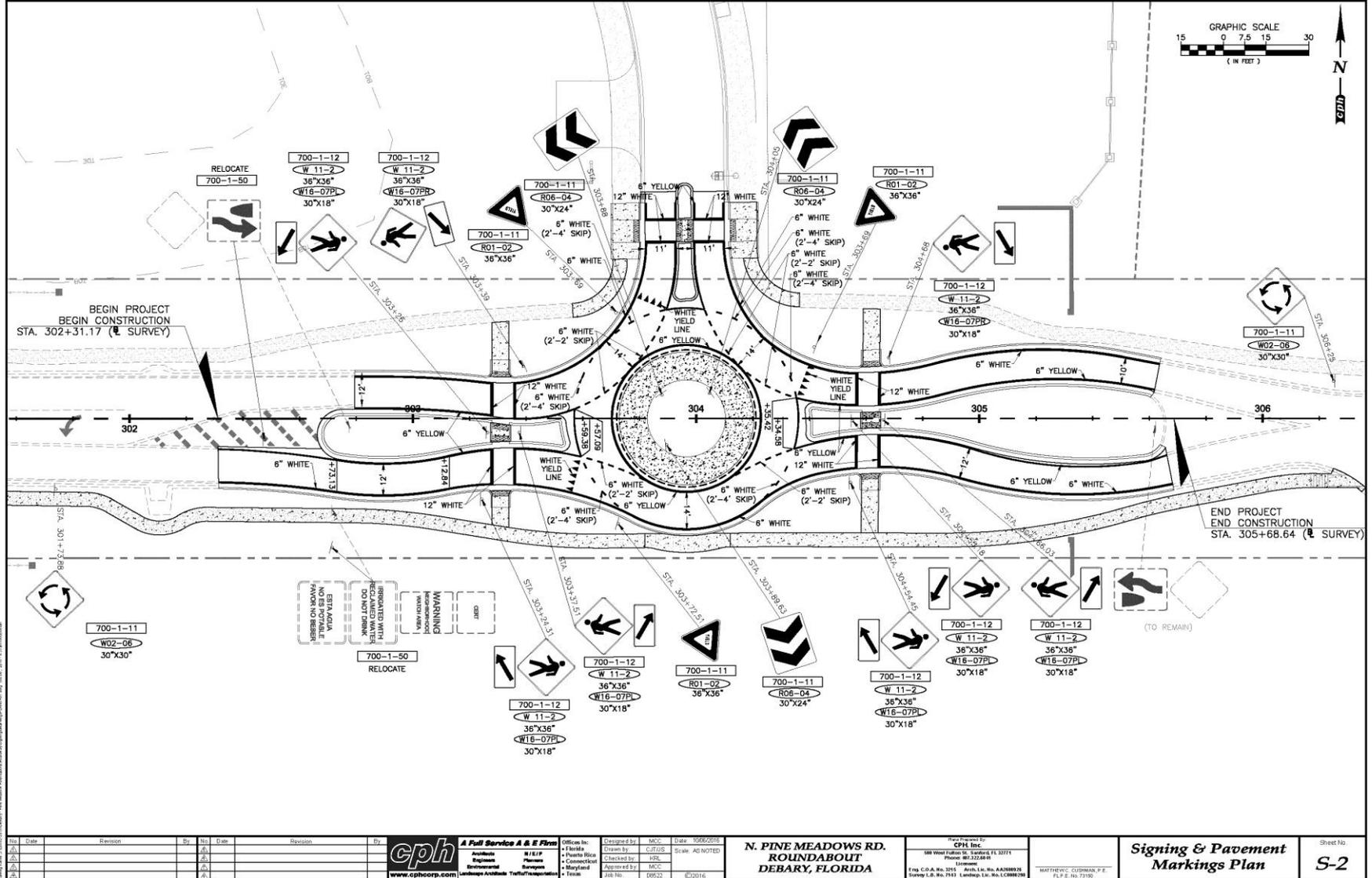




Roundabout

Pine Meadow Drive at
Wal-Mart Driveway

Roundabout Concept



No.	Date	Reason	By	Checked	Approved
1					
2					
3					
4					

CPH A Full Service A & E Firm
 9111 W. Highway 17
 Debary, Florida 32713
 Phone: 407-258-2258
 Fax: 407-258-2259
 Website: www.cphcorp.com

Designed by: M.C. [Signature]
 Drawn by: E.J.F.D.
 Checked by: M.C.
 Approved by: M.C.
 Date: 1/26/2016

**N. PINE MEADOWS RD.
 ROUNDABOUT
 DEBARY, FLORIDA**

Drawn by: CPH Inc.
 188 West Colonial St., Tallahassee, FL 32303
 Phone: 904-224-8833
 Website: www.cphinc.com

File No. C.O.A. No. 2015 Arch. Lic. No. AA2000726
 Engineer L.E. No. 7143 Landmg. Lic. No. CC000128

MATTHEW G. CUSHMAN P.E.
 P.L.P. # 1047200

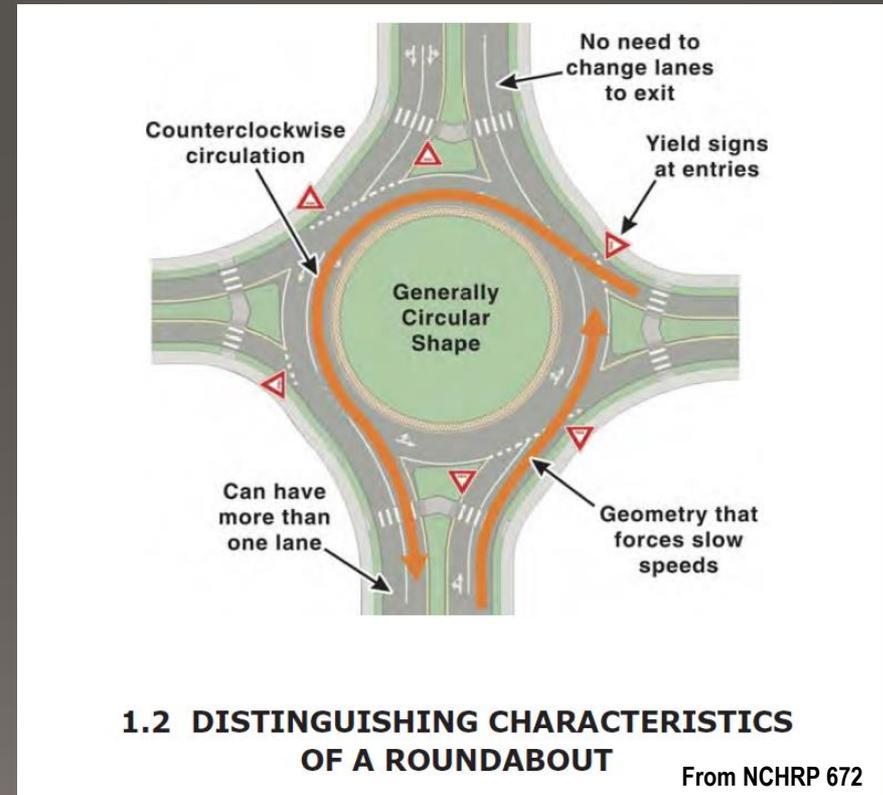
**Signing & Pavement
 Markings Plan**

Sheet No. **S-2**

Roundabouts



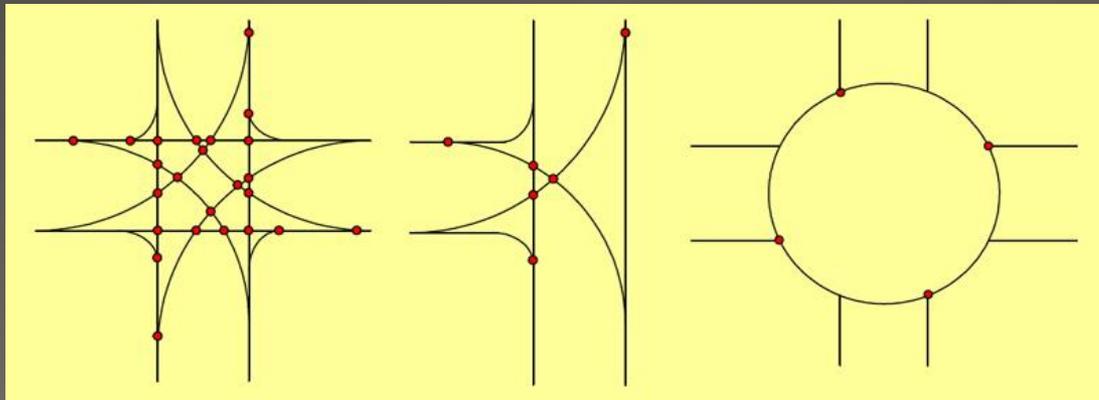
- Becoming more common
- Yield control for all approaches
- Specific Design considerations dictate size
 - Entering Speeds
 - Design vehicle
 - Mini Roundabout (mountable island)
 - Single-lane and Multi-lane
- Accommodates U-turns
 - Important when considering access
- Can reduce queueing impacts
- Aesthetic opportunities
- Capacity of roundabouts (# of lanes)
 - Very efficient in appropriate locations
- Right of way impacts



Safety Considerations For Roundabouts



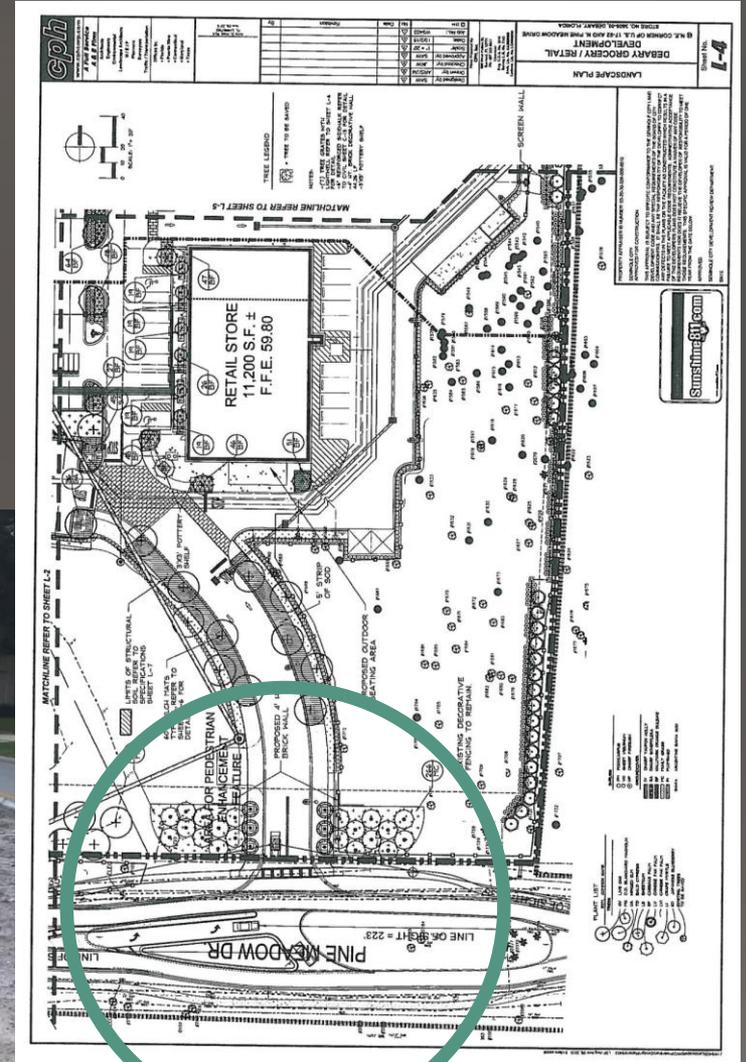
- Eliminates crossing conflicts which are the cause of Angle (T-bone) and Left-turn Crashes
 - Reduce overall crashes by 35%
 - Reduce injury crashes by 75%
 - Reduce fatal/severe injury crashes by 90%
- Pedestrians cross one direction of traffic at a time



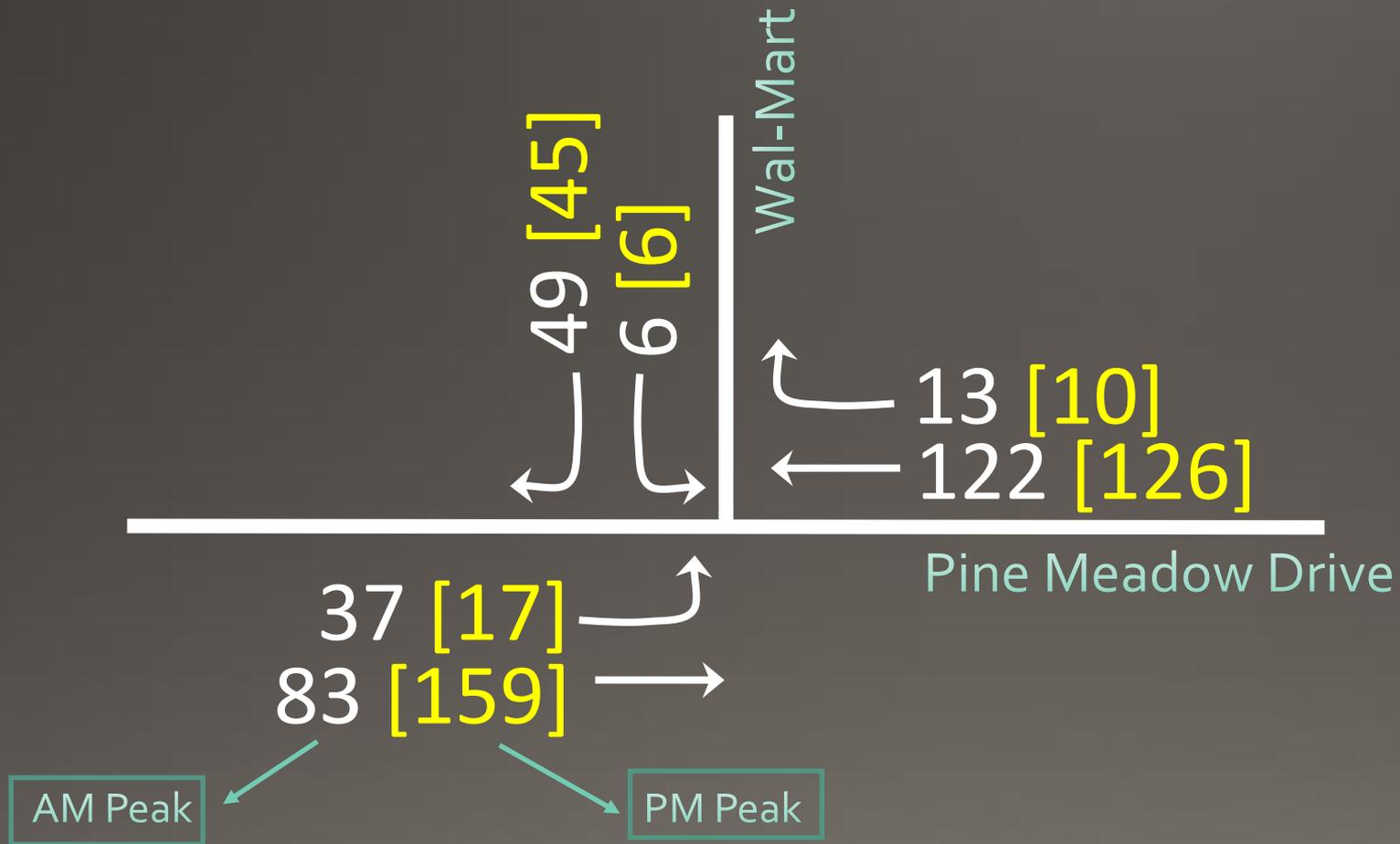
Approved Driveway



- Driveway is STOP controlled
- Allows all turning movements
- Unique configuration (driver expectations)
- Eastbound left-turn lane is 100' in length
- Projected to operate well (level of service A)



Traffic Volumes



Operational Summary



Pine Meadow Drive at Wal-Mart Driveway Level of Service Comparison

Movement	AM Peak		PM Peak	
	Level of Service	Delay (sec/veh)	Level of Service	Delay (sec/veh)
STOP-controlled				
Eastbound Left	A	7.6	A	7.5
Southbound Left/Right	A	9.4	A	9.4
Roundabout				
Eastbound Approach	A	4.3	A	4.1
Westbound Approach	A	4.6	A	4.3
Southbound Approach	A	4.3	A	4.2

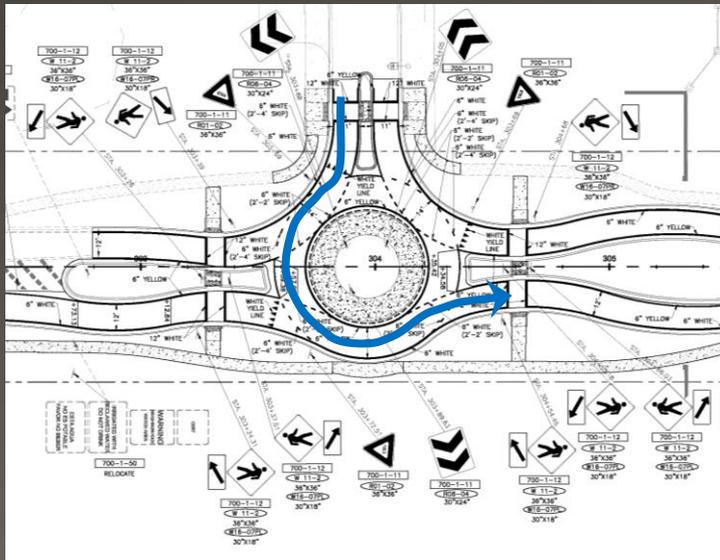
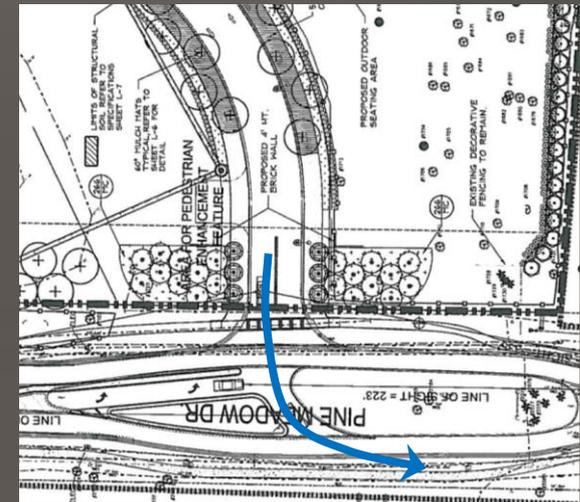
Level of Service

- A - Free flow (0-10 sec/veh)
- B - Stable flow/slight delays (10-15 sec/veh)
- C - Stable flow/acceptable delays (15-25 sec/veh)
- D - Approaching unstable flow (25-35 sec/veh)
- E - Unstable flow/intolerable delay (35-50 sec/veh)
- F - Congested/forced flow (>50 sec/veh)

Left-Turn Movement Exiting Site



- Current configuration (STOP control)
 - Signage to prohibit movement
 - Would likely be ignored
 - Safety concerns with driver expectation
 - If prohibited, would create u-turns at US 17/92 intersection
 - Adversely affects intersection capacity

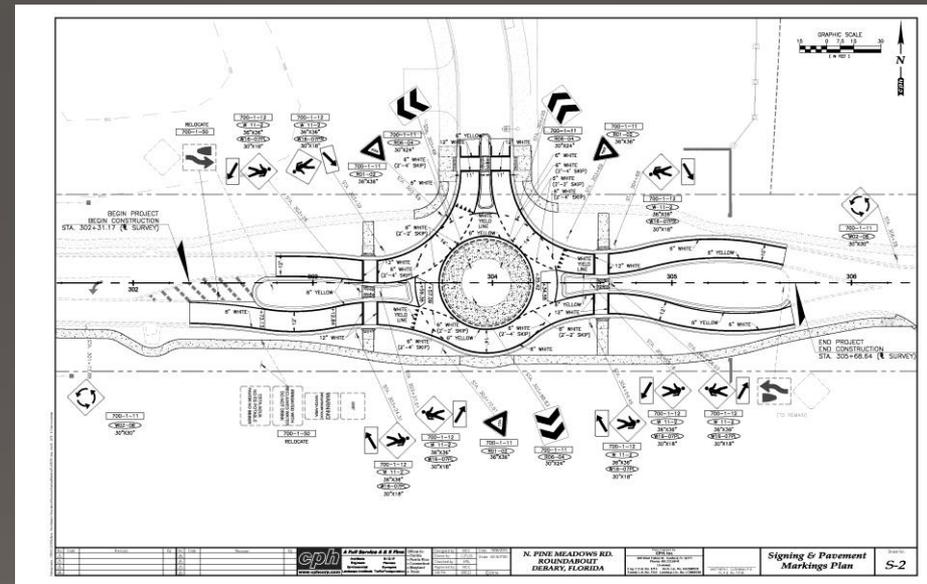


- Roundabout
 - Will not accommodate semi-trucks "to/from" the east and "from" the west (only allows "to" the west)
 - Will accommodate fire trucks in all movements

Summary



- Roundabout
 - ✓ Very good operations
 - ✓ Reduced entry speeds
 - ✓ Enhanced safety
 - ✓ Accommodates fire trucks
 - ✓ Restricts semi-trucks
 - ✓ Pedestrians cross one direction of traffic at a time
 - ✓ Minimizes potential queue spillback to US 17/92
 - ✓ Aesthetics





Questions?