

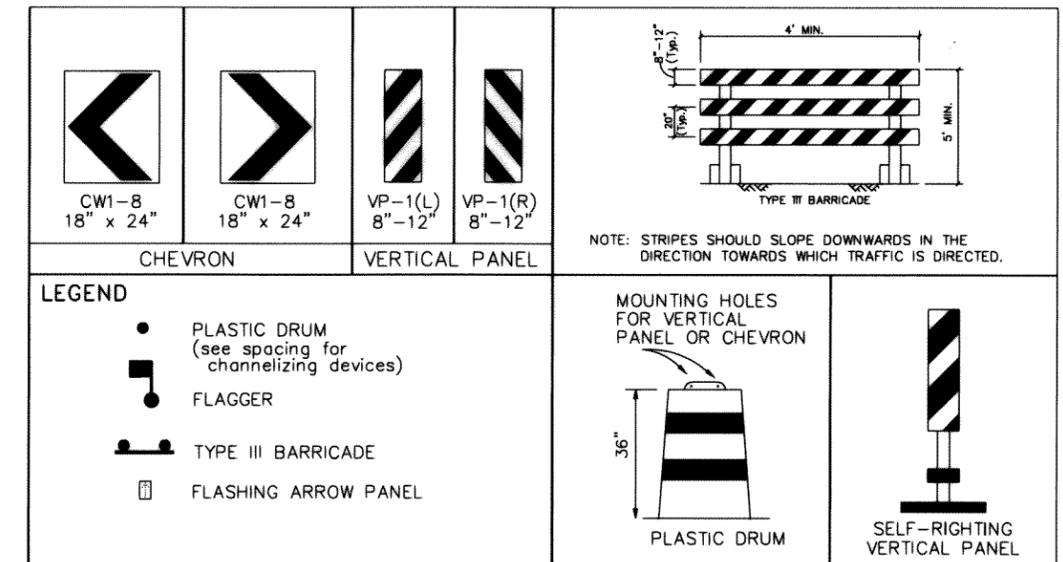
GENERAL NOTES

- The Contractor shall provide and install traffic control devices in conformance with Part VI of Texas Manual on Uniform Traffic Control Devices (TMUTCD) latest edition with revisions during the entire construction period.
- All signs and traffic control devices shall conform to the latest version of the TMUTCD.
- No lanes shall be closed during the hours of 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM Monday thru Friday without approval of the City Traffic Engineer.
- No work shall be performed in residential areas from 7:00 PM to 7:00 AM.
- Contractor shall maintain approved number of thru lanes of traffic in each direction during construction working hours. Traffic control plans shall include one-way and/or detour plans.
- Contractor shall maintain traffic lanes and detours according to traffic control plans during working hours.
- Contractor shall cover open pavement excavations for minor utility work with anchored steel plates during non-working hours, and open lanes for normal traffic flow when feasible.
- If the Contractor chooses to use a different method of "Traffic Control Plans" during the construction than what is outlined in the contract drawings, the Contractor shall be responsible to prepare and submit an alternate set of traffic control plans to the City of Houston Project Manager for approval ten working days prior to implementation. These plans shall be drawn to scale on reproducible mylars and shall be sealed by a Licensed Engineer in the State of Texas. Traffic Operations Division representative approval is required to accept the proposed changes.
- Contractor shall secure lane/sidewalk closure permits from Traffic Operations Division (Mobility Permit Section at <http://www.gims.houstontx.gov/portalWS/MainPortal.aspx>) before implementing the traffic control plan. The application must be submitted at least ten business days prior to the implementation of the traffic control plan and/or beginning construction work. The contractor shall provide traffic control plans, construction sequencing, and schedule with the application.
- Contractor shall have approved traffic control plan and permit at the job site for inspection at all times.
- During pavement surface restoration projects; the Contractor shall not open closed lanes until the pavement surface has cured enough to allow vehicular traffic according to City of Houston Standard Specifications.
- The Contractor is responsible for scheduling and coordinating all construction activities with stake holders in the vicinity including emergency response agencies such as Houston Police Department, Houston Fire Department, and Metropolitan Transit Authority.
- Contractor shall be responsible for issuing all work directives to all sub-contractors, utility companies, and all other entities performing construction work associated with the project.
- Nothing in these notes or plans shall relieve the Contractor of the responsibility for job site conditions during the course of construction of the project; including safety of all modes of transportation, persons, and property, and that this requirement shall apply continuously and not be limited to working hours.
- The Traffic Operation Division (Mobility Permits Group) per the direction of the City Traffic Engineer have the right to demand the installation of additional traffic control devices or modifications to these plans and notes, as deemed necessary to promote the safe and orderly flow of traffic and pedestrians through the construction work zone. The Contractor shall comply with these additional requests or modifications with due diligence.
- All existing traffic control signs and pavement markings shall be maintained in visible locations during construction unless prior written approval is obtained from City of Houston Project Manager. The Contractor shall restore or replace (at the discretion of the City Traffic Engineer) any pavement marking or signing damaged during construction operations, including Raised Pavement Markers (RPMs) and chip seal markers.
- When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded shall in all cases yield to public traffic with assistance by Contractor provided certified flagger/peace officer.
- Access to driveways adjacent to the construction work zone shall be maintained at all times as much as possible. Additional cones delineators may be required to delineate the driveway access route through the construction work zone. A minimum of one travel lane shall be maintained across the driveways, unless prior written approval is obtained from City of Houston Project Manager.
- Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor.
- The Contractor shall submit an application for temporary parking restrictions if there are parking meters located at the proposed lane closures from Parking Management Division (832-393-8690) at least ten business days before implementation of lane closures. In addition, temporary no parking signs shall be posted 24 hours prior to commencement of work.
- Additional off duty police officers/flaggers may be requested to direct traffic when lanes are blocked at the discretion of the City Project Manager even if they are not specifically identified on the project plans.
- The Contractor shall replace within 72 hours, all traffic signal loop detectors damaged during construction.
- In general, a solar powered flashing arrow board shall be required on all major thoroughfare lane closures. Exceptions to flashing arrow boards and/or implementation on residential lane closures shall be approved by the City Traffic Engineer.
- Approved traffic control plan shall be in place before starting any excavation.

SPACING FOR CHANNELIZING DEVICES

- Plastic drums on merging taper @ 30' c - c with chevron sign @ 60' c - c and warning lights for overnight closure.
- Plastic drums on downstream taper @ 30' c - c (return taper and barricade are optional and divided roadway section)
- Plastic drums on radii @ 35' c - c.
- Plastic drums on tangent @ 35' c - c with vertical panel at 70' c - c and approved warning light @ 70' c - c (for overnight closure).
- Plastic drums in front of construction zone @ 20' c - c with vertical panel at 40' c - c and approved warning light @ 40' c - c (for overnight closure).
- Concrete Traffic Barrier (CTB) or Low Profile Concrete Traffic Barrier (LPCTB) with approved reflectors @ 10' c - c if pavement drop is greater than 1 foot.
- Plastic drums w/Guard rail mounted.
- Self-Righting vertical panel spacing.
 - 4 lanes to 2 lanes undivided roadway section @ 20' c - c.
 - 4 lanes divided roadway to one side two way roadway @ 20' c - c.
 - Left lane and right lane storage bays @ 15' c - c.
- Spacing shown on traffic control shall supersede the above spacing.
- Spacing may be adjusted to provide driveways, intersections and/or median openings.

CHANNELIZATION AND BARRICADES



TYPICAL SIGN SPACING, TAPER LENGTHS, AND SUGGESTED SPACING OF CHANNELIZATION DEVICES						
Posted Speed (mph)	Sign Spacing "X"	Min. Desirable Taper Length "L"			Suggested Maximum Spacing Of Device	
		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	120'	150'	165'	180'	30'	60' - 75'
35	160'	205'	225'	245'	35'	70' - 90'
40	240'	265'	295'	320'	40'	80' - 100'
45	320'	450'	495'	540'	45'	90' - 110'
50	400'	500'	550'	600'	50'	100' - 125'
55	500'	550'	605'	660'	55'	110' - 140'

Length for Buffers	
Posted Speed (mph)	Length in Feet (B)
20	40
25	60
30	90
35	120
40	155
45	195
50	240
55	295
60	350
65	410
70	475

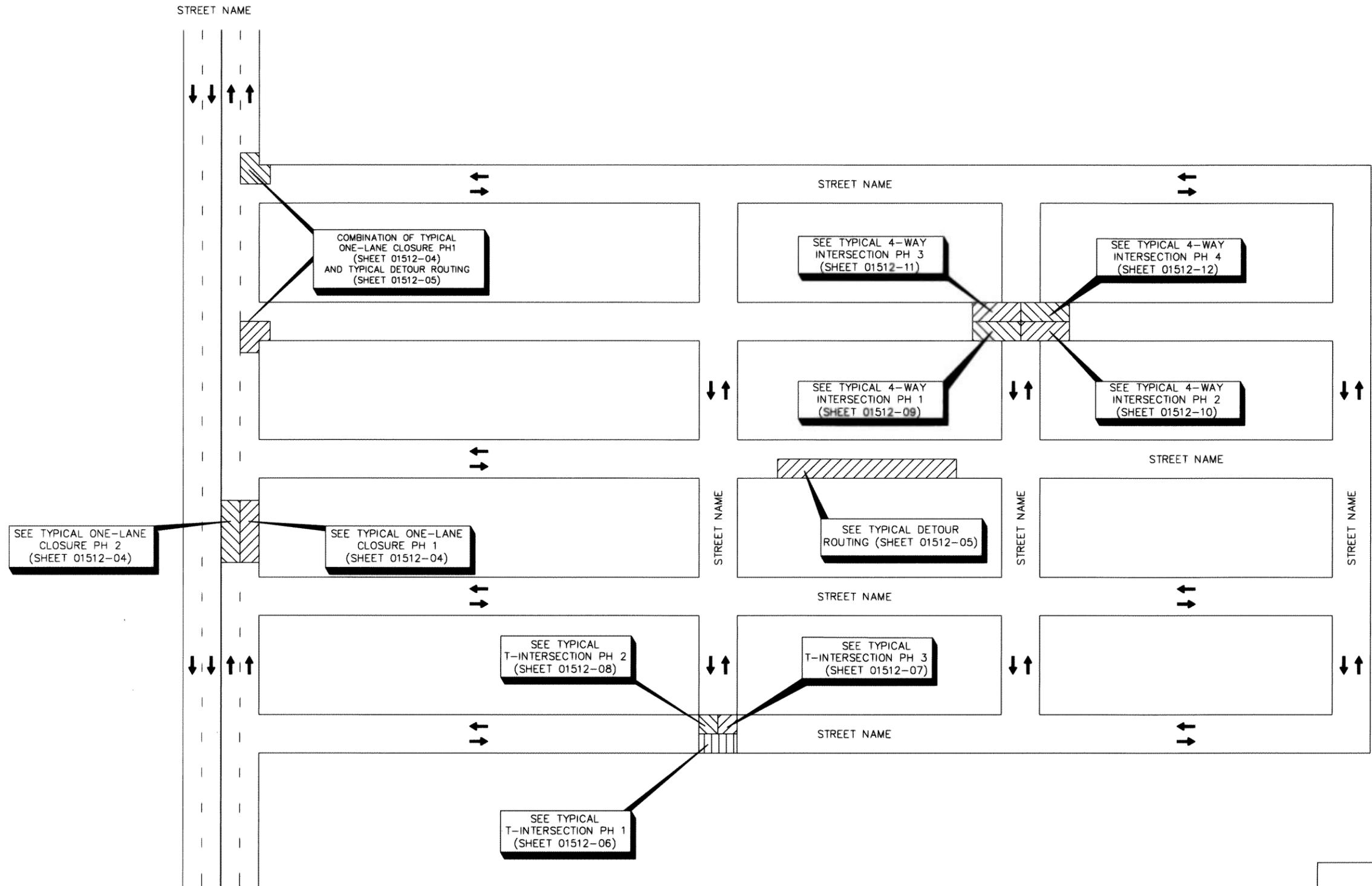
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TCP NOTES
CHANNELIZING DEVICES
AND BARRICADES
(NOT TO SCALE)

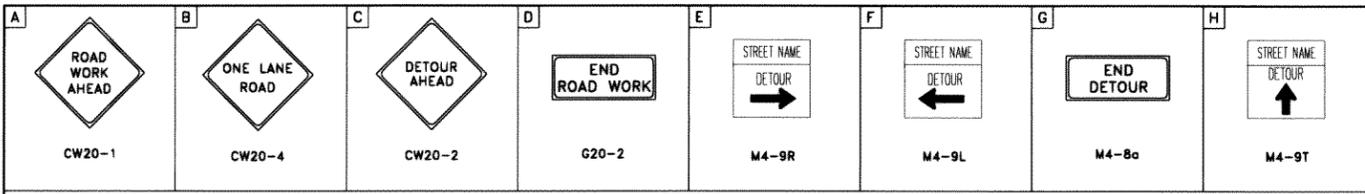
APPROVED BY: *[Signature]*
CITY ENGINEER

APPROVED BY: *[Signature]*
DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JUL-01-2012 DWG NO: 01512-01

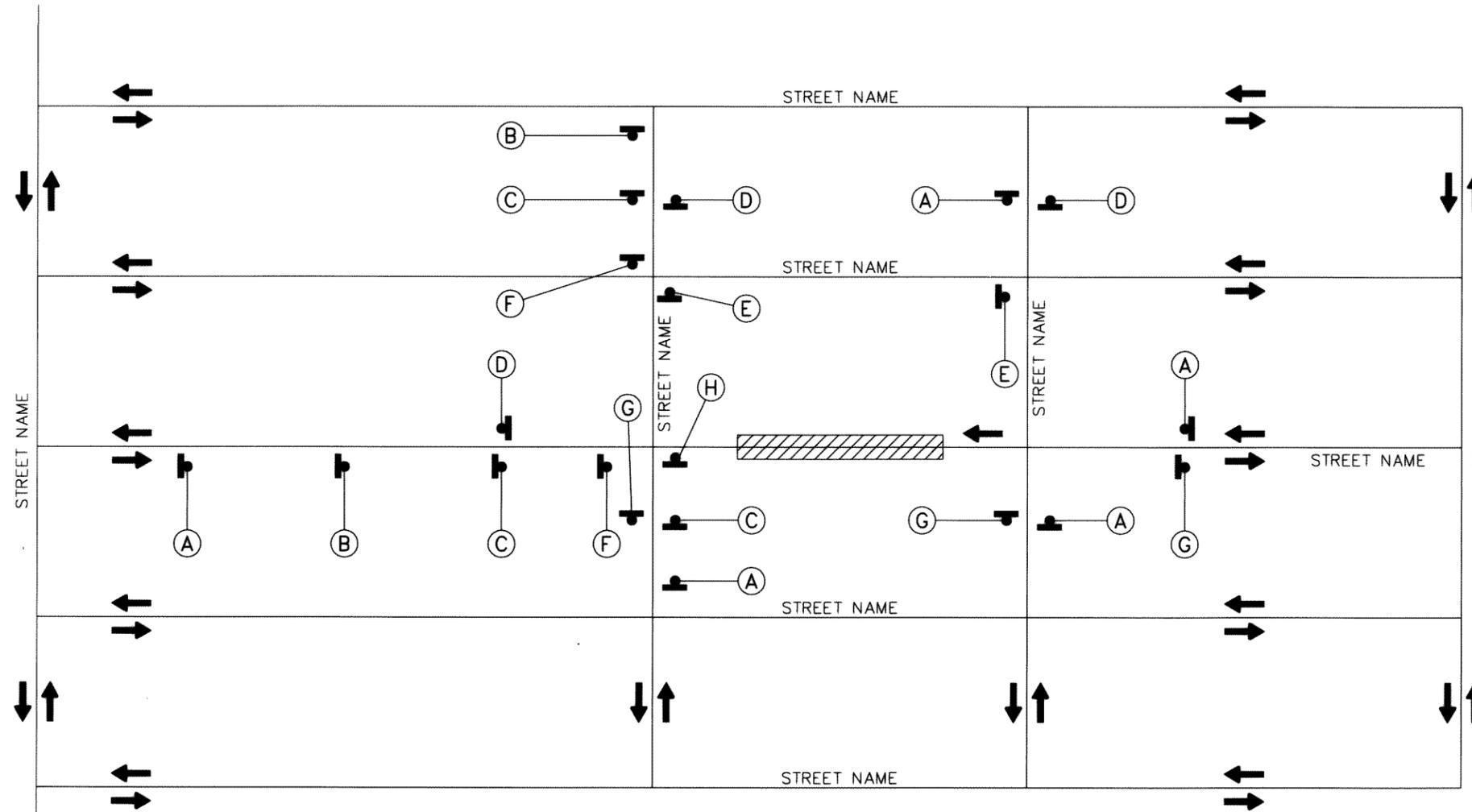


DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP OVERALL TRAFFIC CONTROL LAYOUT	
APPROVED BY: <i>[Signature]</i> CITY ENGINEER	<i>[Signature]</i> DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-02



LEGEND

-  SIGN
-  FLAGGER
-  APPROVED CHANNELIZATION DEVICE
-  TRAFFIC FLOW
-  CONSTRUCTION AREA



DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

TRAFFIC CONTROL LAYOUT

(NOT TO SCALE)

APPROVED BY:

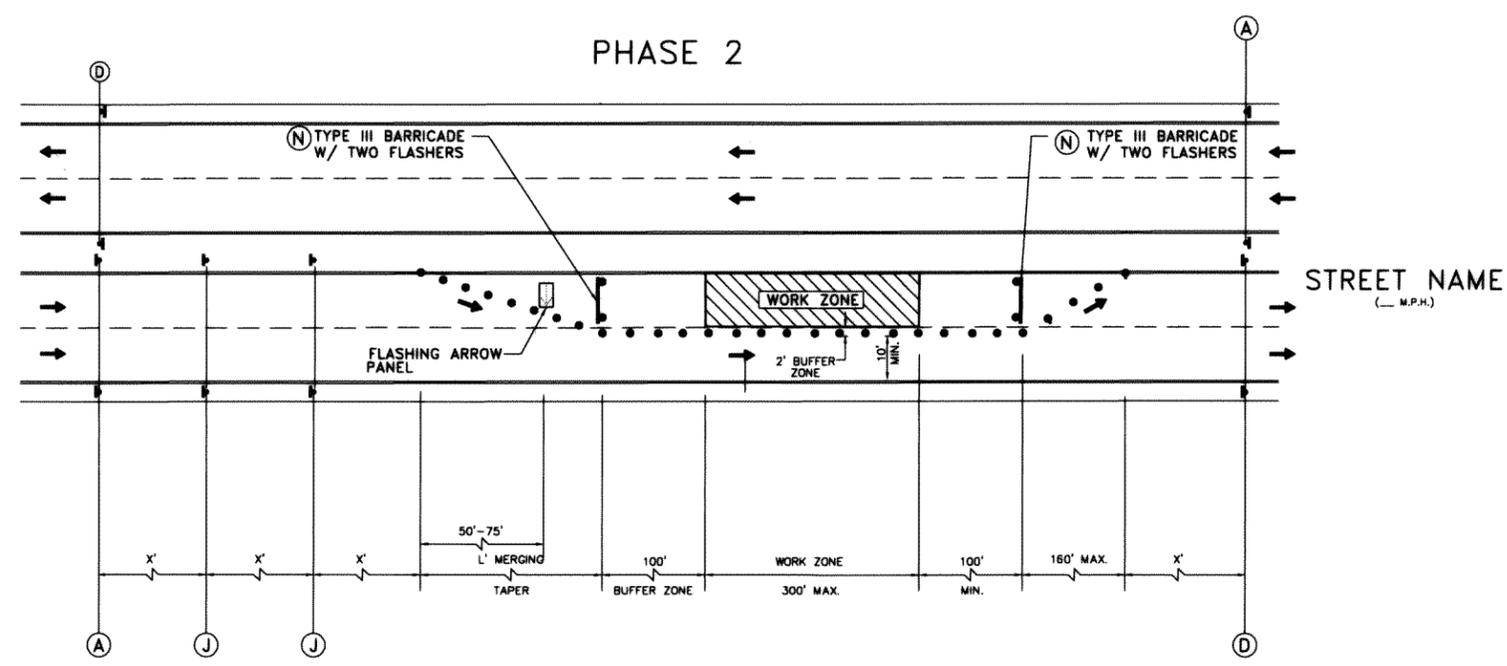
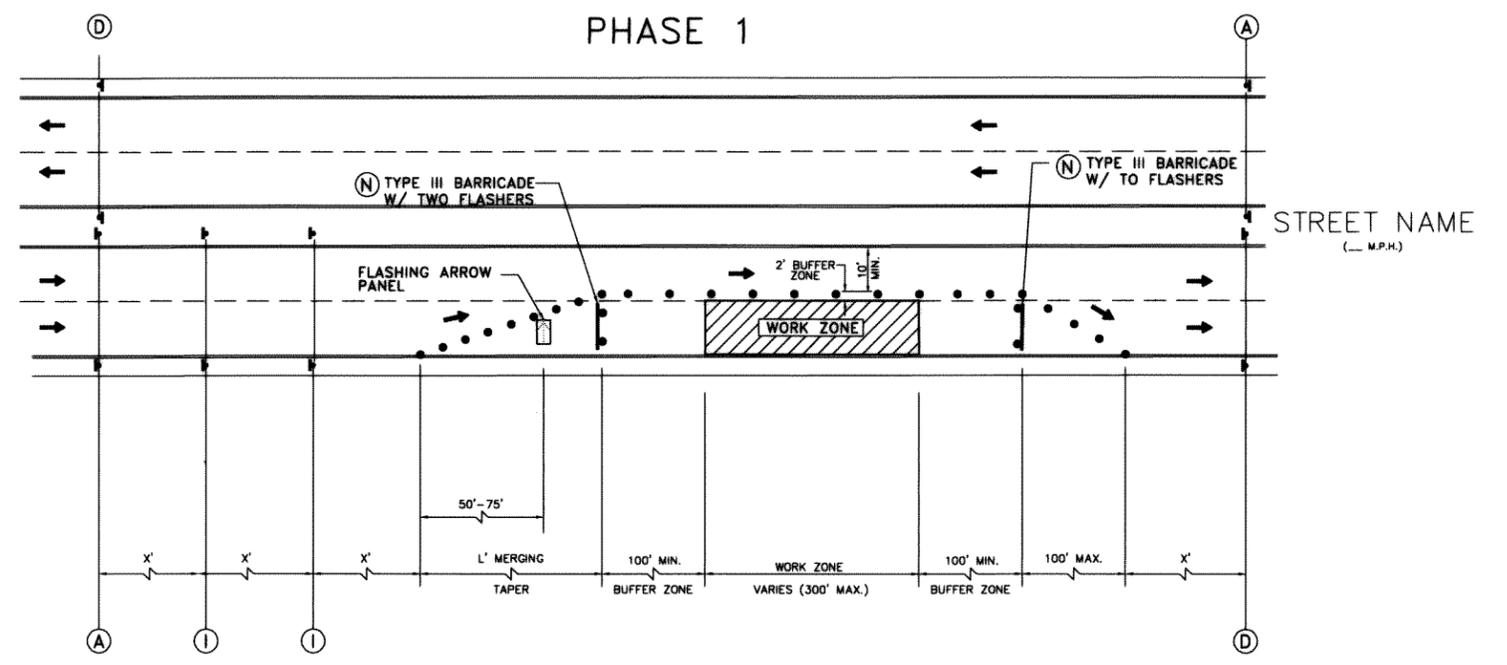
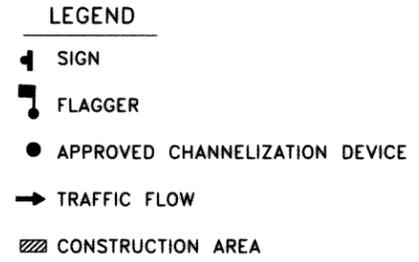
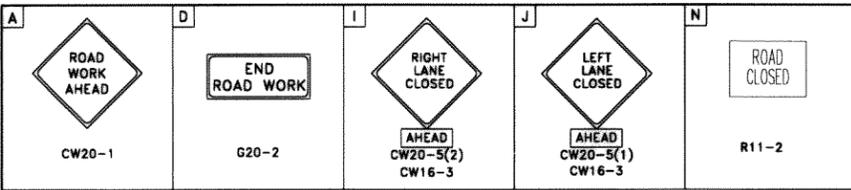
CITY ENGINEER

APPROVED BY:

DIRECTOR OF PUBLIC WORKS AND ENGINEERING

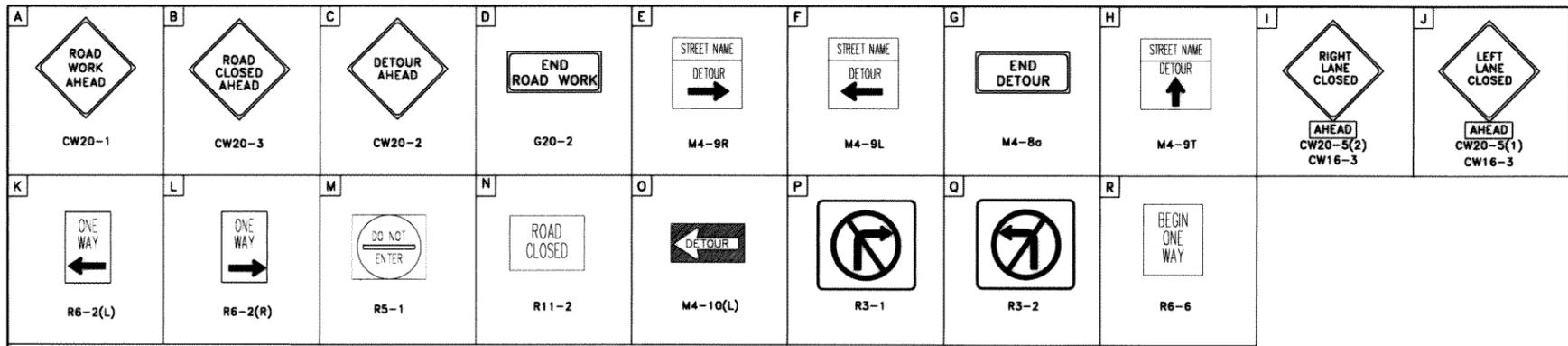
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DWG NO: 01512-03

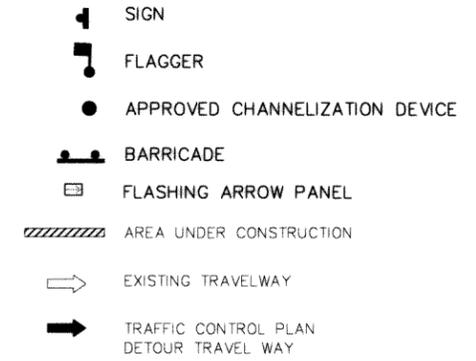


- NOTE:**
1. RETURN TAPERS AND DOWNSTREAM BARRICADES ARE OPTIONAL ON A DIVIDED ROADWAY SECTION.
 2. DOUBLE SIGNS SHALL BE USED ONLY ON ROADWAYS WITH MEDIANS.
 3. FOR DIMENSIONS REFER TO SHEET 01512-01.

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP ONE LANE CLOSURE PHASE 1 & 2	
(NOT TO SCALE)	
APPROVED BY: 	APPROVED BY:
CITY ENGINEER	DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-04

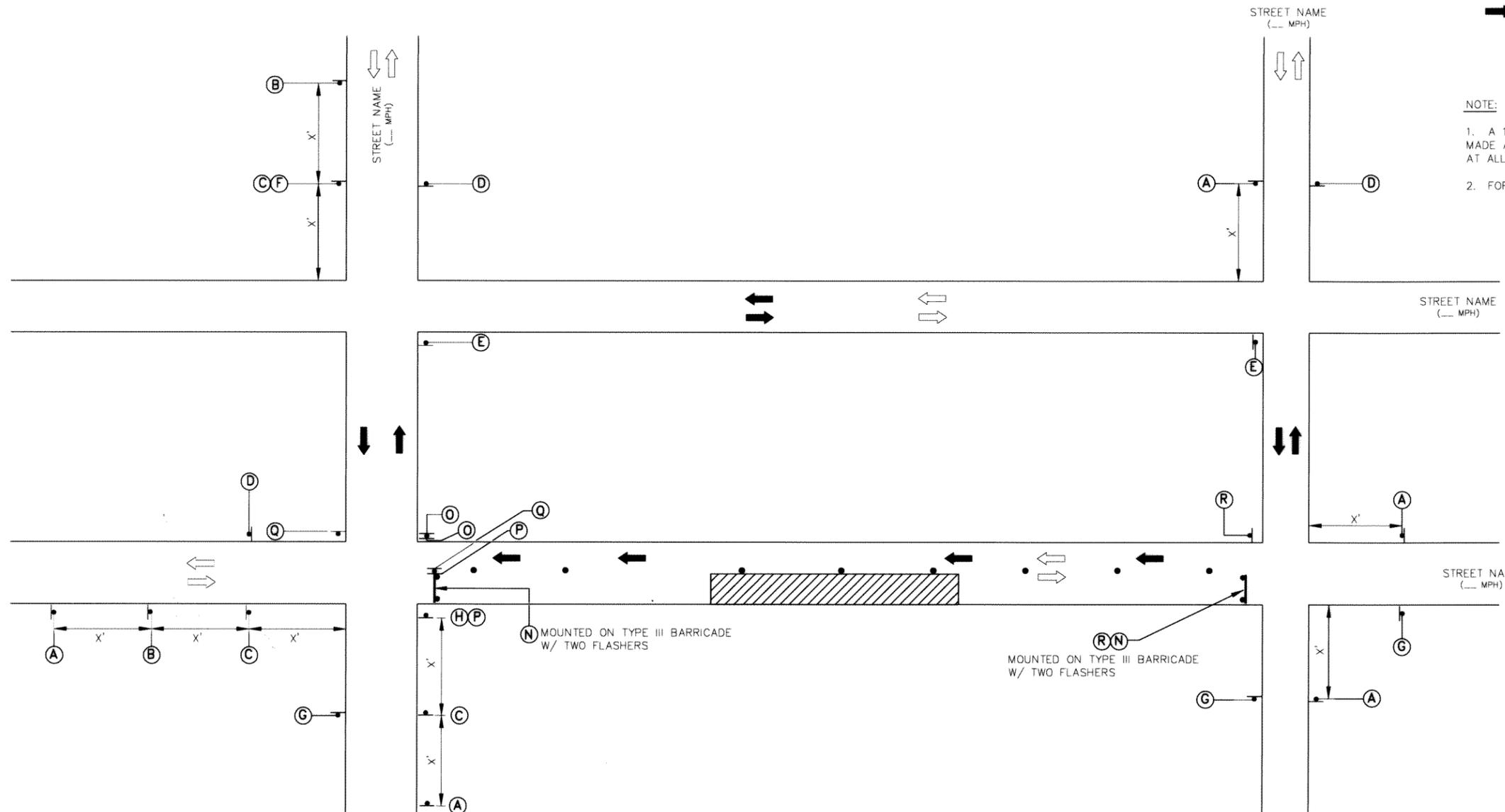


LEGEND

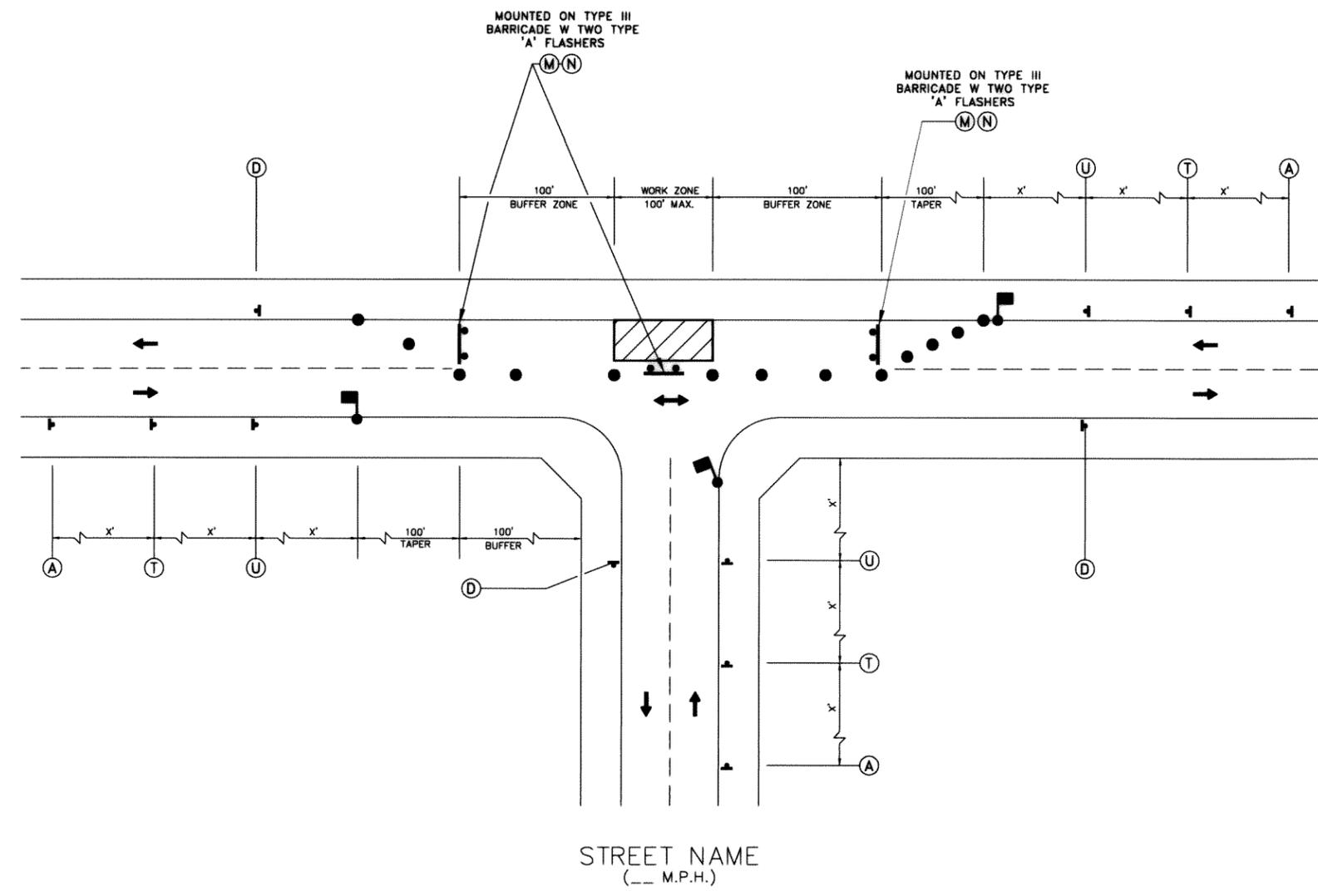
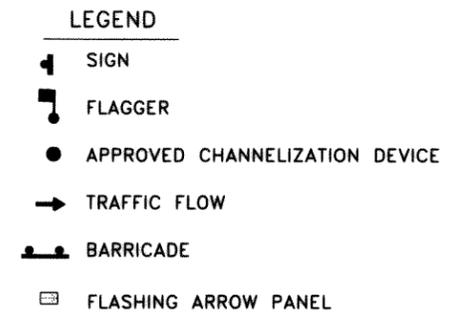
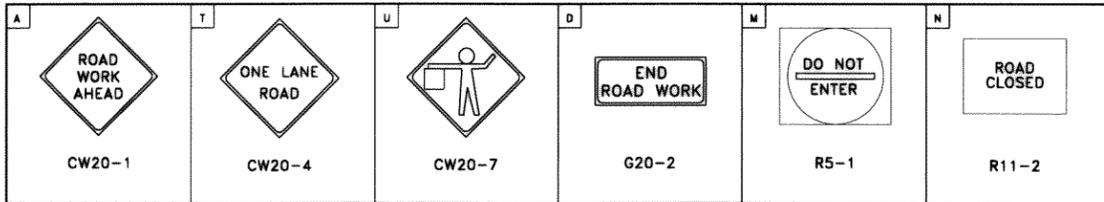


NOTE:

1. A 10' MINIMUM LANE WIDTH FOR EMERGENCY SHALL BE MADE AVAILABLE AND MAINTAINED BY THE CONTRACTOR AT ALL TIMES.
2. FOR DIMENSIONS REFER TO SHEET 01512-01.



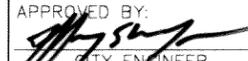
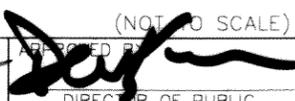
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP ONE LANE CLOSURE	
(NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-05

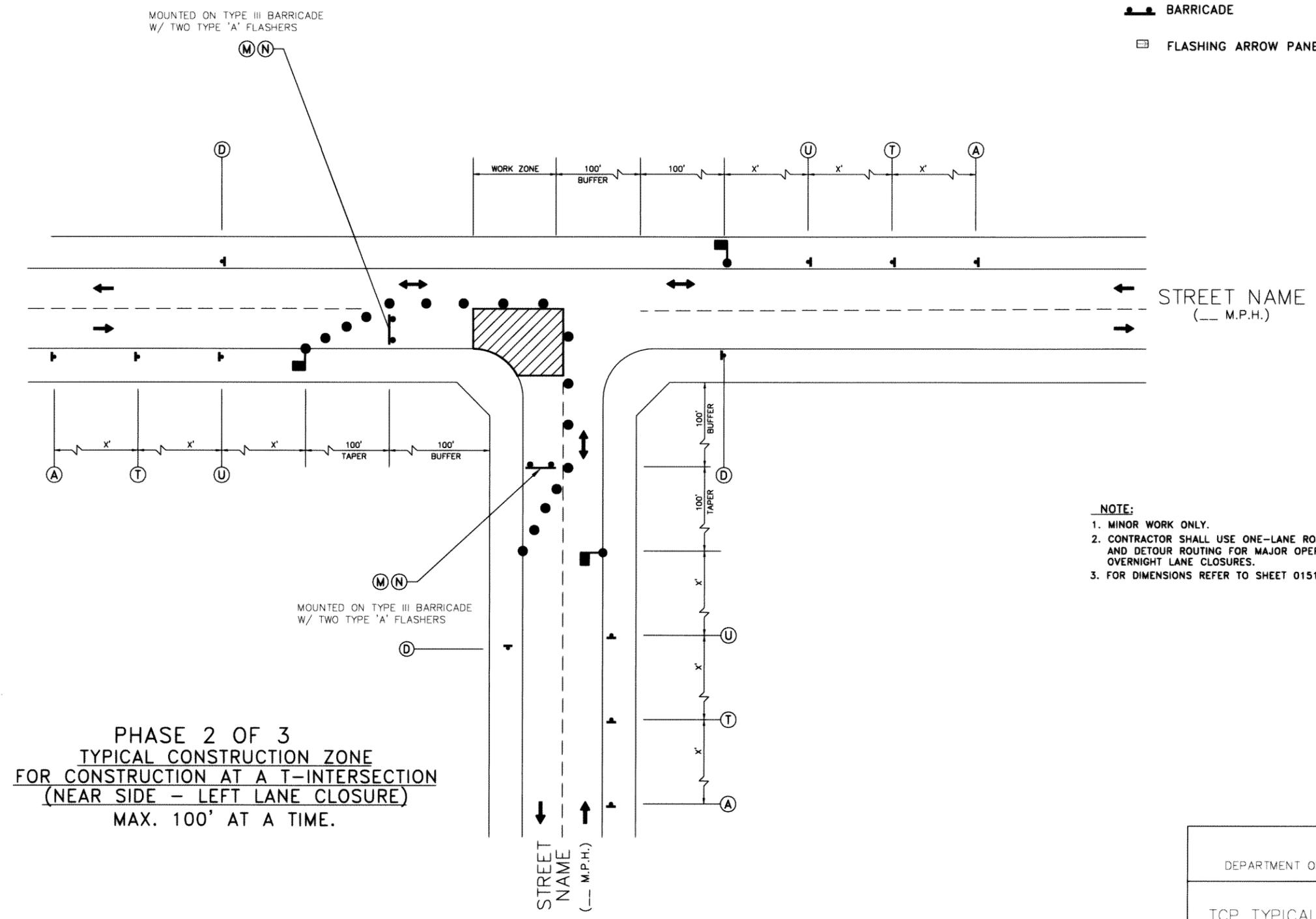
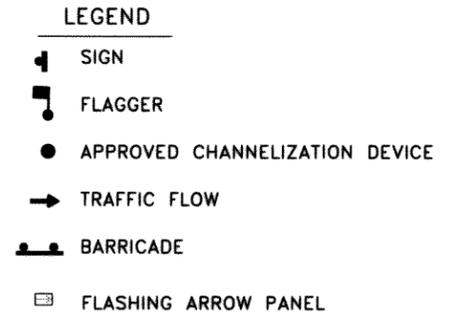
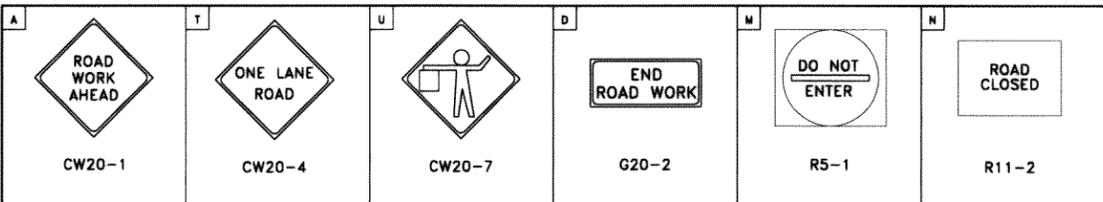


STREET NAME
(--- M.P.H.)

- NOTE:**
1. MINOR WORK ONLY.
 2. CONTRACTOR SHALL USE ONE-LANE ROAD CLOSURE AND DETOUR ROUTING FOR MAJOR OPERATIONS AND OVERNIGHT LANE CLOSURES.
 3. FOR DIMENSIONS REFER TO SHEET 01512-01

**PHASE 1 OF 3
TYPICAL CONSTRUCTION ZONE
AT A T-INTERSECTION**

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP TYPICAL 3-WAY INTERSECTION PHASE 1 OF 3 (NOT TO SCALE)	
APPROVED BY:  CITY ENGINEER	APPROVED BY:  DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-06

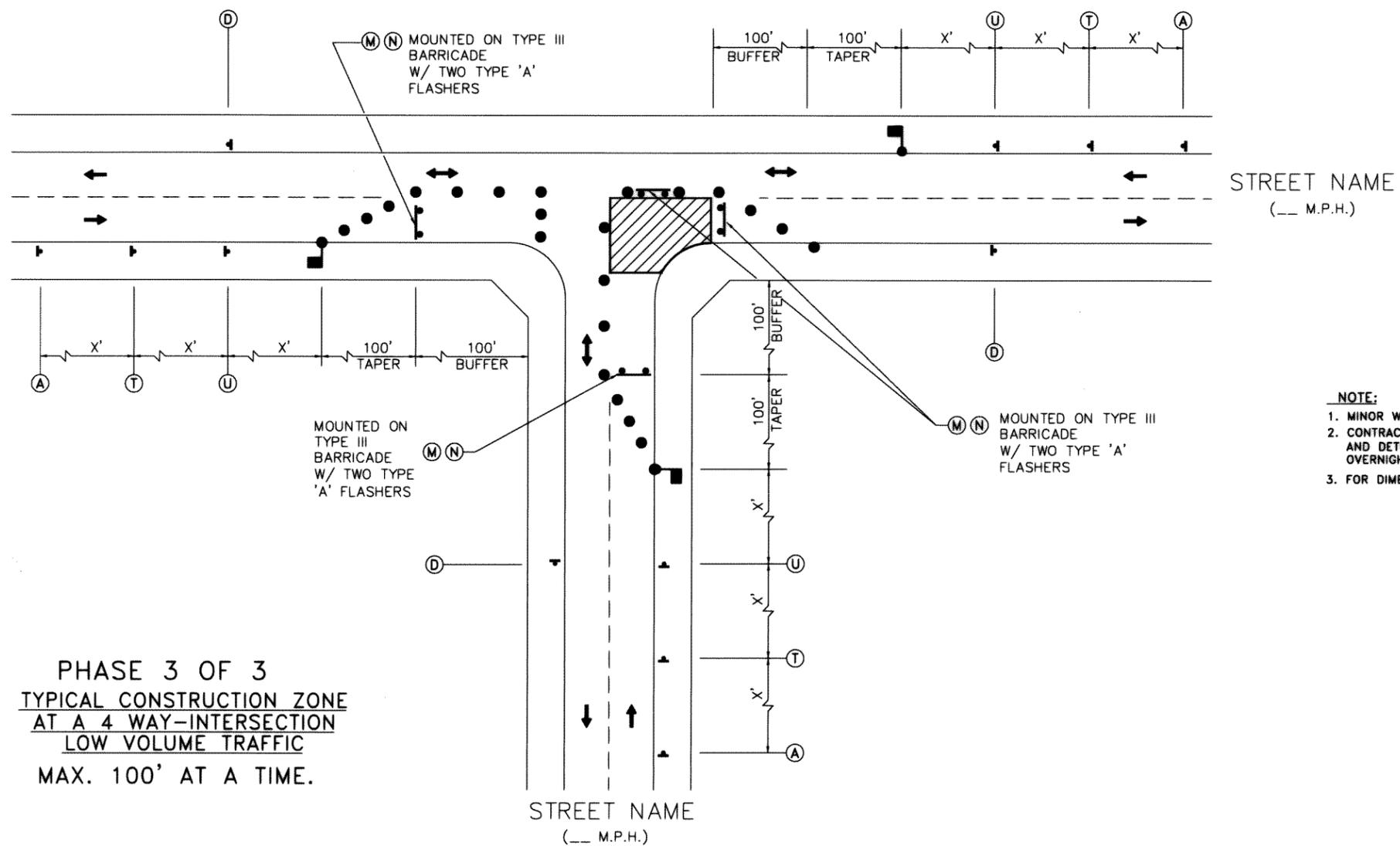
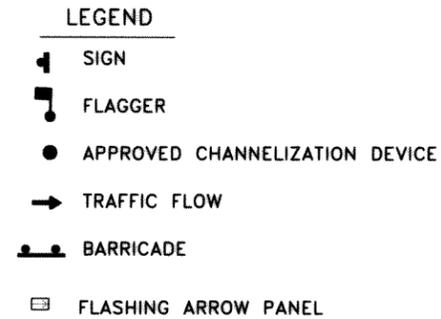
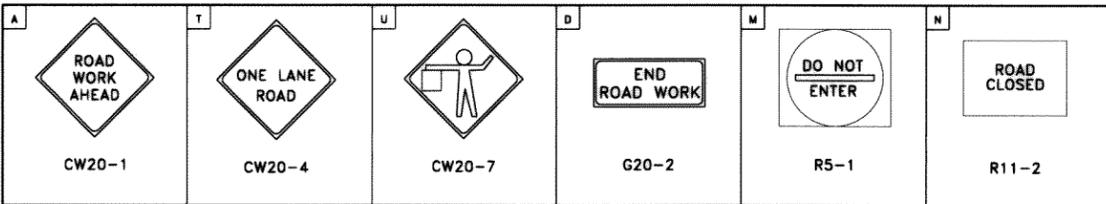


NOTE:

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3. FOR DIMENSIONS REFER TO SHEET 01512-01

**PHASE 2 OF 3
TYPICAL CONSTRUCTION ZONE
FOR CONSTRUCTION AT A T-INTERSECTION
(NEAR SIDE - LEFT LANE CLOSURE)
MAX. 100' AT A TIME.**

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP TYPICAL 3-WAY INTERSECTION PHASE 2 OF 3 (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-07

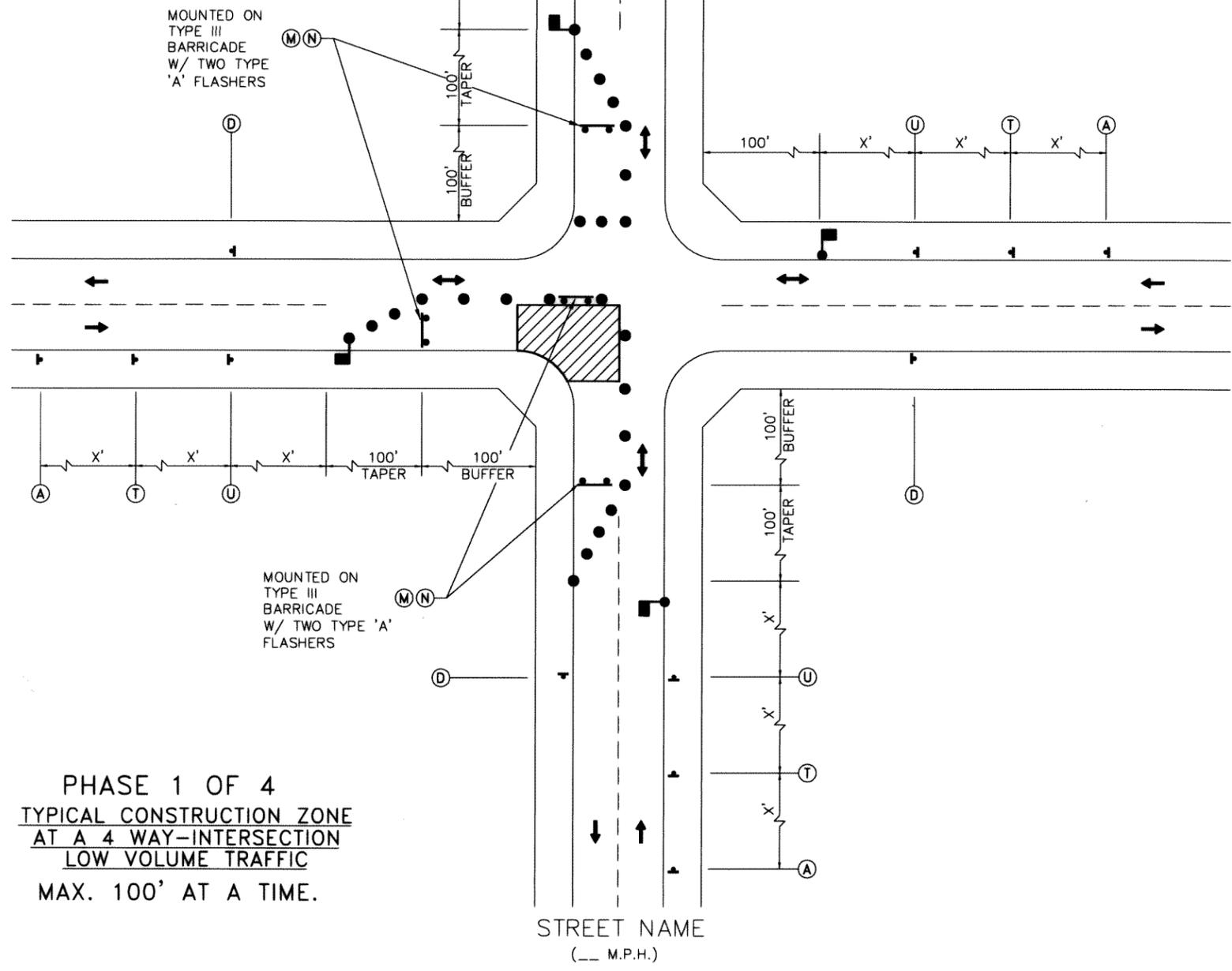
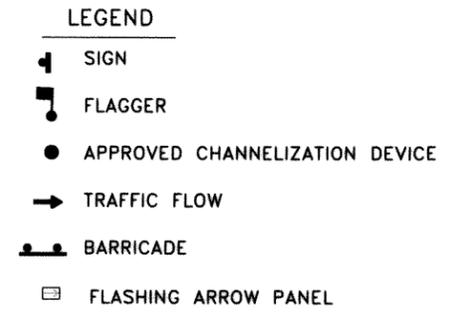
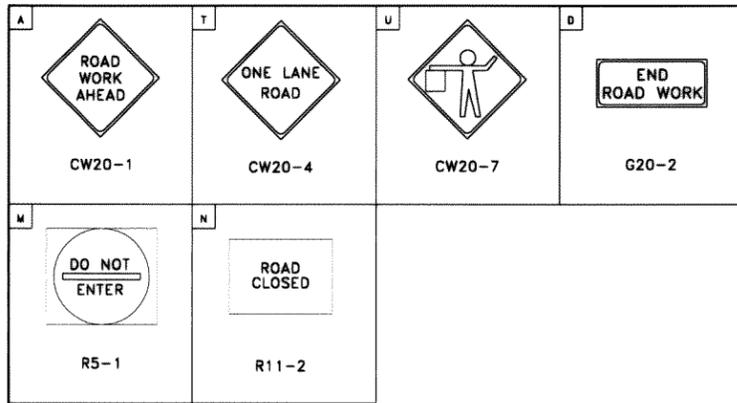


NOTE:

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3. FOR DIMENSIONS REFER TO SHEET 01512-01

PHASE 3 OF 3
TYPICAL CONSTRUCTION ZONE
AT A 4 WAY-INTERSECTION
LOW VOLUME TRAFFIC
MAX. 100' AT A TIME.

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP TYPICAL 3-WAY INTERSECTION PHASE 3 OF 3 (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-08



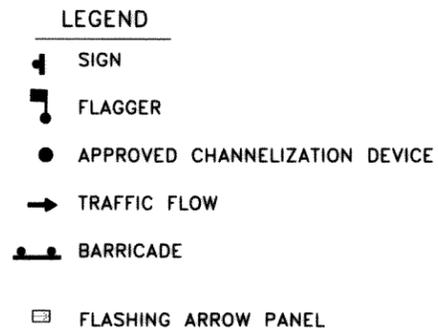
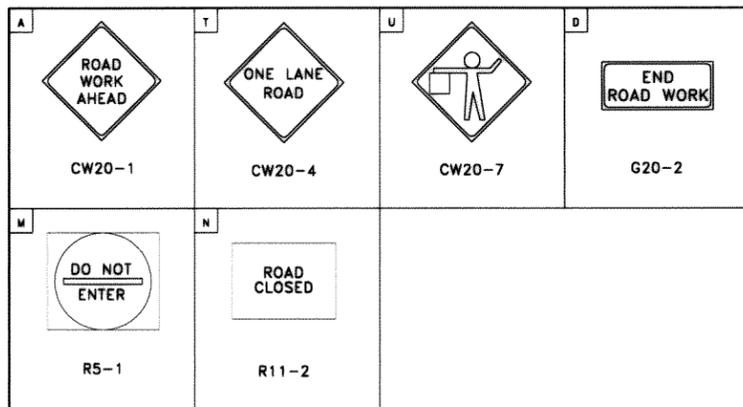
STREET NAME
(___ M.P.H.)

STREET NAME
(___ M.P.H.)

**PHASE 1 OF 4
TYPICAL CONSTRUCTION ZONE
AT A 4 WAY-INTERSECTION
LOW VOLUME TRAFFIC
MAX. 100' AT A TIME.**

- NOTE:**
1. MINOR WORK ONLY.
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 3. FOR DIMENSIONS REFER TO SHEET 01512-01

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP 4-WAY INTERSECTION PHASE 1 OF 4 (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-9



MOUNTED ON TYPE III BARRICADE (M) (N)
 W/ TWO TYPE 'A' FLASHERS

MOUNTED ON TYPE III BARRICADE
 W/ TWO TYPE 'A' FLASHERS

MOUNTED ON TYPE III BARRICADE
 W/ TWO TYPE 'A' FLASHERS

MOUNTED ON TYPE III BARRICADE
 W/ TWO TYPE 'A' FLASHERS

PHASE 2 OF 4
TYPICAL CONSTRUCTION ZONE
AT A 4 WAY-INTERSECTION
LOW VOLUME TRAFFIC
MAX. 100' AT A TIME.

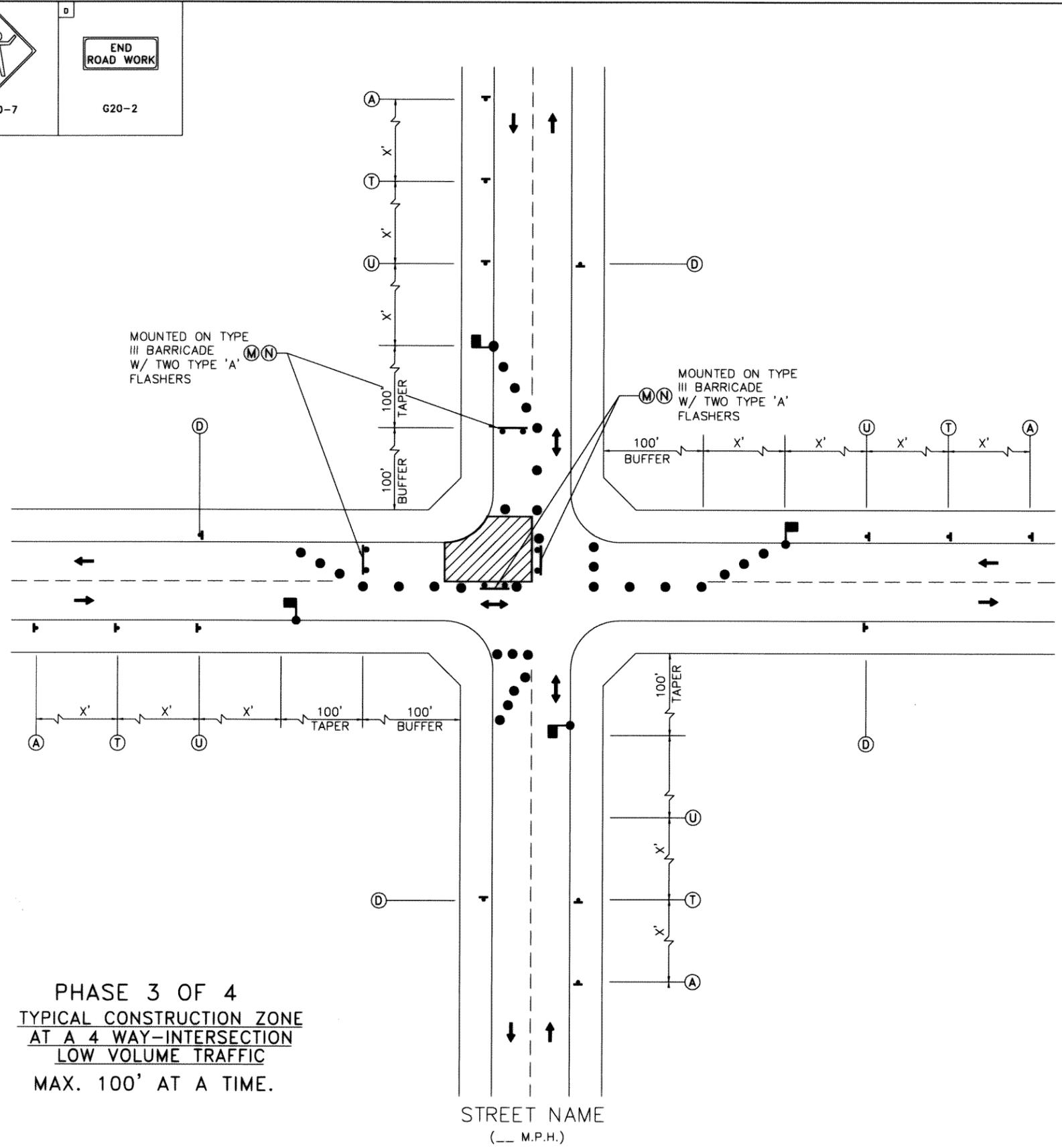
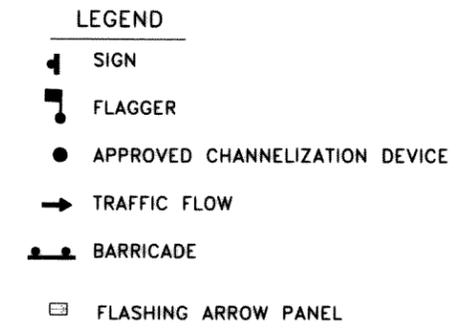
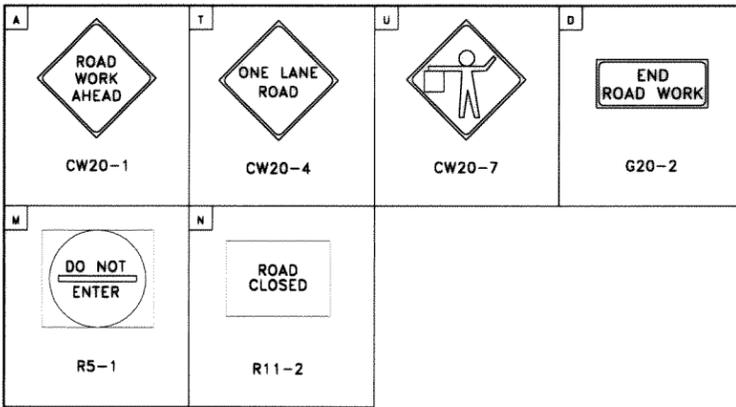
STREET NAME
 (___ M.P.H.)

STREET NAME
 (___ M.P.H.)

NOTE:

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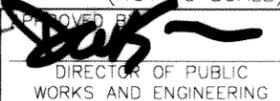
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP 4-WAY INTERSECTION PHASE 2 OF 4 (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-10

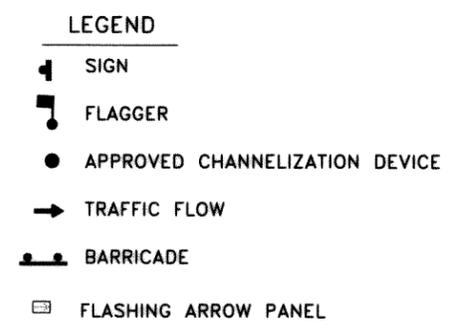
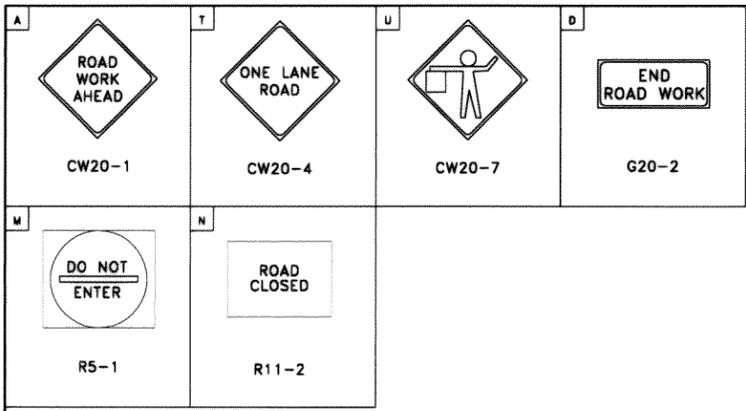


PHASE 3 OF 4
TYPICAL CONSTRUCTION ZONE
AT A 4 WAY-INTERSECTION
LOW VOLUME TRAFFIC
MAX. 100' AT A TIME.

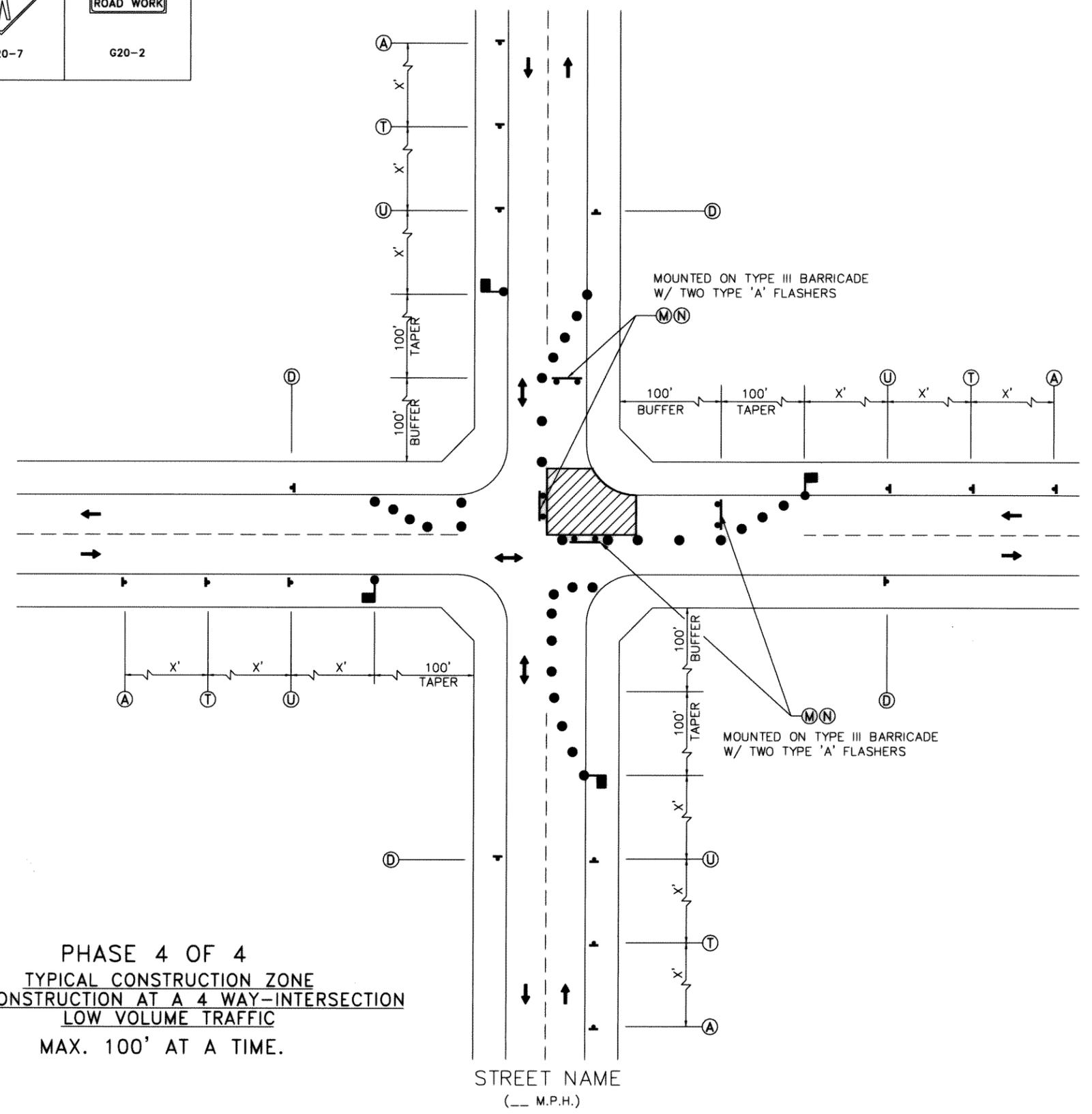
STREET NAME
(___ M.P.H.)

- NOTE:**
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 3. FOR DIMENSIONS REFER TO SHEET 01512-01

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP 4-WAY INTERSECTION PHASE 3 OF 4 (NOT TO SCALE)	
APPROVED BY:  CITY ENGINEER	APPROVED BY:  DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-11



PHASE 4 OF 4
TYPICAL CONSTRUCTION ZONE
FOR CONSTRUCTION AT A 4 WAY-INTERSECTION
LOW VOLUME TRAFFIC
MAX. 100' AT A TIME.



STREET NAME
 (__ M.P.H.)

STREET NAME
 (__ M.P.H.)

- NOTE:**
1. MINOR WORK ONLY.
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 3. FOR DIMENSIONS REFER TO SHEET 01512-01

DEPARTMENT OF PUBLIC WORKS AND ENGINEERING	
TCP 4-WAY INTERSECTION PHASE 4 OF 4. (NOT TO SCALE)	
APPROVED BY: CITY ENGINEER	APPROVED BY: DIRECTOR OF PUBLIC WORKS AND ENGINEERING
EFF DATE: JUL-01-2012	DWG NO: 01512-12