



Providence Bicycle and Pedestrian Advisory Commission

Jorge O. Elorza, Mayor

Staff Report: North Main Street intersection with Doyle Ave – Mount Hope – Ward 3 (For Action)
Presented at August 21, 2019 BPAC meeting)

Project Background

The City of Providence Department of Planning and Development seeks comments from the BPAC regarding 90% plans from RIDOT for work at the intersection of North Main Street and Doyle Ave. This will be a design level review of the project and will be the second of two reviews before the Commission. The RIDOT plans are attached to this document.

These two intersections are both among the 20 locations in the city with the most pedestrian collisions since 2009. North Main St as a whole is one of the 20 highest-crash corridors for both bicycling and walking.

At the March 2019 meeting of the Commission, a number of recommendations were made related to general bicycle and pedestrian safety concerns on this section of North Main Street. Some of these recommendations have been included in the design plans currently under review:

1. The crossing of North Main St at the southern edge of the project limits should be realigned to the south side of the median cut-thru. The current configuration puts pedestrians crossing the northbound direction of vehicular traffic in conflict with low-visibility turning movements from the cut-thru as well as from the shopping plaza parking lot, and recently a pedestrian was seriously injured because of this. Aligning on the southern side of the cut-thru would eliminate the conflicts with turning traffic. **INCLUDED**
2. The curb radius at the southeast corner of Doyle Ave & North Main St should be reduced. **NOT INCLUDED**
3. The walkway across the median at the southern end of the project limits should be widened to 10 feet. **NOT INCLUDED**
4. The crossing distance at the intersection of Hewes St & North Main St should be reduced by narrowing the opening of Hewes St and making it perpendicular to North Main St. If this preferred approach is not feasible, a pedestrian refuge island should be added in the middle of the existing crosswalk. **INCLUDED**
5. Improvements should be added to median pedestrian space on North Main St, especially on the north side of Randall St, to make the space more comfortable for pedestrians, potentially including benches, sculpture, or shrubbery. **NOT INCLUDED**
6. The number and width of northbound vehicular travel lanes on North Main St should be reduced to further decrease crossing distances for pedestrians, and extra space should be used



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to install protected bicycle lanes. The same should be considered for the southbound direction, as well as potentially removing on-street parking to achieve these safety goals. **NOT INCLUDED**

7. The State and City should consider working with the owner of the University Heights shopping plaza to add pedestrian access from the crosswalk across North Main from Randall St, utilizing stairs and/or an ADA switchback ramp. **NOT INCLUDED**
8. The Randall St approach to North Main St should be reconfigured to align all vehicular traffic through the middle opening. **NOT INCLUDED**
9. The northbound right-turn lane on North Main Street approaching Doyle Ave should be shortened significantly. **NOT INCLUDED**

Project Map (see right)

Staff Recommendations

- Recommendations above that were not incorporated into these plans should still be considered by RIDOT, especially those numbered 3, 5, and 9, which could potentially still be incorporated without significant delay at this stage of design.

Respectfully submitted by Alex Ellis.



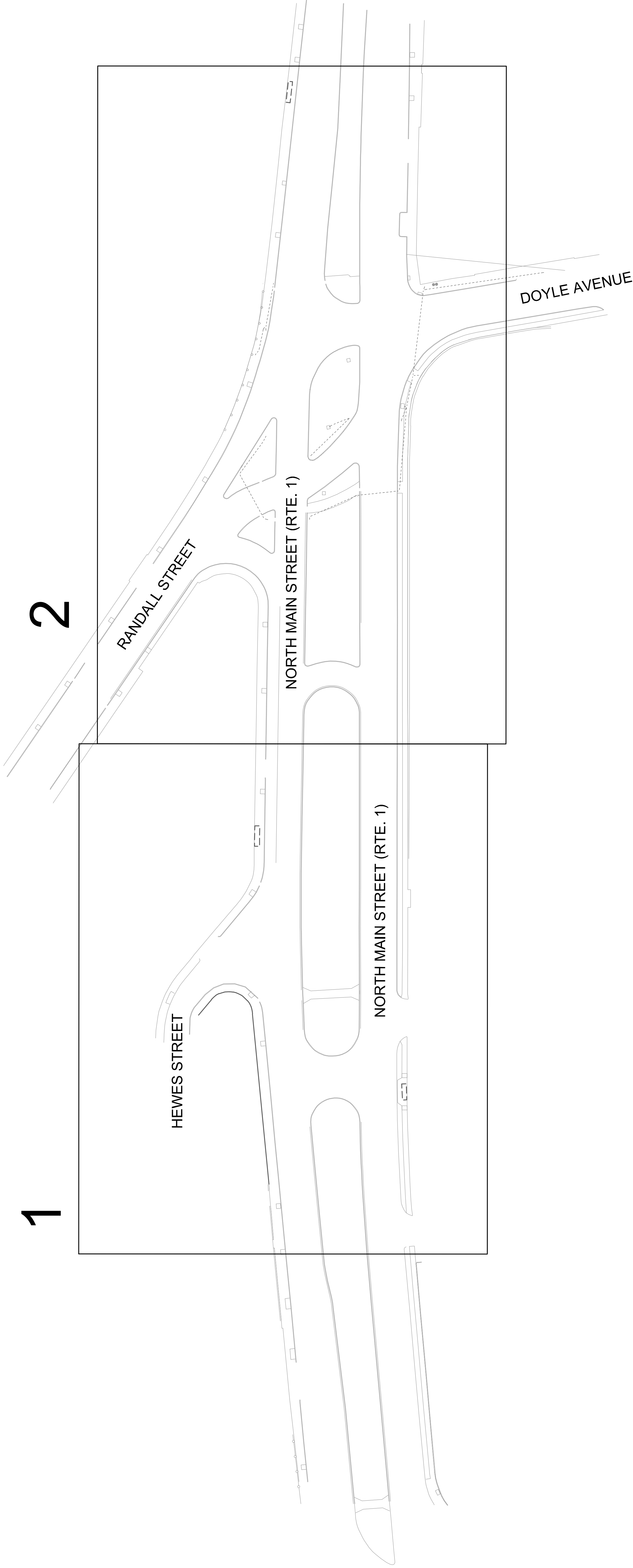
DEPARTMENT OF PLANNING AND DEVELOPMENT

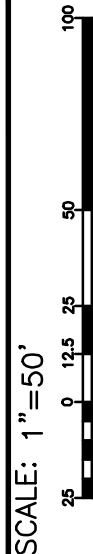
444 Westminster Street, Providence, Rhode Island 02903

401 680 8400 ph | 401 680 8492 fax

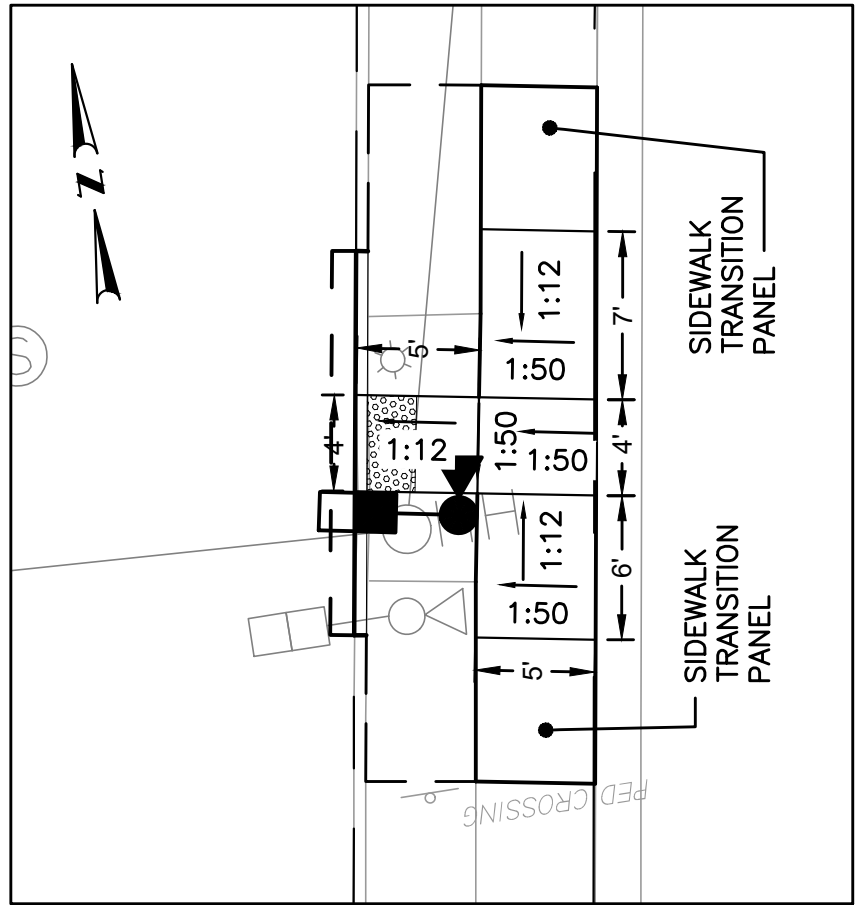
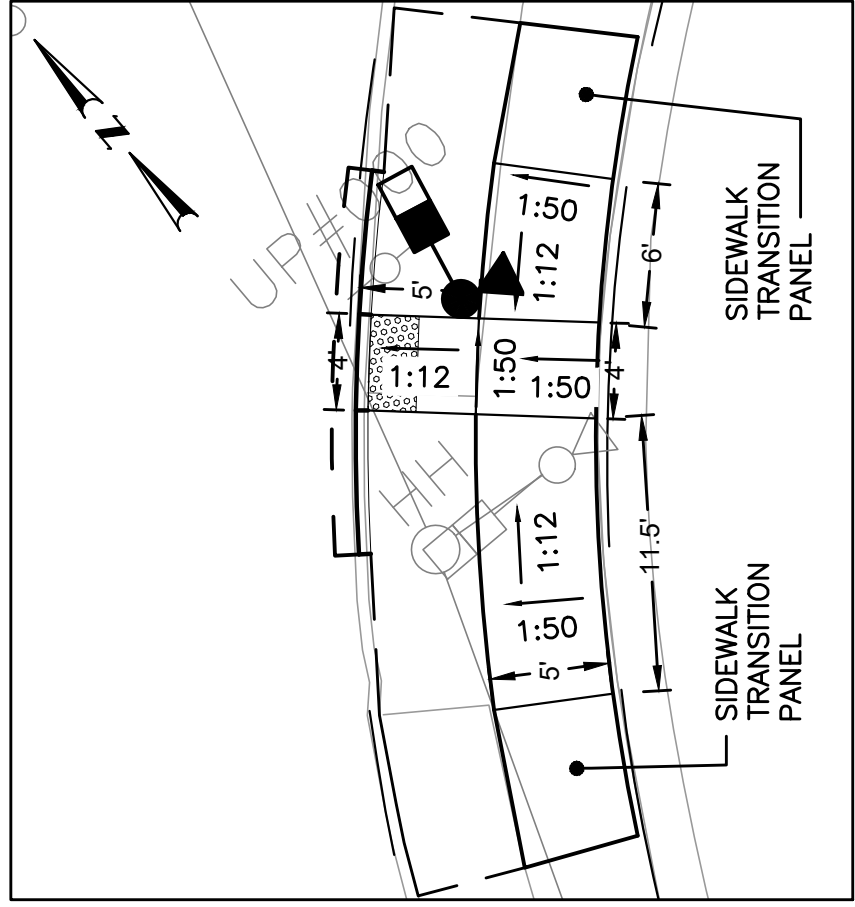
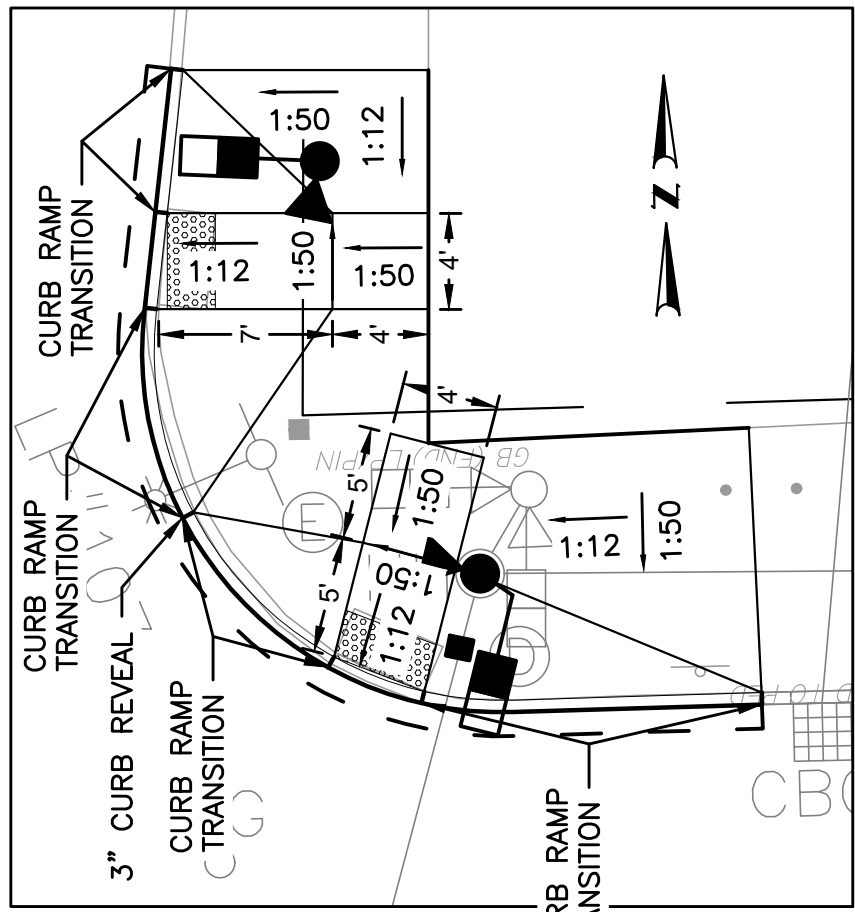
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FED. ROAD DIV. NO.	STATE	FEDERAL AID PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	RI			72	81



 www.BETA-inc.com	 RHODE ISLAND DEPARTMENT OF TRANSPORTATION	DESIGNED BY: CHECKED BY: DATE: 4/3/2019 SHEET: 72 OF: 81	 REVISIONS NO. DATE BY NO. DATE BY	HIGHWAY SAFETY IMPROVEMENT PROGRAM INTERSECTION SAFETY IMPROVEMENTS - STATEWIDE EAST PROVIDENCE, BARRINGTON, PROVIDENCE, & JOHNSTON RHODE ISLAND
				N MAIN ST - KEY PLAN

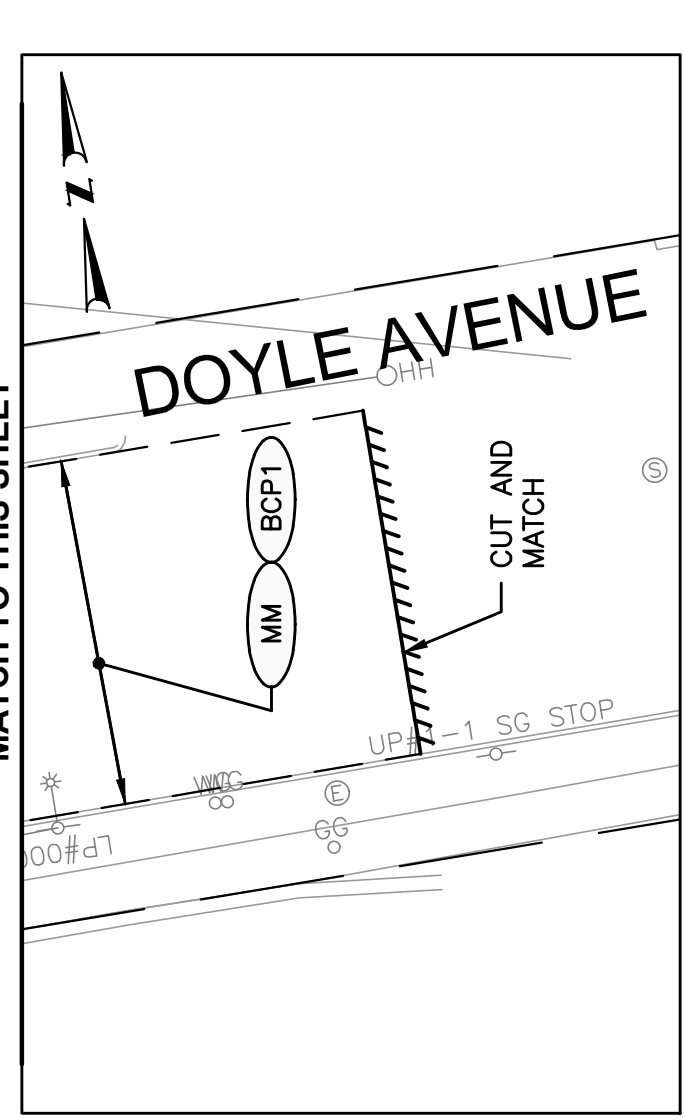
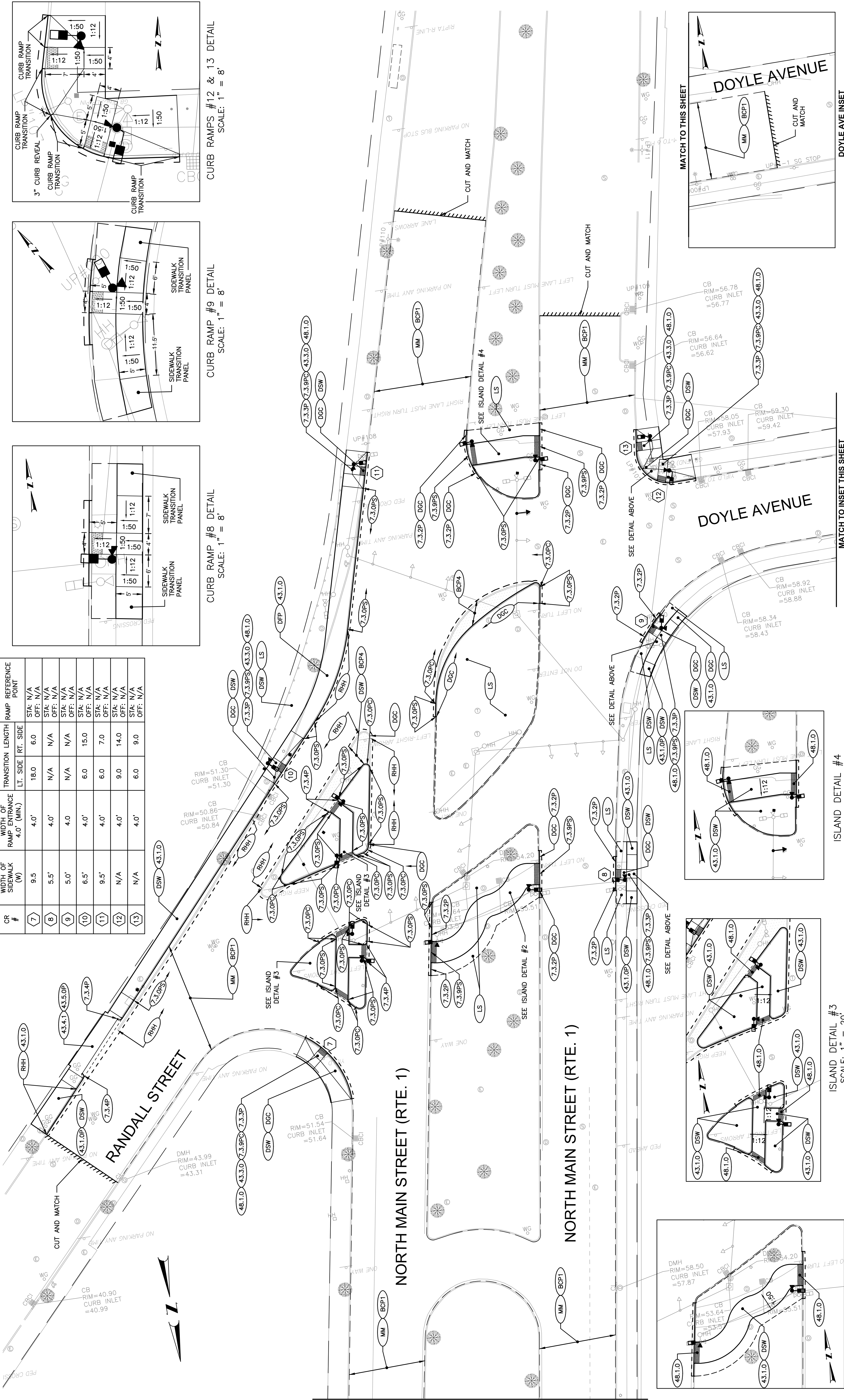
CURB RAMP DATA					
CR #	WIDTH OF SIDEWALK (W)	WIDTH OF RAMP ENTRANCE 4.0' (MIN.)	TRANSITION LENGTH		RAMP REFERENCE POINT
			LT. SIDE	RT. SIDE	
7	9.5	4.0'	18.0	6.0	STA: N/A OFF: N/A
8	5.5'	4.0'	N/A	N/A	STA: N/A OFF: N/A
9	5.0'	4.0	N/A	N/A	STA: N/A OFF: N/A
10	6.5'	4.0'	6.0	15.0	STA: N/A OFF: N/A
11	9.5'	4.0'	6.0	7.0	STA: N/A OFF: N/A
12	N/A	4.0'	9.0	14.0	STA: N/A OFF: N/A
13	N/A	4.0'	6.0	9.0	STA: N/A OFF: N/A



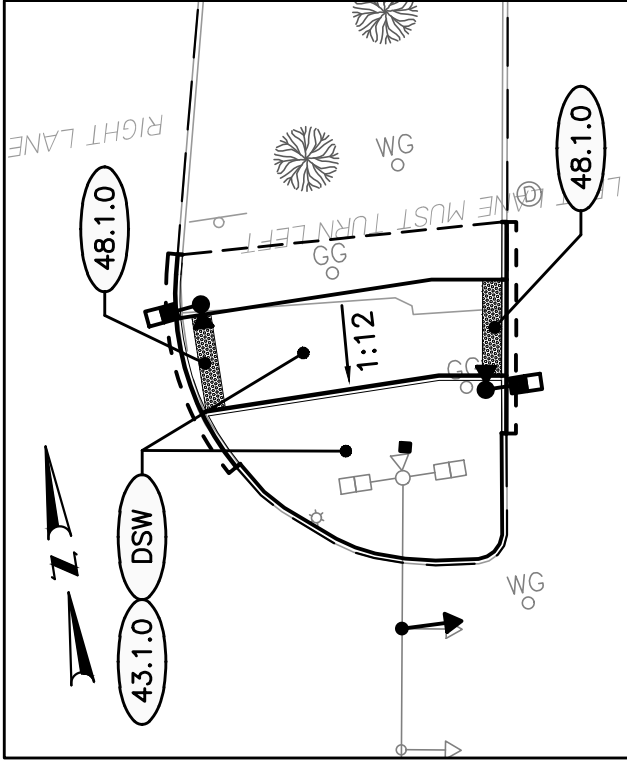
CURB RAMPS #12 & 13 DETAIL
SCALE: 1" = 8'

CURB RAMP #9 DETAIL
SCALE: 1" = 8'

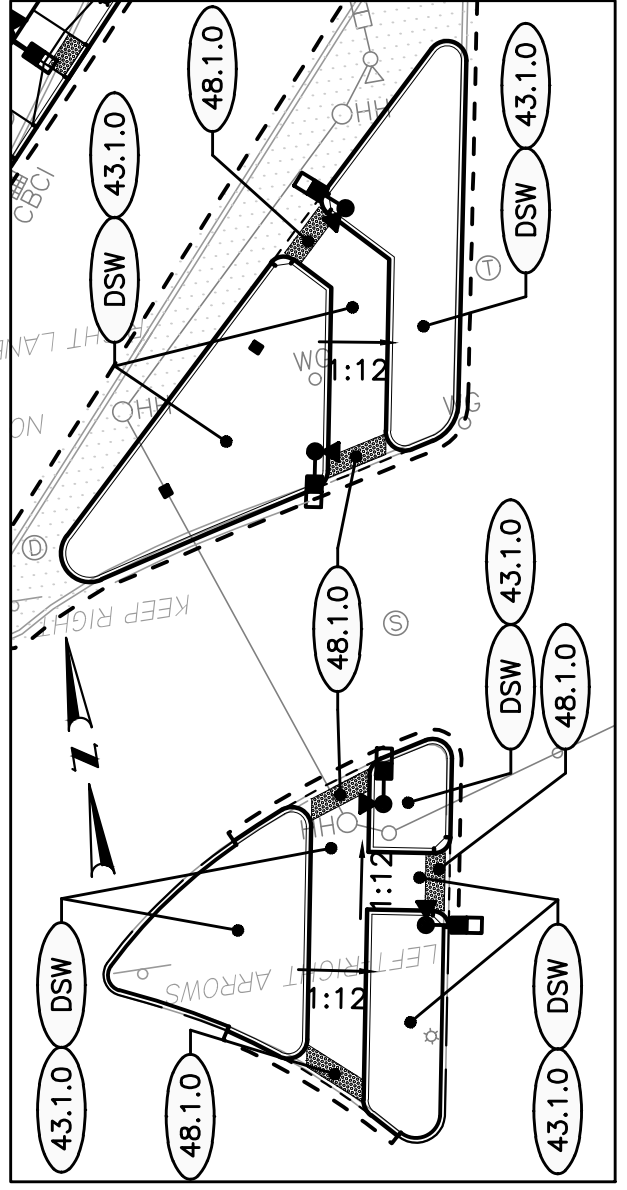
CURB RAMP #8 DETAIL
SCALE: 1" = 8'



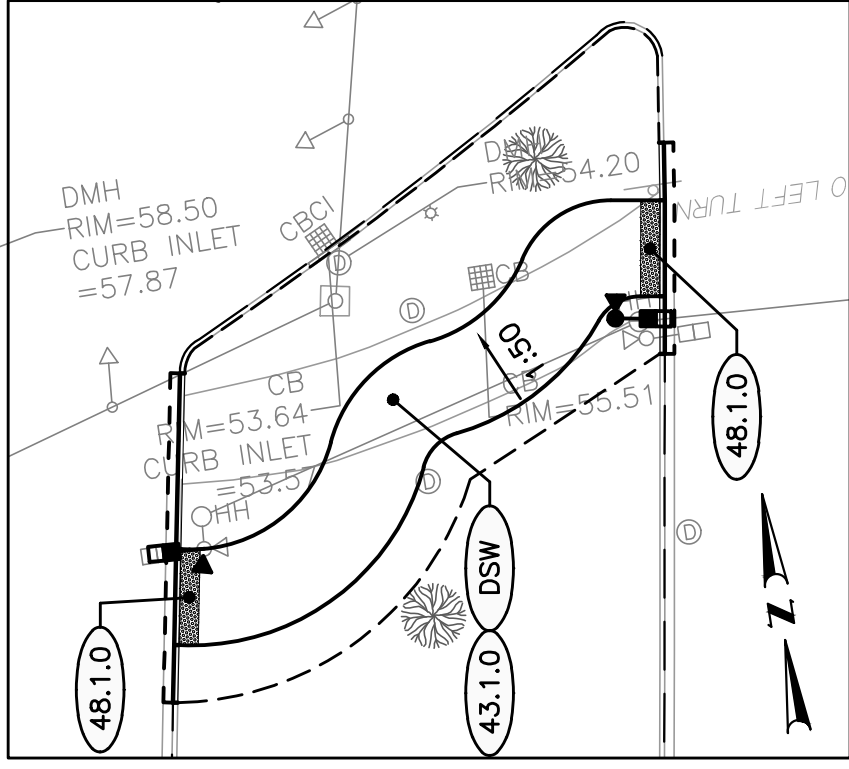
DOYLE AVE INSET
SCALE 1"=20'



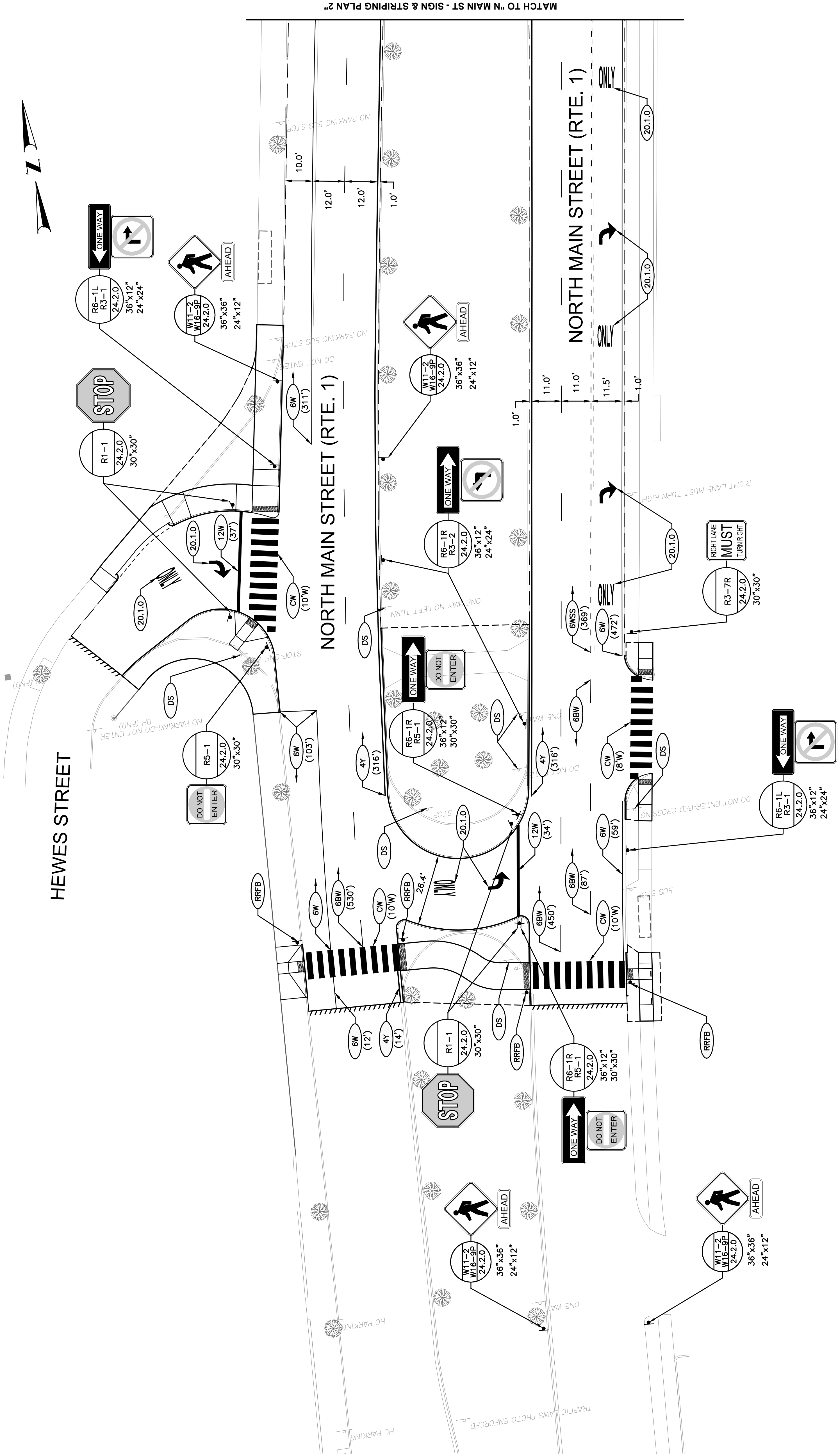
ISLAND DETAIL #4
SCALE: 1" = 20'



ISLAND DETAIL #3
SCALE: 1" = 20'



ISLAND DETAIL #2
SCALE: 1" = 20'





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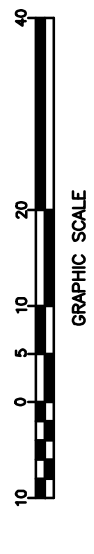
RHODE ISLAND
DEPARTMENT OF TRANSPORTATION

DESIGNED BY:
CHECKED BY:
DATE: 4/3/2019

REVISIONS
NO. DATE BY

REVISIONS
NO. DATE BY

SCALE: 1"=20'



GRAPHIC SCALE

HIGHWAY SAFETY IMPROVEMENT PROGRAM
INTERSECTION SAFETY IMPROVEMENTS - STATEWIDE
EAST PROVIDENCE, BARRINGTON, PROVIDENCE, & JOHNSTON
RHODE ISLAND

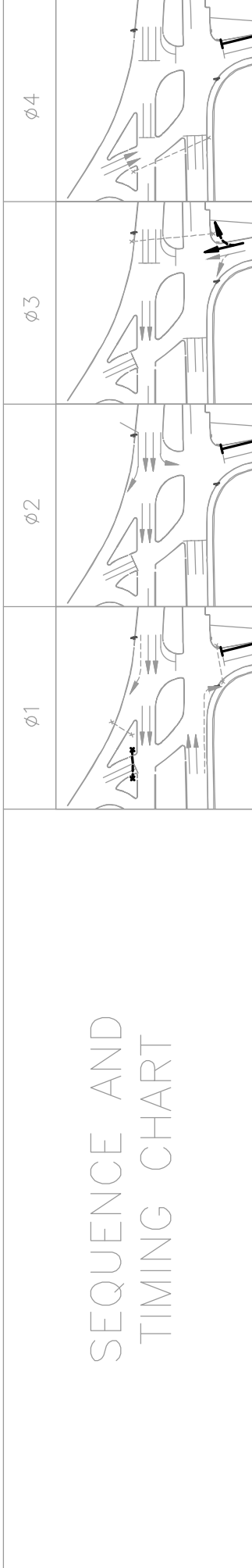
N MAIN ST - SIGN & STRIPING PLAN 1

TRAFFIC SIGNAL MATERIALS LIST

ITEM NO.	LEGEND	ITEM CODE	ITEM DESCRIPTION
1a	■	T05.0100	PRECAST TYPE "A" HANDHOLE STD. 18.2.0
1c	□HH	T05.0400	BREAK INTO EXISTING HANDHOLE
2k		T06.5330	3 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 40) – UNDER EXISTING PAVEMENT
2o		T06.5430	3 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT (SCHEDULE 80) – UNDER EXISTING PAVEMENT
2v		T06.2020	2 INCH RIGID STEEL CONDUIT – OVERHEAD
2ad		T06.6020	2 INCH POLYVINYL CHLORIDE PLASTIC CONDUIT – OVERHEAD
4j	●	T11.2008	8" ALUMINUM PEDESTAL POLE AND FOUNDATION, RI STD. 19.4.0
6ad	■	T14.9901	1 WAY PEDESTAL MOUNTED L.E.D. PEDESTRIAN SIGNAL HEAD 12 INCH WITH COUNTDOWN TIMER
7c		T04.5302	14 AWG 2 CONDUCTOR TWISTED SHIELDED CABLE
7d		T04.5303	14 AWG 3 CONDUCTOR CABLE
7e		T04.5305	14 AWG 5 CONDUCTOR CABLE
9a		T13.1000	TRAFFIC DETECTORS – LOOP STANDARD 19.6.0
9d	▼	T13.8210	ACCESSIBLE PEDESTRIAN DETECTOR – PUSHBUTTON WITH SIGN
11		T12.9901	MODIFY EXISTING TRAFFIC SIGNAL CONTROLLER/CABINET
12		945.9901	REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM

- NOTES:
- ALL SIGNAL HEADS SHALL HAVE NON-LOUVERED BACKPLATES AND VISORS. BACKPLATES AND VISORS SHALL BE INCLUDED IN THE PRICE OF THE NEW HEADS.
 - ALL SIGNAL BACKPLATES SHALL HAVE A 3 INCH YELLOW RETROREFLECTIVE BORDER.
 - ALL SIGNAL LENSES/HEADS SHALL BE 12 INCH LIGHT EMITTING DIODE (LED) SIGNALS. SIGNALS SHALL BE FILLED-IN LED SYMBOLS.

SEQUENCE AND
TIMING CHART

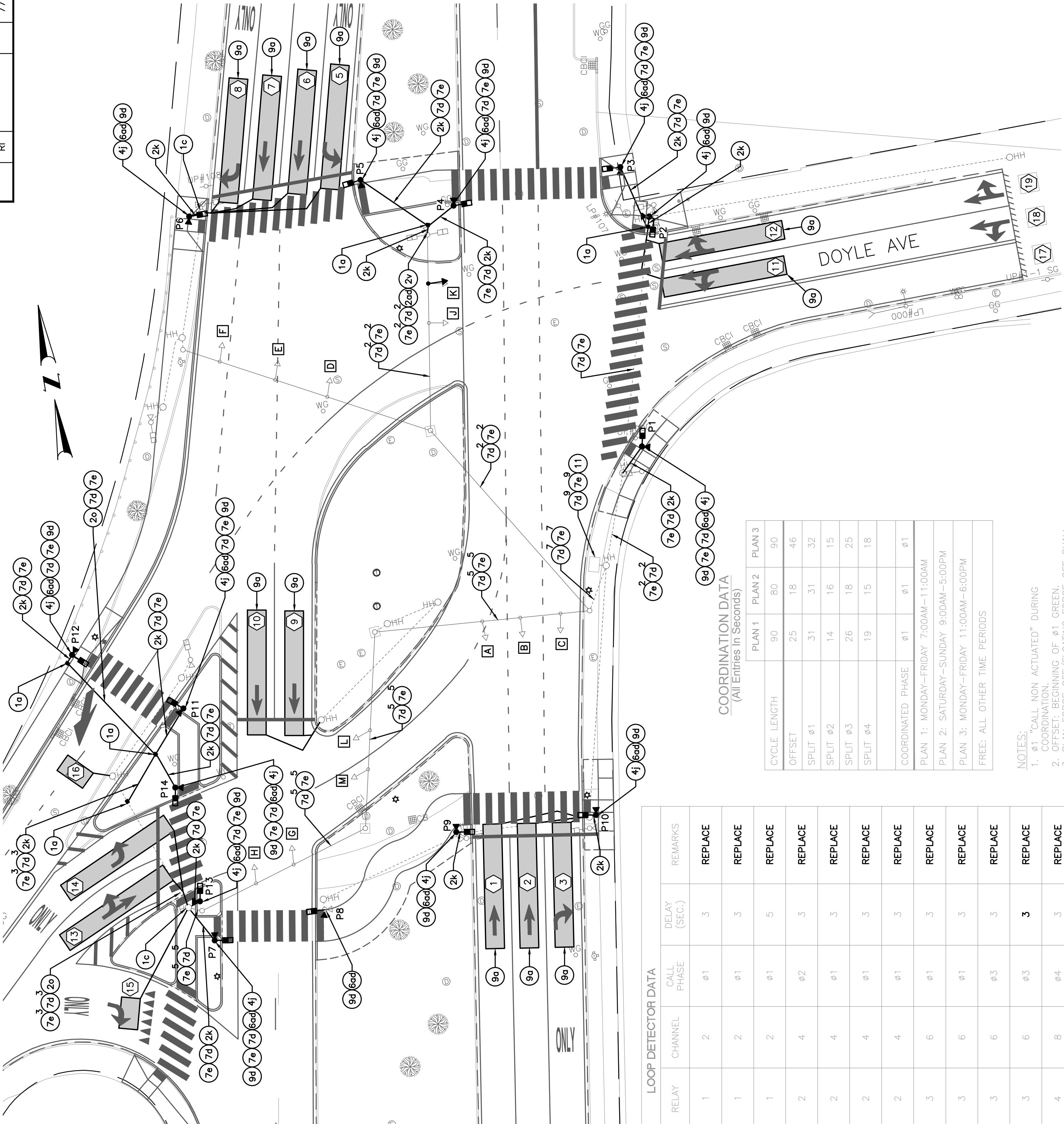


STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	FLASH CYCLE
NORTH MAIN STREET	NB	A,B,C	G	Y	R	R	R	R	R	R	R	R	R	R	FY
NORTH MAIN STREET	SB	D	<R-	<R-	<G-	<Y-	<R-	<R-	<R-	<R-	<R-	<R-	<R-	<R-	<FR
NORTH MAIN STREET	SB	E,F	G	Y	R	G	Y	R	R	R	R	R	R	R	FY
NORTH MAIN STREET	SB	G,H	G	Y	R	G	Y	R	G	Y	R	R	R	R	FY
DOYLE STREET	WB	J	R	R	R	R	R	G	Y	R	R	R	R	R	FY
DOYLE STREET	WB	K	R	R	R	R	R	G	Y	R	R	R	R	R	FR
RANDALL STREET	EB	L,M	R	R	R	R	R	R	R	R	R	G	Y	R	FR
PEDESTRIAN															
PEDESTRIAN		P1-P2	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PEDESTRIAN		P11-12	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PEDESTRIAN		P3-P6	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW
PEDESTRIAN		P7-P10	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW
PEDESTRIAN		P13-14	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW

TIMING IN SECONDS											
MINIMUM GREEN (INITIAL)	10	6	6	6	6	6	6	6	6	6	6
PASSAGE TIME (VEHICLE)	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
MAXIMUM 1	30	15	15	30	30	30	20	20	20	20	20
MAXIMUM 2	30	15	15	30	30	30	20	20	20	20	20
YELLOW CLEARANCE		3	3.5	3	3	3	3	3	3	3	3
RED CLEARANCE		7	7	7	7	7	7	7	7	7	7
WALK (W)		17	17	17	17	17	17	17	17	17	17
PEDESTRIAN CLEARANCE											
RECALL		MIN	NON-LOCK	OFF	NON-LOCK	OFF	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK	NON-LOCK
MEMORY											

TRAFFIC SIGNAL CONSTRUCTION NOTES

- THE ITEM "REMOVE AND SALVAGE TRAFFIC SIGNAL SYSTEM" SHALL INCLUDE THE FOLLOWING MAJOR ITEMS AND SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SPECIAL PROVISION FOR ITEM 945.9901:
 - 1 SIGNAL HEAD
 - 12 PEDESTRIAN SIGNAL HEADS
 - 12 PEDESTRIAN PUSHBUTTONS
 - 12 PEDESTRIAN SIGNAL HEADS
 - MISCELLANEOUS CABLE, WIRING, ETC.
- THE CONTRACTOR, PRIOR TO ORDERING ANY EQUIPMENT SHALL COMPLETE A SUBSURFACE INVESTIGATION AT ALL FOUNDATION LOCATIONS TO DETERMINE IF THERE ARE ANY CONFLICTS WITH UTILITIES OR OTHER SUBSURFACE FEATURES (BOULDERS/LEDGE) THAT WOULD REQUIRE RELOCATION/REDESIGN OF THE EQUIPMENT LAYOUT. IF SUBSURFACE CONDITIONS REQUIRE THE CONTRACTOR TO DEViate FROM THE PEDESTAL POLE LOCATION OR FOUNDATION CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR POSSIBLE RELOCATION ALTERNATIVES. THE CONTRACTOR SHALL SUBMIT APPROPRIATE FOUNDATION DESIGN SHOP DRAWINGS IN ACCORDANCE WITH AASHTO 2015 LRFD CODE FOR REVIEW AND APPROVAL OF THE ENGINEER.
- INDUCTANCE LOOP VEHICLE DETECTORS SHALL BE CENTERED IN THEIR RESPECTIVE TRAVEL LANES AND WIRES/SPLICED IN EXISTING HANDHOLES.
- THE EXISTING CONDUIT NETWORK SHOWN ON THIS PLAN IS BASED ON RECORD PLANS. THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDUIT LOCATIONS AND SIZES FOR ACCURACY AND ADEQUACY PRIOR TO PERFORMING THE WORK.
- EXISTING TIMING/PHASING AND COORDINATION DATA ARE BASED ON THE LATEST FINE-TUNING DATED DECEMBER 20, 2016.
- WORK PROPOSED AS PART OF THIS CONTRACT IS LIMITED TO HIGHLIGHTED ITEMS INCLUDING THOSE ITEMS LISTED IN THE MATERIALS LIST. SHADED ITEMS REFLECT EXISTING CONDITIONS, EQUIPMENT, AND SETTINGS.
- THE CONTRACTOR SHALL UTILIZE EXISTING CABLEING TO THE SIGNAL CONTROLLER FOR PEDESTRIAN SIGNAL HEADS AND PUSHBUTTONS P2, P6, P8-P10 .
- THE CONTRACTOR SHALL UTILIZE EXISTING CABLEING TO THE SIGNAL CONTROLLER FOR VEHICLE SIGNAL HEAD K.



COORDINATION DATA
(All Entries in Seconds)

	PLAN 1	PLAN 2	PLAN 3
CYCLE LENGTH	90	80	90
OFFSET	25	18	46
SPLIT #1	31	31	32
SPLIT #2	14	16	15
SPLIT #3	26	18	25
SPLIT #4	19	15	18
COORDINATED PHASE	#1	#1	#1
PLAN 1: MONDAY-FRIDAY 7:00AM-11:00AM			
PLAN 2: SATURDAY-SUNDAY 9:00AM-5:00PM			
PLAN 3: MONDAY-FRIDAY 11:00AM-5:00PM			
FREE: ALL OTHER TIME PERIODS			

- NOTES:
- CALL NON ACTUATED* DURING COORDINATION.
 - OFFSET: BEGINNING OF #1 GREEN.
 - PLAN FORCE OFF/FLOATING FORCE OFF SHALL BE IN EFFECT.
 - SPLIT TIMES EQUAL GREEN PLUS CLEARANCES.
 - INHIBIT MAX. TERMINATION SHALL BE IN EFFECT DURING COORDINATION.

LOOP DETECTOR DATA					REMARKS	
DETECTOR NO.	RELAY	CHANNEL	CALL PHASE	DELAY (SEC.)		
1	1	2	#1	3	REPLACE	
2	1	2	#1	3	REPLACE	
3	1	2	#1	5	REPLACE	
5	2	4	#2	3	REPLACE	
6	2	4	#1	3	REPLACE	
7	2	4	#1	3	REPLACE	
8	2	4	#1	3	REPLACE	
9	3	6	#1	3	REPLACE	
10	3	6	#1	3	REPLACE	
11	3	6	#3	3	REPLACE	
12	3	6	#3	3	REPLACE	
13	4	8	#4	3	REPLACE	
14	4	8	#4	3	REPLACE	
15	4	8	SYSTEM DETECTOR	1	REPLACE	
16	4	8	SYSTEM DETECTOR	1	REPLACE	
17	5	10	SYSTEM DETECTOR	1	EXISTING	
18	5	10	SYSTEM DETECTOR	1	EXISTING	
19	5	10	SYSTEM DETECTOR	1	EXISTING	