Report Date: 21 Oct 2020

052-196-3065
Prepare a Route Reconnaissance Overlay
Status: Approved

Security Classification: U - Unclassified

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the MSCoE foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Conditions: Given a mission to prepare a route reconnaissance overlay in an operational environment, one or more maps, overlay material, ATP 3-34.81, Engineer Reconnaissance, and completed DD Forms 3009, 3010, 3011, 3012, 3013, 3014, 3015, and 3016. Some iterations of this task should be performed in MOPP 4.

Standards: Prepare the overlay, include all of the information submitted in the reconnaissance reports using standard reconnaissance symbols according to ATP 3-34.81, Engineer Reconnaissance utilizing the GO/NOGO process with zero errors.

Special Conditions: None

Safety Risk: Low

MOPP 4: Sometimes

Task Statements

Cue: Receives mission from higher headquarters.

DANGER

None

WARNING

None

CAUTION

None

Remarks: None

Notes: None

Performance Steps

1. Collect pertinent information concerning trafficability and applying it to the route classification format.

   a. Collect information from DD Form 3010, Road Reconnaissance Report. (Figures 052-196-3065-01 and 052-196-3065-02)

ROAD RECONNAISSANCE REPORT
For use of this form, see ATP 3-34.81/MCWP 3-17.4; proponent agency is TRADOC.

DATE *(YYYYMMDD)*: 1 July 15

TO *(Headquarters ordering reconnaissance)*: Commander, ATTN: S-2, 21st Engineer Battalion

FROM *(Name, grade and unit of officer or NCO making reconnaissance)*: Doe, John, 1LT, Company A, 522nd Engineer

1. MAPS	a. COUNTRY	b. SCALE	c. SHEET NUMBER OF MAPS	2. DATE/TIME GROUP *(Of signature)*
	USA, Fort Leonard Wood Special	1:50,000	AMS V733	011430ZJUL15

SECTION I - GENERAL ROAD INFORMATION

3. ROAD GRID REFERENCE		4. ROAD MARKING *(Civilian or Military number of road)*	5. LENGTH OF ROAD *(Miles or kilometers, specify)*
a. FROM	b. TO		
UT 122864	UT 097999	Missouri Route J	16 km

6. WIDTH OF ROADWAY *(Feet or meters, specify)*: 6.7 m to 9.3 m

7. RECONNAISSANCE

a. DATE *(YYYYMMDD)*	b. TIME
1 Jul 15	0615

8. WEATHER DURING RECONNAISSANCE *(Include last rainfall, if known)*: Fair - temperature 79 degrees
Last rainfall - 15 Jun 15

SECTION II - DETAILED ROAD INFORMATION

When circumstances permit more detailed information will be shown in an overlay or on the mileage chart on the reverse side of this form. Use standard symbols.

9. ALIGNMENT *(Check one ONLY)*
- [ ] (1) FLAT GRADIENTS AND EASY CURVES
- [ ] (2) STEEP GRADIENTS *(Excess of 7 in 100)*
- [ ] (3) SHARP CURVES *(Radius less than 100 ft (30m))*
- [x] (4) STEEP GRADIENTS AND SHARP CURVES

10. DRAINAGE *(Check one ONLY)*
- [ ] (1) ADEQUATE DITCHES, CROWN/CAMBER WITH ADEQUATE CULVERTS IN GOOD CONDITION
- [x] (2) INADEQUATE DITCHES, CROWN/CAMBER OR CULVERTS, ITS CULVERTS OR DITCHES ARE BLOCKED OR OTHER-WISE IN POOR CONDITION

11. FOUNDATION *(Check one ONLY)*
- [x] (1) STABILIZED COMPACT MATERIAL OF GOOD QUALITY
- [ ] (2) UNSTABLE, LOOSE OR EASILY DISPLACED MATERIAL

12. SURFACE DESCRIPTION *(Complete items 12a and b)*

a. THE SURFACE IS *(Check one ONLY)*
- [x] (1) FREE OF POTHOLES, BUMPS, OR RUTS LIKELY TO REDUCE CONVOY SPEED
- [ ] (2) BUMPY, RUTTED OR POTHOLED TO AN EXTENT LIKELY TO REDUCE CONVOY SPEED

b. TYPE OF SURFACE *(Check one ONLY)*
- [ ] (1) CONCRETE
- [x] (2) BITUMINOUS *(Specify type where known)*: Asphalt
- [ ] (3) BRICK *(Pave)*
- [ ] (4) STONE *(Pave)*
- [ ] (5) CRUSHED ROCK OR CORAL
- [ ] (6) WATERBOUND MACADAM
- [ ] (7) GRAVEL
- [ ] (8) LIGHTLY METALLED
- [ ] (9) NATURAL OR STABILIZED SOIL, SAND CLAY, SHELL, CINDERS, DISINTEGRATED GRANITE, OR OTHER SELECTED MATERIAL
- [ ] (10) OTHER *(Describe)*:

SECTION III - OBSTRUCTIONS

List in the columns below particulars of the following obstructions which affect the traffic capacity of a road. If information of any factor cannot be ascertained, insert "NOT KNOWN".
(a) **Overhead obstructions, less than 14 feet or 4.25 meters, such as tunnels, bridges, overhead wires and overhanging buildings.**
(b) **Reductions in road widths which limit the traffic capacity, such as craters, narrow bridges, archways, and buildings.**
(c) **Excessive gradients (Above 7 in 100)**
(d) **Curves less than 100 feet (30 meters) in radius**
(e) **Fords**

13.a. SERIAL NUMBER	b. PARTICULARS	c. GRID REFERENCE	d. REMARKS
1	Sharp grade - 8%	UT 119872	200 m long
2	Sharp curve	UT 112877	Radius 21 m
3	Constriction	UT 112878	6.7 m wide, 300 m long
4	Constriction	UT 105896	7 m wide, 100 m long
5	Built-up area	UT 094856	7.3 m wide, 2,000 m long

DD FORM 3010, FEB 2016 REPLACES DA FORM 1248, WHICH IS OBSOLETE. Adobe Professional X

Figure 052-196-3065-01.
DD Form 3010, Road Reconnaissance Report (front).

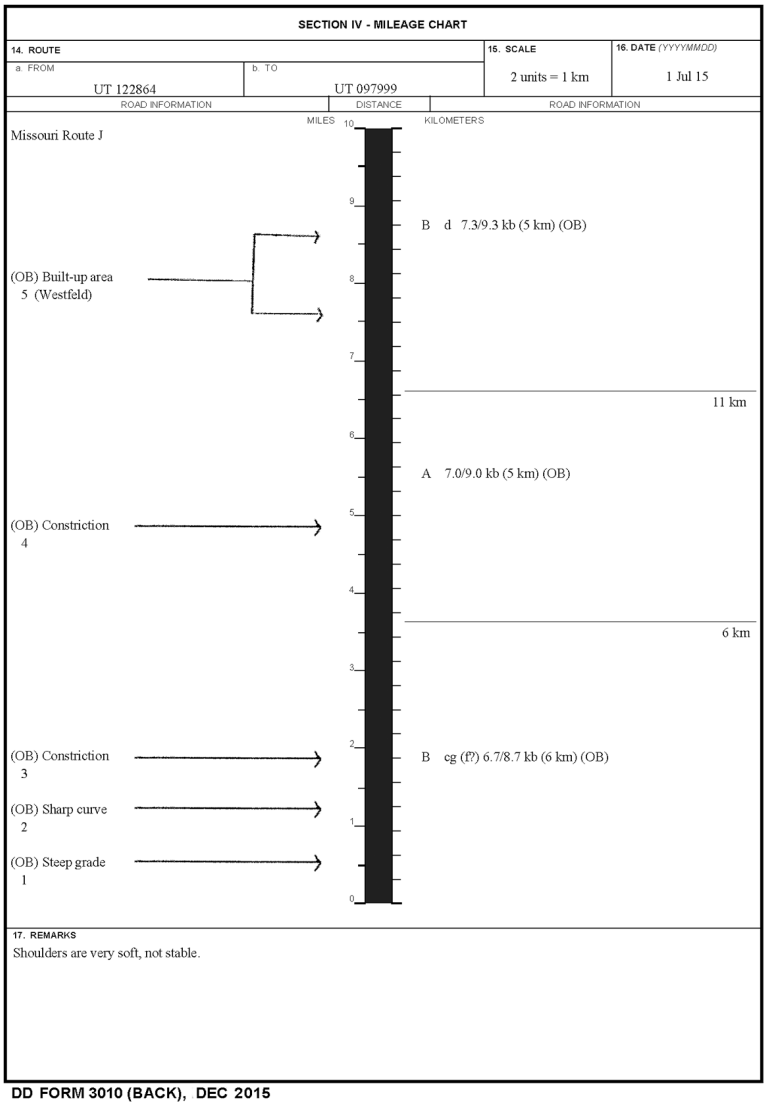


Figure 052-196-3065-02.
DD Form 3010, Road Reconnaissance Report (back).

b. Collect information from DD Form 3011, Bridge Reconnaissance Report. (Figures 052-196-3065-03 and 052-196-3065-04)

BRIDGE RECONNAISSANCE REPORT
For use of this form, see ATP 3-34.81/MCWP 3-17.4; the proponent agency is TRADOC

DATE *(YYYYMMDD)*: 1 Jul 15

SIGNATURE: SFC Gerald Smith

TO *(Headquarters ordering reconnaissance)*: Commander, ATTN: S-2, 21st Engineer Battalion

FROM *(Name, grade and unit of officer or NCO conducting Reconnaissance)*: Gerald Smith, SFC, Company A, 21st Engineer Battalion

1. MAPS *(Country, scale and sheet number or name)*: USA, 1:50,000, AMS V7333 5561 IV, Quantico

2. DATE/TIME GROUP *(Of signature)*: 011430ZJUL15

3. ESSENTIAL BRIDGE INFORMATION

a.	b.	c. CLEARANCE		d. SPANS				**4. ADDITIONAL BRIDGE INFORMATION** *(Add columns as needed)* *(Military load class, overall length, roadway width, vertical clearance, bridge by-pass)*					
SERIAL NUMBER	LOCATION	(1) HORIZONTAL	(2) UNDER BRIDGE	(1) NUMBER	(2) TYPE OF CONSTRUCTION	(3) TYPE OF CONSTRUCTION MATERIAL	(4) LENGTH AND CONDITION						
21	LA 07216874		9	N 1/6	3	h	4 m W	16	27.6 m	7.3 m		Easy, ford safe located next to bridge	
				2/6	3	h	4.2 m W						
				3/6	3	h	4.3 m W						
				4/6	3	h	4.3 m W						
				5/6	3	h	4.5 m W						
				6/6	3	h	4.3 m W						

DD FORM 3011, DEC 2015 REPLACES DA FORM 1248, WHICH IS OBSOLETE Adobe Professional X

Figure 052-196-3065-03.
DD Form 3011, Bridge Reconnaissance Report (front).

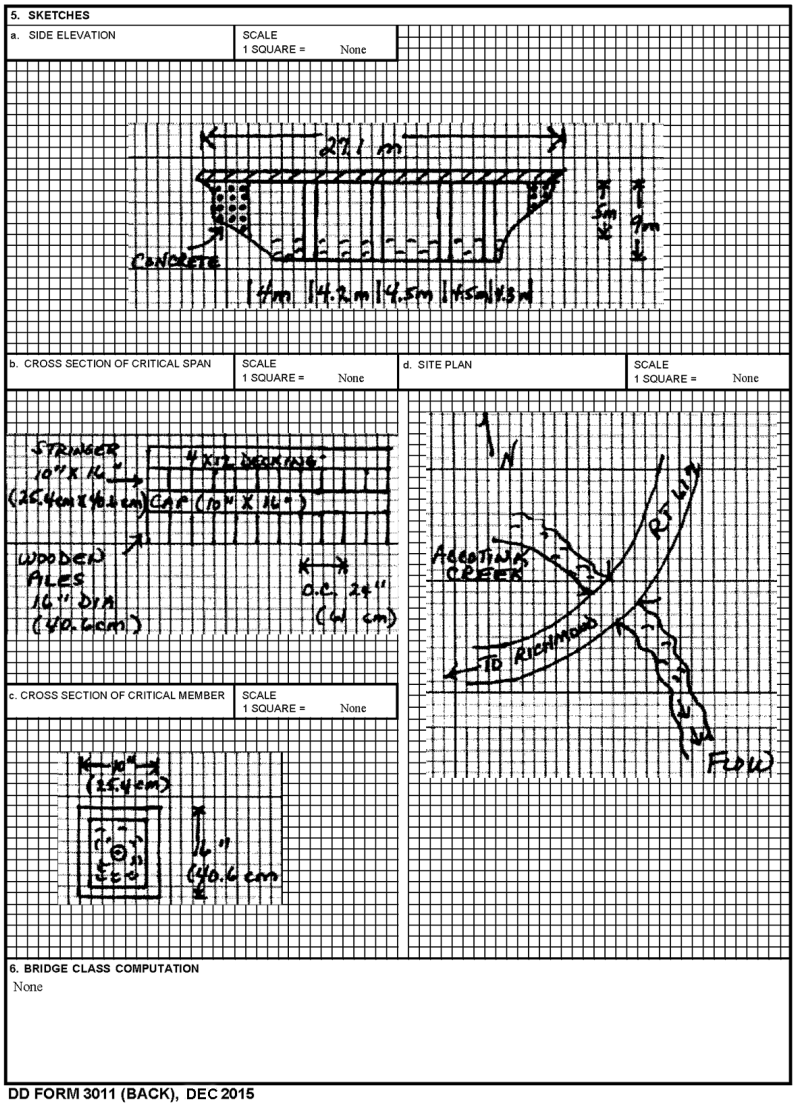
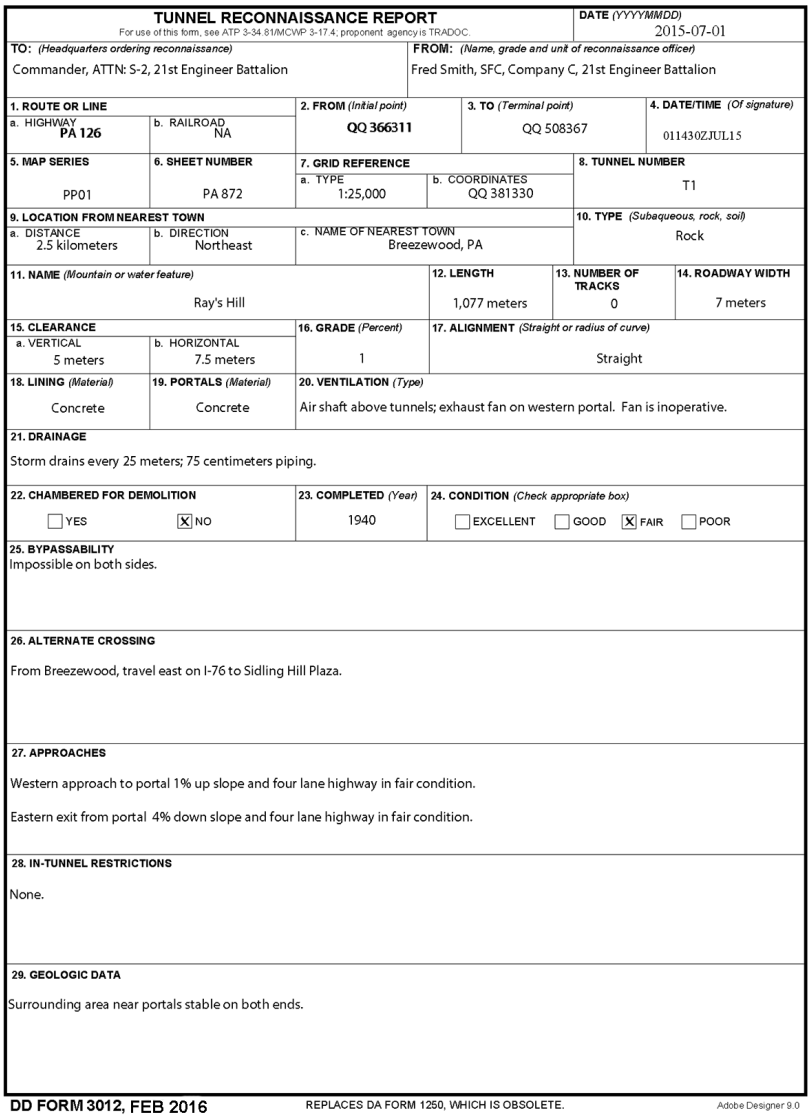


Figure 052-196-3065-04.
DD Form 3011, Bridge Reconnaissance Report (back).

c. Collect information from DD Form 3012, Tunnel Reconnaissance Report. (Figures 052-196-3065-05 and 052-196-3065-06)



TUNNEL RECONNAISSANCE REPORT
For use of this form, see ATP 3-34.81/MCWP 3-17.4; proponent agency is TRADOC.

DATE *(YYYYMMDD)*: 2015-07-01

TO: *(Headquarters ordering reconnaissance)*: Commander, ATTN: S-2, 21st Engineer Battalion

FROM: *(Name, grade and unit of reconnaissance officer)*: Fred Smith, SFC, Company C, 21st Engineer Battalion

1. ROUTE OR LINE		2. FROM *(Initial point)*	3. TO *(Terminal point)*	4. DATE/TIME *(Of signature)*
a. HIGHWAY: PA 126	b. RAILROAD: NA	QQ 366311	QQ 508367	011430ZJUL15

5. MAP SERIES	6. SHEET NUMBER	7. GRID REFERENCE		8. TUNNEL NUMBER
		a. TYPE	b. COORDINATES	
PP01	PA 872	1:25,000	QQ 381330	T1

9. LOCATION FROM NEAREST TOWN			10. TYPE *(Subaqueous, rock, soil)*
a. DISTANCE	b. DIRECTION	c. NAME OF NEAREST TOWN	
2.5 kilometers	Northeast	Breezewood, PA	Rock

11. NAME *(Mountain or water feature)*	12. LENGTH	13. NUMBER OF TRACKS	14. ROADWAY WIDTH
Ray's Hill	1,077 meters	0	7 meters

15. CLEARANCE		16. GRADE *(Percent)*	17. ALIGNMENT *(Straight or radius of curve)*
a. VERTICAL	b. HORIZONTAL		
5 meters	7.5 meters	1	Straight

18. LINING *(Material)*	19. PORTALS *(Material)*	20. VENTILATION *(Type)*
Concrete	Concrete	Air shaft above tunnels; exhaust fan on western portal. Fan is inoperative.

21. DRAINAGE
Storm drains every 25 meters; 75 centimeters piping.

22. CHAMBERED FOR DEMOLITION	23. COMPLETED *(Year)*	24. CONDITION *(Check appropriate box)*
☐ YES ☒ NO	1940	☐ EXCELLENT ☐ GOOD ☒ FAIR ☐ POOR

25. BYPASSABILITY
Impossible on both sides.

26. ALTERNATE CROSSING
From Breezewood, travel east on I-76 to Sidling Hill Plaza.

27. APPROACHES
Western approach to portal 1% up slope and four lane highway in fair condition.

Eastern exit from portal 4% down slope and four lane highway in fair condition.

28. IN-TUNNEL RESTRICTIONS
None.

29. GEOLOGIC DATA
Surrounding area near portals stable on both ends.

DD FORM 3012, FEB 2016 REPLACES DA FORM 1250, WHICH IS OBSOLETE. Adobe Designer 9.0

Figure 052-196-3065-05.
DD Form 3012, Tunnel Reconnaissance Report (front).

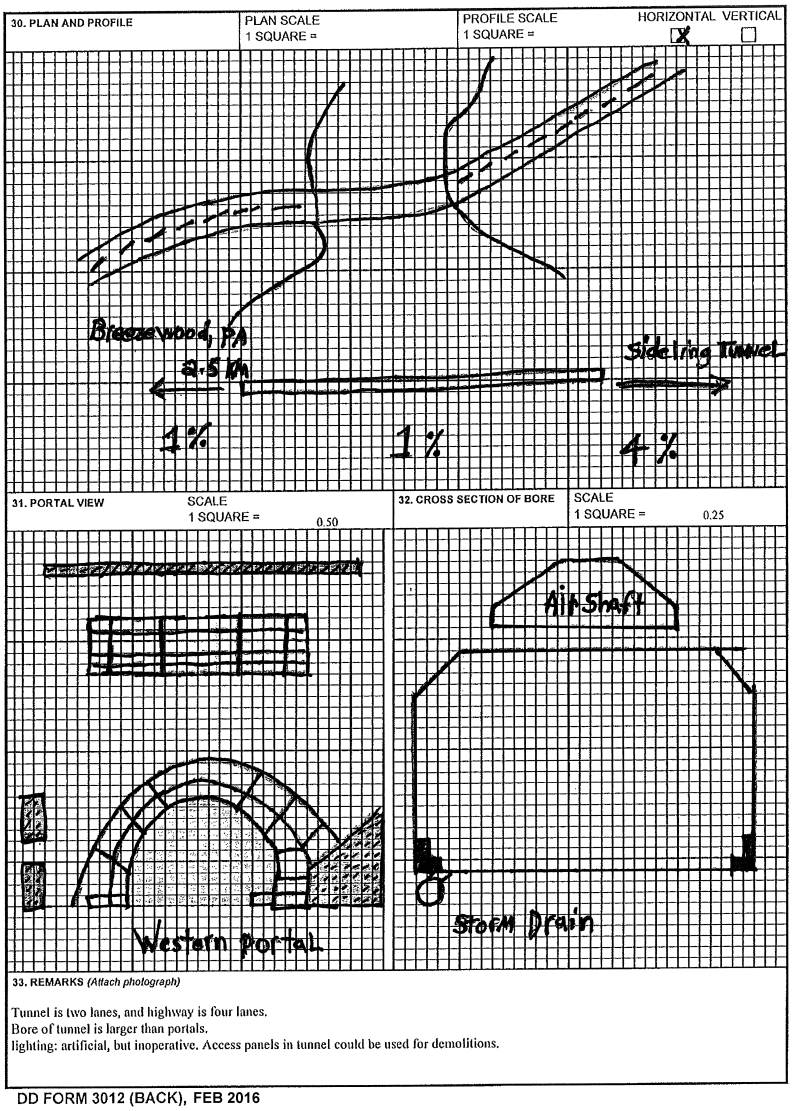
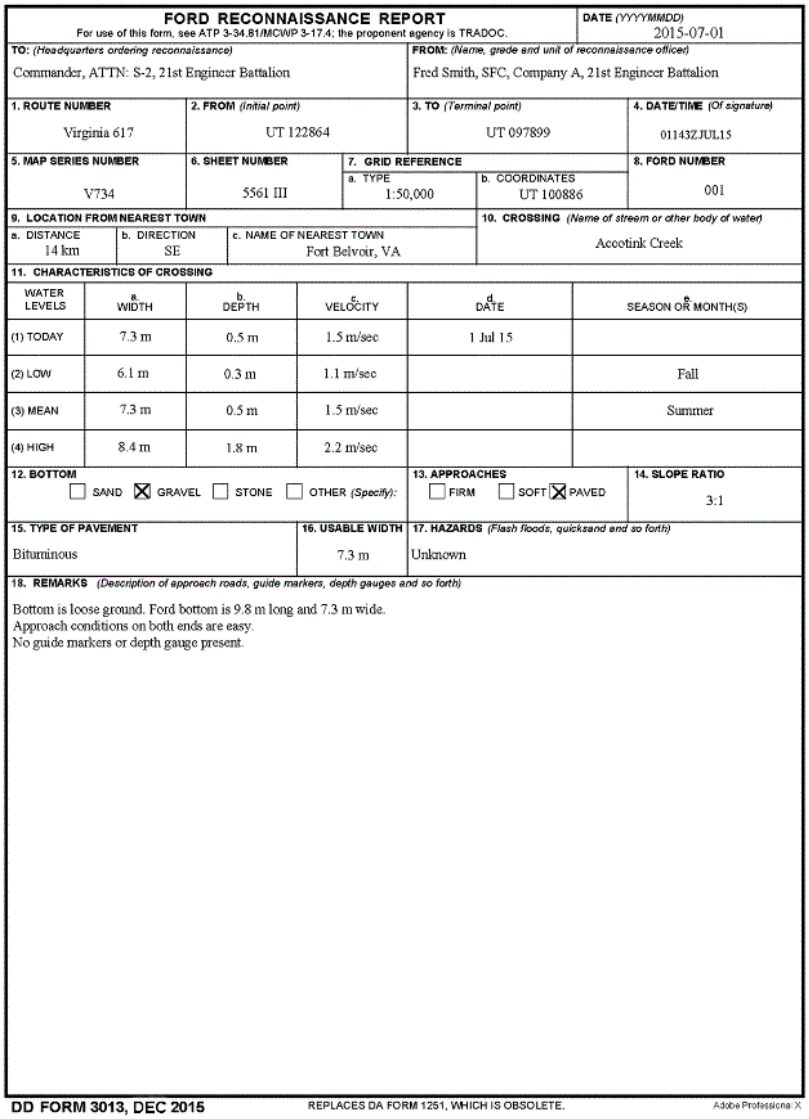


Figure 052-196-3065-06.
DD Form 3012, Tunnel Reconnaissance Report (back).

d. Collect information from DD Form 3013, Ford Reconnaissance Report. (Figures 052-196-3065-07 and 052-196-3065-08)



FORD RECONNAISSANCE REPORT

For use of this form, see ATP 3-34.81/MCWP 3-17.4; the proponent agency is TRADOC.

DATE (YYYYMMDD): 2015-07-01

TO: (Headquarters ordering reconnaissance): Commander, ATTN: S-2, 21st Engineer Battalion

FROM: (Name, grade and unit of reconnaissance officer): Fred Smith, SFC, Company A, 21st Engineer Battalion

1. ROUTE NUMBER	2. FROM (Initial point)	3. TO (Terminal point)	4. DATE/TIME (Of signature)
Virginia 617	UT 122864	UT 097899	01143ZJUL15

5. MAP SERIES NUMBER	6. SHEET NUMBER	7. GRID REFERENCE a. TYPE	7. GRID REFERENCE b. COORDINATES	8. FORD NUMBER
V734	5561 III	1:50,000	UT 100886	001

9. LOCATION FROM NEAREST TOWN a. DISTANCE	b. DIRECTION	c. NAME OF NEAREST TOWN	10. CROSSING (Name of stream or other body of water)
14 km	SE	Fort Belvoir, VA	Accotink Creek

11. CHARACTERISTICS OF CROSSING

WATER LEVELS	a. WIDTH	b. DEPTH	c. VELOCITY	d. DATE	e. SEASON OR MONTH(S)
(1) TODAY	7.3 m	0.5 m	1.5 m/sec	1 Jul 15	
(2) LOW	6.1 m	0.3 m	1.1 m/sec		Fall
(3) MEAN	7.3 m	0.5 m	1.5 m/sec		Summer
(4) HIGH	8.4 m	1.8 m	2.2 m/sec		

12. BOTTOM	13. APPROACHES	14. SLOPE RATIO
☐ SAND ☒ GRAVEL ☐ STONE ☐ OTHER (Specify):	☐ FIRM ☐ SOFT ☒ PAVED	3:1

15. TYPE OF PAVEMENT	16. USABLE WIDTH	17. HAZARDS (Flash floods, quicksand and so forth)
Bituminous	7.3 m	Unknown

18. REMARKS (Description of approach roads, guide markers, depth gauges and so forth)

Bottom is loose ground. Ford bottom is 9.8 m long and 7.3 m wide.
Approach conditions on both ends are easy.
No guide markers or depth gauge present.

DD FORM 3013, DEC 2015 REPLACES DA FORM 1251, WHICH IS OBSOLETE. Adobe Professional X

Figure 052-196-3065-07.
DD Form 3013, Ford Reconnaissance Report (front).

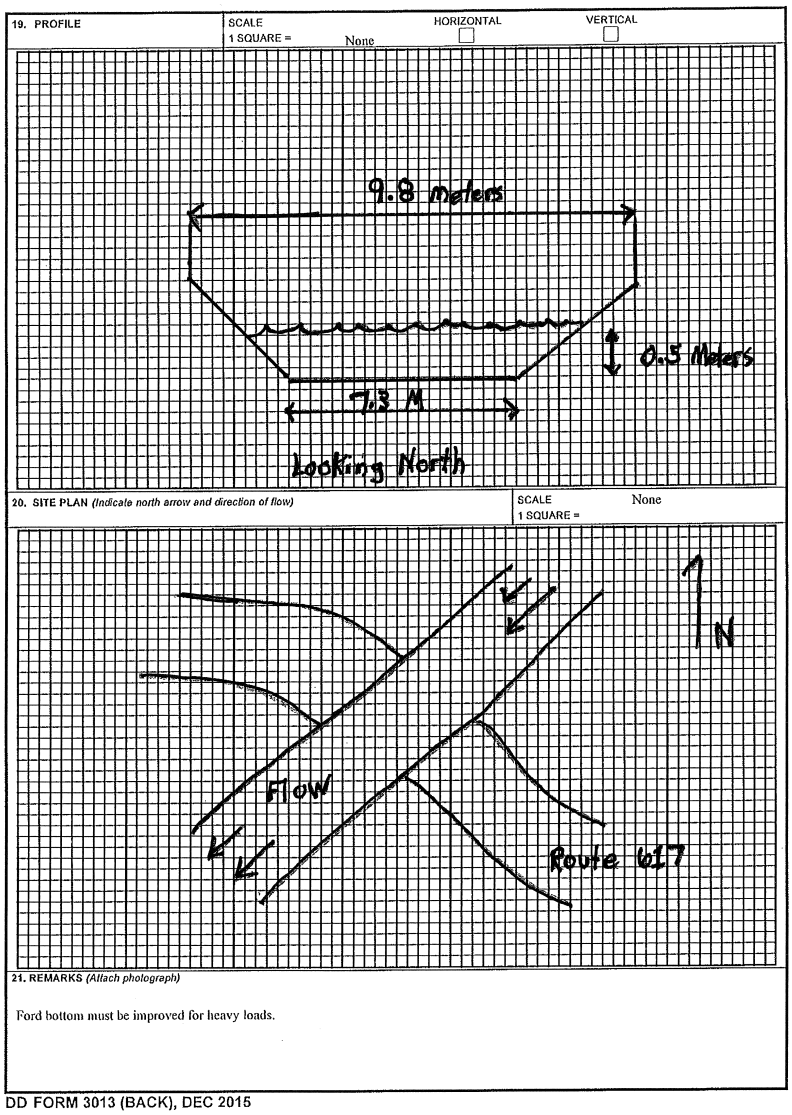
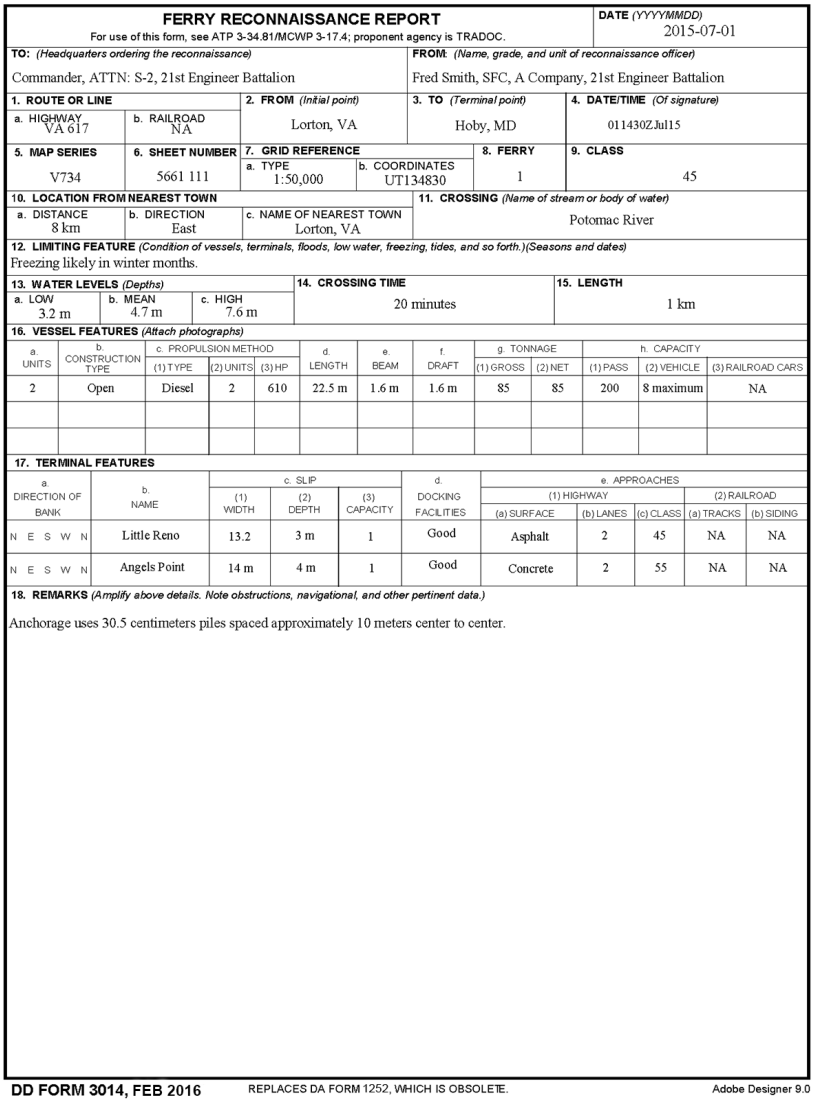


Figure 052-196-3065-08.
DD Form 3013, Ford Reconnaissance Report (back).

e. Collect information from DD Form 3014, Ferry Reconnaissance Report. (Figures 052-196-3065-09 and 052-196-3065-10)



FERRY RECONNAISSANCE REPORT

For use of this form, see ATP 3-34.81/MCWP 3-17.4; proponent agency is TRADOC.

DATE *(YYYYMMDD)*: 2015-07-01

TO: *(Headquarters ordering the reconnaissance)*: Commander, ATTN: S-2, 21st Engineer Battalion

FROM: *(Name, grade, and unit of reconnaissance officer)*: Fred Smith, SFC, A Company, 21st Engineer Battalion

1. ROUTE OR LINE		2. FROM *(Initial point)*	3. TO *(Terminal point)*	4. DATE/TIME *(Of signature)*
a. HIGHWAY: VA 617	b. RAILROAD: NA	Lorton, VA	Hoby, MD	011430ZJul15

5. MAP SERIES	6. SHEET NUMBER	7. GRID REFERENCE		8. FERRY	9. CLASS
		a. TYPE	b. COORDINATES		
V734	5661 111	1:50,000	UT134830	1	45

10. LOCATION FROM NEAREST TOWN			11. CROSSING *(Name of stream or body of water)*
a. DISTANCE	b. DIRECTION	c. NAME OF NEAREST TOWN	
8 km	East	Lorton, VA	Potomac River

12. LIMITING FEATURE *(Condition of vessels, terminals, floods, low water, freezing, tides, and so forth.)(Seasons and dates)*

Freezing likely in winter months.

13. WATER LEVELS *(Depths)*			14. CROSSING TIME	15. LENGTH
a. LOW	b. MEAN	c. HIGH		
3.2 m	4.7 m	7.6 m	20 minutes	1 km

16. VESSEL FEATURES *(Attach photographs)*

a. UNITS	b. CONSTRUCTION TYPE	c. PROPULSION METHOD			d. LENGTH	e. BEAM	f. DRAFT	g. TONNAGE		h. CAPACITY		
		(1) TYPE	(2) UNITS	(3) HP				(1) GROSS	(2) NET	(1) PASS	(2) VEHICLE	(3) RAILROAD CARS
2	Open	Diesel	2	610	22.5 m	1.6 m	1.6 m	85	85	200	8 maximum	NA

17. TERMINAL FEATURES

a. DIRECTION OF BANK	b. NAME	c. SLIP			d. DOCKING FACILITIES	e. APPROACHES				
		(1) WIDTH	(2) DEPTH	(3) CAPACITY		(1) HIGHWAY			(2) RAILROAD	
						(a) SURFACE	(b) LANES	(c) CLASS	(a) TRACKS	(b) SIDING
N E S W N	Little Reno	13.2	3 m	1	Good	Asphalt	2	45	NA	NA
N E S W N	Angels Point	14 m	4 m	1	Good	Concrete	2	55	NA	NA

18. REMARKS *(Amplify above details. Note obstructions, navigational, and other pertinent data.)*

Anchorage uses 30.5 centimeters piles spaced approximately 10 meters center to center.

DD FORM 3014, FEB 2016 REPLACES DA FORM 1252, WHICH IS OBSOLETE. Adobe Designer 9.0

Figure 052-196-3065-09.
DD Form 3014, Ferry Reconnaissance Report (front).

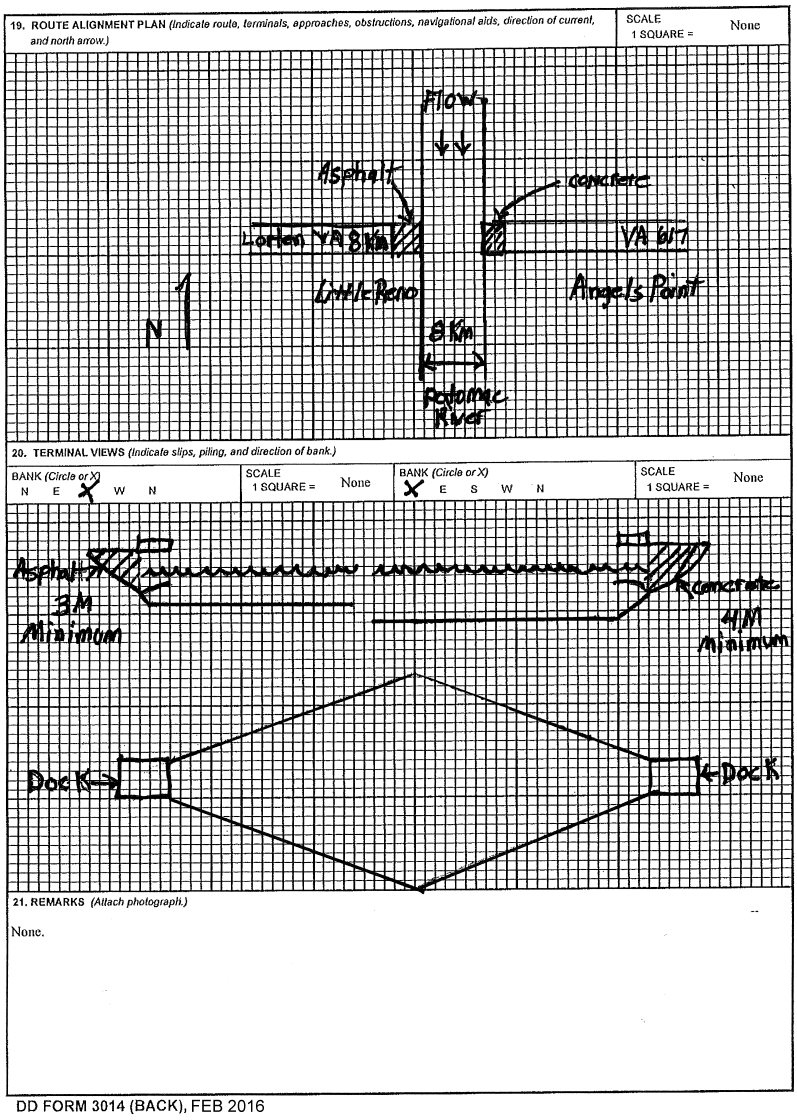


Figure 052-196-3065-10.
DD Form 3014, Ferry Reconnaissance Report (back).

f. Collect information from DD Form 3015, Engineer Reconnaissance Report. (Figures 052-195-3065-11 and 052-196-3065-12)

ENGINEER RECONNAISSANCE REPORT

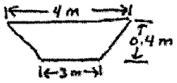
For use of this form, see ATP 3-34.81/MCWP 3-17.4; proponent agency is TRADOC.

1. OPORD NUMBER AND NAME	2. RECONNAISSANCE LEADER *(Name, grade, unit)*	3. LOCATION / DTG OF RECONNAISSANCE
Commander, ATTN: S-2, 21st Engineer Battalion	Fred Smith, SFC, Company A, 21st Engineer Battalion	3 OF 4 PAGES

4. MAPS / COUNTRY / SHEET NUMBER / NAME / SERIAL NUMBER / EDITION	5. SCALE
Quantico, Virginia / USA / - Sheet 5561 III	1:50,000

6. HEADQUARTERS ORDERING RECONNAISSANCE

a. KEY	b. OBJECT	c. TIME OBSERVED	d. WORK ESTIMATE	e. ADDITIONAL REMARKS AND SKETCH
	Bivouac area	1015	No	UT 512692 - Possible bivouac area. 700 m x 900 m Good access roads with adequate drainage and hard surface. Adequate site drainage.
		1035	No	UT 558680 - Possible water point. Quantity: ~3,000 GPM Quality: Cloudy, no odor No observed source of contamination, sample collected for testing Site condition: Firm soil, gradual slope, possible bivouac site available nearby



Engineer work estimate on reverse side.

7. TYPED NAME, GRADE, ORGANIZATION	8. SIGNATURE
Fred Smith SFC, Company A, 21st Engineer Battalion	

DD FORM 3015, FEB 2016 REPLACES DA FORM 1711, WHICH IS OBSOLETE. Adobe Designer 9.0

Figure 052-196-3065-11.
DD Form 3015, Engineer Reconnaissance Report (front).

9. ENGINEER WORK ESTIMATE

a. LOCATION KEY	b. DESCRIPTION OF WORK	c. UNIT REQUIRED	d. NUMBER OF REQUIRED HOURS	e. EQUIPMENT			f. MATERIALS		
				(1) TYPE	(2) NUMBER	(3) HOURS	(1) TYPE	(2) UNIT	(3) QUANTITY
	Remove obstacle from Route132	1 - Squad	2	See	1	2	Aggregate	CY	5

Reconnaissance report on front side.

DD FORM 3015 (BACK), FEB 2016

Figure 052-196-3065-12.
DD Form 3015, Engineer Reconnaissance Report (back).

g. Collect information from DD From 3016, River Reconnaissance Report. (Figures 052-196-3065-13 and 052-196-3065-14)

RIVER RECONNAISSANCE REPORT

For use of this form, see ATP 3-34.81/MCWP 3-17.4; the proponent agency is TRADOC.

DATE ORDERED *(YYYYMMDD)*: 2015-07-24

RECONNAISSANCE OFFICER/NCO *(Name, Rank, Unit)*	ORGANIZATION ORDERING RECONNAISSANCE
Commander, ATTN: S-2, 536th Engineer Battalion	Mark A. Wilson, SFC, A Company. 536th Engineer Battalion

1. ROUTE NUMBER OR NAME	2. FROM *(Initial point)*	3. TO *(Terminal point)*	4. DATE/TIME OF COMPLETION
AP Hill 004	TT 945209	TT938180	29 0800 Jul 15

5. MAP SERIES NUMBER	6. SHEET NUMBER	7. GRID COORDINATES	8. OPORD NUMBER/NAME
V7345	5560 III	1:50,000 TT 945185	1

9. LOCATION FROM NEAREST TOWN			10. CROSSING *(Name of river or other body of water)*
a. DISTANCE	b. DIRECTION	c. NAME OF NEAREST TOWN	
2 km	SW	Collins Crossing	Cattlet Creek

11. CHARACTERISTICS OF NEARSHORE

a. BANK HEIGHT	b. BANK SLOPE	c. BANK STABILITY	d. BANK SOIL TYPE	e. MINES	f. OBSTACLES *(Type)*
1.8 m	6 percent	Firm	Grass	None	None

g. SLOPE TO DEPTH OF 2M	h. SOIL TYPE TO DEPTH OF 2M	i. MINES TO DEPTH OF 2M	j. OBSTACLES TO DEPTH OF 2M
10 percent	Soft mud	None	None

12. CHARACTERISTICS OF RIVER

a. GAP WIDTH	b. VELOCITY *(m/sec)*	c. FLOW DIRECTION	d. BOTTOM COMPOSITION *(Mud, sand, gravel; hard-packed or soft)*
143 m	1.5 mps	SW	1/4 GAP soft mud 1/2 GAP soft mud 3/4 GAP soft mud

e. MAXIMUM DEPTH	f. ANCHORAGE SUITABILITY *(Describe)*	g. OBSTACLES
1/4 GAP 12 ft 1/2 GAP 18 ft 3/4 GAP 10 ft	Very good/recommend using kedge anchors	None

13. CHARACTERISTICS OF FARSHORE

a. BANK HEIGHT	b. BANK SLOPE	c. BANK STABILITY	d. BANK SOIL TYPE	e. MINES	f. OBSTACLES *(Type)*
0.8 m	9 percent	Firm	Grass	None	None

g. SLOPE TO DEPTH OF 2M	h. SOIL TYPE TO DEPTH OF 2M	i. MINES TO DEPTH OF 2M	j. OBSTACLES TO DEPTH OF 2M
9 percent	Soft mud	None	Stump located at 3 ft

14. REMARKS *(Describe the farshore and nearshore approaches, assembly areas, available cover and concealment, and overall assessment of crossing-site potential for freezing over or flooding.)*

Nearshore approach is about 150 meters wide with firm soil and grass, but no overhead cover.

For shore approach is about 80 meters wide with firm soil and grass.

Note: Stump located 3 feet, measuring 26 inches in diameter. Stump needs to be moved before far shore can be used.

Crossing site has no history of flooding, but has potential for freezing over in late January through March.

DD FORM 3016, FEB 2016 REPLACES DA FORM 7398, WHICH IS OBSOLETE. Adobe Designer 9.0

Figure 052-195-3065-13.
DD Form 3016, River Reconnaissance Report (front).

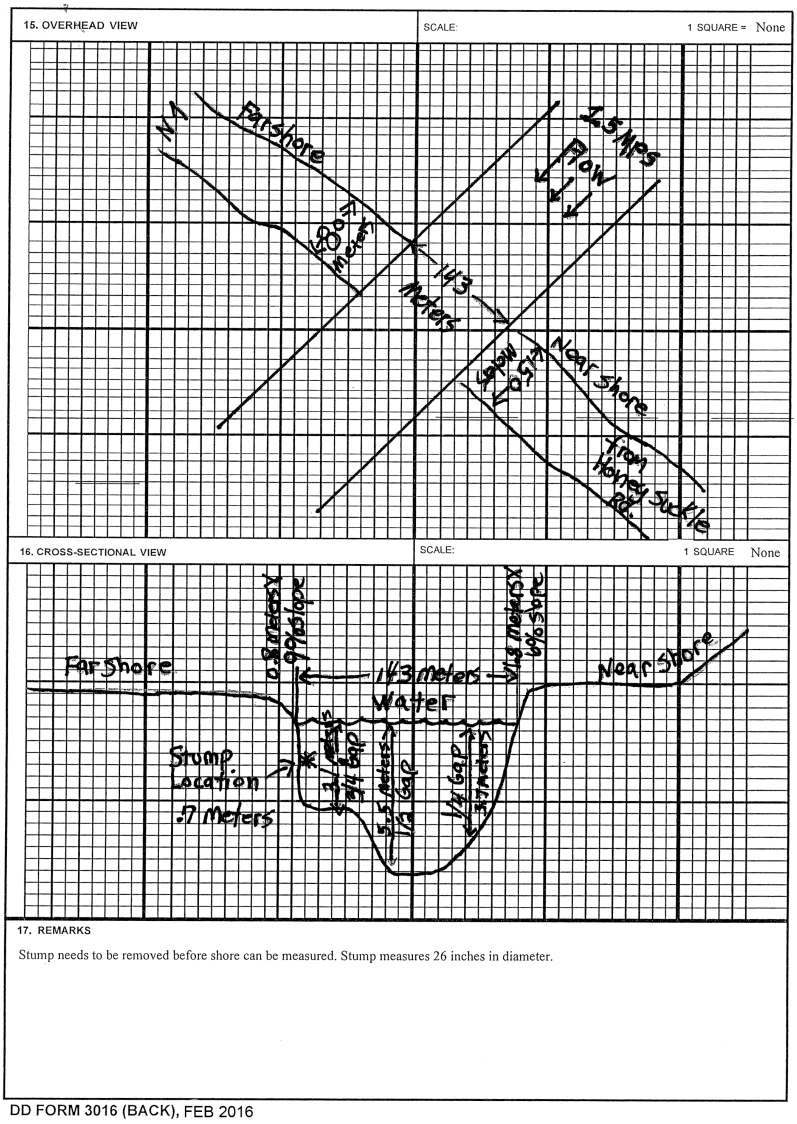


Figure 052-195-3065-14.
DD Form 3016, River Reconnaissance Report (back).

2. Ensure that the following information on the route classification overlay gives specific details on what obstructions will slow down a convoy or maneuver force along a route. (Figure 052-196-3065-15)

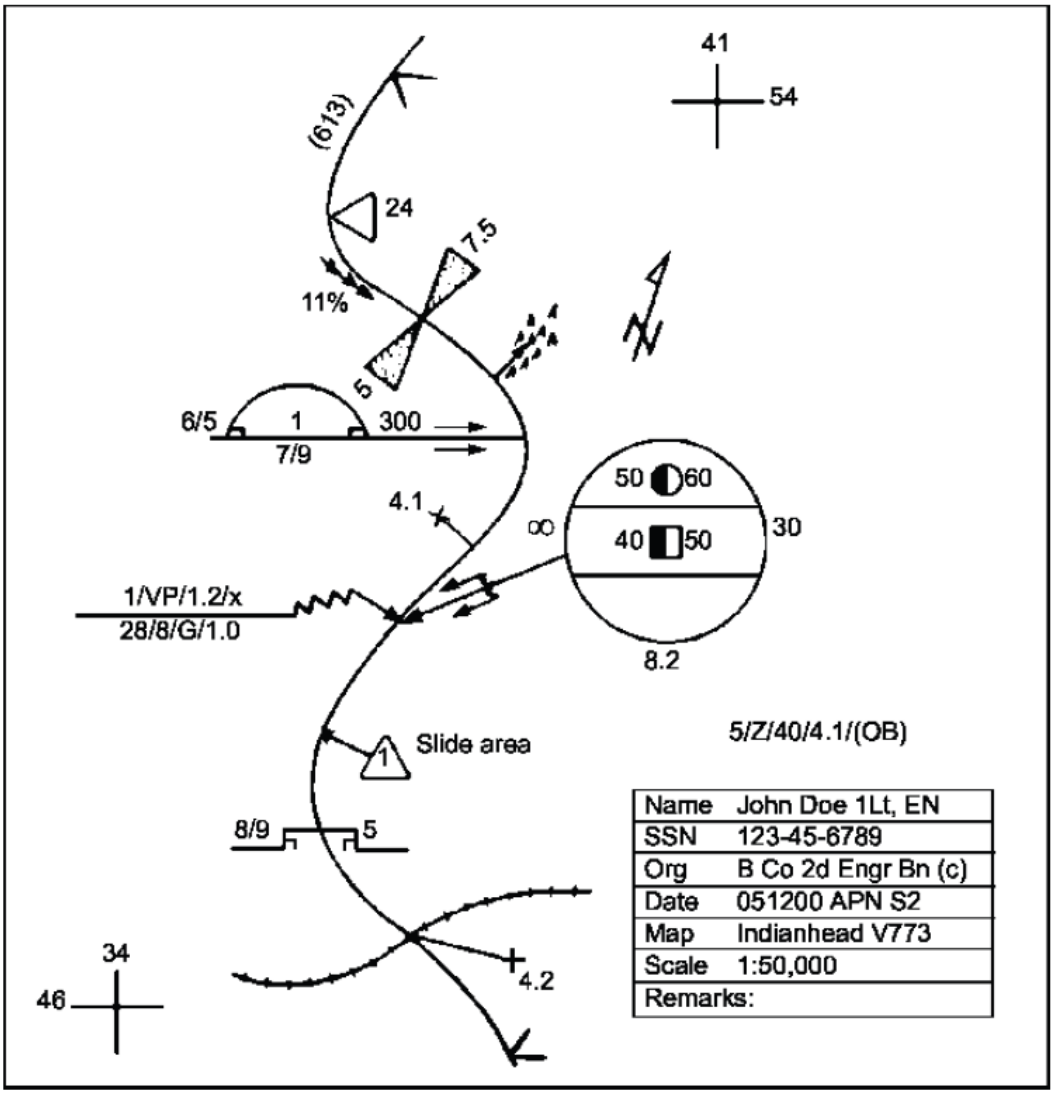


Figure 052-196-3065-15.
Route Classification Overlay.

a. Record the route classification format. (Located on DD Form 3010, Road Reconnaissance Report.)

(1) Record Route Width, in meters.

(2) Record Route type (based on ability to withstand weather).

(3) Record Lowest military load classification (MLC).

(4) Record Lowest overhead clearance, in meters.

(5) Record Obstructions to traffic flow (OB), if applicable.

(6) Record Special conditions, such as snow blockage (T) or flooding (W).

b. Record the name, rank, and Social Security number (SSN) of the person in charge of performing the classification.

c. Record the unit conducting the classification.

d. Record the date-time group (DTG) that the classification was conducted.

e. Record the map name, edition, and scale. Ensure that a North arrow and grid reference marks are indicated on the overlay.

f. Record any remarks necessary to ensure complete understanding of the information on the overlay. Include a route name in this section when applicable and a legend for any nonstandard symbols used on the overlay.

3. Ensure bypasses are classified as easy, difficult, or impossible as shown in Figure 052-196-3065-16. Each type of bypass is represented symbolically on the arrow extending from the key features on the overlay.

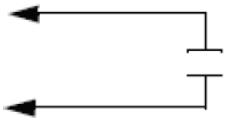
	Bypass easy. Use when the obstacle can be crossed in the immediate vicinity by a U.S. 5-ton truck without work to improve the bypass.
	Bypass difficult. Use when the obstacle can be crossed in the immediate vicinity, but some work to improve the bypass is necessary (the estimation of time, troops, and equipment necessary to prepare the bypass is included on the reconnaissance report).
	Bypass impossible. Use when the obstacle can be crossed only by repairing the existing or constructing a new bridge or tunnel or by constructing a detour.

Figure 052-196-3065-16.
Bypass symbols.

a. Ensure that arrow is extending from the tunnel symbol as shown in Figure 052-196-3065-17.

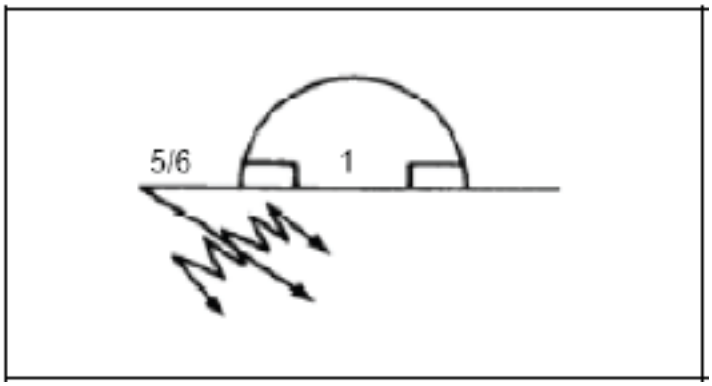


Figure 052-196-3065-17.
Arrow extending from the tunnel symbol.

b. Ensure that arrow is extending from the ford symbol as shown in Figure 052-196-3065-18.

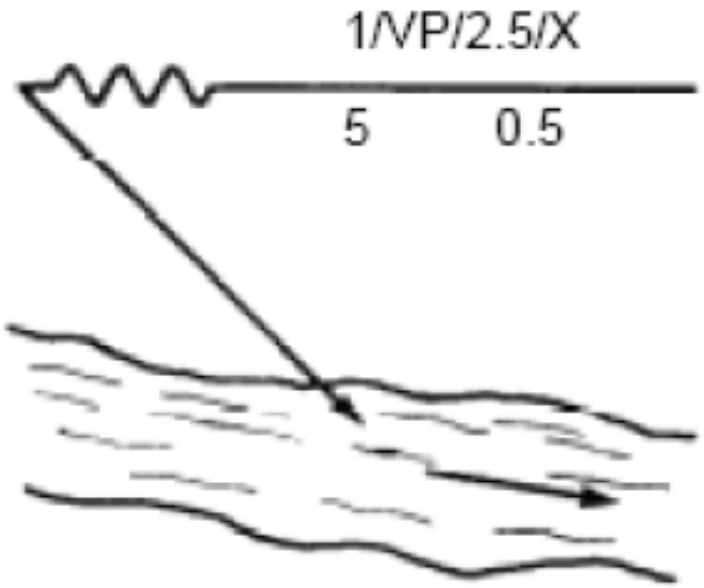


Figure 052-196-3065-18.
Arrow extending from ford symbol.

c. Ensure that arrow is extending from the bridge symbol as shown in Figure 052-196-3065-19.

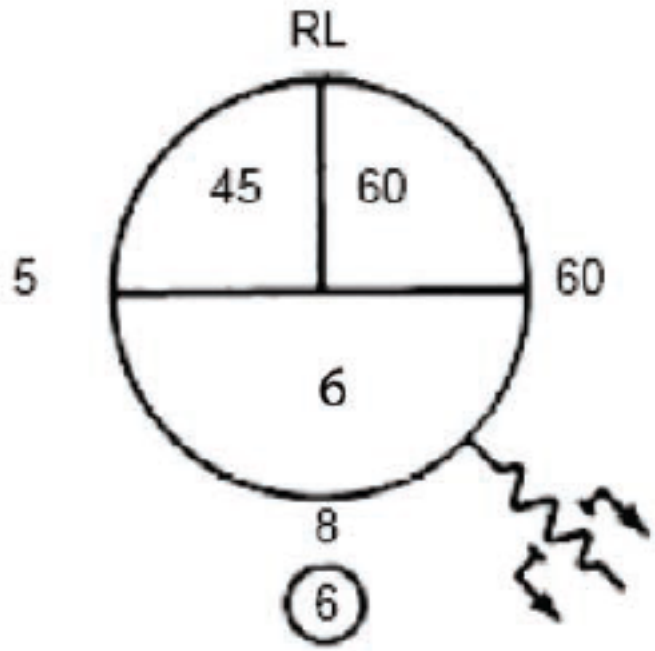


Figure 052-196-3065-19.
Arrow extending from bridge symbol.

4. Ensure a Route Classification Report is used to report all technical information that will be summarized on the route classification overlay:

a. Complete DD Form 3009, Pages 1 through 3. (Figures 052-196-3065-20, 052-196-3065-21 and 052-196-3065-22)

ROUTE CLASSIFICATION

For use of this form, see ATP 3-34.81/MCWP 3-17.4; the proponent agency is TRADOC.

SECTION I

1. SERIAL NUMBER 001	2. TO S-2, 21st Engineer Battalion
3. FOR INFORMATION fred.smith@us.army.mil	4. DATE/TIME GROUP 1 Nov 15
5. NUMBER OF SHEETS OR ENCLOSURES 3	6. RECONNAISSANCE OFFICER/NCO Fred Smith, SFC
7. UNIT A Company. 21st Engineer Battalion	8. FORMATION 1st Brigade Combat Team
9. SIGNATURE SFC Fred Smith	

10. UNITS USED IN THE FORM *(Please check)*

☐ CENTIMETERS ☐ INCHES ☐ FEET ☐ MILES ☐ METERS ☒ KILOMETERS ☐ CENTIGRADE ☐ FAHRENHEIT

11. MAPS

12. COUNTRY USA	13. NAME Fort Belvoir Special
14. EDITION AMS	15. SHEET NUMBER 5561 IV
16. SERIAL V733	17. SCALE 1:50,000

SECTION II

1. ROUTE CLASSIFICATION *(See Section VII, Block 7.1.)*	2. LIMITED BY SECTIONS
6.7 / Y / 80 / 6 (OB) (W) ( ) 1 2 3 4 5 5 5	C

SECTION III

1. ROAD CLASSIFICATION *(See Section VII, Block 7.2.)*	2. WEATHER *(Include last rainfall, if known, plus the temperature)*	3. GRID REFERENCE - START
	Fair; temperature 79 degrees. Last rainfall 15 Oct 15	UT 122864

4. ROAD

SECTION A		5. PREFIX	6. LIMITED FACTORS	7. WIDTH	8. CONSTRUCTION	9. LENGTH	10. OBSTRUCTIONS
11. START GRID	12. FORMULA	B	d	7.3/9.3	kb	5 km	OB
UT 122864	13. SHOULDERS						
SECTION B							
11. START GRID	12. FORMULA	A		7.0/9.0	kb	5 km	OB
UT 110910	13. SHOULDERS						
SECTION C							
11. START GRID	12. FORMULA	B	cgd	6.7/8.7	kb	6 km	OB
UT 119921	13. SHOULDERS						
SECTION D							
11. START GRID	12. FORMULA						
	13. SHOULDERS						

14. GRID REFERENCE - END:

SECTION IV

1. ENCLOSURES

SERIAL	TITLE	ATTACHED	SERIAL	TITLE	ATTACHED
1	OVERLAY(S)	X	6	RAPID BRIDGE ASSESSMENT(S)	
2	MAP(S)	X	7	DETAILED BRIDGE ASSESSMENT(S)	
3	DETAILED SKETCH(ES)		8	PHOTOGRAPH(S)	
4	CALCULATION(S)		9	OTHER *(Describe):*	
5	WORK ESTIMATE(S)		10	OTHER *(Describe):*	

DD FORM 3009, DEC 2015 REPLACES DA FORM 1247, WHICH IS OBSOLETE. **Page 1 of 6 Pages**

Adobe Professional X

Figure 052-196-3065-20.
DD Form 3009, Route Classification Form (page 1)

SECTION V

1. OBSTRUCTIONS AND RECOMMENDATIONS FOR UPGRADES

2. SERIAL	3. OBSTRUCTION DETAILS *(Including existing MLC)*	4. ROAD SECTION	5. GRID	6. RECOMMENDATION FOR UPGRADE *(Including new MLC)*	7. MANPOWER	8. EQUIPMENT/ VEHICLES	9. CONSTRUCTION MATERIAL	10. TIME	11. NEW MLC
1	Constriction - 7.3 250 M LONG	A	UT 119872						
2	Constriction - 7 m 20 m long	B	UT 115916						
3	Overpass - 6 m	B	UT 113922						
4	Sharp curve - 21 m	C	UT 112938						
5	Sharp grade - 8 percent	C	UT 109957						

DD FORM 3009, DEC 2015

Page 2 of 6 Pages

Figure 052-196-3065-21.
DD Form 3009, Route Classification Form (page 2).

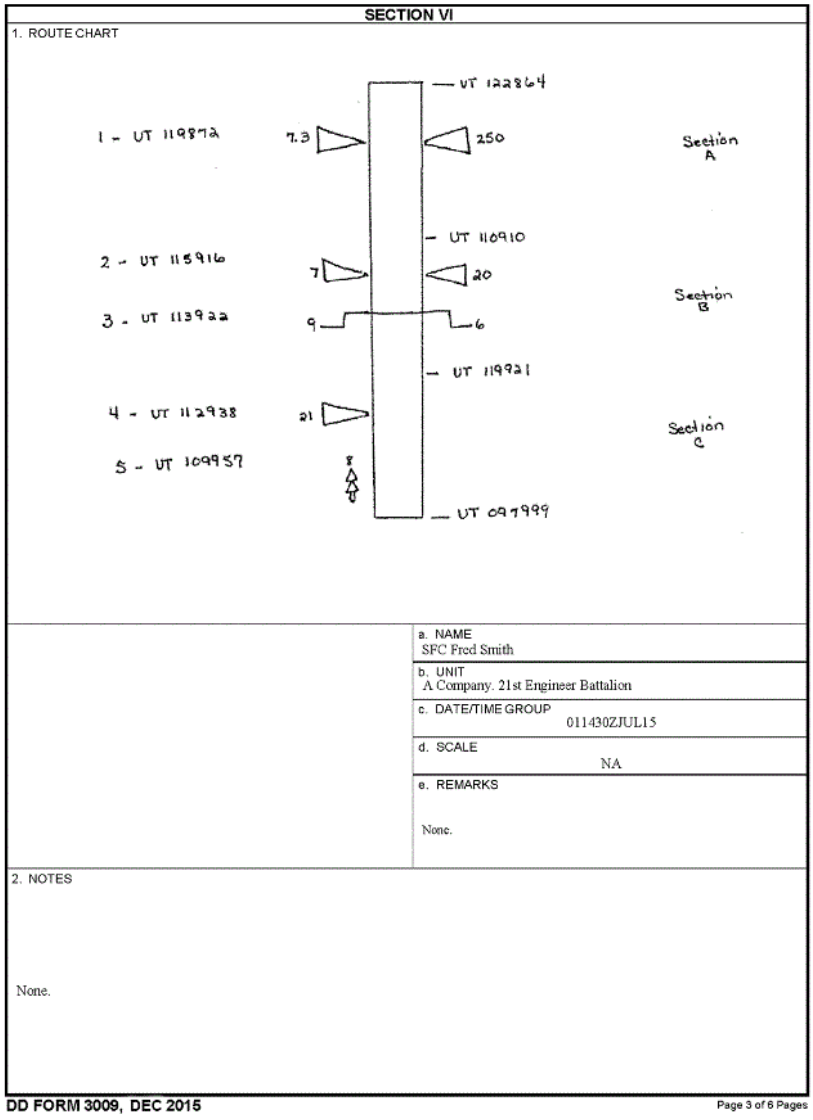
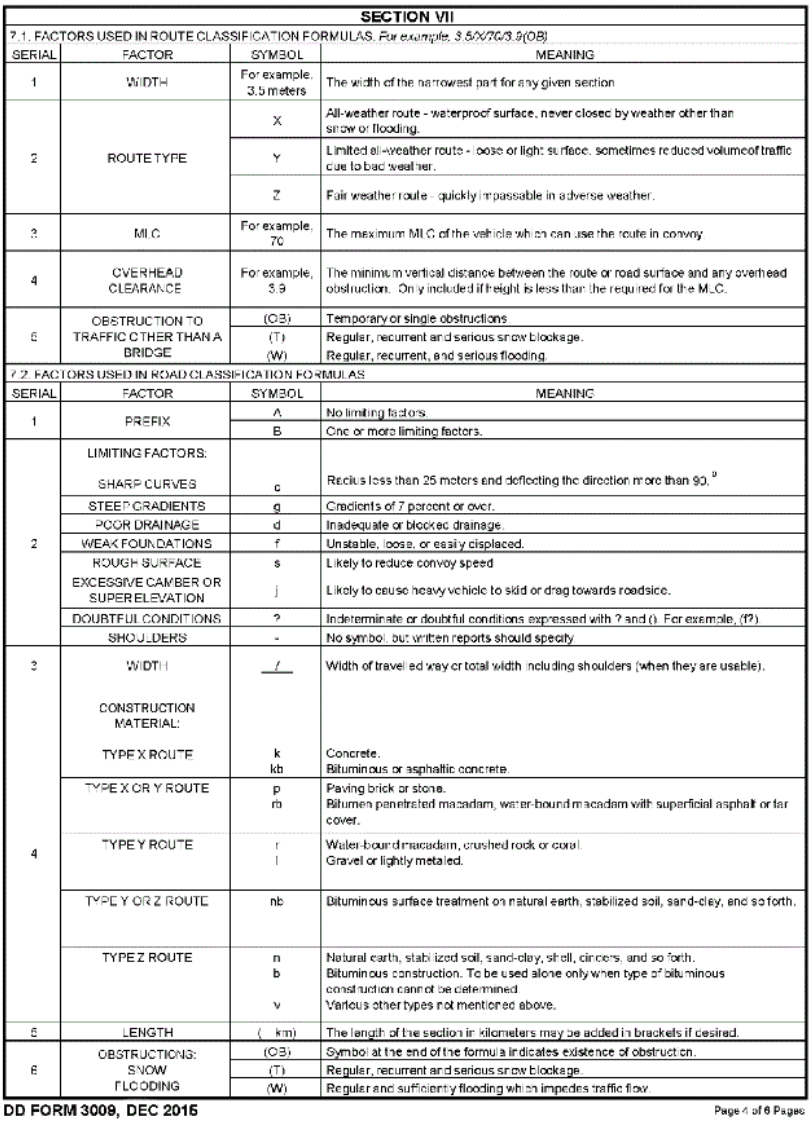


Figure 052-196-3065-22.
DD Form 3009, Route Classification Form (Page 3).

b. Reference DD Form 3009, Section VII, Pages 4-6 for assistance in filling out pages 1-3. See Figures 052-196-3065-23, 052-196-3065-24 and 052-196-3065-25.



SECTION VII

7.1. FACTORS USED IN ROUTE CLASSIFICATION FORMULAS. *For example, 3.5/X/70/3.9(OB)*

SERIAL	FACTOR	SYMBOL	MEANING
1	WIDTH	For example, 3.5 meters	The width of the narrowest part for any given section
2	ROUTE TYPE	X	All-weather route - waterproof surface, never closed by weather other than snow or flooding.
		Y	Limited all-weather route - loose or light surface, sometimes reduced volume of traffic due to bad weather.
		Z	Fair weather route - quickly impassable in adverse weather.
3	MLC	For example, 70	The maximum MLC of the vehicle which can use the route in convoy.
4	OVERHEAD CLEARANCE	For example, 3.9	The minimum vertical distance between the route or road surface and any overhead obstruction. Only included if height is less than the required for the MLC.
5	OBSTRUCTION TO TRAFFIC OTHER THAN A BRIDGE	(OB)	Temporary or single obstructions
		(T)	Regular, recurrent and serious snow blockage.
		(W)	Regular, recurrent, and serious flooding.

7.2. FACTORS USED IN ROAD CLASSIFICATION FORMULAS

SERIAL	FACTOR	SYMBOL	MEANING
1	PREFIX	A	No limiting factors.
		B	One or more limiting factors.
2	LIMITING FACTORS:		
	SHARP CURVES	c	Radius less than 25 meters and deflecting the direction more than 90.°
	STEEP GRADIENTS	g	Gradients of 7 percent or over.
	POOR DRAINAGE	d	Inadequate or blocked drainage.
	WEAK FOUNDATIONS	f	Unstable, loose, or easily displaced.
	ROUGH SURFACE	s	Likely to reduce convoy speed
	EXCESSIVE CAMBER OR SUPERELEVATION	j	Likely to cause heavy vehicle to skid or drag towards roadside.
	DOUBTFUL CONDITIONS	?	Indeterminate or doubtful conditions expressed with ? and (). For example, (f?).
	SHOULDERS	-	No symbol, but written reports should specify.
3	WIDTH	__/__	Width of traveled way or total width including shoulders (when they are usable).
	CONSTRUCTION MATERIAL:		
	TYPE X ROUTE	k	Concrete.
		kb	Bituminous or asphaltic concrete.
4	TYPE X OR Y ROUTE	p	Paving brick or stone.
		rb	Bitumen penetrated macadam, water-bound macadam with superficial asphalt or tar cover.
	TYPE Y ROUTE	r	Water-bound macadam, crushed rock or coral
		l	Gravel or lightly metaled.
	TYPE Y OR Z ROUTE	nb	Bituminous surface treatment on natural earth, stabilized soil, sand-clay, and so forth.
	TYPE Z ROUTE	n	Natural earth, stabilized soil, sand-clay, shell, cinders, and so forth.
		b	Bituminous construction. To be used alone only when type of bituminous construction cannot be determined.
		v	Various other types not mentioned above.
5	LENGTH	(km)	The length of the section in kilometers may be added in brackets if desired.
6	OBSTRUCTIONS: SNOW FLOODING	(OB)	Symbol at the end of the formula indicates existence of obstruction.
		(T)	Regular, recurrent and serious snow blockage.
		(W)	Regular and sufficiently flooding which impedes traffic flow.

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Figure 052-193-3065-23.
DD Form 3009, Route Classification Form (page 4).

7.2. FACTORS USED IN ROAD CLASSIFICATION FORMULAS. (continued)

NOTE. Consider the following as obstructions:

- Overhead clearance less than 4.3 meters.
- Reductions in road widths which limit traffic capacity, such as craters.
- Gradients of 7 percent and over.
- Curves with less than a 25-meter radius and deflecting more than 90°.
- Ford and ferries.

Example: B/e(12)/3.2/4.8/p/(4.5km)(OB)(T)

According to the width, classify a route or road as follows:

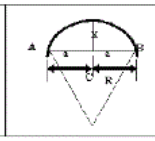
- **Limited access.** Up to 3.5 meters wide; it permits passage of isolated vehicles in one direction only.
- **Single lane.** From 3.5 to 5.5 meters wide; it permits use only in one direction at any one time.
- **Single flow.** From 5.5 to 7.5 meters wide; it permits isolated vehicles to pass or travel in the opposite direction to the main flow.
- **Double flow.** Over 7.3 meters wide; it permits two columns of vehicles to proceed simultaneously.

7.3. MEASURING THE RADIUS OF AN EXSISTING CURVE.

Step 1. A chord AB is set out as shown and bisected at C, so that AC = BC = a.

Step 2. From point C, the perpendicular offset (x) is measured at point D on the curve.

Step 3. The radius is calculated from the formula. $R = \frac{x^2 + a^2}{2x}$



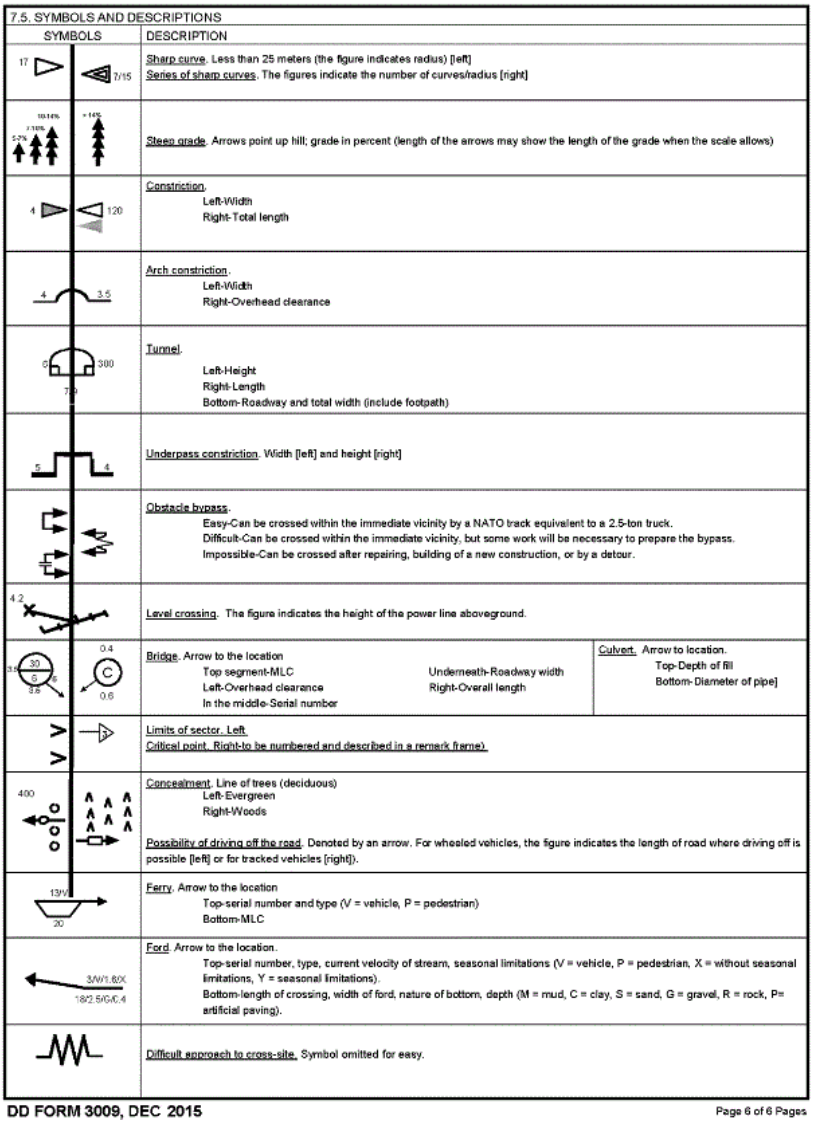
7.4. CONVERSION FACTORS.

U.S. UNITS	MULTIPLIED BY	EQUALS METRIC UNITS
CENTIMETER	0.39370	INCH
FOOT	0.30480	METER
INCH	2.54000	CENTIMETER
KILOMETER	0.62137	MILE
METER	3.28084	FEET
MILE	1.60934	KILOMETER
TEMPERTURE		
CENTIGRADE DEGREES	$C^\circ = \frac{5(F^\circ - 32)}{9}$	FAHRENHEIT DEGREES
FAHRENHEIT DEGREES	$F^\circ = \frac{9C^\circ}{5} + 32$	CENTIGRADE DEGREES

DD FORM 3009, DEC 2015

Page 5 of 6 Pages

Figure 052-193-3065-24.
DD Form 3009, Route Classification Form (page 5).



7.5. SYMBOLS AND DESCRIPTIONS

SYMBOLS	DESCRIPTION
17 7/15	Sharp curve. Less than 25 meters (the figure indicates radius) [left] Series of sharp curves. The figures indicate the number of curves/radius [right]
10-14% >14% 5-7%	Steep grade. Arrows point up hill; grade in percent (length of the arrows may show the length of the grade when the scale allows)
4 120	Constriction. Left-Width Right- Total length
4 3.5	Arch constriction. Left-Width Right-Overhead clearance
6 300 70	Tunnel. Left-Height Right- Length Bottom- Roadway and total width (include footpath)
5 4	Underpass constriction. Width [left] and height [right]
	Obstacle bypass. Easy-Can be crossed within the immediate vicinity by a NATO track equivalent to a 2.5-ton truck. Difficult-Can be crossed within the immediate vicinity, but some work will be necessary to prepare the bypass. Impossible-Can be crossed after repairing, building of a new construction, or by a detour.
4.2	Level crossing. The figure indicates the height of the power line aboveground.
30 5 3.5 0.4 C 0.6	Bridge. Arrow to the location Top segment-MLC Left-Overhead clearance In the middle-Serial number Underneath-Roadway width Right-Overall length Culvert. Arrow to location. Top-Depth of fill Bottom- Diameter of pipe]
5	Limits of sector. Left. Critical point. Right-to be numbered and described in a remark (terne).
400	Concealment. Line of trees (deciduous) Left- Evergreen Right-Woods Possibility of driving off the road. Denoted by an arrow. For wheeled vehicles, the figure indicates the length of road where driving off is possible [left] or for tracked vehicles [right]).
13/V 20	Ferry. Arrow to the location Top-serial number and type (V = vehicle, P = pedestrian) Bottom-MLC
3/W1.8/X 18/2.5/G/0.4	Ford. Arrow to the location. Top-serial number, type, current velocity of stream, seasonal limitations (V = vehicle, P = pedestrian, X = without seasonal limitations, Y = seasonal limitations). Bottom-length of crossing, width of ford, nature of bottom, depth (M = mud, C = clay, S = sand, G = gravel, R = rock, P= artificial paving).
	Difficult approach to cross-site. Symbol omitted for easy.

DD FORM 3009, DEC 2015 Page 6 of 6 Pages

Figure 052-193-3065-25.
DD Form 3009, Route Classification Form (page 6).

5. Submit complete route reconnaissance overlay to higher headquarters.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all performance measures are passed (P). Score the Soldier NO-GO if any performance measure is failed (F). If the Soldier scores a NO-GO, show the Soldier what was done incorrectly and how to do it correctly.

Evaluation Preparation: Provide the Soldier with all items listed in the conditions statement. Ensure all the required equipment and components to conduct the evaluation are present and functional prior to initiating the evaluation.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Collected pertinent information concerning trafficability and applied it to the route classification format.			
a. Collected information from DD Form 3010, Road Reconnaissance Report.			
b. Collected information from DD Form 3011, Bridge Reconnaissance Report.			
c. Collected information from DD Form 3012, Tunnel Reconnaissance Report.			
d. Collected information from DD Form 3013, Ford Reconnaissance Report.			
e. Collected information from DD Form 3014, Ferry Reconnaissance Report.			
f. Collected information from DD Form 3015, Engineer Reconnaissance Report.			
g. Collected information from DD Form 3016, River Reconnaissance Report.			
2. Ensured that the following information on the route classification overlay gave specific details on what obstructions would slow down a convoy or maneuver force along a route.			
a. Recorded the route classification format.			
(1) Recorded route width, in meters.			
(2) Recorded route type (based on ability to withstand weather).			
(3) Recorded lowest military load classification (MLC).			
(4) Recorded lowest overhead clearance, in meters.			
(5) Recorded obstructions to traffic flow (OB), if applicable.			
(6) Recorded special conditions, such as snow blockage (T) or flooding (W).			
b. Recorded the name, rank, and social security number (SSN) of the person in charge of performing the classification.			
c. Recorded the unit conducting the classification.			
d. Recorded the date-time group (DTG) that the classification was conducted.			
e. Recorded the map name, edition, and scale. Ensured that a North arrow and grid reference marks were indicated on the overlay.			
f. Recorded any remarks necessary to ensure complete understanding of the information on the overlay. Included a route name in this section when applicable and a legend for any nonstandard symbols used on the overlay.			
3. Ensured bypasses were classified as easy, difficult, or impossible. Each type of bypass was represented symbolically on the arrow extending from the key features on the overlay.			
a. Ensured that arrow was extended from the tunnel symbol.			
b. Ensured that arrow was extended from the ford symbol.			
c. Ensured that arrow was extended from the bridge symbol.			
4. Ensured a Route Classification Report was used to report all technical information that will be summarized on the route classification overlay:			
a. Completed DD Form 3009, pages 1 through 3.			
b. Referenced DD Form 3009, Section VII, pages 4-6 for assistance if filling out pages 1-3.			
5. Submitted completed route reconnaissance overlay to higher headquarters.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	ATP 3-34.81	ENGINEER RECONNAISSANCE	Yes	Yes	
	DD Form 3009	ROUTE CLASSIFICATION FORM (Formerly DA Form 1247)	Yes	No	
	DD Form 3010	ROAD RECONNAISSANCE REPORT (Formerly DA Form 1248)	Yes	No	
	DD Form 3011	BRIDGE RECONNAISSANCE REPORT (Formerly DA Form 1249)	Yes	No	
	DD Form 3012	TUNNEL RECONNAISSANCE REPORT (Formerly DA Form 1250)	Yes	No	
	DD Form 3013	FORD RECONNAISSANCE REPORT (Formerly DA Form 1251)	Yes	No	
	DD Form 3014	FERRY RECONNAISSANCE REPORT(Formerly DA Form1252)	Yes	No	
	DD Form 3015	Engineer Reconnaissance Report (Formerly DA Form 1711)	Yes	No	
	DD Form 3016	River Reconnaissance Report (Formerly DA Form 7398)	Yes	No	

TADSS : None

Equipment Items (LIN): None

Materiel Items (NSN) :

Step ID	NSN	LIN	Title	Qty
	7110-01-327-6141		OVERLAY,RIGID,MAPBOARD	2

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card.

Safety: In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
052-196-3006	Conduct a Tunnel Reconnaissance	052 - Engineer (Individual)	Approved

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
052-196-2103	Determine Gap Width	052 - Engineer (Individual)	Approved
052-196-2101	Determine the Percent of Slope	052 - Engineer (Individual)	Approved
052-196-2004	Determine Stream Velocity	052 - Engineer (Individual)	Approved
052-196-2002	Determine the Radius of a Curve	052 - Engineer (Individual)	Approved

Supported Individual Tasks : None

Supported Collective Tasks : None

Knowledges :

Knowledge ID	Knowledge Name
052-K-00079	Know Military Terms and Symbols
052-K-00896	Know How to Review Reconnaissance Forms
052-K-01002	Know Engineer Reconnaissance and Intelligence Collection Based in CCIR
052-K-00892	Know How to Perform a Map Reconnaissance
052-K-00024	Know Technical Reconnaissance
052-K-00234	DD Form 3010, Road Reconnaissance Report
052-K-00235	DD Form 3012, Tunnel Reconnaissance Report
052-K-00236	DD Form 3013, Ford Reconnaissance Report
052-K-00237	DD Form 3014, Ferry Reconnaissance Report

Skills :

Skill ID	Skill Name
052-S-00020	Ability to Identify Engineer Requirements
052-S-00194	Ability to use DD Form 3011, Bridge Reconnaissance Report
052-S-00195	Ability to use DD Form 3012, Tunnel Reconnaissance Report
052-S-00018	Ability to Identify Military Aspects of Terrain
052-S-00196	Ability to use DD Form 3013, Ford Reconnaissance Report
052-S-00197	Ability to use DD Form 3014, Ferry Reconnaissance Report
S0805	Ability to Determine Grid Coordinates
052-S-00193	Ability to use DD Form 3010, Road Reconnaissance Report
052-S-00013	Ability to use FM's

ICTL Data : None