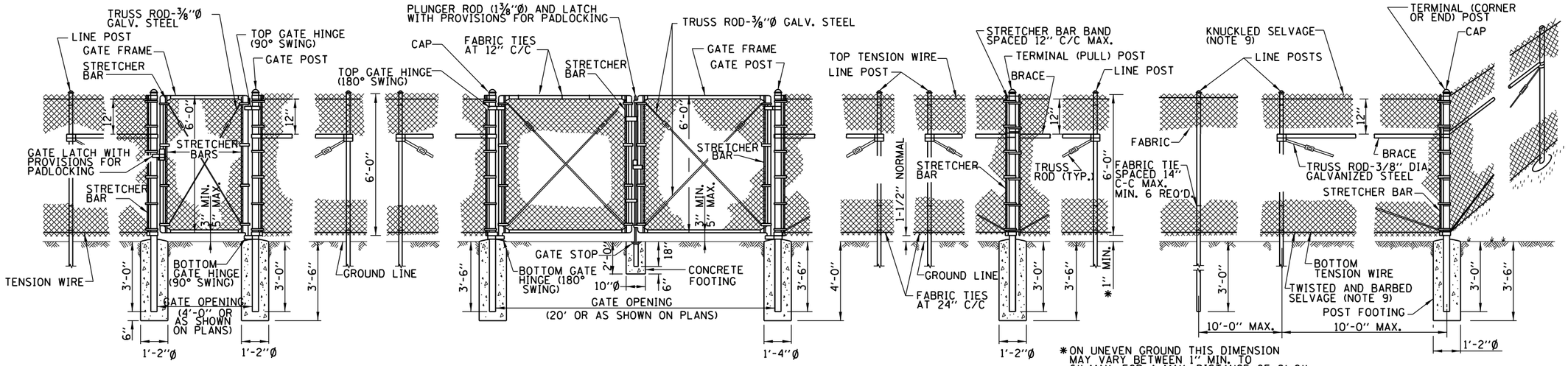
Tollway Standard Drawing Revisions

Section D	Roadway Appurtenances	
	Standard	**Modification Summary** **Effective 11/1/2012**
	D1	**Right of Way Fence**
		Removed material type for concrete footing
	D2	**Symbols & Patterns**
		Added new symbols for utility and electric items
		Electric Manhole Telephone Manhole
		Light Duty Box
		Watermain Valve Vault
		Water Well
	D4	**Delineators**
		Revised spacing for permanent and temporary delineation
		Revised General Notes A-C
		Notes For Post Mounted Delineator Installation
		Deleted Note 1
		Renumbered Notes 2 to 1, 3 to 2, 4 to 3 and 5 to 4
		Notes For Barrier Delineator
		Deleted Note 1
		Renumbered Note 2 to 1
	D5	**Permanent Pavement Markings**
		Revised Note 4
		Added Note 7
		Revised Edge Line Offset from outside shoulder
	D6	**Pavement Marking & Shoulder Rumble Strip Details**
		Reformatted drawing with Exit and Entrances separated
		Revised General Note 1
		Added Note 6
	D8	**Raised Pavement Lnae Marker**
		Revised Detail C

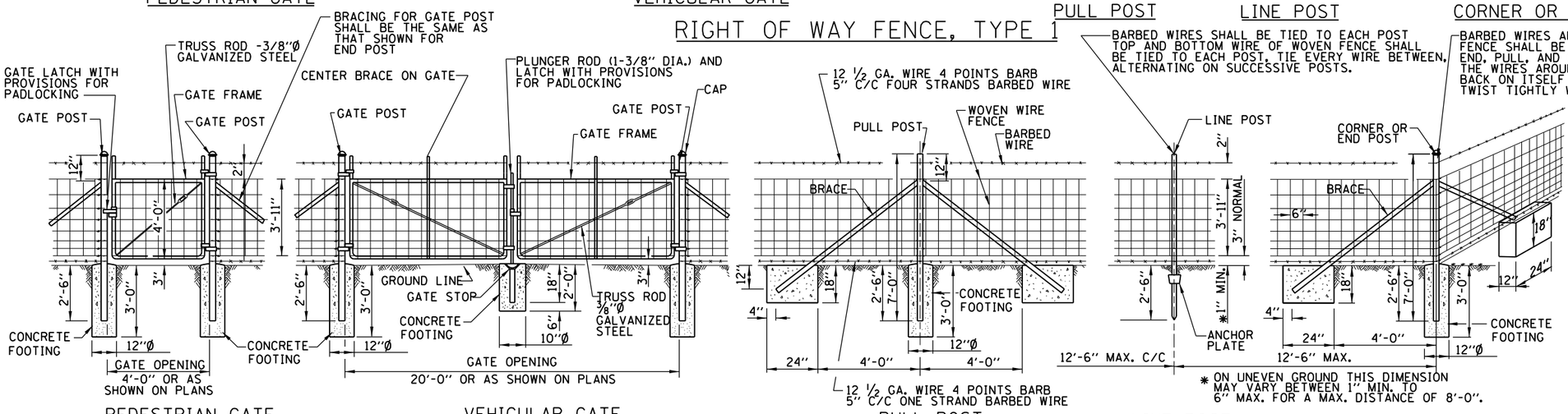
New Sheet



PEDESTRIAN GATE

VEHICULAR GATE

RIGHT OF WAY FENCE, TYPE 1



PEDESTRIAN GATE

VEHICULAR GATE

PULL POST

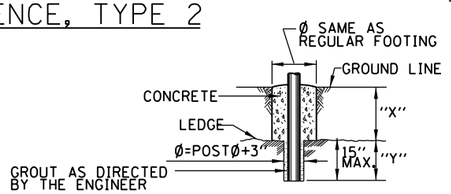
LINE POST

CORNER OR END POST

GENERAL NOTES

1. ON STRAIGHT RUNS OF FENCE, PULL POSTS SHALL BE USED AT 500' CENTERS FOR TYPE 1 AND 330' CENTERS FOR TYPE 2.
2. ALL FENCING MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
3. WHERE R.O.W. FENCE FOLLOWS R.O.W. LINE IT SHALL BE INSTALLED PARALLEL TO AND 6" INSIDE THE R.O.W. LINE ON TOLLWAY PROPERTY.
4. LINE POSTS AND BRACES SHALL BE ON TOLLWAY SIDE OF FENCE FABRIC.
5. WHEN THE TENSION OF THE FENCE TENDS TO PULL THE POSTS FROM THE GROUND, THE LINE POSTS SHALL BE ANCHORED WITH ANCHORAGE SPECIFIED FOR CORNER POSTS.
6. AT LOCATION WHERE THE PROPOSED FENCE IS TO BE CONNECTED TO AN EXISTING POST, THE REQUIRED CONNECTIONS AND BRACING INCLUDING ALL NECESSARY HARDWARE SHALL BE CONSIDERED INCIDENTAL TO THE FENCE OF THE TYPE SPECIFIED.
7. WHEN THE FENCE LINE HAS A CHANGE IN DIRECTION OF 10° OR MORE, A CORNER POST SHALL BE PLACED AT THE POINT OF CHANGE. WHERE THE ANGLE OF CHANGE IS LESS THAN 10° A PULL POST SHALL BE USED.
8. WHERE GRADE LINE HAS A CHANGE IN SLOPE OF 10° OR MORE, A CORNER POST WITH BRACING AS REQUIRED SHALL BE PLACED. WHERE ANGLE IS LESS THAN 10° LINE POST MAY BE USED.
9. WHERE TYPE 1 FENCE IS USED, THE FABRIC SHALL BE KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED SELVAGE ON BOTTOM.
10. PLACEMENT OF BRACED END POSTS OR CORNER POSTS WITHIN THE CLEAR ZONE SHALL BE AVOIDED.

RIGHT OF WAY FENCE, TYPE 2



FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED

CORNER OR END POST

NOTE:
"X"+"Y" SHALL NOT EXCEED 30" WHEN "X" IS 0" TO 15" "Y"=15", AND THE POST SHALL BE SHORTENED AS REQUIRED. WHEN "X" EXCEEDS 15" "Y" SHALL BE DECREASED ACCORDINGLY.

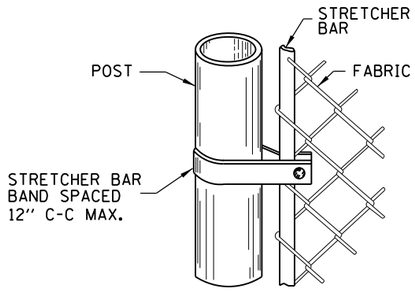
APPROVED Paul Kovacs CHIEF ENGINEER DATE 7-1-2009

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS
7-1-2009	R.O.W. FENCE TYPES 1 AND 2
	FENCE DETAILS
11-1-2012	REVISED NOTES

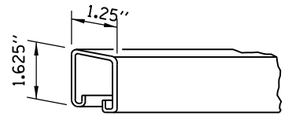
RIGHT OF WAY FENCE

STANDARD D1-02

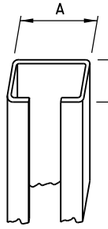


STRETCHER BARS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN 1/4''x3/4'' AND THE STRETCHER BAR BANDS SHALL BE GALVANIZED FLAT STEEL BAR NOT LESS THAN 1/8''x 1'' WITH A 3/8'' GALVANIZED CARRIAGE BOLT.

METHOD OF FASTENING STRETCHER BAR TO POST

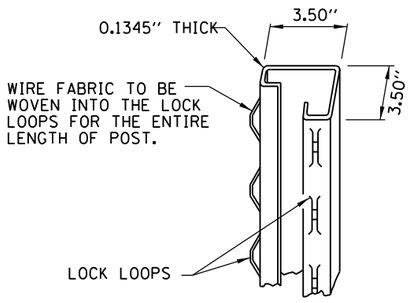


BRACE SECTION
1.25 LBS/LF



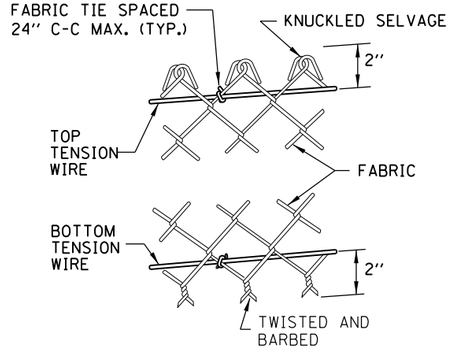
STANDARD ''C'' - 2.28 LBS/LF
A x B = 1.875'' x 1.625''
HEAVY ''C'' - 2.70 LBS/LF
A x B = 2.250'' x 1.625''

LINE POST ''C'' SECTION

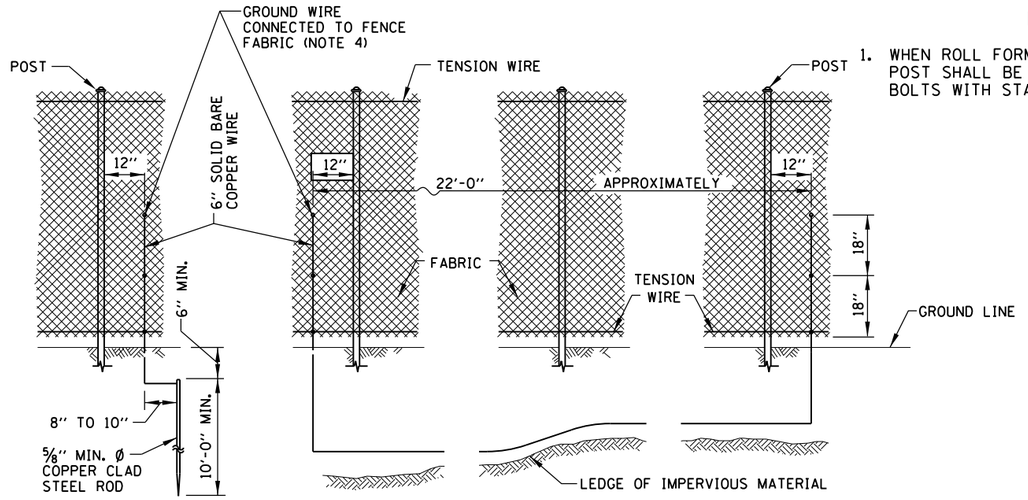


TERMINAL POST SECTION
5.10 LBS/LF

DETAILS OF ROLL FORMED SECTIONS



METHOD OF TYING FABRIC TO TENSION WIRES

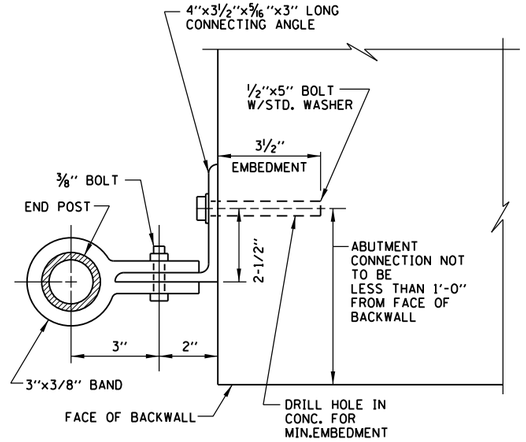


STANDARD GROUND

COUNTERPOISE GROUND (ALTERNATE)

NOTES FOR STANDARD AND COUNTERPOISE GROUND:

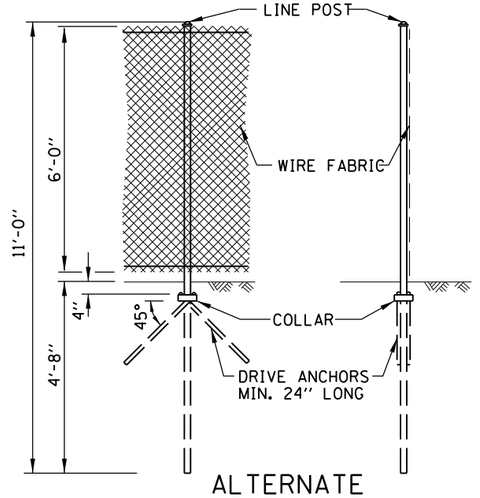
1. THE INTERVALS FOR GROUNDING CONTINUOUS FENCING SHALL NOT EXCEED 500 FEET IN URBAN AREAS AND 1000 FEET IN RURAL AREAS. FENCE ADJACENT TO A GATE SHALL BE GROUNDED A MAXIMUM DISTANCE 100 FEET EACH SIDE OF THE GATE.
2. FENCE CROSSING UNDER A POWER LINE SHALL BE GROUNDED, ONCE DIRECTLY UNDER THE CROSSING AND ONE ON EACH SIDE AT 25 TO 50 FEET AWAY. FENCE LOCATED DIRECTLY UNDER A TELEPHONE WIRE OR CABLE CROSSING SHALL HAVE A SINGLE GROUND.
3. COUNTERPOISE GROUNDS SHALL BE USED AT LOCATIONS WHERE GROUND RODS CAN NOT BE DRIVEN DUE TO IMPERVIOUS EARTH MATERIALS.
4. THE GROUND WIRES SHALL BE CONNECTED TO FENCE FABRIC AND GROUND ROD BY STAINLESS STEEL BOLTS AND WASHERS. THE LOWER CONNECTION OF THE GROUND WIRE SHALL BE MADE TO THE BOTTOM TENSION WIRE.



ABUTMENT CONNECTION DETAIL

NOTES FOR ABUTMENT CONNECTION:

1. WHEN ROLL FORMED SECTION IS USED IN LIEU OF PIPE AS END POST, THE POST SHALL BE BOLTED DIRECTLY TO THE ABUTMENT WALL WITH 2 1/2'' x 5'' BOLTS WITH STANDARD WASHERS MEETING THE APPROVAL OF THE ENGINEER.



ALTERNATE
DRIVEN LINE POST ANCHORAGE
WITH OR WITHOUT DRIVE ANCHORS

NOTE FOR FENCE POST:

ALTERNATE DRIVEN LINE POST ANCHORAGE IS OPTIONAL. DRIVEN LINE POST ANCHORAGE WITHOUT DRIVE ANCHORS MAY BE USED IN AVERAGE TO GOOD SOIL CONDITIONS. WHEN SOIL IS WEAKER (Qu < 1.25 TONS/ SQ. FT.) AND STABILTIY OF THE POST IS QUESTIONABLE, DRIVE ANCHORS SHALL BE USED. TYPES, SHAPES, DIMENSIONS AND COATING REQUIREMENTS OF DRIVE ANCHORS (ANCHOR BLADES AND COLLARS) FOR DIFFERENT TYPE OF POSTS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

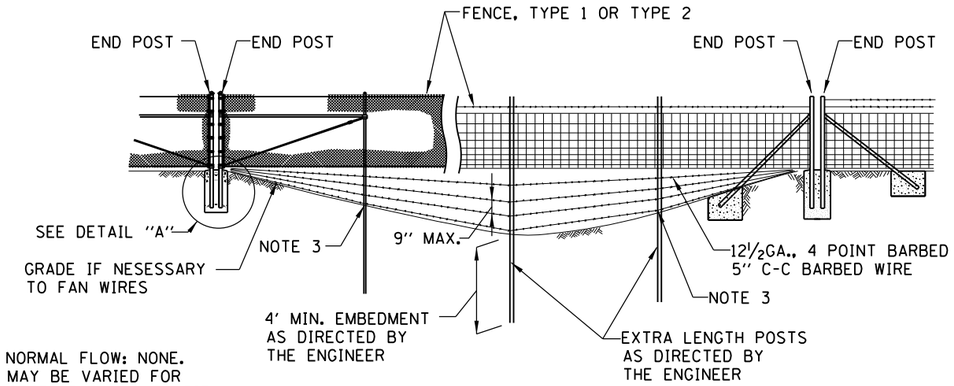
Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

ELECTRICAL GROUNDING DETAILS

Illinois Tollway
Open Roads for a Faster Future

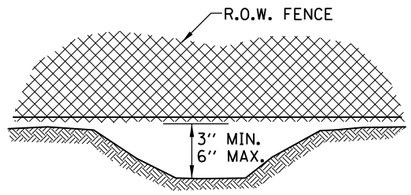
RIGHT OF WAY FENCE

STANDARD D1-02

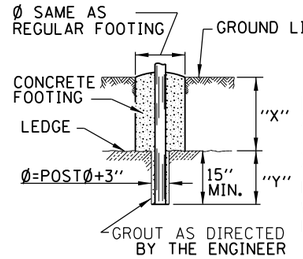


NORMAL FLOW: NONE.
MAY BE VARIED FOR
STEEPER BANKS TO FIT
VARIOUS CHANNEL SECTIONS.

STREAM CROSSING TYPE I



FENCE INSTALLATION OVER DITCH



NOTE:
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30" WHEN "X" IS 0" TO 15"
"Y" =15", AND THE POST SHALL
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WHEN "X" EXCEEDS 15" "Y" SHALL
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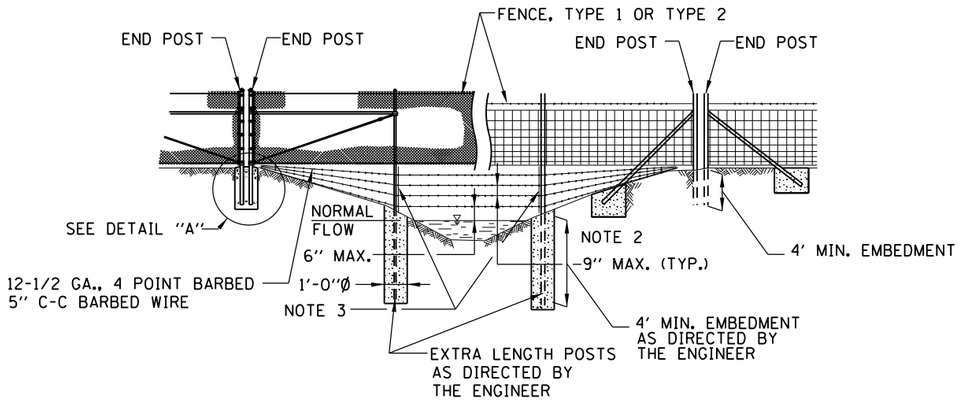
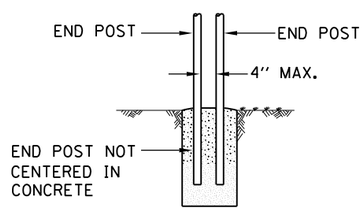
FOOTING FOR POST WHEN ROCK LEDGE IS ENCOUNTERED



STREAM CROSSING TYPE II

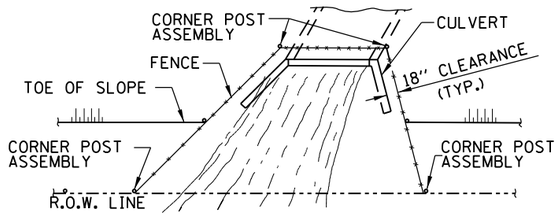


THE FENCE FABRIC SHALL BE REPLACED BY BARBED WIRE STRANDS AT 12" MAXIMUM CENTERS BETWEEN THE END POSTS WHEN SHOWN ON THE PLANS THE BARBED WIRE STRANDS, IF REQUIRED, SHALL BE INCIDENTAL TO THE VARIOUS TYPES OF STREAM CROSSING REQUIRED.

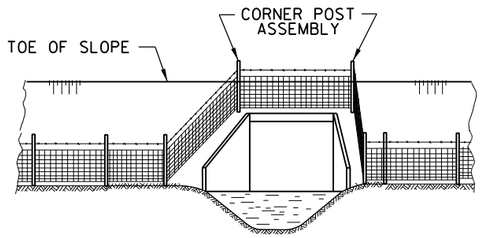
DETAIL A

NOTES FOR STREAM CROSSING TYPE I AND TYPE II:

1. THESE INSTALLATION CONDITIONS ARE TYPICAL AND ARE NOT TO BE CONSTRUED AS REPRESENTATIVE OF ALL CONDITIONS WHICH WILL BE ENCOUNTERED CONSTRUCTION WILL BE VARIED AS REQUIRED OR DIRECTED TO MEET FIELD CONDITIONS.
2. FOR STREAM CROSSING OF THE TYPE REQUIRED THE BOTTOM BARBED WIRE SHALL BE ANCHORED TO CONCRETE FOOTING OR TO HOLES DRILLED IN POSTS, AND INTERMEDIATE WIRES SHALL BE TIED TO THE BOTTOM WIRE AND TO POSTS IN AN EVENLY SPACED FASHION TO PREVENT SLIPPAGE.
3. CONCRETE AND FITTINGS FOR ALL TYPES OF FENCE SHALL BE AS DETAILED FOR SIMILAR CONDITIONS PER STANDARD DRAWING.



PLAN AT HEADWALL



ELEVATION

NOTES FOR INSTALLATION AROUND HEADWALL:

1. THIS TYPE OF INSTALLATION IS TO BE USED ONLY WHEN SPECIFICALLY CALLED FOR IN THE CONTRACT PLANS.
2. WHEN THE WIDTH OF THE CULVERT MAKES NECESSARY TO ANCHOR A POST TO THE TOP OF THE CULVERT, A CAST IRON SHOE OR OTHER DEVICE APPROVED BY THE ENGINEER SHALL BE USED. THE COST OF ANCHORING THE POST SHALL BE INCIDENTAL TO THE TYPE OF FENCE REQUIRED.

INSTALLATION AROUND HEADWALL

Paul Kovacs
APPROVED CHIEF ENGINEER
DATE 7-1-2009

Illinois Tollway
Open Roads for a Faster Future

RIGHT OF WAY FENCE

STANDARD D1-02

SURVEY AND ROADWAY ITEMS

EXISTING	PROPOSED	
		CONSTRUCTION JOINT W/DOWEL BARS
		BENCHMARK
		CANTILEVER SIGN STRUCTURE
		DOUBLE COLUMN GROUND MOUNTED SIGN
		SINGLE COLUMN GROUND MOUNTED SIGN
		SPAN TYPE SIGN STRUCTURE
		TRIPLE COLUMN GROUND MOUNTED SIGN
		RUMBLE STRIP

DRAINAGE AND UTILITY ITEMS; ROADWAY LIGHTING AND SIGNS

EXISTING	PROPOSED	
		BOX CULVERT WITH HEADWALL
		CABLE IN DUCT W/O GROUND
		LOW POINT
P		OVERHEAD ELECTRICAL
T		OVERHEAD TELEPHONE
		PIPE CULVERT
		LAKE OR POND
		QUARRY
		STREAM
		SWAMP
	A	CABLE OR CONDUIT TAG
E	E	ELECTRICAL MANHOLE
LD	LD	LIGHT-DUTY BOX
		ROADWAY LUMINAIRE
		STEEL TOWER
T	T	TELEPHONE MANHOLE
		UNDERPASS LUMINAIRE
		WATER POINT
W	W	WATERMAIN VALVE VAULT
W	W	WATER WELL
		WOOD POLE

EROSION & SEDIMENT CONTROL, LANDSCAPING ITEMS

EXISTING	PROPOSED	
		CLEARING & GRADING LIMITS (LIMITS OF CONSTRUCTION)
		DRAINAGE PATH
	SSF	SUPER SILT FENCE
		AGGREGATE BERM
	CIP	CULVERT INLET PROTECTION-STONE
		CULVERT INLET PROTECTION-FENCES
	DB	DEWATERING BASIN
	FIP	FILTER FABRIC INLET PROTECTION
	IC	INITIAL CONSTRUCTION ITEM
	RIP	RECTANGULAR INLET PROTECTION
		ROCK CHECK DAM
	(REDC)	ROLLED EXCELSIOR DITCH CHECK
		SEDIMENT BASIN
		STABILIZED CONSTRUCTION ENTRANCE
		STONE OUTLET STRUCTURE SEDIMENT TRAP
		STREAM DIVERSION
		TEMPORARY PIPE SLOPE DRAIN
		TEMPORARY RIPRAP
	TS	TEMPORARY SWALE
		TREES AND STUMP
	(UFDC)	URETHANE FOAM DITCH CHECK
		DIVERSION DIKE
		TEMPORARY STREAM CROSSING

EXISTING	PROPOSED	
		EROSION CONTROL BLANKET
		OVER SEEDING CLASS B1
		OVER SEEDING CLASS B2
		SEEDING CLASS A1
		SEEDING CLASS A2
		SEEDING CLASS A3
		SEEDING CLASS A4
		SEEDING CLASS A5
		SEEDING CLASS A6
		SEEDING CLASS D1
		SODDING (SALT TOLERANT)
		TEMPORARY GROUND COVER
		TURF REINFORCEMENT MAT

Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS
7-1-2009	REVISED SYMBOL & PATTERNS
11-1-2012	ADDED NEW SYMBOLS

SYMBOLS AND PATTERNS

STANDARD D2-02

ELECTRICAL AND MECHANICAL ITEMS

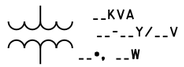
HOME RUN TO PANEL AS NOTED

INDICATES CIRCUIT TURNING DOWN

INDICATES CIRCUIT TURNING UP

GROUND ROD

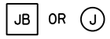
GROUNDING TRIAD



TRANSFORMER

MOTOR

AUTOMATIC TRANSFER SWITCH (ATS)

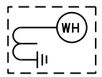


JUNCTION BOX

DISCONNECT SWITCH

CIRCUIT BREAKER

MANUAL TRANSFER SWITCH



SELF CONTAINED UTILITY METERING

STANDBY GENERATOR

PANEL CIRCUIT BREAKER

MECHANICALLY HELD LIGHTING COIL

CONTROL RELAY COIL

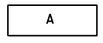
SINGLE-POLE SWITCH

DUPLEX RECEPTACLE

4P, 4W, WEATHERPROOF RECEPTACLE
WITH SPRING DOOR, BACK BOX, &
ANGLE ADAPTER

4P, 4W, WEATHERPROOF RECEPTACLE
WITH SPRING DOOR & BACK BOX

DUPLEX RECEPTACLE WITH
GROUND FAULT PROTECTION



CONTROL BUILDING LIGHTING
1' X 4' INDUSTRIAL FLUORESCENT FIXTURE, PORCELAIN
REFLECTOR, ELECTRONIC BALLAST.

COMPACT WALL-MOUNTED LOW WATTAGE HPS FIXTURE
WITH WIRE GUARD & SINGLE FACTORY INSTALLED FUSE

EMERGENCY LIGHT UNIT WITH 2-6 VOLT,
12 WATT SEALED BEAM HALOGEN LAMPS
WITH WALL MOUNTING BRACKET

LANE LIGHTING - HEAVY DUTY ALUMINUM HOUSING WITH
ENCLOSED REFLECTOR & TEMPERED GLASS LENS W/AUTO
REGULATOR BALLAST. ASYMMETRIC PATTERN

WIRE

CONDUIT

EXISTING	PROPOSED	
A	A	COMPRESSED AIR (A)
AR	AR	ACID RESISTANT WASTE OR DRAIN
ARV	ARV	ACID RESISTANT VENT
DS	DS	STORM SEWER (DOWNSPOUT)
G	G	GAS LINE
HG	HG	HOT GAS BYPASS LINE (HG)
HHWR	HHWR	HEATING HOT WATER RETURN (HHWR)
HHWS	HHWS	HEATING HOT WATER SUPPLY (HHWS)
IA	IA	DRY COMPRESSED AIR (IA-INSTRUMENT AIR)
P	P	PROCESS WATER ("P" WATER) LINE
PW	PW	PROTECTED WATER OR PLANT WATER (PW)
RD	RD	REFRIGERANT DISCHARGE LINE (RD)
RS	RS	REFRIGERANT SUCTION LINE (RS)
V	V	VENT LINE (V)

NOTE:

ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

Paul Kovacs
APPROVED ..... CHIEF ENGINEER
DATE 7-1-2009

Illinois Tollway
Open Roads for a Faster Future

SYMBOLS AND PATTERNS

STANDARD D2-02

ELECTRICAL AND MECHANICAL ITEMS

CFM OR CFM — QUANTITY AND DIRECTION OF THE AIR FLOW

X OR X — DUCT SIZE (FIRST FIGURE SIZE OF SHOWN, SECOND FIGURE SIZE OF SIDE NOT SHOWN.)

SUPPLY DUCT SECTION

OR — RETURN OR EXHAUST DUCT SECTION

D OR D — DUCT DROPS IN THE DIRECTION OF FLOW

R OR R — DUCT RISES IN THE DIRECTION OF FLOW

OR — TURNING VANES

CFM OR CFM — 8" THROAT DIAMETER CEILING DIFFUSER; AIR FLOW -- 100 CFM

OR — BALANCING OR VOLUME DAMPER

M OR M — MOTOR OPERATED DAMPER

FLEXIBLE DUCT

FIRE DAMPER

A — SOUND ATTENUATOR

ZONE DAMPER

FLEXIBLE CONNECTION AT FAN OR EQUIPMENT

EXTRACTOR

OR — SPLITTER DAMPER

B — PLUG VALVE WITH MEMORY STOP (BALANCING)

PLUG VALVE

S — SOLENOID VALVE

TEMPERATURE CONTROL VALVE

THREE-WAY TEMPERATURE CONTROL VALVE DIAPHRAGM

THREE-WAY TEMPERATURE CONTROL VALVE TOP VIEW

PRESSURE REDUCING VALVE (NOS = INITIAL AND FINAL PRESSURE - PSIG)

PRV — AIR PRESSURE REDUCING STATION (NO. CORRESPONDS WITH AIR PRESSURE REDUCER SCHEDULE)

SAFETY VALVE (NOS. = PRESSURE SETTING - PSIG)

FLOAT OPERATED VALVE

QC — QUICK COUPLING (QC)

UH — HORIZONTAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)

UH — VERTICAL UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)

UH — CABINET TYPE UNIT HEATER (NO. CORRESPONDS WITH UNIT HEATER SCHEDULE)

T — THERMOSTAT OR ROOM TEMPERATURE SENSOR

GATE VALVE

FLOW SWITCH

GPM — VENTURI FLOW METER AND FLOW TO BE INDICATED

CONNECTION BETWEEN NEW AND EXISTING

GLOBE VALVE

BUTTERFLY VALVE

CHECK VALVE

ANGLE GATE VALVE

CONCENTRIC REDUCER

ECCENTRIC REDUCER

ORIFICE FLANGE

CROSSOVER

PIPE GUIDE

EXPANSION JOINT (SLIP TYPE)

EXPANSION JOINT (BELLOWS TYPE)

AIR ELIMINATOR (AIR VENT)

PIPE CAP

STRAIGHT CROSS

90° ELBOW

90° ELBOW TURNED DOWN

90° ELBOW TURNED UP

SIDE OUTLET ELBOW TURNED DOWN

SIDE OUTLET ELBOW TURNED UP

LATERAL

TEE

TEE OUTLET UP

TEE OUTLET DOWN

UNION

STRAINER

X — PIPE ANCHOR

THERMOMETER (NOS. = RANGE IN DEGREES FAHRENHEIT)

PRESSURE, VACUUM OR COMPOUND GAUGE

NOTE:

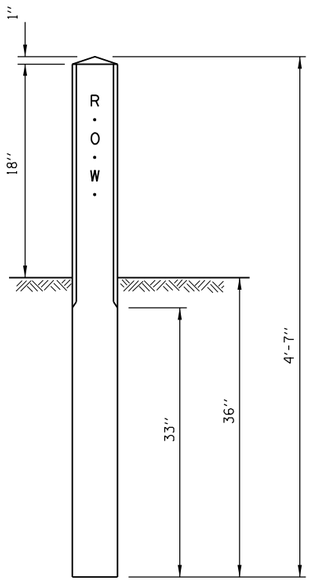
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

Paul Kovacs
APPROVED ..... CHIEF ENGINEER
DATE 7-1-2009

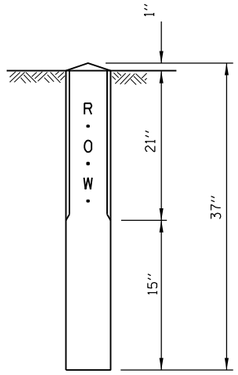
Illinois Tollway
Open Roads for a Faster Future

SYMBOLS AND PATTERNS

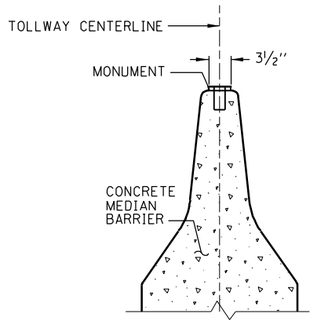
STANDARD D2-01



RIGHT OF WAY MARKER

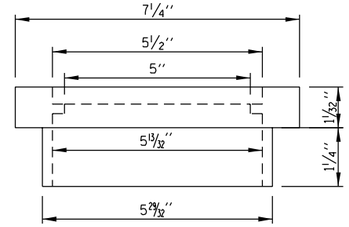


RIGHT OF WAY MARKER (SPECIAL)

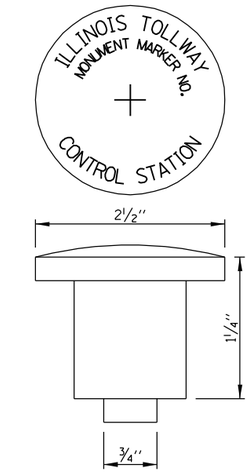


TYPICAL CENTERLINE MONUMENT AT MEDIAN BARRIER

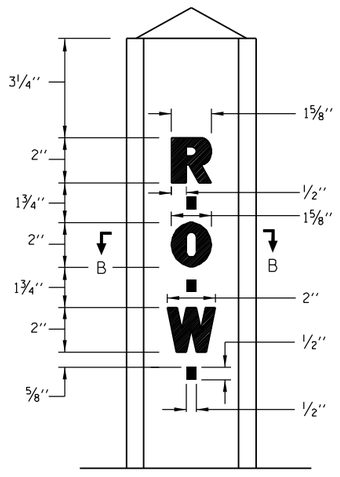
TOP VIEW



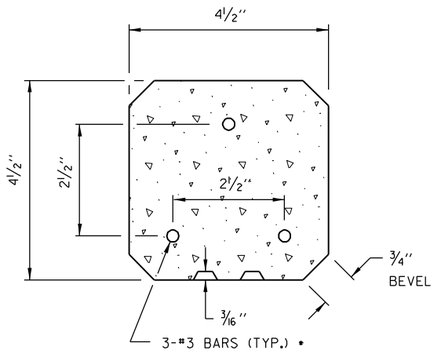
ACCESS COVER (RECESSED HINGE)



ALUMINUM DOMED CAP

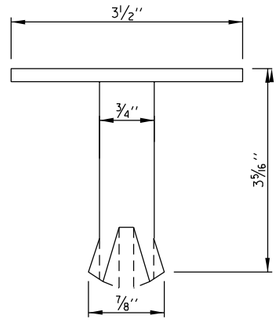


LETTERING DETAIL

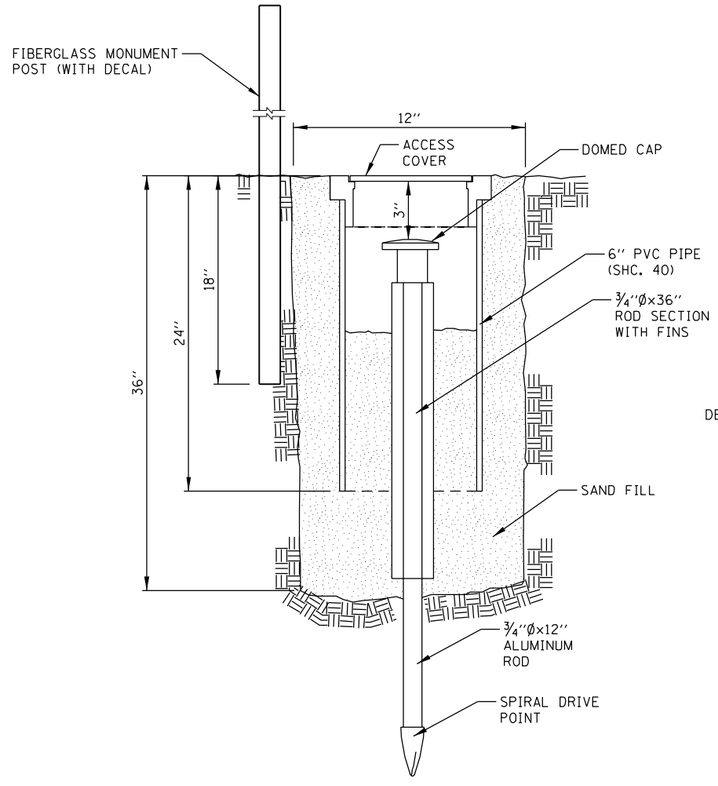


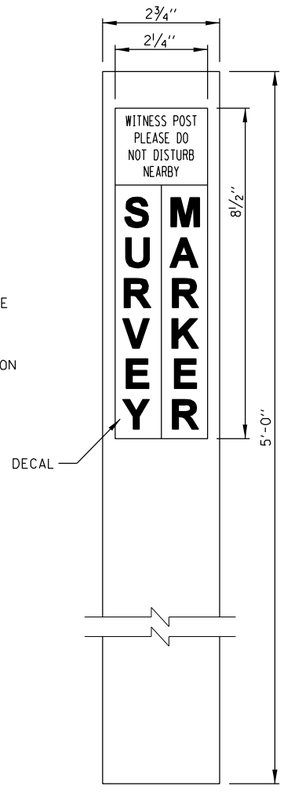
* METHOD A- 4'-2" LONG BARS
* METHOD B- 2'-6" LONG BARS

SECTION B-B



BRONZE DOMED CAP





MONUMENT POST

RIGHT OF WAY MARKER

PERMANENT SURVEY MONUMENT

PERMANENT SURVEY MONUMENT (SPECIAL)

Paul Kovacs
APPROVED ..... CHIEF ENGINEER
DATE 1-1-2007

DATE	REVISIONS
7/1/2010	NEW MONUMENT AND BARRIER MARKERS

Illinois Tollway
Open Roads for a Faster Future

PERMANENT SURVEY MONUMENTS AND RIGHT-OF-WAY MARKERS

STANDARD D3-01

PERMANENT DELINEATION SPACING					
		MAINLINE		RAMP	
		TANGENT	CURVE	TANGENT	CURVE
*	GUARDRAIL	100′	100′	100′	TABLE A
*	CONCRETE BARRIER (DOUBLE FACE)	100′	100′	100′	TABLE A
*	CONCRETE BARRIER (SINGLE FACE)	100′	100′	100′	TABLE A
	SHOULDER NARROWING	3 @ 15′	3 @ 15′	3 @ 15′	3 @ 15′
	BRIDGE APPROACHES	3 @ 15′	3 @ 15′	3 @ 15′	3 @ 15′
*	BRIDGE PARAPET	50′	50′	50′	50′
*	NOISE ABATEMENT WALL (CRASH WORTHY)	100′	100′	100′	TABLE A
	POST MOUNTED DELINEATOR	200′	200′	200′	TABLE A
	POST MOUNTED DELINEATOR (RAMP TAPERS AND TANGENTS)	100′	100′	NA	NA

TEMPORARY DELINEATION SPACING				
	TANGENT	REVERSE CURVE	SHIFT	TAPER
TEMPORARY CONCRETE BARRIER	50′	25′	25′	25′

* WHEN ADJACENT SHOULDER IS USED AS A TRAVELED LANE, USE SPACING REQUIREMENTS AS SHOWN FOR TEMPORARY DELINEATION.

TABLE A	
DELINEATION SPACING ON RAMP-CURVES	
RADIUS OF CURVE (FT.)	SPACING OF CURVE (FT.)
LESS THAN 1050	50
1050-1299	100
1300-1999	125
2000-2999	150
3000-3999	175
MORE THAN 3999	200

Paul Kovacs
APPROVED ..... CHIEF ENGINEER
DATE 7-1-2009

GENERAL NOTES:

EMERGENCY TURNAROUNDS DELINEATION-THE FOLLOWING DELINEATION SHOULD BE INSTALLED ON THE LEFT SIDE OF THE PAVEMENT APPROACHING EMERGENCY TURNAROUNDS.

A. ONE-HALF OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFECTOR UNIT OVER THREE AMBER REFLECTOR UNITS.

B. ONE-FOURTH OF A MILE IN ADVANCE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER TWO AMBER REFLECTOR UNITS.

C. AT A POINT NEAR THE INTERSECTION OF THE EDGE OF THE LEFT SHOULDER AND NEAR EDGE OF THE EMERGENCY TURNAROUNDS ONE WHITE REFLECTOR UNIT OVER ONE AMBER REFLECTOR UNIT.

NOTES FOR POST MOUNTED DELINEATOR INSTALLATION:

1. A. MAINLINE-SINGLE WHITE REFECTOR UNITS SHALL BE PLACED CONTINUOUSLY ON THE RIGHT AND SINGLE AMBER REFLECTOR UNITS SHALL BE PLACED ON THE LEFT ON MAIN LINE SECTIONS WITHOUT BARRIER WALL.

   B. RAMPS-SINGLE REFLECTOR UNITS SHALL BE PLACED ON THE OUTSIDE OF ALL CURVED SECTIONS OF RAMPS, SINGLE WHITE SHALL BE PLACED ON THE RIGHT SIDE AND AMBER ON THE LEFT SIDE. THE DELINEATORS SHALL BE OVERLAPPED FOR A SHORT DISTANCE TO CLEARLY INDICATE WHERE DELINEATION ON ONE SIDE OF THE RAMP ENDS AND DELINEATION ON THE OTHER SIDE APPEARS.

   C. DOUBLE WHITE REFLECTOR UNITS SHALL BE PLACED ON THE RIGHT AT ALL ACCELERATION AND DECELERATION LANES.

2. DELINEATORS SHALL BE MOUNTED ON SUPPORTS SUCH THAT THE TOP OF REFLECTORS IS FOUR FEET ABOVE THE ROADWAY EDGE AND TWO FEET OUTSIDE THE OUTER EDGE OF THE PAVED SHOULDER OR TWO FEET MINIMUM AND SIX FEET MAXIMUM OUTSIDE THE BACKS OF CURBS OR GUTTERS.

3. IN ALL CASES, THE COLOR OF THE REFLECTORS SHALL BE THE SAME AS THE ADJACENT EDGE LINE EXCEPT AS SPECIFIED IN GENERAL NOTES.

4. POST MOUNTED DELINEATORS SHALL BE PLACED CONTINUOUSLY AS NOTED ABOVE IN CONJUNCTION WITH GUARDRAIL INSTALLED.

NOTES FOR BARRIER DELINEATOR:

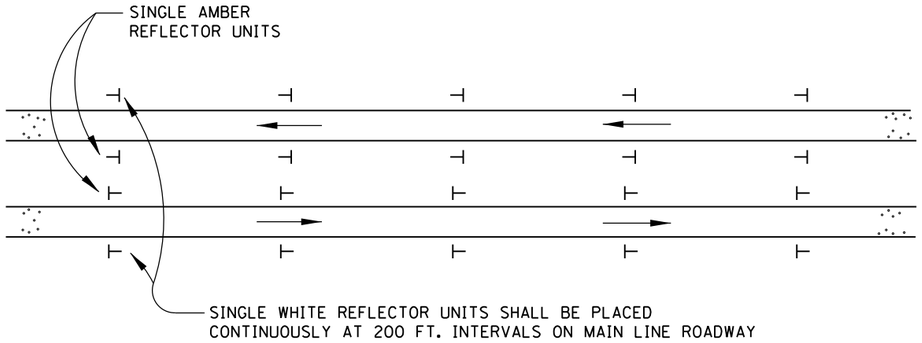
1. REFLECTOR MARKERS TYPE B AND TYPE C SHALL HAVE REFLECTIVE SURFACE ON ONE SIDE ONLY.

Illinois Tollway
Open Roads for a Faster Future

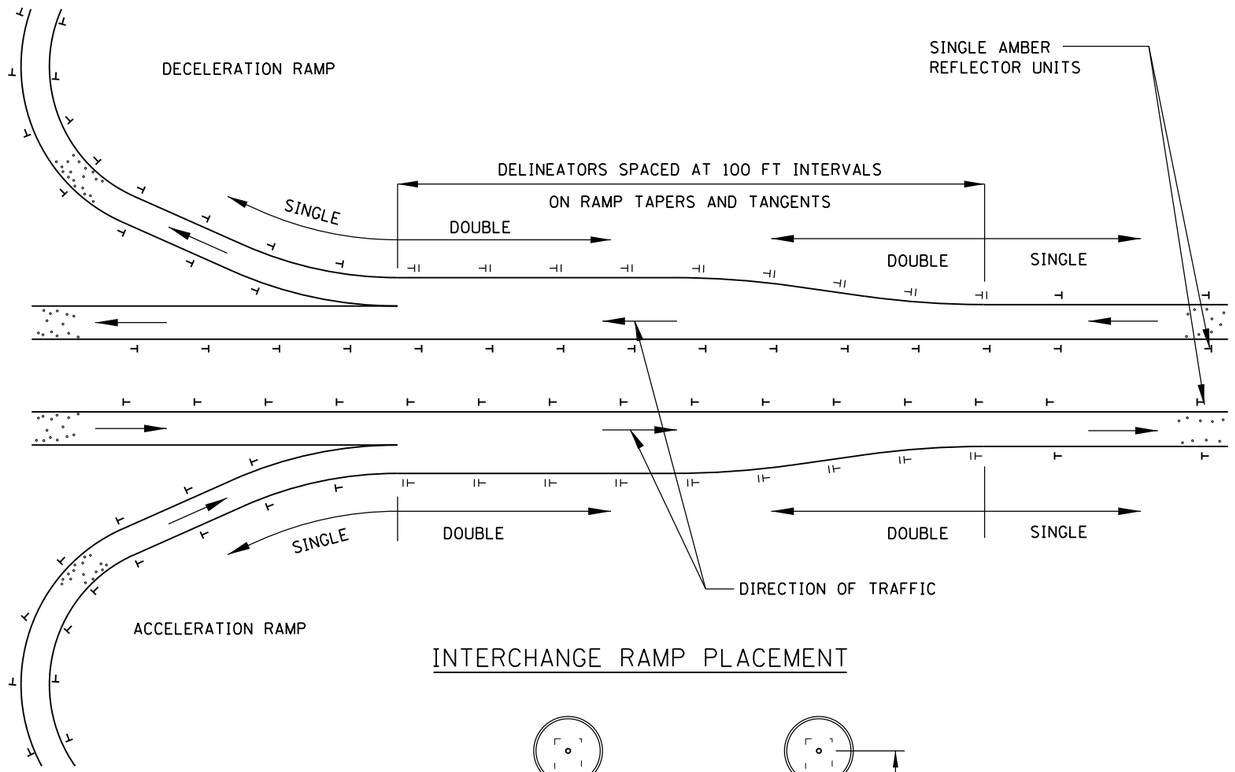
DATE	REVISIONS
7-1-2009	CHANGED BARRIER TO F-SHAPE CONFIG.
	ADDED SECTION C-C
	NEW BARRIER DELINEATORS
2-7-2012	REVISED REFLECTOR MARKER TYPE C DIMENSION
11-1-2012	REVISED NOTES, TABLE AND DELINEATION SPACING

DELINEATORS

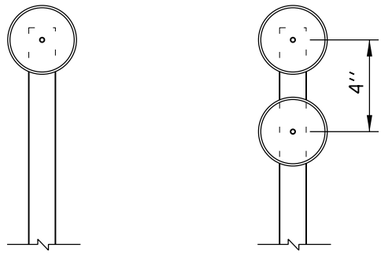
STANDARD D4-03



TANGENT PLACEMENT

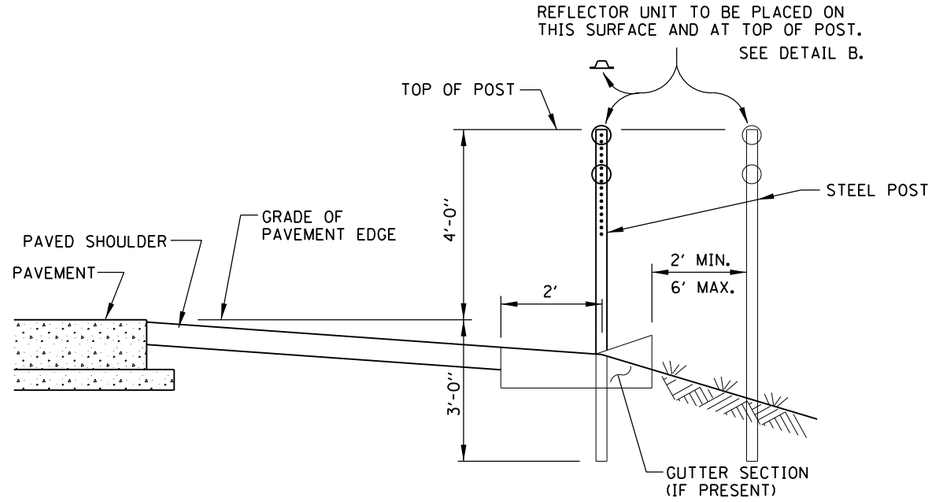


INTERCHANGE RAMP PLACEMENT

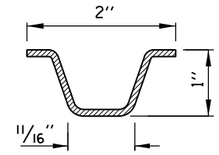


SINGLE UNIT DOUBLE UNIT

TYPICAL DELINEATORS

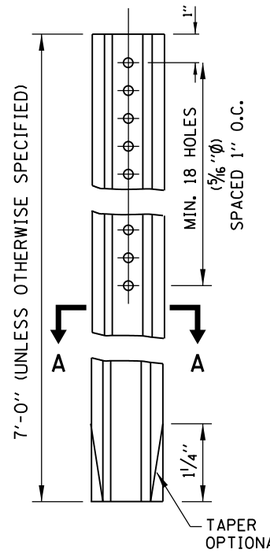


DELINEATOR INSTALLATION

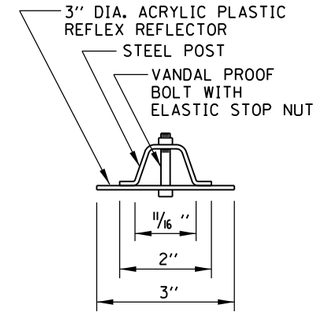


SECTION A-A

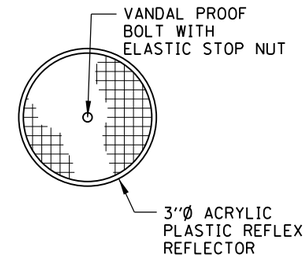
STEEL- 1.12 LBS/FT.



STEEL POST



DETAIL B



DELINEATORS

NOTE:

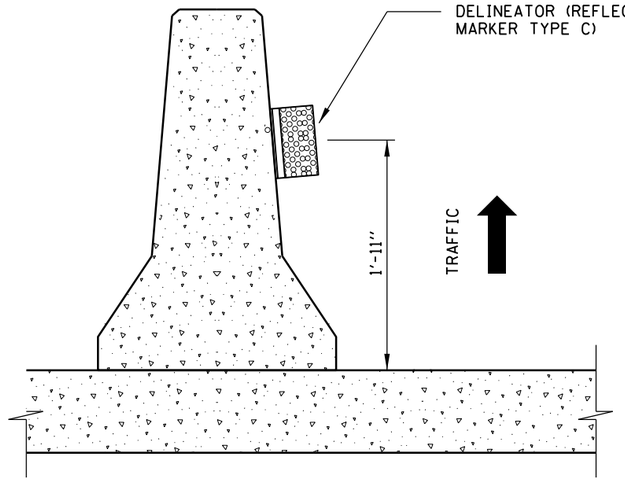
SEE SHEET 1 OF THIS SERIES FOR NOTES.

Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

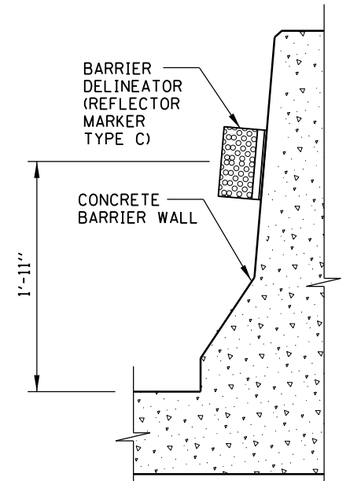
DELINEATORS

STANDARD D4-03

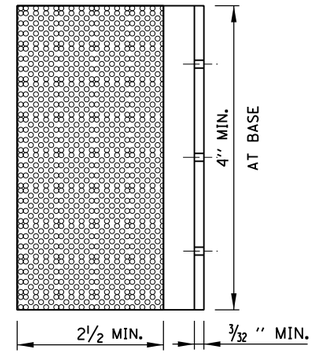


CROSS-SECTION

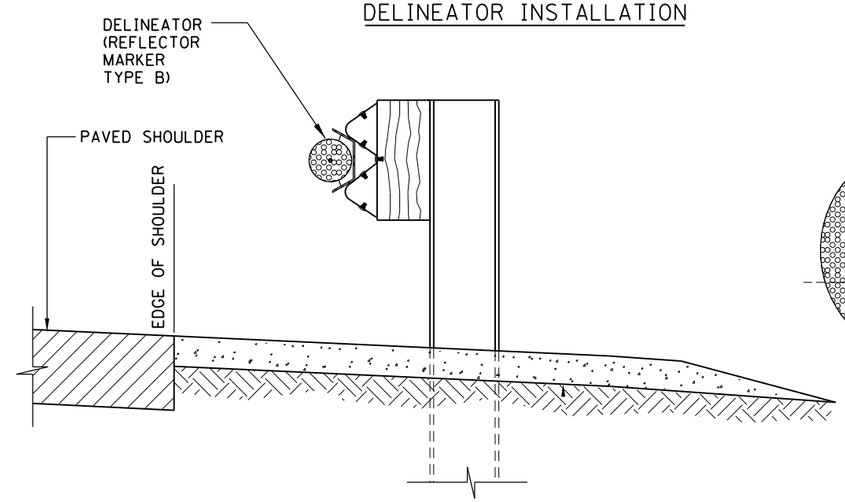
TEMPORARY CONCRETE BARRIER



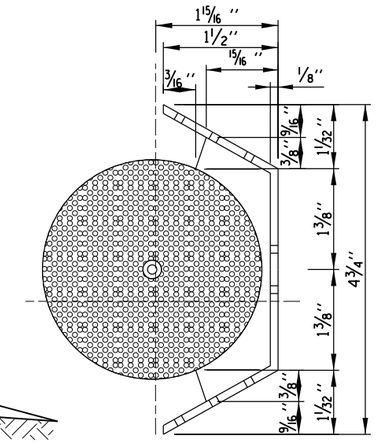
BARRIER OR PARAPET
DELINEATOR INSTALLATION



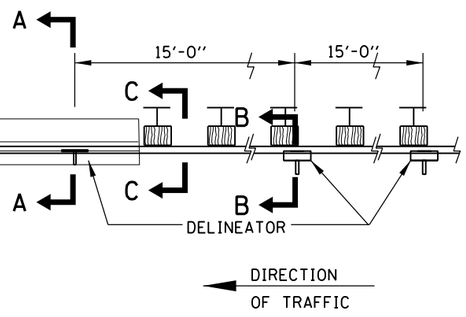
DELINEATOR
(REFLECTOR MARKER TYPE C)



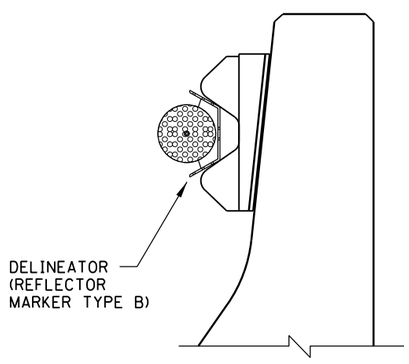
SECTION B-B



DELINEATOR
(REFLECTOR MARKER TYPE B)



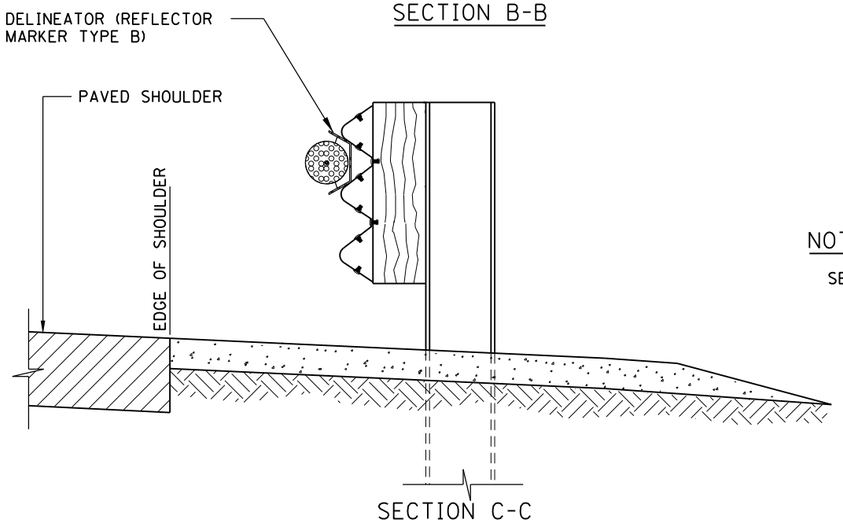
PLAN



SECTION A-A

DELINEATOR INSTALLATION ON GUARDRAIL AT BRIDGE APPROACHES

ALSO SEE SHEET 1 (OF 3) IN THIS SERIES FOR ADDITIONAL INFORMATION



SECTION C-C

NOTE:

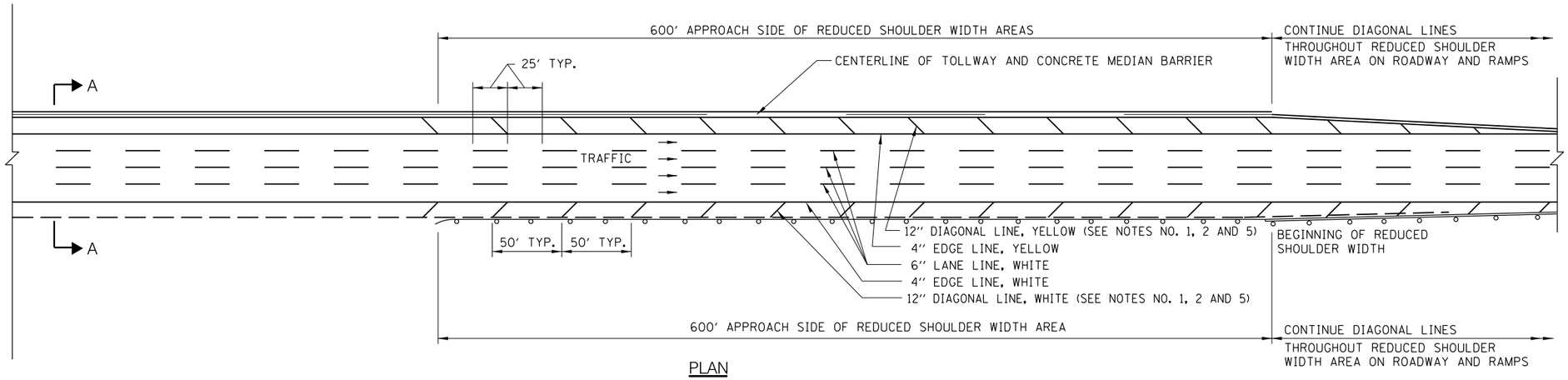
SEE SHEET 1 OF THIS SERIES FOR NOTES.

Paul Kovacs
APPROVED ..... CHIEF ENGINEER
DATE 7-1-2009

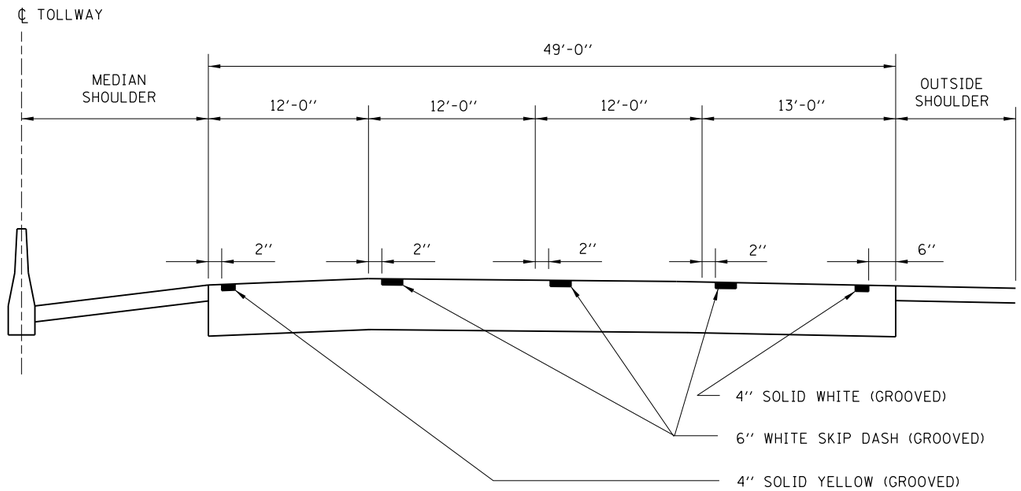
Illinois Tollway
Open Roads for a Faster Future

DELINEATORS

STANDARD D4-03



PLAN



SECTION A–A

GENERAL NOTES:

1. DIAGONAL SHOULDER STRIPING REQUIRED WHERE HMA SHOULDER WIDTH IS LESS THAN STANDARD.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND HOT-MIX ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. WHERE THE GUARDRAIL ENCROACHES ON THE SHOULDER THE DIAGONAL MARKINGS SHALL EXTEND AS CLOSE TO THE FACE OF THE RAIL AS POSSIBLE.
4. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED, ON ROADWAY SURFACES.
5. DIAGONAL STRIPING SHALL BE SURFACE APPLIED.
6. GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.
7. ALL LANE LINES AND EDGE LINES SHALL BE SURFACE APPLIED ON BRIDGES.

ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION

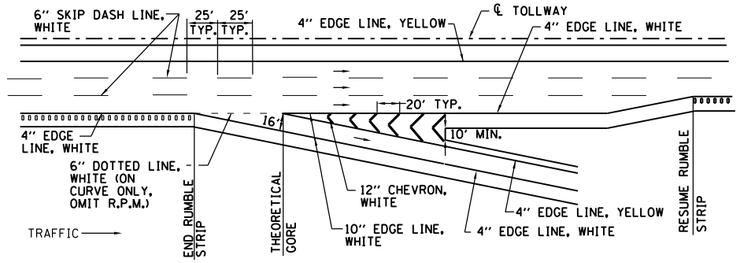
Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

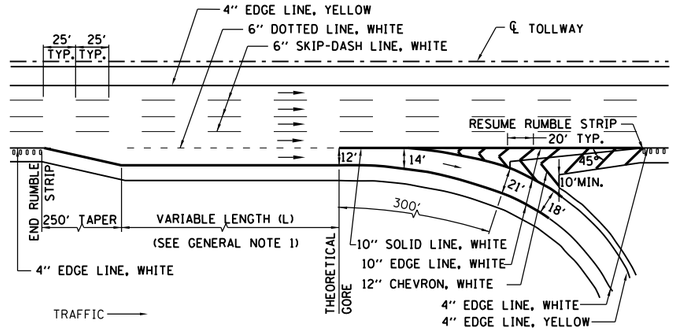
DATE	REVISIONS
9-19-2007	STRIPE LOCATION ℄ OUTSIDE LANE
7-1-2009	ADDED LINE GROOVING NOTES
2-7-2012	REVISED NOTES
11-1-2012	REVISED EDGELINE OFFSET
	REVISED NOTES

PERMANENT PAVEMENT MARKINGS

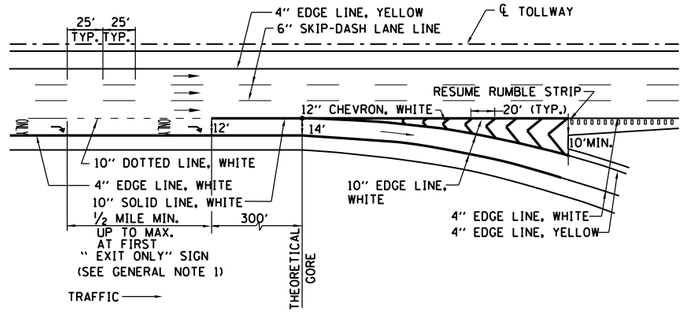
STANDARD D5-04



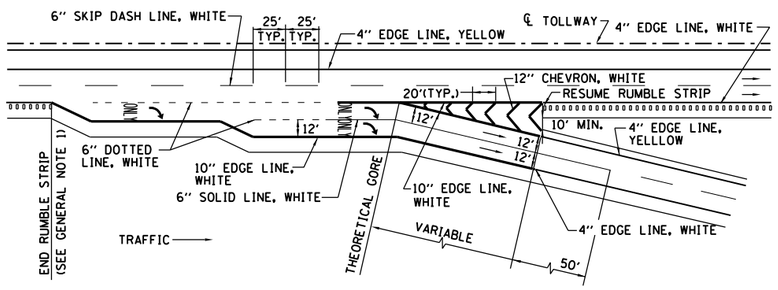
EXIT - SINGLE LANE RAMP
LANE THREE TERMINATION



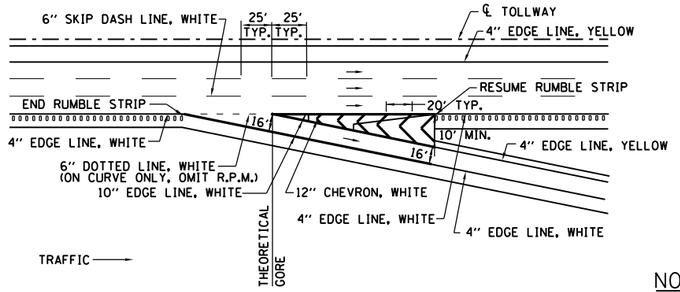
EXIT - SINGLE LANE RAMP - PARALLEL TYPE



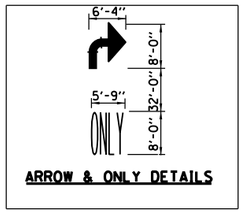
EXIT - SINGLE LANE RAMP - LANE DROP



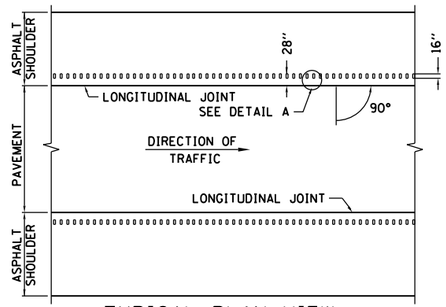
EXIT - TWO LANE PARALLEL RAMP



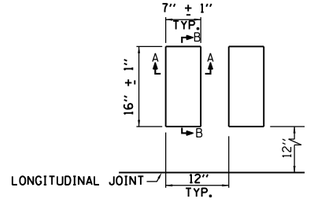
EXIT - SINGLE LANE RAMP - TAPER TYPE



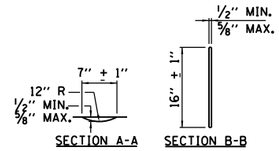
NOTE:
PAVEMENT MARKING LETTERS AND SYMBOLS-ONLY AND ARROW ARE TO BE TYPICALLY PLACED AT ½ MILE EXIT ONLY GUIDE SIGN, AT GORE EXIT GUIDE SIGN AND APPROXIMATELY HALFWAY BETWEEN THE TWO.



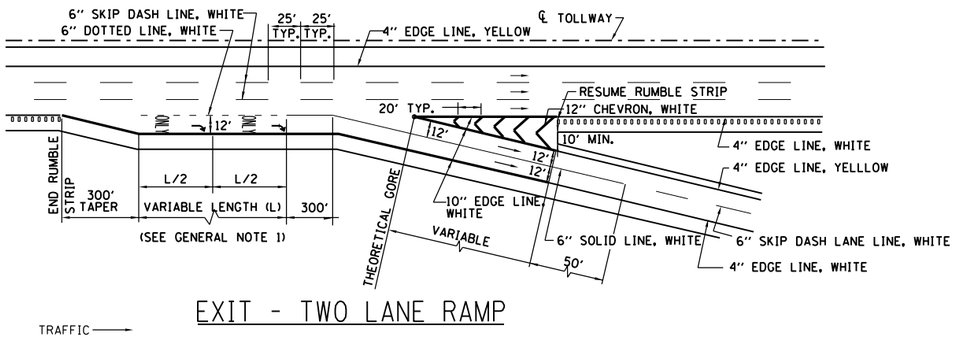
TYPICAL PLAN VIEW
MAINLINE



PLAN DETAIL A



SHOULDER RUMBLE STRIP
DETAILS



EXIT - TWO LANE RAMP

GENERAL NOTES:

1. RUMBLE STRIPS SHALL BE INSTALLED BETWEEN THE THEORETICAL GORE AND TAPER WHEN AUXILIARY LANES, ACCELERATION LANES AND DECELERATION LANES, LENGTHS ARE GREATER THAN 1000'.
2. ROADWAY MARKING MATERIALS TO BE USED ON FINISHED CONCRETE SURFACE AND ASPHALT SURFACE SHALL BE AS SHOWN ON THE PLANS.
3. ALL LANE LINES AND EDGE LINES SHALL BE GROOVED.
4. GORE STRIPING (CHEVRON) SHALL BE SURFACED APPLIED.
5. LETTERS AND SYMBOL MARKING SHALL BE SURFACED APPLIED.
6. DOTTED LINES SHALL CONSIST OF 3' LINE AND 9' GAPS.

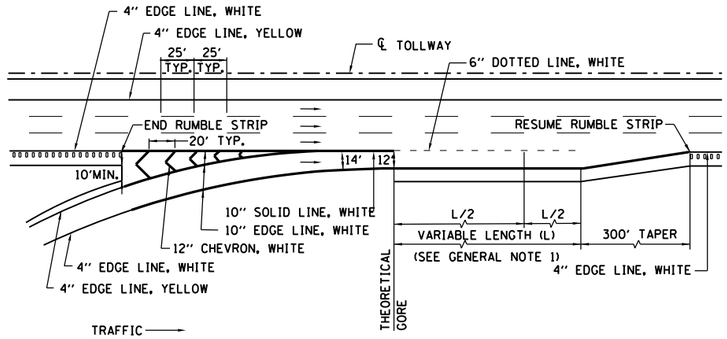
Paul Kovacs
APPROVED
CHIEF ENGINEER
DATE 7-1-2009

Illinois Tollway
Open Roads for a Faster Future

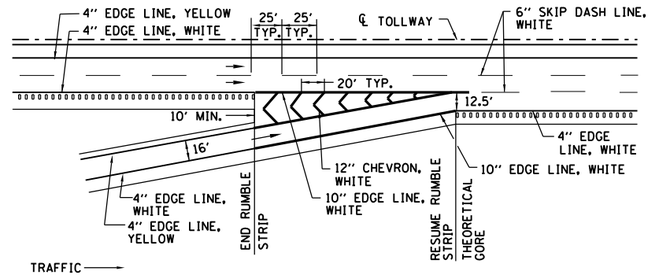
DATE	REVISIONS
7-1-2009	ADDED LINE GROOVING NOTES
11-1-2012	REVISED NOTES AND ADDED DOTTED LINE

PAVEMENT MARKING AND SHOULDER RUMBLE STRIP DETAILS

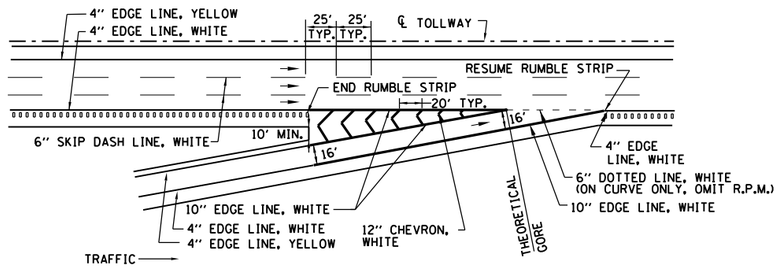
STANDARD D6-02



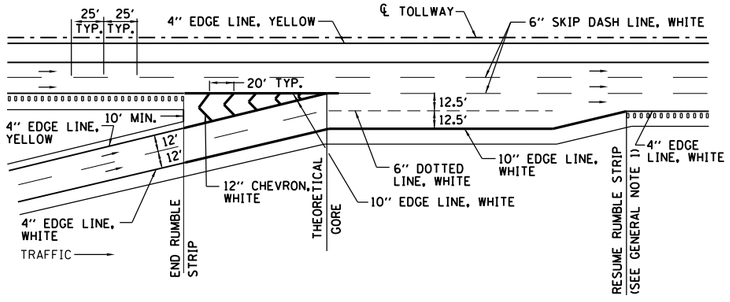
ENTRANCE - SINGLE LANE RAMP - PARALLEL TYPE



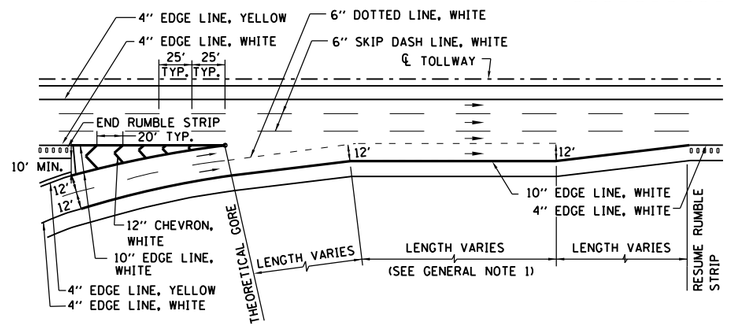
ENTRANCE - SINGLE LANE RAMP WITH BEGINNING OF LANE 3



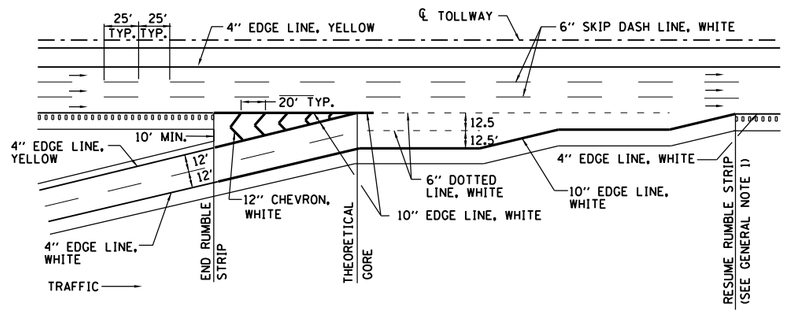
ENTRANCE - SINGLE LANE RAMP - TAPER TYPE



ENTRANCE - TWO LANE RAMP WITH BEGINNING OF LANE 3



ENTRANCE - TWO LANE RAMP



ENTRANCE - TWO LANE PARALLEL RAMP

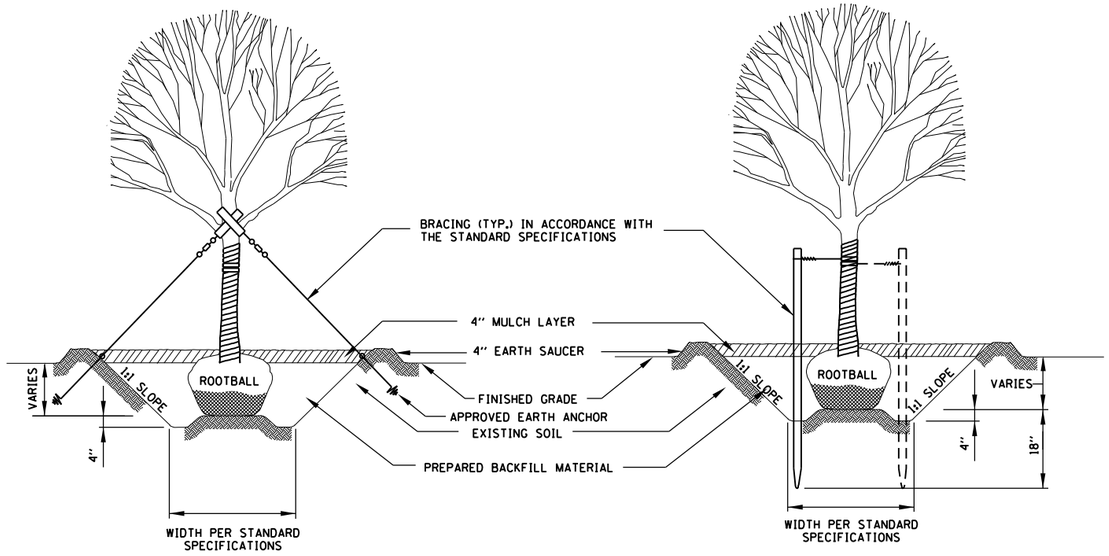
SEE SHEET 1 OF 2, IN THIS SERIES FOR GENERAL NOTES.

Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

PAVEMENT MARKIING AND SHOULDER RUMBLE STRIP DETAILS

STANDARD D6-02

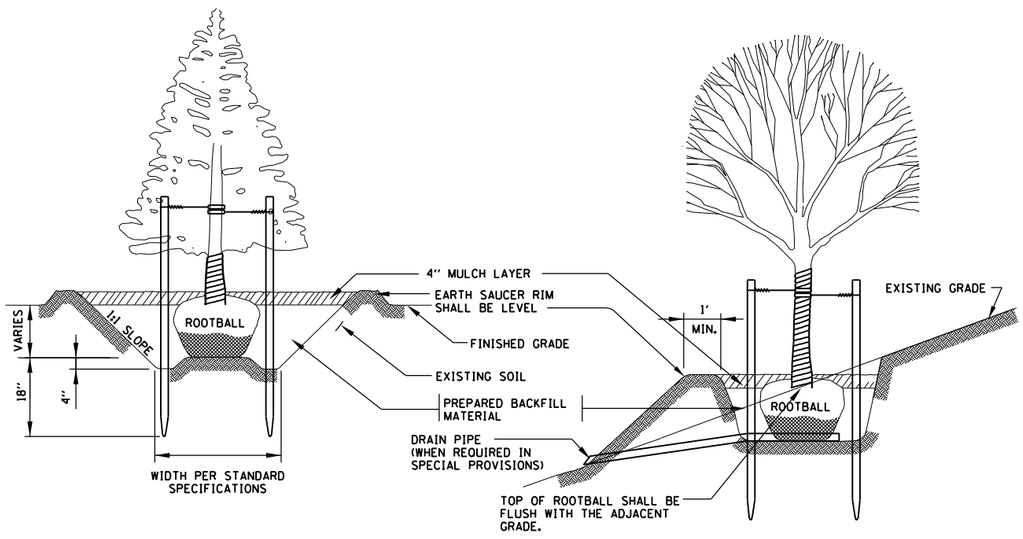


DECIDUOUS TREE PLANTING DETAIL
(4½" CALIPER AND LARGER)

DECIDUOUS TREE PLANTING DETAIL
GREATER THAN 4 FT HEIGHT AND LESS THAN 4½" CALIPER

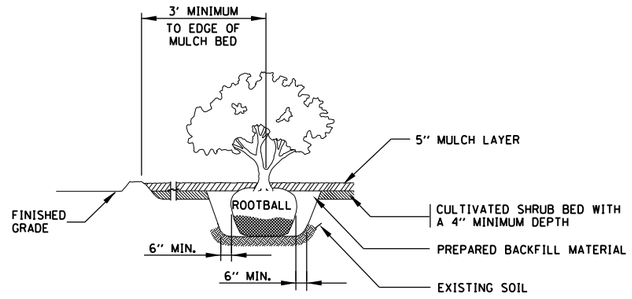
PLANTING NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UNDERGROUND UTILITIES, FIBER OPTICS, STORM SEWERS AND DRAINAGE STRUCTURES IN THE FIELD PRIOR TO THE EXCAVATION OF ANY PLANT PITS OR PLANTING BEDS. LOCATIONS OF TREE AND SHRUB PLANTINGS SHALL BE ADJUSTED TO AVOID DAMAGING ANY UNDERGROUND FEATURES.
2. THE PLANT LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATELY ONLY. THE EXACT LOCATIONS SHALL BE ADJUSTED AS REQUIRED IN THE FIELD BY THE ENGINEER. TREE LOCATIONS SHALL NOT BE MOVED CLOSER TO PAVEMENT EDGES THAN SHOWN ON THE PLANS OR A MINIMUM OF FIFTY (50) FEET.
3. TREES SHALL BE SPACED A MINIMUM OF FIVE (5) FEET FROM FENCES.
4. TREE AND SHRUB PLANTINGS SHALL NOT BLOCK ACCESS TO GATES IN FENCES.
5. TREES PLANTED IN TURF AREAS SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM THE EDGE OF A SHRUB BED.
6. TREES SHALL BE SPACED A MINIMUM OF TEN (10) FEET FROM NOISEWALLS OR OTHER STRUCTURES.
7. DITCHES SHALL BE KEPT CLEAR OF PLANTINGS. THE MINIMUM VERTICAL DISTANCE BETWEEN DITCH BOTTOMS AND PLANTS SHALL BE THREE (3) FEET.
8. IF DURING EXCAVATION, A PLANT HOLE OR PLANTING BED SHOWS POOR DRAINAGE, STANDING WATER OR AN IMPERVIOUS STRATUM OF SOIL, THE CONTRACTOR SHALL CEASE EXCAVATION AND SHALL NOTIFY THE ENGINEER. THE PLANT(S) SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER AND THE HOLE(S) OR BED SHALL BE FILLED IN AND RESTORED TO MATCH THE CONDITION AND VEGETATION OF THE ADJACENT AREA.
9. IMPROPERLY PRUNED PLANTINGS WILL BE REJECTED AND REPLACEMENTS WILL IMMEDIATELY BE MADE BY THE CONTRACTOR.
10. THE SIDES OF ALL PLANT PITS SHALL BE LOOSENED TO DISJOIN ANY GLAZING WHICH MAY OCCUR DURING THE DIGGING OPERATION.
11. TREE WRAPPING SHALL EXTEND TO THE LOWEST MAJOR BRANCH.
12. TOP OF ROOTBALL SHALL BE APPROXIMATELY 2 INCHES ABOVE ADJACENT FINISHED GRADE.
13. SHRUB PLANTINGS:
    - A. UNLESS NOTED OTHERWISE, ALL SHRUBS SHALL BE PLANTED IN MULCHED BEDS. THE EDGE OF THE MULCH BED SHALL EXTEND A MINIMUM OF THREE (3) FEET BEYOND THE CENTERS OF THE PERIPHERAL PLANTS IN THE BED.
    - B. THE EDGE OF A MULCH BED FOR SHRUB PLANTINGS ADJACENT TO A WALL, FENCE, GUARDRAIL OR OTHER FIXED OBJECT SHALL EXTEND TO THE OBJECT. THE PERIPHERAL PLANTS IN THE BED SHALL NOT BE PLANTED WITHIN FIVE (5) FEET OF THE OBJECT.
    - C. WHEN A TREE IS LOCATED IN A SHRUB BED, THE MINIMUM DISTANCE BETWEEN THE TREE AND THE ADJACENT SHRUBS SHALL BE SIX (6) FEET.
14. THE CONTRACTOR SHALL RESTORE ALL AREAS, OBJECTS AND VEGETATION DISTURBED BY THE LANDSCAPE OPERATIONS TO ORIGINAL CONDITIONS.
15. STAKES, GUYWIRES AND ALL TREE SUPPORTS SHALL BE REMOVED AFTER ONE YEAR OR AS DIRECTED BY THE LANDSCAPE ARCHITECT.
16. REMOVE ALL TWINE, ROPE, WIRE AND BURLAP FROM TOP HALF OF ROOTBALL. THE LOWER HALF OF BURLAP SHALL BE FOLDED TOWARD THE BOTTOM OF THE ROOTBALL.



EVERGREEN TREE PLANTING DETAIL

STEEP SLOPE PLANTING DETAIL



SHRUB PLANTING DETAIL

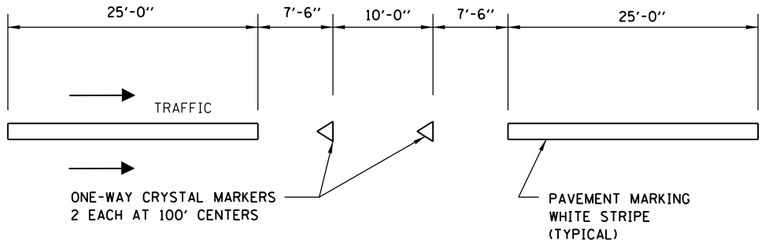
Paul Kovacs
APPROVED ..... DATE 2-7-2012
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

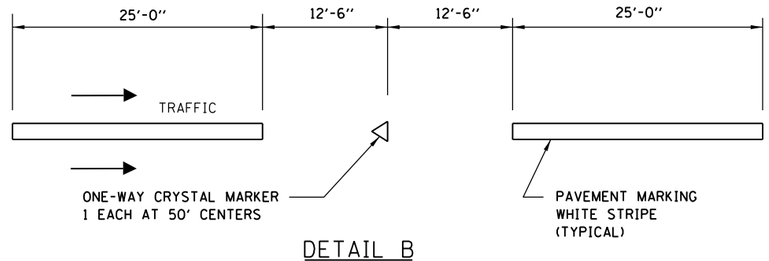
DATE	REVISIONS
2-7-2012	REVISED POST BRACING DETAIL.

LANDSCAPE PLANTING DETAILS

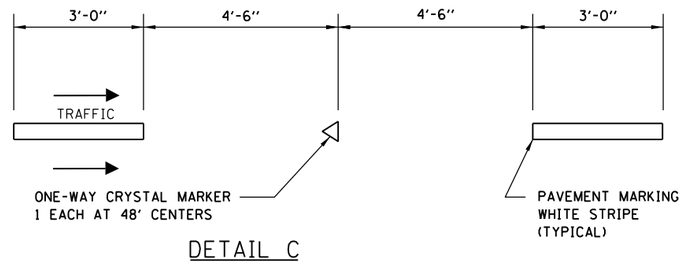
STANDARD D7-01



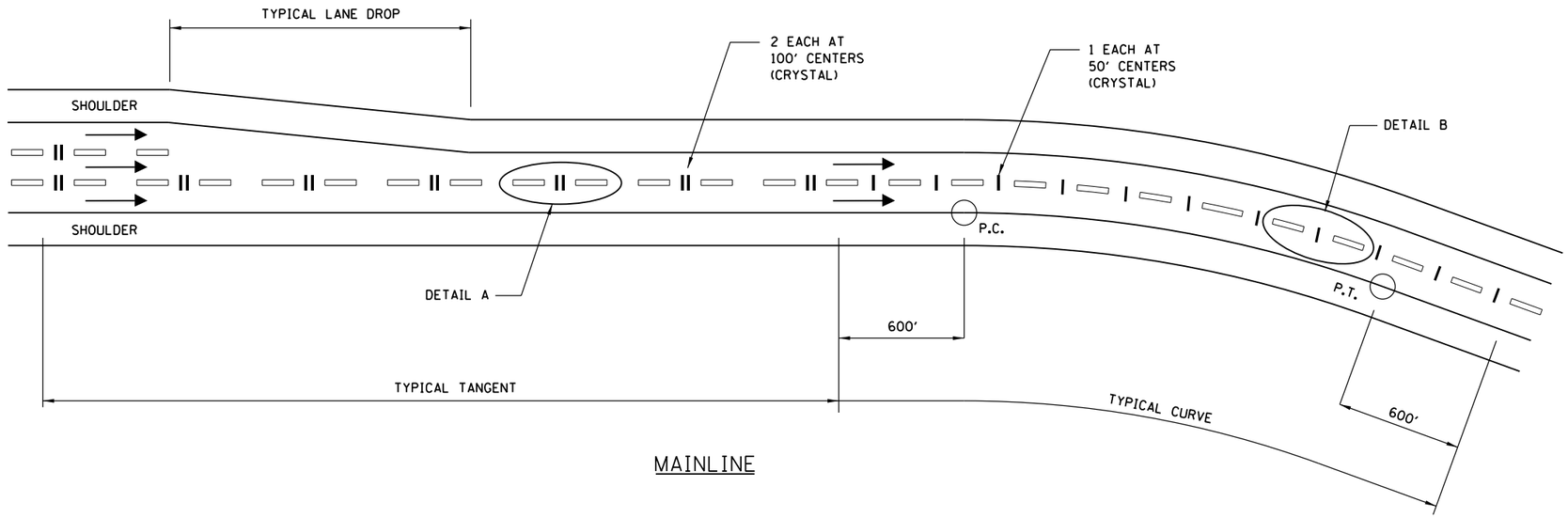
DETAIL A



DETAIL B



DETAIL C



MAINLINE

NOTES:

1. FOR COLLECTOR DISTRUBUTOR, PLACE ONE-WAY CRYSTAL MARKER, 2 EACH AT 100' CENTERS. USE DETAIL A.
2. FOR MULTI LANE DIRECTIONAL RAMPS, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 50' CENTERS. USE DETAIL B.
3. FOR AUXILIARY LANES, PLACE ONE-WAY CRYSTAL MARKER, 1 EACH AT 48' CENTERS. USE DETAIL C.

RAISED PAVEMENT LANE MARKER DETAILS

Paul Kovacs
APPROVED ..... DATE 7-1-2009
CHIEF ENGINEER

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS
11-1-2012	REVISED DETAIL C

RAISED PAVEMENT LANE MARKER

STANDARD D8-01