

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LOR-58-16.51
LOR-113-6.48
AMHERST TOWNSHIP
NEW RUSSIA TOWNSHIP
LORAIN COUNTY

PROJECT DESCRIPTION

THIS PROJECT IS 5.43 MILES LONG AND WILL INCLUDE PAVEMENT REPAIRS, RESURFACING WITH ASPHALT CONCRETE, GUARDRAIL RECONSTRUCTION, ADJUSTMENT OF CASTINGS WHERE NECESSARY, PLACEMENT OF PAVEMENT MARKINGS, AND STRUCTURE MAINTENANCE.

EARTH DISTURBED AREAS

EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE PROJECT)

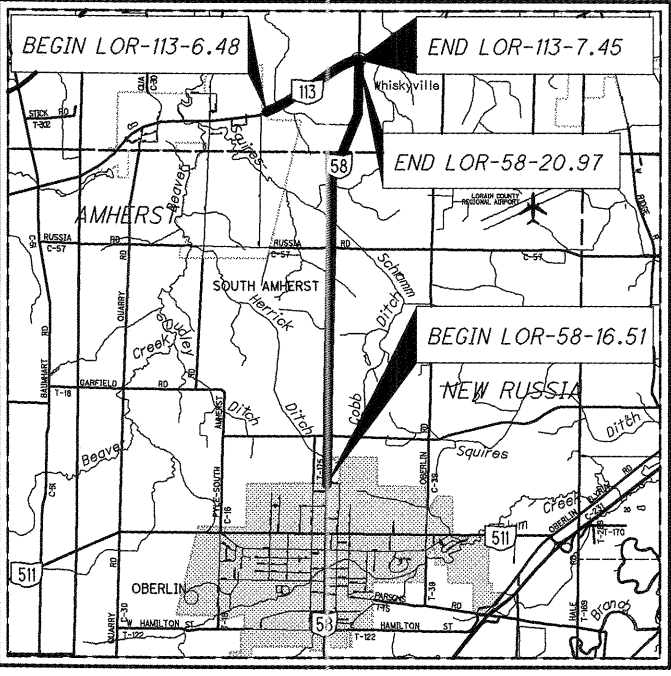
2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

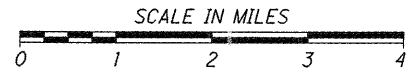
APPROVED Alex C. Buil
DATE 10-9-13 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: N41°20'27" LONGITUDE: W82°12'58"



PORTION TO BE IMPROVED

INTERSTATE HIGHWAY	—————
FEDERAL ROUTES	—————
STATE ROUTES	—————
COUNTY & TOWNSHIP ROADS	—————
OTHER ROADS	—————

DESIGN DESIGNATION

SEE SHEET NO. 2

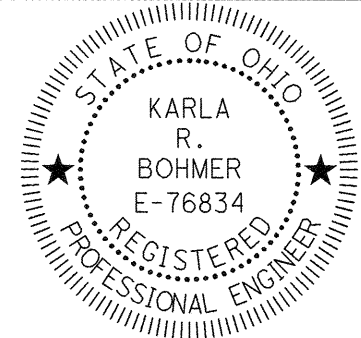
DESIGN EXCEPTIONS

NONE

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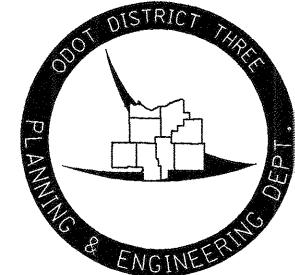
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ENGINEER'S SEAL:



SIGNED: Karla R. Bohmer
DATE: 10/9/13

PLANS PREPARED BY:



DESIGN FILE: \\projects\86730\roadway\sheets\86730GTO01.dgn
MODELNAME: Sheet
WORKSTATION: salay
DATE: 10/9/2013

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	4/20/12	MT-95.60	7/19/13	TC-41.20	1/19/01	S800 10/18/13
BP-4.1	7/19/13	MT-95.61	7/19/13	TC-42.20	1/21/11	S830 4/20/12
		MT-96.11	7/19/13	TC-52.10	1/18/13	S832 5/5/09
		MT-96.20	7/19/13	TC-52.20	1/18/13	S848 12/31/12
		MT-96.26	7/19/13	TC-61.30	4/20/12	
DM-4.3	1/18/13	MT-97.10	7/19/13	TC-65.10	4/20/12	
DM-4.4	7/20/12	MT-97.12	7/19/13	TC-65.11	4/20/12	
		MT-99.20	7/19/13	TC-71.10	10/19/12	
RM-1.1	1/18/13	MT-101.90	7/19/13	TC-73.10	4/20/12	
		MT-105.10	7/19/13	TC-82.10	1/18/13	
TST-1-99	4/18/08					

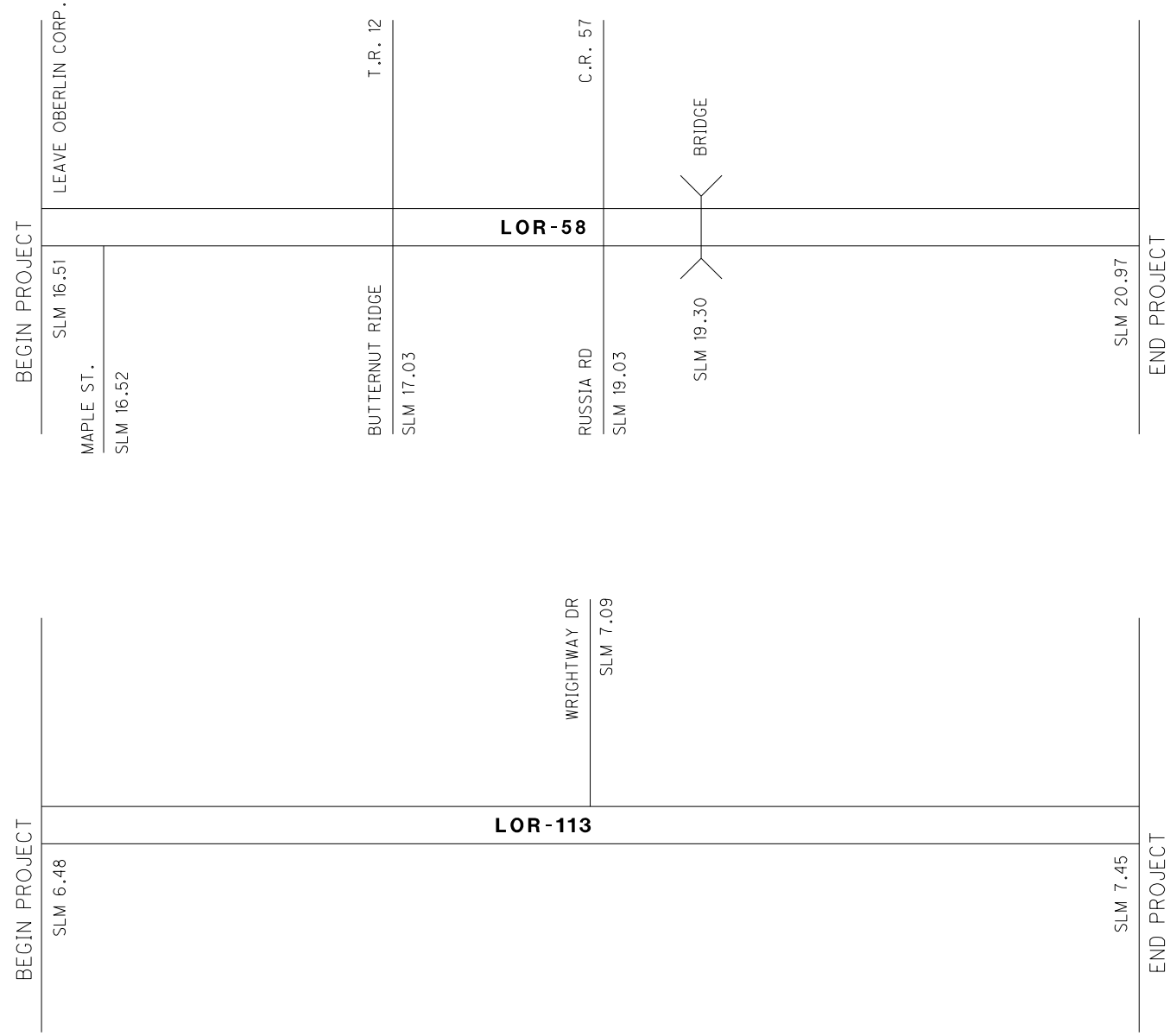
UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL **1-800-362-2764**
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS UNDERGROUND
PROTECTION SERVICE CALL: **1-800-925-0988**

FEDERAL PROJECT NO. **E090925**
PID NO. **86730**
CONSTRUCTION PROJECT NO. _____
RAILROAD INVOLVEMENT **NONE**
LOR-58-16.51
LOR-113-6.48
1/34



DESIGN DESIGNATION

LOR-58-16.51-19.03
 CURRENT ADT (2014): 7,000
 DESIGN YEAR ADT (2026): 7,000
 DESIGN HOURLY VOLUME (2026): 630
 DIRECTIONAL DISTRIBUTION: 53%
 TRUCKS (24 HOUR B&C): 4%
 DESIGN/LEGAL SPEED:
 SLM 16.51-16.61 (35 MPH)
 SLM 16.61-17.41 (50 MPH)
 SLM 17.41-19.03 (55 MPH)
 DESIGN FUNCTIONAL CLASSIFICATION:
 RURAL PRINCIPAL ARTERIAL
 NHS PROJECT: YES

LOR-58-19.03-20.97
 CURRENT ADT (2014): 9,600
 DESIGN YEAR ADT (2026): 10,000
 DESIGN HOURLY VOLUME (2026): 900
 DIRECTIONAL DISTRIBUTION: 53%
 TRUCKS (24 HOUR B&C): 4%
 DESIGN/LEGAL SPEED:
 SLM 19.03-20.97 (55 MPH)
 DESIGN FUNCTIONAL CLASSIFICATION:
 RURAL PRINCIPAL ARTERIAL
 NHS PROJECT: YES

LOR-113-6.31-7.48
 CURRENT ADT (2014): 4,700
 DESIGN YEAR ADT (2026): 5,100
 DESIGN HOURLY VOLUME (2026): 510
 DIRECTIONAL DISTRIBUTION: 53%
 TRUCKS (24 HOUR B&C): 5%
 DESIGN/LEGAL SPEED:
 SLM 6.31-6.46 (35 MPH)
 SLM 6.46-7.48 (45 MPH)
 DESIGN FUNCTIONAL CLASSIFICATION:
 RURAL MINOR ARTERIAL
 NHS PROJECT: NO

GENERAL

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

TELEPHONE
AT&T OF OHIO
13630 LORAIN AVENUE, ROOM 350
CLEVELAND, OHIO 44111-3436
216-476-6141

ELECTRIC
OHIO EDISON COMPANY
2508 WEST PERKINS AVE.
SANDUSKY, OHIO 44870
419-627-6881

TELEPHONE
CENTURYLINK
1730 WEST 19TH STREET
LORAIN, OHIO 44052
440-244-8226

WATER
RURAL LORAIN COUNTY WATER AUTHORITY
42401 S.R. 303, P.O. BOX 567
LAGRANGE, OHIO 44050
440-355-6060

TELEPHONE
FRONTIER COMMUNICATIONS
83 TOWNSEND AVENUE
NORWALK, OHIO 44857
419-744-3613

COUNTY
LORAIN COUNTY ENGINEER
247 HADAWAY STREET
ELYRIA, OHIO 44035
440-329-5586

FIBER OPTIC
ONE COMMUNITY
800 W. SAINT CLAIR 2ND FLOOR
CLEVELAND, OHIO, 44113
216-923-2200

CITY
OBERLIN
85 SOUTH MAIN STREET
OBERLIN, OHIO 44074
440-775-7206

GAS
COLUMBIA GAS OF OHIO
3101 NORTH RIDGE ROAD E
LORAIN, OHIO 44055
440.240.6107

STATE
ODOT DISTRICT 3 TRAFFIC
906 CLARK AVENUE
ASHLAND, OHIO 44805
419-207-7045

CABLE
TIME WARNER CABLE
8385 BAVARIA RD.
MACEDONIA, OHIO 44056
330-963-3620

ELECTRIC
LORAIN-MEDINA RURAL ELECTRIC
P.O. BOX 158
WELLINGTON, OHIO 44090
800-222-5673

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4305 OR EMAIL AT D03.PIO@DOT.STATE.OH.US

DISTRICT PERMIT SECTION BY FAX AT (419) 281-5925 OR EMAIL AT ERNIE.ROGGE@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

DESIGNER NOTE: THIS NOTE SHOULD BE USED IF THERE WILL BE ANY LANE CLOSURES, RESTRICTIONS OR REDUCTION IN LANE WIDTHS.

ROADWAY

ITEM 209 - LINEAR GRADING

THE CONTRACTOR IS REQUIRED TO PERFORM LINEAR GRADING ON THE GRADED SHOULDER. IT IS ANTICIPATED THAT THERE ARE AREAS WHERE THE GRADED SHOULDER IS AT A HIGHER ELEVATION THAN THE ADJACENT PROPOSED PAVEMENT. A 10:1 SLOPE SHALL BE ESTABLISHED, OR AS DIRECTED BY THE ENGINEER, WHEN PERFORMING ITEM 209 LINEAR GRADING. THE INTENT IS TO PROVIDE AN UNOBSTRUCTED AND POSITIVE FLOW OF STORM WATER FROM THE PAVEMENT TO THE DITCH. THE LINEAR GRADING SHALL BE PERFORMED AFTER THE INTERMEDIATE COURSE HAS BEEN COMPLETED AND BEFORE THE SURFACE COURSE IS PLACED. ALL LABOR AND EQUIPMENT NECESSARY TO PERFORM THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER MILE FOR ITEM 209 - LINEAR GRADING.

ITEM 209 - PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05 OR AS DIRECTED BY THE ENGINEER. THE GRADED SHOULDER BEYOND THE 10 INCH WIDE AREA FOR THE SAFETY EDGE SHALL BE GRADED AT A 10:1 SLOPE.

SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE EXISTING SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETSLOPE OR A SIMILAR APPROVED-EQUAL DEVICE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION DEVICES IS THE FOLLOWING:

TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
www.transtechsys.com

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
www.advantedgepaving.com

CARLSON SAFETY EDGE END GATE
18450 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONICS LABORATORIES INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
www.troxlerlabs.com

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE

THE MONUMENT BOX TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING ADJUSTABLE FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING MONUMENT BOX TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT ADJUSTABLE FRAMES.

DRAINAGE

ITEM 611 - CASTINGS ADJUSTED TO GRADE

THE CASTING TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING TO THE SATISFACTION OF THE ENGINEER. IT IS NOT INTENDED TO PLACE NEW FRAMES WHERE NONE CURRENTLY EXIST. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT FRAMES.

APPROXIMATE LOCATIONS OF KNOWN CASTINGS

MANHOLE:

ROUTE:	SLM:
SR-58	16.51

TOTAL = 1 EACH
(03/NHS/PV)

MONUMENTS:

BURIED	
ROUTE:	SLM:
SR-58	18.88
SR-58	19.19

TOTAL = 2 EACH
(03/NHS/PV)

MONUMENTS:

ROUTE:	SLM:
SR-113	6.72
SR-113	6.91
SR-113	7.18
SR-113	7.30

TOTAL = 4 EACH
(01/S<2/PV)

BURIED	
ROUTE:	SLM:
SR-113	6.56
SR-113	6.69
SR-113	6.74
SR-113	6.85
SR-113	7.06

TOTAL = EACH
(01/S<2/PV)

CATCH BASINS (FOR INFORMATIONAL PURPOSES ONLY):

ROUTE:	SLM:	OFFSET:
SR-113	6.57	L/R
SR-113	6.64	R
SR-113	6.65	L
SR-113	6.66	R
SR-113	6.67	L
SR-113	6.68	R
SR-113	6.69	L/R
SR-113	6.70	L/R
SR-113	6.71	L
SR-113	6.72	L/R
SR-113	6.74	L/R
SR-113	6.76	L/R
SR-113	6.78	L/R
SR-113	6.86	L/R
SR-113	6.87	L/R
SR-113	6.88	L
SR-113	6.91	R
SR-113	6.93	L
SR-113	6.96	L/R
SR-113	7.02	L
SR-113	7.03	R
SR-113	7.04	L

ROUTE:	SLM:	OFFSET:
SR-113	7.05	R
SR-113	7.07	L/R
SR-113	7.09	R
SR-113	7.10	L
SR-113	7.12	L/R
SR-113	7.14	L/R
SR-113	7.16	L
SR-113	7.17	R
SR-113	7.18	L/R
SR-113	7.20	L
SR-113	7.21	R
SR-113	7.22	L/R
SR-113	7.25	R
SR-113	7.29	R
SR-113	7.31	R
SR-113	7.32	L
SR-113	7.35	R
SR-113	7.37	R
SR-113	7.39	R
SR-113	7.41	R
SR-113	7.44	R

PAVEMENT

ITEM 254 - PATCHING PLANED SURFACE

AN ESTIMATED QUANTITY OF ITEM 254 - PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN CMS 254.04. THE LIMIT OF THE PATCHING DEPTH IS 0 TO 2 IN.

ITEM 407 - TACK COAT

ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE

AS PER 407.06 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ. YD. PRIOR TO THE INTERMEDIATE COURSE AND SHALL BE 0.04 GAL PER SQ. YD. PRIOR TO THE SURFACE COURSE FOR ESTIMATING PURPOSES ONLY. THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT SURFACE COVERAGE SHALL BE REQUIRED. AREAS OF TACK STRIPPED BY CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE RE-COATED PRIOR TO PLACING ASPHALT CONCRETE. ALL COSTS AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407 - TACK COAT AND ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE.

DESIGN FILE: \\projects\86730\roadway\sheets\86730GN001.dgn
MODELNAME: Design
WORKSTATION: salay
DATE: 10/11/2013

CALCULATED
MKP
CHECKED
KRB

GENERAL NOTES

LOR-58-16-51
LOR-113-6-48

PAVEMENT

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR ITEM 253 - PAVEMENT REPAIR

THESE ITEMS OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE. CORING HAS BEEN PERFORMED TO HELP DETERMINE THE COMPONENTS THAT MAY BE ENCOUNTERED DURING THIS ITEM OF WORK. THE PAVEMENT CORING INFORMATION IS SHOWN ON THIS SHEET.

PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 10", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 3" AND AN AVERAGE WIDTH OF 4 FT FOR ESTIMATING PURPOSES.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 OR ITEM 442 19MM CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". THE CONTRACTOR HAS THE OPTION OF USING EITHER ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL WHEN THE PAVEMENT REPAIR IS BETWEEN 3" AND 5" DEEP. ITEM 448 TYPE 2 OR ITEM 442 19MM MATERIAL SHALL BE PG64-22 FOR MEDIUM MIX DESIGN PAVEMENTS AND PG64-28 FOR HEAVY MIX DESIGN PAVEMENTS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR
SR 58
(03/NHS/PV) 574 CU. YD.
SR 113
(01/S<2/PV) 170 CU. YD.

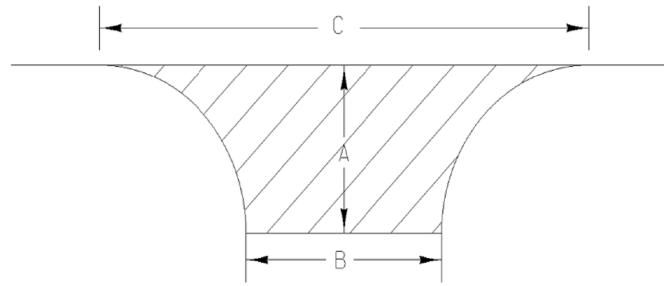
SR 58/113 ITEM 253 - PAVEMENT REPAIR
SR 58
(03/NHS/PV) 30 CU. YD.
SR 113
(01/S<2/PV) 10 CU. YD.

SUMMARY FOR ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

NORTHBOUND				
SR-58	SLM	16.51-17	44	CU. YD.
SR-58	SLM	17-18	74	CU. YD.
SR-58	SLM	18-19	83	CU. YD.
SR-58	SLM	19-20	75	CU. YD.
SR-58	SLM	20-20.97	82	CU. YD.
SOUTHBOUND				
SR-58	SLM	16.51-17	39	CU. YD.
SR-58	SLM	17-18	39	CU. YD.
SR-58	SLM	18-19	39	CU. YD.
SR-58	SLM	19-20	53	CU. YD.
SR-58	SLM	20-20.97	46	CU. YD.
EASTBOUND				
SR-113	SLM	6.48-7	41	CU. YD.
SR-113	SLM	7-7.45	41	CU. YD.
WESTBOUND				
SR-113	SLM	6.48-7	44	CU. YD.
SR-113	SLM	7-7.45	44	CU. YD.
TOTAL =		744		CU. YD.

PAVEMENT

INTERSECTIONS AREA CALCULATIONS



Intersection Name	A (ft.)	B (ft.)	C (ft.)	Area (sy)
MAPLE ST	36	24	79	169
BUTTERNUT RIDGE RD (LT)	25	38	92	156
BUTTERNUT RIDGE RD (RT)	23	42	94	152
RUSSIA RD (LT)	46	30	91	257
RUSSIA RD (RT)	39	35	85	224
Total Intersection Areas				958

CORING DATA:

SR 58-16.51 TO 20.97			
LOR	ROUTE	58	SECTION
SLM	POSITION ON ROAD	SURFACE TYPE	DEPTH
16.538	LWP	ASPH	13.5
	RWP	ASPH	14
	SH	ASPH	9
17.547	LWP	ASPH	12
	RWP	ASPH	11
	SH	ASPH	7.5
18.734	LWP	ASPH	10
	RWP	ASPH	16
	SH	ASPH	11
20.1	LWP	ASPH	11
	RWP	ASPH	10
	SH	ASPH	9

SR 113-6.31 TO 7.48			
LOR	ROUTE	113	SECTION
SLM	POSITION ON ROAD	SURFACE TYPE	DEPTH
6.592	LWP	ASPH	12
	RWP	ASPH	14
	SH	ASPH	7.5

PAVEMENT

INTERSECTIONS AND DRIVES

RURAL-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

URBAN-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

EXISTING PAVED DRIVES SHALL BE PAVED SO AS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE HIGHWAY AND THE DRIVE, (DISTANCE FROM EDGE OF ROADWAY MAY VARY AT EACH DRIVE) AS DIRECTED BY THE ENGINEER.

EXISTING AGGREGATE DRIVES SHALL BE PAVED WITH AN APRON AN AVERAGE WIDTH OF 4 FT. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ANY GRADING NEEDED TO PAVE THE APRON SHALL BE INCLUDED IN THE RELATED ASPHALT ITEM FOR PAYMENT. ITEM 617 COMPACTED AGGREGATE SHALL BE PLACED ADJACENT TO THIS APRON TO PROVIDE A SMOOTH TRANSITION FROM THE APRON TO THE EXISTING DRIVE, (WIDTH OF THIS 617 APPLICATION MAY VARY) AS DIRECTED BY THE ENGINEER. AN ADDITIONAL QUANTITY OF ITEM 617 HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN AS AN EXTRA AREA ON THE PAVEMENT & SHOULDER DATA SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY. THE CONTRACTOR IS REMINDED OF SECTIONS 105.01, 107.07 & 614.02A OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

THE PAVING DIMENSIONS FOR THE INTERSECTIONS ARE SHOWN IN THE CHART ON THIS SHEET.

PAVING AT ABANDONED RAILROAD CROSSING

THERE IS AN ABANDONED RAILROAD CROSSING AT SR 113, SLM 6.87. BUTT JOINT AND SUSPEND AND RESUME RESURFACING AT THE EDGE OF THE EXISTING RAILS ON BOTH SIDES OF THE TRACK.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERCTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
USE A PG 64-22 BINDER.

MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5MM, TYPE A (448), AS PER PLAN

THIS ITEM SHALL BE USED FOR CORRECTION OF CROWN, PROFILE AND ANY OTHER IRREGULARITIES.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERCTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
MIX DESIGN: FOR Ndes USE 50 GYRATIONS, FOR Nmax USE 75 GYRATIONS.
MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
USE A PG 64-22 BINDER.

MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
QUALITY CONTROL: DO NOT PERFORM Nmax IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

PAVEMENT

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE

THE INTENT OF THE PLANING IS TO MILL THE SPECIFIED DEPTH AT THE CENTER OF PAVEMENT AT NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (CURBED SECTION)

THE INTENT OF THE PLANING IS TO MILL THE SPECIFIED DEPTH ALONG THE CURB CONTINGENT ON THE FOLLOWING: THE MAXIMUM CROSS SLOPE SHALL BE 0.02 WHILE THE MINIMUM CROSS SLOPE SHALL BE 0.01. THE PREFERRED CROSS SLOPE IS 0.016. THE CROWN OF THE PAVEMENT SHALL BE LOCATED BETWEEN THE TRAVELED LANES, OR AS DIRECTED BY THE ENGINEER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CURB, TO PRODUCE A CROSS SLOPE IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE TO ALL CATCH BASINS AND INLETS.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1000.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

MAINTENANCE OF TRAFFIC

COORDINATION OF WORK BETWEEN CONTRACTORS

THE CONTRACTOR SHOULD BE AWARE THAT THERE MAY BE OTHER WORK BEING PERFORMED BY A SEPARATE CONTRACT. LOR-58-21.44 (PID 92266) IS A CULVERT REPLACEMENT PROJECT AT LOR-58 SLM 21.44 AND IS SCHEDULED TO BEGIN WORK IN THE 2014 CONSTRUCTION SEASON. COORDINATION OF WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.

446 DENSITY ACCEPTANCE WITH FLAGGER CLOSING OF A 2-LANE HIGHWAY FOR PAVING OPERATIONS

THIS PLAN NOTE APPLIES ONLY TO A FLAGGER CLOSURE OF ONE LANE OF A 2-LANE HIGHWAY DURING PAVING OPERATIONS WHEN USING STANDARD CONSTRUCTION DRAWING MT-97.12, AND ALLOWS A PAVING OPERATION TO PROCEED CONCURRENTLY WITH THE MARKING AND CUTTING OF CORES REQUIRED FOR 446 DENSITY ACCEPTANCE.

IN ALL CASES THE CONTRACTOR SHOULD LENGTHEN THEIR LANE CLOSURES TO THE MAXIMUM PERMISSIBLE LENGTH DETAILED IN THE ABOVE REFERENCED STANDARD CONSTRUCTION DRAWINGS TO ALLOW THE ENGINEER ADEQUATE TIME TO MARK THE REQUIRED CORE LOCATIONS AND FOR CORE CUTTING OPERATIONS.

THE CONTRACTOR WILL PROVIDE TO THE ENGINEER THE PLANNED QUANTITY THAT WILL BE PLACED FOR THE DAY'S PRODUCTION. EACH DAY'S PRODUCTION WILL BE CONSIDERED ONE LOT AND INCLUDES SHOULDERS. TEN CORES WILL BE OBTAINED BY THE CONTRACTOR FOR EACH LOT AT RANDOM LOCATIONS DETERMINED BY THE ENGINEER. THE ENGINEER WILL DIVIDE A LOT INTO FIVE EQUAL SUBLOTS AND CALCULATE TWO RANDOM CORE LOCATIONS IN EACH SUBLLOT AS DESCRIBED IN C&MS 446.05.

THE ENGINEER WILL MARK THE CORE LOCATIONS AFTER THE PAVING OPERATION (INCLUDING THE FINISH ROLLER) HAS COMPLETELY PASSED THE RANDOMLY SELECTED CORE LOCATION. THE CONTRACTOR SHOULD DETERMINE WHEN IT IS APPROPRIATE TO START THE CORE DRILL OPERATION AND BEGIN CUTTING CORES WHEN THE NEWLY PLACED PAVEMENT SURFACE TEMPERATURE IS LESS THAN 140°F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LANE CLOSURE DURING ALL PAVING, CORE MARKING, AND CORING OPERATIONS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWING USED FOR THE PAVING OPERATION.

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

CONSTRUCTION "BUMP" (W8-1-36) AND "ADVISORY SPEED" (W13-1-24) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THE BUTT JOINT IS LEFT OPEN. THESE SIGNS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM FOR ITEM 614 MAINTAINING TRAFFIC.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF. THIS QUANTITY SHALL ALSO BE USED AT PLANED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS. BEFORE RESURFACING OF THE PAVEMENT, THE TEMPORARY WEDGE SHALL BE REMOVED AND THE COST SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
(03/NHS/PV) 40 CU YD
(01/S<2/PV) 10 CU YD

MAINTENANCE OF TRAFFIC

ITEM 614 - WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 8 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 9 EACH
WORK ZONE MARKING SIGN: (R4-2-24) PASS WITH CARE = 10 EACH

SR 58 TOTAL (03/NHS/PV) = 27 EACH

WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 4 EACH
WORK ZONE MARKING SIGN: (R4-1-24) DO NOT PASS = 2 EACH

SR 113 TOTAL (01/S<2/PV) = 6 EACH

CALCULATED
MKP
CHECKED
KRB

GENERAL & MAINTENANCE OF TRAFFIC NOTES

LOR-58-16.51
LOR-113-6.48

ITEM SPECIAL, MAILBOX SUPPORT SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING NON-STANDARD MAILBOX SUPPORTS AND FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED HARDWARE IN ACCORDANCE WITH THE DETAILS SHOWN, AND ATTACHING AN OWNER SUPPLIED MAILBOX, AT LOCATIONS DETERMINED BY THE ENGINEER.

IN ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE BOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SINGLE POST. [HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL.]

WOOD POSTS SHALL BE NOMINAL 4 IN. x 4 IN. (S4S) OR 4 1/2 IN. DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 IN. I.D., AND CONFORM TO AASHTO M 181.

POSTS SHALL BE SET AS PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 3 FT. CENTERS AND THE TURNOUT LENGTHENED TO ACCOMMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORTS MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
S.R. 58 (03/NHS/PV) 11 EACH

MAILBOX APPROACHES

THE MAILBOX APPROACHES SHALL BE PAVED WITH 1.5" ITEM 442 SURFACE COURSE. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP-4.1 OR AS DIRECTED BY THE ENGINEER.

GRADING SHALL BE PERFORMED IN THESE AREAS TO OBTAIN A BASE WHICH WILL ALLOW THE FINISHED GRADE TO BE FLUSH WITH ADJACENT PAVEMENT. A QUANTITY OF ITEM 617 COMPACTED AGGREGATE HAS BEEN PROVIDED FOR AREAS WHERE THE SHOULDER IS LOW PRIOR TO GRADING AND/OR LOW AREAS CAUSED BY THE REMOVAL OF UNSUITABLE MATERIAL. QUANTITIES TO PERFORM THIS WORK HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE ESTIMATED AS FOLLOWS.

SR 58:

ITEM 209 - GRADING MAILBOX APPROACHES:
(03/NHS/PV) 10 EACH

ITEM 617 - COMPACTED AGGREGATE
(03/NHS/PV) 20 CU YD

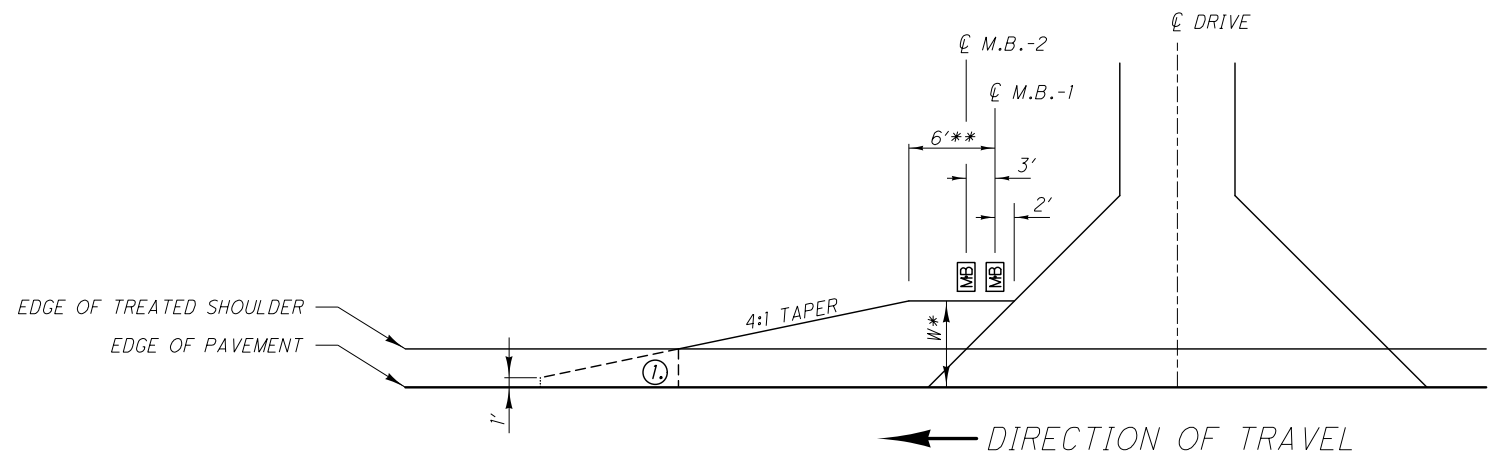
LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED

ADDRESSES AND/OR LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED:

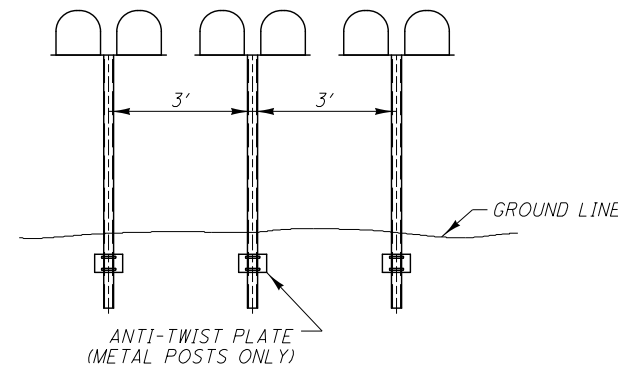
SR-58:
RIGHT SIDE-
9261 (SLM 20.30) (03/NHS/PV)

SR-58
LEFT SIDE-
8814 (SLM 20.84) (03/NHS/PV)
11108 (SLM 18.36) (03/NHS/PV)
11255 (SLM 18.19) (03/NHS/PV)
11344 (SLM 18.10) (03/NHS/PV)
11509 (SLM 17.91) (03/NHS/PV)
(SLM 17.68) (03/NHS/PV)
11940 (SLM 17.47) (03/NHS/PV)
12386 (SLM 18.86) (03/NHS/PV)
540 (SLM 16.85) (03/NHS/PV)
(SLM 16.83) (03/NHS/PV)

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1



① END MAILBOX TURNOUT AT EDGE OF ASPHALT CONCRETE SHOULDER OR 1' FROM EDGE OF PAVEMENT IF TREATED SHOULDER IS AGGREGATE.



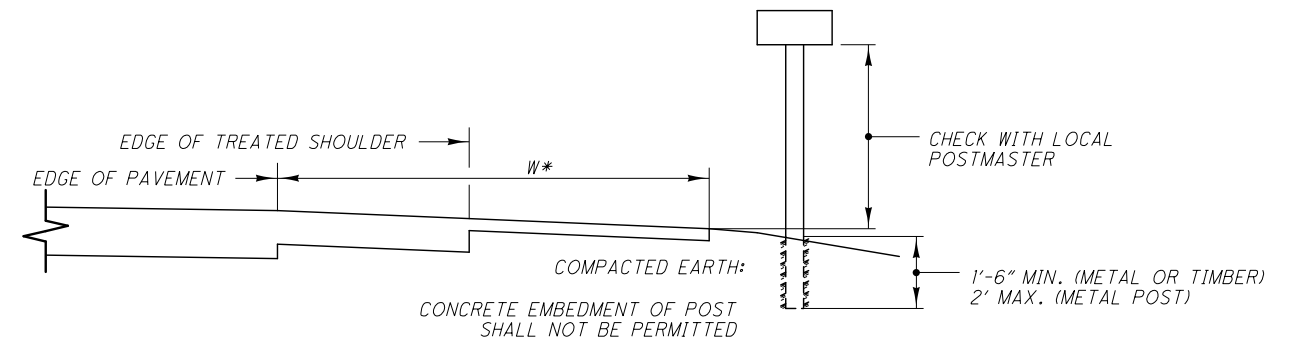
GROUP MAILBOX INSTALLATION

W* NOTES

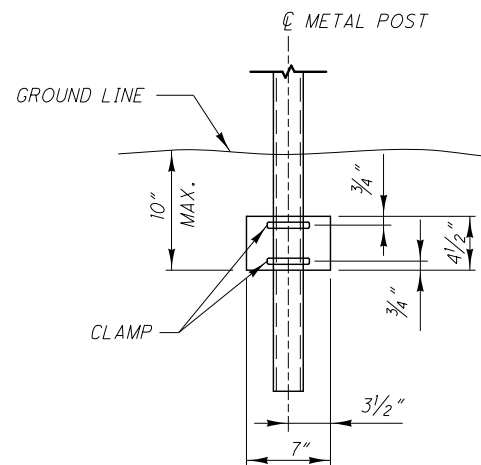
- 1) WHERE EXISTING STANDARD MAILBOX POSTS ARE BEHIND GUARDRAIL AND ARE TO REMAIN IN PLACE, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL.
- 2) WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT MAXIMUM OR TO FACE OF EXISTING STANDARD MAILBOX IF IT IS LESS THAN 6 FT.
- 3) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL AND MAILBOX SHALL BE INSTALLED BEHIND THE GUARDRAIL.
- 4) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MAXIMUM.

**** NOTE**

- 1) 6 FT FOR ONE MAILBOX SUPPORT, ADD 3 FT. FOR EACH ADDITIONAL MAILBOX SUPPORT.



CROSS SECTION / ELEVATION VIEW



ANTI-TWIST PLATE

DESIGN FILE: \\projects\86730\roadway\sheets\86730GM001.dgn
MODELNAME: Design
WORKSTATION: salay
DATE: 10/11/2013

CALCULATED
MKP
CHECKED
KRB

MAILBOX FACILITIES

**LOR-58-16.51
LOR-113-6.48**

DESIGN FILE: \\D03FS005\I-Drive\projects\86730\roadway\sheets\86730GG001.dgn
 W060655010\GN\ppa\ex\projects\86730\roadway\sheets\86730GG001.dgn NAME: Design

SHEET NUMBER							PARTICIPATION			ALT.	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED MKP	CHECKED KRB
3	4	6	9	13	20	21	01/S<2/PV	02/S<2/BR	03/NHS/PV	(X)								
														ROADWAY				
				125					125		202	38000	125	FT	GUARDRAIL REMOVED			
				4					4		202	47000	4	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED			
				1.25					1.25		209	15000	1.25	STA	RESHAPING UNDER GUARDRAIL			
			0.14				0.14				209	60500	0.14	MILE	LINEAR GRADING			
			8.92						8.92		209	72051	8.92	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN		3	
		10							10		209	80000	10	EACH	GRADING MAILBOX APPROACHES			
				125					125		606	13000	125	FT	GUARDRAIL, TYPE 5			
				4					4		606	32160	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE TST			
11								9	2		623	39500	11	EACH	MONUMENT BOX ADJUSTED TO GRADE			
		11							11		SPECIAL	69050100	11	EACH	MAILBOX SUPPORT SYSTEM, SINGLE		6	
														DRAINAGE				
1									1		611	99654	1	EACH	MANHOLE ADJUSTED TO GRADE			
														PAVEMENT				
	744							170	574		251	01010	744	CU YD	PARTIAL DEPTH PAVEMENT REPAIR			
	40							10	30		253	02000	40	CU YD	PAVEMENT REPAIR			
			110840					26126	84714		254	01000	110840	SO YD	PAVEMENT PLANING, ASPHALT CONCRETE			
			1108					261	847		254	01600	1108	SO YD	PATCHING PLANED SURFACE			
			8920					2092	6828		407	10000	8920	GALLON	TACK COAT			
			1044					1044			407	14000	1044	GALLON	TACK COAT FOR INTERMEDIATE COURSE			
			4593					908	3685		442	00201	4593	CU YD	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN		4	
			545					545			442	20101	545	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN		4	
		20	591					9	602		617	10100	611	CU YD	COMPACTED AGGREGATE			
			10630					164	10466		617	20000	10630	SO YD	SHOULDER PREPARATION			
			8.92						8.92		618	41000	8.92	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)			
														TRAFFIC CONTROL				
				812				414	398		621	00100	812	EACH	RPM			
				812				414	398		621	54000	812	EACH	RAISED PAVEMENT MARKER REMOVED			
			4						4		626	00100	4	EACH	BARRIER REFLECTOR			
			7						7		630	03100	7	FT	GROUND MOUNTED SUPPORT, NO. 3 POST			
			1						1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION			
			1						1		630	86002	1	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL			
			8.92						8.92		642	00090	8.92	MILE	EDGE LINE, 4"			
			1.94					1.94			642	00094	1.94	MILE	EDGE LINE, 6"			
			0.18					0.18			642	00194	0.18	MILE	LANE LINE, 6"			
			6.26					1.79	4.47		642	00300	6.26	MILE	CENTER LINE, TYPE 1			
			675					265	410		644	00400	675	FT	CHANNELIZING LINE, 8"			
			159						159		644	00500	159	FT	STOP LINE			
			500					150	350		644	00700	500	FT	TRANSVERSE/DIAGONAL LINE			
			20					14	6		644	01300	20	EACH	LANE ARROW			
														TRAFFIC SIGNALS				
						28		4	24		632	26501	28	EACH	DETECTOR LOOP, AS PER PLAN		22	

GENERAL SUMMARY

LOR-58-16.51
LOR-113-6.48

SHEET NUMBER							PARTICIPATION			ALT.	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5			20	26	30	01/S<2/PV	02/S<2/BR	03/NHS/PV	(X)							
														STRUCTURE (20' AND OVER) LOR-58-1930 (SFN 4703308)		
				12						202	11301	12	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	28	
				40.6						202	38500	40.6	FT	BRIDGE RAILING REMOVED		
				92						202	98200	92	FT	REMOVAL MISC.: JOINT SEALER	28	
				922						509	10000	922	POUND	EPOXY COATED REINFORCING STEEL		
				5						511	34410	5	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)		
				4						511	45710	4	CU YD	CLASS QC1 CONCRETE, ABUTMENT (REPAIR)		
				4						511	53012	4	CU YD	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR	28	
				30						512	10100	30	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
				92						516	31000	92	FT	JOINT SEALER		
				53.43						517	70000	53.43	FT	RAILING (TWIN STEEL TUBE)		
				91						848	10201	91	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2" THICK)	29	
				79						848	20000	79	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION		
				2						848	30201	2	CU YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN	29	
				6						848	50000	6	SQ YD	HAND CHIPPING		
				LUMP						848	50100	LUMP		TEST SLAB		
				79						848	50320	79	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1.5" NOMINAL THICKNESS)		
														MAINTENANCE OF TRAFFIC		
					4					614	12336	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)		
	33					6		27		614	12460	33	EACH	WORK ZONE MARKING SIGN		
	50					10		40		614	13000	50	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
					13					614	13202	13	EACH	BARRIER REFLECTOR, TYPE A2		
					12					614	13302	12	EACH	BARRIER REFLECTOR, TYPE B2		
					10					614	13360	10	EACH	OBJECT MARKER, TWO WAY		
			0.54			0.54				614	20500	0.54	MILE	WORK ZONE LANE LINE, CLASS II, 642 PAINT		
					0.06					614	21200	0.06	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I		
			14.29			5.37		8.92		614	21500	14.29	MILE	WORK ZONE CENTER LINE, CLASS II, 642 PAINT		
					0.29					614	22200	0.29	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I		
			1615			795		820		614	23200	1615	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT		
				81				81		614	26200	81	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT		
					24			24		614	26400	24	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I		
				81				81		614	26610	81	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT		
					LUMP			LUMP		615	10000	LUMP		ROADS FOR MAINTAINING TRAFFIC		
					222			222		615	25001	222	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN	29	
					420			420		622	41000	420	FT	PORTABLE BARRIER, 32"		
					40			40		622	41020	40	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED)		
														INCIDENTALS		
										614	11000	LUMP		MAINTAINING TRAFFIC		
										619	16010	5	MONTH	FIELD OFFICE, TYPE B		
										624	10000	LUMP		MOBILIZATION		

CALCULATED MKP CHECKED KRB
GENERAL SUMMARY
 LOR-58-16.51
 LOR-113-6.48
 8
 34

DESIGN FILE: \\projects\86730\roadway\sheets\86730CG001.dgn
 MODELNAME: Design
 WORKSTATION: salay
 DATE: 10/11/2013

* - FOR TYPICALS, SEE SHEET 10

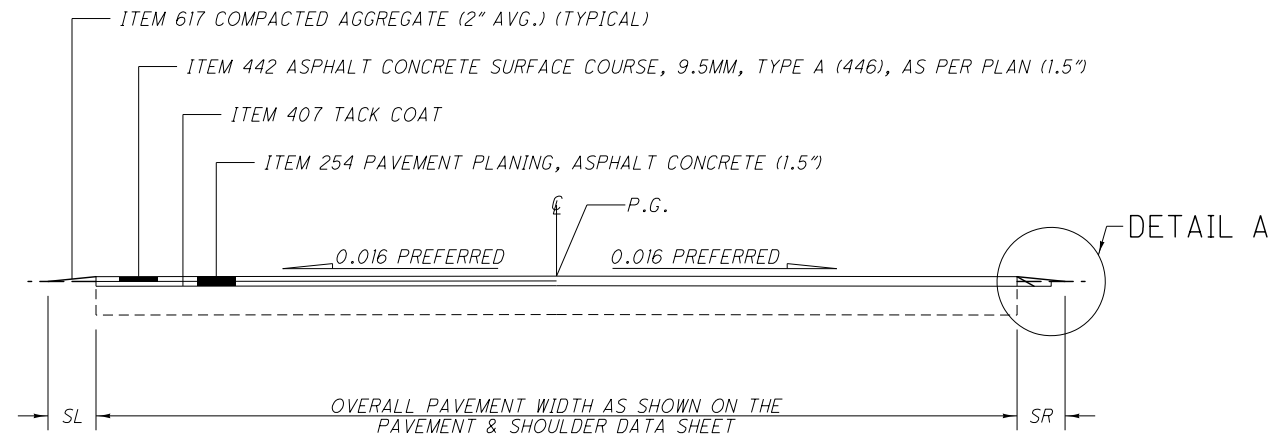
* - FOR TYPICALS, SEE SHEET 10																							CALC BY						
																							MKP						
COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		WIDTH FEET AVG.	* TYPICAL	PAVEMENT AREA SQ YD	254	254	254	254	407	407	442		442	442		AGGREGATE SHOULDER PROPOSED WIDTH		AGGREGATE SHOULDER AREA	617	617	209	209	618	CHKD BY	
				PAVEMENT PLANING, ASPHALT CONCRETE (2")	PAVEMENT PLANING, ASPHALT CONCRETE (1.5")				PAVEMENT PLANING, ASPHALT CONCRETE (1.0")	PATCHING PLANED SURFACE	TACK COAT @ 0.08 GAL/SY	TACK COAT FOR INTERMEDIATE COURSE @ 0.04 GAL/SY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446) , AS PER PLAN (FOR SAFETY EDGE)	ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN (0" MIN.)	SL	SR	SHOULDER PREPARATION	COMPACTED AGGREGATE	LINEAR GRADING	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	KRB						
		MILE	FEET													INCH	CU. YD.	CU. YD.	INCH	CU. YD.	FT	FT	SQ YD	SQ YD	CU YD	MILE	MILE	MILE	
		STRAIGHT LINE MILEAGE								SQ YD	SQ YD	SQ YD	SQ YD	GALLON	GALLON														
03/NHS/PV																													
LOR	58	16.51	17.08	0.57	3010	30.0	1	10,033		10,033		100	803		1.50	418	16			2.0	2.0	1338	1338	74		1.14	1.14		
LOR	58	17.08	17.38	0.30	1584	30.0	1	5,280		5,280		53	422		1.50	220	9			2.0	2.0	704	704	39		0.60	0.60		
LOR	58	17.38	17.70	0.32	1690	31.0	1	5,821		5,821		58	466		1.50	243	9			2.0	2.0	751	751	42		0.64	0.64		
LOR	58	17.70	17.99	0.29	1531	31.0	1	5,273		5,273		53	422		1.50	220	8			2.0	2.0	680	680	38		0.58	0.58		
LOR	58	17.99	18.78	0.79	4171	30.0	1	13,903		13,903		139	1,112		1.50	579	23			2.0	2.0	1854	1854	103		1.58	1.58		
LOR	58	18.78	18.92	0.14	739	35.0	1	2,874		2,874		29	230		1.50	120	4			2.0	2.0	328	328	18		0.28	0.28		
LOR	58	18.92	19.02	0.10	528	43.0	1	2,523		2,523		25	202		1.50	105	3			2.0	2.0	235	235	13		0.20	0.20		
LOR	58	19.02	19.17	0.15	792	43.0	1	3,784		3,784		38	303		1.50	158	4			2.0	2.0	352	352	20		0.30	0.30		
LOR	58	19.17	19.47	0.30	1584	31.0	1	5,456		5,456		55	436		1.50	227	9			2.0	2.0	704	704	39		0.60	0.60		
LOR	58	19.47	19.97	0.50	2640	31.0	1	9,093		9,093		91	727		1.50	379	14			2.0	2.0	1173	1173	65		1.00	1.00		
LOR	58	19.97	20.24	0.27	1426	30.0	1	4,753		4,753		48	380		1.50	198	8			2.0	2.0	634	634	35		0.54	0.54		
LOR	58	20.24	20.49	0.25	1320	31.0	1	4,547		4,547		45	364		1.50	189	7			2.0	2.0	587	587	33		0.50	0.50		
LOR	58	20.49	20.97	0.48	2534	34.0	1	9,573		9,573		96	766		1.50	399	14			2.0	2.0	1126	1126	63		0.96	0.96		
01/S<2/PV																													
LOR	113	6.48	6.55	0.07	370	24.0	3	987	987			10	79	39	1.25	34		0.75	21	2.0	2.0	164	164	9	0.14				
LOR	113	6.55	6.79	0.24	1267	30.0	2	4,223	4,223			42	338	169	1.25	147		0.75	88										
LOR	113	6.79	7.08	0.29	1531	40.0	2	6,804	6,804			68	544	272	1.25	236		0.75	142										
LOR	113	7.08	7.45	0.37	1954	65.0	2	14,112	14,112			141	1,129	564	1.25	490		0.75	294										
03/NHS/PV																													
DEDUCT FOR STRUCTURE LOR-58-19.30 & APP SLABS					-50	31.0		-172		-172		-2	-14		1.50	-7													
EXTRA AREA FOR 1" APP SLAB PLANE+PAVE					30	36.0		120				1	10		1.00	5													
EXTRA AREA FOR INTERSECTIONS								958		958		10	77		1.50	40													
EXTRA AREA FOR PAVED DRIVES								495		495		5	40		1.50	21													
EXTRA AREA FOR AGGREGATE DRIVES								630					50		1.50	26													
EXTRA AREA FOR EX. & PR. MAILBOX APPROACHES								400		400		4	32		1.50	17													
01/S<2/PV																													
EXTRA AREA FOR AGGREGATE DRIVES								27					2		1.50	1													
TOTALS																													
03/NHS/PV																													
					4.46	23549				84594	120	847	6828			3557	128					10466	582		8.92	8.92	9		
01/S<2/PV																													
					0.97	5102			26126			261	2092	1044		908				545			164	9	0.14		34		

PAVEMENT & SHOULDER DATA

LOR-58-16.51
LOR-113-6.48

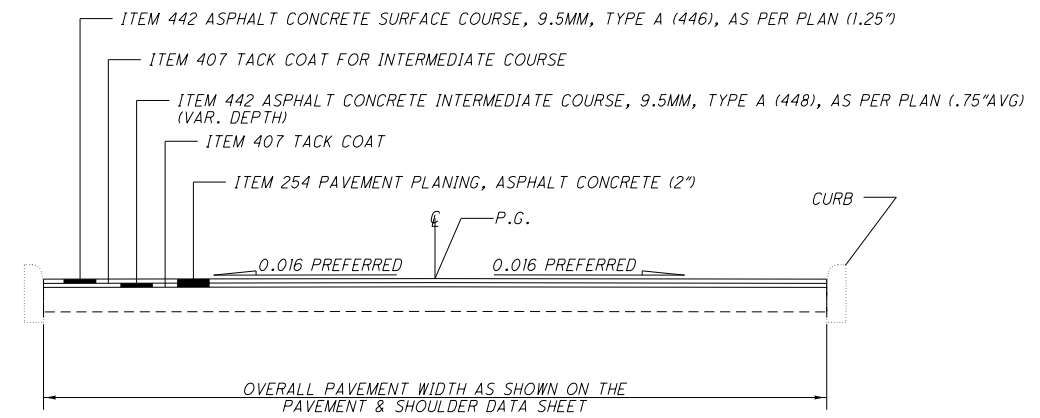
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WORKSTATION: salay

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 WORKSTATION: salay
 DATE: 10/11/2013



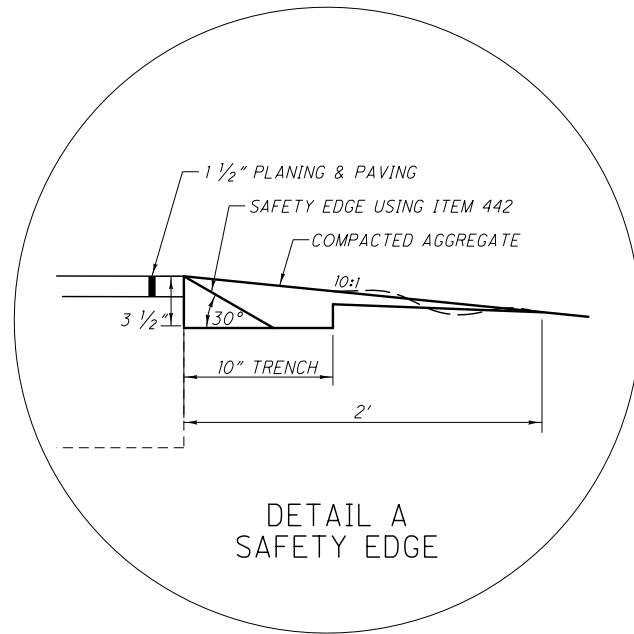
TYPICAL 1

LOR-58-16.51 TO 20.97

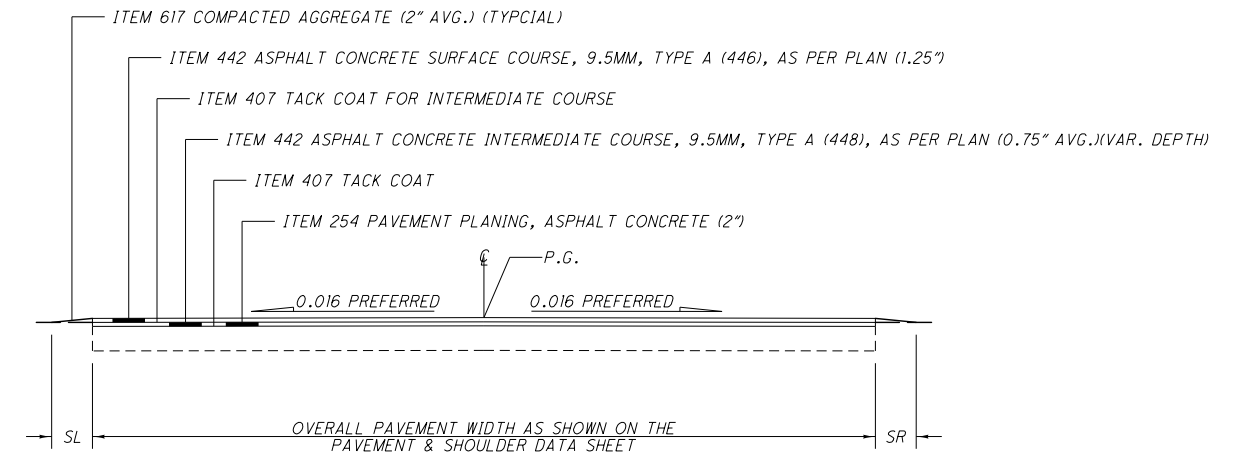


TYPICAL 2

LOR-113-6.55 TO 7.45

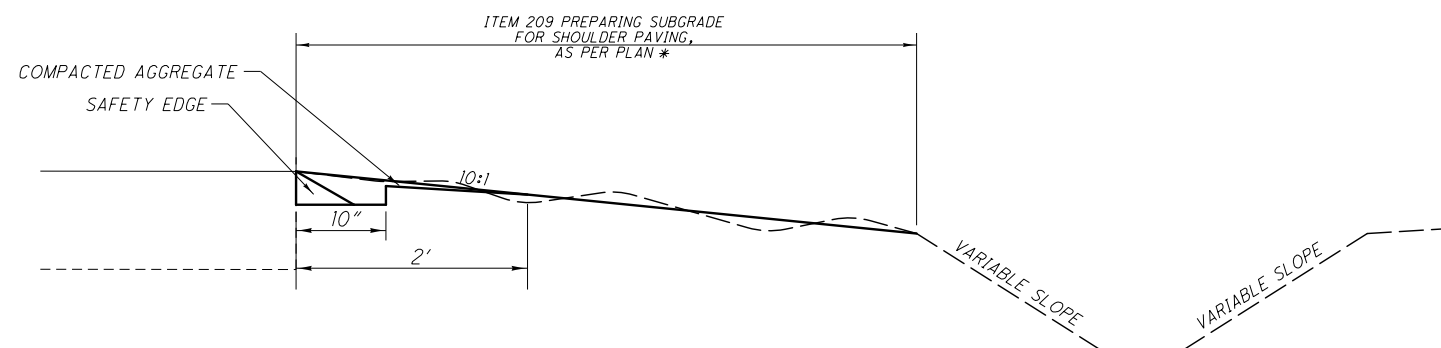


DETAIL A
SAFETY EDGE



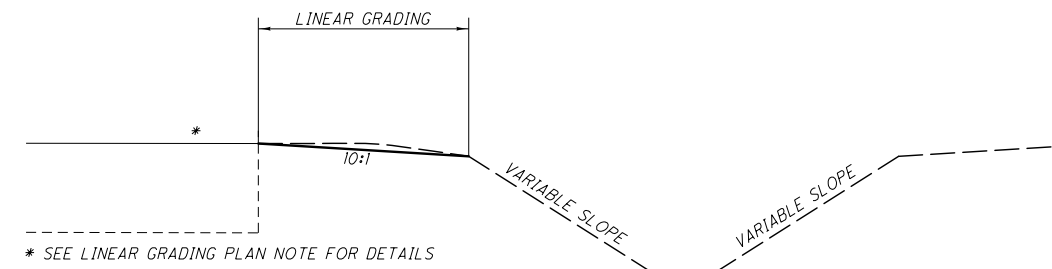
TYPICAL 3

LOR-113-6.48 TO 6.55



ITEM 209 PREPARING SUBGRADE
FOR SHOULDER PAVING, AS PER PLAN
LOR-58-16.51 TO 20.97

* SEE ITEM 209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN NOTE FOR ADDITIONAL DETAILS



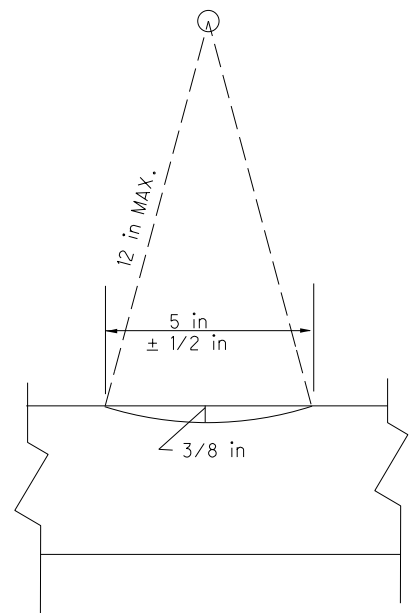
LINEAR GRADING DETAIL

LOR-113-6.48 TO 6.55

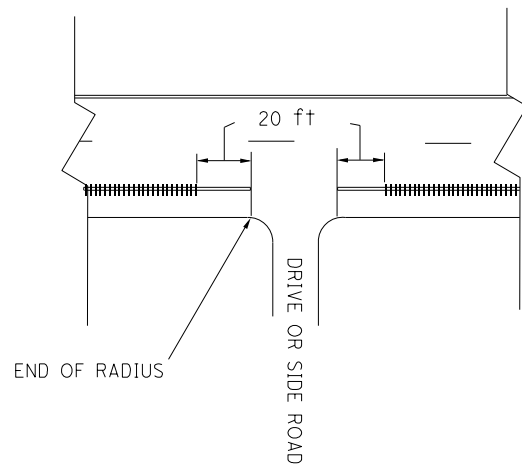
NOTE:
SEE SHEET 20 FOR THRU LANE STRIPING NOTE.

TYPICAL SECTIONS

LOR-58-16.51
LOR-113-6.48



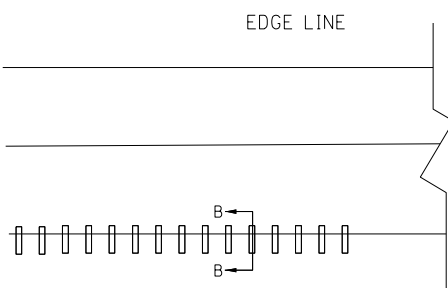
PROFILE



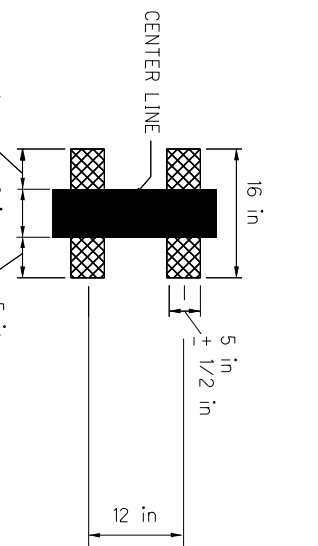
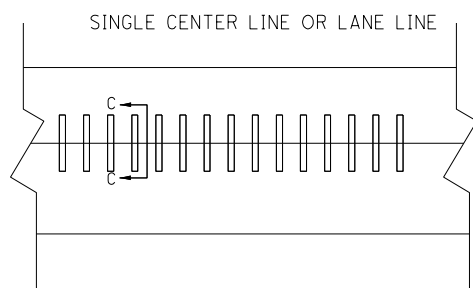
SIDE ROAD AND DRIVE RUMBLE STRIPE INSTALLATION DETAILS

NOTES

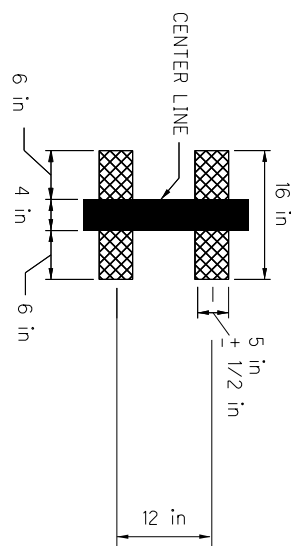
1. Rumble stripes shall be interrupted for driveways and intersections.
2. Rumble stripes shall be paid for in accordance with Item 618.
3. Rumble stripes shall be installed on a 62 foot cycle, i.e. 50 feet rumble stripes followed by a 12 foot gap.
4. Apply final pavement markings after rumble stripes are completed.
5. Location of the construction joint shall be verified in the field.



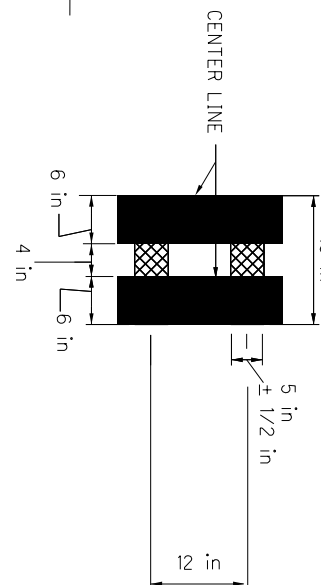
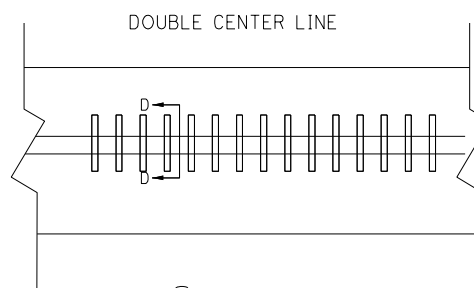
SECTION B-B
EDGE LINE RUMBLE STRIPE



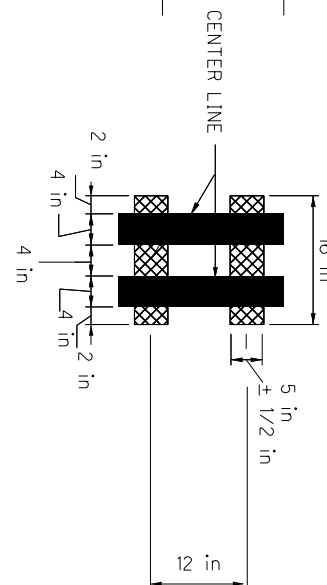
SECTION C-C
6" CENTER LINE OR LANE LINE
RUMBLE STRIPE



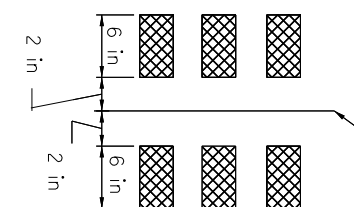
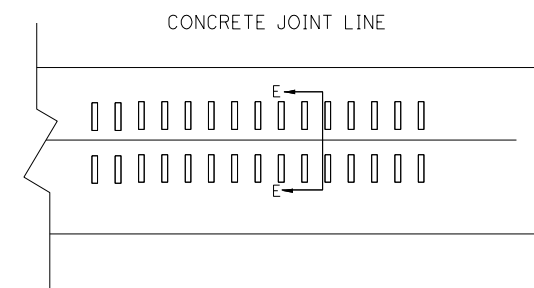
SECTION C-C
4" CENTER LINE OR LANE LINE
RUMBLE STRIPE



SECTION D-D
6" CENTER LINE RUMBLE STRIPE



SECTION D-D
4" CENTER LINE RUMBLE STRIPE



SECTION E-E
PORTLAND CEMENT CONCRETE
JOINT CENTER LINE RUMBLE STRIPE

SHOULDER WIDTH	A
2-5 ft	6 in
5 ft-1 in - 8 ft	10 in
≥ 8 ft- 1 in	16 in

CONNECTING GUARDRAIL TO EXISTING RAIL

IN LOCATIONS WHERE TYPE 5 GUARDRAIL, TERMINAL ASSEMBLIES, ETC. ARE TO BE CONNECTED TO EXISTING RAIL SOME MODIFICATIONS MAY BE REQUIRED, INCLUDING EXTRA POSTS, DRILLING HOLES AND POSSIBLY PARTIAL SECTIONS OF ADDITIONAL RAIL ELEMENTS. THE COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR TYPE 5 GUARDRAIL. IF ADDITIONAL PORTIONS OF RAIL ELEMENT ARE USED THE LINEAL MEASUREMENT OF THIS ADDITIONAL PORTION SHALL BE ADDED FOR PAYMENT.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

LOCATIONS OF GUARDRAIL

THE GUARDRAIL PROTECTION PROVIDED IN THIS PLAN SHALL BE LOCATED IN THE FIELD TO ASSURE THAT THE INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC. THIS LOCATION SHALL BE POSITIONED AS FAR AS POSSIBLE FROM THE EDGE OF PAVEMENT WHILE MAINTAINING PROPER GRADE IN FRONT OF GUARDRAIL AS PER STANDARD DRAWINGS AND PLAN DETAILS.

SUGGESTED SEQUENCE OF GUARDRAIL WORK

1. GUARDRAIL WORK IS TO BEGIN AFTER THE PREPARING SUBGRADE FOR SHOULDER PAVING IS COMPLETED. AND THE 617 MATERIAL IS PLACED.
2. REMOVE THE GUARDRAIL.
3. PERFORM THE RESHAPING UNDER GUARDRAIL INCLUDING COMPLETING THE EMBANKMENT, AS PER PLAN.
4. REBUILD/CONSTRUCT THE GUARDRAIL RUN.
5. INSTALL BARRIER REFLECTORS.

BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STRAIGHT LINE MILEAGE OF THE STRUCTURE. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE LOCATION MARKER SIGNS AND REERECT THE SIGNS IN KIND. IF THERE ARE ANY QUESTIONS ON THE LOCATION, PLEASE CONTACT THE DISTRICT BRIDGE ENGINEER.

ALL COSTS, INCLUDING THE SIGN REMOVAL, SIGN REERECTION, POST REMOVAL, AND POST INSTALLATION SHALL BE INCLUDED IN THE FOLLOWING PAY ITEMS:

- ITEM 630 GROUND MOUNTED SUPPORT, NO. 3 POST
- ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
- ITEM 630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL

SEE GUARDRAIL DETAIL SHEET FOR QUANTITIES.

ITEM 209 - RESHAPING UNDER GUARDRAIL

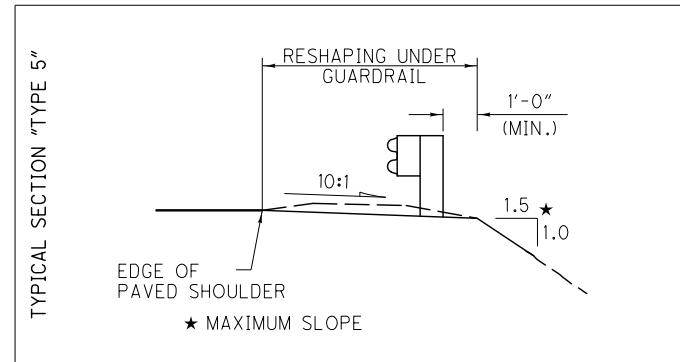
THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED AT LOCATIONS SPECIFIED FOR WORK AS WELL AS PER CMS 209.05 AND AS DESCRIBED HEREIN, AND SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

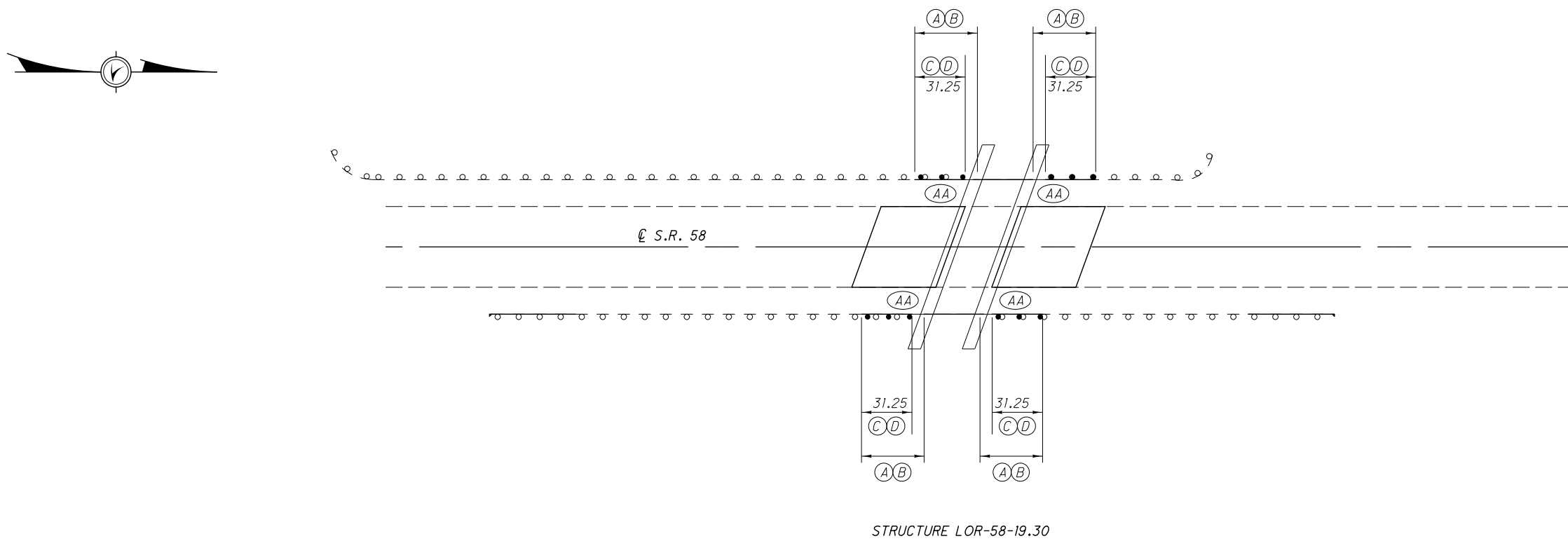
THE AREA IN FRONT OF, UNDER, AND BEHIND THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 10:1 MAXIMUM (SEE DETAIL BELOW AS WELL AS THE GUARDRAIL DETAIL SHEETS FOR FURTHER DETAILS AND INFORMATION OF THE LIMITS OF THIS WORK).

EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF PROPERLY. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT, AS PER PLAN. THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING AND BERM WORK HAS BEEN COMPLETED.

THE ABOVE WORK SHALL BE PAID FOR PER STATION WITH ITEM 209, RESHAPING UNDER GUARDRAIL WITH THE EXCEPTION OF ANY EXTRA MATERIAL REQUIRED TO MEET THE SLOPE REQUIREMENTS WHICH SHALL BE PAID BY ITEM 203 - EMBANKMENT, AS PER PLAN.



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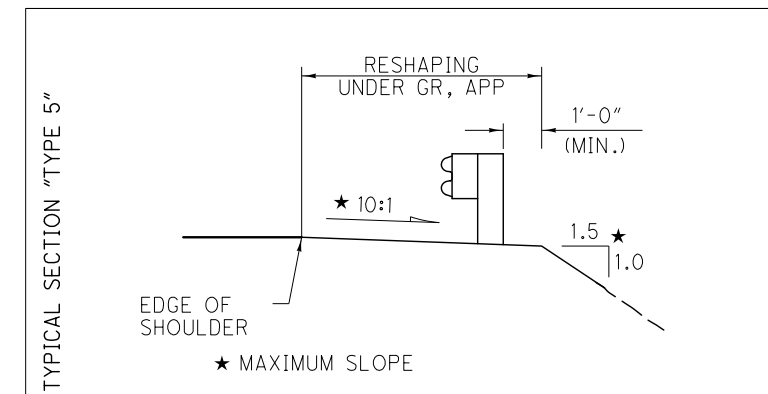
STRUCTURE LOR-58-19.30

NOTES:

- 1) PROPOSED GUARDRAIL OFFSET SAME AS EXISTING
- 2) SEE STRUCTURE SHEETS FOR PROPOSED TWIN STEEL TUBE BRIDGE RAILING WORK

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL (03/NHS/PV)
				LEFT	RIGHT	
(A)	202	GUARDRAIL REMOVED	FT	62.5	62.5	125
(B)	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
(C)	209	RESHAPING UNDER GUARDRAIL	STA	0.625	0.625	1.25
(D)	606	GUARDRAIL, TYPE 5	FT	62.50	62.50	125
(AA)	606	BRIDGE TERMINAL ASSEMBLY, TYPE TST	EACH	2	2	4
	626	BARRIER REFLECTOR	EACH	2	2	4
	630	GROUND MOUNTED SUPPORT, NO. 3 POST	FT		7	7
	630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	EACH		1	1
	630	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EACH		1	1

ALL QUANTITIES CARRIED TO GENERAL SUMMARY SHEET.



CALCULATED MKP CHECKED KRB	GUARDRAIL DETAIL LOR-58-19.30
LOR-58-16.51 LOR-113-6.48	13 34

NOTES

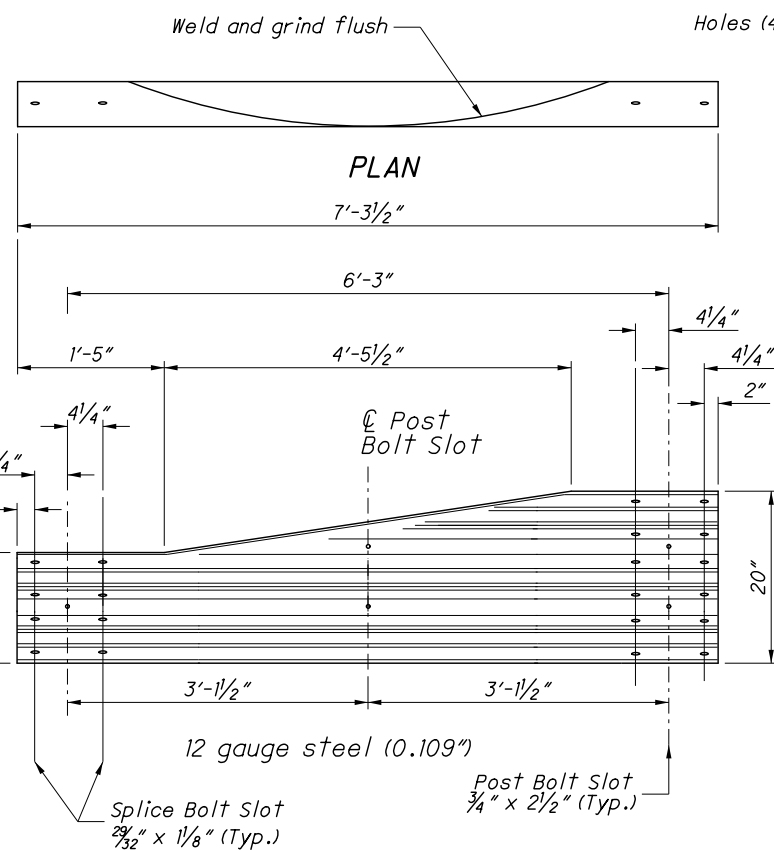
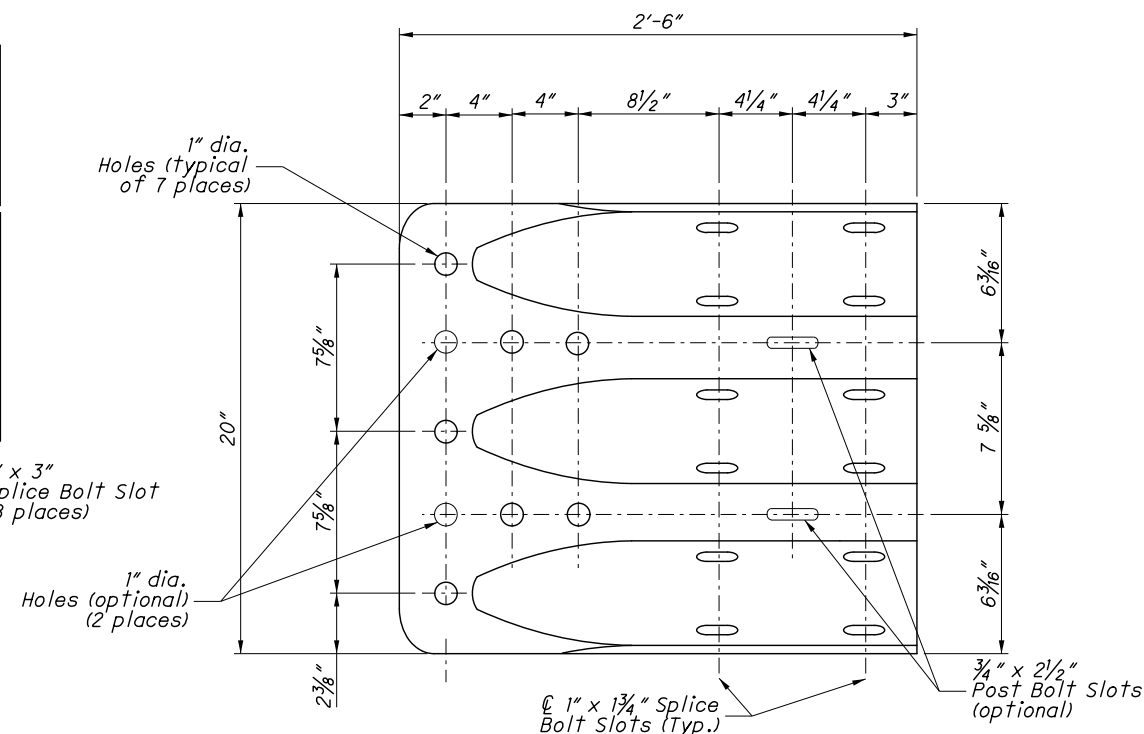
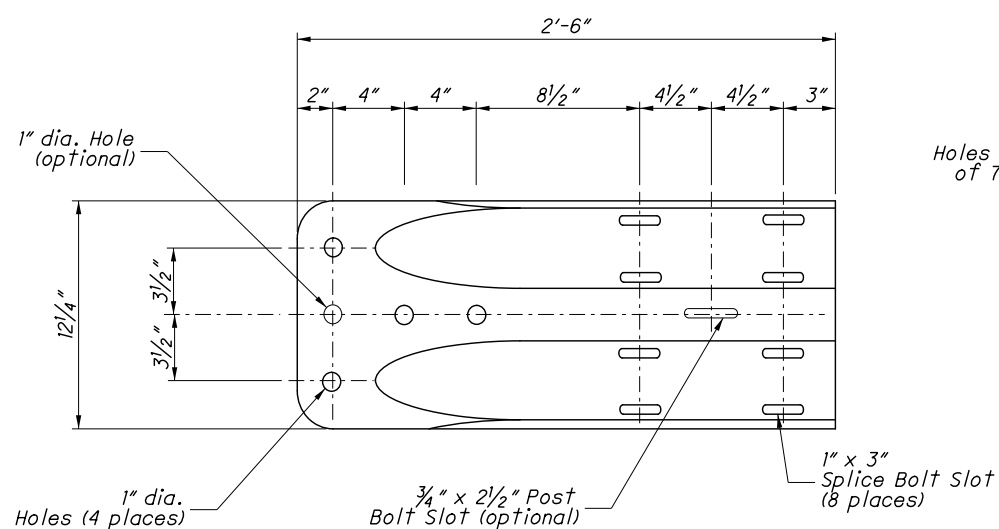
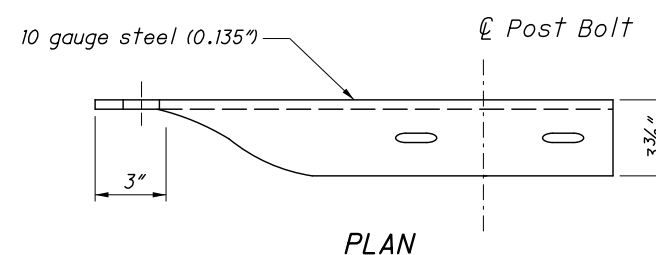
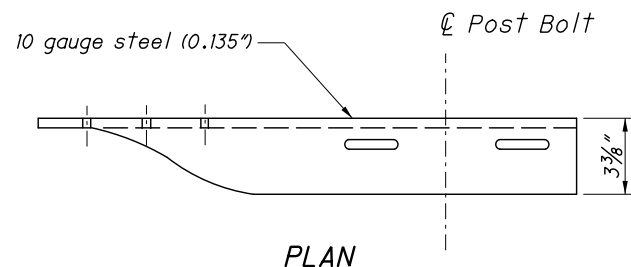
GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

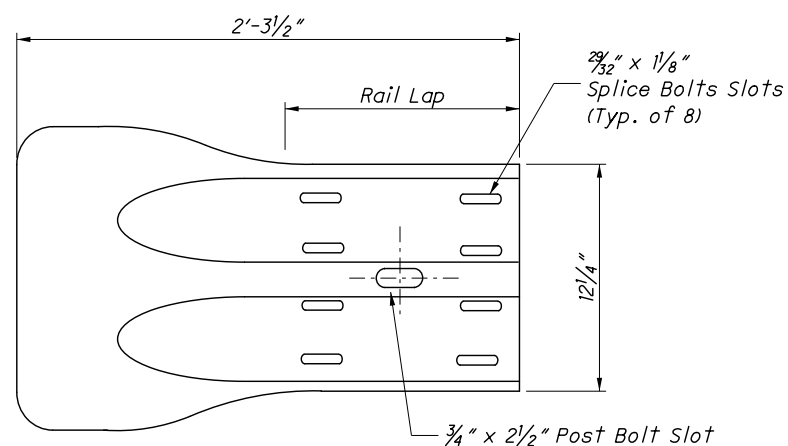
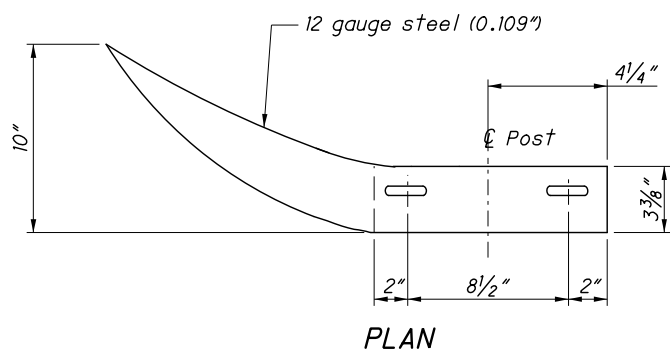
RAIL ELEMENTS: W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with $\frac{3}{4}$ " x $2\frac{1}{2}$ " post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.



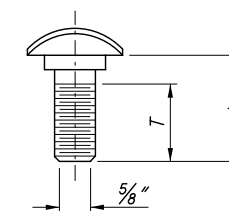
**ELEVATION
TYPE 2 TRANSITION SECTION
(Asymmetric W to Thrie-Beam)**

For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



**ELEVATION
W-BEAM FLARED END SECTION**

**ELEVATION
THRIE-BEAM TERMINAL CONNECTOR**

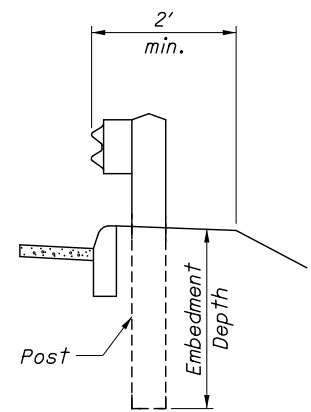


GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1 1/4"	1 1/8"	Splice Bolt

WP = Wood Post WB = Wood Blockout
SP = Steel Post PB = Plastic Blockout

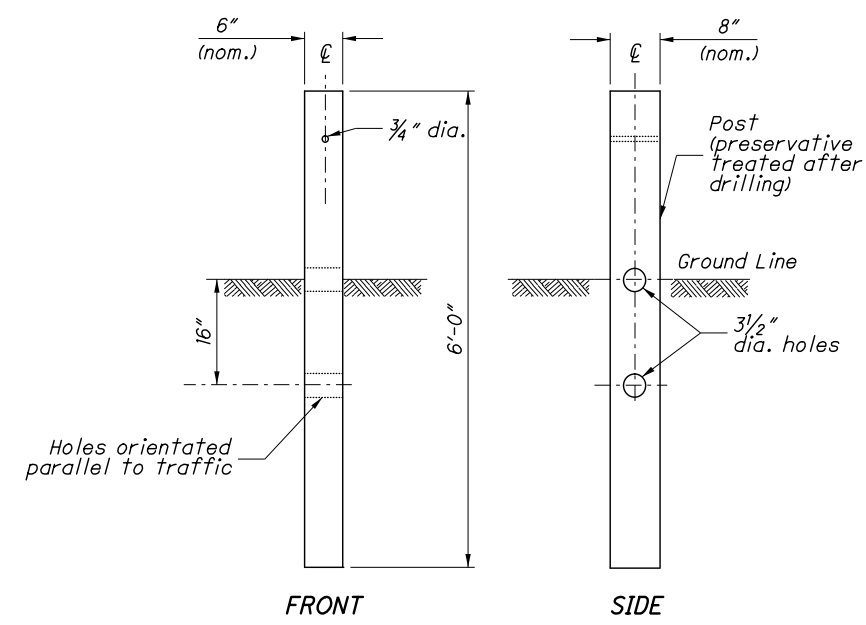
Longer Bolt may be needed for round Wood Post larger than 8" dia.

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 DATE: 10/11/2013
 WORKSTATION: salay

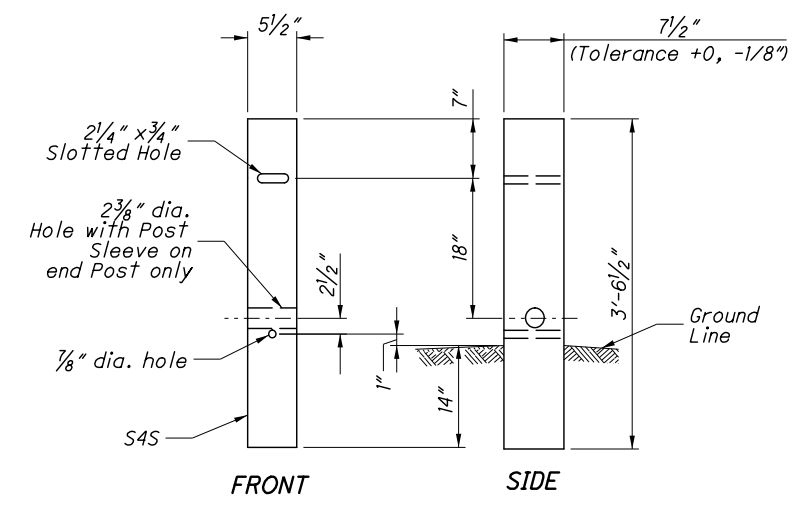


DETAIL A

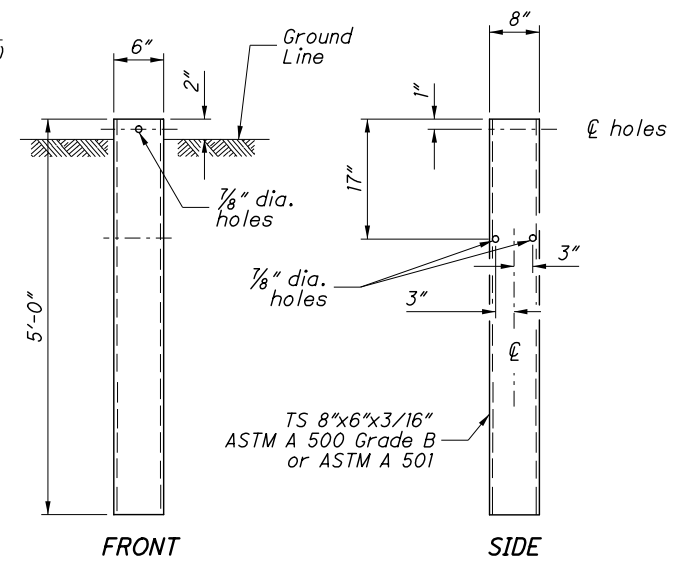
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: For initial installation, construct the guardrail within $\pm 1"$ of the standard height, h , or **29"** to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)

When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within $\pm 2.5"$ of the standard height.

POST EMBEDMENT DEPTH: Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for **ITEM 606 - GUARDRAIL POST, 9', Each.**

SPECIAL POST MOUNTINGS: Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on **SCD GR-2.2.**

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of **SCD GR-2.2**, may be used as an alternative attachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

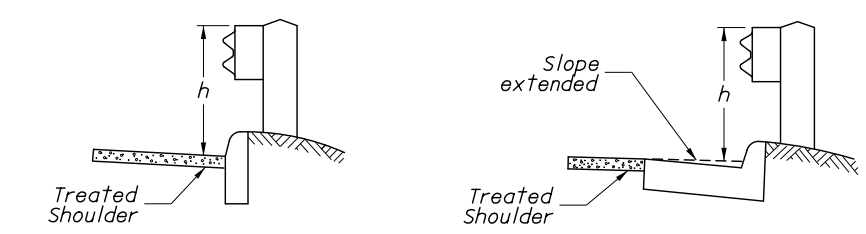
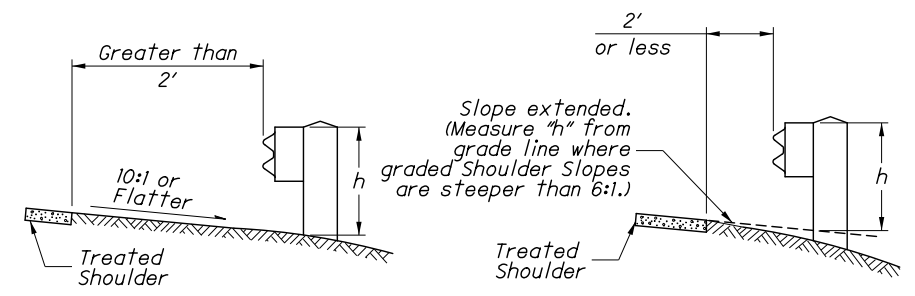
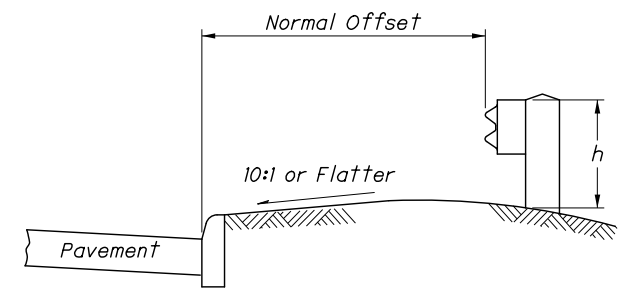
Do not drive posts located over a culvert with less than 4'-3" of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

ANCHORS: Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.

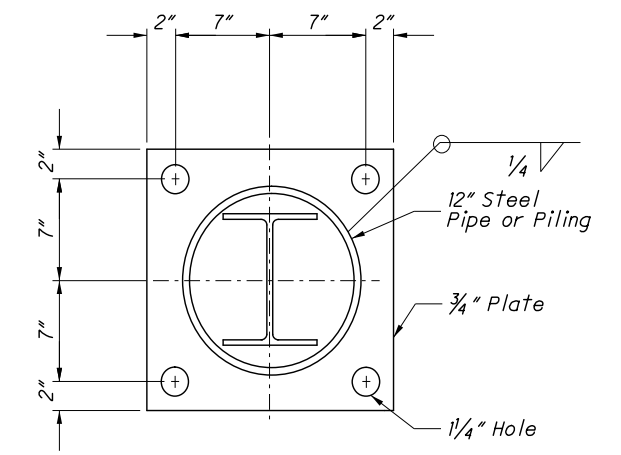
Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)



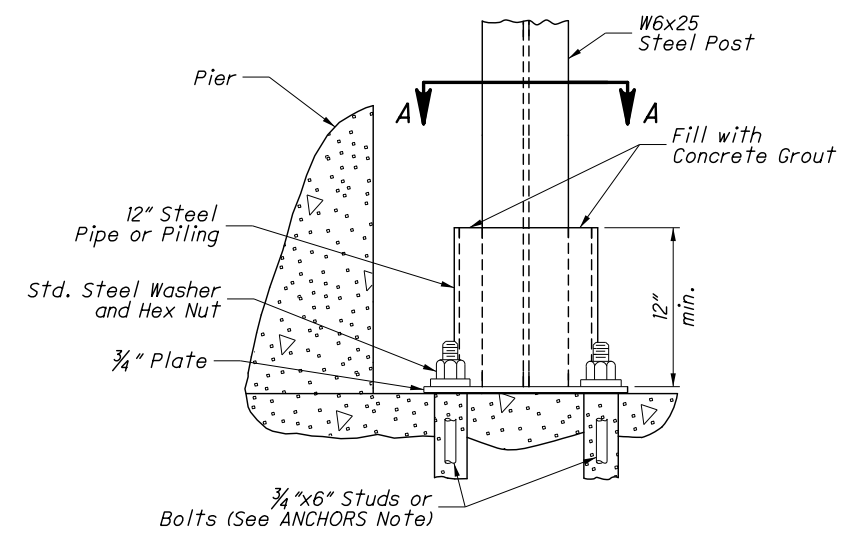
h = Standard Height (See GUARDRAIL HEIGHT Note)

MEASURING GUARDRAIL HEIGHT



Footing Anchor and hardware need not be galvanized

SECTION A-A

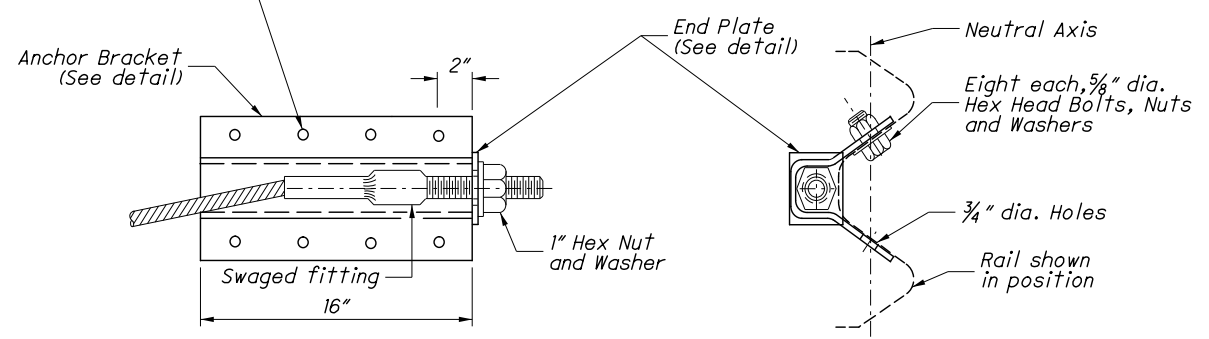
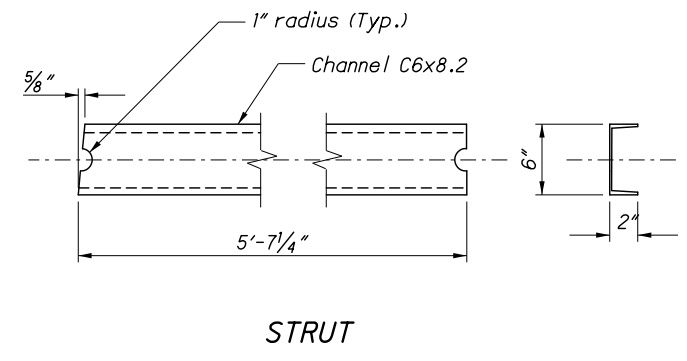
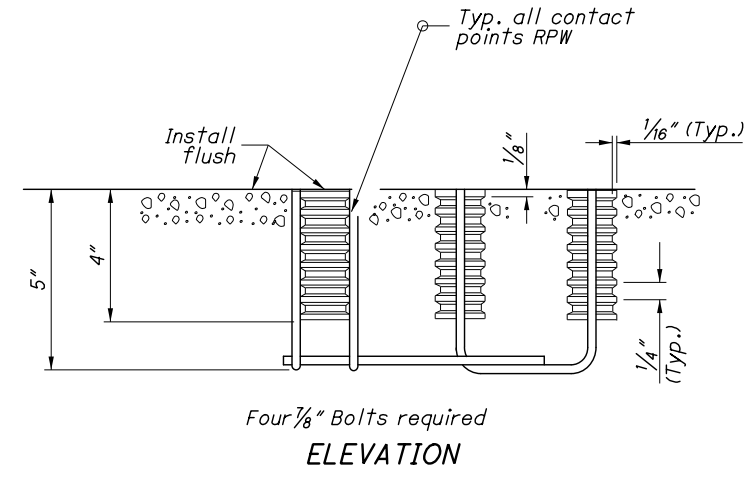
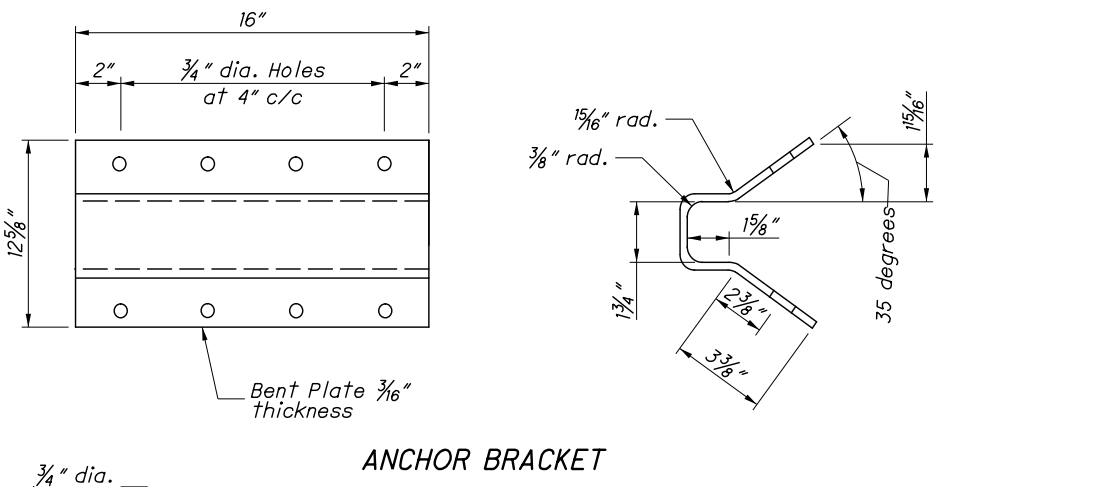
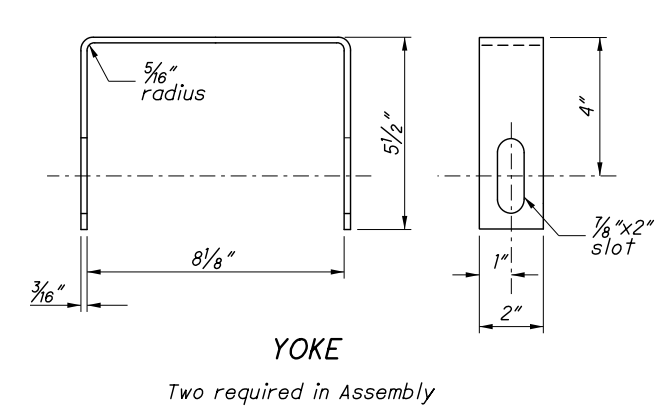
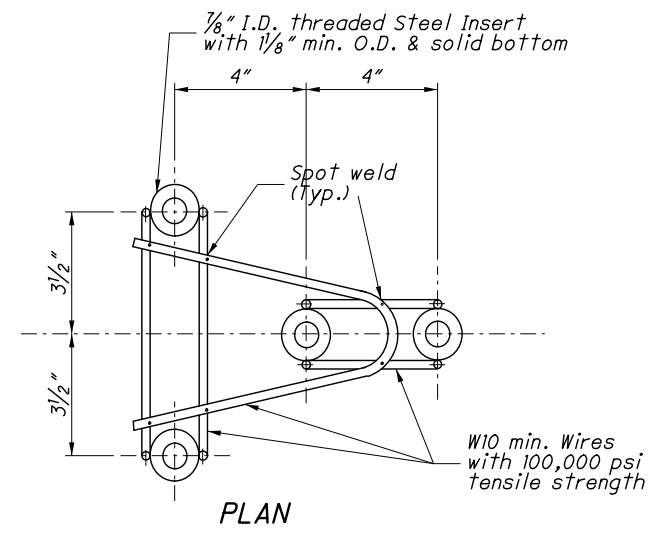
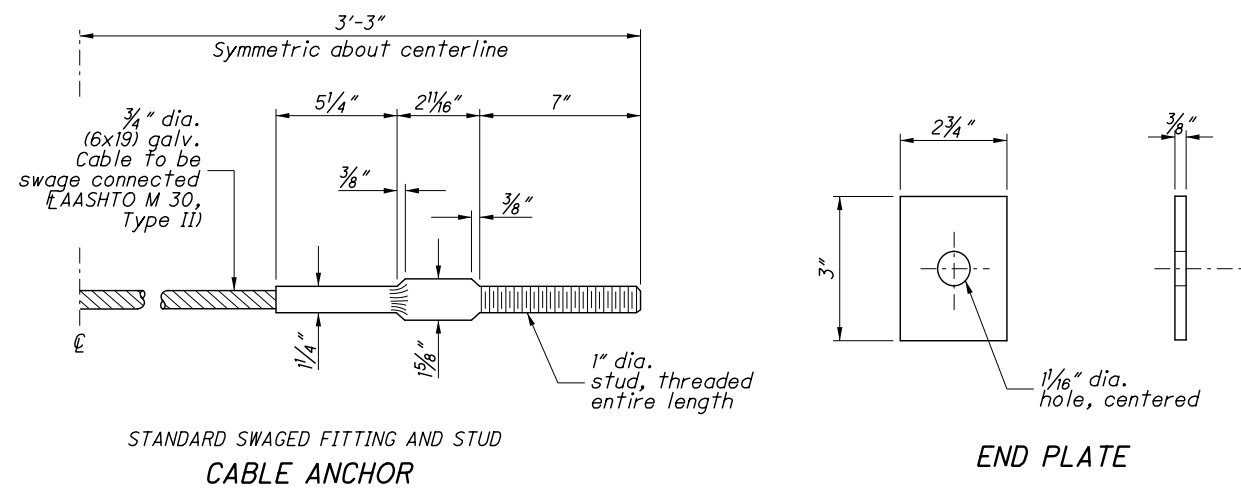


ELEVATION FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

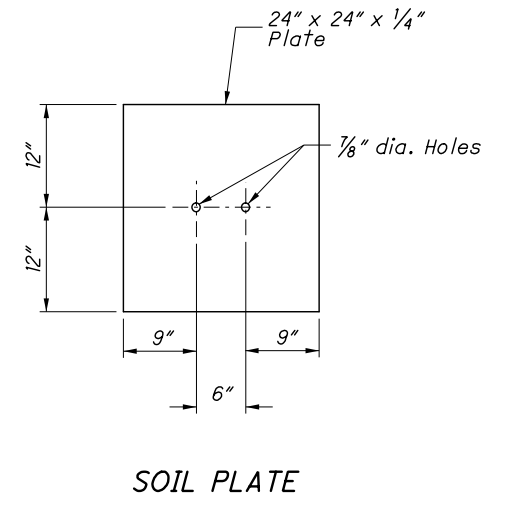
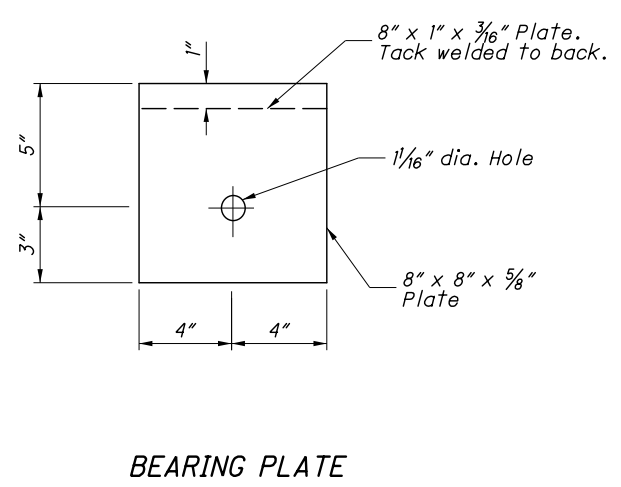
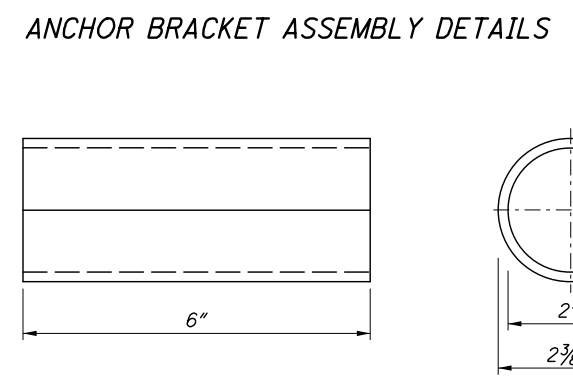
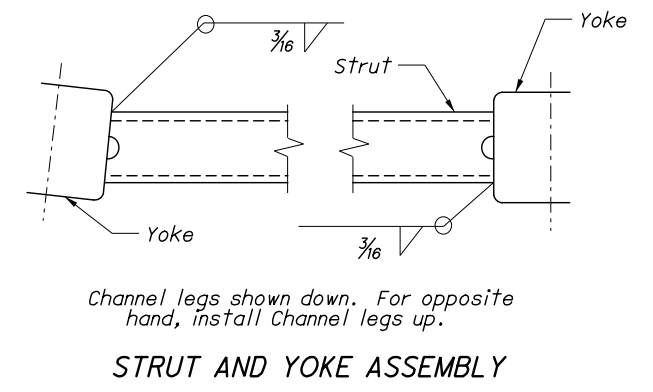
DESIGNED	REVIEWED
REVISION DATE	CHECKED
PIS NUMBER	

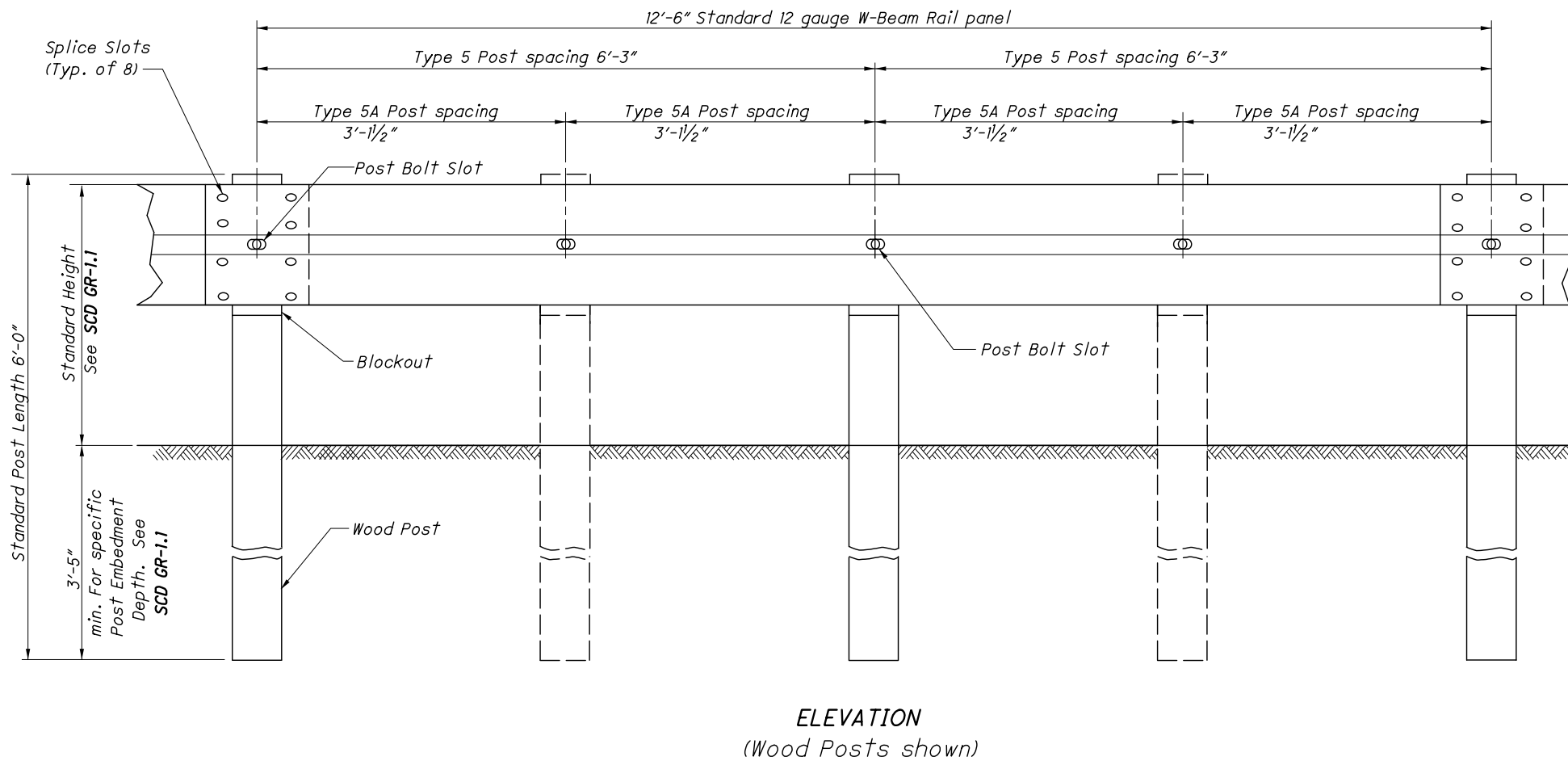
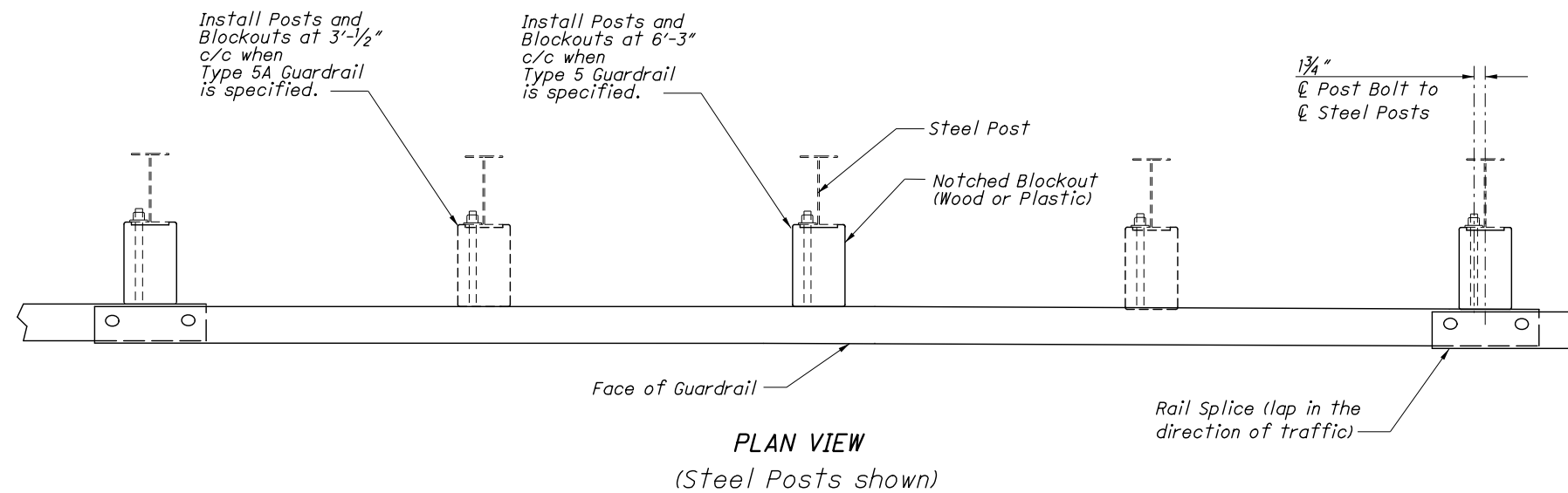
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 MODELNAME: Sheet
 WORKSTATION:salay
 DATE:10/11/2013



CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2





NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"±1 in diameter at the top and not more than 3" larger at the butt with a uniform Taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

DESIGNED	REVIEWED
REVISION DATE	CHECKED
PIS NUMBER	

- Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
- Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
- Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the **Office of Materials Management's** Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the **Office of Roadway Engineering**.

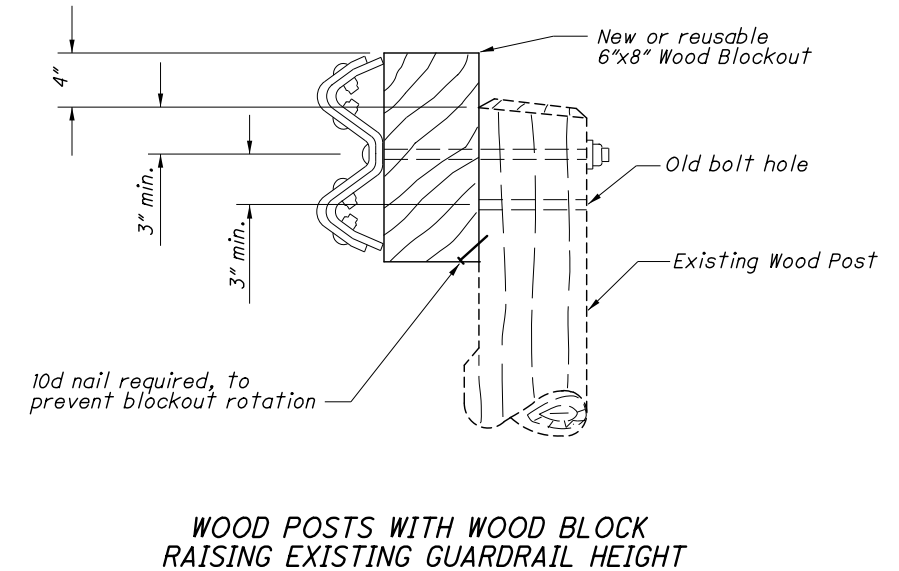
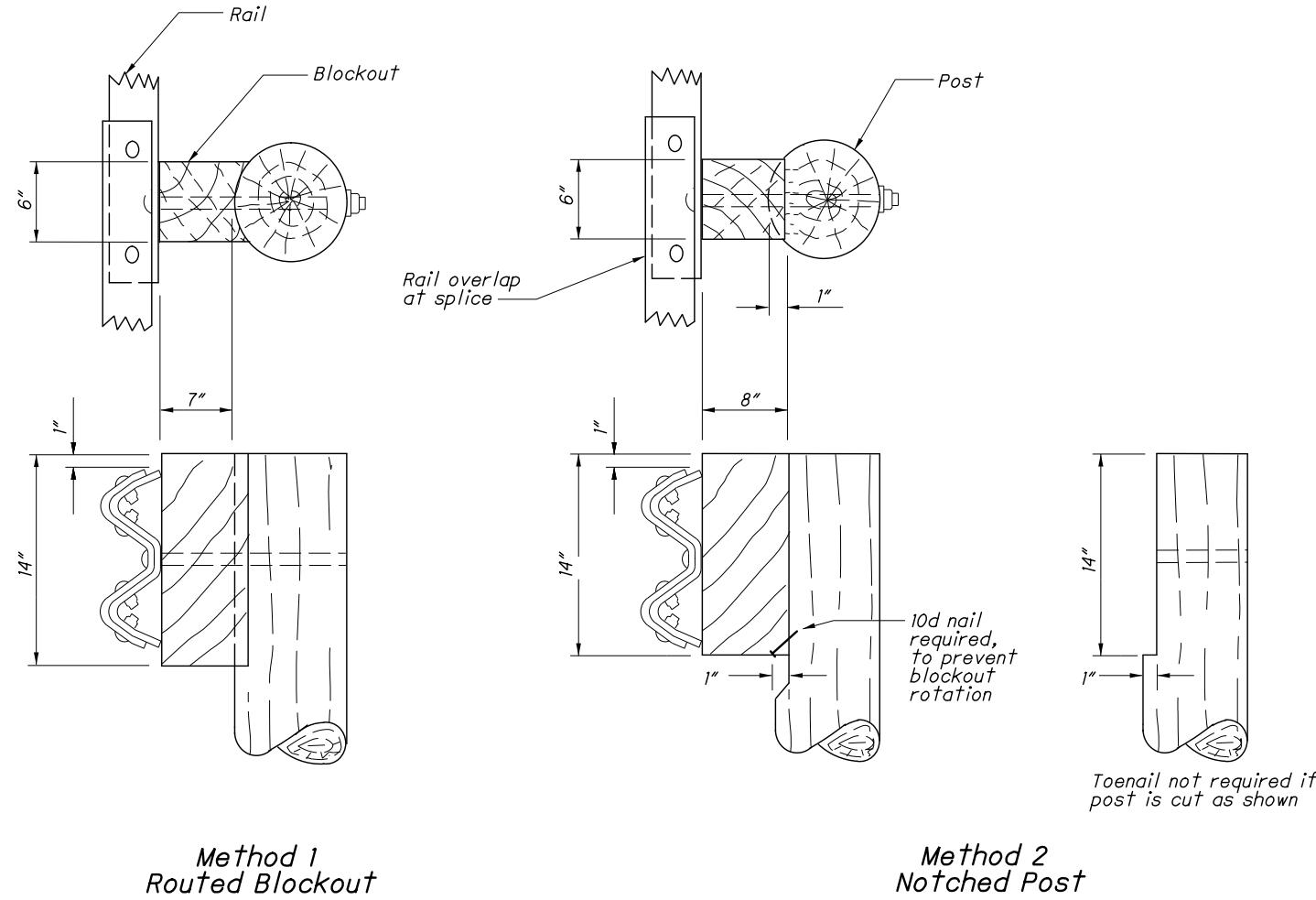
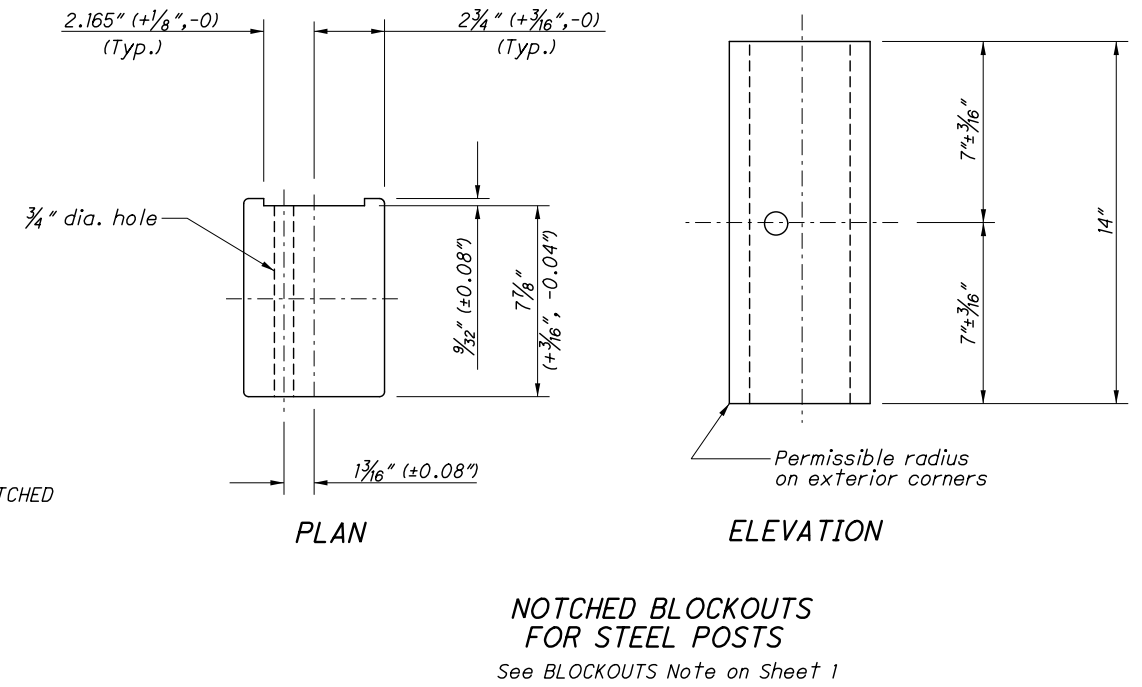
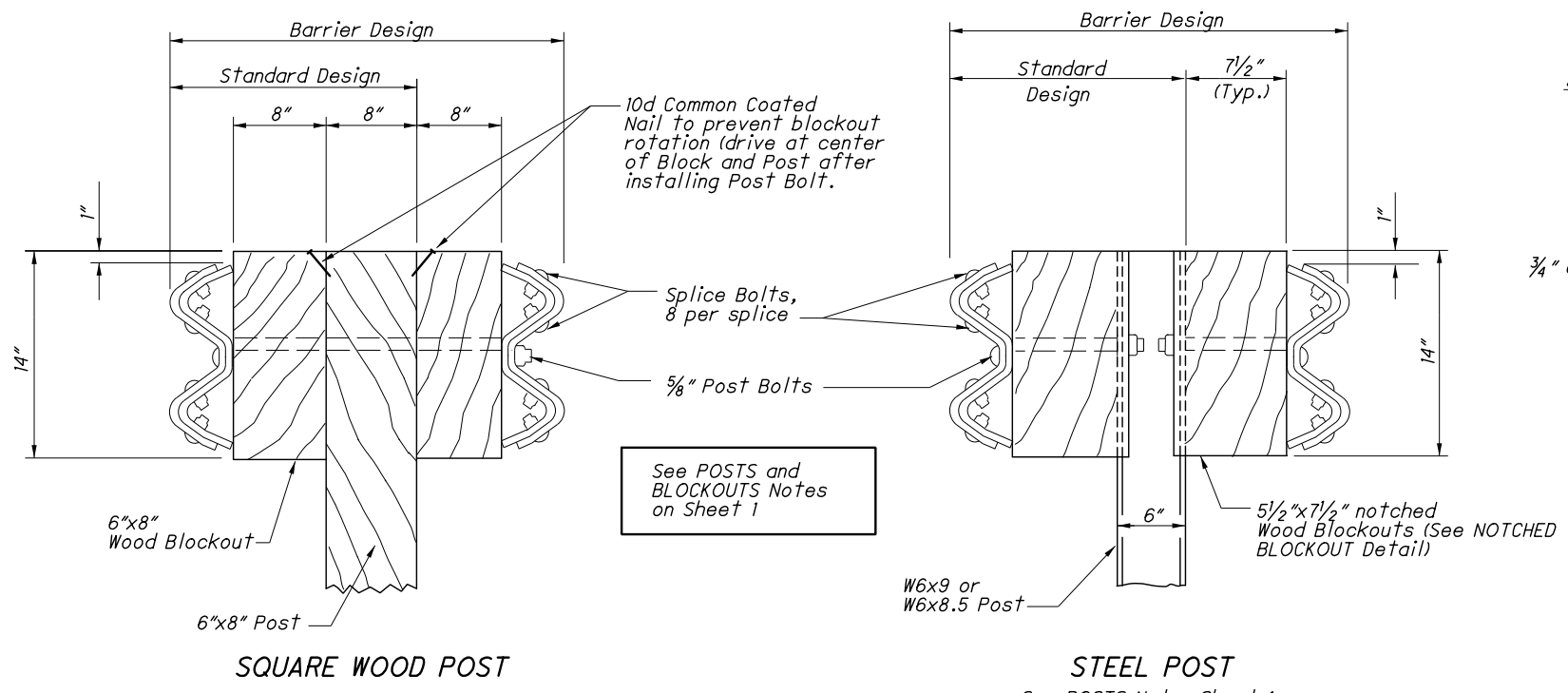
WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

MISCELLANEOUS: For other guardrail details, see SCD GR-1.1.

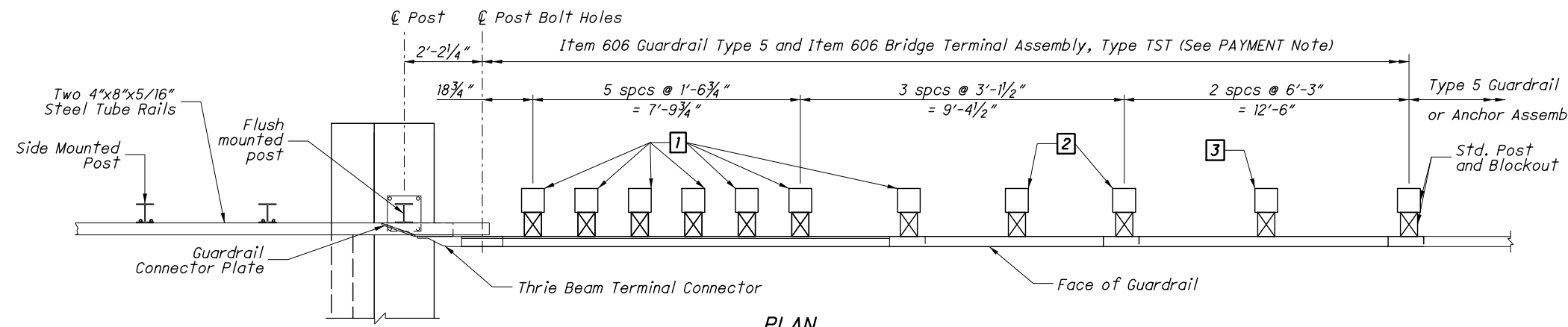
STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"

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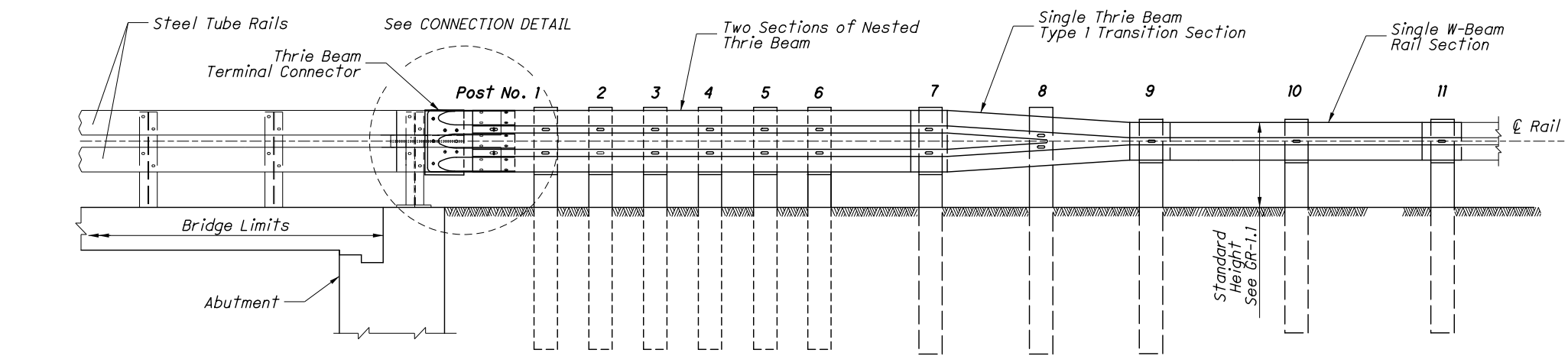


Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

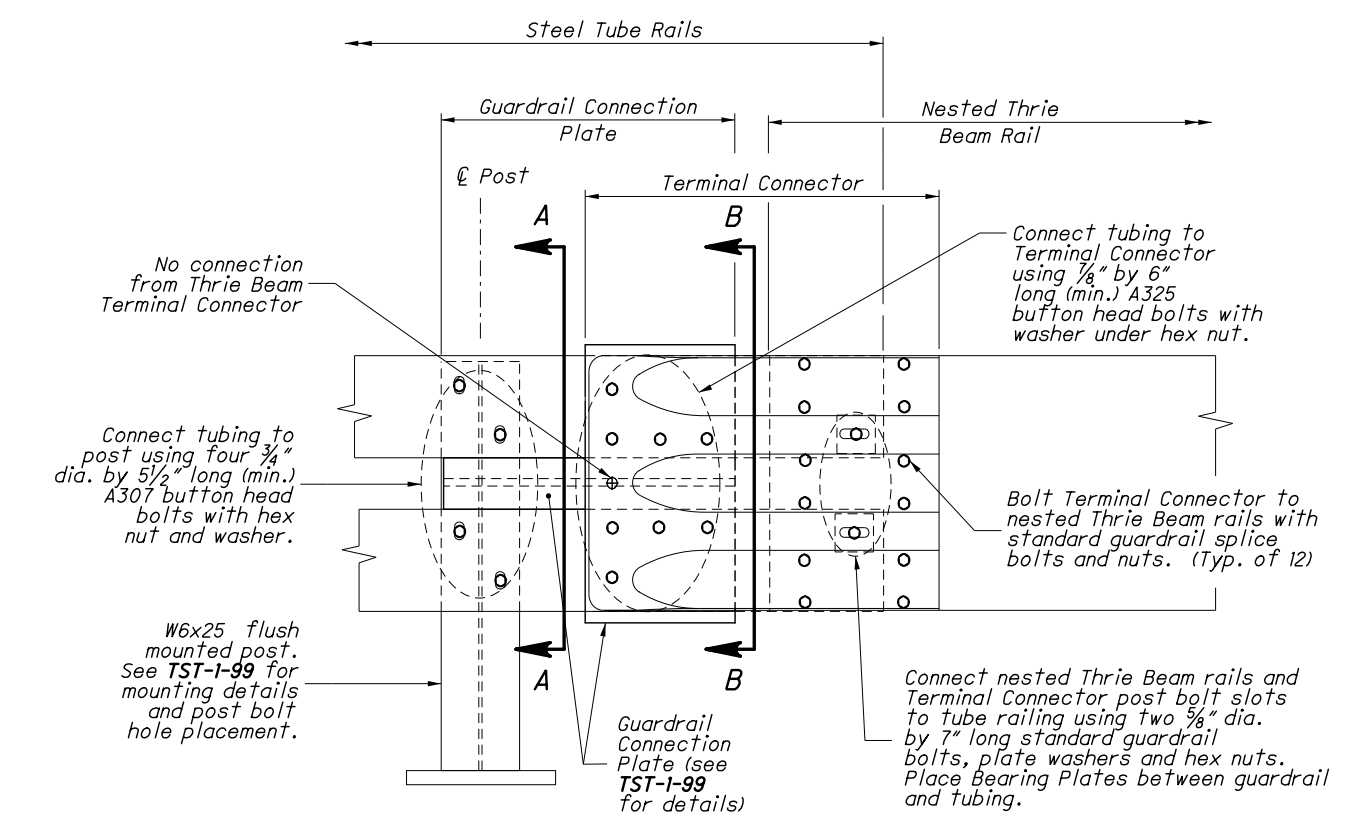
ROUND WOOD POSTS
 Single Sided runs only (Standard Design)



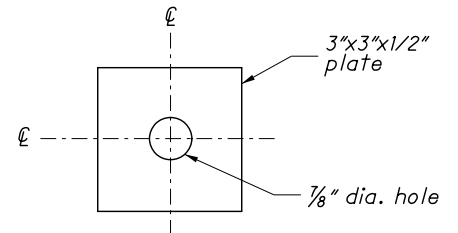
PLAN



ELEVATION

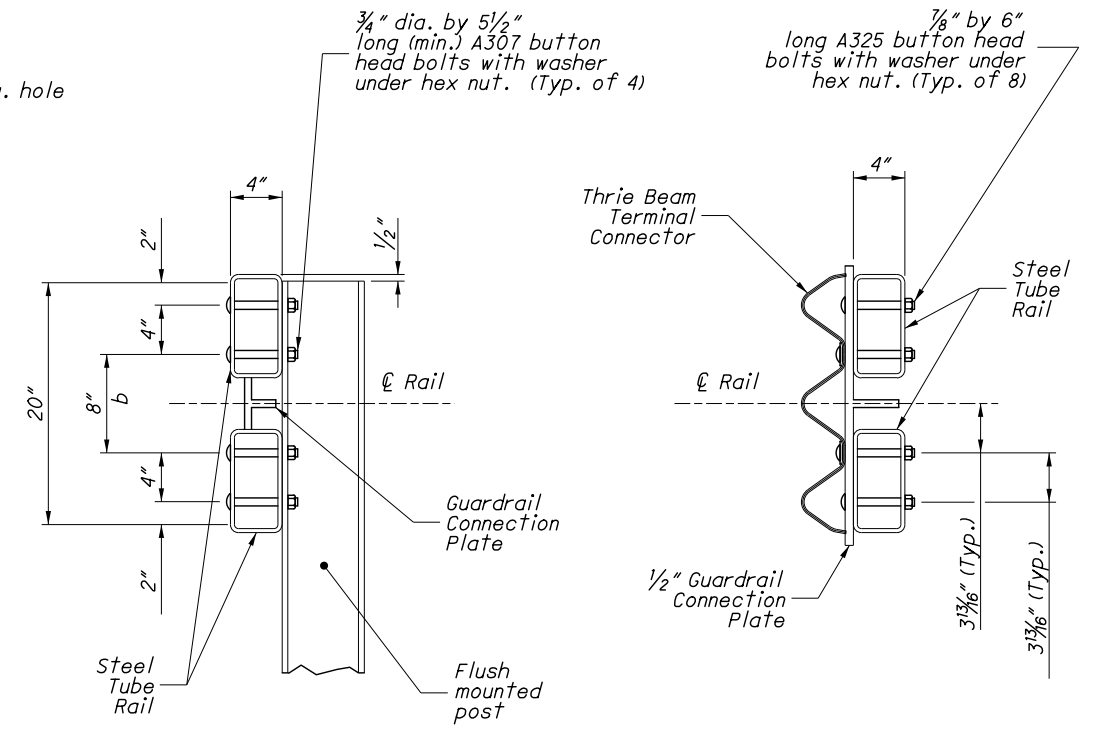


CONNECTION DETAILS



AASHTO/AGC/ARTBA
Standardized Hardware
Guide part FWR09

BEARING PLATE



SECTION A-A

Section through Tubing at Post

SECTION B-B

Section through Tubing at Terminal Connector

NOTES

GENERAL: For additional guardrail details, including Thrie Beam Terminal Connector, see SCD's GR-1.1.

APPLICATION: The Type TST Bridge Terminal Assembly shall be used to connect guardrail runs to both the approach and trailing ends of twin steel tube bridge railings.

See *Structural Engineering's SCD TST-1-99* for Flush Mounted post and Guardrail Connection Plate and tubing details, (including tubing bolt hole placement).

POSTS: Posts may be set in drilled holes or driven to grade.

WOOD POSTS shall be square, sawed pressure treated wood per CMS 710.14 and fabricated with square ends. Bolt holes shall be bored and taps of posts trimmed, if required, after posts are set.

STEEL POSTS: W6x9 (or W6x8.5) posts may be substituted for 6x8 wood posts. Notched wood blockouts, as shown on SCD GR-2.1 (except 22" long for posts 1 thru 7), are to be used with steel posts. Plastic blockouts are not permitted.

PAYMENT: Item 606 - Bridge Terminal Assembly, Type TST, Each, shall include the extra cost, in excess of normal guardrail costs, for additional and different type posts and blockouts, nested Thrie Beam sections, Transition sections, Terminal Connector, bearing plates, bolts, nuts, washers and other hardware.

LEGEND

- 1 Posts 1 thru 7:
6"x8"x6'-6" Wood Posts with
6"x8"22" Wood Blockouts
- 2 Posts 8 & 9:
6"x8"x6'-6" Wood Posts with
6"x8"x14" Wood Blockouts
- 3 Post 10:
6"x8"x6'-0" Wood Post with
6"x8"x14" Wood Blockout

DESIGN FILE: \\projects\66730\roadway\sheets\PIS_CR-3.6_1-18-2013.dgn
MODELNAME: Sheet
WORKSTATION:salay
DATE:10/11/2013

AUXILIARY & LONG LINE MARKINGS

ROUTE	COUNTY	STATION / SLM		HIGHWAY MILES	614						642, TYPE 1					644																													
					WORK ZONE LANE LINE, CLASS II, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	WORK ZONE CENTER LINE, CLASS II, 642 PAINT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	EDGE LINE		LANE LINE	CENTER LINE		AUXILIARY MARKINGS (740.04)																														
										4"	6"		SOLID LINE EQUIVALENT	TOTAL (PAY QUANTITY)	CHANNELIZING LINE	STOP LINE	CROSSWALK LINE	TRANSVERSE / DIAGONAL LINE (YELLOW)	LANE ARROW																										
																			8"	24"	12"	24"	LEFT	RIGHT	THROUGH	COMBINATION																			
FROM	TO	MILE	FT	FT	MILE	FT	FT	MILE	MILE	MILE	MILE	FT	FT	FT	FT									EACH																					
03/NHS/PV																																													
SR 58	LOR	16.51	20.97	4.46		820	8.92	81	81	8.92			3.482	4.46	410	159																					6								
01/S<2/PV																																													
SR 113	LOR	6.48	7.45	0.97	0.54	795	5.37				1.94	0.18	1.889	1.79	265																								14						
03/NHS/PV																																													
ADDITIONAL QUANTITY FOR SIDE ROADS													0.01																																
TOTALS TO GENERAL SUMMARY (03/NHS/PV)				4.46		820	8.92	81	81	8.92			3.482	4.47	410	159																									6				
TOTALS TO GENERAL SUMMARY (01/S<2/PV)				0.97	0.54	795	5.37				1.94	0.18	1.889	1.79	265																										14				

RAISED PAVEMENT MARKERS

ROUTE	COUNTY	STATION/SLM		DETAIL	RAISED PAVEMENT MARKER REMOVED	RPM	PRISMATIC RETRO-REFLECTOR TYPES					REMARKS	DETAIL	DESCRIPTION																													
							WHITE	TWO-WAY																																			
								YELLOW / YELLOW	WHITE / RED	YELLOW / RED	BLUE / BLUE																																
															ONE-WAY																												
FROM	TO	EACH	EACH	EACH																																							
03/NHS/PV																																											
SR 58	LOR	16.51	18.18	GAP	156		156	0	156	0	0	0					11	3 LANE UNDIVIDED TO 2 LANE TRANSITION																									
SR 58	LOR	18.18	19.19	6	88		88	32	46	10	0	0						12	TWO LANE NARROW BRIDGE																								
SR 58	LOR	19.19	19.66	GAP	31		31	0	31	0	0	0						13	TWO WAY LEFT TURN LANE																								
SR 58	LOR	19.66	19.90	16	40		40	0	40	0	0	0						14	ONE LANE BRIDGE																								
SR 58	LOR	19.90	20.39	GAP	31		31	0	31	0	0	0						15	HORIZONTAL CURVE																								
SR 58	LOR	20.39	20.64	16	38		38	0	38	0	0	0						16	HORIZONTAL CURVE ALT.																								
SR 58	LOR	20.64	20.97	GAP	14		14	0	14	0	0	0						17	STOP APPROACH ALT.																								
01/S<2/PV																			18	FIRE HYDRANT																							
SR 113	LOR	6.48	7.17	GAP	236		236	190	46	0	0	0							GAP	CENTER LINE AT 80 FT. TYP.																							
SR 113	LOR	7.17	7.45	9/11	178		178	132	46	0	0	0																															
TOTALS TO GENERAL SUMMARY (03/NHS/PV)					398		398																																				
TOTALS TO GENERAL SUMMARY (01/S<2/PV)					414		414																																				
													1) THRU LANES SHALL BE 12 FT (LOR-58) & 11 FT (LOR-113) WIDE AND STRIPED ACCORDING TO TC-73.10.																														
													2) FOR ALL WORK ZONE MARKINGS, THE 642 PAINT USED SHALL BE TYPE 1.																														
													3) WORK ZONE STOP LINES SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: BUTTERNUT RIDGE RUSSIA RD																														
													4) CENTER LINES SHALL BE STRIPED ALONG THE PROPOSED OVERLAY PORTIONS OF THE FOLLOWING SIDE ROADS: BUTTERNUT RIDGE RUSSIA RD																														

PAVEMENT MARKING / RPM SUBSUMMARY

CALCULATED MKP CHECKED KRB

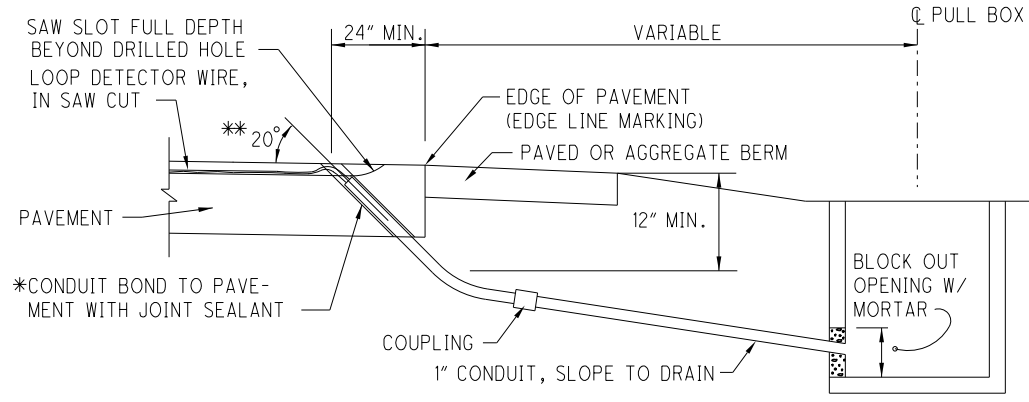
**LOR-58-16.51
LOR-113-6.48**

SHEET	LOCATION	632										
		DETECTOR LOOP, AS PER PLAN										
		EACH										
03/NHS/PV												
23	SR 58 & BUTTERNUT RIDGE RD	12										
24	SR 58 & RUSSIA RD	12										
01/S<2/PV												
25	SR 58 & SR 113	4										
TOTALS CARRIED TO GEN SUM (03/NHS/PV)		24										
TOTALS CARRIED TO GEN SUM (01/S<2/PV)		4										

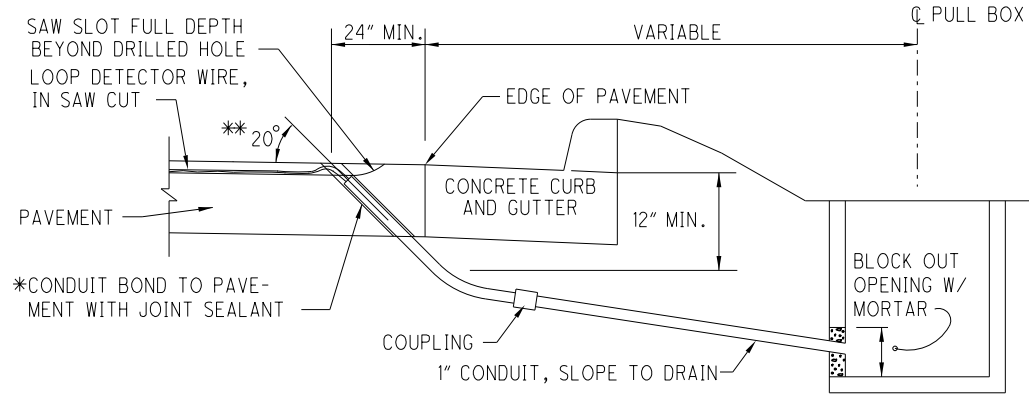
TRAFFIC CONTROL SUB-SUMMARY

LOR-58-16.51
 LOR-113-3.48

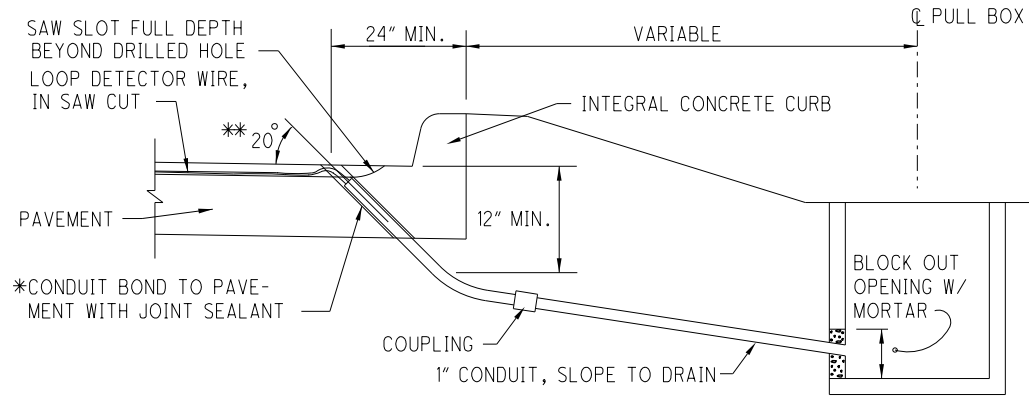
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 WORKSTATION: salay DATE: 10/11/2013



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER



DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

* CONDUIT SHALL BE 1" DIAMETER 725.04.
 ** THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.

NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS

ITEM 632- DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF ITEM 632, DETECTOR LOOP, AS PER PLAN, HAS BEEN PROVIDED FOR THE PURPOSE OF REPLACING DAMAGED DETECTOR LOOPS AND/OR UPGRADING DETECTOR LOOPS TO IMPROVE MOTORCYCLE DETECTION. IT IS IMPERATIVE THAT REPLACEMENT OF DETECTOR LOOPS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT DETECTOR LOOPS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE EXISTING DETECTOR LOOPS.

THE CONTRACTOR SHALL NOTIFY MATT BLANKENSHIP, ODOT DISTRICT 3 ROADWAY SERVICES MANAGER, (PHONE 419-207-7045) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK. THIS NOTIFICATION IS NEEDED FOR DISTRICT 3 TO SCHEDULE TEMPORARY SIGNAL TIMING MODIFICATIONS FOR THE TIME PERIOD WHEN THE DETECTOR LOOPS ARE OUT OF OPERATION. THE CONTRACTOR SHALL THEN RENOTIFY MR. BLANKENSHIP WITHIN 2 WORKING DAYS AFTER THE NEW DETECTOR LOOPS ARE REPLACED SO THAT HE CAN RESCHEDULE DISTRICT CREWS TO RESTORE SIGNAL TIMINGS TO THE ORIGINAL SETTINGS.

FAILURE TO COMPLY WITH THE ABOVE STATED REQUIREMENTS WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE FEE OF \$500.00 PER DAY TO THE CONTRACTOR FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW DETECTOR LOOPS SHALL BE PLACED PER THE PLAN DETAILS AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE AFFECTED AREAS. THE DETECTOR LOOPS SHALL NOT BE CUT INTO THE SURFACE COURSE.

IN ADDITION TO THE REQUIREMENTS OF CMS 632.11, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. RESIDUE FROM DRY CUTTING SHALL NOT BE REMOVED BY COMPRESSED AIR. AS AN ALTERNATE, THE CONTRACTOR MAY USE WET CUTTING.

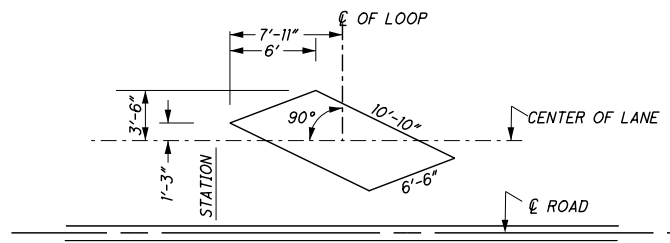
LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES WITHIN EPOXY ENCAPSULATED SPLICE ENCLOSURES SHALL BE JOINED BY AN APPROVED CONNECTOR AND SOLDERED PER CMS 632.23 & 725.15. THE CONNECTOR KIT USED SHALL BE UNFUSED CONFORMING TO 725.15E. IN ADDITION, THE CONNECTOR KIT SHALL HAVE TWO (2) FILL OPENINGS AND THE SPLICE ENCLOSURE SHALL BE A CLEAR TRANSPARENT MATERIAL. THE EPOXY SHALL BE NON-SHRINKING. ALL COSTS ASSOCIATED WITH THIS CONNECTION SHALL BE INCLUDED WITH THIS PAY ITEM.

IF THE PULL BOX IS NOT SPECIFIED IN THE PLANS, THE SPLICE SHALL BE MADE IN THE FIRST ENTERED POLE OR PEDESTAL, EXCEPT WHERE THE CONTROLLER CABINET IS MOUNTED ON THE POLE OR PEDESTAL, IN WHICH CASE THE LOOP WIRES SHALL BE ROUTED DIRECTLY INTO THE CABINET UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. LOOP DETECTOR WIRE ROUTED THROUGH CONDUIT, PULL BOXES, POLES, AND PEDESTALS SHALL BE TWISTED PER CMS 632.23.

FURNISH ALL MATERIALS ACCORDING TO THE DEPARTMENT'S QUALIFIED PRODUCTS LIST (QPL).

SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR LANE WIDTH LESS THAN 11'

DETECTOR LOOP INSTALLATION DETAILS AND TRAFFIC SIGNAL GENERAL NOTES

LOR-58-16.51
 LOR-113-6.48

DETECTOR LOOP DESCRIPTION OF WORK

INSTALL NEW DETECTOR LOOPS L-1, L-2, L-3, L-4, L-5, L-6, L-8, L-9, L-9A, L-10, & L-10A, L-11. TO REPLACE EXISTING LOOPS.
EXISTING LOOPS TO BE ABANDONED

DETECTOR LOOP QUANTITIES (03/NHS/PV)

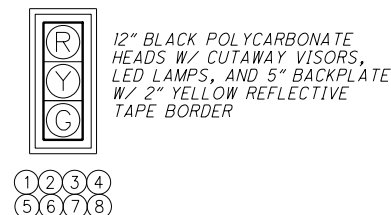
ITEM	EXT.	QTY.	UNIT	DESCRIPTION
632	26501	12	EACH	DETECTOR LOOP, AS PER PLAN

QUANTITIES CARRIED TO THE GENERAL SUMMARY

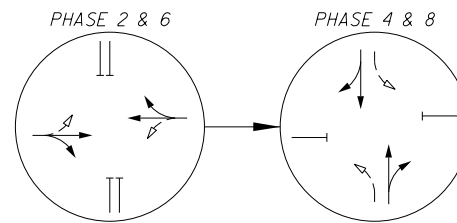
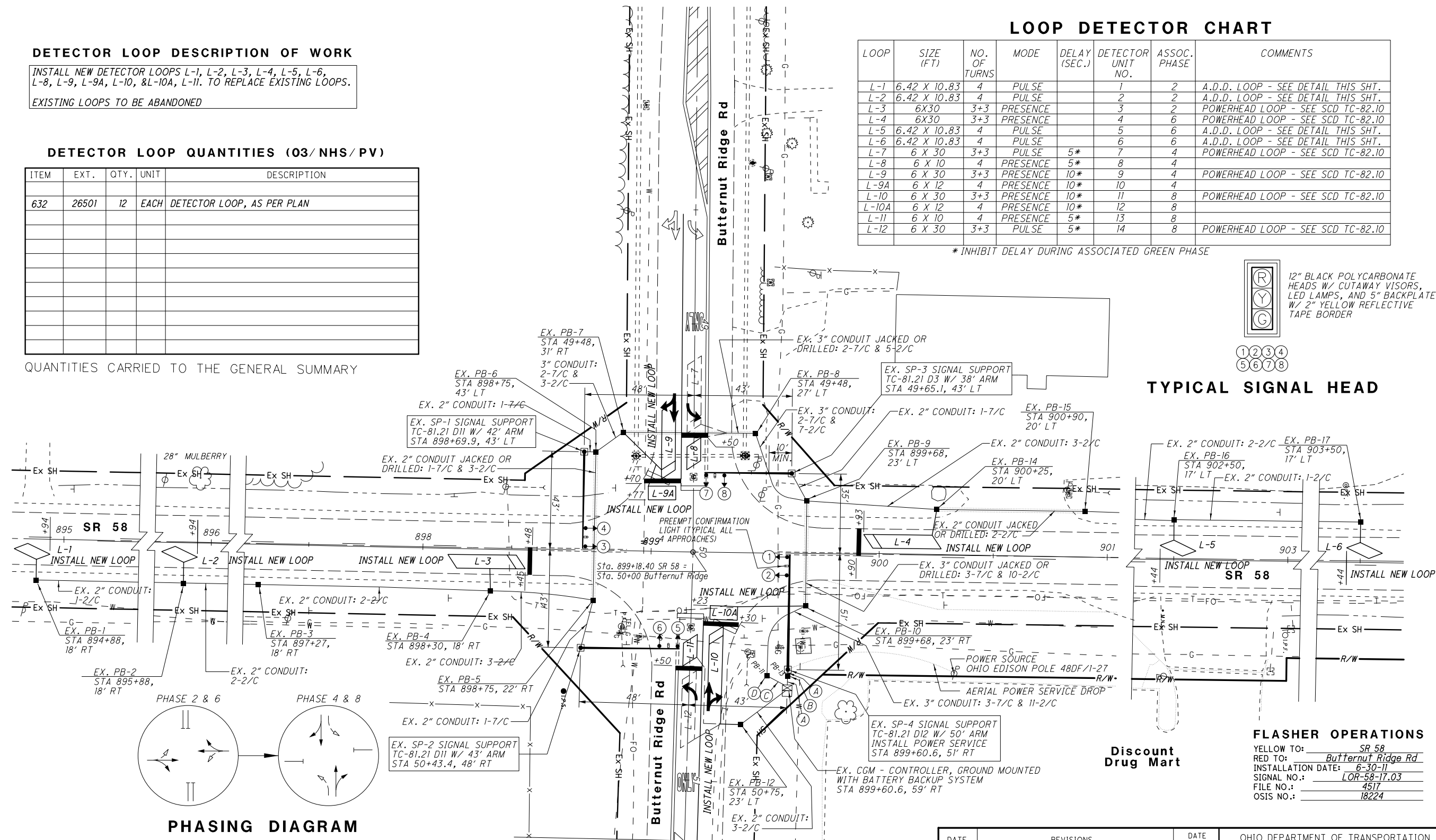
LOOP DETECTOR CHART

LOOP	SIZE (FT)	NO. OF TURNS	MODE	DELAY (SEC.)	DETECTOR UNIT NO.	ASSOC. PHASE	COMMENTS
L-1	6.42 X 10.83	4	PULSE		1	2	A.D.D. LOOP - SEE DETAIL THIS SHT.
L-2	6.42 X 10.83	4	PULSE		2	2	A.D.D. LOOP - SEE DETAIL THIS SHT.
L-3	6X30	3+3	PRESENCE		3	2	POWERHEAD LOOP - SEE SCD TC-82.10
L-4	6X30	3+3	PRESENCE		4	6	POWERHEAD LOOP - SEE SCD TC-82.10
L-5	6.42 X 10.83	4	PULSE		5	6	A.D.D. LOOP - SEE DETAIL THIS SHT.
L-6	6.42 X 10.83	4	PULSE		6	6	A.D.D. LOOP - SEE DETAIL THIS SHT.
L-7	6 X 30	3+3	PULSE	5*	7	4	POWERHEAD LOOP - SEE SCD TC-82.10
L-8	6 X 10	4	PRESENCE	5*	8	4	
L-9	6 X 30	3+3	PRESENCE	10*	9	4	POWERHEAD LOOP - SEE SCD TC-82.10
L-9A	6 X 12	4	PRESENCE	10*	10	4	
L-10	6 X 30	3+3	PRESENCE	10*	11	8	POWERHEAD LOOP - SEE SCD TC-82.10
L-10A	6 X 12	4	PRESENCE	10*	12	8	
L-11	6 X 10	4	PRESENCE	5*	13	8	
L-12	6 X 30	3+3	PULSE	5*	14	8	POWERHEAD LOOP - SEE SCD TC-82.10

*INHIBIT DELAY DURING ASSOCIATED GREEN PHASE



TYPICAL SIGNAL HEAD



PHASING DIAGRAM

PHASING IDENTIFICATION

future use		future use	
PHASE 1		PHASE 2	
future use		future use	
PHASE 5		PHASE 7	
future use		future use	
PHASE 3		PHASE 4	
future use		future use	
PHASE 6		PHASE 8	

JUMPERS INSTALLED ON BACKPANEL AS FOLLOWS:
PH 2 ON TO PH 1 OMIT
PH 6 ON TO PH 5 OMIT
PH 4 ON TO PH 3 OMIT
PH 8 ON TO PH 7 OMIT
THESE JUMPERS SHALL BE INSTALLED ON THE FRONT OF THE PANEL AND SHALL BE EASILY REMOVED IF NEEDED.

- (A) EX. 2" CONDUIT: 1-7/C AND 2" CONDUIT (725.04): 1-2/C POWER
- (B) EX. PB-13, STA 899+60.6, 54' RT
- (C) EX. 3" CONDUIT: 3-7/C & 11-2/C
- (D) EX. PB-11, STA 899+51.6, 54' RT

Discount Drug Mart

FLASHER OPERATIONS

YELLOW TO: SR 58
RED TO: Butternut Ridge Rd
INSTALLATION DATE: 6-30-11
SIGNAL NO.: LOR-58-17.03
FILE NO.: 4517
OSIS NO.: 18224

DATE	REVISIONS	DATE INSTALLED	OHIO DEPARTMENT OF TRANSPORTATION
9-19-13	PID 86730 - REPLACE EX. DETECTOR LOOP		ELECTRICAL INSTALLATION LOCATED AT
			SR 58 & BUTTERNUT RIDGE RD
			DISTRICT 3 COUNTY LORAIN
			DRAWN RJR 6/30
			REVIEWED

DETECTOR LOOP DESCRIPTION OF WORK

INSTALL NEW DETECTOR LOOPS L-1, L-2, L-2A, L-3, L-4, L-5, L-5A, L-6, L-9, L-9A, L-10, & L-10A. TO REPLACE EXISTING LOOPS.
EXISTING LOOPS TO BE ABANDONED

DETECTOR LOOP QUANTITIES (03/NHS/PV)

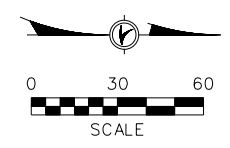
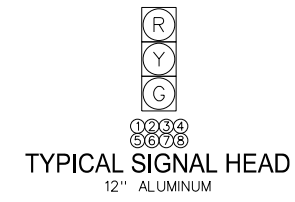
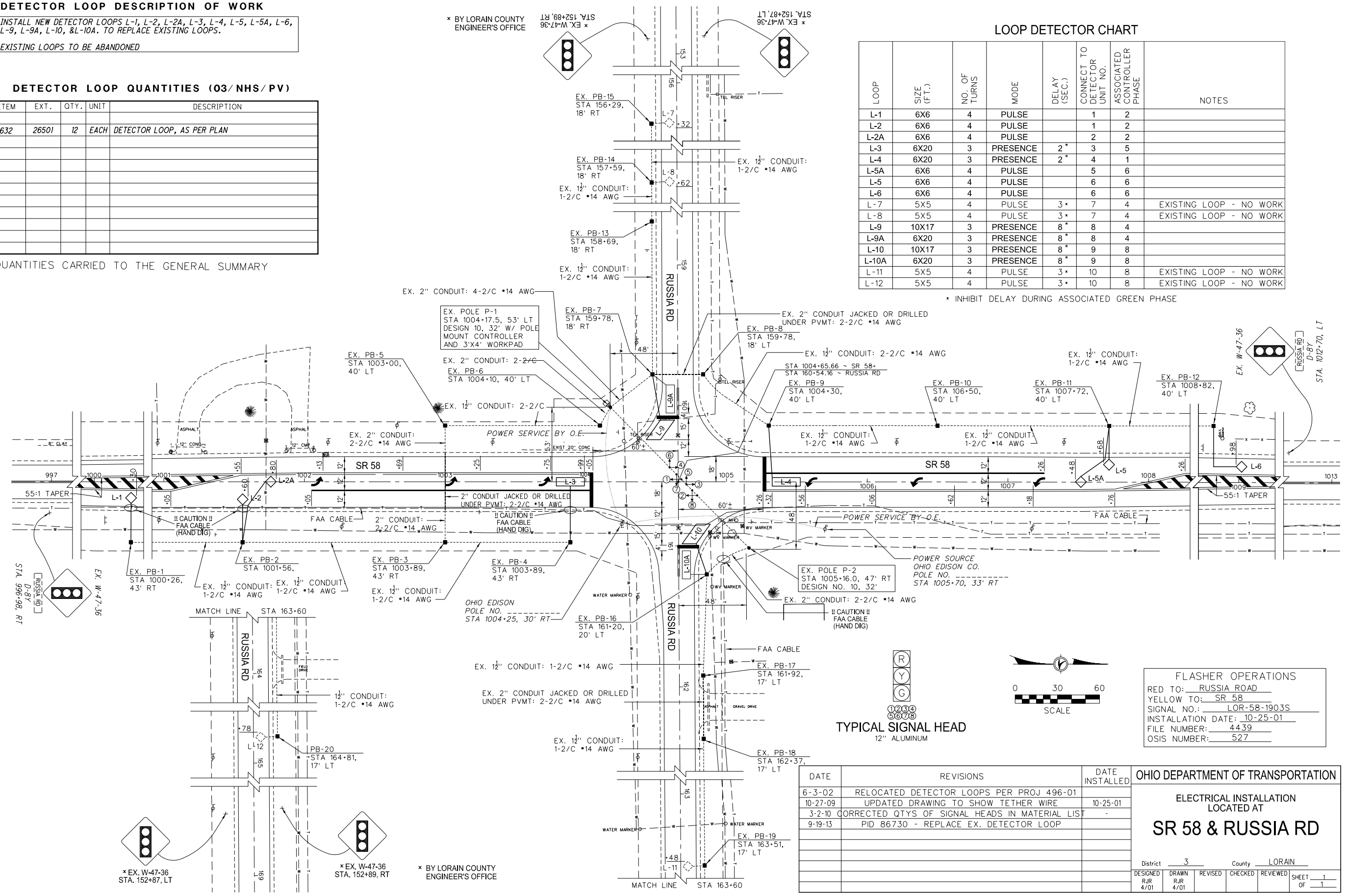
ITEM	EXT.	QTY.	UNIT	DESCRIPTION
632	26501	12	EACH	DETECTOR LOOP, AS PER PLAN

QUANTITIES CARRIED TO THE GENERAL SUMMARY

LOOP DETECTOR CHART

LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE	NOTES
L-1	6X6	4	PULSE		1	2	
L-2	6X6	4	PULSE		1	2	
L-2A	6X6	4	PULSE		2	2	
L-3	6X20	3	PRESENCE	2*	3	5	
L-4	6X20	3	PRESENCE	2*	4	1	
L-5	6X6	4	PULSE		5	6	
L-6	6X6	4	PULSE		6	6	
L-7	5X5	4	PULSE	3*	7	4	EXISTING LOOP - NO WORK
L-8	5X5	4	PULSE	3*	7	4	EXISTING LOOP - NO WORK
L-9	10X17	3	PRESENCE	8*	8	4	
L-9A	6X20	3	PRESENCE	8*	8	4	
L-10	10X17	3	PRESENCE	8*	9	8	
L-10A	6X20	3	PRESENCE	8*	9	8	
L-11	5X5	4	PULSE	3*	10	8	EXISTING LOOP - NO WORK
L-12	5X5	4	PULSE	3*	10	8	EXISTING LOOP - NO WORK

* INHIBIT DELAY DURING ASSOCIATED GREEN PHASE



FLASHER OPERATIONS
RED TO: RUSSIA ROAD
YELLOW TO: SR 58
SIGNAL NO.: LOR-58-1903S
INSTALLATION DATE: 10-25-01
FILE NUMBER: 4439
OSIS NUMBER: 527

DATE	REVISIONS	DATE INSTALLED
6-3-02	RELOCATED DETECTOR LOOPS PER PROJ 496-01	
10-27-09	UPDATED DRAWING TO SHOW TETHER WIRE	10-25-01
3-2-10	CORRECTED QTY'S OF SIGNAL HEADS IN MATERIAL LIST	
9-19-13	PID 86730 - REPLACE EX. DETECTOR LOOP	

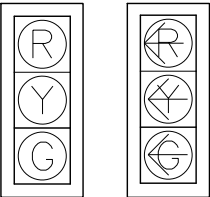
OHIO DEPARTMENT OF TRANSPORTATION
ELECTRICAL INSTALLATION LOCATED AT
SR 58 & RUSSIA RD

District 3 County LORAIN

DESIGNED RJR 4/01	DRAWN RJR 4/01	REVISED	CHECKED	REVIEWED	SHEET 1 OF 1
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DESIGN FILE: \\projects\66730\roadway\sheets\Loops - LOR-58&Russia.dgn
WORKSTATION:salay DATE:10/11/2013 MODELNAME: Model

* BY LORAIN COUNTY ENGINEER'S OFFICE



2,3,5,6, 1,4,7,
8,9,11,&12 &10
SIGNAL INDICATIONS
L.E.D. 12" POLYCARBONATE
WITH 5" ALUMINUM BACK PLATES
AND 1" YELLOW REFLECTIVE
BORDER ALONG PERIMETER

LOOP DETECTOR CHART

LOOP NO.	SIZE (FT)	TURNS	MODE	DELAY (SEC.)	UNIT NO.	ASSOC PHASE	COMMENTS
L-1	8x20	2	PRESENCE	2	1	1	
L-2	8x20	2	PRESENCE	10	2	6	
L-3	8x20	2	PRESENCE	10	2	6	
L-4A,B	6x6	3	PULSE	2	11	6	
L-5A,B	6x6	3	PULSE	2	3	6	
L-6							NOT USED
L-7	8x20	2	PRESENCE	2	4	5	
L-8	8x20	2	PRESENCE	10	5	2	
L-9	8x20	2	PRESENCE	10	5	2	
L-10,10A	6.4'x10.8'	4	PULSE	2	12	2	
L-11,11A	6.4'x10.8'	4	PULSE	2	6	2	ADD LOOPS
L-12	6x25'	3-3	PRESENCE	2	7	7	POWERHEAD
L-13							NOT USED
L-14							NOT USED
L-15	6x10	2	PULSE		13	4	
L-16	6x10	2	PULSE		8	4	
L-17	6x25'	3-3	PRESENCE	2	9	3	POWERHEAD
L-18							NOT USED
L-19							NOT USED
L-20A,B	6x8	3	PULSE		14	8	
L-21	6x8	3	PULSE		10	8	
L-22	6x8	3	PULSE		10	8	

* INHIBIT DELAY DURING ASSOCIATED PHASE GREEN INTERVAL

WORK DESCRIPTION

INSTALL NEW DETECTOR LOOPS L-4A, L-4B, L-5A, L-5B. TO REPLACE EXISTING LOOPS.
EXISTING LOOPS TO BE ABANDONED.

DETECTOR LOOP QUANTITIES (01/S< 2/PV)

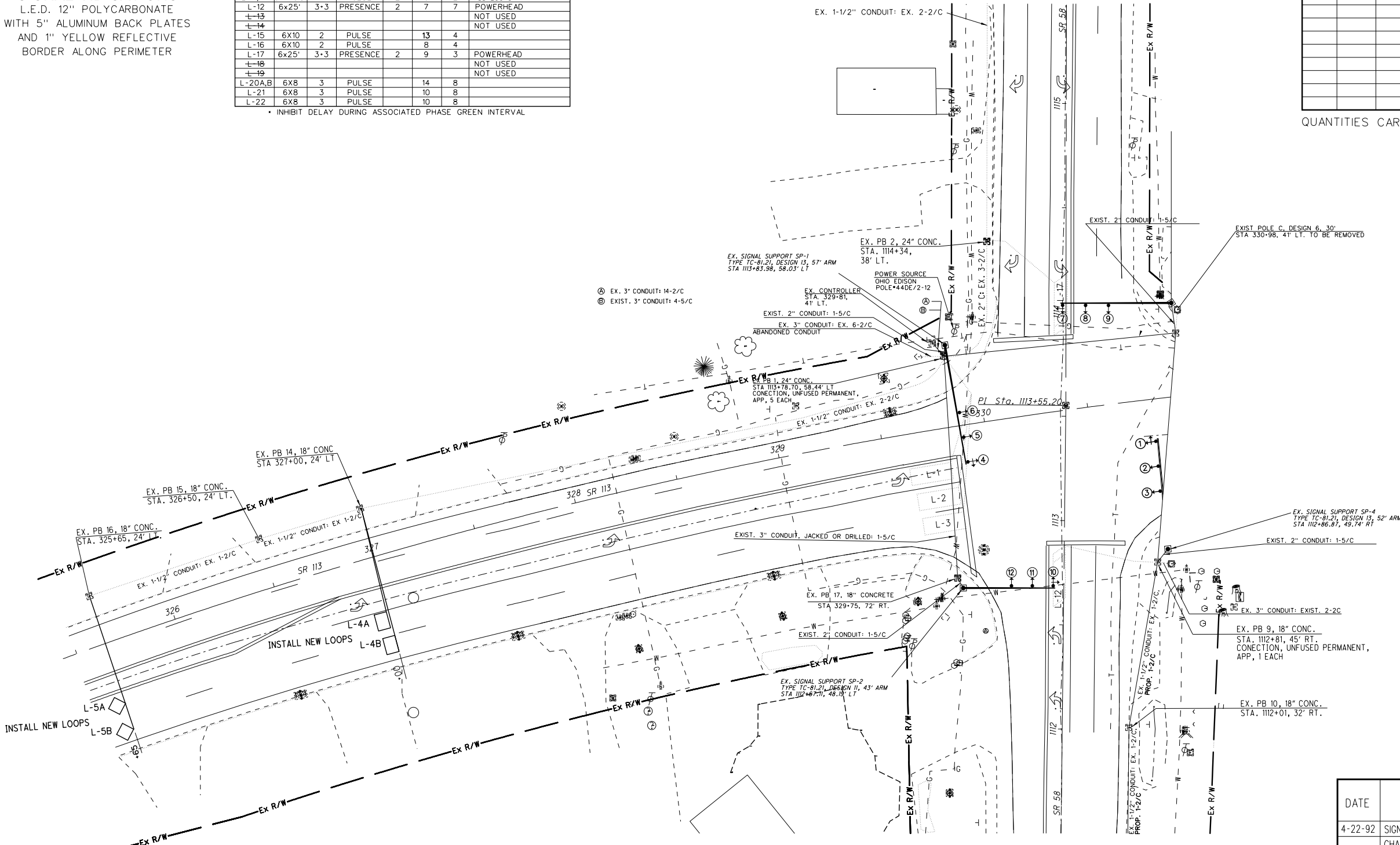
ITEM	EXT.	QTY.	UNIT	DESCRIPTION
632	26501	4	EACH	DETECTOR LOOP, AS PER PLAN

QUANTITIES CARRIED TO THE GENERAL SUMMARY



DESIGNED: MKP
CHECKED: KRB
LOOP DETECTOR REPLACEMENT SR58 & SR113

DESIGN FILE: \\projects\66730\roadway\sheets\Loops - L58&113.dgn
MODELNAME: Design
WORKSTATION:salay
DATE:10/11/2013



DATE	REVISIONS	DATE INSTALLED
4-22-92	SIGNAL UPGRADE TO 8 PHASES PER PROJ. 778-92	4-19-93
---	CHANGED SR 58 LT TURN PHASING FROM PERMISSIVE TO PROTECTED. INSTALLED NEW HEADS 7 & 10.	9-25-96
12-6-06	ADDED LOOP DETECTOR CHART	
4-23-07	REVISED LOOP L-17 PROJ 233-05	4-23-07
6-23-08	NEW SIGNAL HEADS - PROJ. 410-06	?
7-18-11	PROJ 82(11)-UPGRADE LOOPS L-10, 10A, 11, 11A, 12 & 17	8-8-11
5-24-12	INSTALLED RED ARROWS IN HEADS 1,4,7,10. REMOVED "LEFT TURN SIGNAL" SIGNS.	5-21-12
5-24-12	PROJ 332(10)-INSTALLED UPS	?
8-13-13	REPLACE L-15 LOOP WITH A.D.D. LOOP	8/13
9-19-13	PID 86730 - REPLACE EX. DETECTOR LOOP	8/13

LOR-58-16.51
LOR-113-6.48

LOR-58-19.30 SFN 4703308 02/S<2/BR

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	98200	92	FT	REMOVAL MISC.: JOINT SEALER	28
202	11301	12	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	28
202	38500	40.6	FT	BRIDGE RAILING REMOVED	
509	10000	922	POUND	EPOXY COATED REINFORCING STEEL	
511	34410	5	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)	
511	45710	4	CU YD	CLASS QC1 CONCRETE, ABUTMENT (REPAIR)	
511	53012	4	CU YD	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR	28
512	10100	30	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
516	31000	92	FT	JOINT SEALER	
517	70000	53.43	FT	RAILING (TWIN STEEL TUBE)	
848	10201	91	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2" THICK)	29
848	20000	79	SQ YD	SURFACE PREPARATION USING HYRDDEMOLITION	
848	30201	2	CU YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, APP	29
848	50000	6	SQ YD	HAND CHIPPING	
848	50100	LUMP		TEST SLAB	
848	50320	79	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1.5" NOMINAL THICKNESS)	

COUNTY, ROUTE, BRIDGE NO.	LOCATION	STRUCTURE TYPE	LENGTH (BRIDGE DECK) FT.	WIDTH FT.	BRIDGE DECK AREA SQ. YD.	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH FT.	EXISTING APPROACH SLAB WIDTH FT.	EXISTING APPROACH SLAB LENGTH FT.
*LOR-58-19.30	OVER SQUIRES SCHRAMM DTICH	SINGLE SLAB CONCRETE SLAB	20' 3"±	40' ±	90±	29° L.F.	CONCRETE	36	24' ±	15

*PLANE AND PAVE 1" ON APPROACH SLABS. OMIT RESURFACING OVER BRIDGE DECK (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK).
 (SEE ROADWAY PLANS FOR PAVING AND PLANING QUANTITIES).

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATION FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2003, 2004, 2005 AND 2006 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA:

CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI
 CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI
 REINFORCING STEEL - ASTM A615 OR A996, GRADE 60, MINIMUM YIELD STRENGTH 60,000 PSI

UTILITIES:

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

PLACING ASPHALT CONCRETE ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN WHEN PLACING THE ASPHALT CONCRETE BUTT JOINT TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

EXISTING PLANS:

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OH.

STRUCTURE #	PLAN NAME	DATE
LOR-58-19.30	LOR-58-16.51	1962
	LOR-58-26.57	2001

DECK PROTECTION METHOD:

SUPERPLASTICIZED DENSE CONCRETE OVERLAY
 CONCRETE DRIP STRIP

ITEM 202 - REMOVAL MISC.: JOINT SEALER:

THIS ITEM SHALL BE USED TO REMOVE ANY EXISTING JOINT SEALER LOCATED BETWEEN THE APPROACH SLAB AND THE DECK OR BACKWALL.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR THE ABOVE ITEM, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN:

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. PRIOR TO CONCRETE PLACEMENT. ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 511, CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR:

THE ITEM SHALL BE USED FOR THE APPROACH SLAB REPAIRS AT THE LOCATIONS INDICATED IN THE PLANS.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

IN-STREAM WORK RESTRICTION LOR-58-19.30:

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID CONSTRUCTION IN AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING STREAMS OR WETLANDS. ANY MATERIAL THAT DOES FALL INTO STREAMS OR WETLANDS SHALL BE REMOVED AS SOON AS POSSIBLE.

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. IT IS ANTICIPATED THAT NO IN-STREAM WORK, OR WORK UNDER THE STREAM'S ORDINARY HIGH WATER MARK (OHWM) WILL BE NEEDED. THEREFORE NO WATERWAY PERMITS HAVE BEEN GRANTED FOR THE LOR-58-19.30 STRUCTURE AND NO IN-STREAM WORK IS ALLOWED.

SHOULD WORK (EITHER TEMPORARY OR PERMANENT) IN THE STREAM IS NEEDED; IT WILL REQUIRE A PERMIT AND AUTHORIZATION BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE). THE CONTRACTOR SHALL NOT UTILIZE FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. DETAILS OF THIS REQUIREMENT ARE DESCRIBED IN ODOT'S SUPPLEMENTAL SPECIFICATION 832.09.

USACE DEFINITION OF OHWM - THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AND INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS A CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVEING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

STRUCTURE GENERAL NOTES

LOR-58-16.51
 LOR-113-6.48

DESIGN FILE: \\projects\866730\structures\866730-STR NOTES.dgn MODELNAME: Design
 WORKSTATION: salay DATE: 10/11/2013

ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURE LOR-58-1930:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON STRUCTURE LOR-58-1930 SHALL HAVE A SIGNALIZED CLOSURE AS SHOWN ON SHEET 30 FOR A MAXIMUM OF 75 CONSECUTIVE CALENDAR DAYS (TOTAL BOTH PHASES). THE 75 CONSECUTIVE DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 75 CALENDAR DAYS THAT THE HIGHWAY REMAINS IN A SIGNALIZED CLOSURE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE OF \$1,000 A DAY.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED OTHER THAN BEHIND THE BARRIER.

ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (A).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

TEMPORARY TRAFFIC SIGNAL ACTIVATION FOR PARTIAL ROADWAY CLOSURE:

THE CONTRACTOR SHALL NOTIFY ODOT DISTRICT 3 PUBLIC INFORMATION OFFICER (PIO) A MINIMUM TEN (10) CALENDAR DAYS ADVANCE NOTICE BEFORE ACTIVATING A TEMPORARY TRAFFIC SIGNAL TO STOP-AND-GO OPERATION FOR PARTIAL ROADWAY CLOSURE.

THE PIO CONTACT INFORMATION IS AS FOLLOWS:

CHRISTINE MYERS
PUBLIC INFORMATION OFFICER
ODOT DISTRICT 3
906 CLARK AVENUE
ASHLAND, OH 44805
PHONE 419-207-7182

IN ADDITION, THE TEMPORARY TRAFFIC SIGNAL SHALL BE ACTIVATED PER THE REQUIREMENTS OF ODOT SCD MT-120.00. THE TEMPORARY TRAFFIC SIGNAL SHALL OPERATE IN FLASH MODE FIVE (5) TO SEVEN (7) DAYS PRIOR TO ACTIVATING TO STOP-AND-GO OPERATION. SIGNAL ACTIVATION SHALL NOT OCCUR ON WEEKENDS, MONDAYS, FRIDAYS, OR ANY DAY IMMEDIATELY BEFORE OR AFTER A STATE OBSERVED HOLIDAY.

ALL COSTS ASSOCIATED WITH THE ABOVE DESCRIBED WORK SHALL BE INCLUDED WITH ITEM 614 - MAINTAINING TRAFFIC.

ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN:

THE PAVEMENT FOR MAINTAINING TRAFFIC SHALL BE LEFT IN PLACE.

SAWCUTTING SHALL BE INCLUDED IN ITEM 615 TO CREATE A CLEAN STRAIGHT PAVEMENT EDGE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD OF THE ABOVE ITEM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 848 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY, AS PER PLAN (2" THICK):

ITEM 848 - SUPERPLASTICIZED DENSE CONCRETE OVERLAY, (VARIABLE THICKNESS), AS PER PLAN:

EACH ITEM SHALL BE USED AT THE LOCATIONS INDICATED IN THE PLANS.

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 614 - WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL):

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING A NON-GATING IMPACT ATTENUATOR. FURNISH AN IMPACT ATTENUATOR FROM THE OFFICE OF ROADWAY ENGINEERING APPROVED LIST FOR WORK ZONE IMPACT ATTENUATORS. THE APPROVED LIST IS AVAILABLE AT THE "ROADWAY STANDARDS: PROPRIETARY ROADSIDE SAFETY DEVICES" WEB PAGE ON THE OFFICE OF ROADWAY ENGINEERING WEBSITE.

INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE CONTRACTOR SHALL REPAIR OR REPLACE A DAMAGED UNIT WITHIN 24 HOURS OF A DAMAGING IMPACT.

WHEN BIDIRECTIONAL DESIGNS ARE SPECIFIED, THE CONTRACTOR SHALL SUPPLY APPROPRIATE TRANSITIONS.

WHEN GATING IMPACT ATTENUATORS ARE DESIRED, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE ENGINEER FOR ACCEPTANCE.

THE COST FOR THE ADDITIONAL BARRIER REQUIRED FOR A GATING IMPACT ATTENUATOR SHALL BE INCLUDED IN THE COST OF THE GATING IMPACT ATTENUATOR.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT AND MAINTAIN A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED BACKUPS, TRANSITIONS, LEVELING PADS, HARDWARE AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

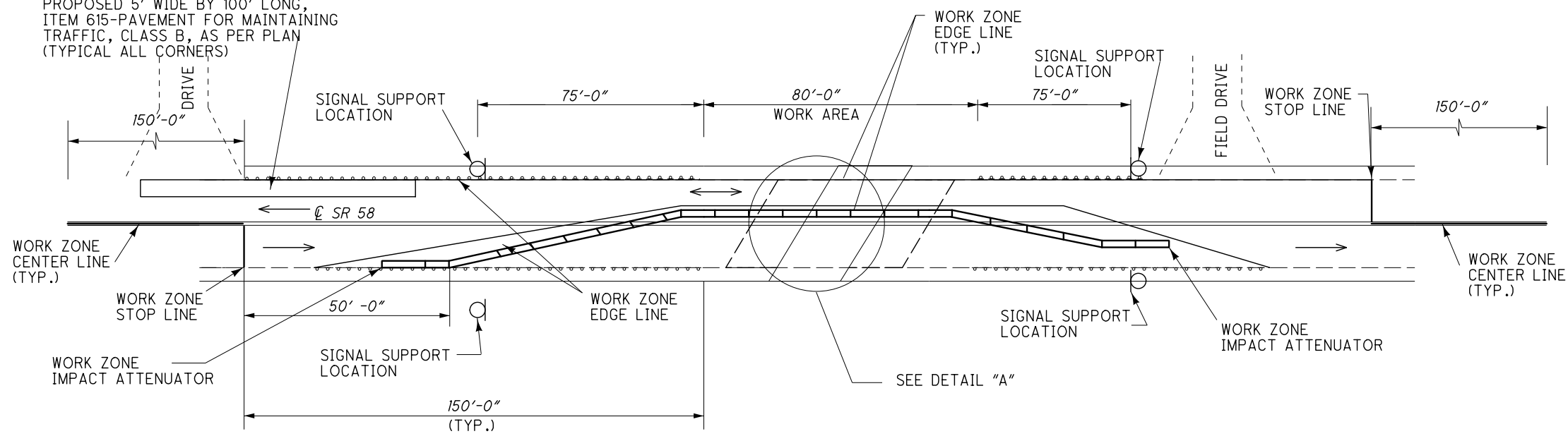
ITEM 614 - BARRIER REFLECTORS AND/OR OBJECT MARKERS:

BARRIER REFLECTORS AND/OR OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO CMS 626, EXCEPT THAT THE SPACING SHALL BE 50 FEET.

STRUCTURE GENERAL NOTES

LOR-58-16.51
LOR-113-6.48

PROPOSED 5' WIDE BY 100' LONG, ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN (TYPICAL ALL CORNERS)



M.O.T. DETAIL
PHASE A - SHOWN
PHASE B - SIMILAR

SIGNAL TIMING

A TWO PHASE CONTROLLER WITH CABINET CAPABLE OF BEING SET WITH THE FOLLOWING SPLITS SHALL BE FURNISHED

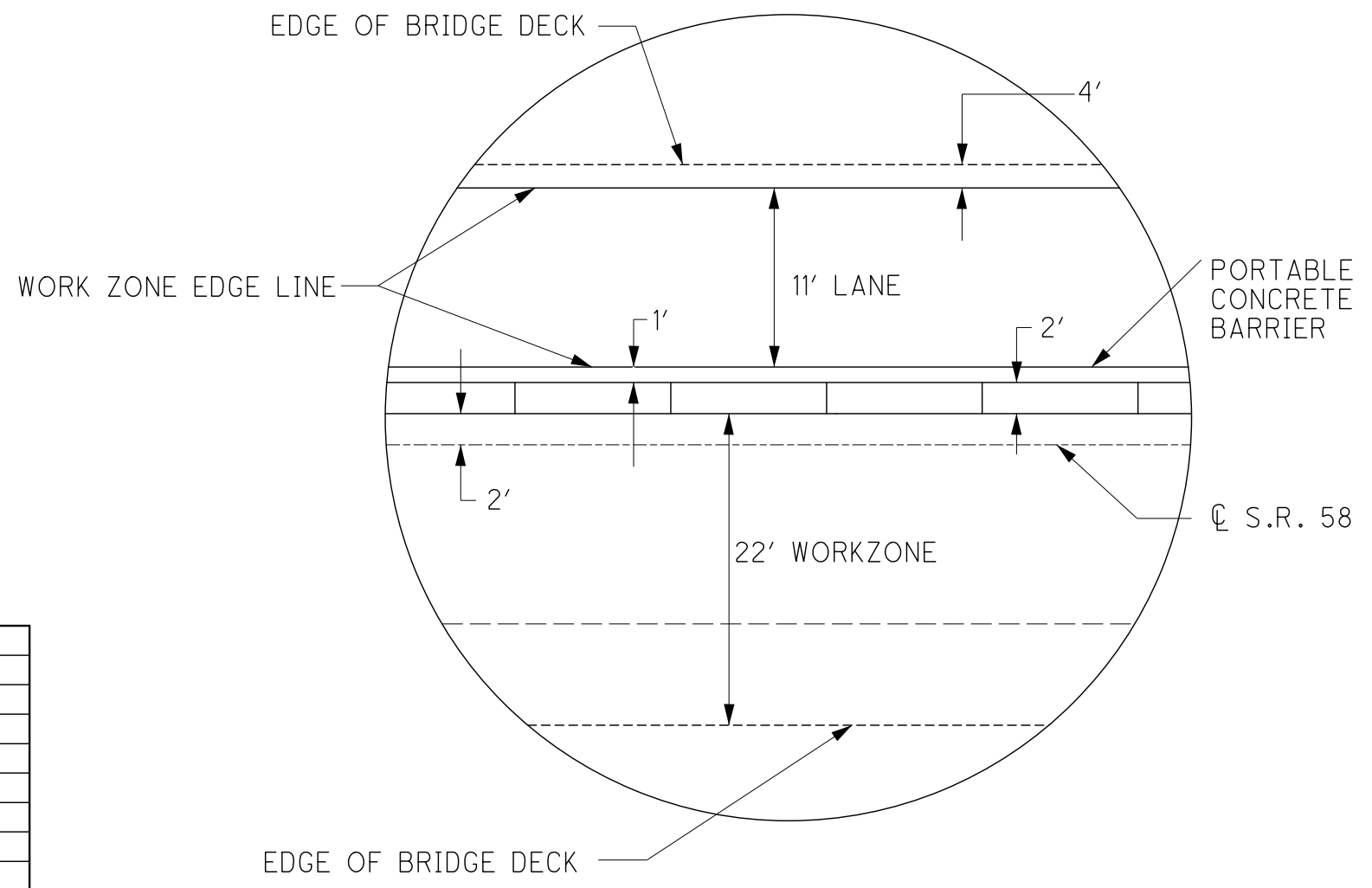
CYCLE LENGTH: 120 SECONDS

	GREEN	AMBER	RED
PHASE A	45	5	10
PHASE B	45	5	10

THE ABOVE TIMING MAYBE CHANGED WITH THE APPROVAL OF THE ENGINEER.

NOTES:

- 1) THE EXISTING BRIDGE RAILING IS NOT SHOWN IN THE PLAN VIEW.
- 2) FOR ADDITIONAL DETAILS, SEE SCDS MT-96.11, MT-96.20 AND MT-96.26.



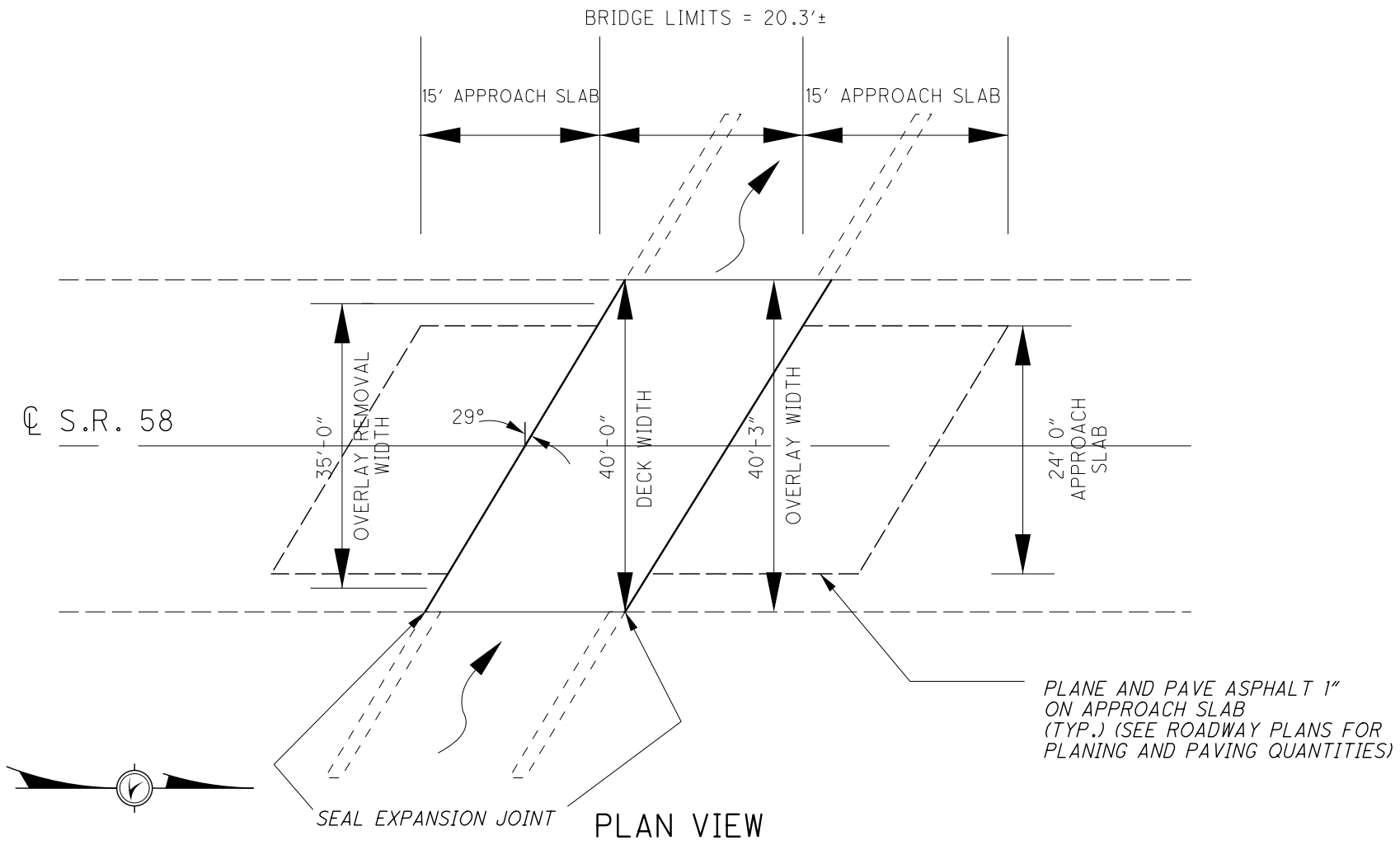
DETAIL A

ESTIMATED QUANTITIES (02/S<2/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
614	4	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)
614	13	EACH	BARRIER REFLECTOR, TYPE A2
614	12	EACH	BARRIER REFLECTOR, TYPE B2
614	10	EACH	OBJECT MARKER, TWO WAY
614	0.06	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
614	0.29	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I
614	24	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I
615	LUMP		ROADS FOR MAINTAINING TRAFFIC
615	222	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN
622	420	FT	PORTABLE BARRIER, 32"
622	40	FT	PORTABLE BARRIER, 32", BRIDGE MOUNTED (UNANCHORED)

ALL QUANTITIES CARRIED TO GENERAL SUMMARY SHEET.

DESIGN FILE: \\projects\86730\structures\MOT-LOR-58-19.30.dgn
WORKSTATION: salay DATE: 10/11/2013 MODELNAME: Design

DESIGN FILE: \\projects\86730\structures\86730-LOR-58-1930.dgn
 WORKSTATION: salay DATE: 10/11/2013 MODELNAME: Design



NOTES:

- 1) GUARDRAIL NOT SHOWN.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	92	FT	REMOVAL MISC.: JOINT SEALER
202	12	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	40.6	FT	BRIDGE RAILING REMOVED
509	922	POUND	EPOXY COATED REINFORCING STEEL
511	5	CU YD	CLASS QC2 CONCRETE SUPERSTRUCTURE, (RECONSTRUCTION)
511	4	CU YD	CLASS QC1 CONCRETE, ABUTMENT (REPAIR)
511	4	CU YD	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
512	30	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
516	92	FT	JOINT SEALER
517	53.43	FT	RAILING (TWIN STEEL TUBE)
848	91	SQ YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2" THICK)
848	2	CU YD	SUPERPLASTICIZED DENSE CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, APP
848	79	SQ YD	SURFACE PREPARATION USING HYDRODEMOLITION
848	LUMP		TEST SLAB
848	79	SQ YD	EXISTING CONCRETE OVERLAY REMOVED (1.5" NOMINAL THICKNESS)
848	6	SQ YD	HAND CHIPPING

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

DESIGN AGENCY
 ODOT - DISTRICT 3
 OFFICE OF
 PLANNING AND ENGINEERING

REVIEWED
 KRB
 DATE
 10-10-13
 STRUCTURE FILE NUMBER
 4703308

DRAWN
 MKP
 REVISIONS

DESIGNED
 MKP
 CHECKED
 DUJ

PLAN VIEW
 LOR-58-1930
 OVER SQUIRES SCHRAMM DITCH

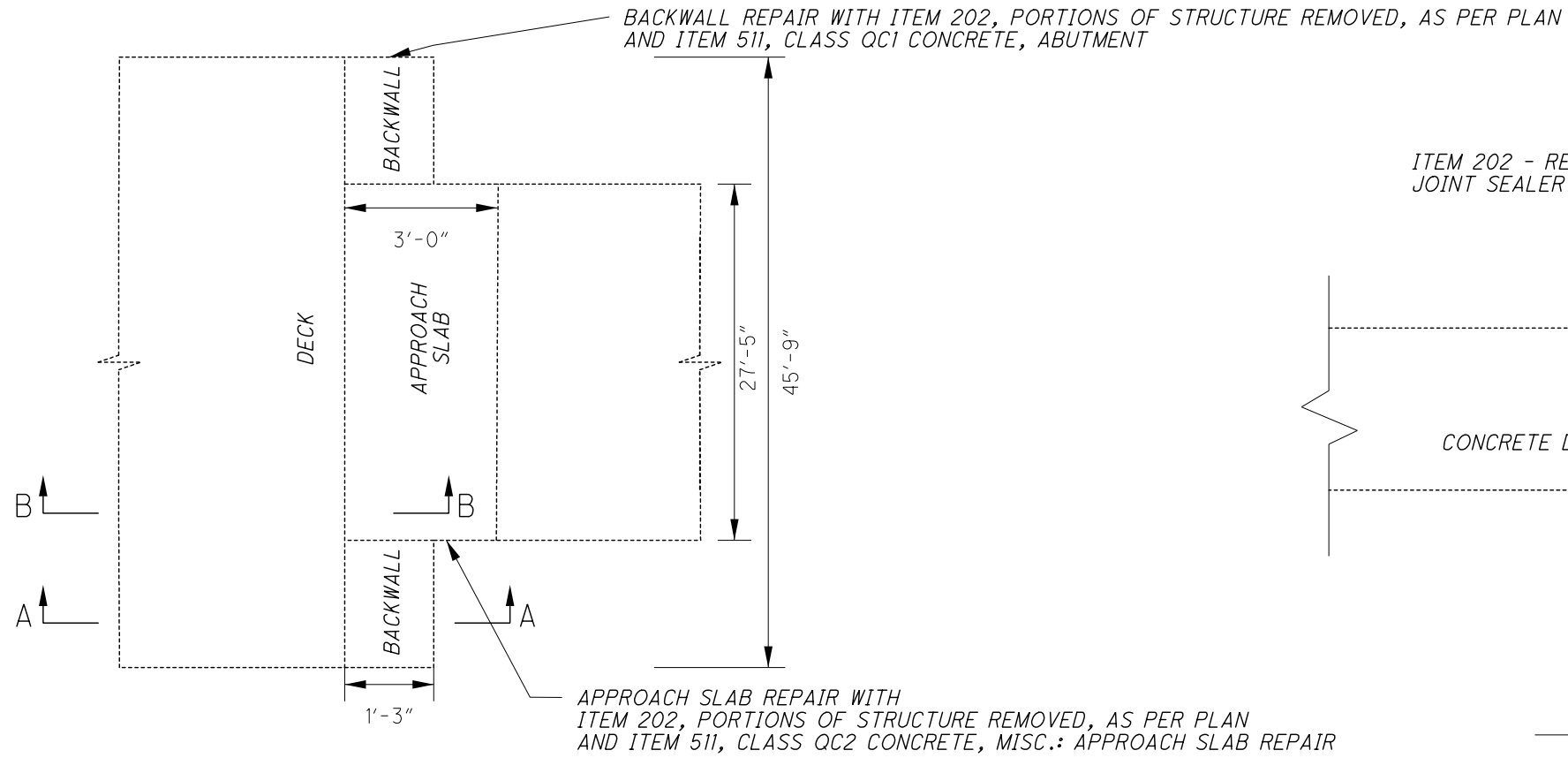
LOR-58-16.51
 LOR-113-6.48

1 / 4

31
 34

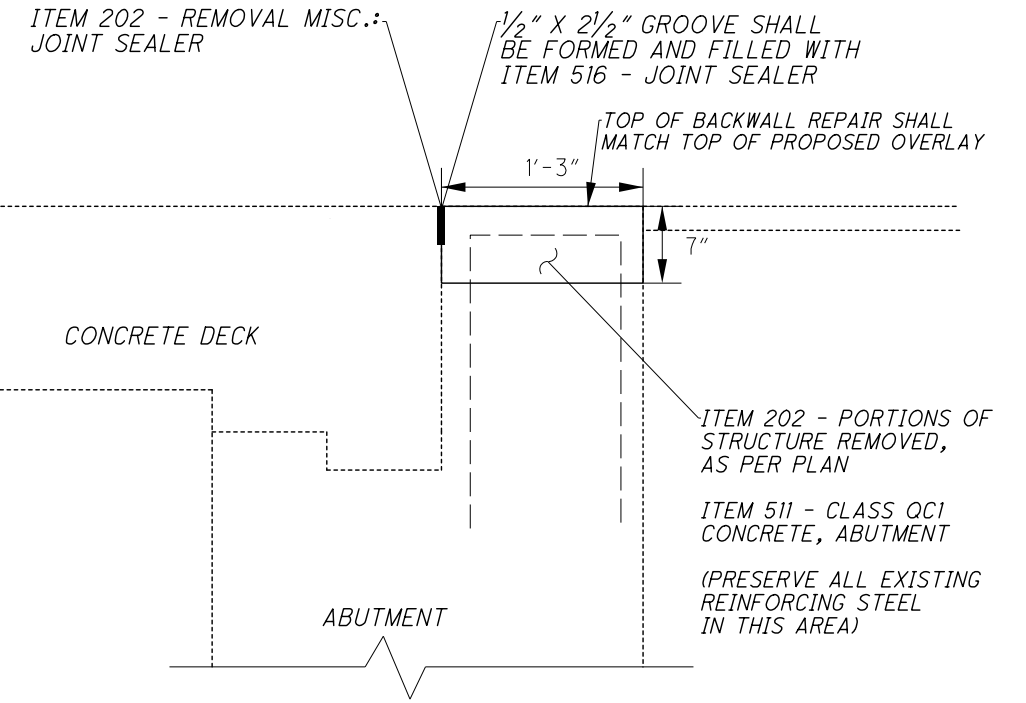
DESIGN FILE: \\projects\86730\structures\86730-LOR-58-1930.dgn
 WORKSTATION: salay DATE: 10/11/2013 MODELNAME: Design

BACKWALL AND APPROACH SLAB REPAIR

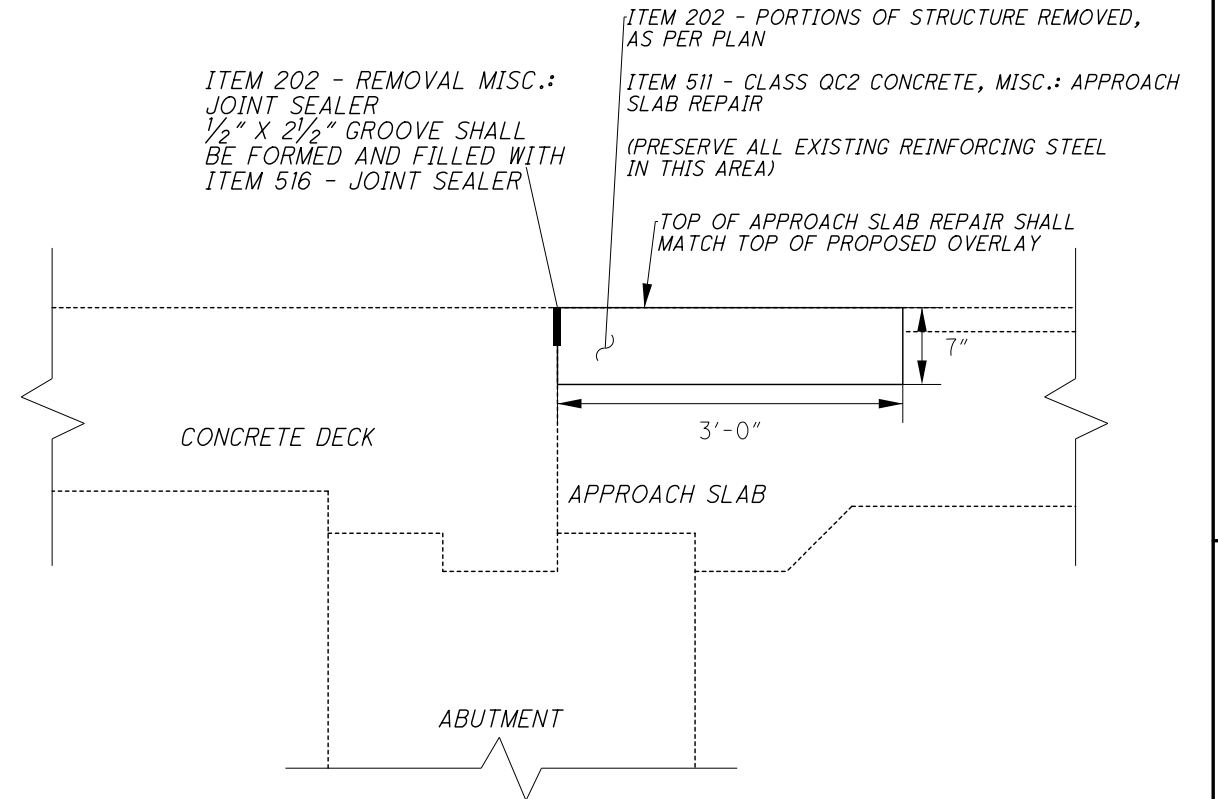


ITEM	QUANTITY	UNIT	DESCRIPTION
202	92	FT	REMOVAL MISC.: JOINT SEALER
202	5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	1	CU YD	CLASS QC1 CONCRETE, ABUTMENT (REPAIR)
511	4	CU YD	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
516	92	FT	JOINT SEALER

ALL QUANTITIES CARRIED TO SHEET 1/4.



SECTION A-A
BACKWALL REPAIR
(TYP.)



SECTION B-B
APPROACH SLAB REPAIR
(TYP.)

DESIGN AGENCY
ODOT - DISTRICT 3
OFFICE OF
PLANNING AND ENGINEERING

REVIEWED
KRB
DATE
10-10-13
STRUCTURE FILE NUMBER
4703308

DRAWN
MKP
REVIS
DESIGNED
MKP
CHECKED
DUJ

BACKWALL AND APPROACH SLAB REPAIR DETAILS
LOR-58-1930
OVER SQUIRES SCHRAMM DITCH

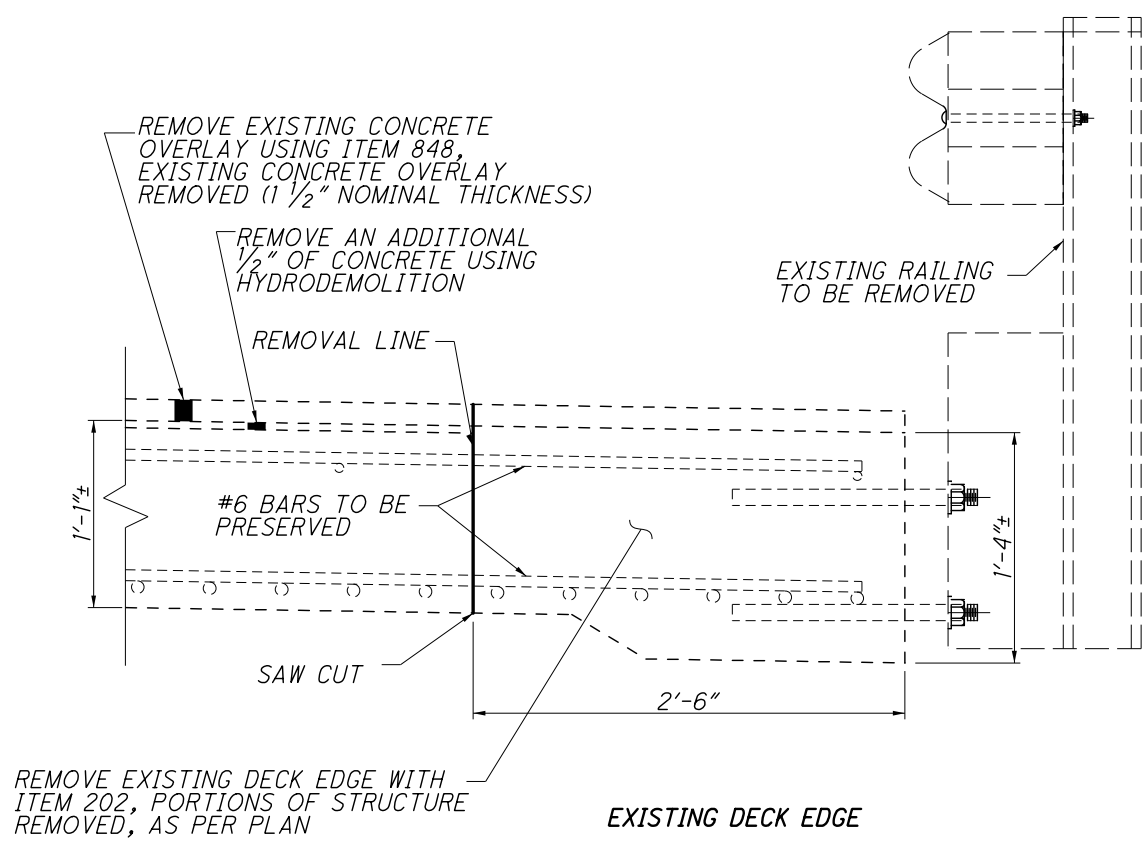
LOR-58-16.51
LOR-113-6.48

2 / 4

32
34

DESIGN FILE: \\projects\66730\structures\86730-LOR-58-1930.dgn
 WORKSTATION: salay DATE: 10/11/2013 MODELNAME: Design

DESIGN AGENCY: ODOT - DISTRICT 3
 OFFICE OF PLANNING AND ENGINEERING
 DATE: 10-10-13
 REVIEWED: KRB
 STRUCTURE FILE NUMBER: 4703308
 DRAWN: MKP
 CHECKED: DUJ
 DESIGNED: MKP
 DECK EDGE REPLACEMENT DETAILS
 LOR-58-16.51
 LOR-113-6.48
 OVER SQUIRES SCHRAMM DITCH
 3 / 4
 33
 34

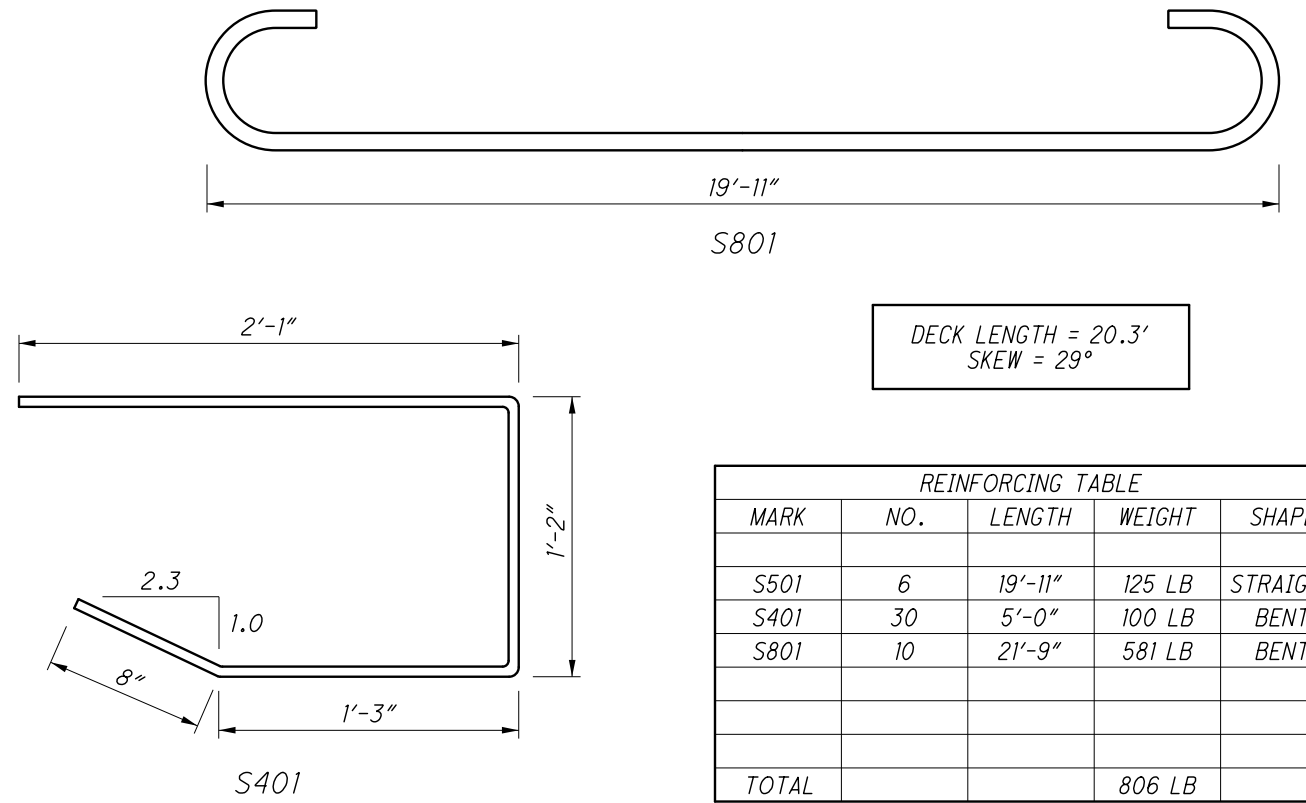
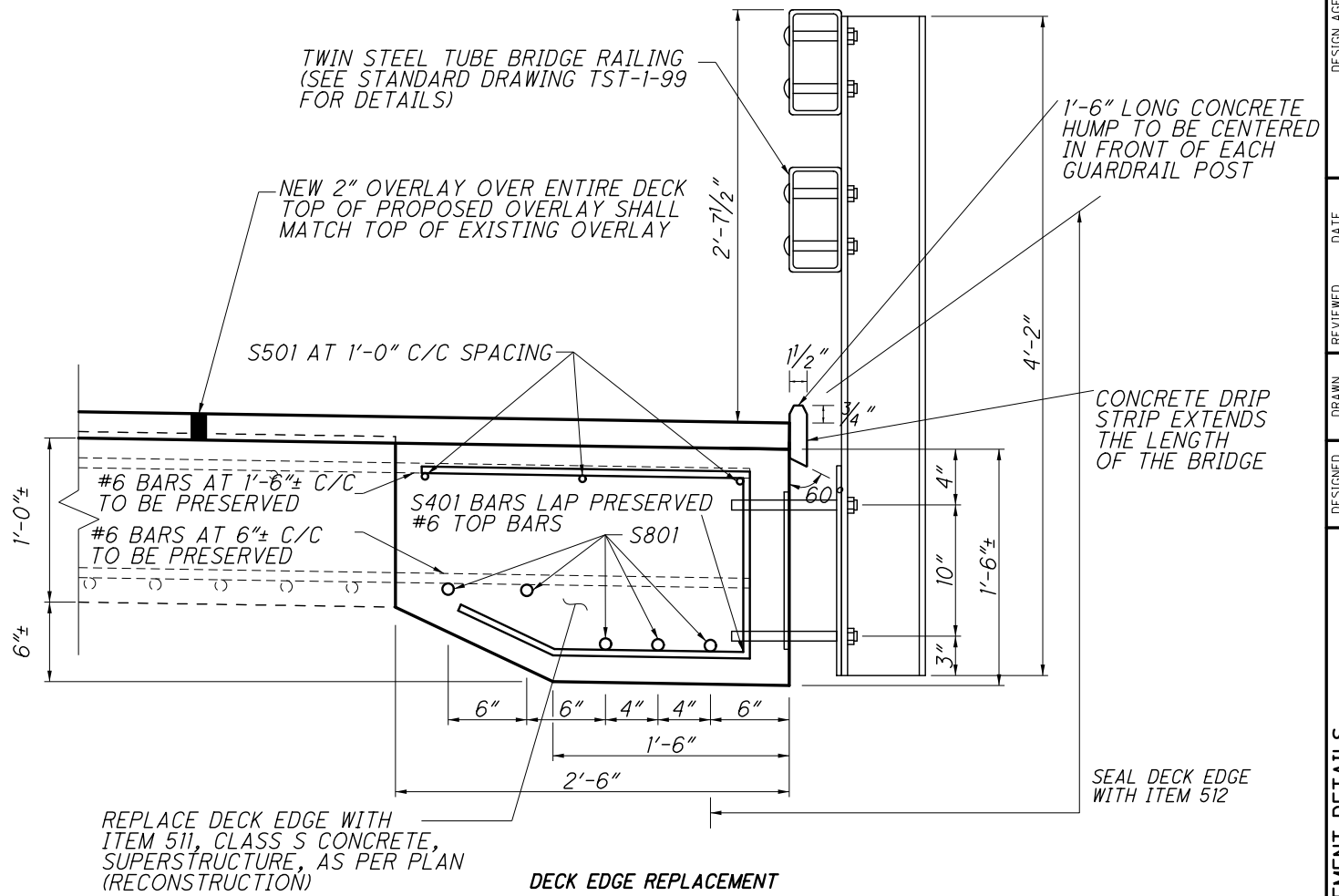


NOTES:

- 1) ALL SEALING SHALL BE PERFORMED AFTER ALL REPAIRS ARE MADE.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	5	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
202	40.6	FT	BRIDGE RAILING REMOVED
509	806	POUND	EPOXY COATED REINFORCING STEEL
511	5	CU YD	CLASS QC2 CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION)
512	19	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
517	53.43	FT	RAILING (TWIN STEEL TUBE)

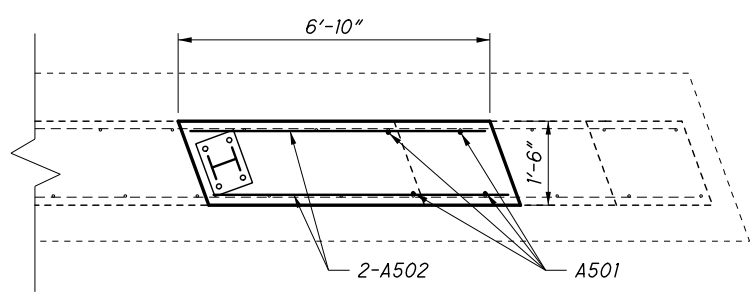
ALL QUANTITIES CARRIED TO SHEET 1/4.



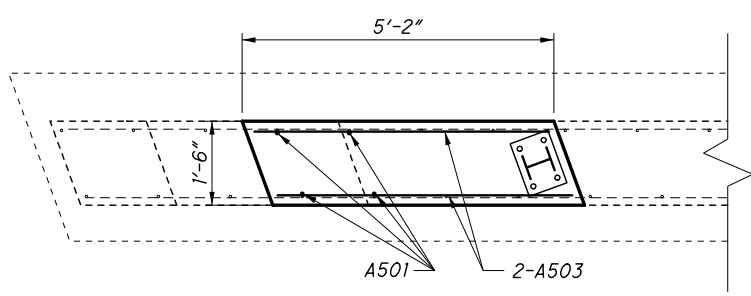
DECK LENGTH = 20.3'
 SKEW = 29°

MARK	NO.	LENGTH	WEIGHT	SHAPE
S501	6	19'-11"	125 LB	STRAIGHT
S401	30	5'-0"	100 LB	BENT
S801	10	21'-9"	581 LB	BENT
TOTAL			806 LB	

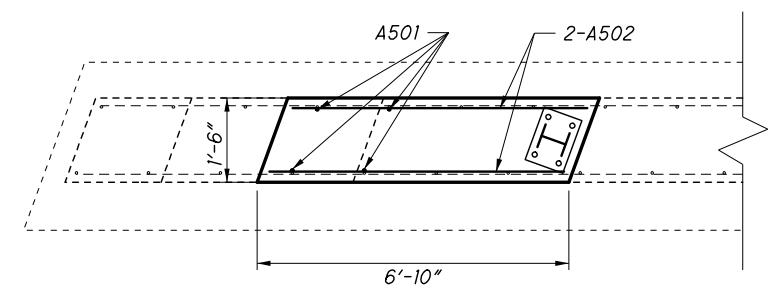
DESIGN FILE: \\projects\86730\structures\86730-LOR-58-1930.dgn
 MODELNAME: Design
 WORKSTATION:salay
 DATE:10/11/2013



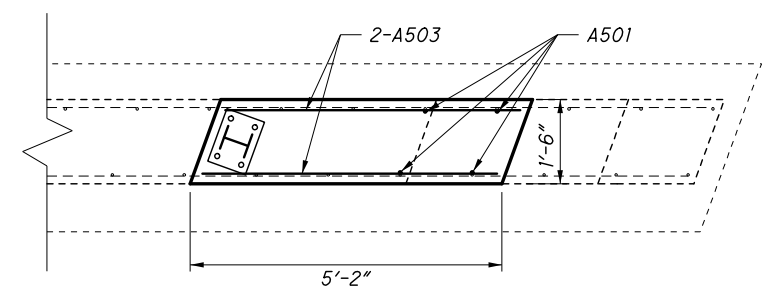
WINGWALL RECONSTRUCTION PLAN VIEW
REAR RIGHT SIDE



WINGWALL RECONSTRUCTION PLAN VIEW
REAR LEFT SIDE



WINGWALL RECONSTRUCTION PLAN VIEW
FORWARD LEFT SIDE



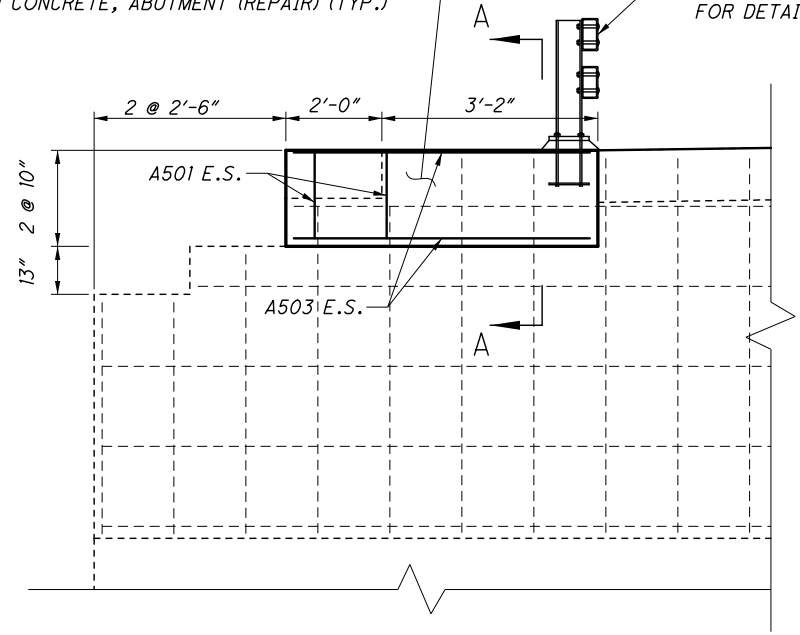
WINGWALL RECONSTRUCTION PLAN VIEW
FORWARD RIGHT SIDE

WINGWALL RECONSTRUCTION WITH
ITEM 202, PORTIONS OF STRUCTURE
REMOVED, AS PER PLAN AND ITEM 511, CLASS
QC1 CONCRETE, ABUTMENT (REPAIR) (TYP.)

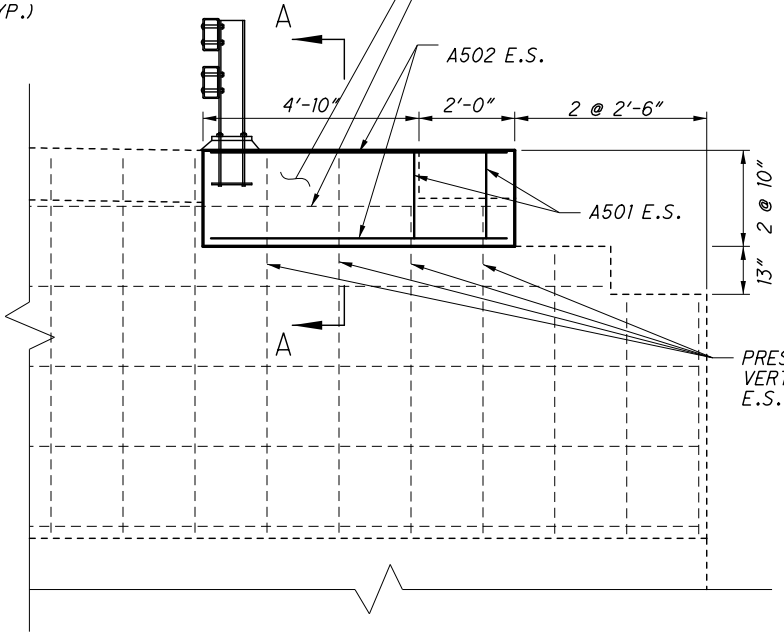
TWIN STEEL TUBE BRIDGE RAILING
(SEE STANDARD DRAWING TST-1-99
FOR DETAILS) (TYP.)

ITEM 512, SEALING OF CONCRETE
SURFACES (EPOXY-URETHANE) (TYP.)

PRESERVE EXISTING HORIZONTAL
#5 BAR IN REPAIR AREA (TYP.)



WINGWALL RECONSTRUCTION ELEVATION VIEW



PRESERVE EXISTING
VERTICAL #5 BARS
E.S. (TYP.)

LEGEND

E.S. - EACH SIDE

ITEM 512- SEALING OF CONCRETE
SURFACES (EPOXY-URETHANE)

TOP OF EXISTING WINGWALL
TOP OF PROPOSED WINGWALL SHALL MATCH
TOP OF PROPOSED OVERLAY

A501 LAP EXISTING
VERTICAL #5 BARS

EX. GROUND

A502/A503

SECTION A-A

NOTES:

- 1) ADJUST THE NEW #5 REINFORCING BARS TO AVOID THE PROPOSED TWIN STEEL TUBE BRIDGE RAILING ANCHOR BOLTS AND SPACER PLATE.
- 2) ALL SEALING SHALL BE PERFORMED AFTER ALL REPAIRS ARE MADE.

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	CU YD	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
509	116	POUND	EPOXY COATED REINFORCING STEEL
511	3	CU YD	CLASS QC1 CONCRETE, ABUTMENT (REPAIR)
512	11	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO SHEET 1/4.

REINFORCING TABLE				
MARK	NO.	LENGTH	WEIGHT	SHAPE
A501	16	1'-4"	22 LB	STRAIGHT
A502	8	6'-6"	54 LB	STRAIGHT
A503	8	4'-10"	40 LB	STRAIGHT
TOTAL			116 LB	