## **DETAILED DRAWINGS**

## TABLE OF CONTENTS

STANDARD SPECIFICATION SECTION AND DRAWING TITLE	DRAWING NUMBER
SECTION 101: DEFINITIONS AND TERMS	
ABBREVIATIONS	101-05
ABBREVIATIONS	101-06
ABBREVIATIONS	101-07
ABBREVIATIONS	101-08
SYMBOLS	101-10
SECTION 203: EXCAVATION AND EMBANKMENT	
APPROACHES	203-05
DITCH BLOCKS	203-20
SECTION 301: AGGREGATE SURFACING	
ROADWAY EMBANKMENT AT BRIDGE END	301-00
SECTION 403: CRACK SEALING	
CRACK SEALING	403-00
SECTION 411: COLD MILLING	
SHOULDER RUMBLE STRIPS	411-02
MODIFIED SHOULDER RUMBLE STRIPS	411-03
CENTERLINE RUMBLE STRIPS	411-05
SECTION 501: PORTLAND CEMENT CONCRETE PAVEMENT	
PCCP JOINTS	501-00

PCCP ISOLATION JOINTS	501-05
PCCP ISOLATION JOINTS	501-10
PCCP REPAIR	501-15
DOWEL BAR RETROFIT FOR PCCP	501-20
DOWEL BAR RETROFIT FOR PCCP	501-25
SECTION 552: CONCRETE STRUCTURES	
CONCRETE CUTOFF WALLS FOR CULVERTS	552-00
CONCRETE, RIPRAP AND GRANULAR BEDDING MATERIAL QUANTITIES FOR SING. AND DBL. CULVERT INSTALLATION	552-04
CONCRETE, RIPRAP AND GRANULAR BEDDING MATERIAL QUANTITIES FOR SING. AND DBL. CULVERT INSTALLATION	552-06
CONCRETE, RIPRAP AND GRANULAR BEDDING MATERIAL QUANTITIES FOR SING. AND DBL. CULVERT INSTALLATION	552-08
SECTION 603: CULVERTS, STORM DRAINS, SANITARY SEWERS, STOCKPASS UNDERPASSES  CMP FLARED END TERMINAL SECTION (FETS)	
PREFABRICATED RCP FLARED END TERMINAL SECTION (FETS)	
PREFABRICATED RCP FLARED END TERMINAL SECTION (FETS) (METRIC)	
PREFABRICATED RCP ARCH FLARED END TERMINAL SECTION (FETS)	
RCP ROAD APPROACH CULVERT END TREATMENT (RACET)	
CMP ROAD APPROACH CULVERT END TREATMENT (RACET)	
PRECAST MEDIAN U-TURN CROSS DRAIN AND CONC. BEVELED END	
BEDDING FOR CULVERTS 54" (1350 mm) EQUIVALENT & SMALLER	
GRANULAR BEDDING FOR CULVERTS 54" (1350 mm) EQUIVALENT & LARGER	
STORM DRAIN TRENCH BEDDING DETAIL	603-20
WATER TIGHT JOINT FOR REINFORCED CONCRETE PIPE	603-22
REINFORCED CONCRETE PIPE JOINT	603-24
TYPICAL FIELD CAST CONCRETE CONNECTIONS	603-26
CTX ADAPTER	603-27
EMBANKMENT PROTECTOR	603-28

	VEHICULAR UNDERPASS AND BACKFILL RETAINER & CUTOFF WALL DETAIL	_603-30
,	VEHICULAR UNDERPASS AND BACKFILL RETAINER & CUTOFF WALL DETAIL (METRIC)	
	VEHICULAR UNDERPASS PCCP TRANSVERSE JOINT & BACKFILL RETAINER DETAIL	603-31
;	STEP BEVEL FOR CIRCULAR METAL CULVERT	603-32
I	BEVEL ON ARCH METAL CULVERT	603-34
(	CORRUGATED STEEL PIPE STOCKPASS	_603-36
SECTIO	ON 604: MANHOLES, COMBINATION MANHOLES AND INLETS, AND INLETS	<u>S</u>
I	MEDIAN INLET	604-00
(	CONCRETE MANHOLE	604-02
(	CURB INLET TYPE II	604-03
!	DROP INLET TYPE IV	604-04
ļ	DROP INLETS TYPE I AND V	604-14
1	DROP INLETS TYPE III AND VI	604-16
	TYPE A AND B CURB INLETS	604-18
SECTIO	ON 605: CONCRETE BARRIER RAIL	
(	CONCRETE BARRIER RAIL	605-00
(	CONCRETE BARRIER RAIL ANCHORS	605-05
	TALL CONCRETE BARRIER RAIL	605-10
(	CONCRETE BARRIER RAIL TRANSITION	605-15
(	CONCRETE BARRIER RAIL TERMINAL SECTION (ONE-WAY DEPARTURE)	_605-20
SECTIO	ON 606: GUARDRAIL	
1	METAL GUARDRAIL - WOOD POSTS (MGS)	606-05A
1	METAL GUARDRAIL - STEEL POSTS (MGS)	606-05B
;	STIFFENED GUARDRAIL SECTIONS (MGS)	606-07
1	LONG SPAN GUARDRAIL (MGS)	606-09
1	METAL GUARDRAIL - LONG POSTS - WOOD (MGS)	606-11A
I	METAL GUARDRAIL - LONG POSTS - STEEL (MGS)	_606-11B

	MASH OPTIONAL TERMINAL SECTIONS	606-13
	ONE-WAY DEPARTURE TERMINAL SECTION (MGS)	606-18
	MGS TO METAL GUARDRAIL TRANSITION	606-20
	MGS THRIE BEAM BRIDGE APPROACH SECTION - WOOD POSTS	606-23A
	MGS THRIE BEAM BRIDGE APPROACH SECTION - STEEL POSTS	606-23B
	BRIDGE APPROACH SECTIONS - WOOD POSTS	606-24A
	BRIDGE APPROACH SECTIONS - STEEL POSTS	606-24B
	SKEWED BRIDGE APPROACH SECTIONS - WOOD POSTS	606-25A
	SKEWED BRIDGE APPROACH SECTIONS - STEEL POSTS	606-25B
	TAPERED CONCRETE CURB DETAIL	606-26
	TAPERED CONCRETE CURB DETAIL	606-27
	INTERSECTING ROADWAY TERMINAL SECTION (MGS)	606-46
	BOX BEAM GUARDRAIL	606-50
	BOX BEAM ONE-WAY DEPARTURE TERMINAL SECTION	606-52
	BOX BEAM BRIDGE APPROACH SECTION - TYPES 1 & 2	606-53
	BOX BEAM BRIDGE APPROACH SECTION - TYPE 3	_606-53A
	BOX BEAM ONE-WAY BRIDGE DEPARTURE SECTION	606-54
	BOX BEAM TERMINAL SECTION	606-55
	BOX BEAM TO MGS TRANSITION SECTION.	606-58
	SCHEDULE OF GUARDRAIL HARDWARE	606-80
	GUARDRAIL HARDWARE	606-82
	W-BEAM METAL GUARDRAIL HARDWARE	_606-84
	W-BEAM METAL GUARDRAIL HARDWARE	_606-88
	LOW-TENSION CABLE GUARDRAIL HARDWARE	606-94
	BOX BEAM GUARDRAIL HARDWARE	606-97
	BOX BEAM GUARDRAIL HARDWARE	606-98
	BOX BEAM GUARDRAIL HARDWARE	606-99
SECT	ION 607: FENCES	
	FARM FENCE	607-00
	MODIFIED FARM FENCE	607-01
	FARM ENTRANCE GATES	607-02

FENCE DETAILS	607-05
FENCE DETAILS	607-10
FENCE DETAILS	607-15
FENCE DETAILS	607-17
FENCING AT RIGHT OF WAY BREAKS	607-20
CHAIN LINK FENCE	607-25
8' (2.4 m) WOOD SNOW FENCE W/ ANCHOR SYSTEM #1	607-30
12' (3.6 m) WOOD SNOW FENCE W/ ANCHOR SYSTEM #1	607-35
WOOD SNOW FENCE ANCHOR SYSTEM #3 AND #1 DETAILS	607-40
WOOD SNOW FENCE ANCHOR SYSTEM #2 DETAILS	607-45
WILDLIFE FENCE	607-50
JACKLEG WIRE FENCE	607-55
JACKLEG POLE FENCE	607-60
SECTION 608: CONCRETE SIDEWALKS	
CONCRETE SIDEWALK	608-05
NEW CONSTRUCTION PUBLIC SIDEWALK CURB RAMPS	608-15
PERPENDICULAR PUBLIC SIDEWALK CURB RAMPS	608-25
PARALLEL PUBLIC SIDEWALK CURB RAMPS	608-30
DIAGONAL PERPENDICULAR PUBLIC SIDEWALK CURB RAMPS	608-35
DETECTABLE WARNING DEVICES	608-40
SECTION 609: CURBS AND GUTTERS	
CONCRETE VALLEY GUTTER	609-00
MISCELLANEOUS CURBS	609-05
DROP INLET APRONS	609-07
MEDIAN CONCRETE CURBS	
CONCRETE MEDIAN CAPS	
SECTION 610: ROADSIDE RE-VEGETATION	
TOPSOIL AND SEEDING	610-00

ROLLED EROSION CONTROL (REC)	610-05
SECTION 611: CATTLE GUARDS	
HEAVY DUTY CATTLE GUARD CAST-IN-PLACE	611-00
CATTLE GUARD HINGED GRATE	611-03
LIGHT DUTY CATTLE GUARD – PRECAST	611-10
LIGHT DUTY CATTLE GUARD - PRECAST (METRIC)	611-10
HEAVY DUTY CATTLE GUARD – PRECAST	611-15
PRECAST CONCRETE CATTLE GUARD BASE DETAILS	611-20
SECTION 613: RIPRAP AND SLOPE AND BANK PROTECTION	
CONCRETE EDGE PROTECTION FOR METAL CULVERTS	613-06
CONCRETE EDGE PROTECTION FOR CONCRETE CULVERTS	613-08
CONCRETE SLOPE PROTECTION	613-10
INLET AND OUTLET HEADWALLS FOR RCP AND CMP PIPES	613-12
CULVERT RIPRAP	613-14
RIPRAP SLOPE PROTECTION	613-16
DRAINAGE CHUTES	613-18
SECTION 615: IRRIGATION FACILITIES AND HEADWALLS	
TRASHGUARD FOR CONCRETE IRRIGATION INLET AND OUTLET TRANSITION STRUCTURES	615-02
STANDARD CONCRETE IRRIGATION DIVISION BOXES	615-04
CONCRETE IRRIGATION INLET AND OUTLET TRANSITION FOR RCP AND CSP PIPES	615-06
SECTION 618: TRAFFIC CONTROL	
CHANNELIZING DEVICES AND OBJECT MARKERS	618-00
CONSTRUCTION SIGN DETAILS	618-01
PORTABLE SIGN SUPPORT ASSEMBLY	618-02
BARRICADES	618-03
TWO-LANE CONSTRUCTION PROJECT	618-04

TWO-LANE CONSTRUCTION PROJECT WORK ZONES	618-08
TWO-LANE CONSTRUCTION PROJECT SEAL COAT	618-10
TWO-LANE CONSTRUCTION PROJECT LANE CLOSURE - FLAGGER CONTROLLED	618-12
TWO-LANE CONSTRUCTION PROJECT LANE CLOSURE - SIGNAL CONTROLLED	618-13
TWO-LANE EQUIPMENT ENTRANCES	618-14
TWO-LANE EQUIPMENT ENTRANCES	618-16
TWO-LANE CONSTRUCTION PROJECT DIVERSION	618-18
DIVIDED FOUR-LANE CONSTRUCTION PROJECT	618-20
DIVIDED FOUR-LANE CONSTRUCTION PROJECT WORK ZONES	618-21
DIVIDED FOUR-LANE EQUIPMENT ENTRANCE	618-22
DIVIDED FOUR-LANE MEDIAN CROSSING	618-23
DIVIDED FOUR-LANE SINGLE LANE CLOSURE LANE SHIFT	618-24
DIVIDED FOUR-LANE LANE SHIFT	618-25
DIVIDED FOUR-LANE SHOULDER MESSAGE SIGN	
TEMPORARY FOUR-LANE TO TWO-LANE MEDIAN CROSSOVER	618-27
TEMPORARY TWO-LANE TO FOUR-LANE MEDIAN CROSSOVER	618-28
TEMPORARY ENTRANCE RAMP MEDIAN CROSSOVER	618-29
TEMPORARY EXIT RAMP MEDIAN CROSSING	618-30
DIVIDED FOUR-LANE RAMP MERGE	618-31
DIVIDED FOUR-LANE EXIT RAMP CLOSURE	618-32
SHORT DURATION OR SHORT-TERM STATIONARY CREW SIGNING	618-40
MAINTENANCE GUIDELINE FOR SHORT-TERM TWO-LANE CRACK SEALING WORK ZONE	618-M1
MAINTENANCE GUIDELINE FOR SHORT-TERM TWO-LANE CHIP SEAL AND OVERLAY (PILOTED TRAFFIC)	618-M2
MAINTENANCE GUIDELINE FOR SHORT-TERM LANE CLOSURE ON INTERSTATE	618-M3
MOBILE OPERATIONS	618-M4
LANE CLOSURE - FLAGGER CONTROLLED (URBAN TWO-LANE, TWO-WAY ROAD)	
WORK ZONE OCCUPIES ONE HALF OF ROAD (LOW SPEED URBAN TWO-LANE, TWO-WAY ROAD)	618-U02

	WORK ZONE IN CENTER OF ROAD (URBAN TWO-LANE, TWO-WAY ROAD)	618-U03
	SIDEWALK CLOSURES AND BYPASS WALKWAY	618-U05
	LANE CLOSURE (URBAN TWO-LANE, TWO-WAY ROAD WITH TWO-WAY LEFT TURN LANE)	618-U15
	TURN LANE CLOSURE (URBAN TWO-LANE, TWO-WAY ROAD WITH TWO-WAY LEFT TURN LANE)	618-U16
	RIGHT LANE CLOSURE (URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U20
	LEFT LANE CLOSURE (LOW SPEED URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U25
	LEFT LANE CLOSURES (LOW SPEED URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U30
	DOUBLE LANE CLOSURE (URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U35
	RIGHT LANE CLOSURE - WORK ZONE BEYOND INTERSECTION (URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U40
	LEFT LANE CLOSURE - WORK ZONE BEYOND INTERSECTION (URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U45
	DOUBLE LANE CLOSURE AT INTERSECTION (URBAN MULTI-LANE, UNDIVIDED ROAD)	618-U50
	LEFT LANE CLOSURE (URBAN LOW SPEED, MULTI-LANE UNDIVIDED ROAD WITH TWO-WAY LEFT TURN LANE)	618-U60
SECT	TION 619: SIGNS AND DELINEATORS	
<u> </u>	SIGN CLEARANCES AND MOUNTING HEIGHTS	619-00
	SIGN CLEARANCES AND MOUNTING HEIGHTS (METRIC)	
	TYPICAL RURAL AND URBAN APPROACHES	
	ALUMINUM SHEET INCREMENT SIGN CONSTRUCTION DETAILS	
	PLYWOOD SHEET INCREMENT GUIDE SIGN CONSTRUCTION DETAILS	
	GUIDE SIGN CLEARANCE AND MOUNTING DETAILS	619-08
	SHEET ALUMINUM OVERLAY	619-10
	TUBULAR SIGN POST DETAILS	
	BREAKAWAY AND FOUNDATION DETAILS FOR MULTIPLE GUIDE SIGN SUPPORTS	619-13
	BREAKAWAY AND FOUNDATION DETAILS FOR MULTIPLE GUIDE SIGN SUPPORTS (METRIC)	619-13
	SQUARE TUBULAR SIGN POST BREAKAWAY DEVICES	
	TYPICAL STEEL POST MOUNTING DETAILS	619-16
	CANTILEVER TYPE SIGN SUPPORT DETAILS FOR SIDEWALK AREAS	

STRUCTURAL STEEL POST SIGN MOUNTING DETAILS	619-19
TREATED WOOD POLE SIGN MOUNTING AND SUPPORT DETAILS	619-20
TREATED WOOD POLE SIGN MOUNTING DETAILS	619-21
TREATED WOOD POLE OPTIONAL BACKBRACE	619-22
CHEVRON MOUNTING DETAILS	619-24
SPECIAL DESIGN ROUTE MARKER PANELS AND SHIELDS	619-26
SIGN HINGE DETAILS	619-30
MILEPOST (REFERENCE POST) DETAILS	619-32
DELINEATOR DETAILS	619-34
PANEL DELINEATOR DETAIL	619-35
DELINEATOR PLACEMENT DETAILS	619-36
OBJECT MARKER DESIGN AND PLACEMENT DETAILS FOR OBSTRUCTIONS ADJACENT TO OR WITHIN HIGHWAYS	
FLEXIBLE DELINEATORS	619-40
PERMANENT BARRICADE DESIGN DETAILS	619-42
INSTALLATION DATE TAGS	619-44
AUTHORIZED VEHICLE CROSSOVER DESIGNATOR	619-46
SECTION 620: PAVEMENT MARKING APPLICATION	
PAVEMENT MARKINGS (LETTERS)	620-00
PAVEMENT MARKINGS (NUMBERS)	620-05
PAVEMENT MARKINGS (WORDS)	620-10
PAVEMENT MARKINGS (ARROWS)	620-15
PAVEMENT MARKINGS (SYMBOLS)	620-20
PAVEMENT MARKINGS (SYMBOLS)	620-25
PAVEMENT MARKINGS (CENTERLINE RUMBLE STRIPING)	620-30
SECTION 621: REMOVE, RE-SET AND ADJUST FACILITIES	
MANHOLE AND VALVE BOX ADJUSTMENT DETAILS	621-00
MANHOLE AND VALVE BOX ADJUSTMENT DETAILS	

## **SECTION 623: MAILBOXES**

APPROACH MAILBOX TURNOUT	623-10
MAILBOX TURNOUT	623-15
MAILBOX DETAIL	623-20
OPTIONAL MAILBOX DETAIL	623-25
TEMPORARY MAILBOX SUPPORT	623-30
TEMPORARY MAILBOX SUPPORT BRACKET DETAILS	623-35
<u>MISCELLANEOUS</u>	
U-TURN MEDIAN OPENINGS ON CONTROLLED ACCESS HIGHWAYS	900-00
ADJUSTABLE MONUMENT BOX	900-15