

PERFORMANCE ACTIVITY 203

SHOULDERS / DITCHES

WORK DESCRIPTION 1	Clean Outfall
WORK DESCRIPTION 2	Construct Outfall
WORK DESCRIPTION 3	Regrade Roadside Ditch
WORK DESCRIPTION 4	Regrade / Repair Shoulder
WORK DESCRIPTION 5	Regrade Shoulder and Ditch
WORK DESCRIPTION 6	Widen Shoulder

203 SHOULDERS / DITCHES

ACTIVITY DESCRIPTION

Maintain earth shoulders, roadside ditches, and outfall ditches to ensure proper drainage of the roadway surface.

WORK DESCRIPTION 1 Clean Outfall

WORK DESCRIPTION 2 Construct Outfall

TRAFFIC CONTROL

TWO-LANE TWO-WAY ROADWAYS

On low speed roadways with speeds of 35 mph or less, shoulder closures designed for minor encroachment are acceptable for work activities conducted within 30 feet of the near edge of an adjacent travel lane that may require encroachment upon the roadway by personnel, tools, equipment, materials, vehicles, etc. to the extent that may require a reduction of the lane width of an adjacent travel lane to no less than 10 feet.

On low speed roadways with speeds of 35 mph or less, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, flagging operations are required when the work activities require the presence of personnel, tools, equipment, materials, vehicles, etc. to encroach upon the roadway or to within 1 foot of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

Flagging operations are required for work activities that cannot be conducted under the conditions required for standard shoulder closures or shoulder closures with minor encroachment.

TYPICAL DRAWING APPLICATIONS

FLAGGING OPERATIONS

DRAWING 405-01-A	-	FLAGGING OPERATIONS MULTIPLE FLAGGERS TWO-LANE TWO-WAY ROADWAYS PRIMARY & SECONDARY ROUTES
DRAWING 405-01-B(1)	-	FLAGGING OPERATIONS MULTIPLE FLAGGERS TWO-LANE TWO-WAY ROADWAYS PRIMARY & SECONDARY ROUTES STOP SIGN CONTROLLED SIDE ROADS
DRAWING 405-01-B(2)	-	FLAGGING OPERATIONS MULTIPLE FLAGGERS TWO-LANE TWO-WAY ROADWAYS PRIMARY & SECONDARY ROUTES 4-WAY STOP CONTROLLED INTERSECTION
DRAWING 405-01-C(1)	-	FLAGGING OPERATIONS MULTIPLE FLAGGERS TWO-LANE TWO-WAY ROADWAYS PRIMARY & SECONDARY ROUTES TRAFFIC SIGNAL CONTROLLED INTERSECTION LAW ENFORCEMENT OFFICER(S)

DRAWING 405-01-C(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
TRAFFIC SIGNAL CONTROLLED INTERSECTION
FLAGGERS

DRAWING 405-01-D(1) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
BEGINNING at an
INTERSECTION with a
TWO-LANE TWO-WAY ROADWAY
DEPARTURE LANE

DRAWING 405-01-D(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
TERMINATING at an
INTERSECTION with a
TWO-LANE TWO-WAY ROADWAY
APPROACH LANE

DRAWING 405-01-E(1)
DRAWING 405-01-E(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
INTERSECTIONS with
LOW SPEED
< / = 35 MPH
MULTILANE ROADWAYS

DRAWING 405-01-F(1)
DRAWING 405-01-F(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
INTERSECTIONS with
INTERMEDIATE SPEED to HIGH SPEED
40 MPH - 60 MPH
MULTILANE ROADWAYS

DRAWING 405-02 - FLAGGING OPERATIONS
SINGLE FLAGGER OPERATION
LOW VOLUME
LOW SPEED TO INTERMEDIATE SPEED
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES

SHOULDER CLOSURES

DRAWING 515-01-A - RIGHT SHOULDER CLOSURE
CASE I / CASE II
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES

DRAWING 515-01-C - RIGHT SHOULDER CLOSURE
 LOW SPEED
 < / = 35 MPH
 PRIMARY & SECONDARY ROUTES
 (MINOR ENCROACHMENT)

MULTILANE SECONDARY AND PRIMARY ROADWAYS

On low speed roadways with speeds of 35 mph or less, shoulder closures designed for minor encroachment are acceptable for work activities conducted within 30 feet of the near edge of an adjacent travel lane that may require encroachment upon the roadway by personnel, tools, equipment, materials, vehicles, etc. to the extent that may require a reduction of the lane width of an adjacent travel lane to no less than 10 feet.

On low speed roadways with speeds of 35 mph or less, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, lane closures are required when the work activities require the presence of personnel, tools, equipment, materials, vehicles, etc. to encroach upon the roadway or to within 1 foot of the near edge of an adjacent travel lane.

Lane closures are required for work activities that cannot be conducted under the conditions required for standard shoulder closures or standard shoulder closures with minor encroachment.

TYPICAL DRAWING APPLICATIONS

LANE CLOSURES

DRAWING 505-01 - LANE CLOSURE
 LOW SPEED MULTILANE
 < / = 35 MPH
 PRIMARY & SECONDARY ROUTES

DRAWING 505-02 - DUAL LANE CLOSURE
 LOW SPEED MULTILANE
 < / = 35 MPH
 PRIMARY & SECONDARY ROUTES

DRAWING 505-03-A - LANE CLOSURE
 INTERMEDIATE SPEED TO HIGH SPEED
 40 MPH - 60 MPH
 MULTILANE
 PRIMARY & SECONDARY ROUTES

DRAWING 505-04-A - DUAL LANE CLOSURE
 TRANSITION / ACTIVITY AREAS
 INTERMEDIATE SPEED TO HIGH SPEED
 40 MPH - 60 MPH
 MULTILANE
 PRIMARY & SECONDARY ROUTES

DRAWING 505-04-B - DUAL LANE CLOSURE
 ADVANCE WARNING AREA
 INTERMEDIATE SPEED TO HIGH SPEED
 40 MPH - 60 MPH
 MULTILANE
 PRIMARY & SECONDARY ROUTES

SHOULDER CLOSURES

- DRAWING 515-01-B** - RIGHT SHOULDER CLOSURE
CASE I / CASE II
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 515-01-C** - RIGHT SHOULDER CLOSURE
LOW SPEED
< / = 35 MPH
PRIMARY & SECONDARY ROUTES
(MINOR ENCROACHMENT)
- DRAWING 515-01-D** - LEFT SHOULDER CLOSURE
LOW SPEED
< / = 35 MPH
MULTILANE DIVIDED HIGHWAY
w/ GRASSED EARTH MEDIAN
PRIMARY & SECONDARY ROUTES
(MINOR ENCROACHMENT)
- DRAWING 515-02** - LEFT SHOULDER CLOSURE
CASE I / CASE I
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 515-03** - LEFT SHOULDER CLOSURE
CASE I / CASE II
MULTILANE
PRIMARY & SECONDARY ROUTES

INTERSTATE ROADWAYS

Lane closures are required for work activities that require equipment, personnel, materials, or any vehicles to encroach upon a travel lane or within 10 feet of a travel lane. When the work may be performed without the necessity for equipment, personnel, materials, or vehicles to encroach within 10 feet of the adjacent travel, utilize shoulder closures.

TYPICAL DRAWING APPLICATIONS

LANE CLOSURES

- DRAWING 510-01-A** - LANE CLOSURE
INTERSTATE ROUTES
- DRAWING 510-01-B** - LANE CLOSURE
EXIT / ENTRANCE RAMPS
INTERSTATE ROUTES

SHOULDER CLOSURES

- DRAWING 520-01** - RIGHT SHOULDER CLOSURE
CASE I / CASE II
INTERSTATE ROUTES
- DRAWING 520-02** - LEFT SHOULDER CLOSURE
CASE I / CASE I
NARROW MEDIAN
INTERSTATE ROUTES
- DRAWING 520-03** - LEFT SHOULDER CLOSURE
CASE I / CASE I
WIDE MEDIAN
INTERSTATE ROUTES

- DRAWING 520-04** - LEFT SHOULDER CLOSURE
CASE I / CASE II
WIDE MEDIAN
INTERSTATE ROUTES
- DRAWING 520-05** - LEFT SHOULDER CLOSURE
CASE II / CASE II
WIDE MEDIAN
INTERSTATE ROUTES

- WORK DESCRIPTION 3** Regrade Roadside Ditch
- WORK DESCRIPTION 4** Regrade / Repair Shoulder
- WORK DESCRIPTION 5** Regrade Shoulder and Ditch
- WORK DESCRIPTION 6** Widen Shoulder

TRAFFIC CONTROL

TWO-LANE TWO-WAY ROADWAYS

Mobilized shoulder operations may be used for work activities requiring only one (1) single equipment unit that progress along the roadway at a slow pace and require road machinery operating on the shoulder to encroach upon the roadway.

On low speed roadways with speeds of 35 mph or less, shoulder closures designed for minor encroachment are acceptable for work activities conducted within 30 feet of the near edge of an adjacent travel lane that may require encroachment upon the roadway by personnel, tools, equipment, materials, vehicles, etc. to the extent that may require a reduction of the lane width of an adjacent travel lane to no less than 10 feet.

On low speed roadways with speeds of 35 mph or less, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, flagging operations are required when the work activities require the presence of personnel, tools, equipment, materials, vehicles, etc. to encroach upon the roadway or to within 1 foot of the near edge of an adjacent travel lane.

Flagging operations are required for work activities that cannot be conducted under the conditions required for standard shoulder closures, shoulder closures with minor encroachment or mobilized shoulder operations.

TYPICAL DRAWING APPLICATIONS

FLAGGING OPERATIONS

- DRAWING 405-01-A** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
- DRAWING 405-01-B(1)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
STOP SIGN CONTROLLED SIDE ROADS
- DRAWING 405-01-B(2)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
4-WAY STOP CONTROLLED INTERSECTION

- DRAWING 405-01-C(1)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
TRAFFIC SIGNAL CONTROLLED INTERSECTION
LAW ENFORCEMENT OFFICER(S)
- DRAWING 405-01-C(2)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
TRAFFIC SIGNAL CONTROLLED INTERSECTION
FLAGGERS
- DRAWING 405-01-D(1)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
BEGINNING at an
INTERSECTION with a
TWO-LANE TWO-WAY ROADWAY
DEPARTURE LANE
- DRAWING 405-01-D(2)** - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
TERMINATING at an
INTERSECTION with a
TWO-LANE TWO-WAY ROADWAY
APPROACH LANE
- DRAWING 405-01-E(1)**
DRAWING 405-01-E(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
INTERSECTIONS with
LOW SPEED
< / = 35 MPH
MULTILANE ROADWAYS
- DRAWING 405-01-F(1)**
DRAWING 405-01-F(2) - FLAGGING OPERATIONS
MULTIPLE FLAGGERS
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
WORK ACTIVITY AREA
INTERSECTIONS with
INTERMEDIATE SPEED to HIGH SPEED
40 MPH - 60 MPH
MULTILANE ROADWAYS
- DRAWING 405-02** - FLAGGING OPERATIONS
SINGLE FLAGGER OPERATION
LOW VOLUME
LOW SPEED TO INTERMEDIATE SPEED
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES

SHOULDER CLOSURES

- DRAWING 515-01-A** - RIGHT SHOULDER CLOSURE
CASE I / CASE II
TWO-LANE TWO-WAY ROADWAYS
PRIMARY & SECONDARY ROUTES
- DRAWING 515-01-C** - RIGHT SHOULDER CLOSURE
LOW SPEED
< / = 35 MPH
PRIMARY & SECONDARY ROUTES
(MINOR ENCROACHMENT)

MOBILIZED SHOULDER OPERATIONS

- DRAWING 525-01** - MOBILIZED SHOULDER OPERATIONS
ROAD MACHINERY – MINOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES
- DRAWING 525-02** - MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – NO ENCROACHMENT
ROAD MACHINERY – MINOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES
- DRAWING 525-03** - MOBILIZED SHOULDER OPERATIONS
ROAD MACHINERY – MAJOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES

MULTILANE SECONDARY AND PRIMARY ROADWAYS

Mobilized shoulder operations may be used for work activities requiring only one (1) single equipment unit that progress along the roadway at a slow pace and require road machinery operating on the shoulder to encroach upon the roadway.

On low speed roadways with speeds of 35 mph or less, shoulder closures designed for minor encroachment are acceptable for work activities conducted within 30 feet of the near edge of an adjacent travel lane that may require encroachment upon the roadway by personnel, tools, equipment, materials, vehicles, etc. to the extent that may require a reduction of the lane width of an adjacent travel lane to no less than 10 feet.

On low speed roadways with speeds of 35 mph or less, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, standard shoulder closures are required for work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 1 foot but within 30 feet of the near edge of an adjacent travel lane.

On intermediate to high speed roadways, lane closures are required when the work activities require the presence of personnel, tools, equipment, materials, vehicles, etc. to encroach upon the roadway or to within 1 foot of the near edge of an adjacent travel lane.

Lane closures are required for work activities that cannot be conducted under the conditions required for standard shoulder closures, standard shoulder closures with minor encroachment or mobilized shoulder operations.

TYPICAL DRAWING APPLICATIONS

LANE CLOSURES

- DRAWING 505-01** - LANE CLOSURE
LOW SPEED MULTILANE
< / = 35 MPH
PRIMARY & SECONDARY ROUTES

- DRAWING 505-02** - DUAL LANE CLOSURE
LOW SPEED MULTILANE
< / = 35 MPH
PRIMARY & SECONDARY ROUTES
- DRAWING 505-03-A** - LANE CLOSURE
INTERMEDIATE SPEED TO HIGH SPEED
40 MPH - 60 MPH
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 505-04-A** - DUAL LANE CLOSURE
TRANSITION / ACTIVITY AREAS
INTERMEDIATE SPEED TO HIGH SPEED
40 MPH - 60 MPH
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 505-04-B** - DUAL LANE CLOSURE
ADVANCE WARNING AREA
INTERMEDIATE SPEED TO HIGH SPEED
40 MPH - 60 MPH
MULTILANE
PRIMARY & SECONDARY ROUTES

SHOULDER CLOSURES

- DRAWING 515-01-B** - RIGHT SHOULDER CLOSURE
CASE I / CASE II
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 515-01-C** - RIGHT SHOULDER CLOSURE
LOW SPEED
< / = 35 MPH
PRIMARY & SECONDARY ROUTES
(MINOR ENCROACHMENT)
- DRAWING 515-01-D** - LEFT SHOULDER CLOSURE
LOW SPEED
< / = 35 MPH
MULTILANE DIVIDED HIGHWAY
w/ GRASSED EARTH MEDIAN
PRIMARY & SECONDARY ROUTES
(MINOR ENCROACHMENT)
- DRAWING 515-02** - LEFT SHOULDER CLOSURE
CASE I / CASE I
MULTILANE
PRIMARY & SECONDARY ROUTES
- DRAWING 515-03** - LEFT SHOULDER CLOSURE
CASE I / CASE II
MULTILANE
PRIMARY & SECONDARY ROUTES

MOBILIZED SHOULDER OPERATIONS

- | | | |
|-----------------------|---|--|
| DRAWING 525-01 | - | MOBILIZED SHOULDER OPERATIONS
ROAD MACHINERY – MINOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES |
| DRAWING 525-02 | - | MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – NO ENCROACHMENT
ROAD MACHINERY – MINOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES |
| DRAWING 525-03 | - | MOBILIZED SHOULDER OPERATIONS
ROAD MACHINERY – MAJOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES |

INTERSTATE ROADWAYS

Mobilized shoulder operations may be used for work activities that progress along the roadway at a slow pace and require equipment, personnel, materials, or any vehicles to encroach upon the adjacent paved shoulder within the limits specified by the typical drawing applications for interstate mobilized shoulder operations.

Standard shoulder closures are required for stationary work activities that require the presence of personnel, tools, equipment, materials, vehicles, etc. beyond 10 feet but within 30 feet of the near edge of an adjacent travel lane.

Lane closures are required for work activities that cannot be conducted under the conditions required for mobilized shoulder operations or standard shoulder closures.

(Brief periodic encroachments upon the adjacent travel lane for the equipment to relocate or bypass structures such as guardrail locations or bridge structures are acceptable.)

TYPICAL DRAWING APPLICATIONS

LANE CLOSURES

- | | | |
|-------------------------|---|--|
| DRAWING 510-01-A | - | LANE CLOSURE
INTERSTATE ROUTES |
| DRAWING 510-01-B | - | LANE CLOSURE
EXIT / ENTRANCE RAMPS
INTERSTATE ROUTES |

SHOULDER CLOSURES

- | | | |
|-----------------------|---|--|
| DRAWING 520-01 | - | RIGHT SHOULDER CLOSURE
CASE I / CASE II
INTERSTATE ROUTES |
| DRAWING 520-02 | - | LEFT SHOULDER CLOSURE
CASE I / CASE I
NARROW MEDIAN
INTERSTATE ROUTES |
| DRAWING 520-03 | - | LEFT SHOULDER CLOSURE
CASE I / CASE I
WIDE MEDIAN
INTERSTATE ROUTES |
| DRAWING 520-04 | - | LEFT SHOULDER CLOSURE
CASE I / CASE II
WIDE MEDIAN
INTERSTATE ROUTES |

DRAWING 520-05 - LEFT SHOULDER CLOSURE
CASE II / CASE II
WIDE MEDIAN
INTERSTATE ROUTES

MOBILIZED SHOULDER OPERATIONS

DRAWING 530-01 - MOBILIZED SHOULDER OPERATIONS
ROAD MACHINERY – MAJOR ENCROACHMENT
INTERSTATE ROUTES

DRAWING 530-02 - MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – MINOR ENCROACHMENT
UPON PAVED SHOULDER
INTERSTATE ROUTES