

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



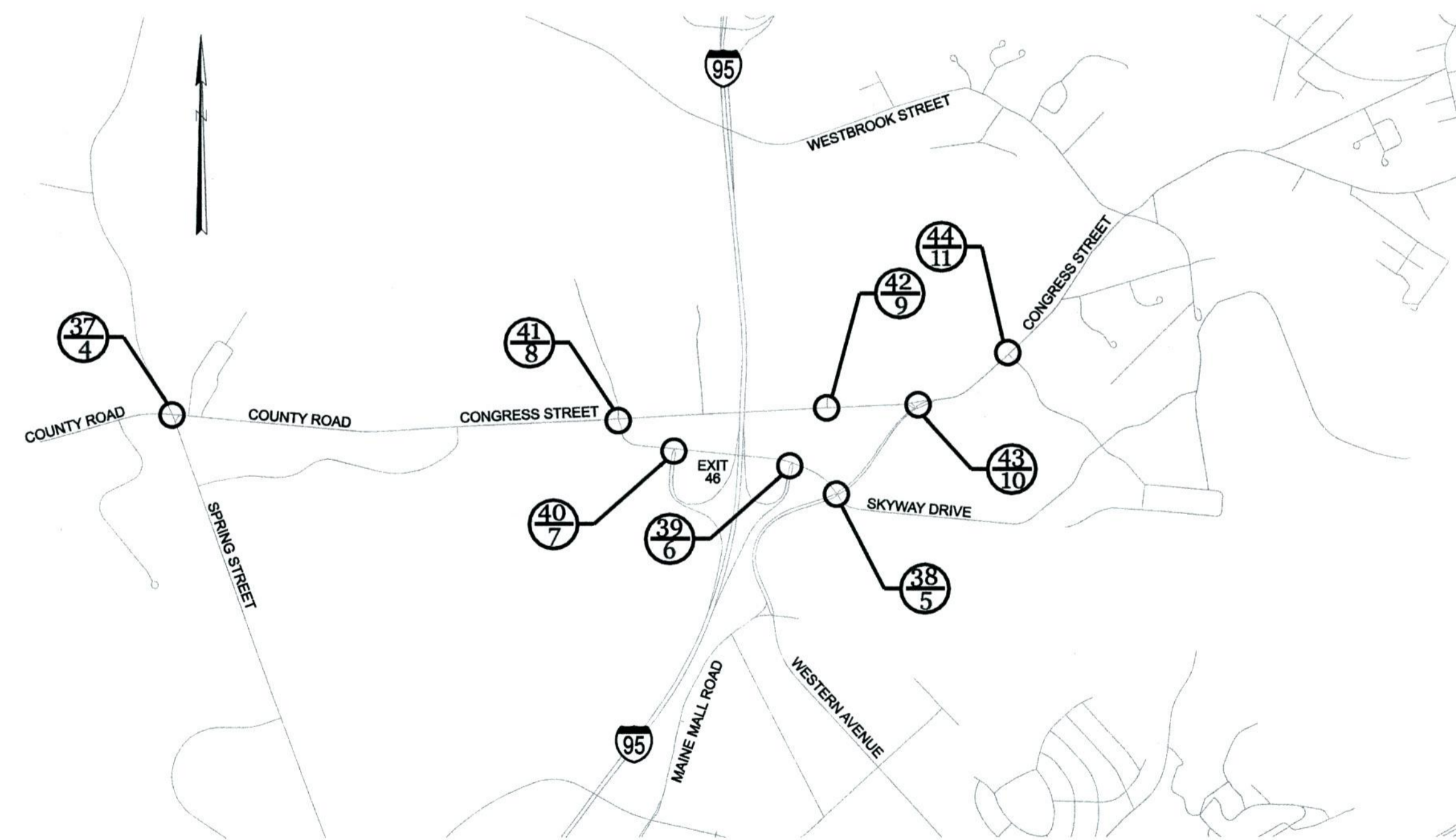
## PORTLAND-WESTBROOK

### CUMBERLAND COUNTY CONGRESS STREET & SKYWAY DRIVE STP-1785(800)X

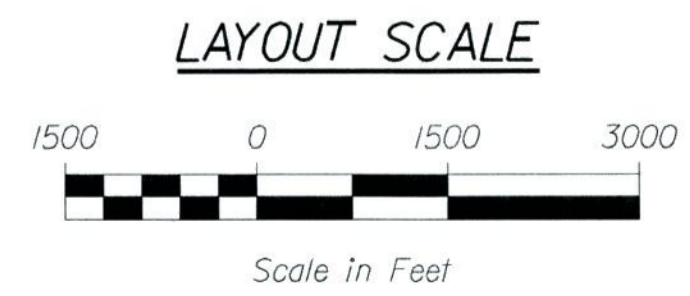
PROJECT LENGTH : 8 SIGNALS  
PACTS RTMS TIER I IMPROVEMENTS

INDEX OF SHEETS	
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PLAN LEGEND		
	Existing	Proposed
Controller with Cabinet		
Vehicular Head		
Video Detection Camera		
Junction Box		
Mast Arm with Steel Pole		
Pedestal Post and Foundation		
Span Wire or Mast Arm Mounted Sign		
Pedestrian Signal Head with Push Button and Informational Sign		
Existing Aerial Copper Interconnect Cable		
Existing Underground Copper Interconnect Cable		
Proposed Underground Conduit		



**KEY:**  
 Project Intersection Number  
 Sheet Number



**Vanasse Hangen Brustlin, Inc.**

TRAFFIC DATA	CONGRESS ST. W/O JOHNSON
Current (2008) AADT .....	10100
Future (2018) AADT .....	11150
DHV - % of AADT .....	11%
Design Hour Volume .....	1140
% Heavy Trucks (AADT) .....	-
% Heavy Trucks (DHV) .....	1%
Directional Distribution (DHV) .....	55%
18 kip Equivalent P 2.0 (2006) .....	-
18 kip Equivalent P 2.5 (2006) .....	-
Design Speed (mph) .....	40
Functional Class: .....	COLLECTOR

<b>PROJECT LOCATION:</b>	In the City of Portland along Congress Street from International Drive to Hutchins Drive and along Skyway Drive from Hutchins Drive to Johnson Road at 7 existing traffic signals. In the Town of Westbrook at the signalized intersection of County Road and Spring St.
<b>PROGRAM AREA:</b>	Traffic Program
<b>OUTLINE OF WORK:</b>	Traffic Signal Interconnection, Modernization, and other incidental work

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER: <i>[Signature]</i>	<i>[Signature]</i>	9-1-11
CHIEF ENGINEER: <i>[Signature]</i>	<i>[Signature]</i>	9-1-11

STATE OF MAINE Professional Engineer Christopher Bobay 8074 LICENSE NUMBER	DATE
<i>[Signature]</i>	8-26-11
SIGNATURE	DATE
9374	8-26-11
P.E. NUMBER	DATE

PROJECT INFORMATION	
PROGRAM	TRAFFIC
PROJECT MANAGER	J. MANSUR
DESIGNER	C. BOBAY
CONSULTANT	VHB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

PORTLAND CONGRESS STREET & SKYWAY DRIVE  <b>TITLE SHEET</b>
----------------------------------------------------------------------

SHEET NUMBER
1
OF 18

Filename: ... \s\planset\001\_5213300COV.dgn  
 Division:  
 Username: J ROBERT  
 Date: 8/18/2011

WIN 17858.00 STP-1785(800)X

GENERAL NOTES:

- The Contractor shall meet all utility requirements for new service connections.
- All splices will be made in the cabinets meeting MaineDOT specifications.
- For pole mounted signal heads, the bottom of the housing shall be mounted at least 8 feet but not more than 19 feet above the sidewalk, or if there is no sidewalk, above the pavement grade at the high point of the road.
- Two copies of as-built plans, shall be left in each of the controller cabinets.
- The Contractor is responsible for finding exact locations of existing utilities prior to construction. The Contractor shall contact Dig-Safe and appropriate authorities prior to any subsurface activities.
- Traffic signal work shall be completed in a manner and order that will cause the minimum disruption to traffic.
- The Engineer and MaineDOT shall have the right and authority to determine the acceptability of work and materials in progress or completed and shall have the right to reject any work or materials which do not conform, in its sole opinion, to the plans or specifications.
- All signing, signal and striping materials and placement shall conform to the MaineDOT standard specifications, supplemental specifications and standard details and with the Federal Highway Administration "Manual on Uniform Traffic Control Devices" (MUTCD) dated 2003, as amended.
- Any relocations or adjustments of existing utility facilities will be made by the respective utilities in coordination with the work of the Contractor.
- Contractor shall be responsible for obtaining any necessary street/sidewalk occupancy or opening permits.
- All existing driveway accesses shall be maintained at all times.
- The Contractor shall provide the Engineer, MaineDOT, and the City of Portland with a schedule of work and work zone control plans in accordance with the City Code of Ordinance Chapter 25 Article VII for constructing the traffic improvements at least two weeks prior to the commencement of work.
- All materials schedules shown on the plans are for general information only. The Contractor shall prepare his own material schedules based upon his plan review. All schedules shall be verified in the field by the Contractor prior to ordering materials or performing work.
- All non-paved areas disturbed during construction shall be loamed and seeded, unless otherwise directed by the owner. All paved areas disturbed during construction shall be repaired by the Contractor in accordance with the City Technical Manual. Costs for repair of disturbed areas shall be incidental to other contract items.
- Equipment

Contractor Furnished Equipment - The traffic signal controllers and various other equipment items shown on the plans shall be furnished and installed by the Contractor. Per the specifications listed in the City of Portland Technical Manual dated 4/21/10, the traffic signal controllers supplied under this contract shall be Naztec NEMA TS-2, Type 1 or 2 and shall have the capability of supporting NTCIP protocols. Traffic signal controllers shall support direct Ethernet communications from the proposed in-cabinet DSL modem to the controller's Ethernet port. Traffic signal controllers for Locations 12, 37, 38, and 41 shall support a wireless (radio) communication system. The wireless communication system shall be capable of integration with the Ethernet over copper communications system at Locations 38 and 41 and back to the Greater Portland (Maine Mall) Traffic Signal System Control Computer. The equipment supplied and installed shall be capable of supporting all of the system functionality currently in place between recently supplied and installed Naztec traffic signal controllers operating as on-street closed loop systems and shown as being retained for reprogramming and reuse in this project.

The system shall employ an IP-based communications network to and from the central system control computer. The equipment supplied and installed shall be capable of upload to and download from each of the system's traffic signal controller databases, remotely access local intersection reports, remotely access processed vehicle detector data, and provide real-time intersection status to support graphical local and system maps.

The Contractor shall be solely responsible for providing the project with working and fully configured controllers for each intersection, delivery and complete set-up of the central system, installation of the central and local intersection communications interface, and coordination with the information technology (IT) personnel at the City of Portland or other location as directed by the City. The Contractor is further responsible for any local wiring at the City of Portland's system computer location, system Start-up and System Loading, Acceptance Testing, Training and System Maintenance.

The Contractor shall be solely responsible for furnishing and installing all other equipment to include pedestrian signals, pedestrian push buttons and signs, wireless communications systems, copper interconnect and connections, field wiring, and all other equipment necessary to provide complete and operational traffic signal systems. The Contractor shall be aware of and conform to all details for the material specifications in Special Provision 718.

16. Start-Up and System Loading

The system supplier shall initiate complete system operation from the controller and system timing schedules shown on the plans or data supplied by the Engineer and shall initiate stopline detectors logging operation at the direction of the Engineer. After the supplier has initiated system operation and detector logging, the system shall be run for a continuous 7-day initial operational testing period. If any major functions of the system fail to operate during this testing period, as determined by the Engineer, the supplier shall correct or repair the system and the continuous 7-day testing period shall be restarted. At the completion of a successful 7-day testing period, the supplier shall advise the Engineer that the system is ready for the Start-up Phase. Within 7 days of completion of the initial testing period, and notification to the Engineer with on-site assistance from the supplier's engineer, will begin loading the system for full coordinated operations. After coordination has been initiated and run for approximately two weeks, the Engineer shall evaluate system operation and make adjustments as necessary. The Supplier's engineer does not need to be on-site during this period, but must be available by telephone or by demand on-site as needed. Any major system malfunctions encountered during this testing period shall be corrected by the supplier, and the test restarted. During this period the Engineer may make modifications to the system timing parameters, but this will not cause restarting of the testing period. At the completion of the coordination testing period the system will be deemed ready for final Acceptance Testing as described below. Testing of controllers per section 718.07 is not required.

17. Acceptance Testing

Upon completion of the 14-day coordination testing period, the Engineer shall evaluate system operation. It is expected that the complete system shall operate fully functional at the City of Portland and the remote locations for a period of 30 consecutive days without malfunction. Minor malfunctions of inoperability not the fault of the Contractor, as judged by the Engineer, are not included in the 30-day period. If the system fails to operate as intended or the supplier's claims, the malfunction shall be corrected by the Contractor at its cost and a new 30-day testing period shall begin. This process shall continue until a completely operable system is demonstrated for a consecutive 30-day period.

Acceptance testing must demonstrate to the Engineer's reasonable satisfaction that the hardware and licensed software function in accordance with the specifications, requirements, through-puts, functionalities, performance criteria or other benefits stated in documentation, promotional materials, proposals, and/or demonstrations given to MaineDOT and the City of Portland.

18. Training

The Contractor shall provide a 1 day (6 hour minimum) hands-on system training class, which shall cover the general operations and maintenance of the Maine Mall traffic signal system as it relates to the integration of the Portland and Westbrook signals. The training shall be designed for the primary local jurisdiction personnel (City of Portland and Westbrook) and supplemental personnel who will use and monitor the system. The Contractor should budget for up to 8 attendees.

Documentation shall be provided explaining the operation of all system features. Hard copies of all handouts used during training shall be distributed. The Contractor is expected to present clear and organized instruction. The initial training shall consist minimally of the following:

- System operation, system performance analysis, and revision of system operating parameters based on the analysis.
- Familiarity with construction details of central office equipment (disconnect locations, cable routing etc.).
- How to enter system related commands.
- Operation of all devices.
- Generation and editing of intersection controllers.
- Uploading/downloading of intersection controller databases.
- Procedure for enabling dynamic displays.
- Explanation of the communication system.
- Basic troubleshooting procedures to isolate malfunctions.
- The Contractor shall supply a course syllabus for each proposed training day for approval by the Engineer at least 7 business days prior to the scheduled course. The syllabus shall include a description of the topics covered, the level of detail to be covered in the class, and the number of teaching hours included in the class. The Contractor shall also supply a list of equipment, software, and manuals to be provided for the training at least 5 business days prior to the scheduled course. All training classes shall make use of the system data collected during the Start-up Phase of the project.

19. System Maintenance

The system must come with a minimum five (5) year software maintenance agreement to become effective when the proposed system has been accepted, in writing, by MaineDOT and the City of Portland and Westbrook.

Software updates shall be provided free of charge for five (5) years from date of system acceptance. Software corrections or required modifications for proper system operation per these specifications shall be furnished to MaineDOT, the City of Portland, and Westbrook at no additional cost during the warranty period.

Hardware equipment shall be warranted for three (3) years, effective when the installed and functional system has been accepted, in writing, by MaineDOT, the City of Portland and Westbrook.

Third party hardware and software licenses and warranties shall be passed to MaineDOT and the City of Portland and Westbrook.

20. The Contractor shall replace any existing local intersection wire loop detectors that are not functioning at any signalized intersection in the project prior to System Start-up and Loading. The Contractor shall also re-inspect each signalized intersection during the Acceptance Testing period and replace each non-functioning loop detector and certify that all loop detectors are functioning properly before final acceptance is granted. The Contractor shall notify and receive authorization from the Engineer before replacing any malfunctioning loop detector.

21. As payment for work on this project, the Contractor shall submit a lump sum bid per intersection and in addition a lump sum bid for wireless interconnection. Any modifications to existing copper interconnect cable (e.g. T-Taps) shall be subsidiary to ITEM 643.81. See Special Provision 643 for additional information.

22. Salvage Rights: The City of Portland shall have first rights to all equipment removed or replaced by the project (contact Kevin Thomas 207:756:8291). The Contractor shall carefully remove and store all equipment claimed by the City of Portland at a central location on site for retrieval by the City. The storage area shall be secure and all control equipment removed that has computer chip technology shall be stored in an interior heated environment.

Any equipment not claimed by the City of Portland for salvage shall be removed from the site by the Contractor and disposed of in a manner acceptable to the Engineer.

23. The Contractor shall be responsible for submitting RED-LINE AS-BUILT drawings of the final work to the Engineer. Those drawings shall be on a clean set of plans showing all changes or modifications to the Bid Plans.

24. The Contractor will be responsible for the relocation of power meters if required. This work will be incidental to item 643.71 as applicable to the location of the work.

25. The Contractor shall perform the work in a manner that will require the least amount of downtime to the traffic signal operations. Any police detail required (as deemed necessary by the Resident Engineer) will be paid for by the Contractor.

26. The Maine Department of Environmental Protection (MDEP) has reported spills and releases involving petroleum products adjacent to the project. Based on the scope of work presented, available data suggests that this contamination may only be adjacent to the immediate areas of any excavation proposed by the Maine Department of Transportation (MDOT). However, in light of MDEP's findings, the contractor shall employ appropriate health and safety measures to protect its workers against hazards associated with working near petroleum-impacted soils. Furthermore, the Contractor shall remain alert for any additional evidence of contamination. If the Contractor encounters evidence of soil or groundwater contamination, the Contractor shall secure the excavation, stop work in the contaminated area, and immediately notify the Resident. The Resident shall contact the Hydrogeologist in MDOT's Environmental Office at (207) 624-3100 and the Maine Department of Environmental Protection at (800) 482-0777. Work may only continue with authorization from the Resident.

27. The Contractor is directed to project Special Provision 718 for additional information related to the following:

- 718.12 Traffic signal control system
- 718.13 Wireless interconnect system
- 718.14 Pedestrian crossing system

Special provision 718 expands upon the information found in these general notes. As such, the more restrictive language between these general notes and special provision 718 shall govern the work to be performed under this project.

28. The intersection base plans shown on Sheets 4-11 were digitized by VHB based on aerial photography provided by the City of Portland. Supplemental information was obtained by VHB from field reviews and inventory conducted April 6-9, 2009 and March 15, 2011.

LOCATION 37  
DAILY AND WEEKLY COORDINATION SCHEDULE

WEEK PROG	DAY OF WEEK						
	SUN	MON	TUE	WED	THU	FRI	SAT
JAN-DEC	3	1	1	1	1	1	2

EVENT	TIME			ACTION
	HR	MIN	SEC	
DAY PLAN 1				
1	00	00	00	54
2	06	00	00	54
3	07	15	00	4
4	08	30	00	54
5	11	45	00	54
6	16	15	00	5
7	17	45	00	54
8	19	00	00	54
DAY PLAN 2				
1	00	00	00	54
2	10	45	00	54
3	15	30	00	54
4	17	00	00	54
DAY PLAN 3				
1	00	00	00	54
2	11	15	00	54
3	15	30	00	54

LOCATIONS 38-44  
DAILY AND WEEKLY COORDINATION SCHEDULE

WEEK PROG	DAY OF WEEK						
	SUN	MON	TUE	WED	THU	FRI	SAT
JAN-DEC	3	1	1	1	1	1	2

EVENT	TIME			ACTION
	HR	MIN	SEC	
DAY PLAN 1				
1	00	00	00	54
2	06	00	00	1
3	07	15	00	4
4	08	30	00	2
5	11	45	00	3
6	16	15	00	5
7	17	45	00	2
8	19	00	00	54
DAY PLAN 2				
1	00	00	00	54
2	10	45	00	3
3	15	30	00	2
4	17	00	00	54
DAY PLAN 3				
1	00	00	00	54
2	11	15	00	2
3	15	30	00	54

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

PORTLAND-WESTBROOK

WIN  
17856.00

SIGNATURE

DATE

BY

J. MANRIS

DESIGN-DETAILED

CHECKED-REVIEWED

DESIGNS DET AILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

P.E. NUMBER

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

DATE

CONGRESS STREET / SKYWAY DRIVE

SHEET NUMBER

2

OF 18

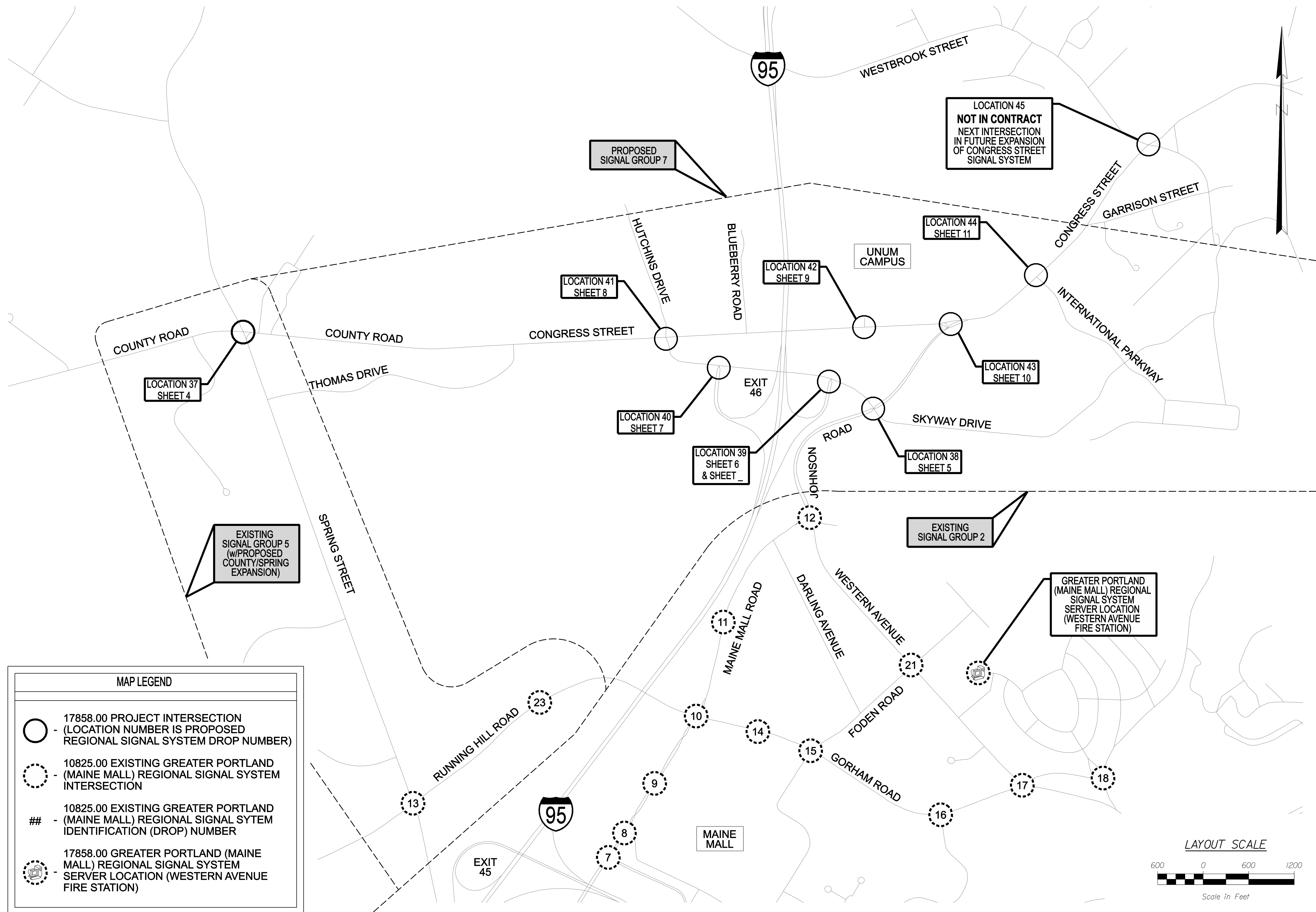
GENERAL NOTES

Date: 8/18/2011

Username: J ROBERT

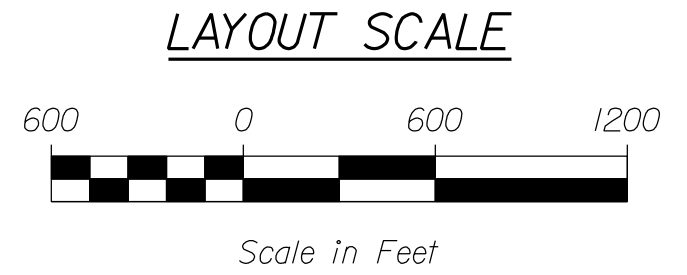
Division:

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**MAP LEGEND**

- 17858.00 PROJECT INTERSECTION (LOCATION NUMBER IS PROPOSED REGIONAL SIGNAL SYSTEM DROP NUMBER)
- 10825.00 EXISTING GREATER PORTLAND (MAINE MALL) REGIONAL SIGNAL SYSTEM INTERSECTION
- 10825.00 EXISTING GREATER PORTLAND (MAINE MALL) REGIONAL SIGNAL SYSTEM IDENTIFICATION (DROP) NUMBER
- 17858.00 GREATER PORTLAND (MAINE MALL) REGIONAL SIGNAL SYSTEM SERVER LOCATION (WESTERN AVENUE FIRE STATION)



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
PORTLAND-WESTBROOK		WIN 17858.00	
PROJ. MANAGER	J. MANHIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGNS DET AILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
CONGRESS STREET / SKYWAY DRIVE		SIGNATURE	
OVERALL MAP		P.E. NUMBER	
SHEET NUMBER		DATE	
3		DATE	
OF 18			

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
IMPLEMENT LOCAL AND SYSTEM TIMING	-
ENCOM COMPAK BROADBAND 5.8 GHz WIRELESS ETHERNET SYSTEM INCLUDING REPEATER ASSEMBLY OR APPROVED EQUAL (ITEM 643.90)	1

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10	5	5	5	10	5	5	
PASSAGE TIME	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
MAXIMUM 1	25	45	20	30	20	45	20	30	
MAXIMUM 2	30	65	30	45	25	70	25	45	
YELLOW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
ALL RED	2.0	2.0	3.0	3.0	2.0	2.0	3.0	3.0	
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE									
RECALL	O	S	O	O	O	S	O	O	
DETECTOR OPERATION	PR	PR	PR	PR	PR	PR	PR	PR	
PREEMPTION PRIORITY									
FLASH	R	R	R	R	R	R	R	R	
DUAL ENTRY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

NOTES: S = SOFT RECALL      Y = YELLOW  
 O = RECALL OFF          R = RED  
 MAX2 = UNDER COORDINATION      PR = PRESENCE

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**

ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	80	90	106	120	120
OFFSET (END Ø6 GRN)	62	80	64	83	62
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	20	16	21	27	27
SPLIT TIME Ø2	20	28	33	31	41
SPLIT TIME Ø3	20	21	26	24	25
SPLIT TIME Ø4	20	25	26	38	27
SPLIT TIME Ø5	20	19	21	19	25
SPLIT TIME Ø6	20	25	33	39	43
SPLIT TIME Ø7	20	16	21	16	15
SPLIT TIME Ø8	20	30	31	46	37

**COORDINATION NOTES:**

- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCIP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- INITIAL SETTING SHALL BE FOR PLAN 4 (AM) AND PLAN 5 (PM) WEEKDAY COORDINATION WITH IMPLEMENTATION OF ADDITIONAL PLANS TO BE DETERMINED DURING FIELD IMPLEMENTATION.

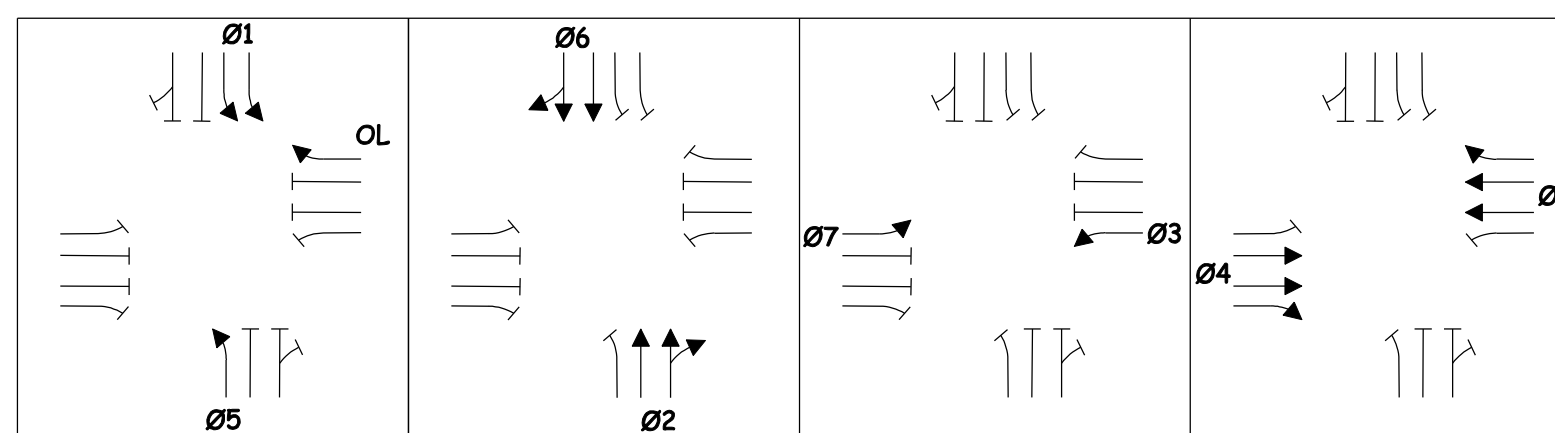
**DETECTOR SCHEDULE**

	DETECTOR				DETECTOR CARD IN VEHICLE DETECTION RACK				INDUCTANCE		CONTINUITY		RESISTANCE LOOP TO GROUND		
	PLAN ID	STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO	DETECTOR NO	CHANNEL	PRIOR	PRESENT	PRIOR	PRESENT	PRIOR	PRESENT
CAMERA V1															
CAMERA V2															
CAMERA V3															
CAMERA V4															
EXISTING WIRE LOOPS															

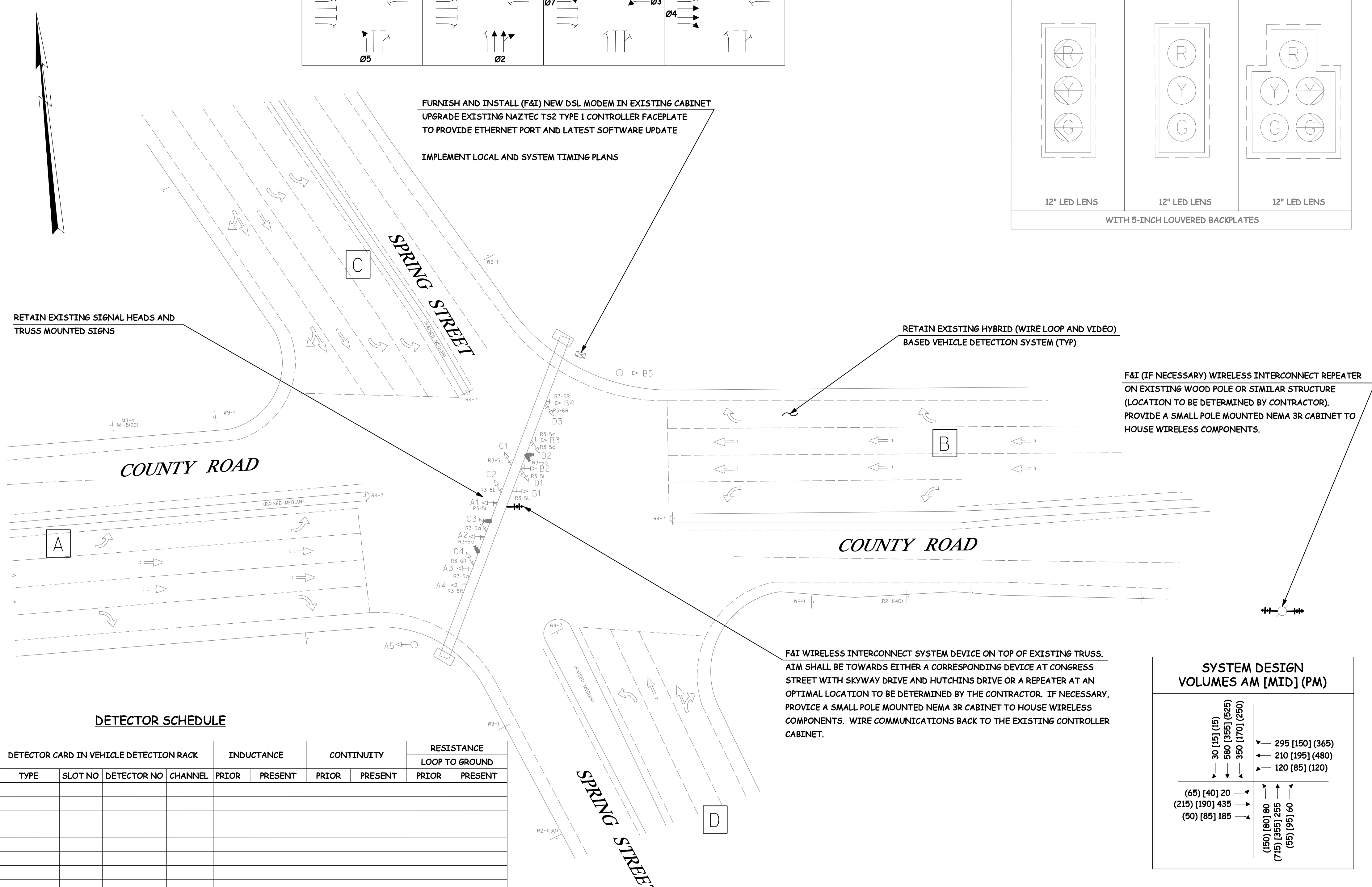
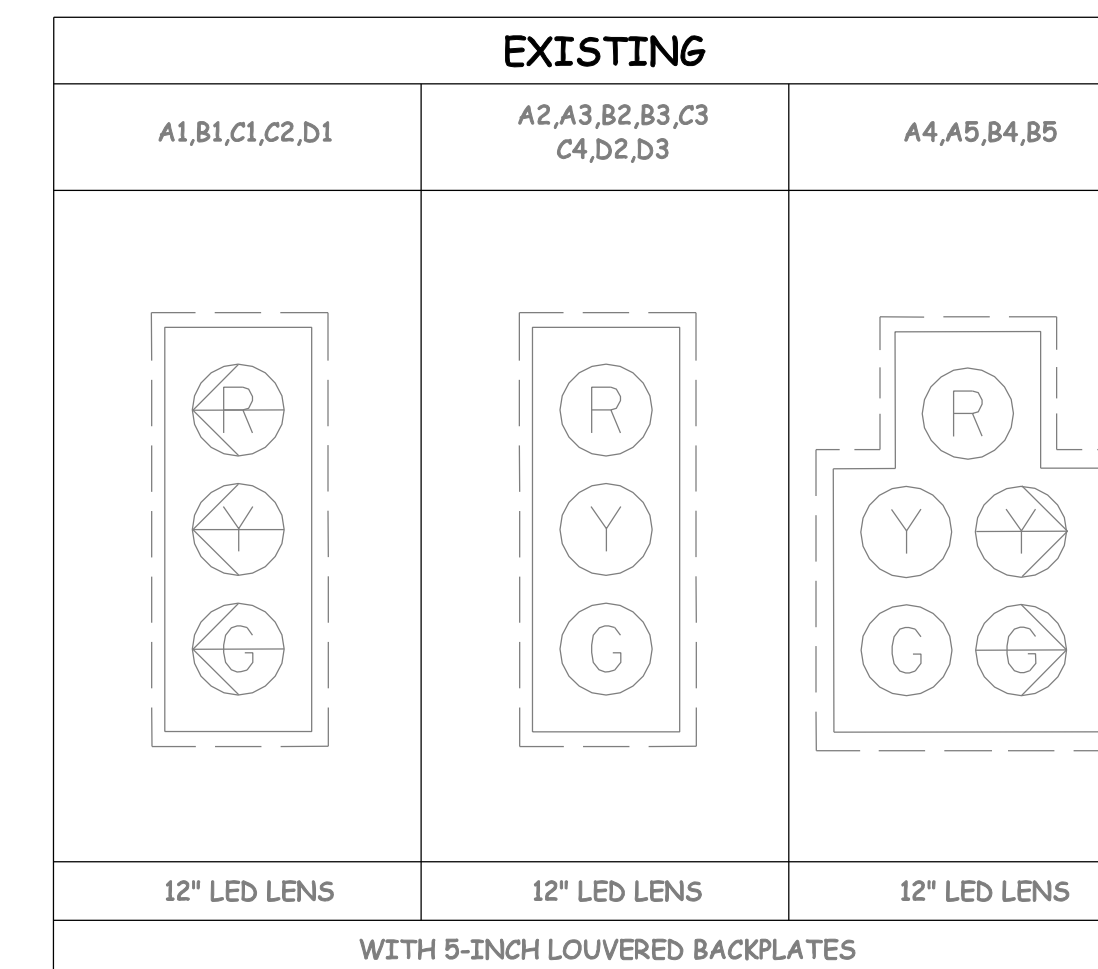
**DETECTOR NOTES:**

- ALL DETECTION SHOULD BE SET TO NONLOCKING OPERATIONS.  
 ^ = ALL EFFORTS SHALL BE MADE TO RETAIN THE EXISTING BACK WIRE LOOP (DILEMMA ZONE) DETECTION. PULL BACK EXISTING LEAD-INS AND REROUTE TO PROPOSED CONTROLLER CABINET.

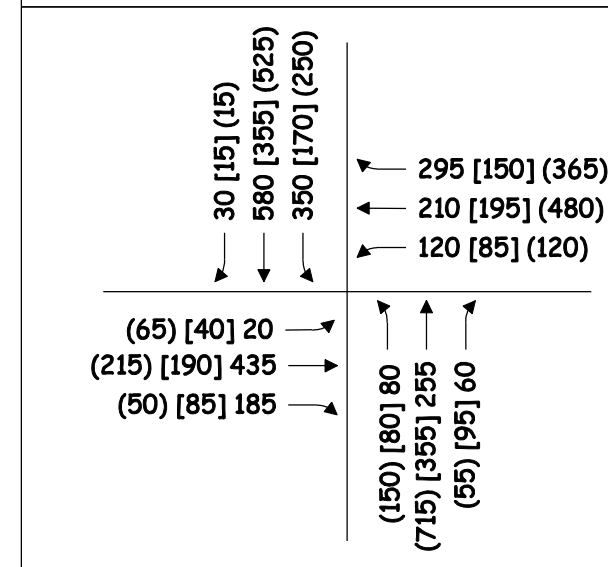
**EXISTING PHASING SEQUENCE (RETAINED)**



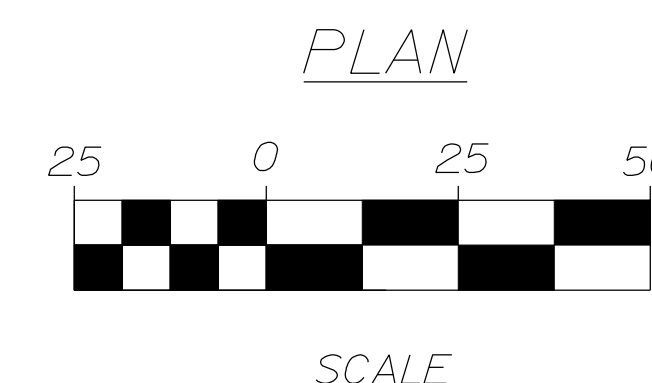
**SIGNAL HEAD DATA**



**SYSTEM DESIGN VOLUMES AM [MID] (PM)**



INTERSECTION:  
 COUNTY RD / SPRING ST  
 SIGNAL GROUP:  
 5  
 LOCATION / PROPOSED DROP:  
 37



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN 17856.00

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
J. MANHIR	J. ROBERT	8/17/11			
DESIGN-DETAILED	M. GRAHAM	8/17/11			
CHECKED-REVIEWED	C. BOBBAY	8/16/11			
DESIGN DET AILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

CONGRESS STREET / SKYWAY DRIVE  
 SPRING STREET  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 4  
 OF 18

Date: 8/18/2011

Username: J ROBERT

Division:

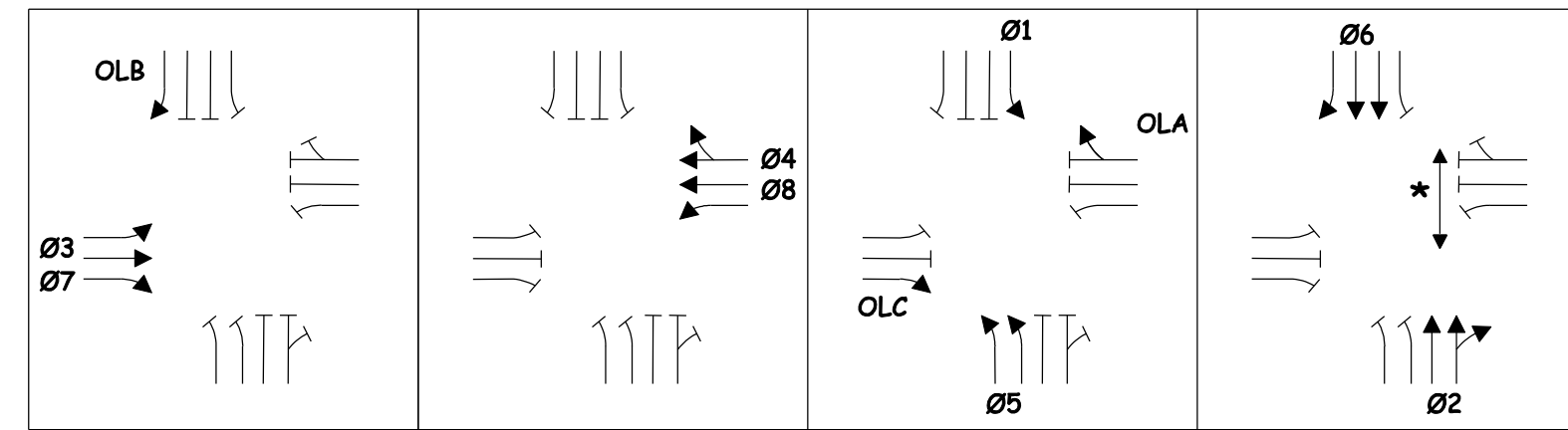
Filename: ... \ts\planset\004\_5213300SG01.dgn

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
BRACKET MOUNTED 16 x 18 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD PAINTED BLACK. INDICATION SHALL BE ENERGY EFFICIENT, 6ELCORE 6T1 LED OR APPROVED EQUAL	2
ADA COMPLIANT PEDESTRIAN 2-INCH PELCO MUSHROOM TYPE PUSHBUTTON WITH R10-3e SIGNS	2
IMPLEMENT LOCAL AND SYSTEM TIMING	-
ENCOM COMPAK BROADBAND 5.8 GHz WIRELESS ETHERNET SYSTEM (ITEM 643.90)	1

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**EXISTING PHASING SEQUENCE (RETAINED)**



**SIGNAL HEAD DATA**

EXISTING				PROPOSED
A2	A1,B1,C1,C2,D1	B2,C3,C4,D2,D3	A3,B3,D4	P1 - P2
12" LED LENS	12" LED LENS	12" LED LENS	12" LED LENS	16" x 18" LED PEDESTRIAN SIGNAL
WITH 5-INCH LOUVERED BACKPLATES				

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**

ALL ENTRIES IN SECONDS

CYCLE LENGTH	COORDINATION MODE SET TO FIXED FORCE-OFF				
	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
OFFSET (END Ø6 GRN)	69	38	0	100	49
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	16	16	21	16	16
SPLIT TIME Ø2	29	37	38	62	62
SPLIT TIME Ø3	17	17	21	26	18
SPLIT TIME Ø4	18	20	26	16	24
SPLIT TIME Ø5	21	25	31	51	44
SPLIT TIME Ø6	24	28	28	27	34
SPLIT TIME Ø7	17	17	21	26	18
SPLIT TIME Ø8	18	20	26	16	24

**COORDINATION NOTES:**

- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCIP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- TRAFFIC SIGNAL CONTROLLER SHALL BE SET FOR STOP TIME IN WALK TO ON.

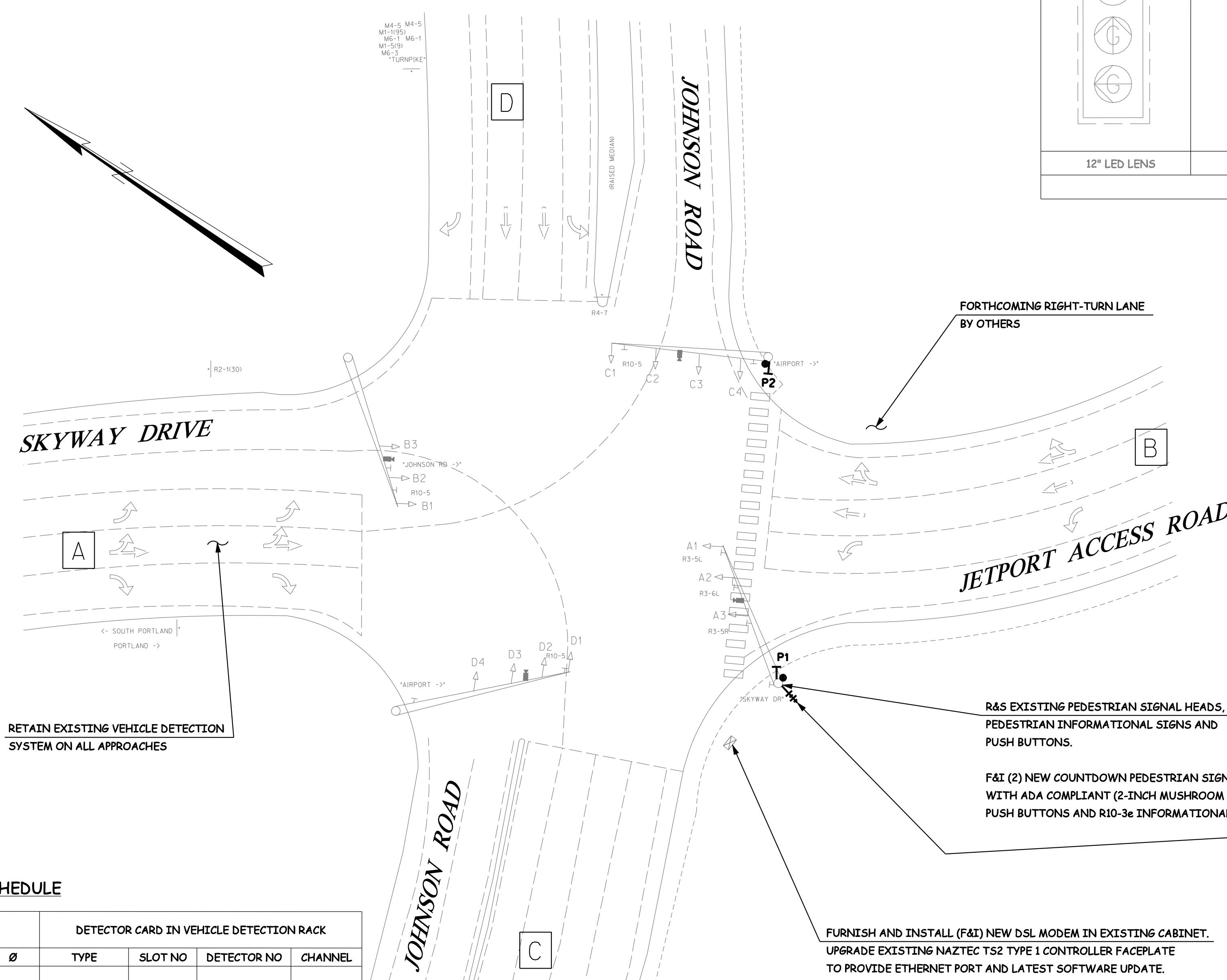
**DETECTOR SCHEDULE**

	DETECTOR					DETECTOR CARD IN VEHICLE DETECTION RACK			
	PLAN ID	STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO	DETECTOR NO	CHANNEL
CAMERA V1									
CAMERA V2									
CAMERA V3									
CAMERA V4									

**DETECTOR NOTES:**

CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

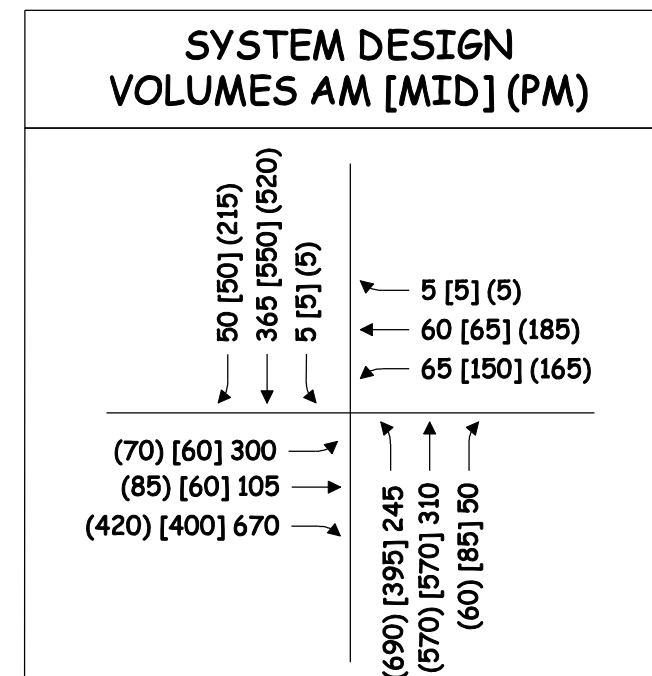
JOHNSON ROAD, SKYWAY DRIVE AND JETPORT ACCESS ROAD APPROACHES ARE ALL VIDEO-BASED DETECTION.



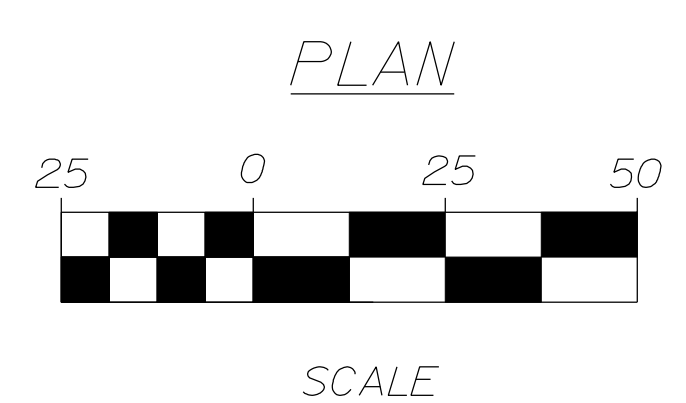
**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10	5	5	5	10	5	5	
PASSAGE TIME	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
MAXIMUM 1	15	35	30	15	20	35	30	15	
MAXIMUM 2	25	80	40	30	55	45	30	30	
YELLOW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
ALL RED	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
PEDESTRIAN WALK	4								
PEDESTRIAN CLEARANCE	19								
RECALL	O	S	O	O	O	S	O	O	
DETECTOR OPERATION	PR	PR	PR	PR	PR	PR	PR	PR	
PREEMPTION PRIORITY									
FLASH	R	R	R	R	R	R	R	R	
DUAL ENTRY	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	

NOTES: S = SOFT RECALL Y = YELLOW  
O = RECALL OFF R = RED  
PR = PRESENCE D = DARK  
MAX2 = UNDER COORDINATION



INTERSECTION:  
SKYWAY DR / JOHNSON RD  
SIGNAL GROUP:  
7  
LOCATION / PROPOSED DROP:  
38



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17855.00

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
J. MANSHIR	8/17/11	J. ROBERT	8/16/11			
DESIGN-DETAILED		M. GRAHAM				
CHECKED-REVIEWED		C. BOBBAY				
DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

CONGRESS STREET / SKYVIEW DRIVE  
JOHNSON ROAD  
TRAFFIC SIGNAL PLAN

SHEET NUMBER

5

OF 18

Date: 8/18/2011

Username: J ROBERT

Division:

Filename: ... \s\plan\set\005\_5213300SG02.dgn

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
IMPLEMENT LOCAL AND SYSTEM TIMING	-

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10		5	10				
PASSAGE TIME	3.0	3.0		3.0	3.0				
MAXIMUM 1	40	40		40	80				
MAXIMUM 2	55	55		35	90				
YELLOW	4.0	4.0		4.0	4.0				
ALL RED	2.0	2.0		2.5	2.0				
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE									
RECALL	O	S		O	S				
DETECTOR OPERATION	PR	PR		PR	PR				
PREEMPTION PRIORITY									
FLASH	R	R		R	R				
DUAL ENTRY	OFF	OFF		OFF	OFF				

NOTES: S = SOFT RECALL Y = YELLOW  
 O = RECALL OFF R = RED  
 MAX2 = UNDER COORDINATION PR = PRESENCE

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
 ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	40	90	53	60	120
OFFSET (END Ø6 GRN)	24	75	50	15	97
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	14	38	17	16	56
SPLIT TIME Ø2	13	32	16	21	38
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	13	20	20	23	26
SPLIT TIME Ø5	0	0	0	0	0
SPLIT TIME Ø6	27	70	33	37	94
SPLIT TIME Ø7	0	0	0	0	0
SPLIT TIME Ø8	13	20	20	23	26

**COORDINATION NOTES:**

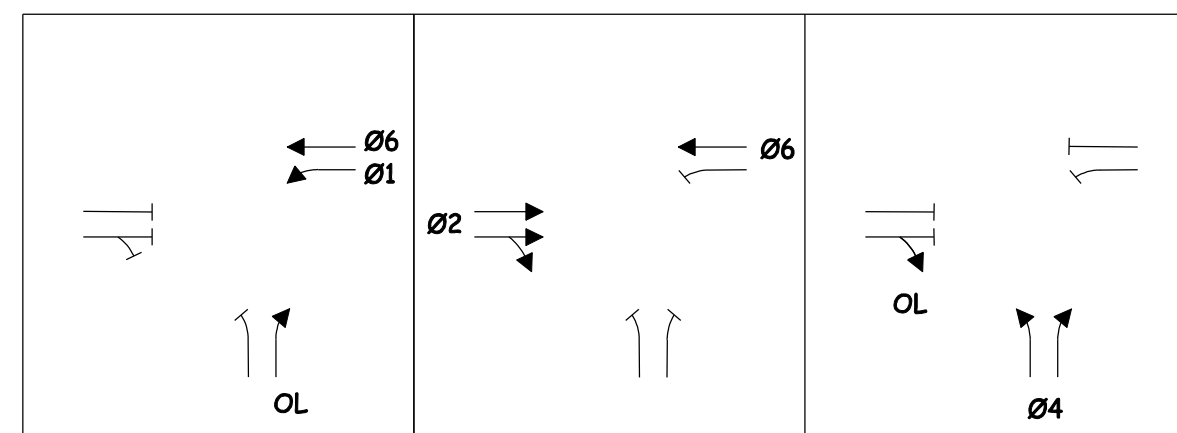
- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCTP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- PHASE 8 IS A DUMMY PHASE TO BE SET WITH SPLIT TIMES FOR NTCTP COMPLIANCE.

**DETECTOR SCHEDULE**

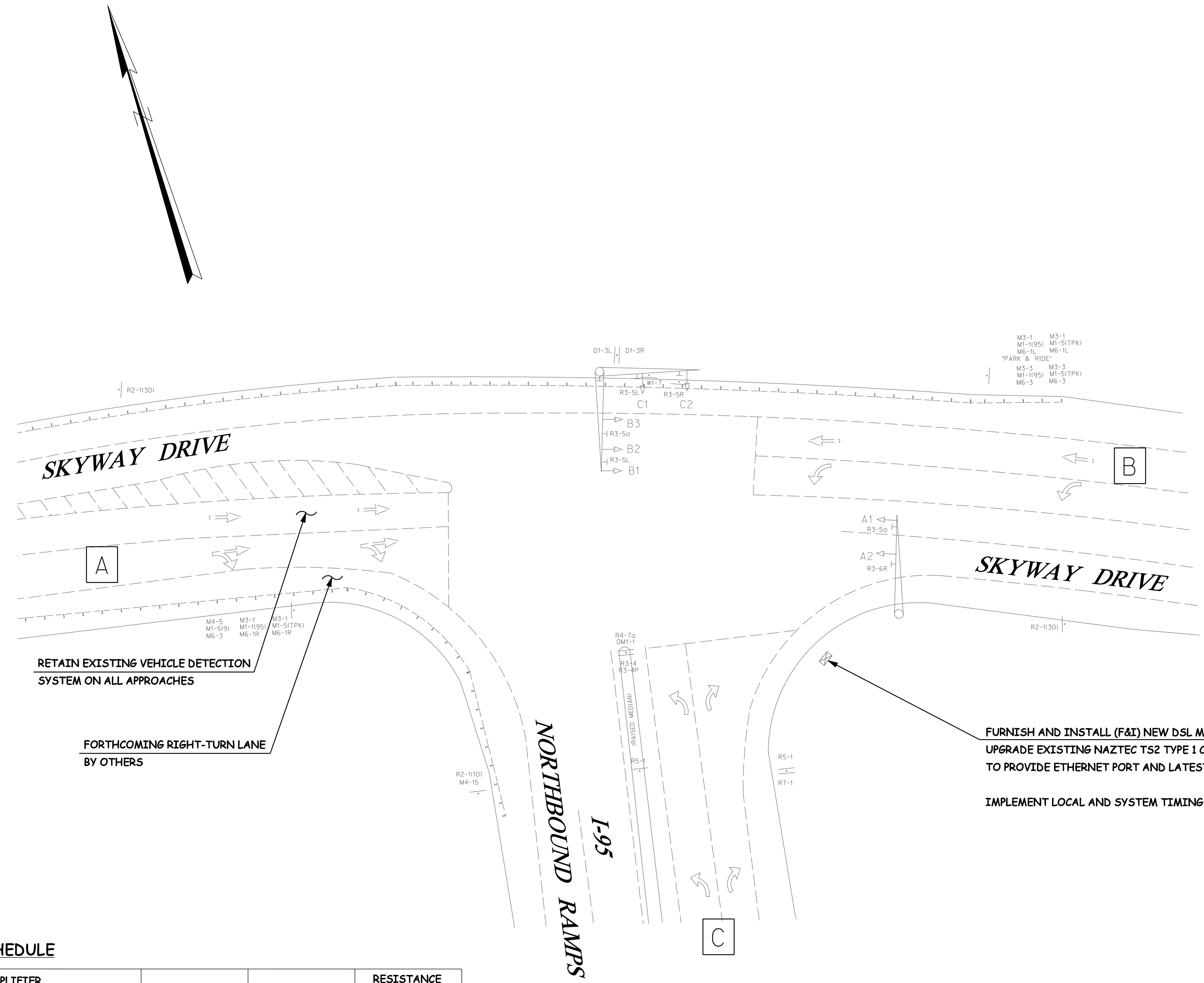
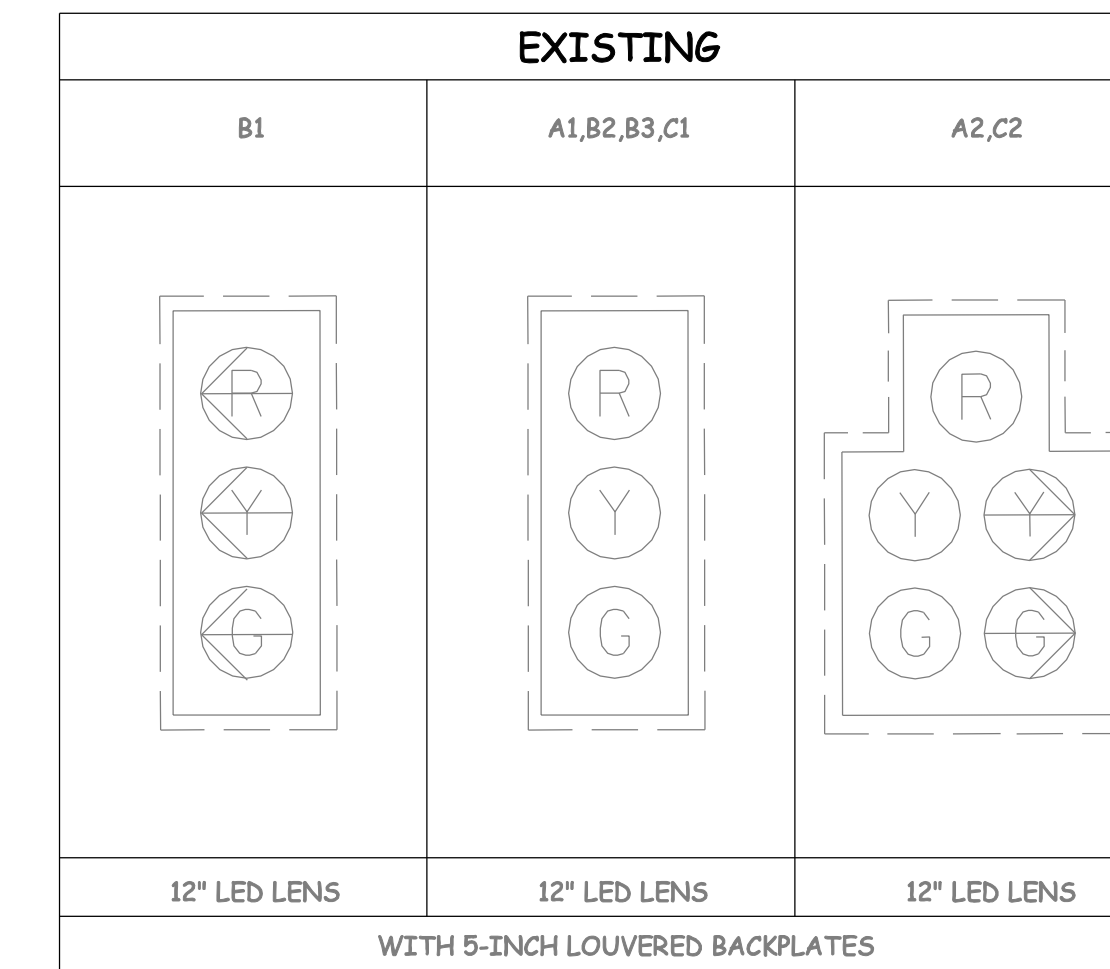
DETECTOR				AMPLIFIER				INDUCTANCE	CONTINUITY	RESISTANCE LOOP TO GROUND
STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO.	DETECTOR NO.	CHANNEL			
SKYWAY DR	WESTBOUND	LEFT	1							
SKYWAY DR	EASTBOUND	THRU/THRU-RIGHT	2							
I-95 NB RAMP	NORTHBOUND	LEFT	4							
I-95 NB RAMP	NORTHBOUND	RIGHT	4							
SKYWAY DR	WESTBOUND	THROUGH	6							

DETECTOR NOTES:  
 CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

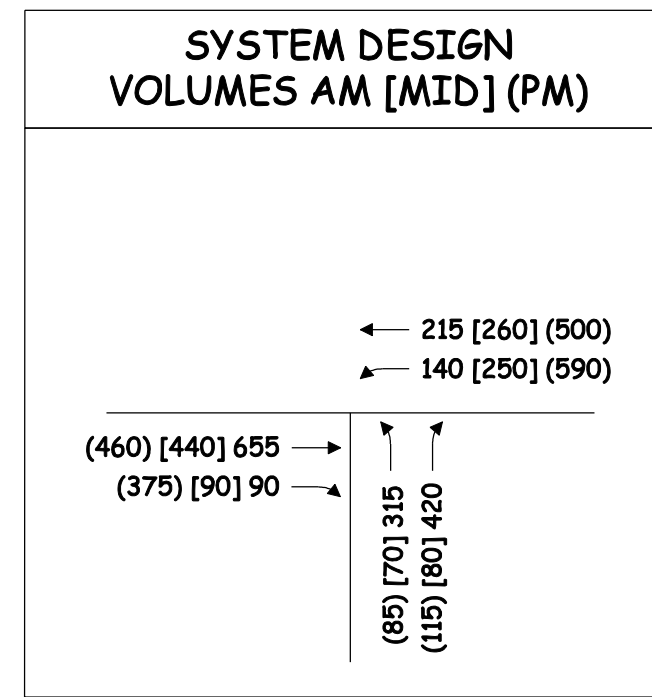
**EXISTING PHASING SEQUENCE (RETAINED)**



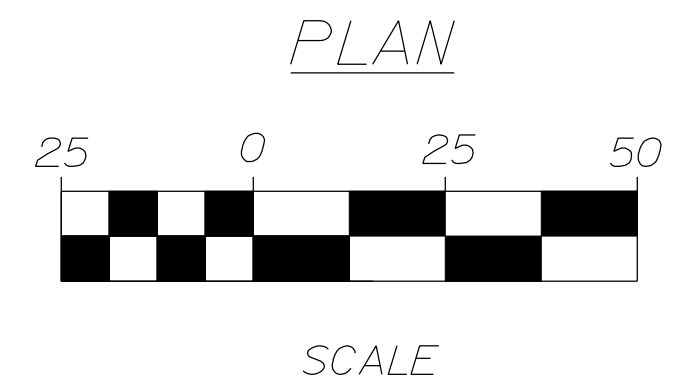
**SIGNAL HEAD DATA**



FURNISH AND INSTALL (F&I) NEW DSL MODEM IN EXISTING CABINET. UPGRADE EXISTING NAZTEC TS2 TYPE 1 CONTROLLER FACEPLATE TO PROVIDE ETHERNET PORT AND LATEST SOFTWARE UPDATE.  
 IMPLEMENT LOCAL AND SYSTEM TIMING PLANS.



INTERSECTION:  
 SKYWAY DR / I-95 NB RAMP  
 SIGNAL GROUP:  
 7  
 LOCATION / PROPOSED DROP:  
 39



Date: 8/18/2011 Username: J ROBERT Division: ... \s\planset\006\_5213300SG03.dgn

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

PROJ. MANAGER	J. MANSIR
DESIGN-DETAILED	M. GRAHAM
CHECKED-REVIEWED	J. ROBERT E. DREW
DESIGN'S DATED	
DESIGN'S DATED	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

DATE: 8/17/11  
 SIGNATURE: J. ROBERT  
 P.E. NUMBER: [blank]  
 DATE: [blank]

CONGRESS STREET / SKYVIEW DRIVE  
 I-95 NORTHBOUND RAMP  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 6  
 OF 18

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 2 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER	1
BIMODAL LED	1
IMPLEMENT LOCAL AND SYSTEM TIMING	-

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL		10		5	5	10			
PASSAGE TIME		3.0		3.0	3.0	3.0			
MAXIMUM 1		35		23	25	35			
MAXIMUM 2		90		40	30	60			
YELLOW		4.0		4.0	4.0	4.0			
ALL RED		2.0		2.0	2.0	2.0			
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE									
RECALL		S		O	O	S			
DETECTOR OPERATION		PR		PR	PR	PR			
PREEMPTION PRIORITY									
FLASH		R		R	R	R			
DUAL ENTRY		OFF		OFF	OFF	OFF			

NOTES: S = SOFT RECALL Y = YELLOW  
 O = RECALL OFF R = RED  
 MAX2 = UNDER COORDINATION PR = PRESENCE

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
 ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	40	90	53	60	60
OFFSET (END Ø6 GRN)	19	41	10	45	34
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	0	0	0	0	0
SPLIT TIME Ø2	27	69	33	30	44
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	13	21	20	30	16
SPLIT TIME Ø5	14	22	17	14	20
SPLIT TIME Ø6	13	47	16	16	24
SPLIT TIME Ø7	0	0	0	0	0
SPLIT TIME Ø8	13	21	20	30	16

**COORDINATION NOTES:**

- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCIP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- PHASE 8 IS A DUMMY PHASE TO BE SET WITH SPLIT TIMES FOR NTCIP COMPLIANCE.

**DETECTOR SCHEDULE**

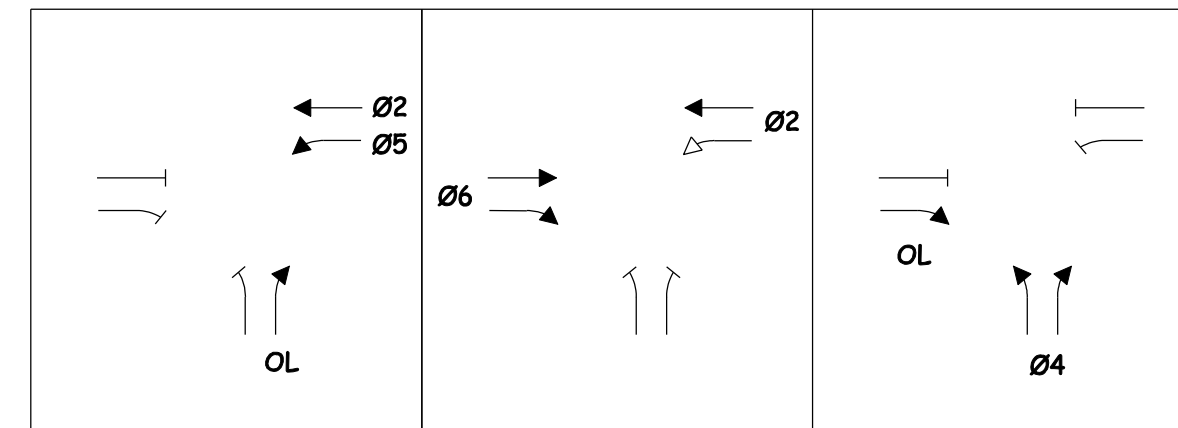
	DETECTOR					DETECTOR CARD IN VEHICLE DETECTION RACK			
	PLAN ID	STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO	DETECTOR NO	CHANNEL
CAMERA V1									
CAMERA V2									
CAMERA V3									

**DETECTOR NOTES:**

CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

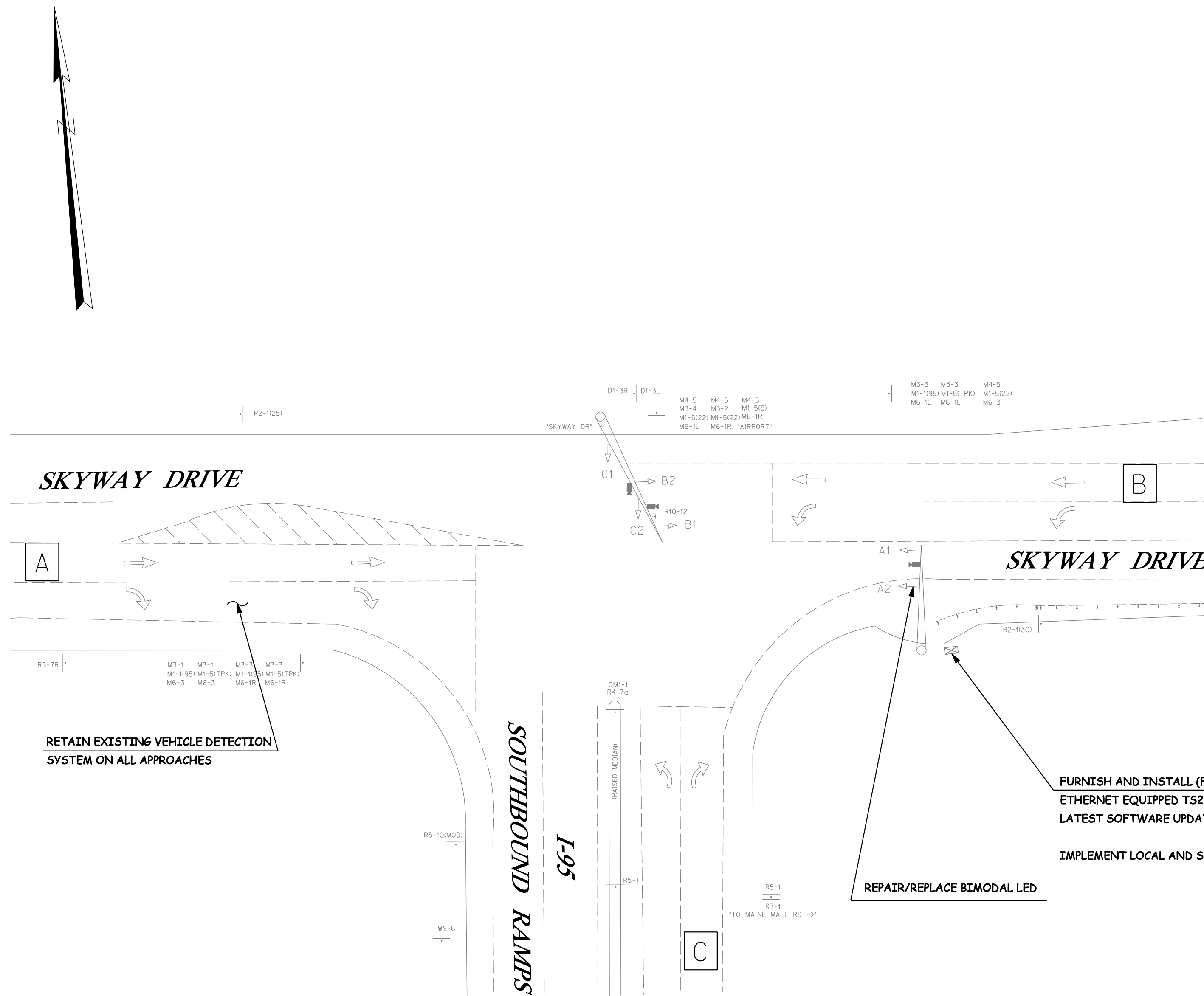
SKYWAY DRIVE AND I-95 SB RAMPS APPROACHES ARE ALL VIDEO DETECTION.

**EXISTING PHASING SEQUENCE (RETAINED)**



**SIGNAL HEAD DATA**

EXISTING		
B1	A1,B2,C1	A2,C2
12" LED LENS	12" LED LENS	12" LED LENS
WITH 5-INCH LOUVERED BACKPLATES		



FURNISH AND INSTALL (F&I) NEW DSL MODEM AND ETHERNET EQUIPPED TS2 TYPE 2 CONTROLLER WITH LATEST SOFTWARE UPDATE IN EXISTING CABINET.

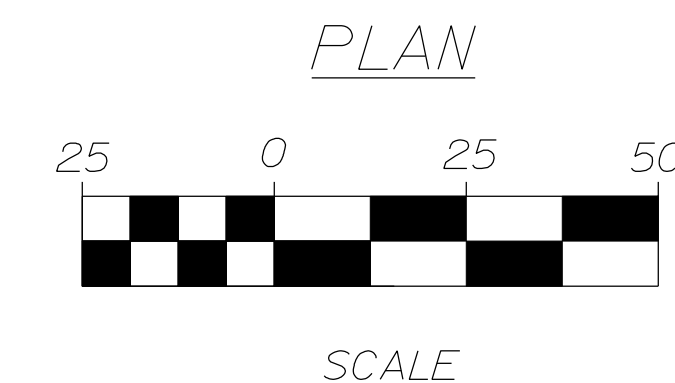
IMPLEMENT LOCAL AND SYSTEM TIMING PLANS.

REPAIR/REPLACE BIMODAL LED

RETAIN EXISTING VEHICLE DETECTION SYSTEM ON ALL APPROACHES

INTERSECTION:  
 SKYWAY DR / I-95 SB RAMPS  
 SIGNAL GROUP:  
 7  
 LOCATION / PROPOSED DROP:  
 40

SYSTEM DESIGN VOLUMES AM [MID] (PM)	
← 470 [245] (325)	→ 60 [85] (260)
→ (555) [295] 265	← (120) [85] 190
← (310) [95] 80	→ (280) [235] 480



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

SIGNATURE  
 P.E. NUMBER  
 DATE

PROJ. MANAGER	DATE
J. MANHIR	8/17/11
M. GRAHAM	8/17/11
C. BOBBAY	8/16/11
J. ROBERT	
E. DREW	

DESIGN DETAILED  
 CHECKED-REVIEWED  
 DESIGN DETAILED  
 REVISIONS 1  
 REVISIONS 2  
 REVISIONS 3  
 REVISIONS 4  
 FIELD CHANGES

CONGRESS STREET / SKYVIEW DRIVE  
 I-95 SOUTHBOUND RAMPS  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 7  
 OF 18

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
ENERGY EFFICIENT, 6ELCORE 6TI LED COUNTDOWN OR APPROVED EQUAL (IF NEEDED)	1
ADA COMPLIANT PEDESTRIAN 2-INCH PELCO MUSHROOM TYPE PUSHBUTTON WITH R10-3e SIGN (IF NEEDED)	1
IMPLEMENT LOCAL AND SYSTEM TIMING	-
ENCOM COMMPAK BROADBAND 5.8 GHz WIRELESS ETHERNET SYSTEM (ITEM 643.90)	1

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10		5	5	10	5	5	
PASSAGE TIME	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
MAXIMUM 1	15	50		20	15	50	40	25	
MAXIMUM 2	30	70		70	20	70	50	30	
YELLOW	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
ALL RED	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
PEDESTRIAN WALK							4	4	
PEDESTRIAN CLEARANCE							14	9	
RECALL	O	S		O	O	S	O	O	
DETECTOR OPERATION	PR	PR		PR	PR	PR	PR	PR	
PREEMPTION PRIORITY									
FLASH	R	R		R	R	R	R	R	
DUAL ENTRY	OFF	OFF		OFF	OFF	OFF	OFF	OFF	

NOTES: S = SOFT RECALL      Y = YELLOW  
 O = RECALL OFF          R = RED  
 PR = PRESENCE          D = DARK  
 MAX2 = UNDER COORDINATION

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	80	90	106	120	120
OFFSET (END Ø6 GRN)	1	54	103	11	93
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	19	16	28	16	18
SPLIT TIME Ø2	24	31	26	40	48
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	37	43	52	64	54
SPLIT TIME Ø5	16	16	21	16	15
SPLIT TIME Ø6	27	31	33	40	51
SPLIT TIME Ø7	17	21	26	44	30
SPLIT TIME Ø8	20	22	26	20	24

**COORDINATION NOTES:**

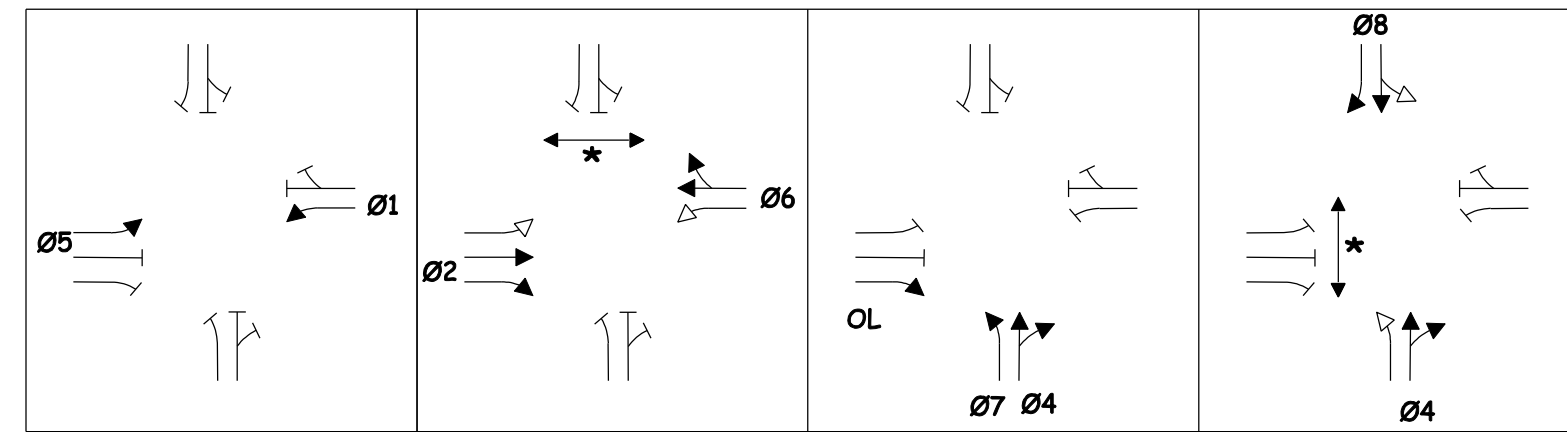
- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCIP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- TRAFFIC SIGNAL CONTROLLER SHALL BE SET FOR STOP TIME IN WALK TO ON.

**DETECTOR SCHEDULE**

DETECTOR				AMPLIFIER			INDUCTANCE	CONTINUITY	RESISTANCE LOOP TO GROUND
STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO.	DETECTOR NO.			
CONGRESS ST	WESTBOUND	LEFT		PRESENCE	C3		6		
CONGRESS ST	EASTBOUND	THRU/RIGHT		PRESENCE	C1		2		
SKYWAY DR	NORTHBOUND	THRU-RIGHT		PRESENCE	C2		4		
CONGRESS ST	EASTBOUND	LEFT		PRESENCE	C4		7		
CONGRESS ST	WESTBOUND	THRU-RIGHT		PRESENCE	C3		5		
SKYWAY DR	NORTHBOUND	LEFT		PRESENCE	C2		3		
HUTCHINS DR	SOUTHBOUND	LEFT-THRU/RIGHT		PRESENCE	C1		1		

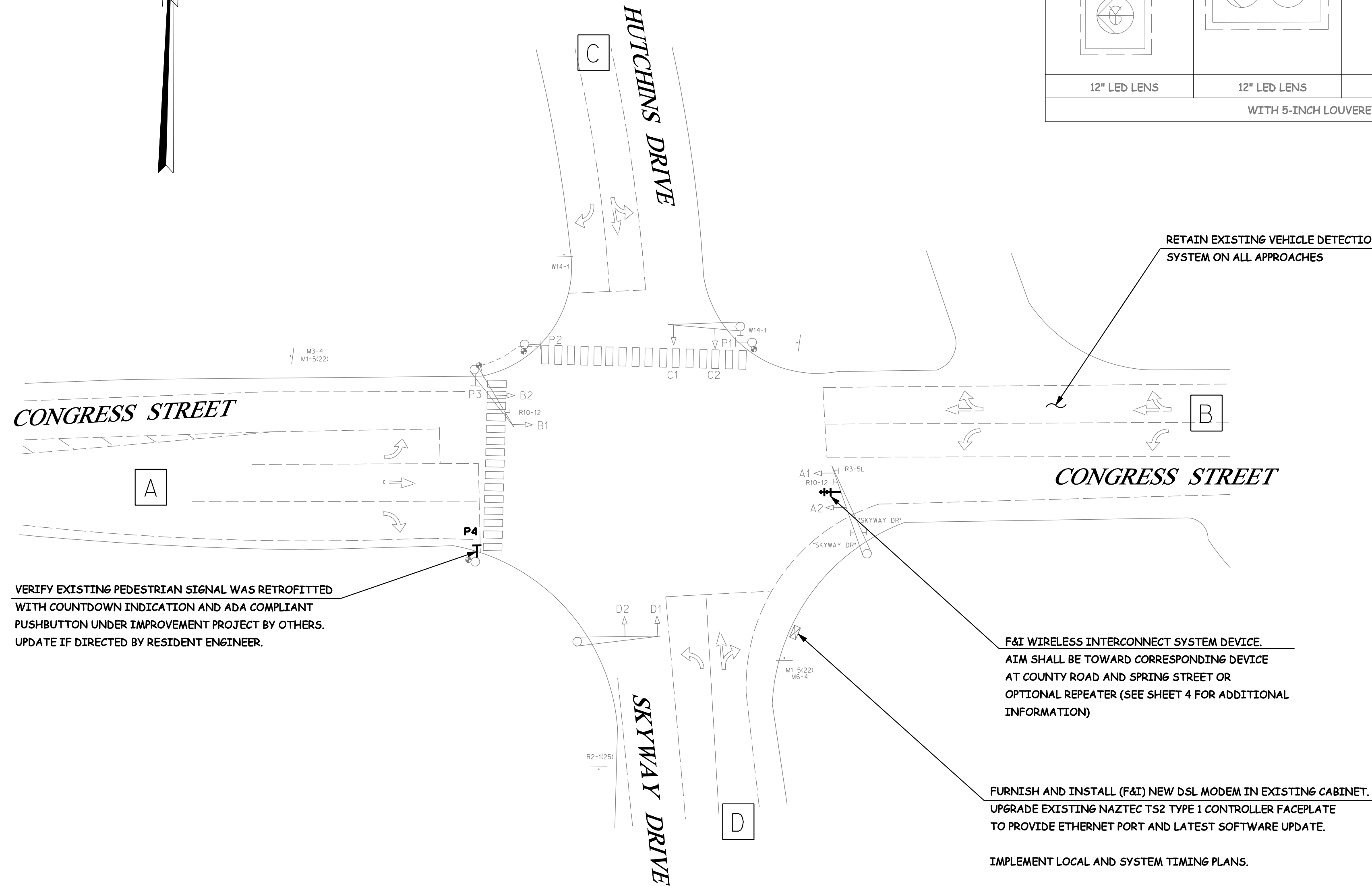
DETECTOR NOTES:  
 CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

**EXISTING PHASING SEQUENCE (RETAINED)**



**SIGNAL HEAD DATA**

EXISTING				
A1,B1	C1	B2,C2,D1,D2	A2	P1 - P4
12" LED LENS	12" LED LENS	12" LED LENS	12" LED LENS	16" x 18" LED PEDESTRIAN SIGNAL
WITH 5-INCH LOUVERED BACKPLATE				

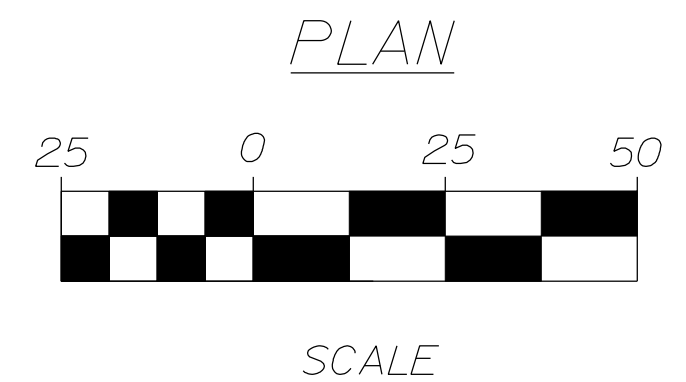
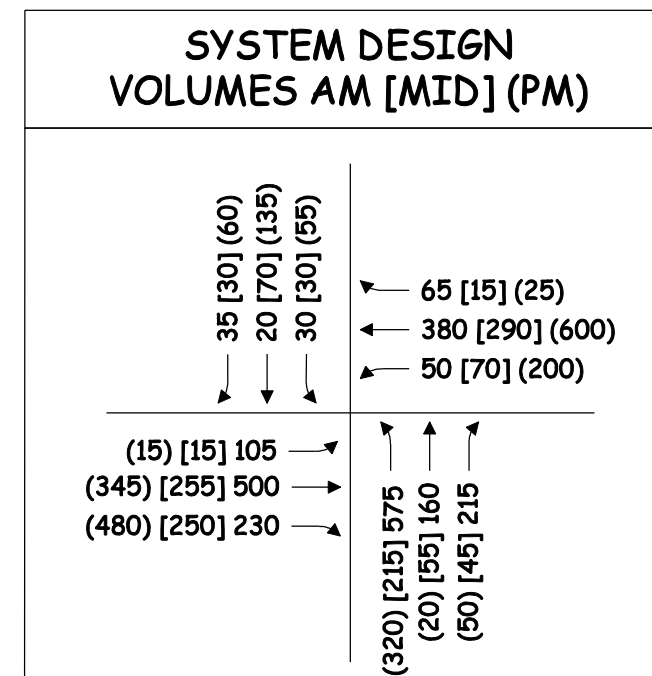


F&I WIRELESS INTERCONNECT SYSTEM DEVICE.  
 AIM SHALL BE TOWARD CORRESPONDING DEVICE AT COUNTY ROAD AND SPRING STREET OR OPTIONAL REPEATER (SEE SHEET 4 FOR ADDITIONAL INFORMATION)

FURNISH AND INSTALL (F&I) NEW DSL MODEM IN EXISTING CABINET. UPGRADE EXISTING NAZTEC TS2 TYPE 1 CONTROLLER FACEPLATE TO PROVIDE ETHERNET PORT AND LATEST SOFTWARE UPDATE.

IMPLEMENT LOCAL AND SYSTEM TIMING PLANS.

INTERSECTION:  
 CONGRESS ST / HUTCHINS DR / SKYWAY DR  
 SIGNAL GROUP:  
 5  
 LOCATION / PROPOSED DROP:  
 41



Date: 8/18/2011

Username: J ROBERT

Division: ... \ts\planset\008\_5213300SG05.dgn

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

PROJ. MANAGER	DATE	BY	SIGNATURE	P.E. NUMBER	DATE
J. MANSIR	8/17/11	J. ROBERT			
M. GRAHAM	8/16/11	E. DREW			
C. BOBBAY					

DESIGN DETAILED	DESIGN REVIEWED	DESIGN DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

CONGRESS STREET / SKYWAY DRIVE  
 HUTCHINS DRIVE AND SKYWAY DRIVE  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER

8

OF 18

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
BRACKET MOUNTED 16 x 18 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD PAINTED BLACK. INDICATION SHALL BE ENERGY EFFICIENT, 6ELCORE 6T1 LED OR APPROVED EQUAL.	2
ADA COMPLIANT PEDESTRIAN 2-INCH PELCO MUSHROOM TYPE PUSHBUTTON WITH R10-3e SIGN	2
IMPLEMENT LOCAL AND SYSTEM TIMING	-

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL		10			5	10		5	
PASSAGE TIME		4.0			3.0	4.0		3.0	
MAXIMUM 1		45			25	45		35	
MAXIMUM 2		90			40	60		40	
YELLOW		4.0			4.0	4.0		4.0	3.0
ALL RED		2.0			2.0	2.0		2.0	0.0
PEDESTRIAN WALK									4
PEDESTRIAN CLEARANCE									10
RECALL		S			O	S		O	O
DETECTOR OPERATION		PR			PR	PR		PR	PR
PREEMPTION PRIORITY									
FLASH		R			R	R		R	D
DUAL ENTRY		OFF			OFF	OFF		OFF	OFF

NOTES: S = SOFT RECALL      Y = YELLOW  
 O = RECALL OFF          R = RED  
 PR = PRESENCE          D = DARK  
 MAX2 = UNDER COORDINATION

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
 ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	80	90	53	120	120
OFFSET (END Ø6 GRN)	35	14	2	99	39
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	0	0	0	0	0
SPLIT TIME Ø2	42	52	23	86	66
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	20	20	12	16	36
SPLIT TIME Ø5	20	17	11	38	17
SPLIT TIME Ø6	22	35	12	48	49
SPLIT TIME Ø7	0	0	0	0	0
SPLIT TIME Ø8	20	20	12	16	36
SPLIT TIME Ø9	18	18	18	18	18

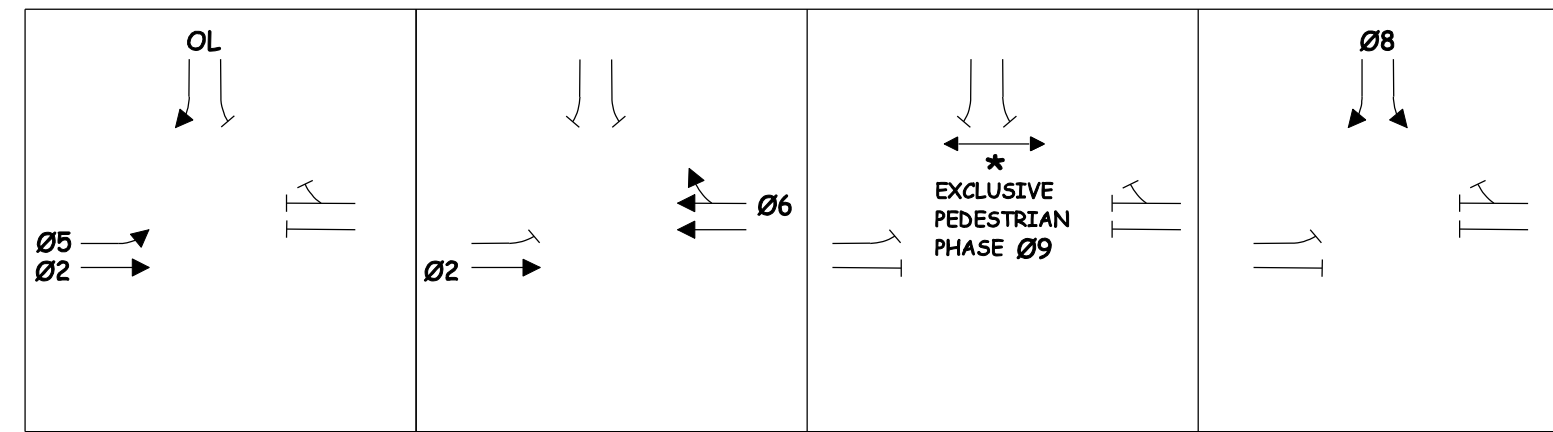
- COORDINATION NOTES:**
- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCP).
  - COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
  - TRAFFIC SIGNAL CONTROLLER SHALL BE SET FOR STOP TIME IN WALK TO ON.
  - PHASE 4 IS A DUMMY PHASE TO BE SET WITH SPLIT TIMES FOR NTCP COMPLIANCE.

**DETECTOR SCHEDULE**

DETECTOR			AMPLIFIER				INDUCTANCE	CONTINUITY	RESISTANCE	
STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO.	DETECTOR NO.			CHANNEL	LOOP TO
CONGRESS ST	EASTBOUND	THROUGH	2	PRESENCE	1					
CONGRESS ST	EASTBOUND	LEFT	5	PRESENCE	1					
CONGRESS ST	WESTBOUND	THROUGH	6	PRESENCE	2					
CONGRESS ST	WESTBOUND	THRU-RIGHT	6	PRESENCE	2					
UNUM DR	SOUTHBOUND	LEFT	8	PRESENCE	3					
UNUM DR	SOUTHBOUND	RIGHT	8	PRESENCE	3					

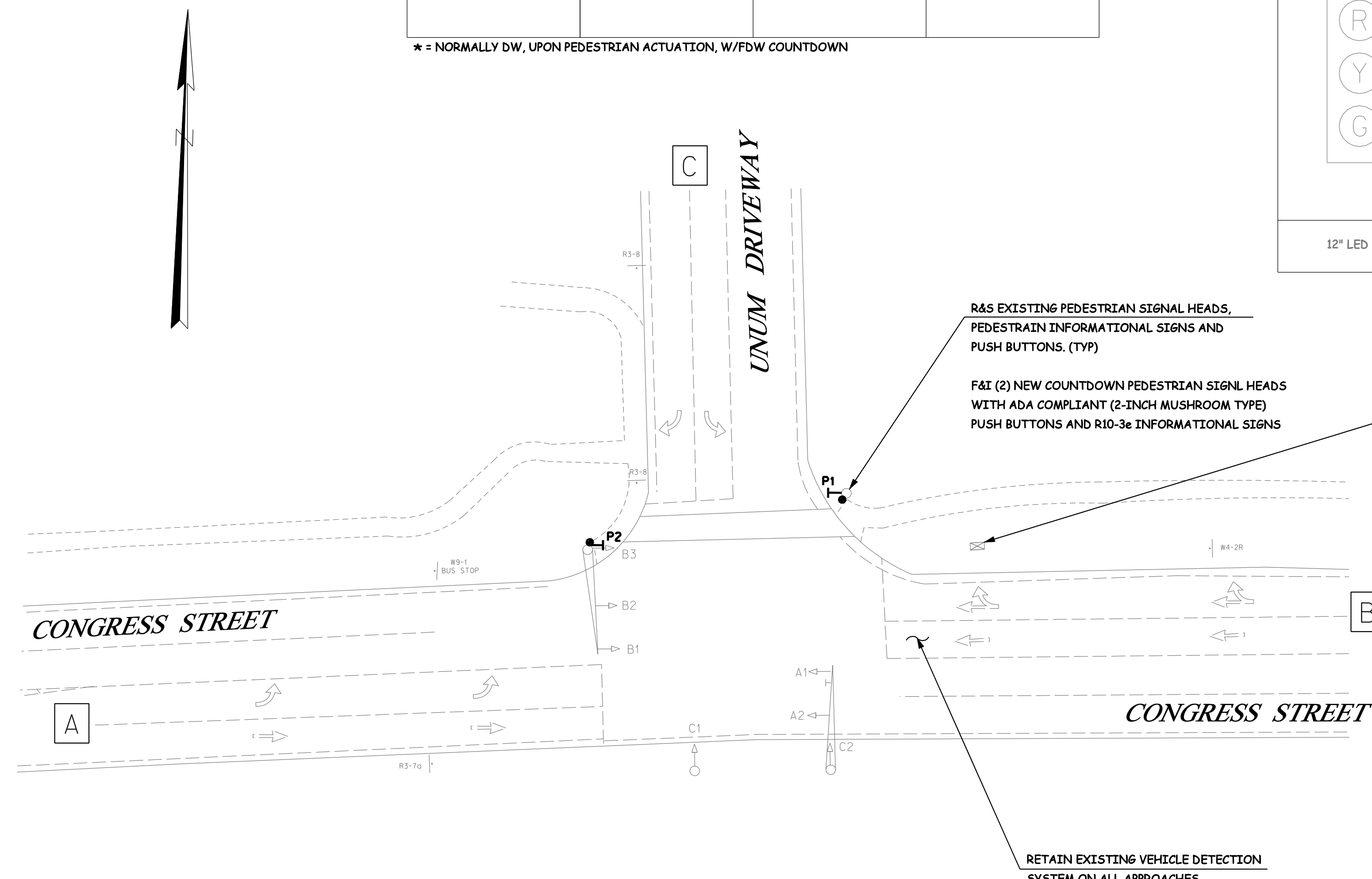
DETECTOR NOTES:  
 CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

**PROPOSED PHASING SEQUENCE**

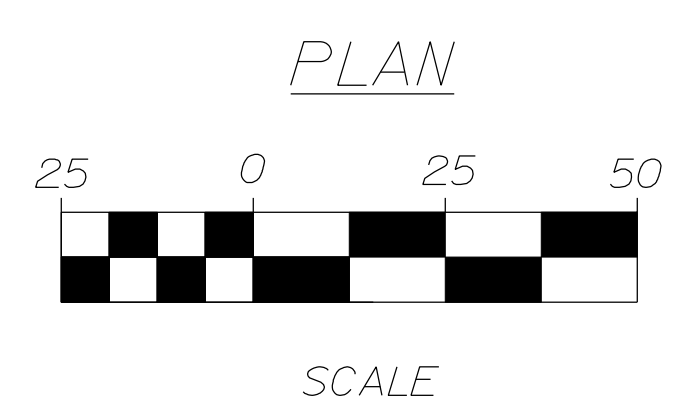
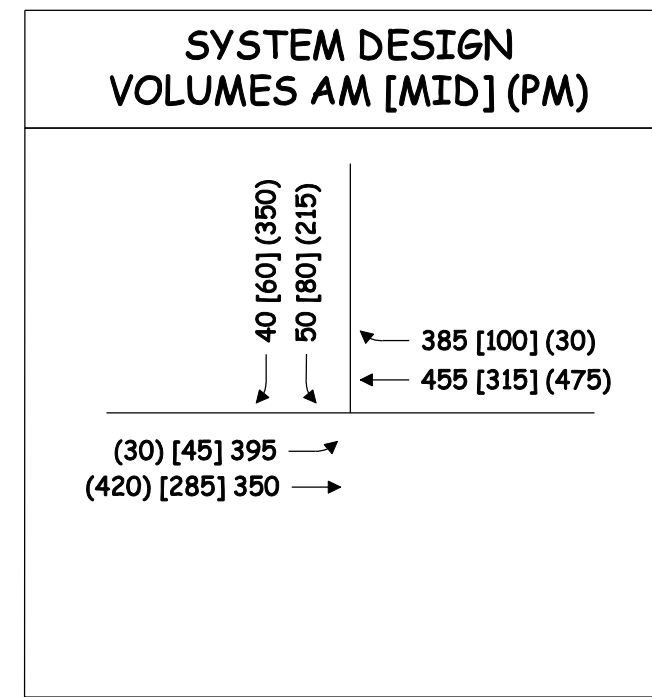


**SIGNAL HEAD DATA**

EXISTING			PROPOSED
A2,B1,B2,C2	A1	B3,C1	P1 - P2
12" LED LENS	12" LED LENS WITH 5-INCH LOUVERED BACKPLATES	12" LED LENS	16" x 18" LED PEDESTRIAN SIGNAL



INTERSECTION:  
 CONGRESS ST / UNUM DR  
 SIGNAL GROUP:  
 7  
 LOCATION / PROPOSED DROP:  
 42



Date: 8/18/2011

Username: J ROBERT

Division: ... \ts\planset\009\_5213300SG06.dgn

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN 17856.00

PROJ. MANAGER	J. MANHIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CONGRESS STREET / SKYWAY DRIVE  
 UNUM DRIVEWAY  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 9  
 OF 18

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 1 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER FACEPLATE AND SOFTWARE UPDATE	1
IMPLEMENT LOCAL AND SYSTEM TIMING	-

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL		10	5	10	5	5			
PASSAGE TIME		3.0	3.0	3.0	3.0	3.0			
MAXIMUM 1		30	40	30	20	40			
MAXIMUM 2		40	95	40	50	55			
YELLOW		4.0	4.0	4.0	4.0	4.0			
ALL RED		2.0	2.0	2.0	2.0	2.0			
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE									
RECALL		S	O	S	O	O			
DETECTOR OPERATION		PR	PR	PR	PR	PR			
PREEMPTION PRIORITY									
FLASH		R	R	R	R	R			
DUAL ENTRY		OFF	OFF	OFF	OFF	OFF			

NOTES: S = SOFT RECALL      Y = YELLOW  
 O = RECALL OFF          R = RED  
 MAX2 = UNDER COORDINATION      PR = PRESENCE

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	80	90	106	120	60
OFFSET (END Ø4 GRN)	43	14	0	5	14
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	0	0	0	0	0
SPLIT TIME Ø2	26	26	36	26	21
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	54	64	70	94	39
SPLIT TIME Ø5	0	0	0	0	0
SPLIT TIME Ø6	26	26	36	26	21
SPLIT TIME Ø7	26	26	26	44	16
SPLIT TIME Ø8	28	38	44	50	23

**COORDINATION NOTES:**

- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø4 PER NTCIP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- PHASE 6 IS A DUMMY PHASE TO BE SET WITH SPLIT TIMES FOR NTCIP COMPLIANCE.

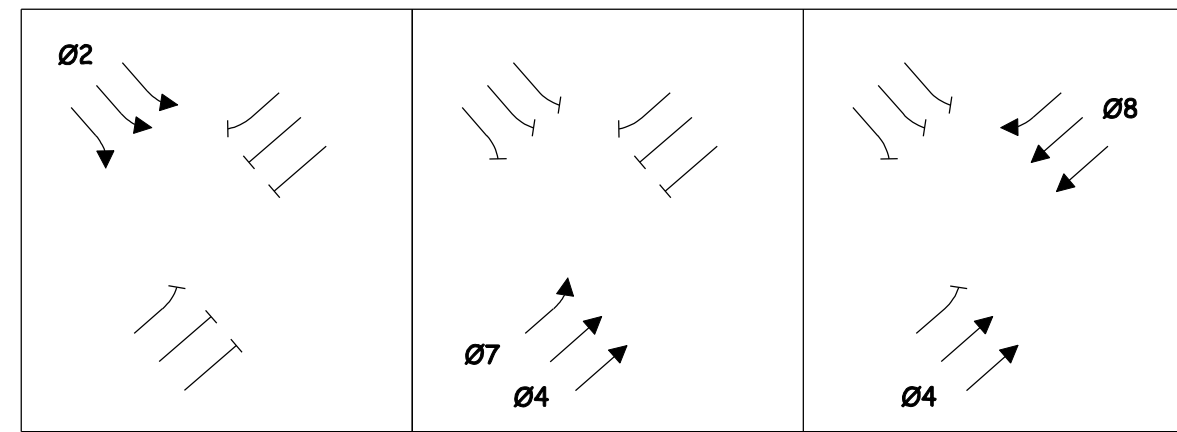
**DETECTOR SCHEDULE**

DETECTOR			Ø	TYPE	AMPLIFIER			INDUCTANCE	CONTINUITY	RESISTANCE	
STREET	DIRECTION	LANE			SLOT NO.	DETECTOR NO.	CHANNEL			LOOP TO GROUND	RESISTANCE
JOHNSON RD	SOUTHBOUND	LEFT(MIDDLE)	2	PRESENCE	1		231µh	2.5Ω		50 MΩ	
JOHNSON RD	SOUTHBOUND	LEFT	2	PRESENCE	1		211µh	2.5Ω		17 MΩ	
JOHNSON RD	SOUTHBOUND	RIGHT	2	PRESENCE	2		135µh	2.3Ω		5 MΩ	
CONGRESS ST	EASTBOUND	THROUGHS(MIDDLE)	4	PRESENCE	3		221µh	3.1Ω		30 MΩ	
CONGRESS ST	EASTBOUND	THROUGHS	4	PRESENCE	3		224µh	4.0Ω		<5 MΩ	
CONGRESS ST	EASTBOUND	LEFT	7	PRESENCE	2		214µh	3.6Ω		<5 MΩ	
CONGRESS ST	WESTBOUND	THROUGHS	8	PRESENCE	4		97µh	2.0Ω		>500 MΩ	
CONGRESS ST	WESTBOUND	THRU-RIGHT	8	PRESENCE	4		189µh	2.3Ω		>500 MΩ	

**DETECTOR NOTES:**

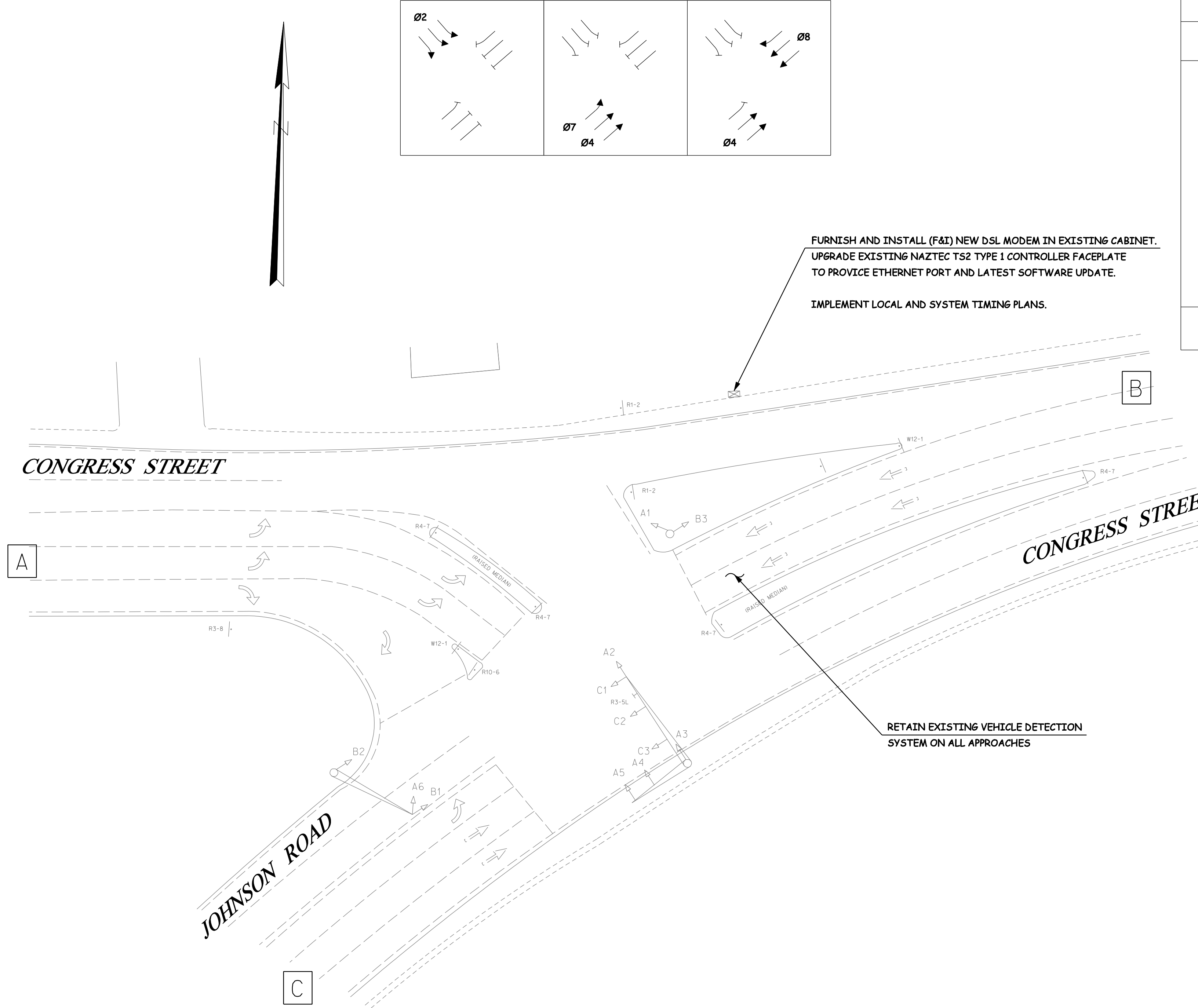
CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

**EXISTING PHASING SEQUENCE (RETAINED)**



**SIGNAL HEAD DATA**

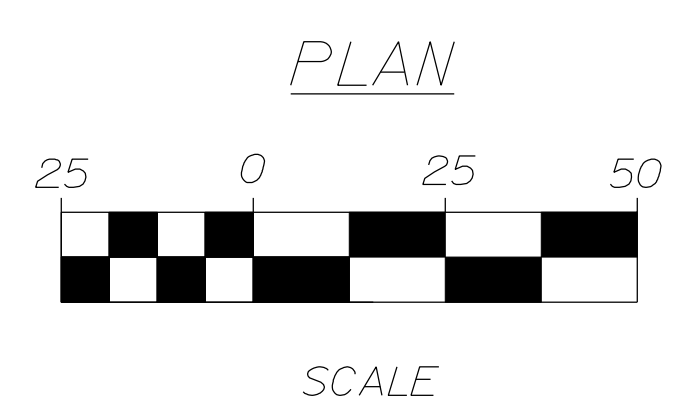
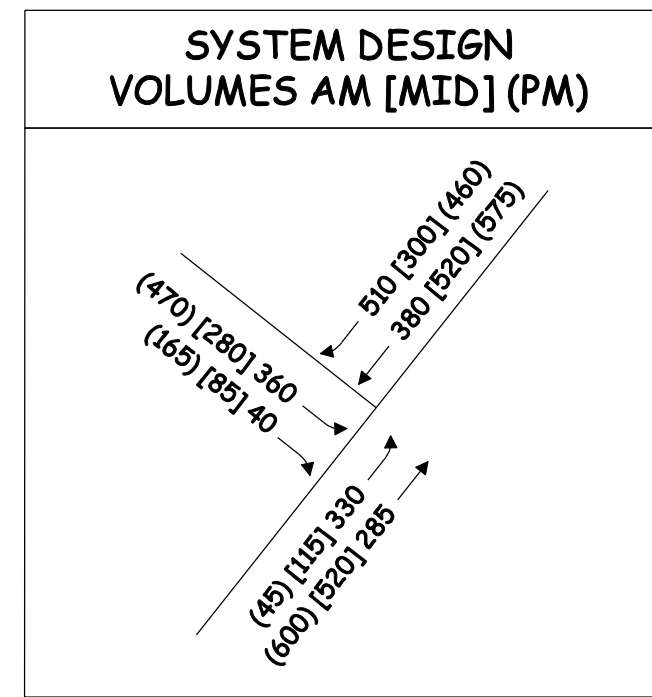
EXISTING		
A1,A2,A3,A4,C1	B1,B2,B3,C2,C3	A5,A6
12" LED LENS	12" LED LENS	12" LED LENS



FURNISH AND INSTALL (F&I) NEW DSL MODEM IN EXISTING CABINET. UPGRADE EXISTING NAZTEC TS2 TYPE 1 CONTROLLER FACEPLATE TO PROVIDE ETHERNET PORT AND LATEST SOFTWARE UPDATE.  
 IMPLEMENT LOCAL AND SYSTEM TIMING PLANS.

RETAIN EXISTING VEHICLE DETECTION SYSTEM ON ALL APPROACHES

INTERSECTION:  
CONGRESS ST / JOHNSON RD  
 SIGNAL GROUP:  
7  
 LOCATION / PROPOSED DROP:  
43



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

PROJ. MANAGER	DATE	BY	DATE
J. MANSIR	8/17/11	J. ROBERT	8/16/11
DESIGN DETAILED		M. GRAHAM	
CHECKED/REVIEWED		E. DREW	
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CONGRESS STREET / SKYVIEW DRIVE  
 JOHNSON ROAD  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 10  
 OF 18

Date: 8/18/2011

Username: J ROBERT

Division:

Filename: ... \ts\planset\010\_5213300SC07.dgn

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
ACTELIS ML688 DSL MODEM	1
NAZTEC TS2 TYPE 2 ETHERNET EQUIPPED TRAFFIC SIGNAL CONTROLLER	1
BRACKET MOUNED 16 x 18 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD PAINTED BLACK. INDICATION SHALL BE ENERGY EFFICIENT, 6ELCORE 6T1 LED OR APPROVED EQUAL.	4
ADA COMPLIANT PEDESTRIAN 2-INCH PELCO MUSHROOM TYPE PUSH BUTTON WITH R10-3e SIGN	4
FURNISH AND INSTALL 8-FOOT PEDESTAL POST (ITEM 643.92)	2
FURNISH AND INSTALL 18-INCH FOUNDATION (ITEM 626.31)	2
FURNISH AND INSTALL 3-INCH SIGNAL CONDUIT (ITEM 626.22)	40 LF
IMPLEMENT LOCAL AND SYSTEM TIMING	-

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10	5	5	5	10		5	
PASSAGE TIME	3.0	5.5	3.0	3.0	3.0	5.5		3.0	
MAXIMUM 1	20	50	15	30	20	50		30	
MAXIMUM 2	25	60	30	30	25	60		30	
YELLOW	4.0	4.0	3.0	3.0	4.0	4.0		3.0	
ALL RED	2.0	2.0	2.0	2.0	2.0	2.0		2.0	
PEDESTRIAN WALK				4		4			
PEDESTRIAN CLEARANCE				15		18			
RECALL	O	S	O	O	O	S		O	
DETECTOR OPERATION	PR	PR	PR	PR	PR	PR		PR	
PREEMPTION PRIORITY									
FLASH	R	R	R	R	R	R		R	
DUAL ENTRY	OFF	OFF	OFF	OFF	OFF	OFF		OFF	

NOTES: S = SOFT RECALL Y = YELLOW  
 O = RECALL OFF R = RED  
 PR = PRESENCE D = DARK  
 MAX2 = UNDER COORDINATION

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
 ALL ENTRIES IN SECONDS

	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
CYCLE LENGTH	80	90	106	120	120
OFFSET (END Ø6 GRN)	20	81	84	0	19
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	16	16	21	21	21
SPLIT TIME Ø2	28	34	40	60	49
SPLIT TIME Ø3	12	16	21	15	26
SPLIT TIME Ø4	24	24	24	24	24
SPLIT TIME Ø5	16	16	21	16	16
SPLIT TIME Ø6	28	34	40	65	54
SPLIT TIME Ø7	0	0	0	0	0
SPLIT TIME Ø8	36	40	45	39	50

**COORDINATION NOTES:**

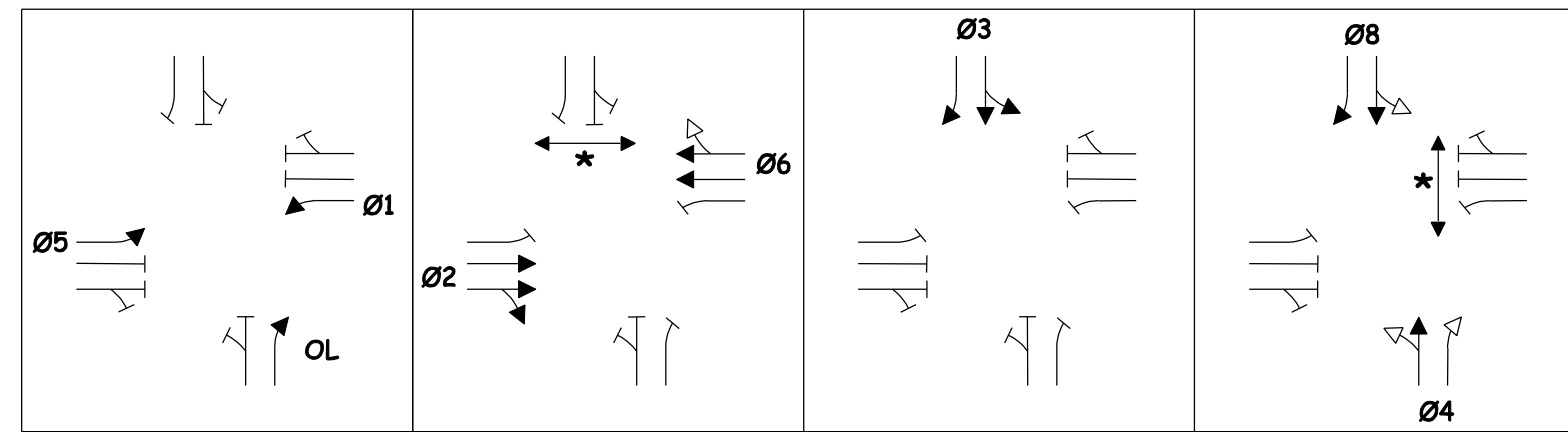
- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCTP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- TRAFFIC SIGNAL CONTROLLER SHALL BE SET FOR STOP TIME IN WALK TO ON.

**DETECTOR SCHEDULE**

DETECTOR				AMPLIFIER				INDUCTANCE	CONTINUITY	RESISTANCE LOOP TO GROUND
STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO.	DETECTOR NO.	CHANNEL			
CONGRESS ST	WESTBOUND	LEFT	1							
CONGRESS ST	EASTBOUND	THROUGH	2							
CONGRESS ST	EASTBOUND	THRU-RIGHT	2							
UNUM DRIVE	SOUTHBOUND	LEFT-THRU	3							
INTERNATIONAL PKWY	NORTHBOUND	LEFT-THRU	4							
INTERNATIONAL PKWY	NORTHBOUND	RIGHT	4							
CONGRESS ST	EASTBOUND	LEFT	5							
CONGRESS ST	WESTBOUND	THROUGH	6							
CONGRESS ST	WESTBOUND	THRU-RIGHT	6							
UNUM DRIVE	SOUTHBOUND	RIGHT	8							

DETECTOR NOTES:  
 CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

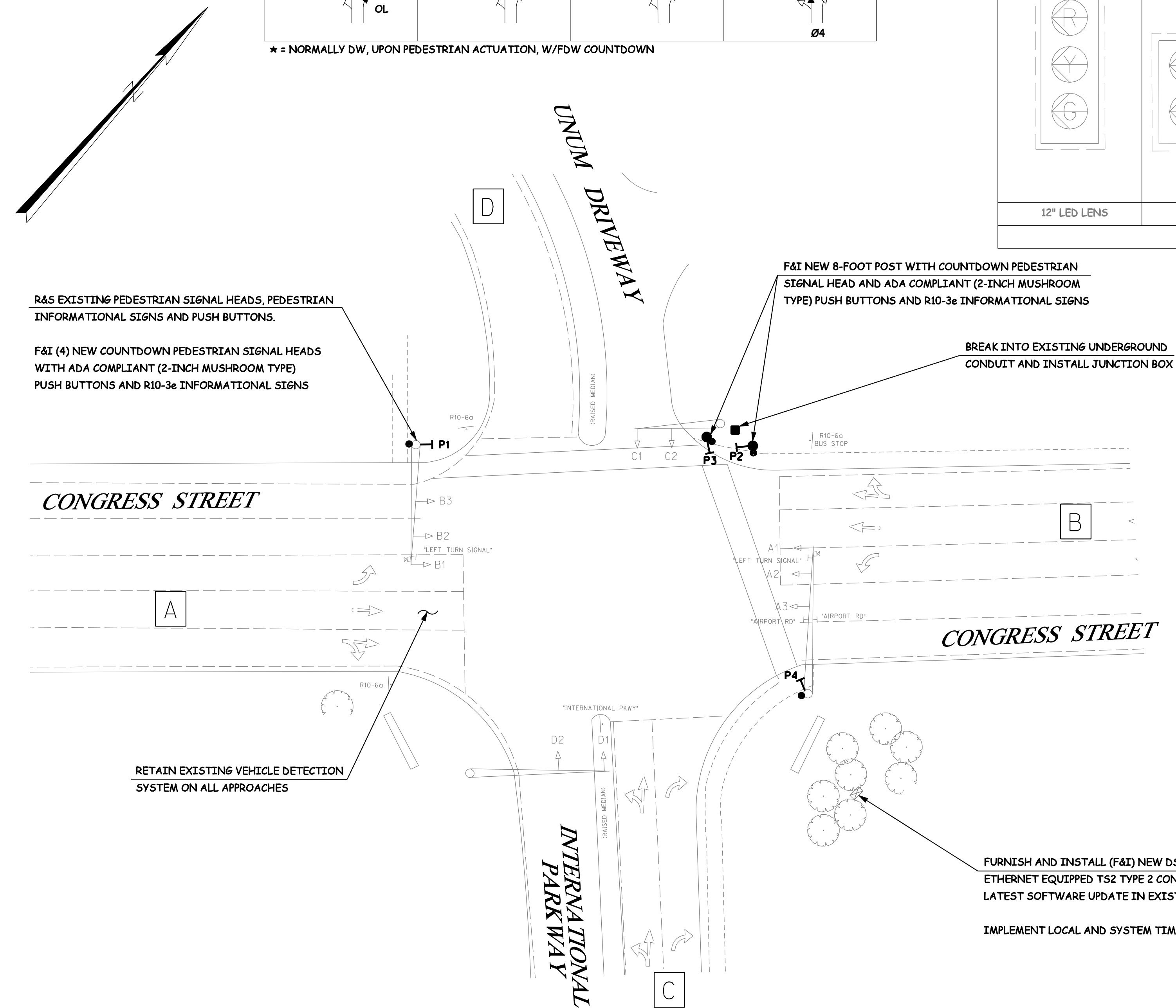
**EXISTING PHASING SEQUENCE (RETAINED)**



\* = NORMALLY DW, UPON PEDESTRIAN ACTUATION, W/FDW COUNTDOWN

**SIGNAL HEAD DATA**

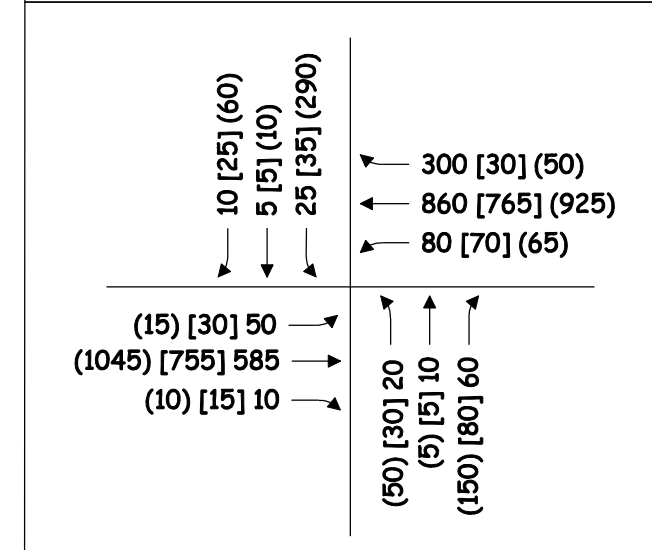
EXISTING				PROPOSED
A1,B1	D1	A2,A3,B2,B3,C1,D2	C2	P1 - P4
12" LED LENS	12" LED LENS	12" LED LENS	12" LED LENS	16" x 18" LED PEDESTRIAN SIGNAL
WITH 5-INCH LOUVERED BACKPLATES				



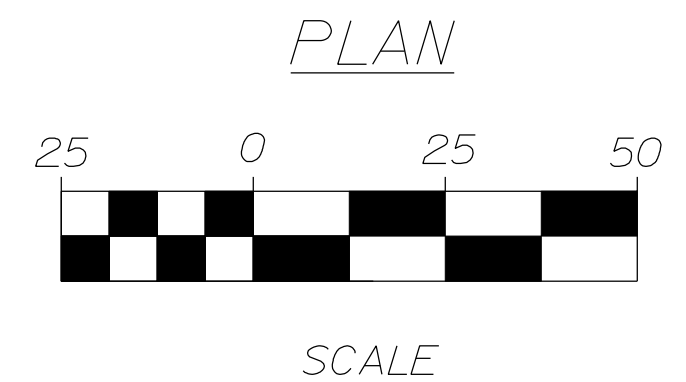
FURNISH AND INSTALL (F&I) NEW DSL MODEM AND ETHERNET EQUIPPED TS2 TYPE 2 CONTROLLER WITH LATEST SOFTWARE UPDATE IN EXISTING CABINET.

IMPLEMENT LOCAL AND SYSTEM TIMING PLANS.

**SYSTEM DESIGN VOLUMES AM [MID] (PM)**



INTERSECTION:  
 CONGRESS ST / UNUM DRIVE / INTERNATIONAL PKWY  
 SIGNAL GROUP:  
 7  
 LOCATION / PROPOSED DROP:  
 44



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
J. MANSIR	J. ROBERT	8/17/11			
DESIGN-DETAILED	M. GRAHAM	8/17/11			
CHECKED-REVIEWED	E. DREW	8/16/11			
DESIGN-DETAILED	C. BOBBAY				
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

CONGRESS STREET / SKYVIEW DRIVE  
 INTERNATIONAL PARKWAY AND UNUM DRIVEWAY  
**TRAFFIC SIGNAL PLAN**

SHEET NUMBER

11

OF 18

Date: 8/18/2011

Username: J ROBERT

Division:

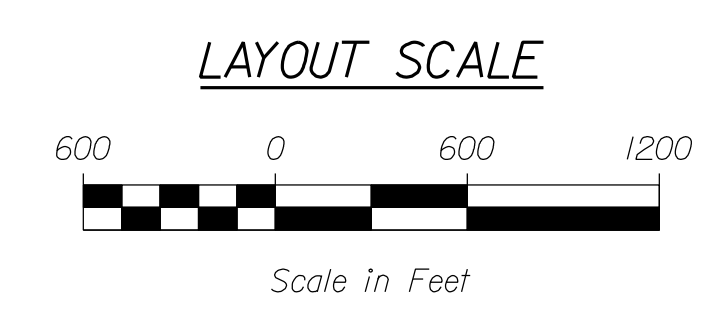
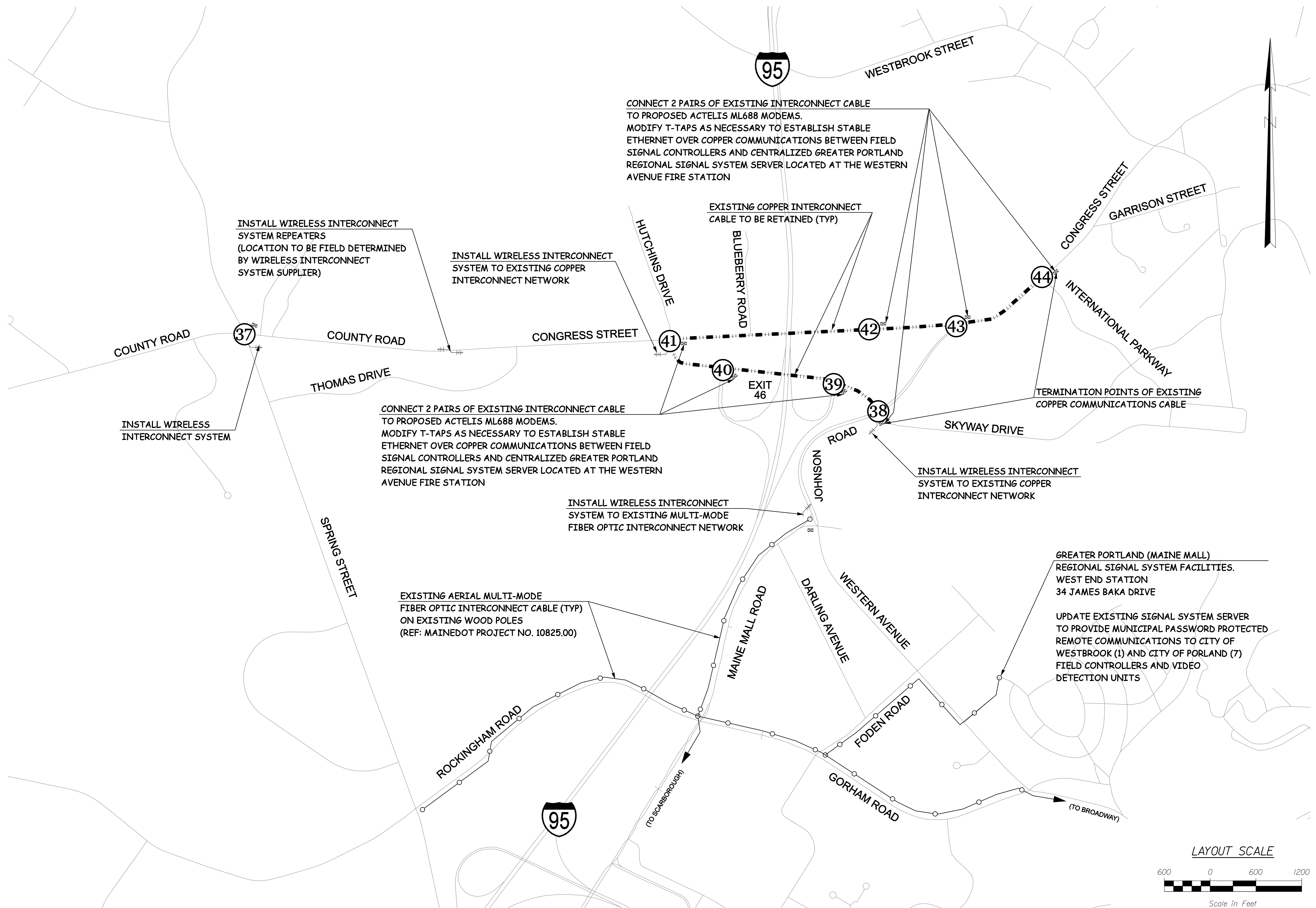
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Date: 8/18/2011

Username: J ROBERT

Division:

Filename: ... \ts\planset\012\_5213300CND.dgn



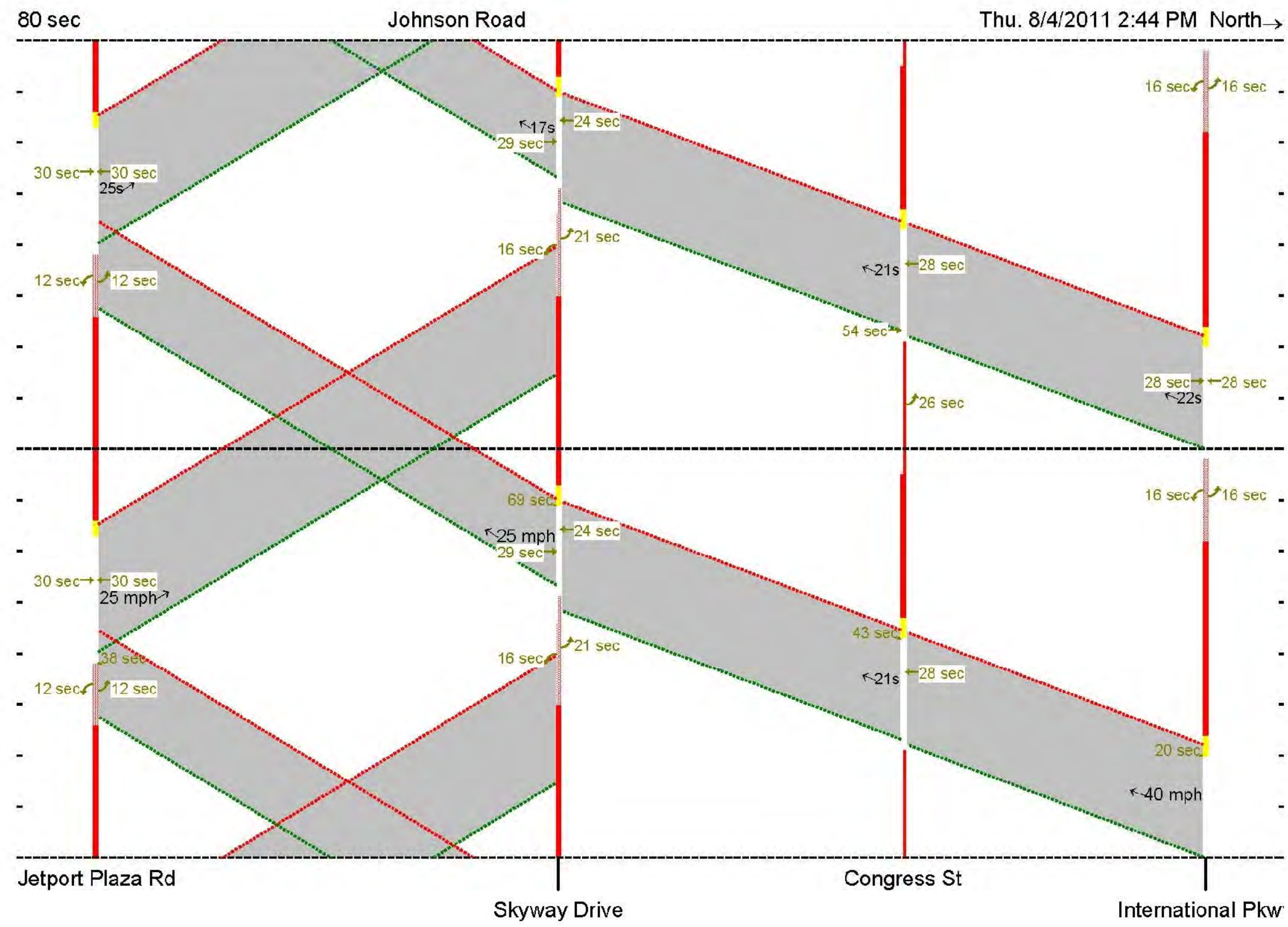
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17856.00

PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGNS DET AILED			
DESIGNS DET AILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

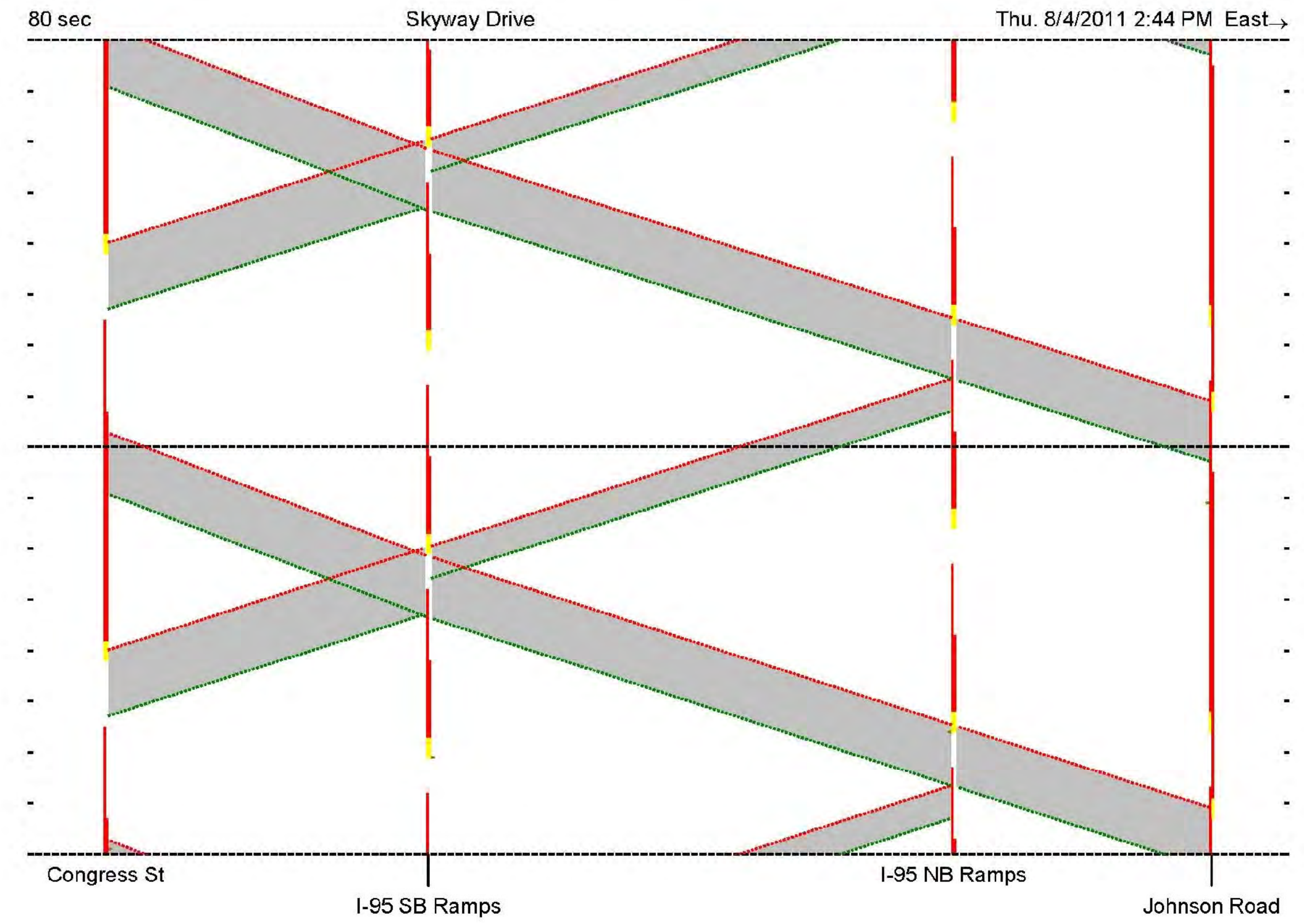
CONGRESS STREET / SKYWAY DRIVE  
COMMUNICATIONS NETWORK DIAGRAM

SHEET NUMBER  
**12**  
OF 18

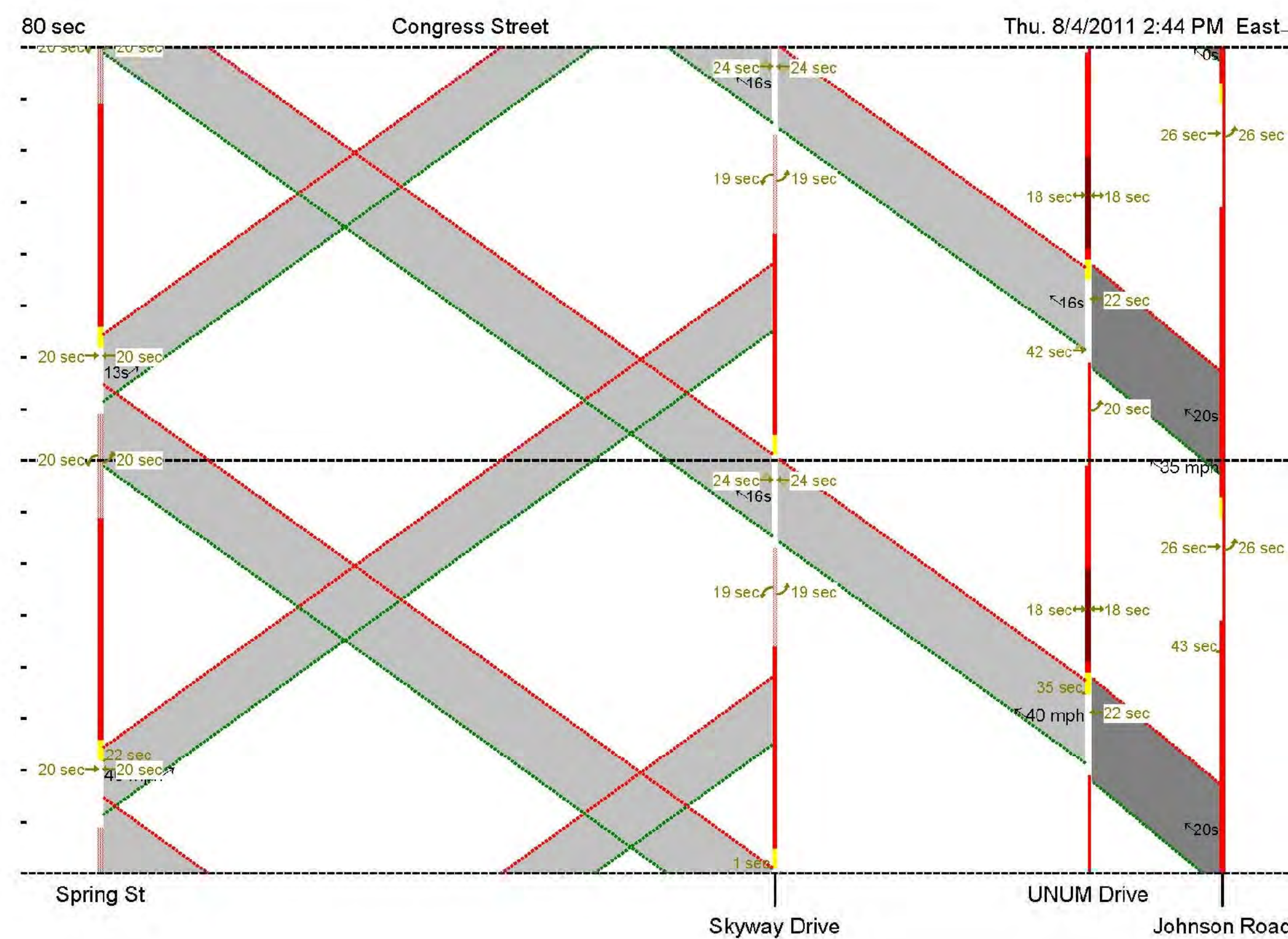
PLAN 1  
80 SECOND BACKGROUND CYCLE



PLAN 1  
80 SECOND BACKGROUND CYCLE



PLAN 1  
80 SECOND BACKGROUND CYCLE



Date: 8/18/2011

Username: J ROBERT

Division: ... \ts\planset\013\_5213300\TSD1.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK

SIGNATURE  
P.E. NUMBER  
DATE

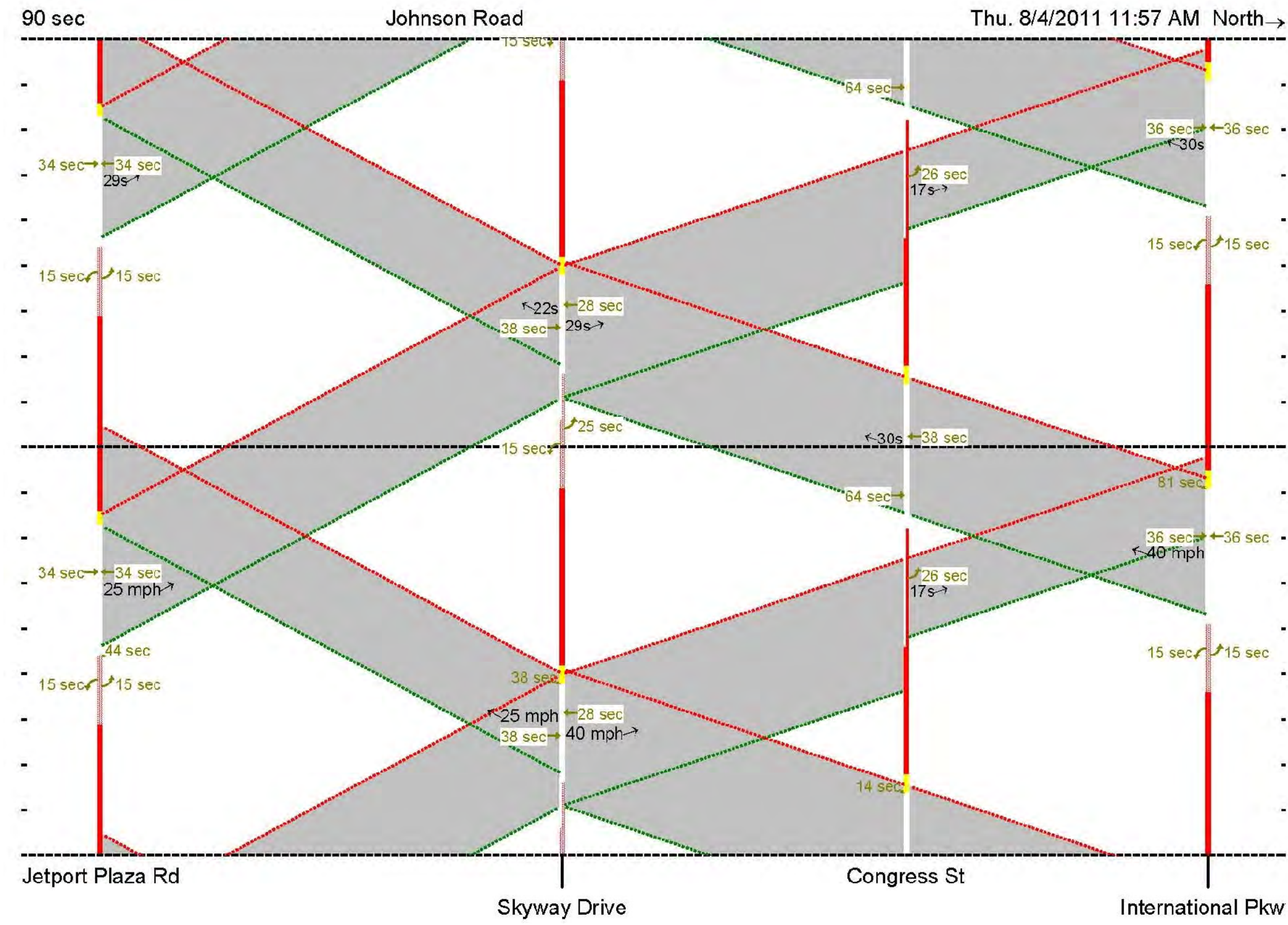
PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGNS-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CONGRESS STREET / SKYWAY DRIVE  
TIME SPACE DIAGRAMS

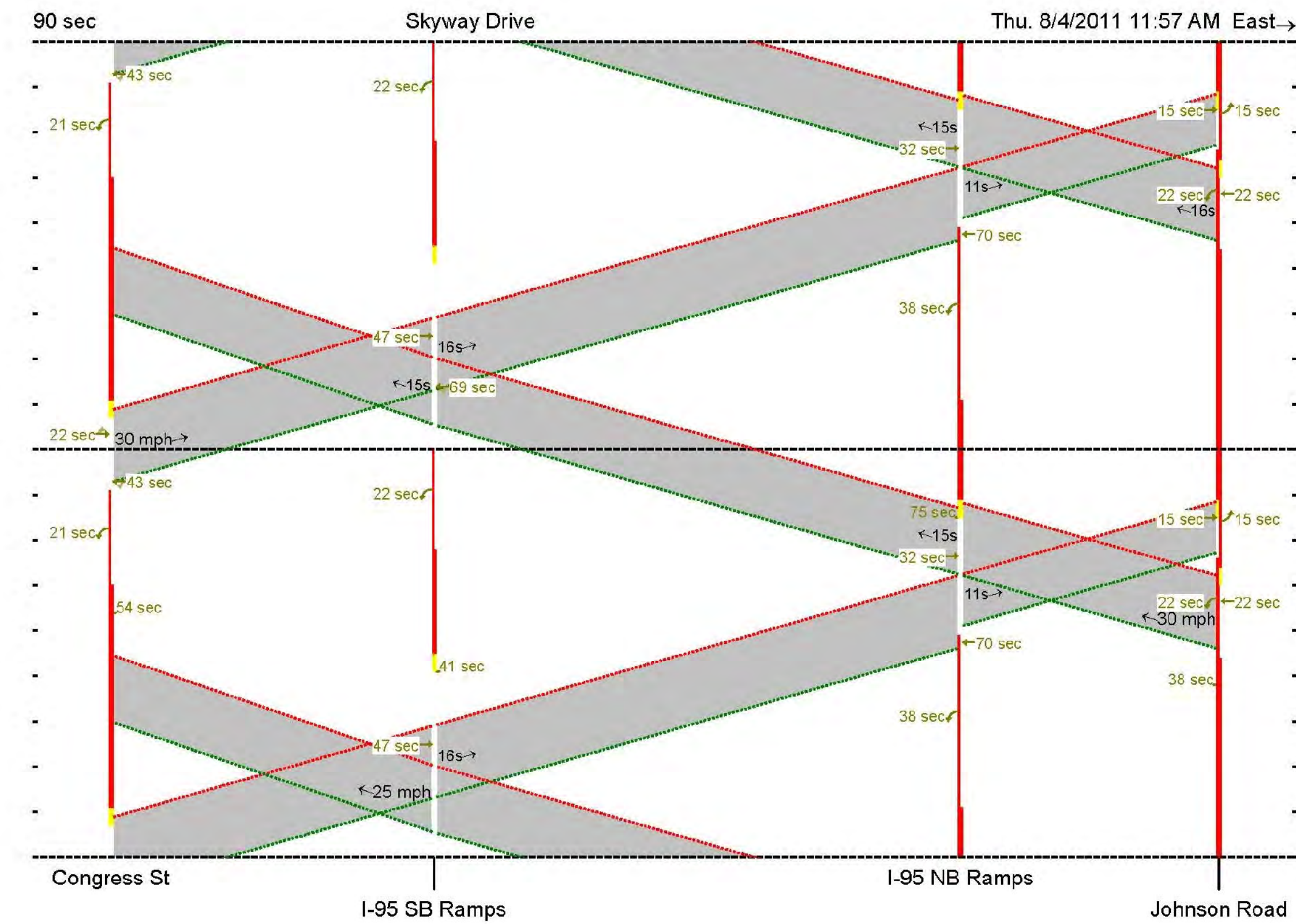
SHEET NUMBER  
**13**  
OF 18

WIN  
17856.00

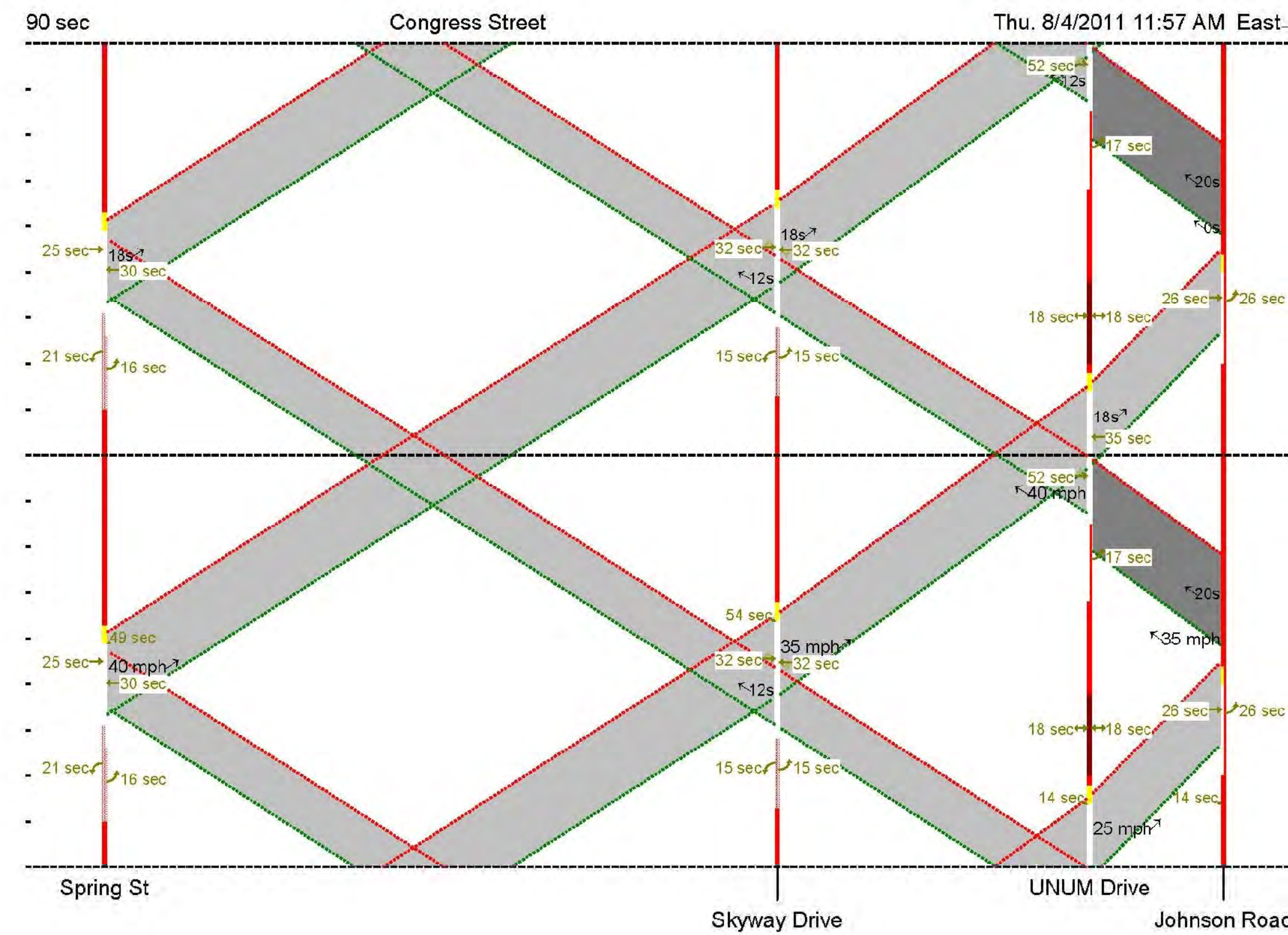
PLAN 2  
90 SECOND BACKGROUND CYCLE



PLAN 2  
90 SECOND BACKGROUND CYCLE



PLAN 2  
90 SECOND BACKGROUND CYCLE



Date: 8/18/2011

Username: J ROBERT

Division: ... \1s\planset\014\_5213300\TSD2.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17856.00

PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

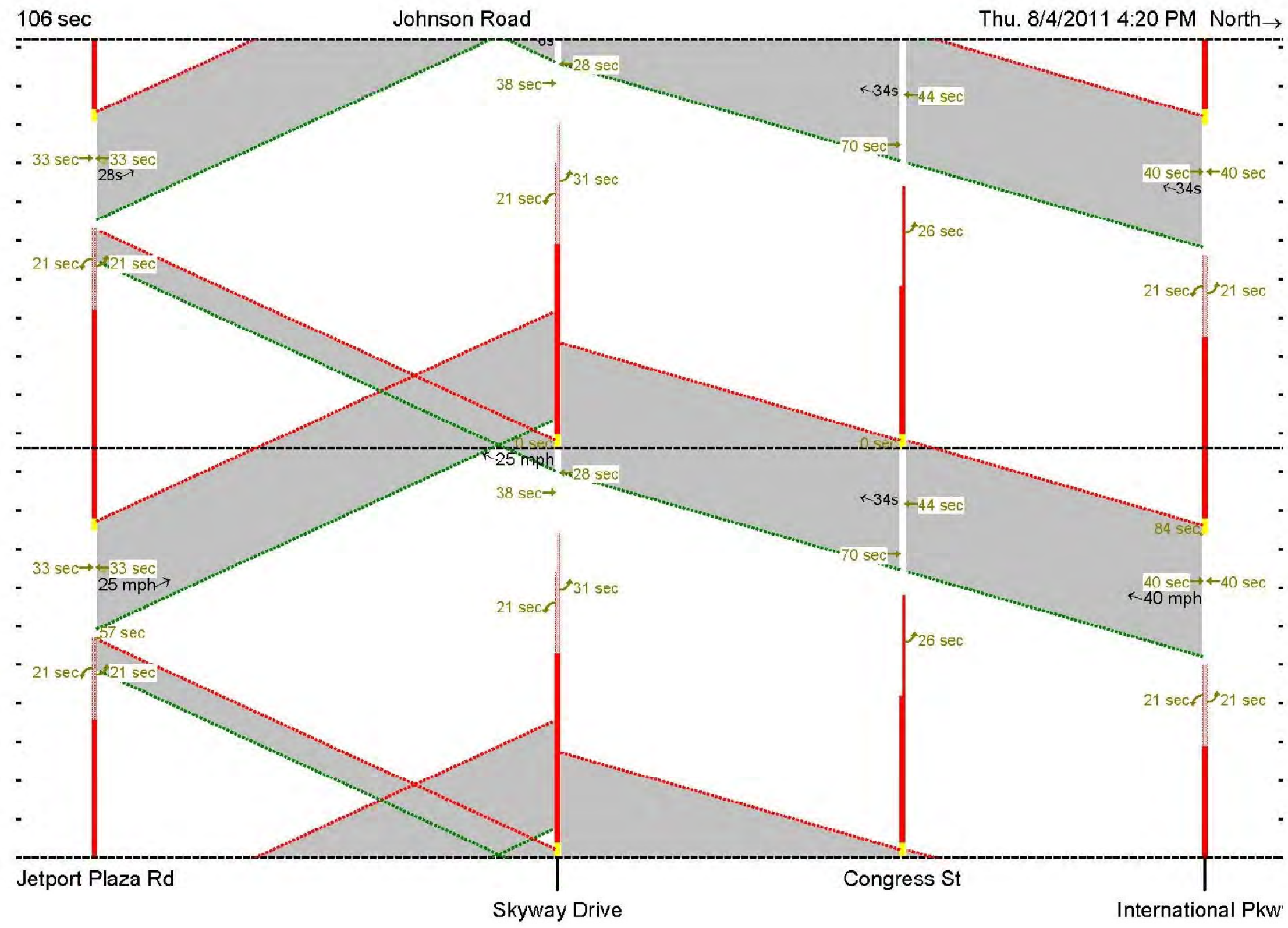
CONGRESS STREET / SKYWAY DRIVE  
TIME SPACE DIAGRAMS

SHEET NUMBER

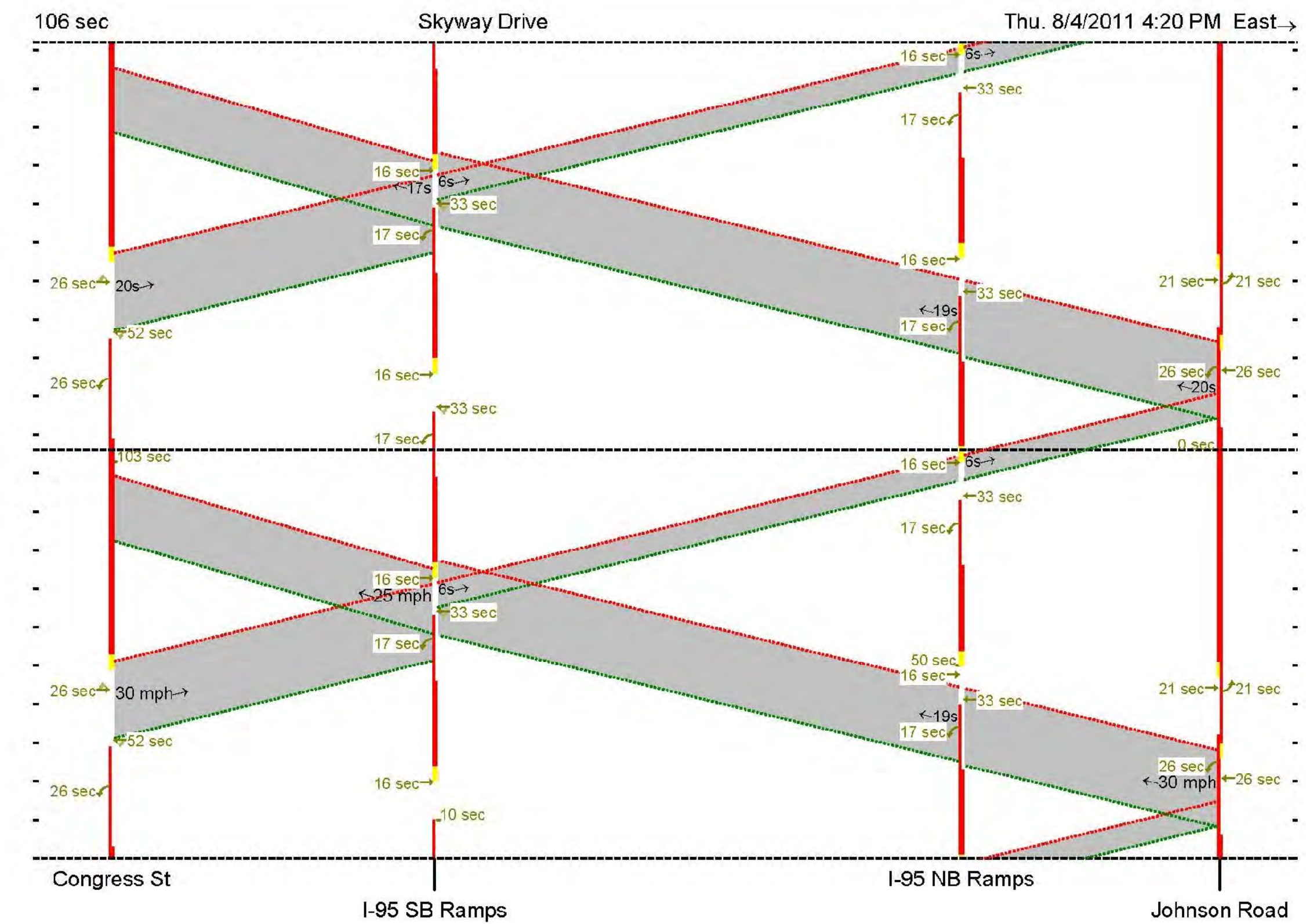
14

OF 18

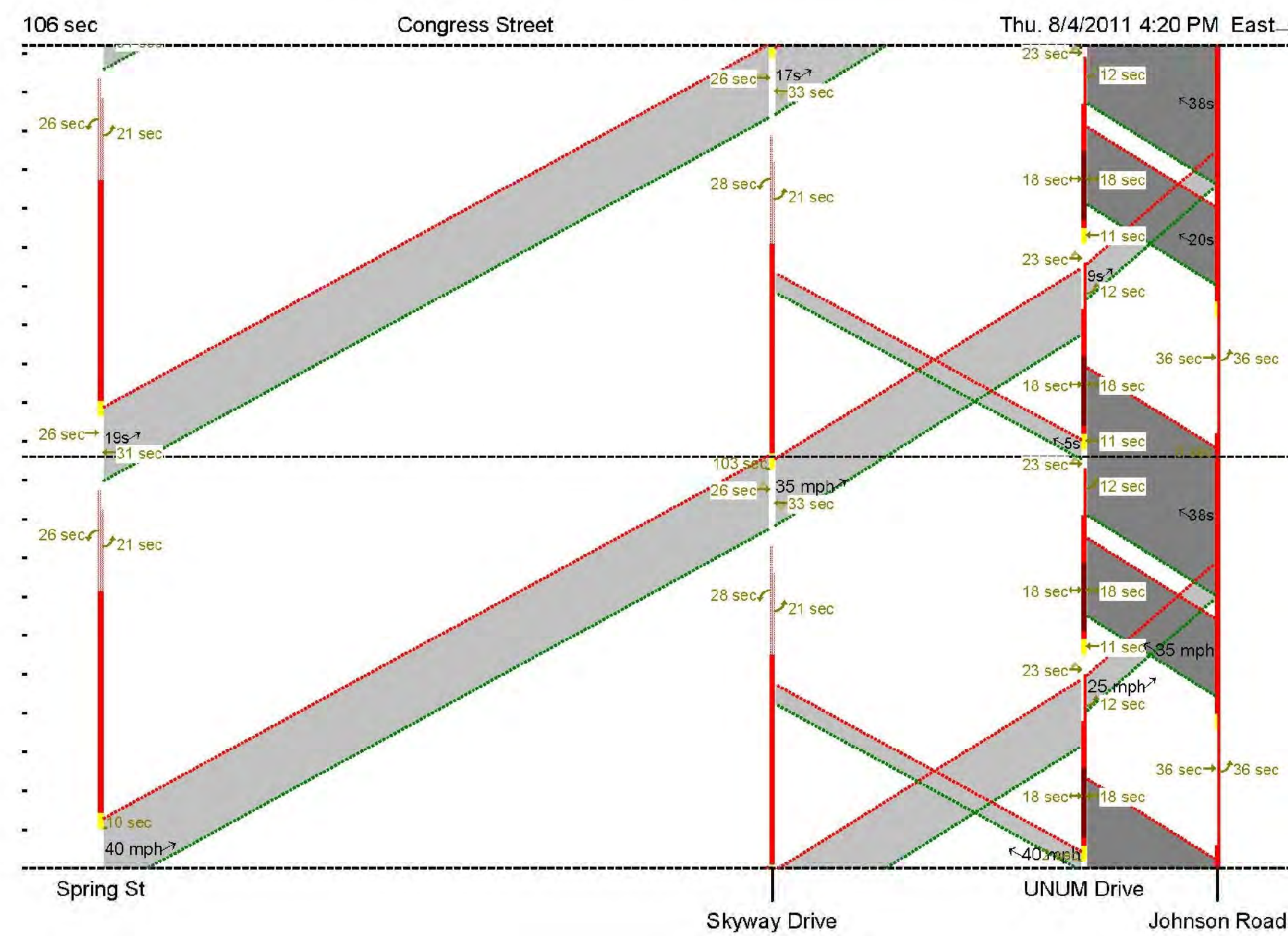
PLAN 3  
106 SECOND BACKGROUND CYCLE



PLAN 3  
106 SECOND BACKGROUND CYCLE



PLAN  
106 SECOND BACKGROUND CYCLE



Date: 8/18/2011

Username: J ROBERT

Division: ... \1s\planset\014\_5213300\TSD3.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17856.00

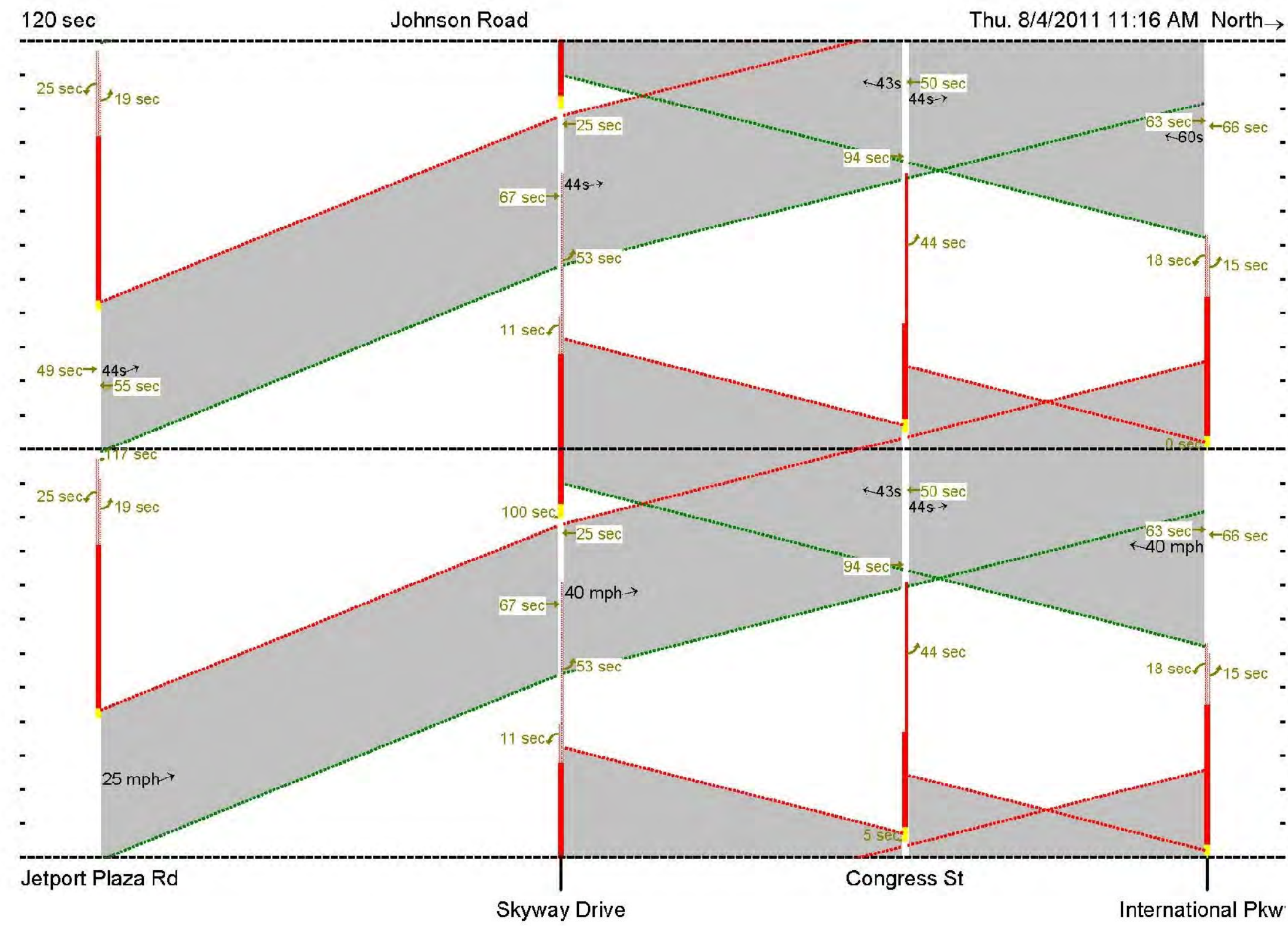
DATE  
SIGNATURE  
P.E. NUMBER  
DATE

PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGNS DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

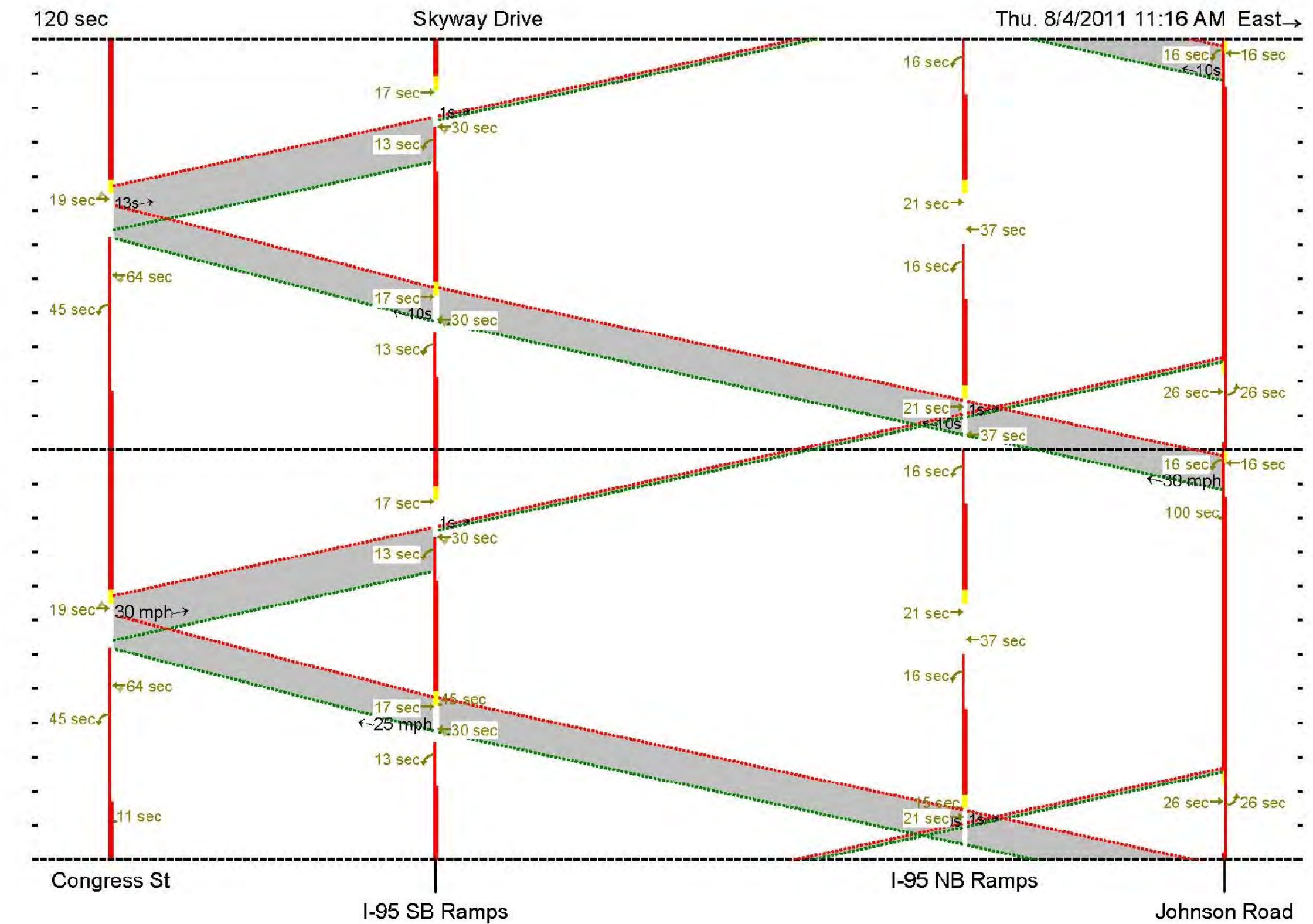
CONGRESS STREET / SKYWAY DRIVE  
TIME SPACE DIAGRAMS

SHEET NUMBER  
**15**  
OF 18

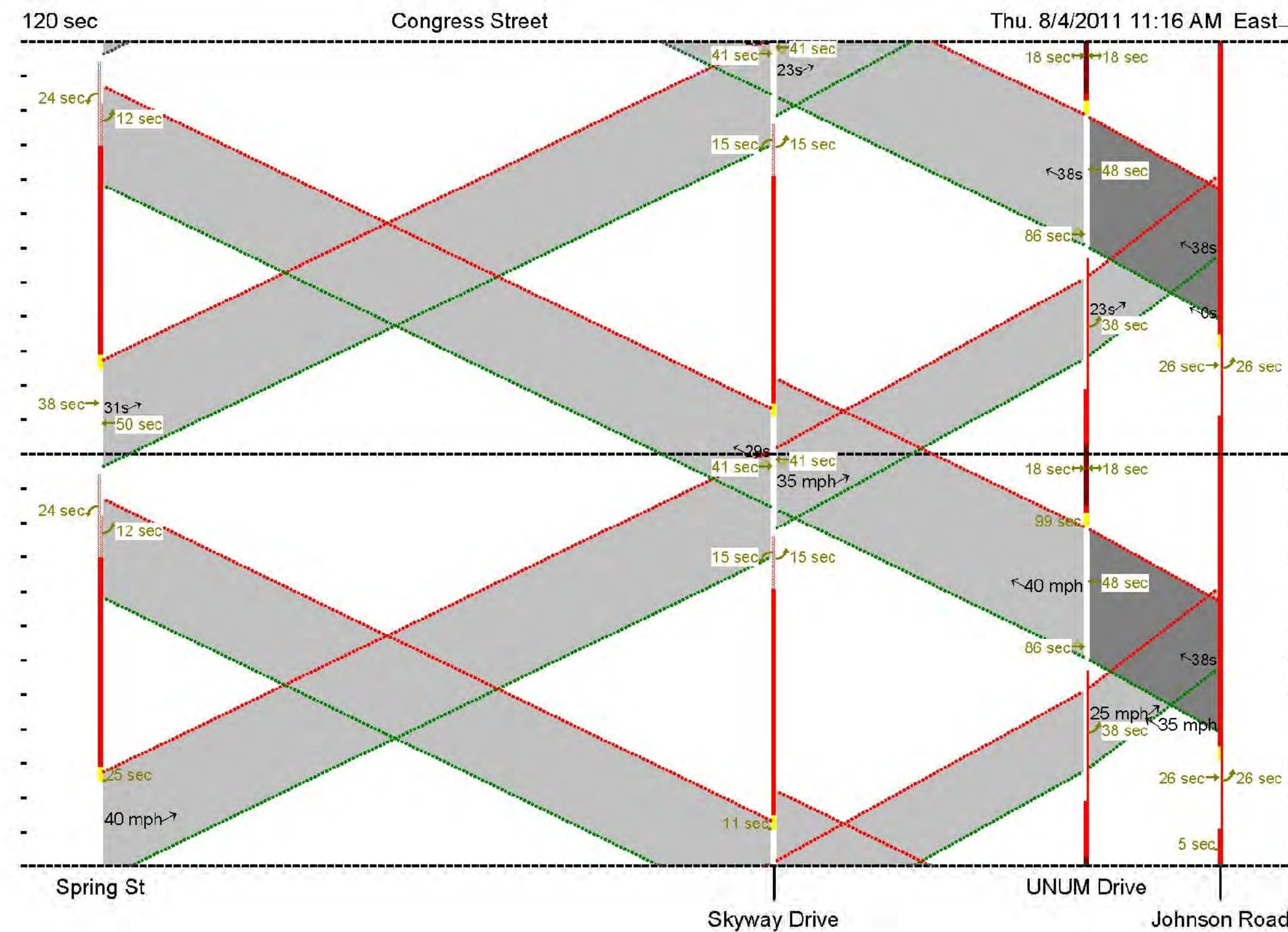
**PLAN 4  
120 SECOND BACKGROUND CYCLE**



**PLAN 4  
120 SECOND BACKGROUND CYCLE**



**PLAN 4  
120 SECOND BACKGROUND CYCLE**



Date: 8/18/2011

Username: J ROBERT

Division: ... \ts\planset\014\_5213300\TSD4.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17856.00

PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

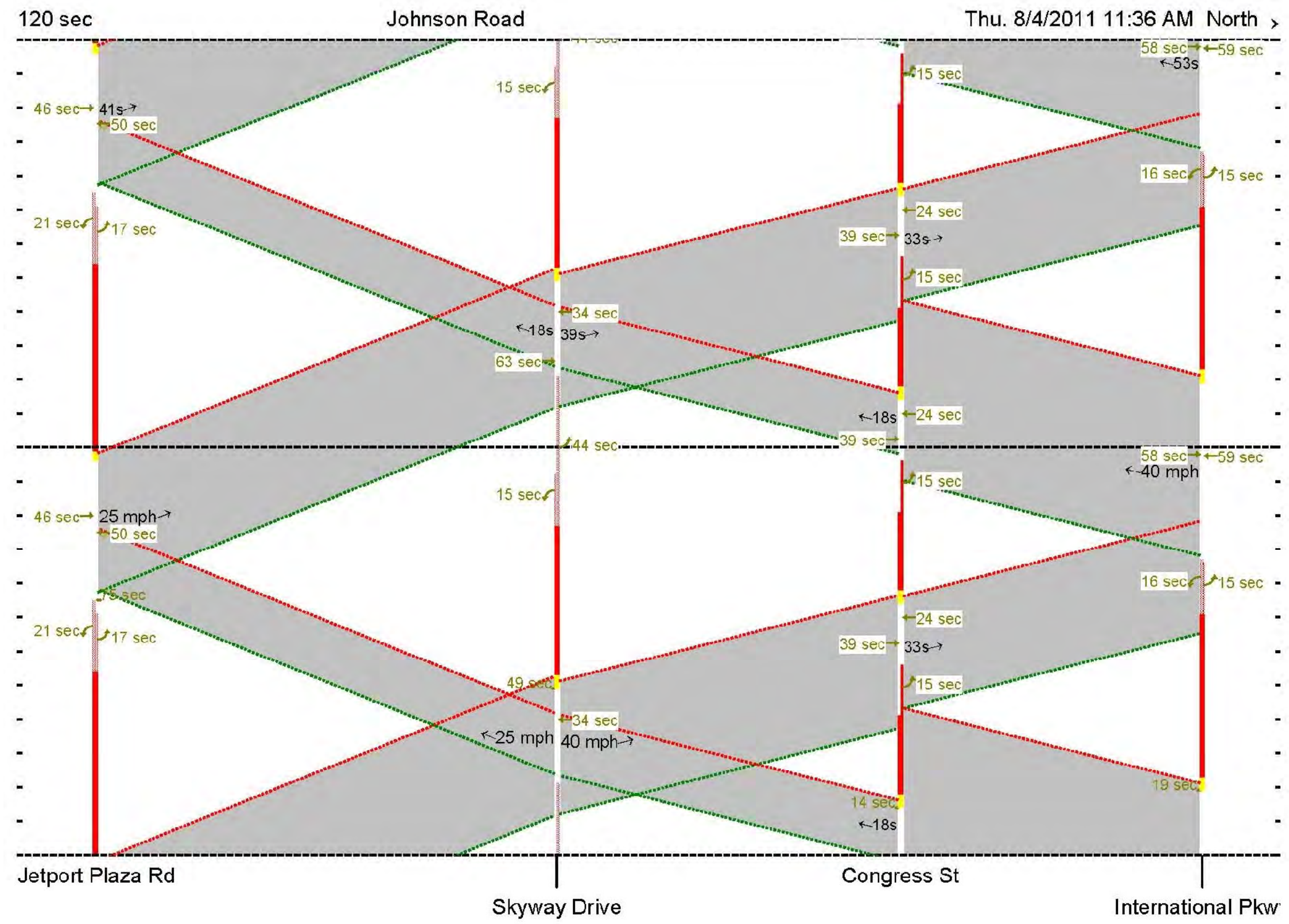
CONGRESS STREET / SKYWAY DRIVE  
TIME SPACE DIAGRAMS

SHEET NUMBER

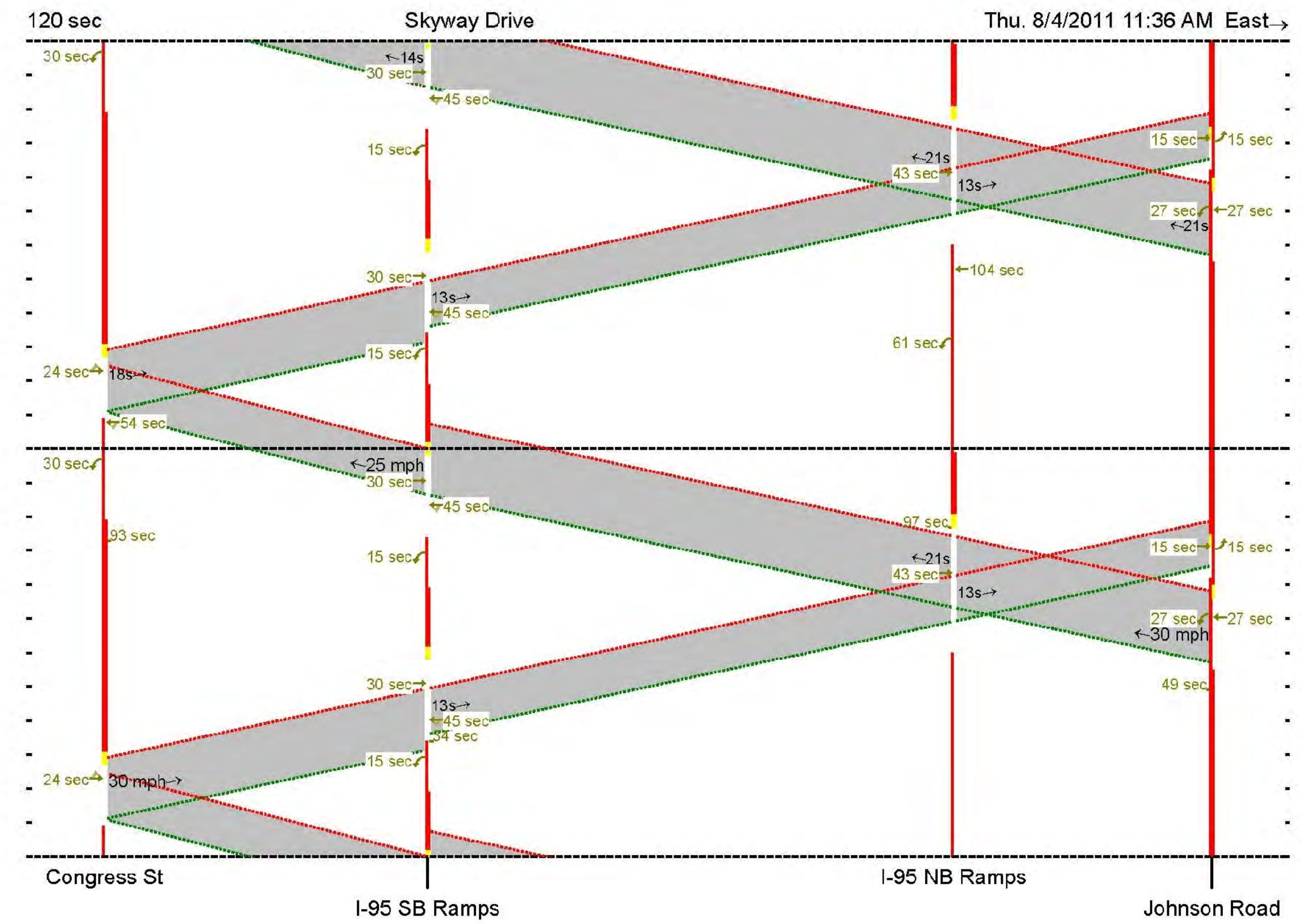
16

OF 18

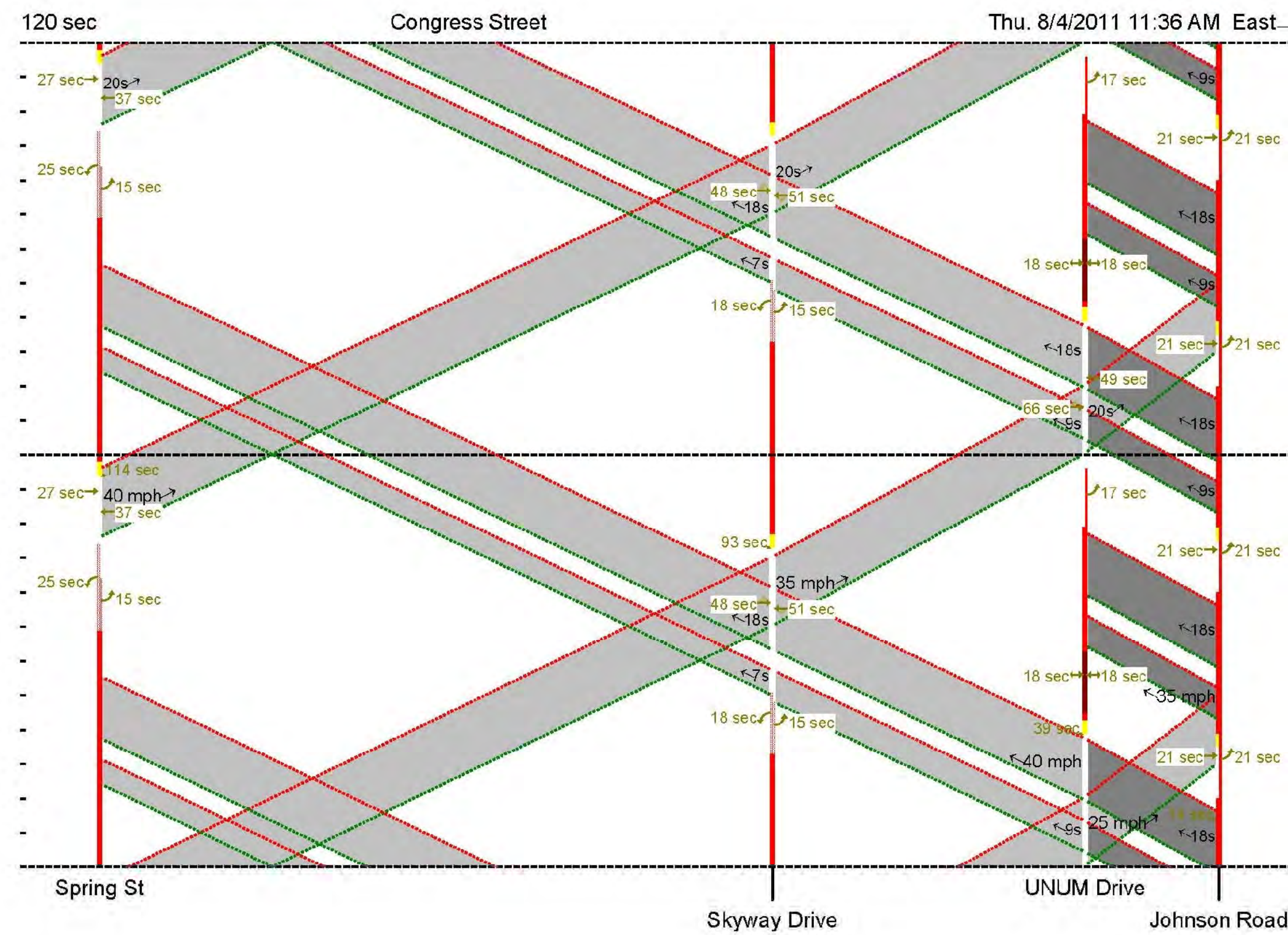
PLAN 5  
120 SECOND BACKGROUND CYCLE



PLAN 5  
120 SECOND BACKGROUND CYCLE



PLAN 5  
120 SECOND BACKGROUND CYCLE



Date: 8/18/2011

Username: J ROBERT

Division:

Filename: ... \1s\planset\014\_5213300\TSD5.dgn

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
PORTLAND-WESTBROOK  
WIN  
17856.00

PROJ. MANAGER	J. MANSIR	BY	DATE
DESIGN-DETAILED	M. GRAHAM	J. ROBERT	8/17/11
CHECKED-REVIEWED	C. BOBBAY	E. DREW	8/16/11
DESIGN DET AILED			
DESIGN DET AILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

CONGRESS STREET / SKYWAY DRIVE  
TIME SPACE DIAGRAMS

SHEET NUMBER

17

OF 18

**LIST OF MAJOR ITEMS**

EQUIPMENT AND WORK ITEMS 643.71	QUANTITY
CARD RACK MOUNT VIDEO COMMUNICATIONS BOARD (ITEM 643.83)	1
2-CHANNEL/4-OUTPUT CARD RACK DATA AND PRESENCE VIDEO DETECTOR CARDS (ITEM 643.83)	1
CARD RACK VIDEO POWER SUPPLY (ITEM 643.83)	1
VIDEO DETECTION CAMERA (ITEM 643.83)	3

THE QUANTITIES LISTED ABOVE ARE APPROXIMATE AND ARE FURNISHED FOR INFORMATION ONLY.

**SIGNAL TIMING SCHEDULE**

ITEM / PHASE	1	2	3	4	5	6	7	8	9
MINIMUM INITIAL	5	10		5	10				
PASSAGE TIME	3.0	3.0		3.0	3.0				
MAXIMUM 1	40	40		40	80				
MAXIMUM 2	55	55		35	90				
YELLOW	4.0	4.0		4.0	4.0				
ALL RED	2.0	2.0		2.0	2.0				
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE									
RECALL	O	S		O	S				
DETECTOR OPERATION	PR	PR		PR	PR				
PREEMPTION PRIORITY									
FLASH	R	R		R	R				
DUAL ENTRY	OFF	OFF		OFF	OFF				

NOTES: S = SOFT RECALL Y = YELLOW  
 O = RECALL OFF R = RED  
 MAX2 = UNDER COORDINATION PR = PRESENCE

**COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE**  
 ALL ENTRIES IN SECONDS

CYCLE LENGTH	COORDINATION MODE SET TO FIXED FORCE-OFF				
	PLAN 1	PLAN 2	PLAN 3	PLAN 4	PLAN 5
OFFSET (END Ø6 GRN)	35	35	0	0	97
YIELD POINT	0	0	0	0	0
SPLIT TIME Ø1	14	38	17	16	56
SPLIT TIME Ø2	13	32	16	21	38
SPLIT TIME Ø3	0	0	0	0	0
SPLIT TIME Ø4	13	20	20	23	26
SPLIT TIME Ø5	0	0	0	0	0
SPLIT TIME Ø6	27	70	33	37	94
SPLIT TIME Ø7	0	0	0	0	0
SPLIT TIME Ø8	13	20	20	23	26

**COORDINATION NOTES:**

- OFFSET IS REFERENCED TO THE END OF THE COORDINATED PHASE (Ø6 PER NTCP).
- COORDINATION TO OPERATE BY TIME-OF-DAY (SEE SHEET 2 FOR DAY PLAN SETTINGS).
- PHASE 8 IS A DUMMY PHASE TO BE SET WITH SPLIT TIMES FOR NTCP COMPLIANCE.

**DETECTOR SCHEDULE**

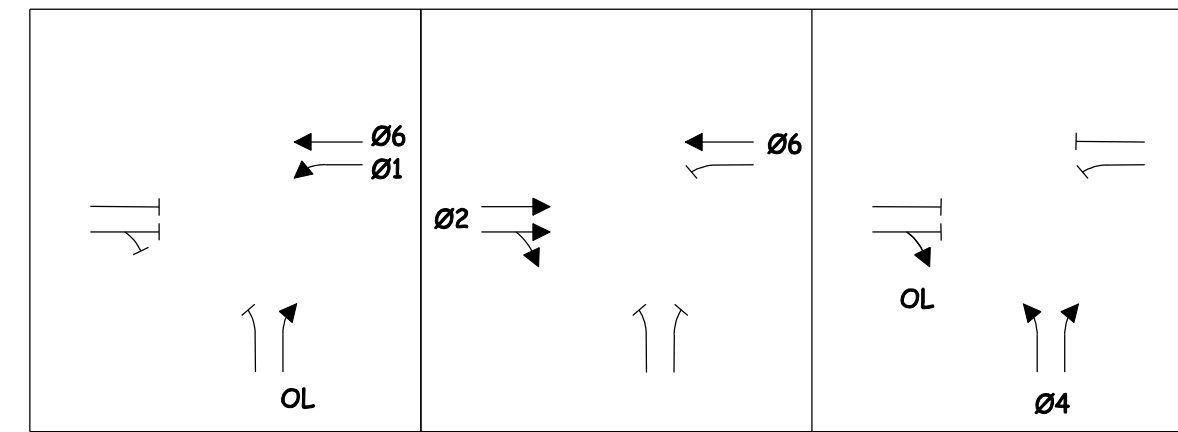
	DETECTOR					DETECTOR CARD IN VEHICLE DETECTION RACK			
	PLAN ID	STREET	DIRECTION	LANE	Ø	TYPE	SLOT NO	DETECTOR NO	CHANNEL
CAMERA V1									
CAMERA V2									
CAMERA V3									

**DETECTOR NOTES:**

CONTRACTOR SHALL COMPLETE THE DETECTOR SCHEDULE FOR RECORD OF DETECTOR PROGRAMMING INTO THE TRAFFIC SIGNAL CONTROLLER.

SKYWAY DRIVE AND I-95 SB RAMPS APPROACHES ARE ALL VIDEO DETECTION.

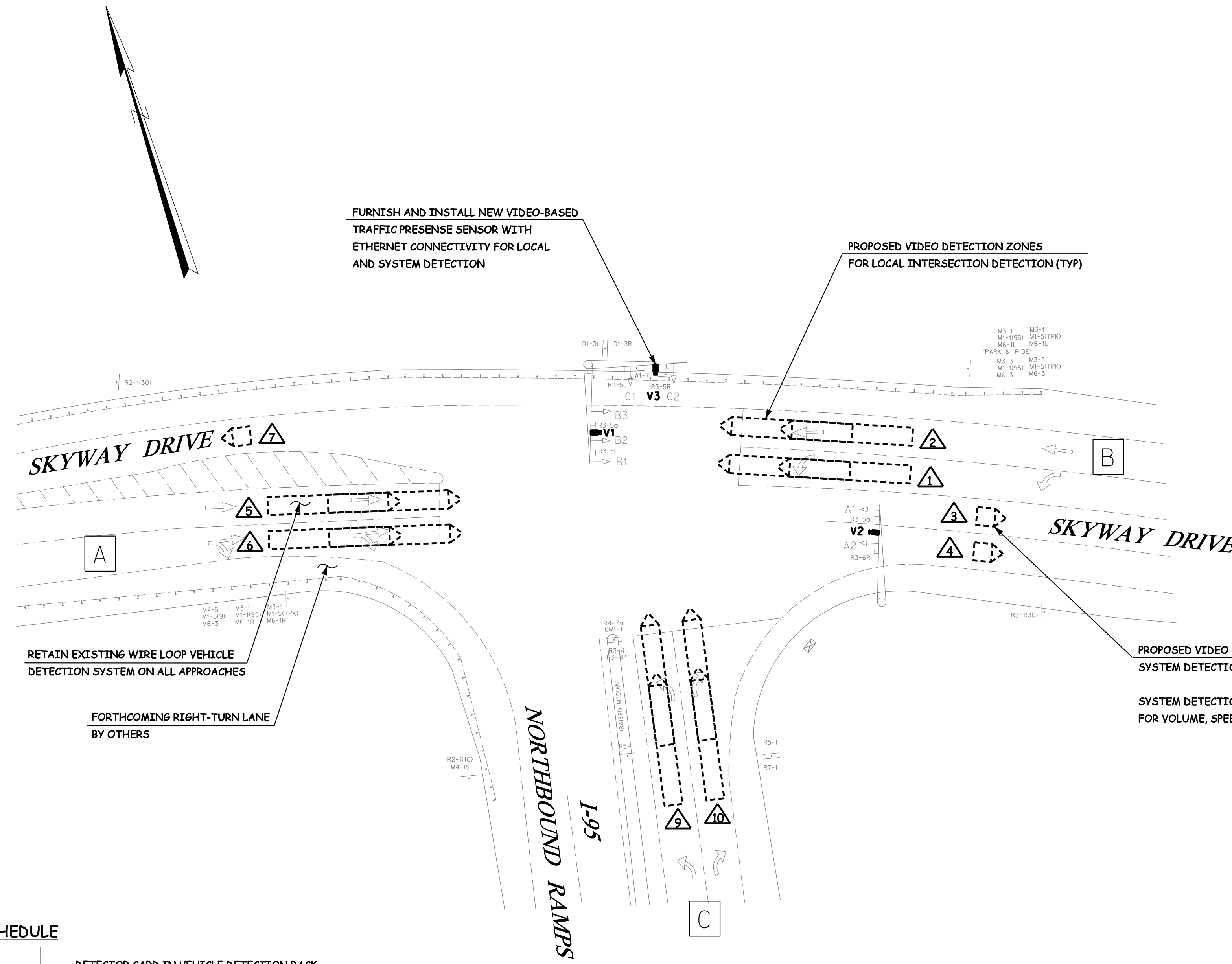
**EXISTING PHASING SEQUENCE (RETAINED)**



**BID ALTERNATE NO. 1**  
**NEW VIDEO DETECTION**

**SIGNAL HEAD DATA**

EXISTING		
B1	A1,B2,B3,C1	A2,C2
12" LED LENS	12" LED LENS	12" LED LENS
WITH 5-INCH LOUVERED BACKPLATES		



FURNISH AND INSTALL NEW VIDEO-BASED TRAFFIC PRESENCE SENSOR WITH ETHERNET CONNECTIVITY FOR LOCAL AND SYSTEM DETECTION

PROPOSED VIDEO DETECTION ZONES FOR LOCAL INTERSECTION DETECTION (TYP)

RETAIN EXISTING WIRE LOOP VEHICLE DETECTION SYSTEM ON ALL APPROACHES

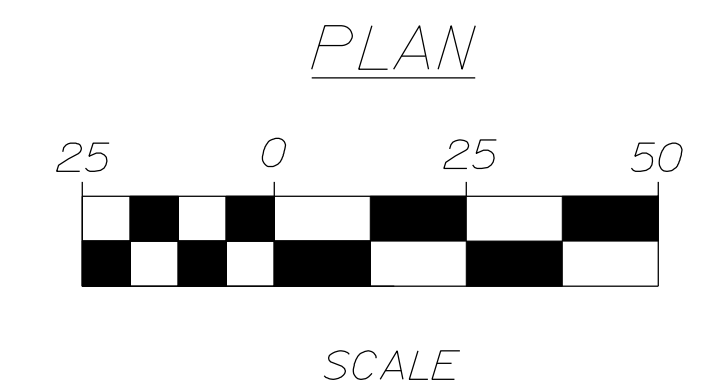
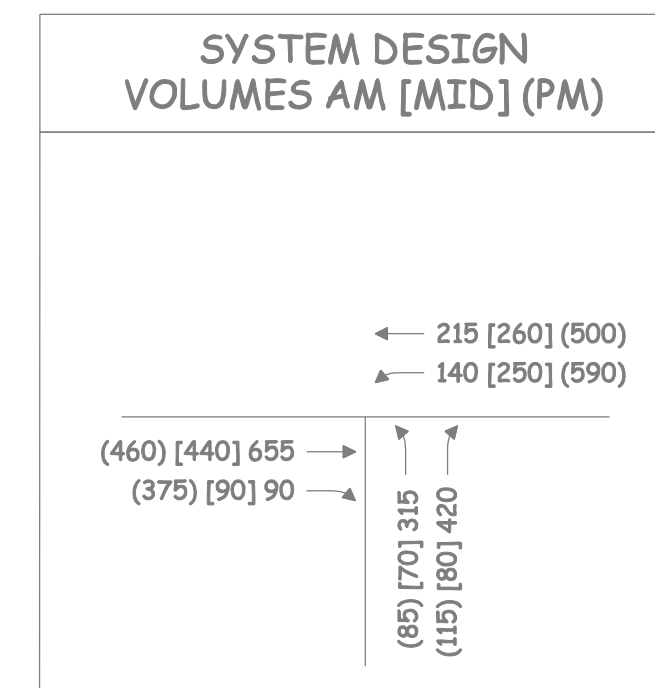
FORTHCOMING RIGHT-TURN LANE BY OTHERS

PROPOSED VIDEO DETECTION ZONES FOR SYSTEM DETECTION (TYP)

SYSTEM DETECTION SHALL BE CONFIGURED FOR VOLUME, SPEED, AND OCCUPANCY

INTERSECTION:  
 SKYWAY DR / I-95 NB RAMPS

SIGNAL GROUP:  
 7  
 LOCATION / PROPOSED DROP:  
 39



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 PORTLAND-WESTBROOK  
 WIN  
 17856.00

DATE  
 BY  
 J. ROBERT  
 E. DREW

PROJ. MANAGER  
 DESIGN DETAILED  
 CHECKED-REVIEWED  
 DESIGNS DETAILED  
 REVISIONS 1  
 REVISIONS 2  
 REVISIONS 3  
 REVISIONS 4  
 FIELD CHANGES

CONGRESS STREET / SKYVIEW DRIVE  
 I-95 NORTHBOUND RAMPS  
 TRAFFIC SIGNAL PLAN

SHEET NUMBER  
 18  
 OF 18

Date: 8/18/2011

Username: J ROBERT

Division:

Filename: ... \015\_52133005G03B01.dgn