

**CITY OF NATIONAL CITY STANDARD TRAFFIC CONTROL NOTES**

1. ALL REFERENCES TO THE "CITY" SHALL EXPLICITLY REFER TO THE "CITY OF NATIONAL CITY". ALL REFERENCES TO THE "DEPARTMENT" SHALL EXPLICITLY REFER TO THE "ENGINEERING & PUBLIC WORKS DEPARTMENT" AND THE DEPARTMENT'S APPOINTED REPRESENTATIVE(S).
2. INSTALLATION OF ALL TRAFFIC CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE MOST RECENT EDITION OF THE FOLLOWING STANDARD PLANS AND SPECIFICATIONS:
  - a. CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
  - b. SAN DIEGO AREA REGIONAL STANDARD DRAWINGS (SDRSD), APPENDIX A - TRAFFIC CONTROL PLANS.
  - c. STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD PLANS
  - d. STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) STANDARD SPECIFICATIONS
  - e. STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"), INCLUDING ALL CURRENT SUPPLEMENTS.
3. TRAFFIC CONTROL PLANS SHALL BE SUBMITTED TO THE DEPARTMENT A MINIMUM OF 2 WEEKS IN ADVANCE OF CONSTRUCTION FOR CITY CAPITAL IMPROVEMENT PROJECTS AND A MINIMUM OF 30 DAYS IN ADVANCE FOR ALL OTHER PROJECTS. THE CONTRACTOR SHALL CONSIDER CURRENT OR PLANNED CONSTRUCTION ACTIVITIES WITHIN OR NEAR THE PROPOSED WORK ZONE WHEN PREPARING THE TRAFFIC CONTROL PLAN, AND SHALL COORDINATE CONSTRUCTION ACTIVITIES IN ADVANCE AS TO MINIMIZE IMPACTS.
4. AN APPROVED TRAFFIC CONTROL PLAN AND CONSTRUCTION PERMIT(S) ARE REQUIRED PRIOR TO COMMENCING WORK. APPROVAL OF THE TRAFFIC CONTROL PLAN DOES NOT CONSTITUTE AN OFFICIAL PERMIT.
  - a. THE CONTRACTOR SHALL OBTAIN A "NO-COST" PERMIT FROM THE DEPARTMENT FOR CITY CAPITAL IMPROVEMENT PROJECTS.
  - b. PERMITS FOR ALL OTHER PROJECTS SHALL BE ISSUED BY THE DEPARTMENT BASED ON THE CITY'S LATEST ADOPTED FEE SCHEDULE.
5. CONSTRUCTION PERMITS ISSUED BY THE DEPARTMENT ARE VALID FOR WORK WITHIN THE CITY'S RIGHT OF WAY ONLY; THEREFORE, TEMPORARY TRAFFIC CONTROL SHALL NOT BE PLACED ON PRIVATE PROPERTY.
6. CONTRACTOR SHALL OBTAIN A SEPARATE PERMIT FROM CALTRANS IN THE EVENT TRAFFIC CONTROL NEEDS TO BE INSTALLED WITHIN CALTRANS' RIGHT OF WAY.
7. A COPY OF THE TRAFFIC CONTROL PLAN AND PERMIT, INCLUDING ANY PERMIT EXTENSIONS ISSUED BY THE CITY, MUST BE KEPT ON THE JOB SITE AT ALL TIMES.
8. THE DEPARTMENT RESERVES THE RIGHT TO OBSERVE THESE TRAFFIC CONTROL PLANS IN OPERATION AND DIRECT THE CONTRACTOR TO MAKE CHANGES AS FIELD CONDITIONS WARRANT TO ENSURE SAFETY OF THE PUBLIC AND/OR IMPROVE TRAFFIC OPERATIONS.
9. THE DEPARTMENT WILL IMMEDIATELY SHUT DOWN WORK IN THE EVENT THE CONTRACTOR FAILS TO MAINTAIN TRAFFIC CONTROL PER THE APPROVED PLANS AND/OR CREATES AN UNDUE SAFETY HAZARD.
10. CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM THROUGH 5:00 PM, MONDAY THROUGH FRIDAY, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE DEPARTMENT.
11. ALL NIGHT WORK REQUIRES PRIOR WRITTEN APPROVAL FROM THE DEPARTMENT AND SHALL INCLUDE THE USE OF LIGHTED BARRICADES, TRAFFIC CONTROL DRUMS OR OTHER DEVICES AS APPROVED BY THE DEPARTMENT.
12. CONSTRUCTION ACTIVITIES MAY BE RESTRICTED FOR SPECIFIC TIME PERIODS TO MINIMIZE IMPACTS TO PEAK HOUR TRAFFIC, SCHOOL DROP-OFF/PICK-UP, SPECIAL EVENTS, ETC., AT THE DIRECTION OF THE DEPARTMENT.
13. CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED IN SUCH A MANNER AS TO CAUSE AS LITTLE INCONVENIENCE AS POSSIBLE TO ADJACENT PROPERTY OWNERS/TENANTS.
14. TEMPORARY STREET CLOSURES REQUIRE PRIOR APPROVAL BY THE DEPARTMENT. THEREFORE, THE CONTRACTOR SHALL SUBMIT ALL REQUESTS FOR TEMPORARY STREET CLOSURES, INCLUDING A SEPARATE DETOUR PLAN, TO THE DEPARTMENT A MINIMUM OF 30 DAYS IN ADVANCE OF THE CLOSURE. IF APPROVED, THE CONTRACTOR SHALL NOTIFY BOTH THE DEPARTMENT AND NATIONAL CITY FIRE DEPARTMENT A MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE, AND IMMEDIATELY AFTER RE-OPENING THE STREET.
15. CONTRACTOR SHALL NOTIFY ALL AFFECTED PROPERTY OWNERS/TENANTS OF THE PROJECT SCOPE AND SCHEDULE A MINIMUM OF 2 WEEKS PRIOR TO STARTING CONSTRUCTION. NOTIFICATIONS SHALL BE MADE IN PERSON AND BY LEAVING DOOR HANGERS, AS APPROVED BY THE DEPARTMENT.
16. CONTRACTOR SHALL NOTIFY ADJACENT PROPERTY OWNERS/TENANTS A MINIMUM OF 1 WEEK IN ADVANCE OF STARTING CONSTRUCTION ON THEIR BLOCK. ADVANCE WARNING SIGNS SHALL BE PLACED A MINIMUM OF 1 WEEK IN ADVANCE OF STARTING CONSTRUCTION.
17. CONTRACTOR SHALL NOTIFY SAN DIEGO METROPOLITAN TRANSIT SYSTEM (MTS) A MINIMUM OF 1 WEEK IN ADVANCE OF CONSTRUCTION AFFECTING BUS STOPS.
18. THE CONTRACTOR SHALL INSTALL CLEARLY MARKED SIGNS WITHIN WORK ZONES IDENTIFYING THE CONTRACTOR'S NAME AND 24-HOUR EMERGENCY TELEPHONE NUMBER TO ALLOW THE PUBLIC TO REPORT ANY ISSUES WITH CONSTRUCTION ACTIVITIES OR TRAFFIC CONTROL. THE SIZE AND PLACEMENT OF SUCH SIGNS SHALL BE PRE-APPROVED BY THE DEPARTMENT.
19. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES.
20. DRIVEWAY ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES UNLESS PRIOR ARRANGEMENTS ARE MADE WITH THE AFFECTED PROPERTY OWNERS/TENANTS, AND AS APPROVED BY THE DEPARTMENT.
21. CONTRACTOR SHALL COMPLY WITH THE LATEST REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) TO MAINTAIN SAFE PEDESTRIAN ACCESS, INCLUDING ACCESS FOR PERSONS WITH DISABILITIES, THROUGH AND/OR AROUND WORK ZONES. TYPICAL MEASURES INCLUDE, BUT ARE NOT LIMITED TO, USE OF FLAGGERS TO STOP TRAFFIC, CONSTRUCTION OF TEMPORARY SIDEWALKS AND ACCESS RAMPS, CREATION OF SECURE PATHWAYS THAT PROVIDE BUFFERS FROM OPEN TRENCHES, EQUIPMENT AND TRAFFIC, AND USE OF ADVANCED WARNING SIGNS WITH DIRECTIONAL ARROWS LEADING PEDESTRIANS TO ALTERNATIVE, NEARBY CROSSING LOCATIONS.
22. ALL CONSTRUCTION WORKERS SHALL WEAR HARD HATS AND HIGH-VISIBILITY SAFETY APPAREL (OR REFLECTIVE VEST AT NIGHT) AT ALL TIMES, CONSISTENT WITH THE LATEST STANDARD SPECIFICATIONS.
23. CONTRACTOR SHALL SET UP TEMPORARY TRAFFIC CONTROL AT THE BEGINNING OF EACH WORK DAY AND PROMPTLY REMOVE AT THE END OF EACH DAY TO ALLOW FOR NORMAL TRAFFIC OPERATIONS AFTER WORK HOURS. REQUESTS TO MAINTAIN TEMPORARY TRAFFIC CONTROL AFTER HOURS MUST BE PRE-APPROVED BY THE DEPARTMENT.
24. CONTRACTOR SHALL MAINTAIN ALL TRAFFIC CONTROL DEVICES IN "LIKE NEW" CONDITION AT ALL TIMES.
25. CONTRACTOR SHALL IMPLEMENT AND MAINTAIN STORM WATER BEST MANAGEMENT PRACTICES (BMPS) AT ALL TIMES.
26. ALL DIRT, DUST, AND DEBRIS SHALL BE COMPLETELY REMOVED FROM THE WORK ZONE AT THE END OF EACH DAY, TO THE SATISFACTION OF THE DEPARTMENT.
27. ALL STREETS SHALL BE KEPT IN A DRIVABLE CONDITION AT ALL TIMES.
28. ALL TRAVEL LANES SHALL BE A MINIMUM OF 12 FEET WIDE, 14 FEET IF ADJACENT TO BIKE LANES, UNLESS OTHERWISE SPECIFICALLY APPROVED BY THE DEPARTMENT.
29. ALL TRAVEL LANES SHALL HAVE A MINIMUM OF 5 FEET OF CLEARANCE FROM OPEN TRENCHES AND A MINIMUM OF 2 FEET OF CLEARANCE FROM VERTICAL OBSTRUCTIONS. OPEN TRENCHES WITH LESS THAN 5 FEET OF CLEARANCE SHALL BE PROTECTED BY K-RAIL BARRIERS WITH TEMPORARY CRASH CUSHION END TREATMENTS PER THE LATEST STANDARD PLANS AND SPECIFICATIONS, AND TO THE SATISFACTION OF THE DEPARTMENT.
30. ALL OPEN TRENCHES SHALL BE BACK-FILLED OR STEEL-PLATED DURING NON-WORK HOURS CONSISTENT WITH THE LATEST STANDARD PLANS AND SPECIFICATIONS, AND TO THE SATISFACTION OF THE DEPARTMENT.
31. STEEL PLATES SHALL BE SKID-RESISTANT AND HAVE AN ASPHALTIC RAMP ON ALL EDGES TO SECURE THE PLATES AND ENSURE A SMOOTH TRANSITION FOR VEHICLES AND BICYCLES. THE DEPARTMENT MAY REQUIRE THE CONTRACTOR TO INSTALL "STEEL PLATE AHEAD" (W8-24) SIGNS IN ADVANCE OF THE PLATES.
32. CONTRACTOR SHALL POST "UNEVEN LANES" (W8-11) SIGNS FOR PAVEMENT SURFACE DISRUPTIONS OF ½ INCH OR GREATER. PAVEMENT DISRUPTIONS OF 1 INCH OR GREATER SHALL HAVE BEVELED EDGES OF 4:1 (HORIZONTAL TO VERTICAL).
33. TRAFFIC CONTROL DEVICES SHALL NOT OBSTRUCT VISIBILITY AT DRIVEWAYS AND SHALL BE REMOVED FROM VIEW OR COVERED WHEN NOT IN USE.
34. ALL CONFLICTING SIGNS SHALL BE COVERED DURING CONSTRUCTION.
35. CONTRACTOR SHALL MAINTAIN A MINIMUM TURNING RADIUS OF 25' AT CORNERS OF WORK ZONES.
36. FOR EXTENDED WORK ZONES IN COMMERCIAL DISTRICTS THE CONTRACTOR SHALL PLACE "BUSINESSES OPEN DURING CONSTRUCTION" SIGNS (BLACK ON WHITE BACKGROUND) AT INTERVALS OF 150' (OR TWO PER CITY BLOCK). MORE FREQUENT SIGN PLACEMENT MAY BE REQUIRED AT THE DIRECTION OF THE DEPARTMENT.
37. WHEN ESTABLISHMENT OF TEMPORARY NO PARKING ZONES ARE REQUIRED TO FACILITATE CONSTRUCTION, THE CONTRACTOR SHALL POST TOW-AWAY/NO PARKING SIGNS 72 HOURS IN ADVANCE. THE SIGNS SHALL BE PLACED ON TYPE II BARRICADES WITHIN THE PROPOSED TEMPORARY NO PARKING ZONE, CLEARLY VISIBLE TO THE PUBLIC. THE SIGNS SHALL INCLUDE THE DATES, DAYS OF THE WEEK, AND TIME OF DAY FOR THE TEMPORARY PARKING PROHIBITION.
38. WARNING (W) SERIES SIGNS USED IN WORK ZONES SHALL BE BLACK ON ORANGE BACKGROUND CONSISTENT WITH THE LATEST STANDARD PLANS AND SPECIFICATIONS, INCLUDING SIZE, SHAPE AND RETROREFLECTIVITY.
39. ALL WARNING AND CONSTRUCTION SIGNS SHALL BE MOUNTED ON TYPE II OR III BARRICADES PER THE LATEST STANDARD PLANS AND SPECIFICATIONS. ALTERNATIVE MOUNTING LOCATIONS SHALL BE PRE-APPROVED BY THE DEPARTMENT PRIOR TO CONSTRUCTION.
40. IF PARKING IS ALLOWED IN ADVANCE WARNING AREAS, ADVANCE WARNING SIGNS SHALL BE MOUNTED ON HIGH-LEVEL DEVICES.
41. ALL CONES, TUBULAR DELINEATORS AND OTHER APPROVED CHANNELIZING DEVICES SHALL BE A MINIMUM HEIGHT OF 36" AND HAVE RETROREFLECTIVE SLEEVES PER THE LATEST STANDARD PLANS AND SPECIFICATIONS.
42. FLASHING ARROW SIGNS SHALL BE USED FOR ALL FULL LANE CLOSURES OR AS OTHERWISE REQUIRED BY THE DEPARTMENT. FLASH RATES AND PATTERNS SHALL CONFORM TO THE LATEST STANDARD SPECIFICATIONS. SILENT TYPE ARROW BOARDS SHALL BE USED IN RESIDENTIAL AREAS.
43. FOR EXTENDED LANE CLOSURES THE CONTRACTOR SHALL PLACE "LANE CLOSED" (C30 (CA)) SIGNS AT 300' INTERVALS IN URBANIZED AREAS (OR ONE SIGN PER CITY BLOCK) AND AT 500' INTERVALS FOR AREAS WITH LIMITED ACCESS.
44. TEMPORARY TRAFFIC SIGNAGE W20-1 AND G20-2 SHALL BE PLACED ON ANY AFFECTED CROSS STREET CONSISTENT WITH THE LATEST STANDARD PLANS AND SPECIFICATIONS.
45. WHERE FLAGGERS ARE REQUIRED TO FACILITATE TRAFFIC CONTROL THEY SHALL BE PROPERLY EQUIPPED WITH A SET OF R1-1 AND W20-8 "STOP/SLOW" PADDLE PER THE LATEST STANDARD PLANS AND SPECIFICATIONS. FLAGGERS ARE REQUIRED TO BE TRAINED IN THE PROPER FUNDAMENTALS OF FLAGGING TRAFFIC AND MAINTAIN TWO-WAY RADIO COMMUNICATIONS AT ALL TIMES.
46. FLAGGERS SHALL BE PRESENT TO ASSIST PEDESTRIANS THROUGH WORK AREAS OR LEGAL CROSSWALKS/INTERSECTIONS AND TO PROVIDE INGRESS/EGRESS AT PRIVATE DRIVEWAYS.
47. FLAGGERS SHALL BE USED AT INTERSECTIONS WHERE THE TRAFFIC SIGNAL HAS BEEN PLACED ON "ALL-WAY RED FLASH" IF CONSTRUCTION RESULTS IN OBSTRUCTION TO DRIVER LINE OF SIGHT, OR AS DEEMED NECESSARY BY THE DEPARTMENT TO ENSURE PUBLIC SAFETY.
48. FLAGGERS SHALL BE PRESENT TO ASSIST WITH THE MERGING OF CONSTRUCTION TRUCKS AND HEAVY EQUIPMENT INTO AND OUT OF TRAFFIC. "TRUCKS ENTERING EXITING" (C44 (CA)) SIGNS MAY BE REQUIRED FOR FREQUENT MOVEMENTS, AT THE DIRECTION OF DEPARTMENT.
49. CONTRACTOR SHALL REMOVE ALL CONFLICTING STRIPING AND PAVEMENT MARKINGS BY "WATERBLASTING". ALTERNATIVE METHODS MUST BE PRE-APPROVED BY THE DEPARTMENT. ANY DEBRIS SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
50. PAVEMENT THAT IS DAMAGED DUE TO THE REMOVAL OF STRIPING, PAVEMENT MARKINGS AND PAVEMENT MARKERS SHALL BE IMMEDIATELY REPAIRED WITHIN 24 HOURS, TO THE SATISFACTION OF THE DEPARTMENT.
51. ALL TEMPORARY STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST STANDARD PLANS AND SPECIFICATIONS.
52. CONTRACTOR SHALL PROTECT EXISTING TRAFFIC SIGNAL FACILITIES THROUGHOUT CONSTRUCTION. ANY DAMAGE TO DETECTOR LOOPS, PULL BOXES, CONDUITS OR SIGNAL EQUIPMENT DUE TO CONSTRUCTION, SHALL BE IMMEDIATELY REPAIRED AND/OR REPLACED WITHIN 24 HOURS, TO THE SATISFACTION OF THE DEPARTMENT.
53. TRAFFIC SIGNALS SHALL REMAIN FULLY ACTUATED AT ALL TIMES.
  - a. REQUESTS TO HAVE A TRAFFIC SIGNAL PLACED ON "ALL-WAY RED FLASH" SHALL BE SUBMITTED TO THE DEPARTMENT A MINIMUM OF 72 HOURS IN ADVANCE.
  - b. REQUESTS FOR CHANGES TO TRAFFIC SIGNAL TIMING TO FACILITATE TRAFFIC CONTROL THROUGH AN INTERSECTION, OR IN THE EVENT DETECTOR LOOPS NEED TO BE CUT IN ORDER TO COMPLETE CONSTRUCTION, SHALL BE COORDINATED WITH THE DEPARTMENT A MINIMUM OF 1 WEEK IN ADVANCE.
  - c. ALL COSTS ASSOCIATED WITH ADJUSTMENTS TO SIGNAL TIMING SHALL BE BORNE BY THE CONTRACTOR.
54. ANY DISTURBED BENCHMARKS, MONUMENTS, AND/OR SURVEYING MARKERS SHALL BE REPLACED AND RESET BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING, IN A TIMELY MANNER. ALL ASSOCIATED COSTS SHALL BE BORNE BY THE CONTRACTOR.
55. WITHIN 24 HOURS OF COMPLETING THE WORK, THE CONTRACTOR SHALL PROMPTLY RESTORE ROADS AND SIDEWALKS BACK TO SATISFACTORY CONDITION, WHICH INCLUDES, BUT IS NOT LIMITED TO, PAVING, STRIPING, MARKINGS, SIGNAGE, AND DETECTOR LOOPS. ALL DIRT, DUST, AND DEBRIS SHALL BE COMPLETELY REMOVED FROM THE WORK ZONE, TO THE SATISFACTION OF THE DEPARTMENT.

<b>APPLICANT</b>	
PRINT NAME:	_____
SIGNATURE:	_____
AGENT OF:	OWNER CONTRACTOR OTHER _____
BY SIGNING THIS, THE APPLICANT AGREES TO ALL CITY OF NATIONAL CITY REQUIREMENTS AND NOTES.	

REVIEWED	
NO EXCEPTION TAKEN	
EXCEPTION TAKEN	
DO NOT RESUBMIT. SUBJECT TO COMMENTS NOTED	
RESUBMIT, SUBJECT TO COMMENTS NOTED	
APPROVED BY	
DATE	



**ENGINEERING AND PUBLIC WORKS DEPARTMENT**  
 SERVICE HOURS: MONDAYS TO THURSDAYS: 7 AM - 6 PM  
 FRIDAYS: CITY HALL CLOSED  
 CONTACT NUMBER: (619) 336-4380  
 ADDRESS: 1243 NATIONAL CITY BLVD., NATIONAL CITY, CA 91950  
 EMAIL: ENGINEERING@NATIONALCITYCA.GOV

**TRAFFIC CONTROL PLAN  
STANDARD NOTES**

SHEET 1 OF

TRAFFIC CONTROL PERMIT AND PERMIT EXTENSION

PERMIT NUMBER: \_\_\_\_\_

APPLICANT: \_\_\_\_\_

AGENT OF:  OWNER  
 CONTRACTOR  
 OTHER

PROJECT CONTACT: \_\_\_\_\_

CONTACT EMAIL: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

24 HOUR LOCAL CONTACT NUMBER: \_\_\_\_\_

BY SIGNING THIS, THE APPLICANT AGREES TO ALL CITY OF NATIONAL CITY REQUIREMENTS AND NOTES.

APPLICANT SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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CONTRACTOR: \_\_\_\_\_

PROJECT CONTACT: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

24 HOUR LOCAL CONTACT NUMBER: \_\_\_\_\_

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JOB LOCATION: \_\_\_\_\_

SCOPE OF WORK: \_\_\_\_\_

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OFFICIAL USE ONLY:  
 PERMITTED WORK HOURS:  MONDAYS TO FRIDAYS FROM \_\_\_\_\_ AM TO \_\_\_\_\_ PM  
 OTHER: \_\_\_\_\_

PERMITTED WORK DATES: START DATE: END DATE:	PERMITTED WORK DATES: START DATE: END DATE:	PERMITTED WORK DATES: START DATE: END DATE:
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OFFICIAL USE ONLY – STAFF NOTES

	REVIEWED
	NO EXCEPTION TAKEN
	EXCEPTION TAKEN
	DO NOT RESUBMIT. SUBJECT TO COMMENTS NOTED
	RESUBMIT, SUBJECT TO COMMENTS NOTED
	APPROVED BY DATE

SAN DIEGO REGIONAL STANDARD DRAWINGS, TCP-04  
 REVISION DATE: OCTOBER 25, 2018

TABLE 1

RECOMMENDED SIGN SPACING FOR ADVANCE WARNING SIGN SERIES AND MINIMUM TAPER LENGTH

A APPROACH SPEED (S) (MPH)	B MINIMUM DISTANCE (FEET) BETWEEN SIGNS AND FROM LAST SIGN TO TAPER	C MINIMUM TAPER LENGTHS (L) (FEET) FOR 12-FOOT LANE		
		L	1/2L	1/3L
25	100	125	63	42
30	250	180	90	60
35	250	245	123	82
40	350	320	160	107
45	500	540	270	180
50	500	600	300	200
55+	1000	660	330	220

L FOR MERGE TAPER  
 1/2L FOR SHIFT TAPER  
 1/3L FOR SHOULDER TAPER

TABLE 2

RECOMMENDED TAPER LENGTH AND MAXIMUM CHANNELIZING/CONE SPACING

A APPROACH SPEED (S) (MPH)	B BUFFER LENGTH (FEET)	C MAX CONE SPACING			NOTES:
		TAPER	TANGENT	CONFLICT (*)	
25	155	25	50	12	TAPER FORMULA: $L = S \times W$ FOR SPEEDS GREATER THAN 40 MPH $L = \frac{W \times S^2}{60}$ FOR SPEEDS OF 40 MPH OR LESS.  WHERE: L = MINIMUM LENGTH OF TAPER (FEET). S = APPROACH SPEED (MPH) = POSTED SPEED LIMIT OR OFF-PEAK 85TH % SPEED PRIOR TO WORK STARTING OR ANTICIPATED OPERATING SPEED W = WIDTH OF OFFSET (FEET)
30	200	30	60	15	
35	250	35	70	17	
40	305	40	80	20	
45	360	45	90	22	
50	425	50	100	25	
55+	495	55	100	27	

(\*) FACING OPPOSING TRAFFIC, ADJACENT TO WORK AREAS OR CONFLICTING WITH EXISTING STRIPING



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TRAFFIC CONTROL PLAN  
 COVER SHEET

SHEET 2 OF