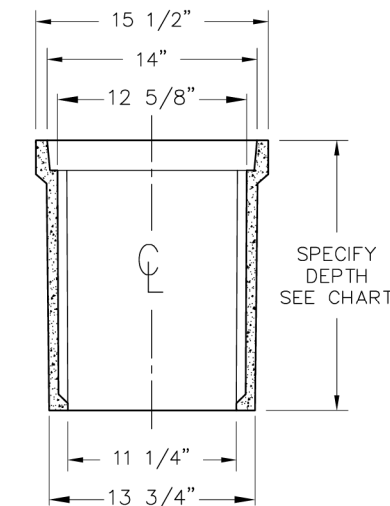
A6001946



### POLYMER CONCRETE COVER



SECTION A-A



SECTION B-B

### POLYMER CONCRETE BOX

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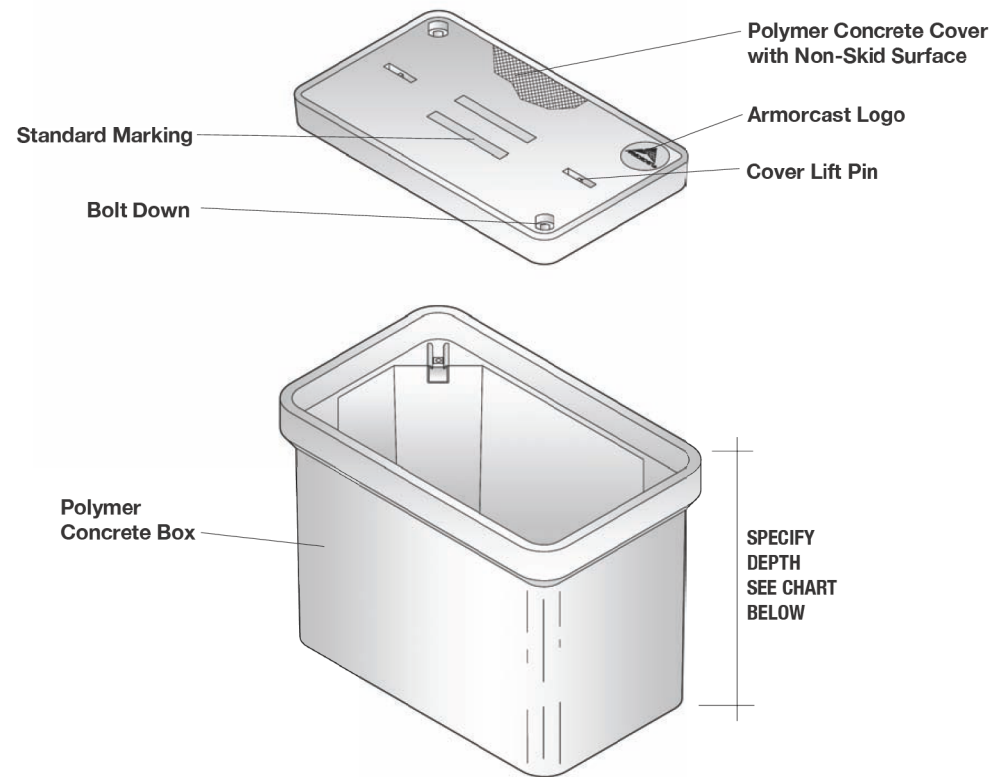
# 13" x 24" BOX ASSEMBLY

## 12" to 24" DEPTHS



**POLYMER CONCRETE**  
A6001946

ARMORCAST PRODUCTS COMPANY



### 13"W x 24"L BOX ASSEMBLIES Specify Depth Below

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Box & Cover Assembly	13" x 24" x 12"	10K	8	A6001946APCX12	83 lbs.	15
	13" x 24" x 12"	20K	15 / 22	A6001946TAPCX12 / A6001946HDAPCX12	91 lbs.	15
Box & Cover Assembly	13" x 24" x 18"	10K	8	A6001946APCX18	117 lbs.	10
	13" x 24" x 18"	20K	15 / 22	A6001946TAPCX18 / A6001946HDAPCX18	125 lbs.	10
Box & Cover Assembly	13" x 24" x 24"	10K	8	A6001946APCX24	125 lbs.	5
	13" x 24" x 24"	20K	15 / 22	A6001946TAPCX24 / A6001946HDAPCX24	133 lbs.	5

### COMPONENTS

MORE COVER VARIATIONS ARE AVAILABLE IN OUR "COVER SECTION"

DESCRIPTION	NOMINAL SIZE W x L x D	LOAD RATING	ANSI TIER	PART NUMBER	APPROX. WEIGHT	PALLET QTY.
Replacement Covers	13" x 24"	10K	8	A6001866	33 lbs.	50
	13" x 24"	20K	15 / 22	A6001969 / A6001969HD	41 lbs.	50
Replacement Boxes	13" x 24" x 12"	10K / 20K	8 / 15	A6001946PCX12	50 lbs.	15
	13" x 24" x 18"	10K / 20K	8 / 15	A6001946PCX18	84 lbs.	10
	13" x 24" x 24"	10K / 20K	8 / 15	A6001946PCX24	92 lbs.	5

- Boxes are Open Bottom and Stackable, also available with Solid Bottoms.
- For sizes not shown please contact Armorcast Products for more information.

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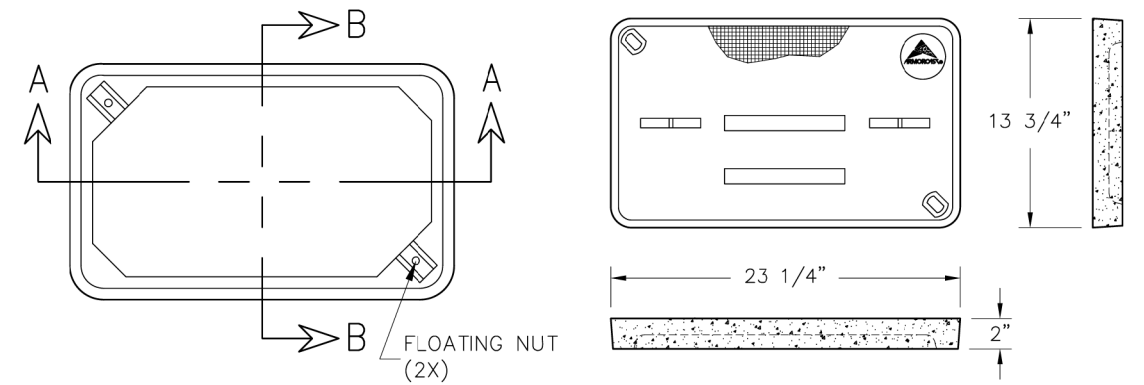
# 13" x 24" BOX ASSEMBLY

## STANDARD DIMENSIONS

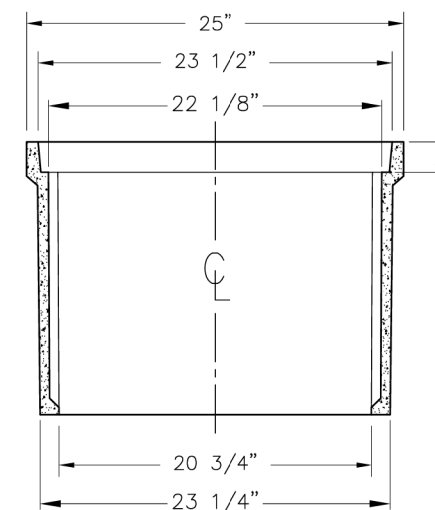


ARMORCAST PRODUCTS COMPANY

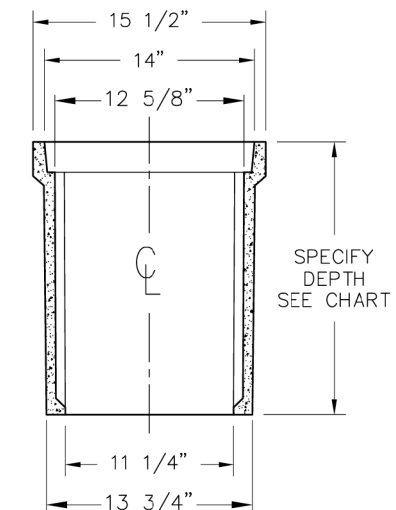
**POLYMER CONCRETE**  
A6001946



### POLYMER CONCRETE COVER



SECTION A-A



SECTION B-B

### POLYMER CONCRETE BOX

Armorcast Products Company reserves the right to update or discontinue product information at any time without notice.

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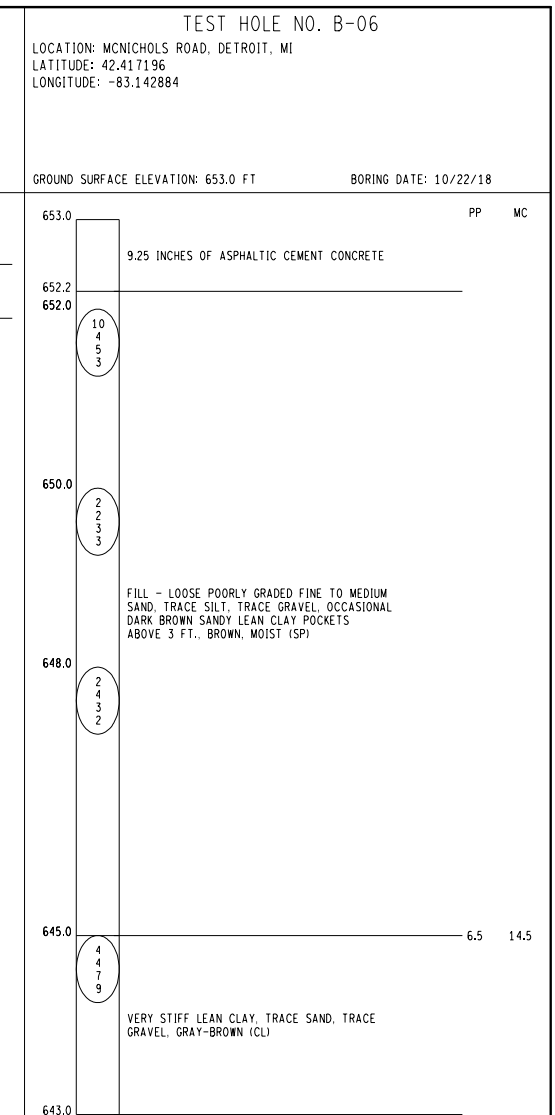
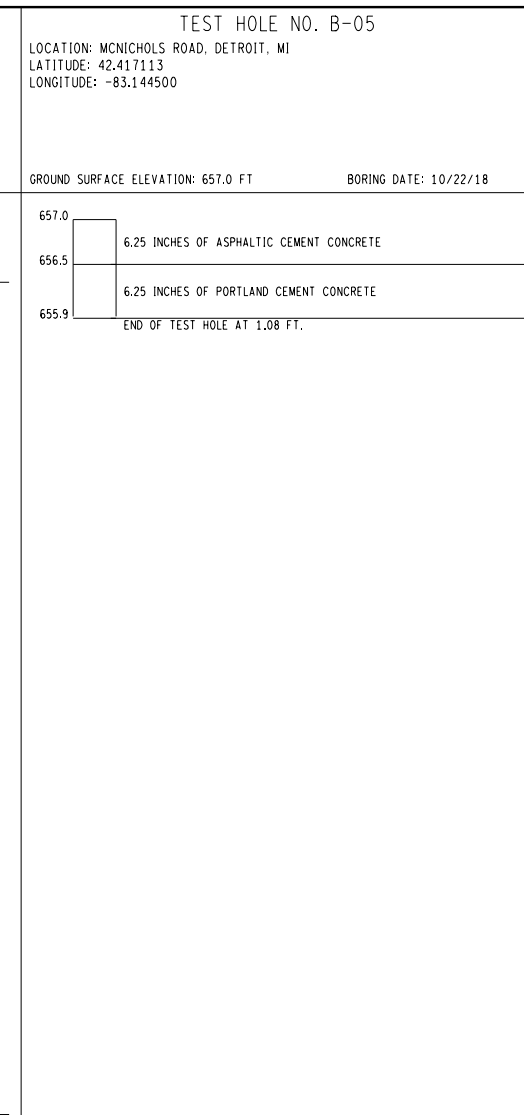
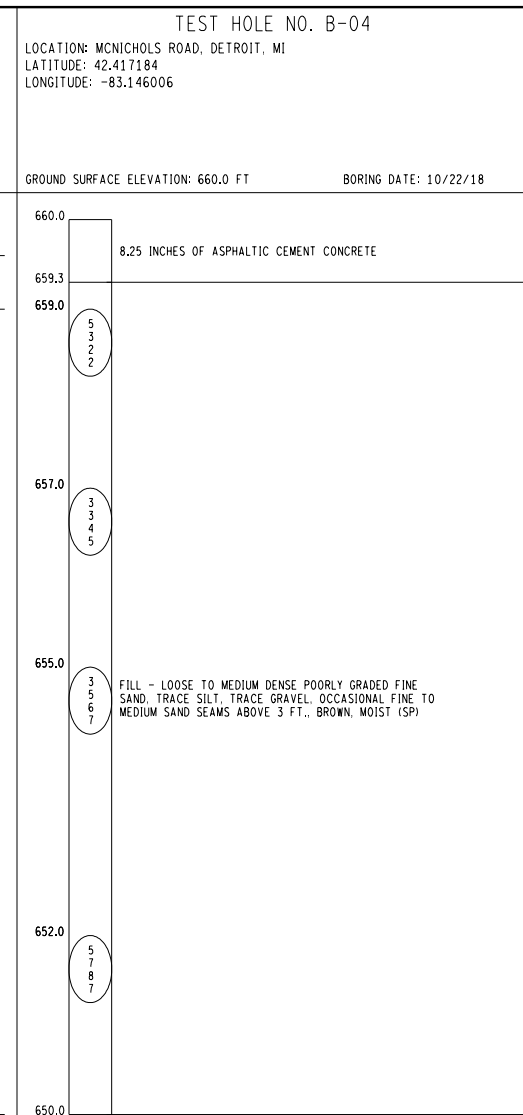
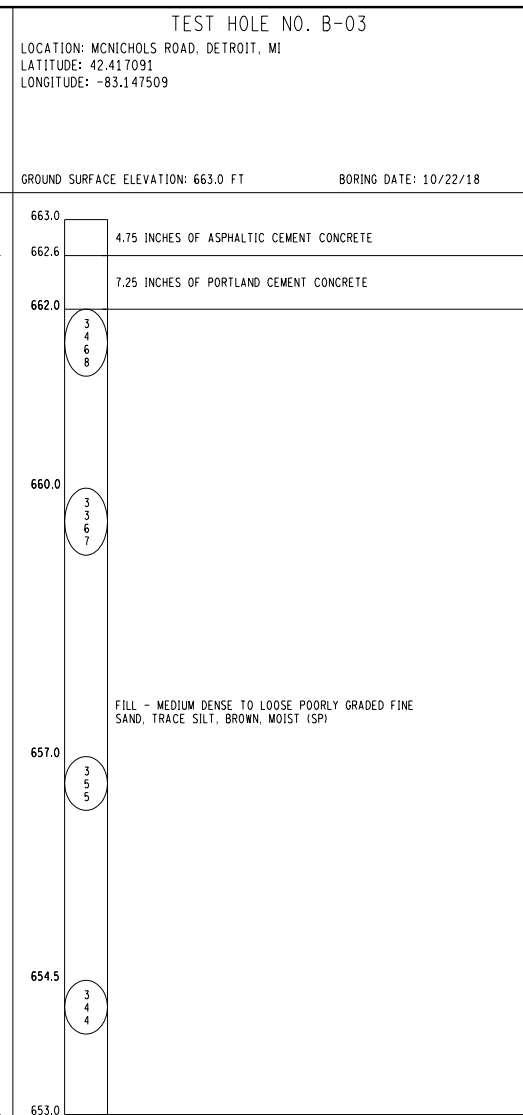
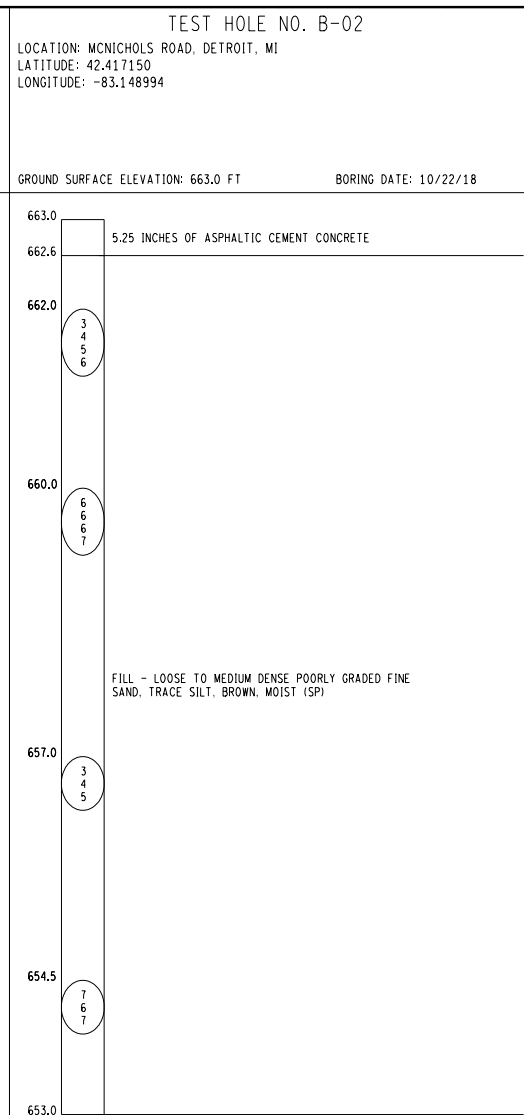
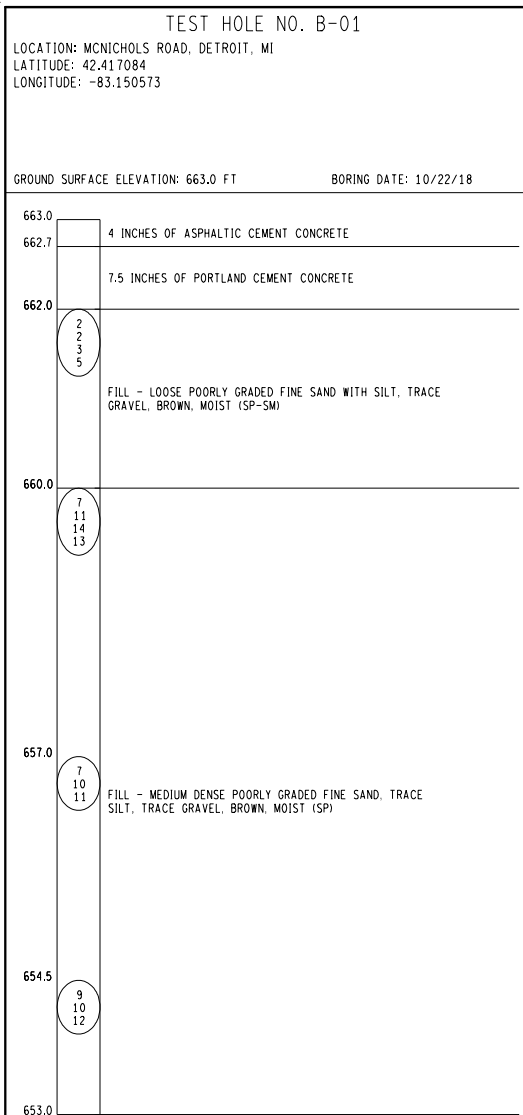
[www.armorcastprod.com](http://www.armorcastprod.com)

Tel: (818) 982-3600 Fax: (818) 982-7742

# PLACEHOLDER SHEET



DATE:	DETAIL REVISIONS:



NOTES:  
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED  
 - GROUNDWATER LEVEL UPON COMPLETION: NOT ENCOUNTERED  
 - LOGGED BY: H. VERDUCE (SOMAT)  
 - CHECKED BY: J. ABADIR (SOMAT)  
 - DRILL RIG: CME 45; METHOD: SPT\_AUTO  
 - LOCATIONS AND GROUND SURFACE ELEVATIONS ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY AND HAND-HELD GPS UNIT.

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 - CHECKED BY: J. ABADIR (SOMAT)  
 - DRILL RIG: CME 45; METHOD: PAVEMENT CORE  
 - DUE TO THE HIGH NUMBER OF UTILITIES IN THE VICINITY OF THE SOIL BORING LOCATION THE INVESTIGATION DID NOT INCLUDE SOIL BORING PAVEMENT CORING.  
 - LOCATIONS AND GROUND SURFACE ELEVATIONS ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY AND HAND-HELD GPS UNIT.

NOTES:  
 - GROUNDWATER LEVEL DURING DRILLING: NOT ENCOUNTERED  
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 - DRILL RIG: CME 45; METHOD: SPT\_AUTO  
 - LOCATIONS AND GROUND SURFACE ELEVATIONS ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY AND HAND-HELD GPS UNIT.

N<sub>spt</sub> NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2-IN. O.D. X 1.5-IN. I.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 6-IN. INCREMENTS USING A 140 LB HAMMER FALLING 30 IN. A 4TH 6-IN. INCREMENT IS SHOWN WHERE APPLICABLE.  
 WHERE IN EXCESS OF 50 BLOWS REQUIRED TO DRIVE THE SAMPLER 6 IN. THE NUMBER OF BLOWS IS SHOWN OVER THE DISTANCE DRIVEN.  
 (50/4)

(ST) SHELBY TUBE      (DP) DIRECT PUSH  
 (VS) VANE SHEAR TEST      (HA) HAND AUGER  
 (RC) ROCK CORE      (NR) NO RECOVERY

PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - KIPS/SQ.FT (KSF)  
 UCS = LAB DETERMINED UNCONFINED COMPRESSIVE STRENGTH - KIPS/SQ.FT (KSF)  
 TV = TORVANE SHEAR TEST, UNCONFINED COMPRESSIVE STRENGTH - KIPS/SQ.FT (KSF)  
 MC = MOISTURE CONTENT - (%)  
 DD = DRY DENSITY - LBS/CU.FT (PCF)  
 DCP = DYNAMIC CONE PENETRATION - (MM/BLOW)  
 REC = ROCK CORE RECOVERY (%)  
 ROD = ROCK QUALITY DESIGNATION (%)

UNDRAINED SHEAR STRENGTH IS EQUAL TO ONE-HALF OF UNCONFINED COMPRESSIVE STRENGTH.  
 STANDARD PENETRATION TEST (SPT) VALUES ARE UNCORRECTED.  
 THE DCP INDEX IS REPORTED AT DEPTHS EXHIBITING DISTINCT CHANGES IN SLOPE ON A PLOT OF CUMULATIVE PENETRATION VS. NUMBER OF BLOWS. EACH DCP INDEX REPRESENTS THE AVERAGE PENETRATION PER BLOW FOR THE SOIL BELOW THAT POINT. 'ETO' = END TEST DEPTH.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER ASTM D2488 (VISUAL-MANUAL) OR ASTM D2487 (STANDARD USCS), WHERE APPLICABLE.  
 'PHYSICAL REFERENCE' AND 'PHYSICAL OFFSET' ARE BASED ON EXISTING FEATURES AS OF THE 'BORING DATE':  
 E.O.M. = EDGE OF METAL  
 B.O.C. = BACK OF CURB  
 F.O.B. = FACE OF BARRIER  
 C.L. = CENTERLINE

HORIZONTAL DATUM: NGS-84  
 VERTICAL DATUM: NAVD 88

GROUNDWATER LEVELS REPRESENT THE CONDITIONS AT THE TIME THE MEASUREMENTS WERE OBTAINED AND SHOULD BE EXPECTED TO FLUCTUATE THROUGHOUT THE YEAR. GROUNDWATER LEVELS MAY ALSO BE INFLUENCED BY RESIDUAL BORING WATER.  
 THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT THE SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )								DATE: 06/20/19		SOIL BORING LOG SHEET		DRAWING		SHEET	
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION			MCNICHOLS STREETScape		MCN BORING 001		163	
								FILE:		JN: PW-7004					
										MCNICHOLS STREETScape					



NO SCALE

TEST HOLE NO. B-07	TEST HOLE NO. B-08	TEST HOLE NO. B-09	TEST HOLE NO. B-10	TEST HOLE NO. B-11	TEST HOLE NO. B-12
LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417098 LONGITUDE: -83.141525  GROUND SURFACE ELEVATION: 652.0 FT      BORING DATE: 10/22/18	LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417128 LONGITUDE: -83.150596  GROUND SURFACE ELEVATION: 663.0 FT      BORING DATE: 4/5/19	LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417136 LONGITUDE: -83.148984  GROUND SURFACE ELEVATION: 663.0 FT      BORING DATE: 4/5/19	LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417141 LONGITUDE: -83.147391  GROUND SURFACE ELEVATION: 663.0 FT      BORING DATE: 4/5/19	LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417152 LONGITUDE: -83.145992  GROUND SURFACE ELEVATION: 660.0 FT      BORING DATE: 4/5/19	LOCATION: MCNICHOLS ROAD, DETROIT, MI LATITUDE: 42.417152 LONGITUDE: -83.144528  GROUND SURFACE ELEVATION: 657.0 FT      BORING DATE: 4/5/19
<p>NOTES:</p> <ul style="list-style-type: none"> <li>- GROUNDWATER LEVEL DURING DRILLING: NOT RECORDED</li> <li>- GROUNDWATER LEVEL UPON COMPLETION: NOT RECORDED</li> <li>- LOGGED BY: H. VERDUCE (SOMAT)</li> <li>- CHECKED BY: J. ABADIR (SOMAT)</li> <li>- DRILL RIG: n/g      METHOD: PAVEMENT CORE</li> <li>- DUE TO THE HIGH NUMBER OF UTILITIES IN THE VICINITY OF THE SOIL BORING LOCATION, THE INVESTIGATION DID NOT INCLUDE SOIL BORING, ONLY PAVEMENT CORING.</li> <li>- LOCATIONS AND GROUND SURFACE ELEVATIONS ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY AND HAND-HELD GPS UNIT.</li> </ul>					

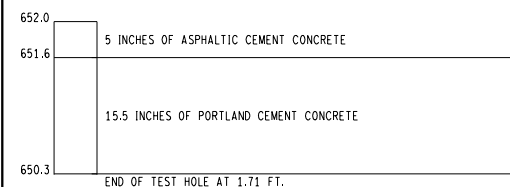
N<sub>spt</sub> NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2-IN. O.D. X 1.5-IN. I.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 6-IN. INCREMENTS USING A 140 LB HAMMER FALLING 30 IN. A 4TH 6-IN. INCREMENT IS SHOWN WHERE APPLICABLE.  
 (50/4) WHERE IN EXCESS OF 50 BLOWS REQUIRED TO DRIVE THE SAMPLER 6 IN. THE NUMBER OF BLOWS IS SHOWN OVER THE DISTANCE DRIVEN.  
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 (VS) VANE SHEAR TEST      (HA) HAND AUGER  
 (RC) ROCK CORE      (NR) NO RECOVERY  
 PP = POCKET PENETROMETER, UNCONFINED COMPRESSIVE STRENGTH - KIPS/SQ.FT (KSF)  
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 TV = TORVANE SHEAR TEST, UNCONFINED COMPRESSIVE STRENGTH - KIPS/SQ.FT (KSF)  
 MC = MOISTURE CONTENT - (%)  
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 B.O.C. = BACK OF CURB      VERTICAL DATUM: NAVD 88  
 F.O.B. = FACE OF BARRIER  
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FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )				DATE: 06/20/19				SOIL BORING LOG SHEET		DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	MCNICHOLS STREETScape		MCN BORING 002	164
<b>NO SCALE</b>								JN: PW-7004 MCNICHOLS STREETScape			

TEST HOLE NO. B-13

LOCATION: MCNICHOLS ROAD, DETROIT, MI  
 LATITUDE: 42.417165  
 LONGITUDE: -83.141541

GROUND SURFACE ELEVATION: 652.0 FT BORING DATE: 4/5/19



NOTES:  
 - GROUNDWATER LEVEL DURING DRILLING: NOT RECORDED  
 - GROUNDWATER LEVEL UPON COMPLETION: NOT RECORDED  
 - LOGGED BY: S. WHOOLERY (SOMAT)  
 - CHECKED BY: J. ABADIR (SOMAT)  
 - DRILL RIG: n/a METHOD: PAVEMENT CORE  
 - LOCATIONS AND GROUND SURFACE ELEVATIONS ESTIMATED FROM GOOGLE EARTH SATELLITE IMAGERY AND MEASURED OFFSETS.

**N<sub>spt</sub>** NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2-IN. O.D. X 1.5-IN. I.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 6-IN. INCREMENTS USING A 140 LB HAMMER FALLING 30 IN. A 4TH 6-IN. INCREMENT IS SHOWN WHERE APPLICABLE.  
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 <> = DISTURBED SAMPLE

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) GROUP SYMBOL DETERMINED PER ASTM D2488 (VISUAL-MANUAL) OR ASTM D2487 (STANDARD USCS), WHERE APPLICABLE.  
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 HORIZONTAL DATUM: NGS-84  
 VERTICAL DATUM: NAVD 88

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FINAL ROW PLAN REVISIONS (SUBMITTAL DATE: )			
NO.	DATE	AUTH	DESCRIPTION



NO SCALE

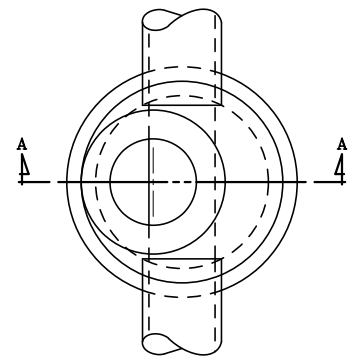
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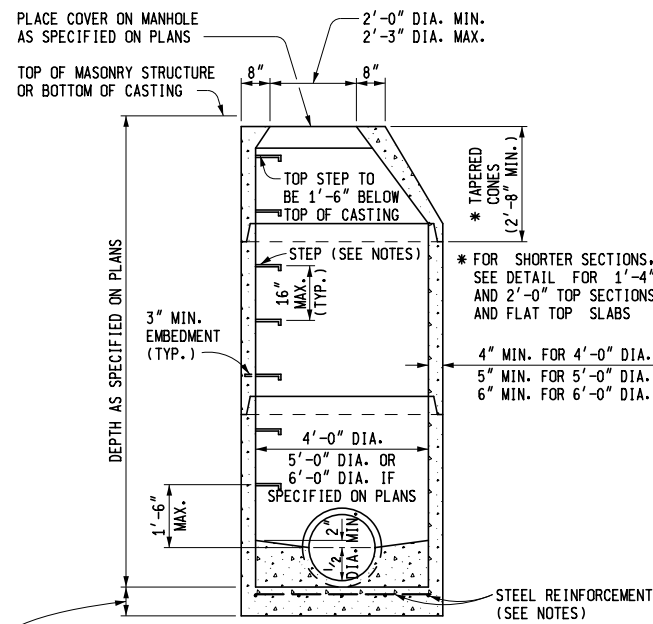
JN: PW-7004  
 MCNICHOLS STREETScape

SOIL BORING LOG SHEET  
 MCNICHOLS STREETScape

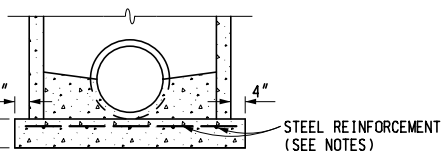
DRAWING	SHEET
MCN BORING 003	165



PLAN VIEW



CONCRETE FOOTING SHALL BE 8" THICK FOR DEPTHS TO 25'-0" AND 1'-0" THICK FOR DEPTHS OVER 25'-0"



CONCRETE FOOTING SHALL BE 8" THICK FOR DEPTHS TO 25'-0" AND 1'-0" THICK FOR DEPTHS OVER 25'-0"

SECTION A - A TYPICAL MANHOLE

PRECAST REINFORCED CONCRETE SHOWN OTHER OPTIONS INCLUDE CONCRETE BLOCK, BRICK, OR CAST-IN-PLACE WALL SECTIONS SEE TYPICAL WALL SECTIONS FOR WALL THICKNESS



PREPARED BY DESIGN DIVISION

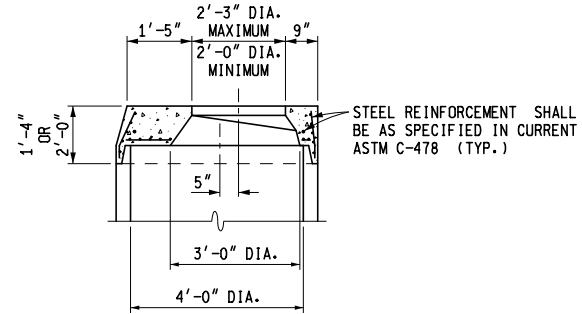
DRAWN BY: B.L.T.

CHECKED BY: W.K.P.

DEPARTMENT DIRECTOR Kirk T. Steudle

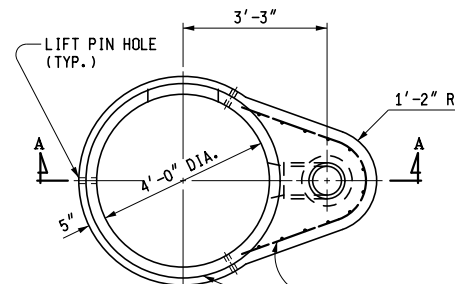
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: DIRECTOR, BUREAU OF DEVELOPMENT



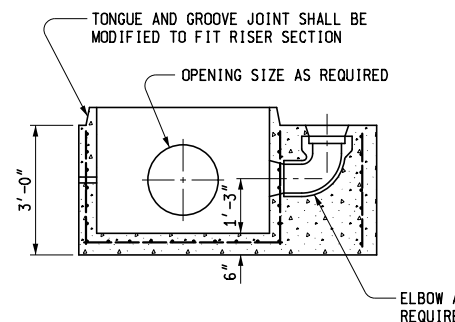
DETAIL FOR 1'-4" & 2'-0" TOP SECTIONS

SHAPE MAY VARY FROM DETAIL SHOWN BUT MUST COMPLY WITH ASTM C-478 AND JOINTS SHALL BE COMPATIBLE WITH THE RISER



SECTION A - A

TYPICAL PRECAST REINFORCED BOTTOM SECTION FOR DROP MANHOLE



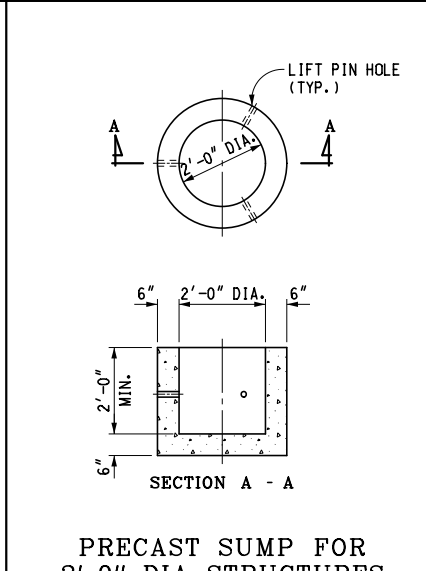
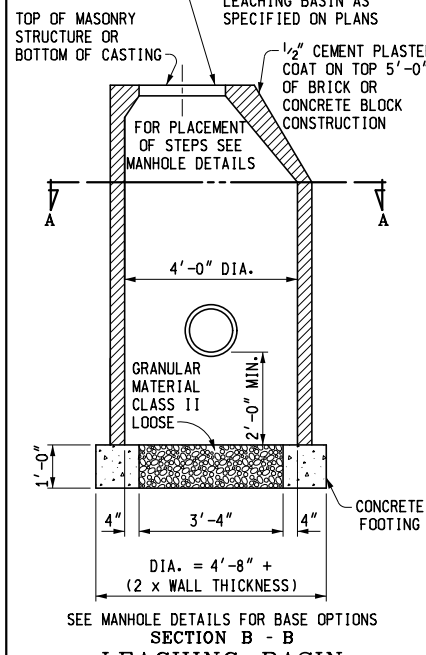
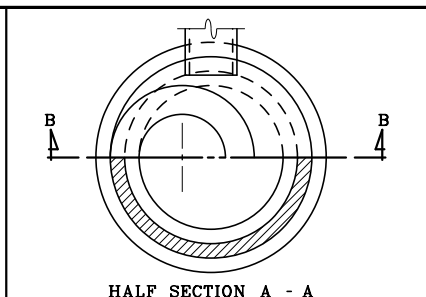
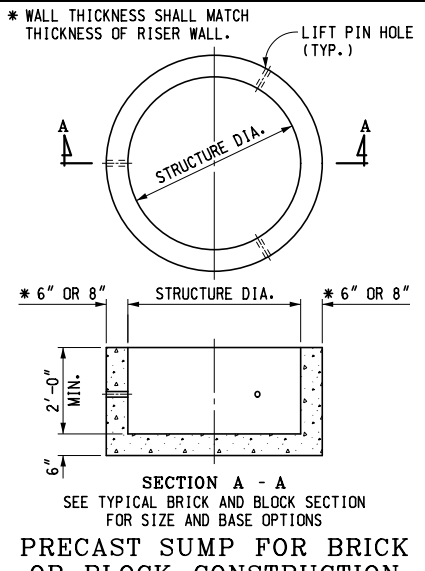
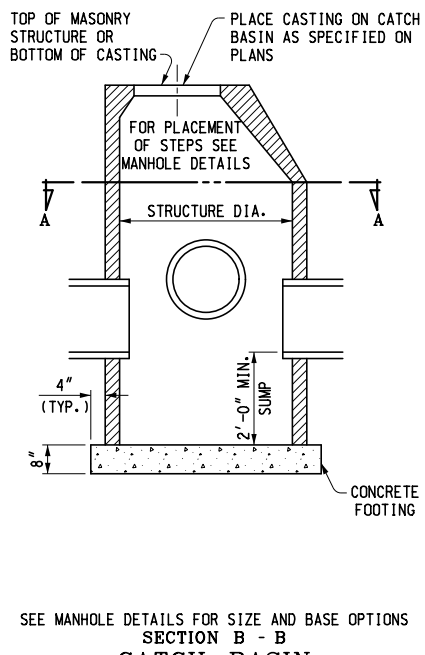
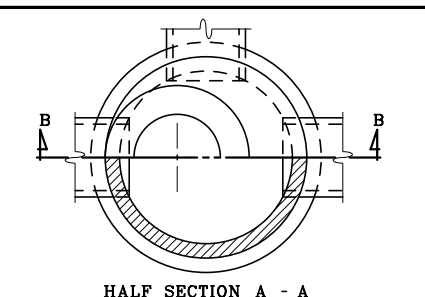
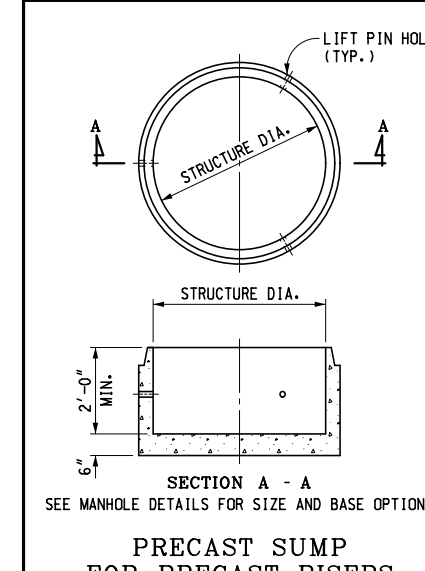
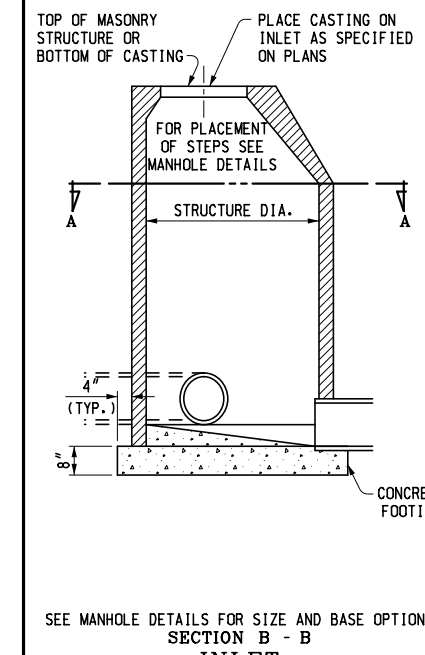
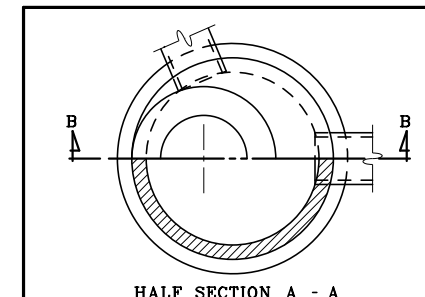
SECTION A - A

TYPICAL PRECAST REINFORCED BOTTOM SECTION FOR DROP MANHOLE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR

DRAINAGE STRUCTURES

F.H.W.A. APPROVAL 6-15-2016 PLAN DATE R-1-G SHEET 1 OF 9



MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN FOR

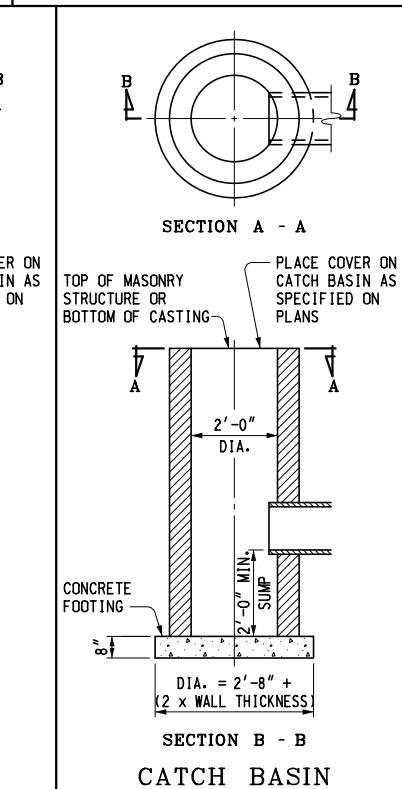
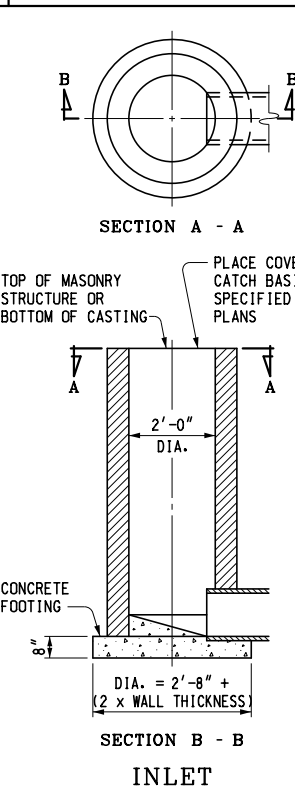
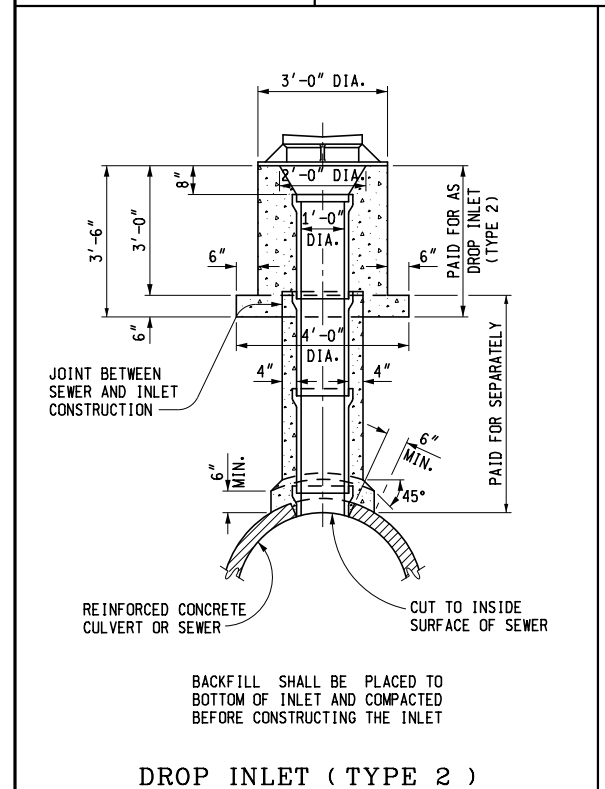
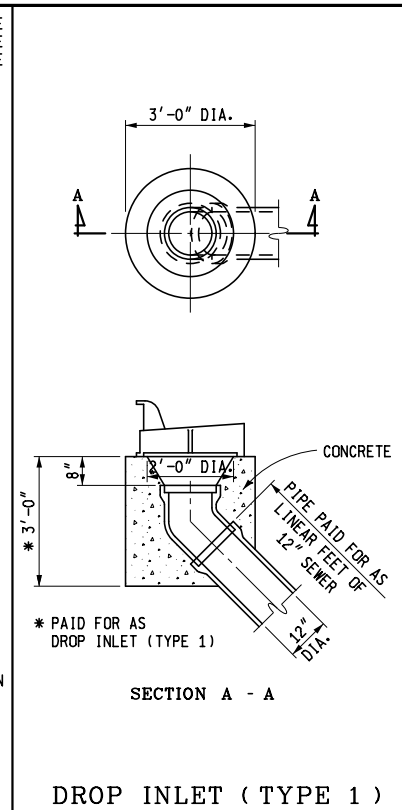
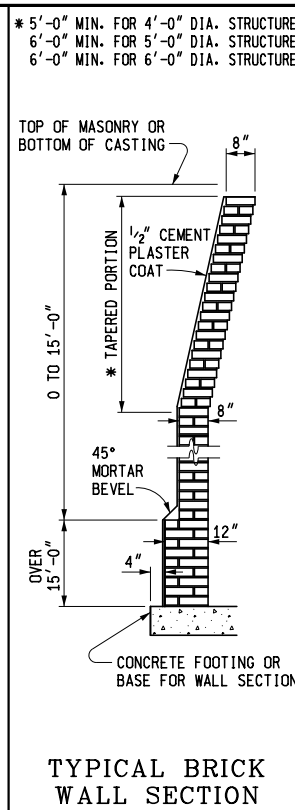
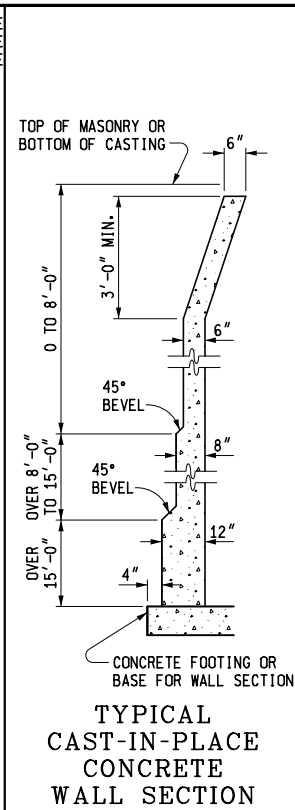
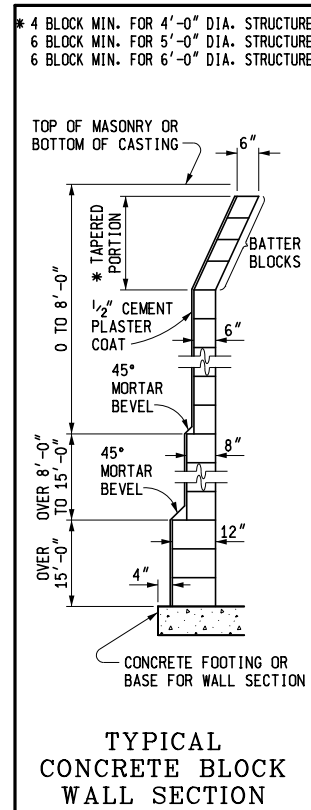
DRAINAGE STRUCTURES

F.H.W.A. APPROVAL 6-15-2016 PLAN DATE R-1-G SHEET 2 OF 9

AS-LET PLAN REVISIONS					
NO.	DATE	AUTH	NO.	DATE	AUTH

0 VERT. (FT) 0 HORZ. (FT)

DATE:	CS:
DESIGN UNIT:	JN:
TSC:	



MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**DRAINAGE STRUCTURES**

F.H.W.A. APPROVAL      6-15-2016      R-1-G      SHEET 3 OF 9  
 PLAN DATE

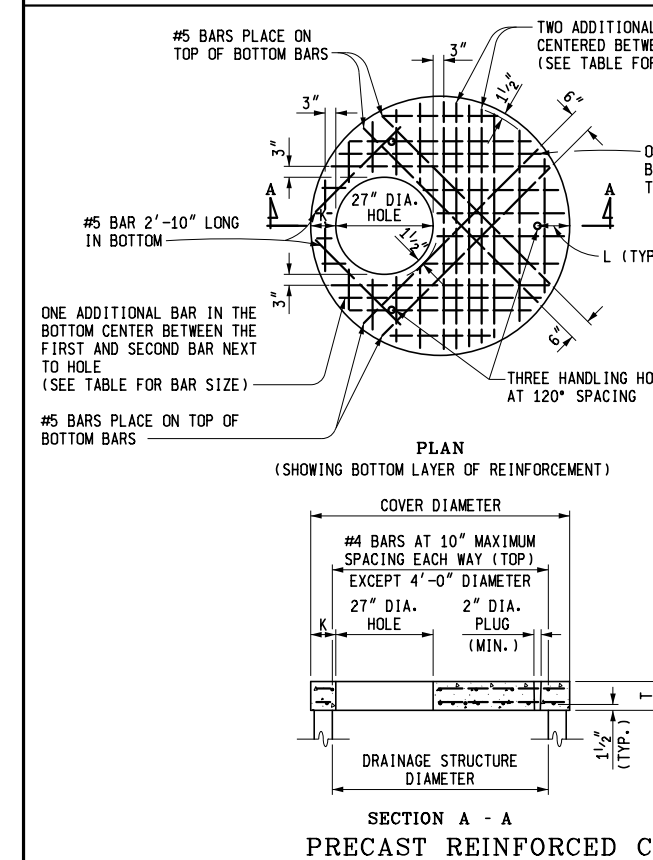
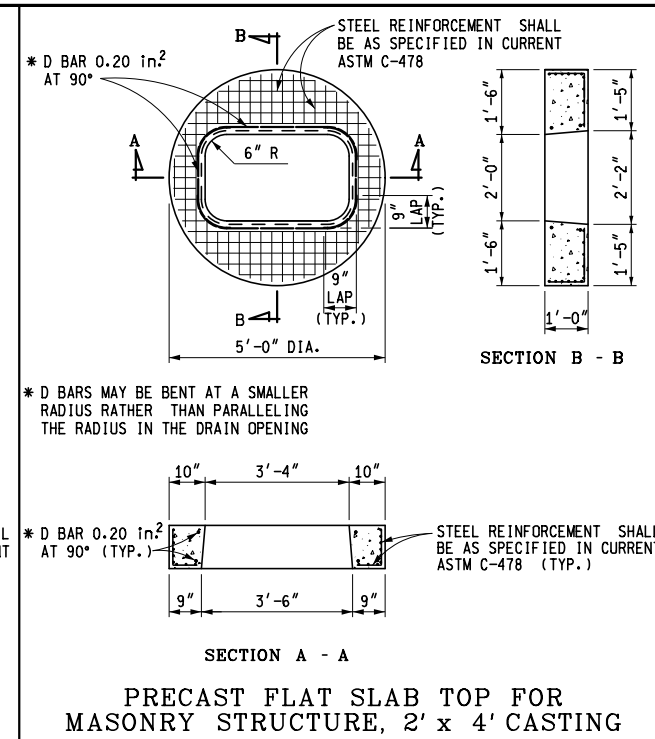
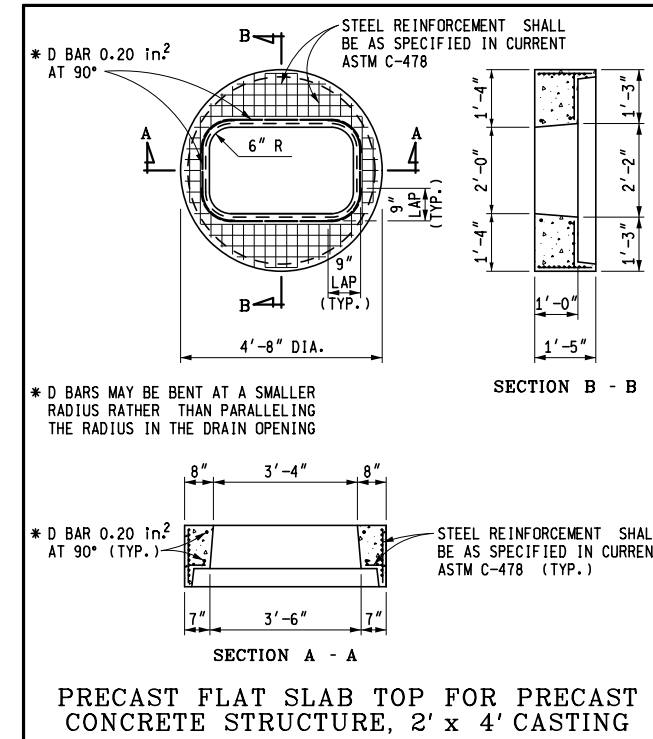


TABLE OF DIMENSIONS					
STRUCTURE DIAMETER	COVER DIAMETER	T	K	L	BAR MAXIMUM SPACING (BOTTOM EACH WAY)
* 4'-0"	58"	6"	6"	8"	#5 AT 6"
5'-0"	72"	8"	7"	9"	#5 AT 7"
6'-0"	86"	8"	8"	10"	#5 AT 6"
7'-0"	101 1/2"	12"	8 3/4"	11"	#5 AT 5"
8'-0"	114"	12"	9"	11"	#6 AT 6"
9'-0"	128"	12"	10"	12"	#5 AT 6"
10'-0"	140"	12"	10"	13"	#5 AT 6"

\* ONLY BOTTOM LAYERS OF STEEL NECESSARY

MICHIGAN DEPARTMENT OF TRANSPORTATION  
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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

**MDOT**  
 Michigan Department of Transportation

0 VERT. (FT)  
 0 HORZ. (FT)

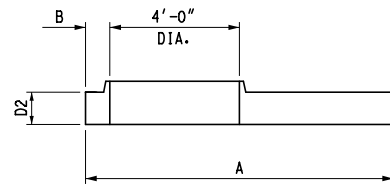
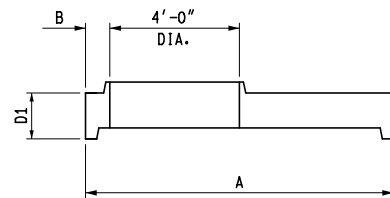
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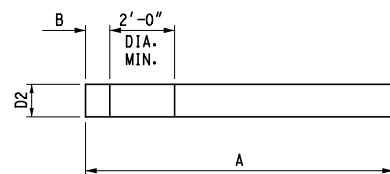
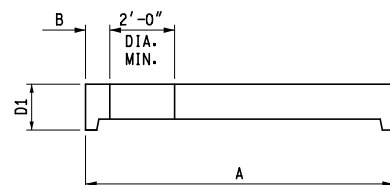
**SPECIAL DETAILS**  
 MCNICHOLS STREETScape

DRAWING SHEET

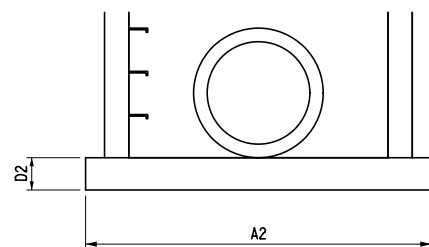
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PRECAST REDUCER CAP



PRECAST FLAT SLAB TOP



SEPARATE BASE OPTION

REDUCER CAP DIMENSIONS				
STRUCTURE DIAMETER	CAP DIAMETER "A"	B	CAP DEPTH "D1"	CAP DEPTH "D2"
7'-0"	101 1/2"	8 3/4"	1'-5"	12"
8'-0"	114"	9"	1'-5"	12"
9'-0"	128"	10"	1'-5"	12"
10'-0"	140"	10"	1'-6"	12"

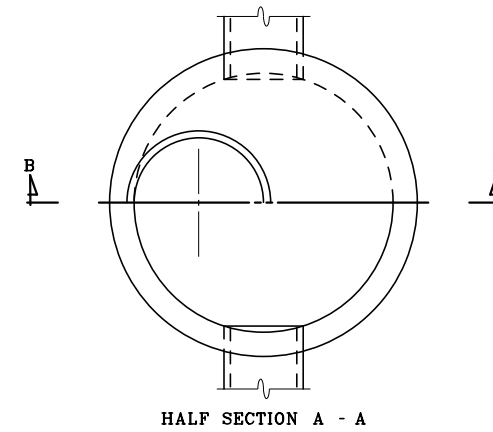
FLAT SLAB TOP DIMENSIONS				
STRUCTURE DIAMETER	COVER DIAMETER "A"	B	COVER DEPTH "D1"	COVER DEPTH "D2"
7'-0"	101 1/2"	8 3/4"	1'-5"	12"
8'-0"	114"	9"	1'-5"	12"
9'-0"	128"	10"	1'-5"	12"
10'-0"	140"	10"	1'-6"	12"

BASE AND RISER DIMENSIONS					
STRUCTURE DIAMETER	BASE DIAMETER "A1"	BASE DIAMETER "A2"	MIN. WALL THICKNESS "T"	BASE DEPTH "D1"	BASE DEPTH "D2"
7'-0"	101 1/2"	108"	7"	8"	12"
8'-0"	114"	128"	8"	8"	12"
9'-0"	128"	140"	9"	8"	12"
10'-0"	140"	154"	10"	8"	12"

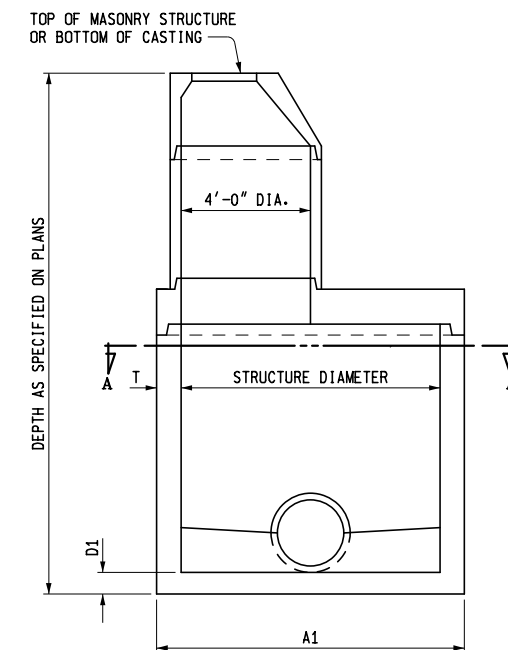
MICHIGAN DEPARTMENT OF TRANSPORTATION  
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**DRAINAGE STRUCTURES**

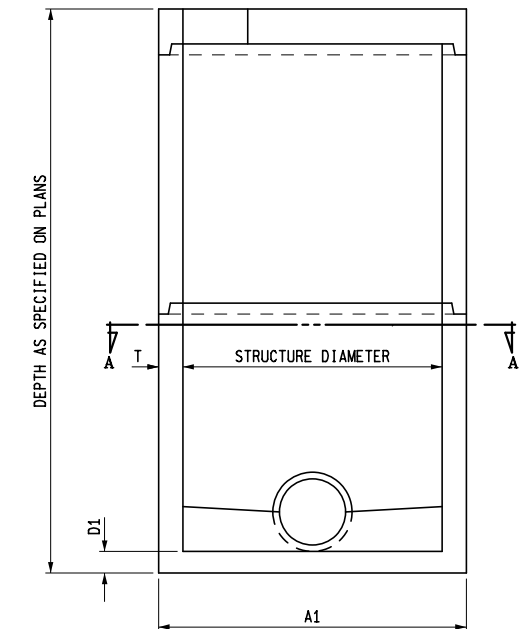
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HALF SECTION A - A



SECTION B - B  
SHOWING REDUCER CAP



SECTION B - B  
SHOWING FLAT SLAB TOP

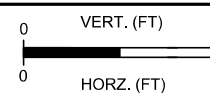
PRECAST MANHOLE

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**DRAINAGE STRUCTURES**

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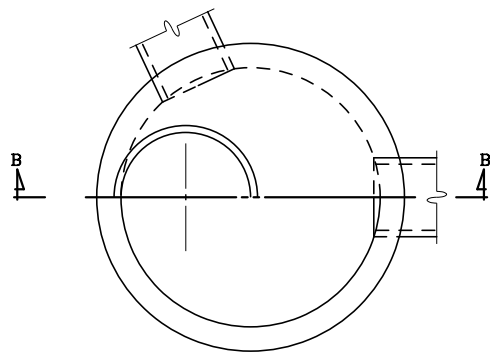
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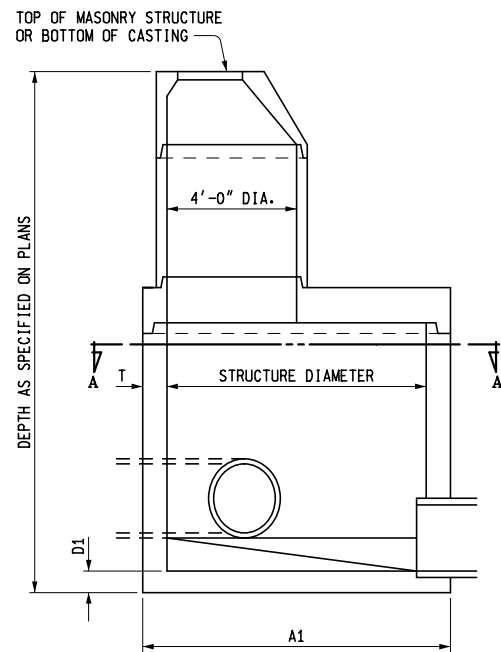
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SPECIAL DETAILS		DRAWING	SHEET
MCNICHOLS STREETScape			168

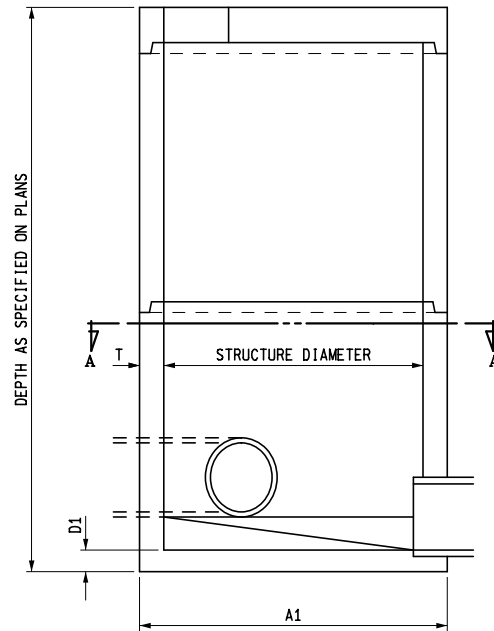




HALF SECTION A - A



SECTION B - B  
SHOWING REDUCER CAP



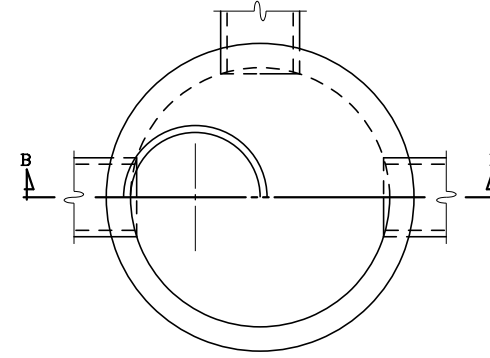
SECTION B - B  
SHOWING FLAT SLAB TOP

PRECAST INLET

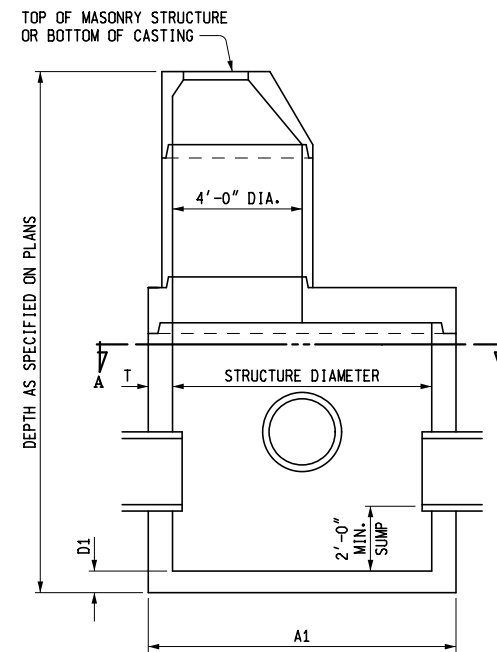
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BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**DRAINAGE STRUCTURES**

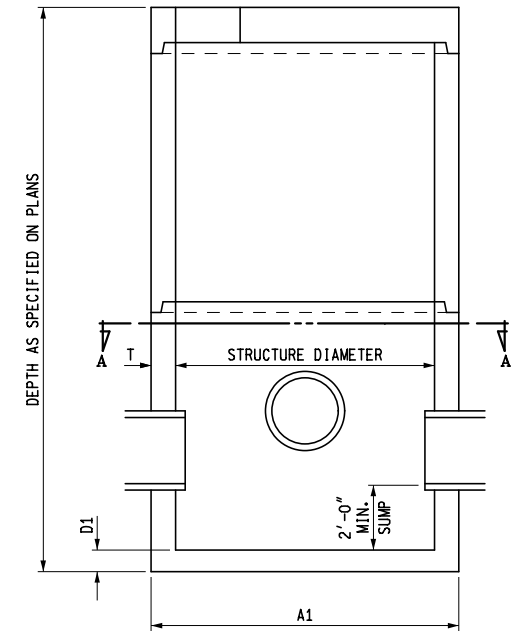
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HALF SECTION A - A



SECTION B - B  
SHOWING REDUCER CAP



SECTION B - B  
SHOWING FLAT SLAB TOP

PRECAST CATCH BASIN

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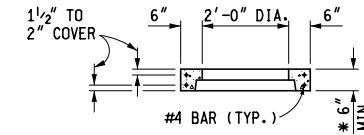
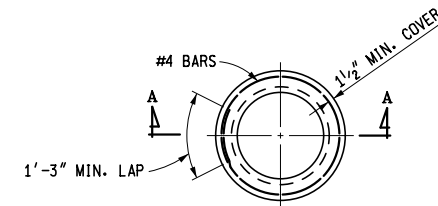
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SPECIAL DETAILS	
MCNICHOLS STREETScape	

DRAWING	SHEET
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SECTION A - A

\* WHEN RISER TONGUE LENGTH IS GREATER THAN 3", USE 2 TIMES THE TONGUE LENGTH.

NOTE: PRECAST RISER SHALL FULLY ENGAGE THE TONGUE OF THE RISER PIPE.

**PRECAST RISER RING**  
(FOR 2'-0" DIAMETER STRUCTURE)

NOTES:

THE DRAINAGE STRUCTURE COVERS ALLOWED FOR USE ON THESE DRAINAGE STRUCTURES ARE SPECIFIED IN SUBSEQUENT STANDARD PLANS AND ARE INTERCHANGEABLE ON ANY STRUCTURE.

THE TOPS OF MASONRY STRUCTURES SHALL BE SUFFICIENTLY LOW TO PERMIT PROPER ADJUSTMENT OF COVER TO GRADE USING MORTAR OR BRICK AS DIRECTED BY THE ENGINEER.

PREMIUM JOINTS ARE REQUIRED ON ALL SANITARY MANHOLES. SEE ASTM DESIGNATION C-923.

GRANULAR MATERIAL CLASS III SHALL BE USED IN BACKFILLING AROUND ALL STRUCTURES THAT FALL WITHIN THE 1:1 INFLUENCE LINES FROM THE EDGE OF PAVEMENT OR BACK OF CURB.

STEPS FOR DRAINAGE STRUCTURES SHALL BE OF AN APPROVED DESIGN AND MADE FROM CAST IRON, ALUMINUM, OR PLASTIC COATED STEEL. RUNGS SHALL BE A MINIMUM OF 10" IN CLEAR LENGTH, DESIGNED TO PREVENT THE FOOT FROM SLIPPING OFF THE END. THE MINIMUM HORIZONTAL PULL OUT LOAD SHALL BE 400 LBS. THE MINIMUM VERTICAL LOAD SHALL BE 800 LBS.

THE BELL SHALL BE REMOVED FOR THE FIRST LENGTH OF OUTLET PIPE PROJECTING THROUGH THE WALL OF THE MANHOLE.

PRECAST CONCRETE SECTIONS, SUMPS, AND FLAT TOP SLABS SHALL BE BUILT ACCORDING TO CURRENT ASTM C-478 AND ACCORDING TO DETAILS SPECIFIED ON THIS PLAN. PRECAST REINFORCED CONCRETE FLAT TOP SLAB SHALL BE MARKED TO SHOW LOCATION OF REINFORCEMENT. THE WALLS OF THE PRECAST UNITS MAY HAVE A SLIGHT TAPER TO ALLOW FOR FORM REMOVAL. PRECAST CONCRETE 2'-0" DIAMETER DRAINAGE STRUCTURES SHALL HAVE A MINIMUM 3" WALL THICKNESS WITH A 6" MINIMUM BEARING SURFACE ON TOP. SEE PRECAST RISER RING FOR 2'-0" DIAMETER STRUCTURE.

THE MAXIMUM INSIDE DIAMETER OF PIPES ENTERING OR LEAVING PRECAST DRAINAGE STRUCTURES SHALL BE 2'-0" LESS THAN THE INSIDE DIAMETER OF THE DRAINAGE STRUCTURE. A PIPE LEAVING A 2'-0" DIAMETER DRAINAGE STRUCTURE IS ALLOWED TO HAVE 1'-0" INSIDE DIAMETER OR LESS.

THE NUMBER OF PIPE OPENINGS IN A RISER SHALL BE DETERMINED BY THE DESIGNER. SPACING BETWEEN OPENINGS SHALL BE 1'-0" MINIMUM. OPENINGS MAY BE CONSTRUCTED BY CASTING OR SCRIBING IN PRECAST STRUCTURES DURING FABRICATION OR BY CORING THE CURED CONCRETE.

PRECAST CONCRETE FOOTINGS OR BASES SHALL BE REINFORCED WITH #4 BARS SPACED AT 1'-0" BOTH WAYS OR WITH TWO LAYERS OF WELDED WIRE FABRIC OF EQUIVALENT CROSS SECTIONAL AREA LAID AT RIGHT ANGLES AND WIRED TOGETHER. REINFORCEMENT SHALL BE PLACED IN TOP OF FOOTING AND SHALL BE MARKED.

PRECAST CONCRETE FOOTINGS SHALL BE SUPPORTED BY A COMPACTED 6" GRANULAR SUBBASE.

THE MINIMUM WALL THICKNESS FOR ALL 2'-0", 4'-0", 5'-0", AND 6'-0" DRAINAGE STRUCTURES USING CONCRETE BLOCK, BRICK, OR CAST-IN-PLACE CONCRETE SHALL BE AS SPECIFIED IN TYPICAL WALL SECTIONS.

THE CONICAL SECTION OF MANHOLES OR CATCH BASINS CONSTRUCTED OF BLOCK OR BRICK SHALL BE SHROUDED WITH GEOTEXTILE FABRIC TO A MINIMUM DEPTH OF 5'-0" OR THROUGH THE FROST ZONE. ENOUGH GEOTEXTILE MATERIAL SHALL BE LEFT ON THE TOP (8" OR MORE) TO ROLL OVER THE TOP OF THE CONE.

PREFORMED HIGH DENSITY POLYSTYRENE FILLER PIECES MAY BE USED TO CHANNEL FLOW IN THE BOTTOM OF MANHOLES PROVIDED THEY HAVE AT LEAST 2" OF CONCRETE COVER. THE USE OF THIS MATERIAL FOR CHANNEL FLOW IS RESTRICTED TO MANHOLES WHERE THE BOTTOM SECTION IS NOT SUBJECT TO FREEZING. THE USE OF THIS MATERIAL MUST BE APPROVED BY THE ENGINEER.

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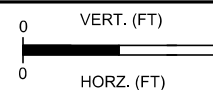
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