

PERFORMANCE ACTIVITY 410

ROADWAY CLEANING

WORK DESCRIPTION 1
WORK DESCRIPTION 2

Clean by Hand
Clean by Machine

410 ROADWAY CLEANING

ACTIVITY DESCRIPTION

Clean roadway features such as curb & gutter, pavement edges, paved shoulders, bike paths, sidewalks, gore areas and barrier walls, etc.

WORK DESCRIPTION 1 Clean by Hand

TRAFFIC CONTROL

TWO-LANE TWO-WAY ROADWAYS

Mobilized shoulder operations should be implemented for work activities requiring only one (1) single equipment unit that progress along the roadway at a slow pace and may require equipment or vehicles to encroach upon a travel lane beyond 2 feet and at times may occupy the entire travel lane adjacent to the shoulder in which the work is being conducted.

Utilize a shadow vehicle when the stopping sight distance interval between the work vehicle or road machinery and an approaching motorist is unavailable based upon the posted regulatory speed limit of the work location.

Shoulder closures may be installed for work activities that require pedestrian workers to perform work activities beyond 1 foot but within 15 feet of a travel lane.

Flagging operations may be installed for work activities that require pedestrian workers to encroach upon the travel lane or perform work activities within 1 foot of the adjacent travel lane.

Flagging operations may be installed for work activities that require equipment or any vehicles to encroach upon a travel lane beyond 2 feet and at times may occupy the entire travel lane adjacent to the shoulder in which the work is being conducted.

(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

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 525-02 - MOBILIZED SHOULDER OPERATIONS
 PEDESTRIAN WORKERS – NO ENCROACHMENT
 ROAD MACHINERY – MINOR ENCROACHMENT
 PRIMARY & SECONDARY ROUTES

MULTILANE SECONDARY AND PRIMARY ROADWAYS

Mobilized shoulder operations should be implemented for work activities requiring only one (1) single equipment unit that progress along the roadway at a slow pace and may require equipment or vehicles to encroach upon a travel lane beyond 2 feet and at times may occupy the entire travel lane adjacent to the shoulder in which the work is being conducted.

Utilize a shadow vehicle when the stopping sight distance interval between the work vehicle or road machinery and an approaching motorist is unavailable based upon the posted regulatory speed limit of the work location.

Shoulder closures may be installed for work activities that require pedestrian workers to perform work activities beyond 1 foot but within 15 feet of a travel lane.

Lane closures may be installed for work activities that require pedestrian workers to encroach upon the travel lane or perform work activities within 1 foot of the adjacent travel lane.

Lane closures may be installed for work activities that require equipment or any vehicles to encroach upon a travel lane beyond 2 feet and at times may occupy the entire travel lane adjacent to the shoulder in which the work is being conducted.

(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 505-01 - 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

SHOULDER CLOSURES

DRAWING 515-01-B - RIGHT SHOULDER CLOSURE
 CASE I / CASE II
 MULTILANE
 PRIMARY & SECONDARY ROUTES

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 525-02** - MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – NO ENCROACHMENT
ROAD MACHINERY – MINOR ENCROACHMENT
PRIMARY & SECONDARY ROUTES
- DRAWING 525-04** - MOBILIZED SHOULDER OPERATIONS
INTERMEDIATE SPEED TO HIGH SPEED
40 MPH - 60 MPH
PEDESTRIAN WORKERS – MAJOR ENCROACHMENT
ROAD MACHINERY – MAJOR ENCROACHMENT
MULTILANE
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 should be utilized for work activities that cannot be conducted under the conditions required for mobilized shoulder operations.

(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

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

- DRAWING 530-03** - MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – MAJOR ENCROACHMENT
UPON PAVED SHOULDER
ROAD MACHINERY – MAJOR ENCROACHMENT
UPON TRAVEL LANE
INTERSTATE ROUTES

WORK DESCRIPTION 2 Clean by Machine

TRAFFIC CONTROL

TWO-LANE TWO-WAY ROADWAYS

Utilize intermittent mobile operations for these work activities under the following conditions:

Condition 1 - The maximum time duration of a stop is 15 minutes if the work vehicle and/or the shadow vehicle encroach upon a travel lane more than 2 feet.

Condition 2 - The maximum time duration of a stop is 30 minutes if the work vehicle and/or the shadow vehicle encroach upon a travel lane 2 feet or less.

During intermittent mobile operations, utilize a shadow vehicle when the stopping sight distance interval between the work vehicle or road machinery and an approaching motorist is unavailable based upon the posted regulatory speed limit of the work location.

Flagging operations are required for work activities that cannot be conducted under the conditions required for intermittent mobile 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

MOBILE OPERATIONS – INTERMITTENT

- DRAWING 535-01-A** - MOBILE OPERATIONS – INTERMITTENT
 STOPPING SIGHT DISTANCE
 VEHICLE TRAIN REQUIREMENTS
 VERTICAL CURVE (HILL)
- DRAWING 535-01-B** - MOBILE OPERATIONS – INTERMITTENT
 STOPPING SIGHT DISTANCE
 VEHICLE TRAIN REQUIREMENTS
 HORIZONTAL CURVE (CURVE)
- DRAWING 535-02-A** - MOBILE OPERATIONS – INTERMITTENT
 LOW VOLUME
 LOW SPEED
 PRIMARY & SECONDARY ROUTES
- DRAWING 535-02-B** - MOBILE OPERATIONS – INTERMITTENT
 LOW VOLUME
 INTERMEDIATE SPEED TO HIGH SPEED
 PRIMARY & SECONDARY ROUTES
- DRAWING 535-03-A** - MOBILE OPERATIONS – INTERMITTENT
 INTERMEDIATE VOLUME
 LOW SPEED
 PRIMARY & SECONDARY ROUTES

- DRAWING 535-03-B** - MOBILE OPERATIONS – INTERMITTENT
INTERMEDIATE VOLUME
INTERMEDIATE SPEED TO HIGH SPEED
PRIMARY & SECONDARY ROUTES
- DRAWING 535-04-A** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
LOW SPEED
PRIMARY & SECONDARY ROUTES
- DRAWING 535-04-B** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
LOW SPEED
INTERIOR TRAVEL LANE OPERATIONS
PRIMARY & SECONDARY ROUTES
- DRAWING 535-04-C** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
INTERMEDIATE SPEED TO HIGH SPEED
PRIMARY & SECONDARY ROUTES

MULTILANE SECONDARY AND PRIMARY ROADWAYS

Utilize intermittent mobile operations for these work activities under the following conditions:

Condition 1 - The maximum time duration of a stop is 15 minutes if the work vehicle and/or the shadow vehicle encroach upon a travel lane more than 2 feet.

Condition 2 - The maximum time duration of a stop is 30 minutes if the work vehicle and/or the shadow vehicle encroach upon a travel lane 2 feet or less.

During intermittent mobile operations, utilize a shadow vehicle when the stopping sight distance interval between the work vehicle or road machinery and an approaching motorist is unavailable based upon the posted regulatory speed limit of the work location.

TYPICAL DRAWING APPLICATIONS

MOBILE OPERATIONS – INTERMITTENT

- DRAWING 535-01-A** - MOBILE OPERATIONS – INTERMITTENT
STOPPING SIGHT DISTANCE
VEHICLE TRAIN REQUIREMENTS
VERTICAL CURVE (HILL)
- DRAWING 535-01-B** - MOBILE OPERATIONS – INTERMITTENT
STOPPING SIGHT DISTANCE
VEHICLE TRAIN REQUIREMENTS
HORIZONTAL CURVE (CURVE)
- DRAWING 535-03-A** - MOBILE OPERATIONS – INTERMITTENT
INTERMEDIATE VOLUME
LOW SPEED
PRIMARY & SECONDARY ROUTES
- DRAWING 535-03-B** - MOBILE OPERATIONS – INTERMITTENT
INTERMEDIATE VOLUME
INTERMEDIATE SPEED TO HIGH SPEED
PRIMARY & SECONDARY ROUTES
- DRAWING 535-04-A** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
LOW SPEED
PRIMARY & SECONDARY ROUTES

- DRAWING 535-04-B** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
LOW SPEED
INTERIOR TRAVEL LANE OPERATIONS
PRIMARY & SECONDARY ROUTES
- DRAWING 535-04-C** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
INTERMEDIATE SPEED TO HIGH SPEED
PRIMARY & SECONDARY ROUTES

INTERSTATE ROADWAYS

Utilize intermittent mobile operations for these work activities under the following conditions:

Condition 1 - The maximum time duration of a stop is 5 minutes if the work vehicle and/or the shadow vehicle encroach upon an adjacent travel lane due to a shoulder area inadequate to accommodate a vehicle in its entirety due to the presence of a concrete median barrier wall or a bridge parapet wall.

Condition 2 - The maximum time duration of a stop is 30 minutes if the vehicles remain in the shoulder areas in their entirety with no encroachment upon an adjacent travel lane.

During intermittent mobile operations, utilize a shadow vehicle when the stopping sight distance interval between the work vehicle or road machinery and an approaching motorist is unavailable based upon the posted regulatory speed limit of the work location.

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 should be utilized for work activities that cannot be conducted under the conditions required for mobilized shoulder operations.

Lane closures are required for work activities that cannot be conducted under the conditions required for intermittent mobile operations, 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
- DRAWING 530-03** - MOBILIZED SHOULDER OPERATIONS
PEDESTRIAN WORKERS – MAJOR ENCROACHMENT
UPON PAVED SHOULDER
ROAD MACHINERY – MAJOR ENCROACHMENT
UPON TRAVEL LANE
INTERSTATE ROUTES

MOBILE OPERATIONS – INTERMITTENT

- DRAWING 535-01-A** - MOBILE OPERATIONS – INTERMITTENT
STOPPING SIGHT DISTANCE
VEHICLE TRAIN REQUIREMENTS
VERTICAL CURVE (HILL)
- DRAWING 535-01-B** - MOBILE OPERATIONS – INTERMITTENT
STOPPING SIGHT DISTANCE
VEHICLE TRAIN REQUIREMENTS
HORIZONTAL CURVE (CURVE)
- DRAWING 535-04-D(1)** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
HIGH SPEED
INTERSTATE ROUTES
- DRAWING 535-04-E** - MOBILE OPERATIONS – INTERMITTENT
HIGH VOLUME
HIGH SPEED
INTERIOR TRAVEL LANE OPERATIONS
INTERSTATE ROUTES