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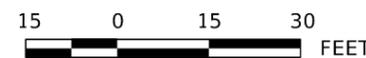
IDAHO TRANSPORTATION DEPARTMENT

PLAN AND PROFILE OF PROPOSED STC-5764, MAIN ST SILVER VALLEY RD BRIDGE

FEDERAL AID PROJECT NO. A019(292) KEY NO. 19292 CITY OF PINEHURST

JUNE 2024

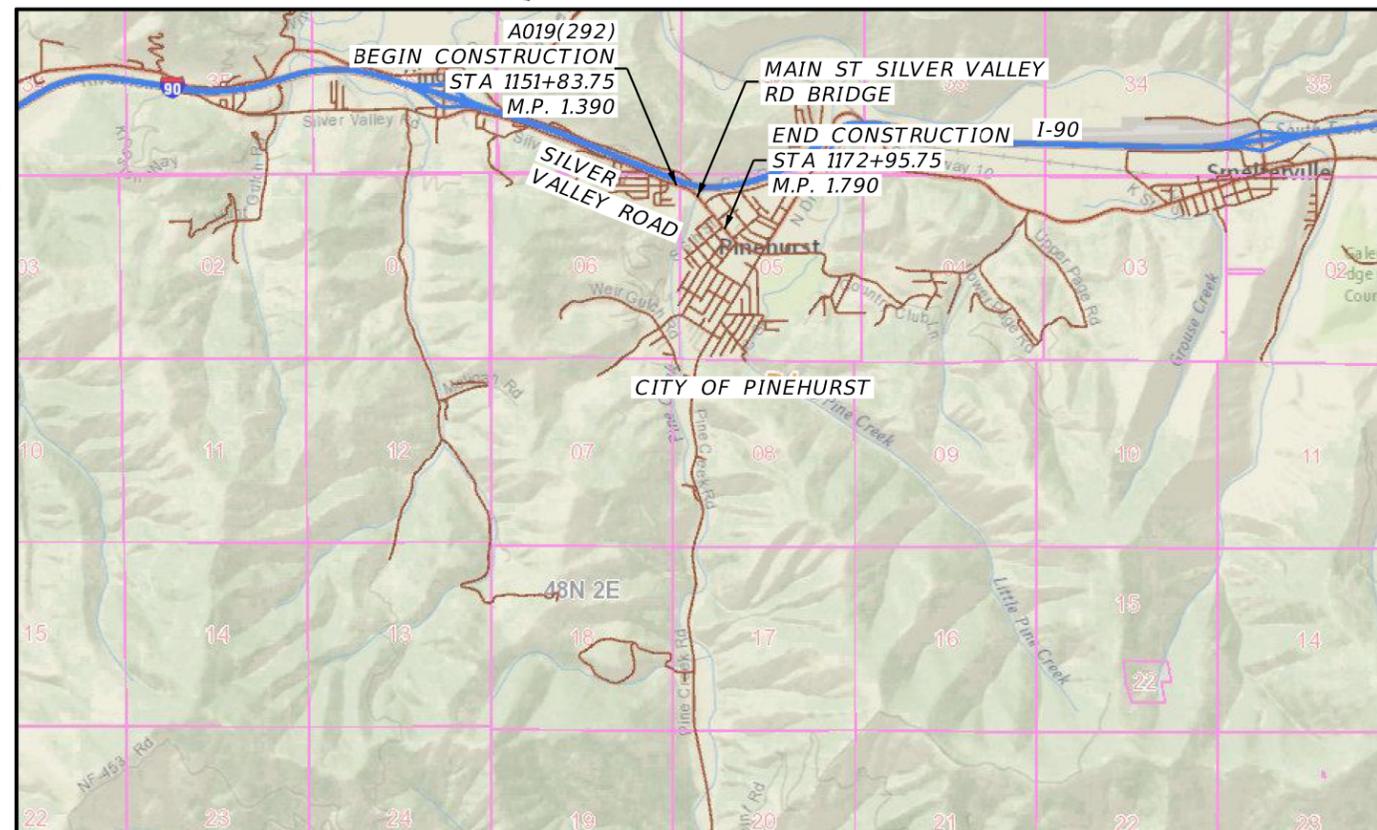
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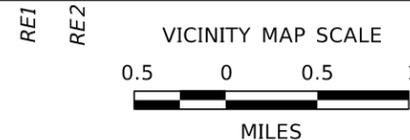
A019(292)
MAIN ST SILVER VALLEY
RD BRIDGE
SEGMENT CODE: 007490
STC-5764
M.P. 1.390 M.P. 1.790



T49N
T48N



T49N
T48N



DESIGN DESIGNATION		
ADT	2023	2400
ADT	2045	3600
DHV	2023	288
DHV	2045	432
D		60% 40%
V		35 MPH
TRUCKS:		
ADT	2023	140
ADT	2045	210
DHV	2023	17
DHV	2045	26

REVISIONS			
NO	DATE	BY	DESCRIPTION

THE DIMENSIONS SHOWN ON THE PLANS SHALL BE ATTAINED WITHIN LIMITS OF PRECISION THAT GOOD CONSTRUCTION PRACTICES WILL PERMIT

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME 19292 TITL 001.DGN
DRAWING DATE: 30-AUG-2024

**IDAHO
TRANSPORTATION DEPARTMENT**

YOUR Safety→YOUR Mobility→YOUR Economic Opportunity

HMH engineering

PROJECT NO.	A019(292)
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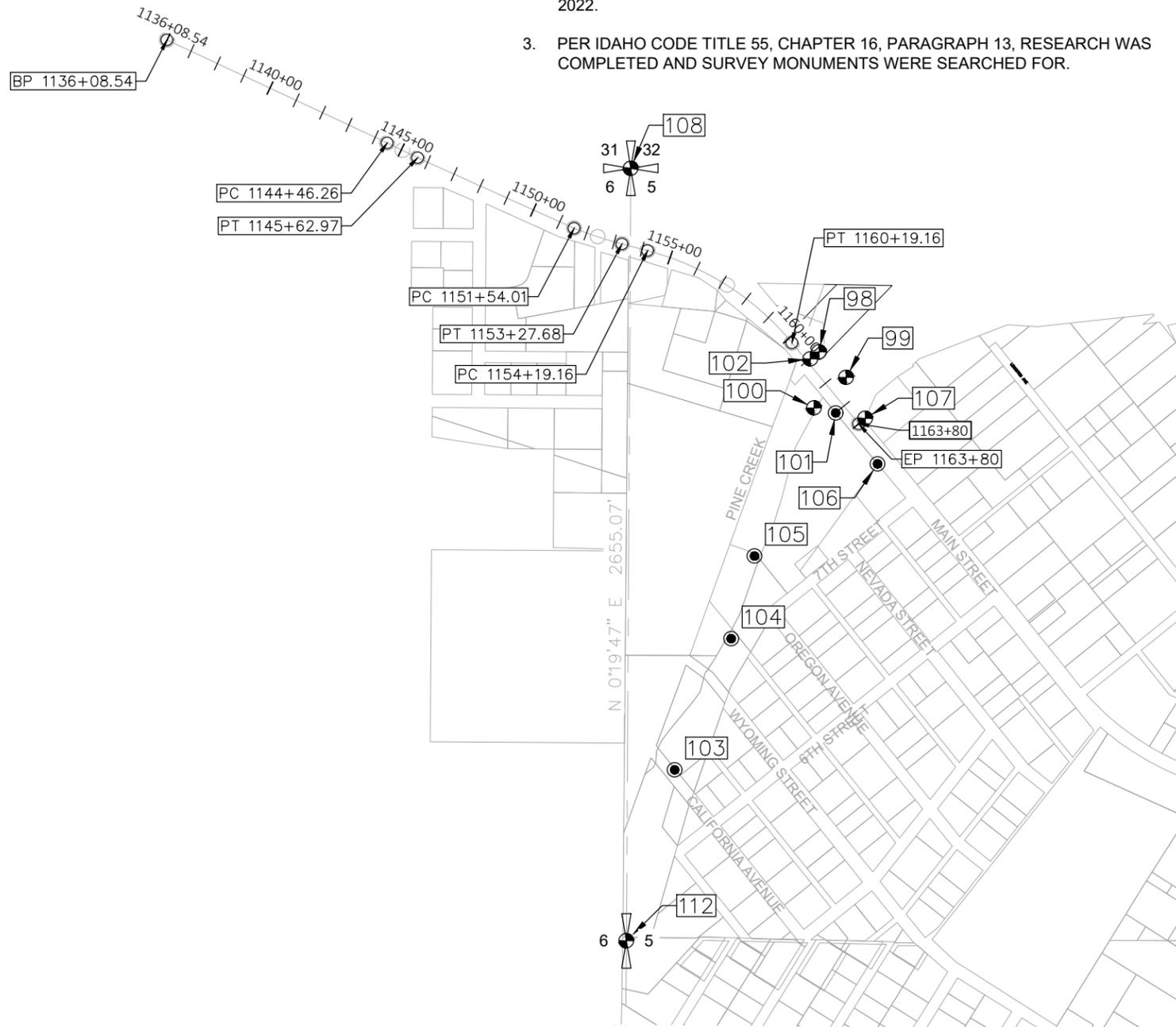
TITLE SHEET	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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ENGLISH	Monica Crider
COUNTY	SHOSHONE
KEY NUMBER	19292
SHEET	1 OF 15

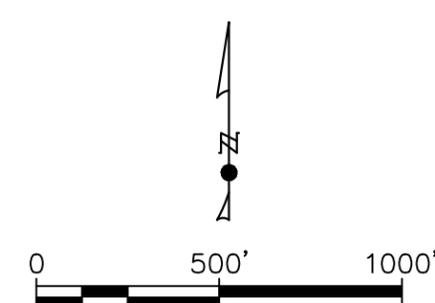
Approved for Advertising
10/29/2024
Date Approved

NOTES:

1. SURVEY DATA WAS ESTABLISHED BY GPS CONTROL COORDINATES DERIVED FROM NGS OPUS SOLUTIONS USING A REFERENCE FRAME OF NAD83 (2011)(EPOCH: 2010.000) ALL BEARINGS REFER TO IDAHO STATE PLANE COORDINATE SYSTEM OF 1983, WEST ZONE, (1103). UNITS ARE US SURVEY FT. DISTANCES HAVE BEEN CONVERTED FROM GRID TO GROUND USING A COMBINED ADJUSTMENT FACTOR (CAF) OF 1.0001536057 SCALED FROM AN ORIGIN POINT OF 0,0. A FALSE NORTHING OF 329.039 AND A FALSE EASTING OF 384.528 WAS APPLIED TO ALL COORDINATES SHOWN HEREON. ELEVATIONS SHOWN HEREON ARE BASED ON NAVD88 USING GEOID 18.
2. TOPOGRAPHIC AND BOUNDARY SURVEY WAS PERFORMED IN APRIL & JUNE OF 2022.
3. PER IDAHO CODE TITLE 55, CHAPTER 16, PARAGRAPH 13, RESEARCH WAS COMPLETED AND SURVEY MONUMENTS WERE SEARCHED FOR.



Point Table					
Point #	Northing	Easting	Elevation	Notes	Symbol
98	2142288.6380	2503364.1650	2227.92	SET 2-1/2" ALUM CAP STAMPED HMH-CONTROL	☉
99	2142201.3950	2503457.4400	2224.47	SET 5/8" REBAR WITH CAP STAMPED HMH-CONTROL	☉
100	2142096.3150	2503346.7400	2226.54	SET 5/8" REBAR WITH CAP STAMPED HMH-CONTROL	☉
101	2142078.8840	2503421.5630	2223.13	FOUND 1/2" REBAR WITH CAP STAMPED PFAHL PLS 4458	☉
102	2142264.5990	2503334.0520	2228.33	FOUND 3 3/4" BRASS CAP STAMPED USGS PINE 1958	☉
103	2140852.1100	2502866.5650	2236.73	FOUND 1/2" REBAR WITH CAP STAMPED PFAHL PLS 4458	☉
105	2141586.7610	2503141.7690	2229.61	FOUND 1/2" REBAR WITH CAP STAMPED PFAHL PLS 4458	☉
106	2141903.6700	2503566.0760	2221.81	FOUND 1/2" REBAR WITH CAP STAMPED PFAHL PLS 4458	☉
107	2142060.2700	2503523.6840	2222.29	FOUND 3 1/4" BRASS CAP STAMPED RIGHT OF WAY	☉
108	2142919.6290	2502715.1950	2264.16	FOUND 3 1/4" ALUM CA STAMPED JUB LS 997 1979	☉
110	2137629.6730	2502674.7270	2256.57	FOUND 3 1/4" BRASS CAP STAMPED DEPT OF INTERIOR 1993	☉
112	2140264.6020	2502699.9110	2235.62	FOUND 2" ALUM CAP MARKED W 1/4 SECTION 5	☉



DESCRIPTION			
NO.	DATE	BY	DESCRIPTION

DESIGNED M.LEVESY
 DESIGN CHECKED G.SIEGFORD
 DETAILED J.AULT
 DRAWING CHECKED V.KLEMM

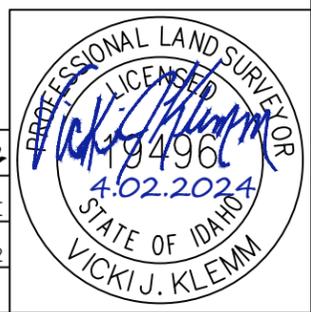
SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME D2119292 ROW CONTROL PLAN
 DRAWING DATE August 2, 2023

IDAHO TRANSPORTATION DEPARTMENT
 YOUR Safety—YOUR Mobility—YOUR Economic Opportunity
HMH engineering

PROJECT NO. A019(292)

SURVEY CONTROL SHEET
 MAIN ST./SILVER VALLEY RD
 BRIDGE PINEHURST

English
 COUNTY SHOSHONE
 KEY NUMBER 19292
 SHEET 2 OF 15



CLEARANCES		+ CLEARED UNDER PROJECT NO.	+ APPROVAL DATE
PROJECT STANDARDS		A019(292)	03/20/2023
CHARTER APPROVAL <input checked="" type="checkbox"/> AASHTO <input type="checkbox"/> 3R <input type="checkbox"/> 1R <input type="checkbox"/> STATE		N/A	N/A
<input type="checkbox"/> PM <input type="checkbox"/> OTHER _____		N/A	N/A
DESIGN EXCEPTIONS: _____		N/A	N/A
PUBLIC HEARING WAIVER _____		A019(292)	12/26/2023
PUBLIC HEARING DATE (Latest hearing date held or scheduled for opportunity) _____		N/A	N/A
DESIGN APPROVAL _____		A019(292)	02/12/2024
RECLAMATION PLAN APPROVAL NO(S) _____		N/A	N/A
AIRPORT _____		N/A	N/A
Land Survey Monument Search and Documentation (I.C.55-1613) _____		A019(292)	04/02/2024
R/W CERTIFICATE: Issued by <input checked="" type="checkbox"/> HQ <input type="checkbox"/> DISTRICT _____		A019(292)	08/26/2024
TRIBAL LANDS: <input type="checkbox"/> AGREEMENT REQUIRED <input type="checkbox"/> SPECIAL PROVISIONS FOR CONTRACT PROPOSAL _____		N/A	N/A
BRIDGE PS & E _____		A019(292)	++
ENVIRONMENTAL DECISION: TYPE <input checked="" type="checkbox"/> CAT-EX <input type="checkbox"/> FONSI <input type="checkbox"/> ROD _____		A019(292)	01/16/2024
ENVIRONMENTAL RE-EVALUATION _____		A019(292)	07/10/2024
PERMITS		+ EXPIRATION DATE	
IDAHO DEPARTMENT OF WATER RESOURCES PERMIT NO(S) <u>S94-20228</u>		A019(292)	03/01/2024
US ARMY CORPS OF ENGINEERS 404 PERMIT NO(S) <u>NWW-2024-00045</u>		A019(292)	04/26/2024
OTHER <u>CITY OF PINEHURST FLOOD PLAIN DEVELOPMENT PERMIT</u>		A019(292)	12/18/2023
DEQ SECTION 401 WATER QUALITY CERTIFICATION _____ <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
NPDES GENERAL PERMIT/SWPPP REQUIRED _____ <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
POLLUTION PREVENTION PLAN REQUIRED _____ <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
AGREEMENTS (List Appropriate Name)			
LOCAL: CITY _____		N/A	N/A
COUNTY _____		N/A	N/A
HIGHWAY DISTRICT _____		N/A	N/A
ROAD CLOSURE AND MAINTENANCE _____		N/A	N/A
STATE/LOCAL CONSTRUCTION <u>CITY OF PINEHURST</u>		A019(292)	8/30/2024
IRRIGATION DISTRICT(S): Crossing Agreement Required _____ <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (Signatures Required on either Structure Drawing or Bridge Sheet)			
UTILITIES: List all Utilities shown on plans		+ APPROVAL DATES	
		+ AGREEMENT NO.	
		UTILITY HEARING WAIVER	AGREEMENT
Co. <u>AVISTA (GAS)</u> <input checked="" type="checkbox"/> RETAIN & PROTECT		N/A	N/A
Co. <u>AVISTA (POWER)</u> <input checked="" type="checkbox"/>		N/A	N/A
Co. <u>KINGSTON-CATALDO SEWER & WATER DISTRICT</u> <input checked="" type="checkbox"/>		N/A	N/A
Co. <u>SOUTH FORK CDA RIVER SEWER DISTRICT</u> <input checked="" type="checkbox"/>		N/A	N/A
Co. <u>SUDDENLINK</u> <input type="checkbox"/>		04/22/2024	N/A
Co. <u>WILLIAMS GAS</u> <input type="checkbox"/>		05/22/2024	N/A
Co. <u>ZIPLY</u> <input type="checkbox"/>		05/22/2024	N/A
RAILROAD List all Railroads encroached upon		+ AGREEMENT	
		+ AGREEMENT FOR	EFFECTIVE DATE
			NO.

ESTIMATING BASIS

TACK:
CSS-1 Emulsified Asphalt for Tack Coat @ 0.05 Gallon/sy

PAVING:
PG 64-28 ASPHALT CEMENT FOR SUPERPAVE HMA PAVEMENT CLASS SP-3 @ 5.8% BY WEIGHT OF MIX AND ANTI-STRIPPING ADDITIVE AT 0.5% BY WEIGHT

AGGREGATE:
SILVER VALLEY RD SAFETY IMPROVEMENTS: KN 22399 USED FOR ESTIMATING BASIS:

1/2" AGGREGATE @ 148.0 LB/CF FOR PLANT MIX CLASS SP-3 INCLUDING ASPHALT ADDITIVES

3/4" AGGREGATE @ 146.0 LB/CF FOR BASE TYPE A INCLUDING 7% MOISTURE

SURFACE SMOOTHING:
PAVEMENT SMOOTHNESS SPECIFIED BY STRAIGHTEDGE

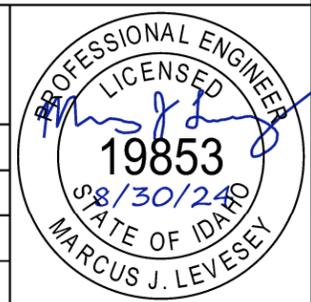
+ ENTER "N/A" WHEN NOT APPLICABLE
++ LPA PROJECTS - DATE ENTERED BY ROADWAY DESIGN WHEN PROJECT SENT TO PS&E.

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED M. LEVESEY DESIGN CHECKED G.E. SIEGFORD DETAILED M. LEVESEY DRAWING CHECKED G.E. SIEGFORD	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY CADD FILE NAME 19292 PCS 001.DGN DRAWING DATE: 30-AUG-2024	IDAHO TRANSPORTATION DEPARTMENT  YOUR Safety→YOUR Mobility→YOUR Economic Opportunity HMH engineering
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PROJECT NO.	PROJECT CLEARANCE SUMMARY
A019(292)	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

ENGLISH	
COUNTY	SHOSHONE
KEY NUMBER	19292
SHEET	3 OF 15



SHEET NUMBER				5	6	9	11											
SHEET				DEMO	PLAN	PPP	SPM											
ITEM NO.	ITEM	UNIT	QUANTITY															
107-019A	SURVEY MONUMENT PRESERVATION	CA	10000															
201-010A	CLEARING & GRUBBING	LS	1															
202-005A	SELECTIVE REMOVAL OF TREES INCLUDING STUMPS	EACH	11	11														
203-006A	REMOVAL OF SIGN	EACH	5	5														
203-010A	ASBESTOS REMOVAL AND DISPOSAL	CA	15000															
203-080A	REMOVAL OF GUARDRAIL	FT	217	217														
203-080B	REMOVAL OF BARRIER	FT	113	113														
205-005A	EXCAVATION	CY	1450															
212-011A	FIBER WATTLE	FT	157			157												
212-105A	WATER AND POLLUTION	CA	10000															
215-005A	GEOSYNTHETIC REINFORCED ABUTMENT BACKFILL	CY	107															
251-005A	MIGRATORY BIRD TREATY ACT COMPLIANCE	CA	10000															
303-021A	3/4" AGGREGATE TYPE A FOR BASE	TON	200															
307-005A	OPEN GRADED BASE CLASS I	SY	84															
405-435A	SUPERPAVE HMA PAVEMENT INCLUDING ASPHALT & ADDITIVES CLASS SP-3	TON	140															
605-635A	ADJUST MANHOLE COVERS	EACH	1		1													
605-640A	ADJUST VALVE COVERS	EACH	1		1													
612-005A	W-BEAM GUARDRAIL	FT	201		201													
612-085A	GUARDRAIL TERMINAL TYPE 8	EACH	1		1													
612-115C	GUARDRAIL TERMINAL, TANGENT	EACH	1		1													
612-120A	GUARDRAIL TRANSITION, LOW SPEED	EACH	1		1													
612-150A	CONCRETE BARRIER	FT	45		45													
612-155A	CONCRETE TERMINAL TYPE A	EACH	1		1													
614-015A	SIDEWALK	SY	53		53													
614-025A	CURB RAMP	SY	8		8													
615-257A	CURB TYPE 2	FT	123		123													
616-010A	SIGNS TYPE B-1	SF	18															
616-040J	STEEL SIGN POST TYPE E-1	FT	30															
616-040K	STEEL SIGN POST TYPE E-2	FT	17															
616-080A	REINSTALL SIGN FACE TYPE B-1	EACH	1				1											
616-085A	REINSTALL SIGN POST	EACH	1				1											
624-005A	LOOSE RIPRAP (CLASS VII)	CY	1047		1047													
626-010A	TEMPORARY TRAFFIC CONTROL SIGNS	SF	226															
626-040A	BARRICADE TYPE 3	EACH	9															
626-100A	MISCELLANEOUS TEMPORARY TRAFFIC CONTROL ITEMS	CA	7000															
626-105A	TEMPORARY TRAFFIC CONTROL MAINTENANCE	HR	144															
626-115B	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)	DAY	237															
630-005A	TRANSVERSE, WORD, SYMBOL, AND ARROW PAVEMENT MARKINGS - WATERBORNE	SF	30				30											
630-025A	LONGITUDINAL PAVEMENT MARKING - WATERBORNE	FT	2117				2117											
640-010A	RIPRAP/EROSION CONTROL GEOTEXTILE	SY	1004		1004													
650-005A	TIME-LAPSE CAMERA	EACH	1															
650-010A	TIME-LAPSE CAMERA SERVICE	MO	3															
675-005A	SURVEY	LS	1															
675-010A	DIRECTED SURVEY	CA	5000															
677-005A	RECORD DRAWINGS	LS	1															
S900-50A	CONTINGENCY AMOUNT - MISCELLANEOUS WORK	CA	20000															
S901-05A	SP GUARDRAIL TRANSITION TYPE 12	EACH	1		1													
S911-05A	SP UTILITY BEDDING	FT	98															
7620-05A	MOBILIZATION	LS	1															
S912-05A	SP - OPEN GRADED BASE CLASS I	SY	84															
	+ DENOTES PLAN QUANTITY																	

REVISIONS			
NO	DATE	BY	DESCRIPTION
△	11/19/2024	CEH	Change of Standard Item Unit of Measure

DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED G.E. SIEGFORD	CADD FILE NAME 19292 RSSM 001.dgn
DETAILED M. LEVESEY	DRAWING DATE: 30-AUG-2024
DRAWING CHECKED G.E. SIEGFORD	

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DEPARTMENT**

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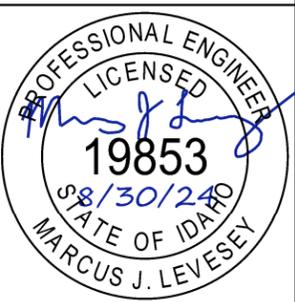


HMH engineering

PROJECT NO. A019(292)

ROADWAY SUMMARY MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 4 OF 15



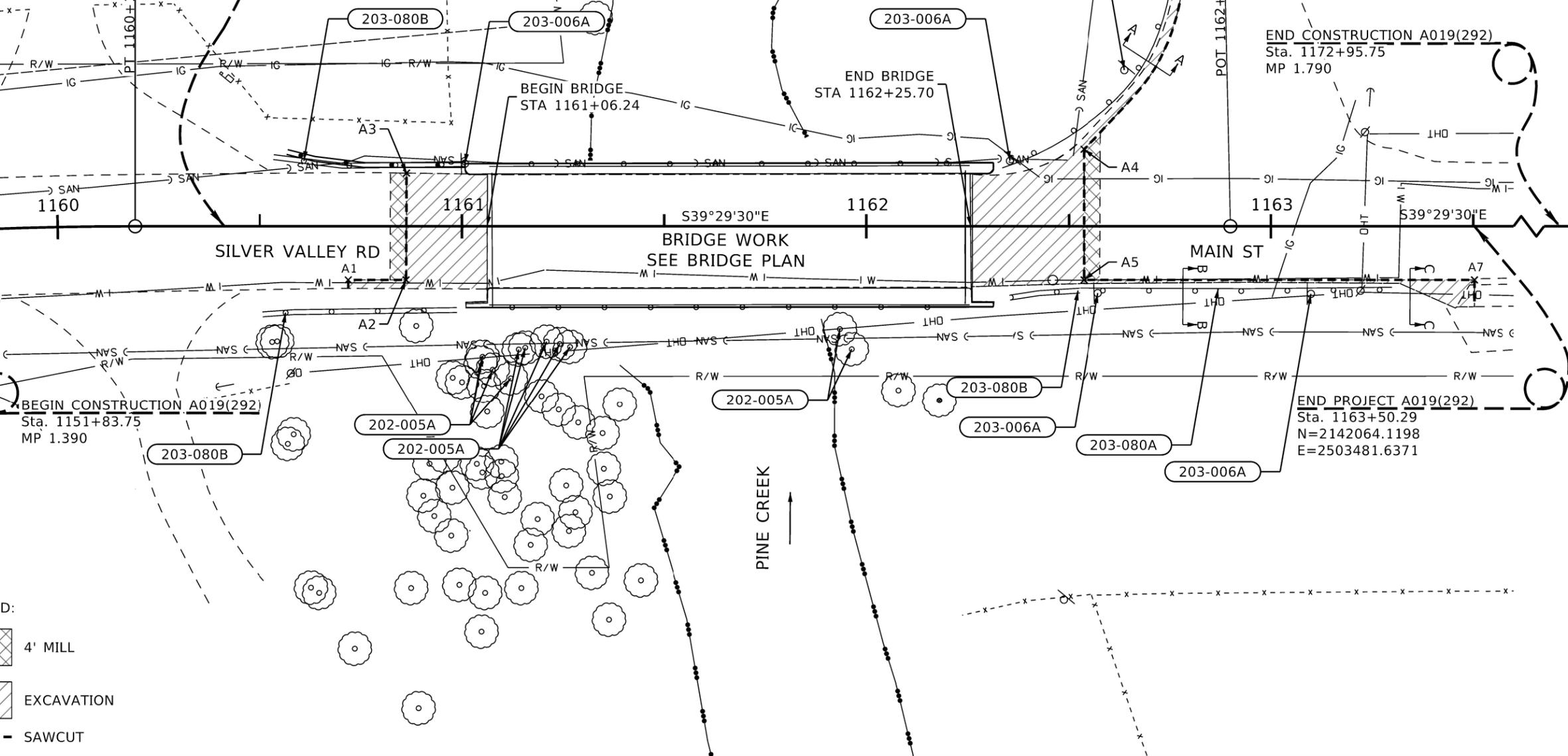
PROFESSIONAL ENGINEER
LICENSED
19853
8/30/24
STATE OF IDAHO
MARCUS J. LEVESEY

LOG LOCATION DATA			
POINT	STATION	OFFSET	DESC
A1	1160+71.94	13.22' RT	SAWCUT
A2	1160+86.23	13.22' RT	SAWCUT
A3	1160+86.34	13.11' LT	SAWCUT
A4	1162+53.71	18.98' LT	SAWCUT
A5	1162+53.71	13.22' RT	SAWCUT
A6	1162+76.40	134.05' LT	SAWCUT
A7	1163+50.29	13.22' RT	SAWCUT

T.48N., R.2E., B.M.

BEGIN PROJECT A019(292)
Sta. 1160+41.18
N=2142302.6620
E=2503285.0566

END CONSTRUCTION A019(292)
Sta. 1172+95.75
MP 1.790



- 202-005A SELECTIVE REMOVAL OF TREES INCLUDING STUMPS**
 - 1 EACH STA 1161+04.67, 33.55' RT
 - 1 EACH STA 1161+05.12, 32.16' RT
 - 1 EACH STA 1161+07.62, 35.35' RT
 - 1 EACH STA 1161+12.11, 37.49' RT
 - 1 EACH STA 1161+14.05, 30.36' RT
 - 1 EACH STA 1161+15.66, 29.91' RT
 - 1 EACH STA 1161+20.95, 28.43' RT
 - 1 EACH STA 1161+24.19, 29.00' RT
 - 1 EACH STA 1161+26.74, 29.74' RT
 - 1 EACH STA 1161+93.48, 25.34' RT
 - 1 EACH STA 1161+96.41, 30.29' RT

- 203-006A REMOVAL OF SIGN**
 - 1 EACH STA 1161+00.75, 15.44' LT
 - 1 EACH STA 1162+35.43, 16.11' LT
 - 1 EACH STA 1162+63.79, 38.49' LT
 - 1 EACH STA 1162+57.22, 16.47' RT
 - 1 EACH STA 1163+09.89, 16.66' RT

- 203-080A REMOVAL OF GUARDRAIL**
 - 139.7 FT STA 1162+33.52 TO 1162+76.21 LT
 - 77.3 FT STA 1162+52.79 TO 1163+29.93 RT

- 203-080B REMOVAL OF BARRIER**
 - 48.2 FT STA 1160+50.74 TO 1160+98.77 RT
 - 47.5 FT STA 1160+53.39 TO 1161+00.71 LT
 - 17.3 FT STA 1162+35.29 TO 1162+52.71 RT

LEGEND:

	4' MILL
	EXCAVATION
	SAWCUT

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY CADD FILE NAME 19292 DEMO 001.dgn DRAWING DATE: 30-AUG-2024
DESIGN CHECKED G.E. SIEGFORD	
DETAILED M. LEVESEY	
DRAWING CHECKED G.E. SIEGFORD	

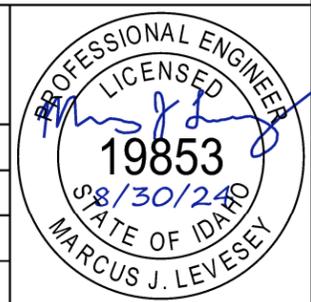
IDAHO TRANSPORTATION DEPARTMENT

 YOUR Safety-YOUR Mobility-YOUR Economic Opportunity
HMH engineering

PROJECT NO.	A019(292)
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DEMO SHEET	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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ENGLISH	COUNTY SHOSHONE
KEY NUMBER	19292
SHEET	5 OF 15



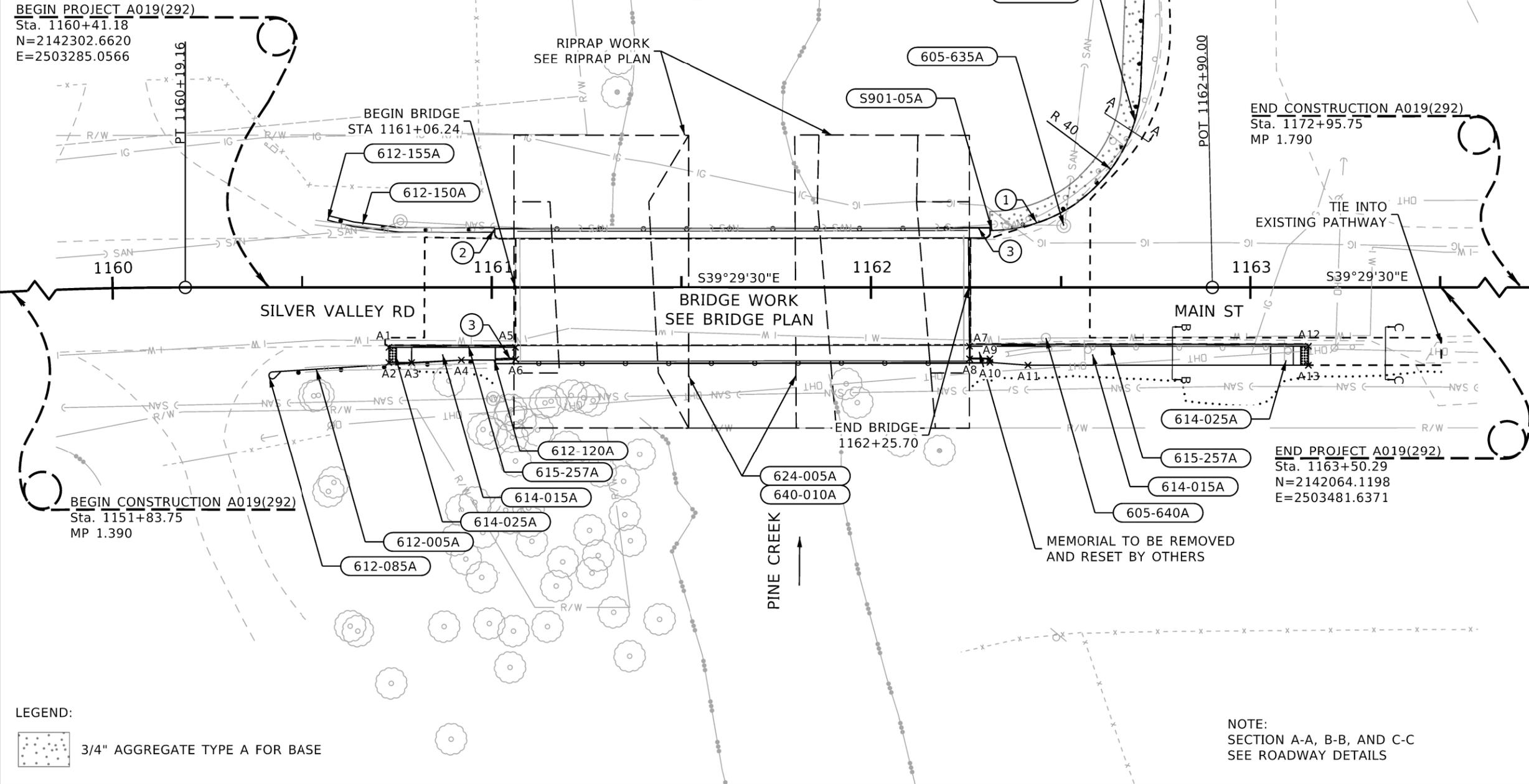
T.48N., R.2E., B.M.

LOG LOCATION DATA			
POINT	STATION	OFFSET	DESC
A1	1160+72.93	15.76' RT	SIDEWALK
A2	1160+72.93	19.76' RT	SIDEWALK
A3	1160+78.93	19.76' RT	SIDEWALK
A4	1160+92.02	19.10' RT	SIDEWALK
A5	1161+06.25	15.76' RT	SIDEWALK
A6	1161+06.34	18.93' RT	SIDEWALK
A7	1162+25.91	15.45' RT	SIDEWALK
A8	1162+25.94	18.79' RT	SIDEWALK
A9	1162+31.27	18.78' RT	SIDEWALK
A10	1162+31.28	19.72' RT	SIDEWALK
A11	1162+41.28	20.45' RT	SIDEWALK
A12	1163+15.29	15.45' RT	SIDEWALK
A13	1163+15.29	20.45' RT	SIDEWALK

NOTES

- COORDINATE WITH UTILITY COMPANIES TO FIELD LOCATE UNDERGROUND UTILITIES. NEST GUARDRAIL IF NECESSARY TO AVOID UTILITY CONFLICTS
- DRILL & EPOXY LOOP BARS TO CREATE PINNED CONNECTION WITH EXITING PARAPET. WORK AND MATERIALS ARE INCIDENTAL TO 612-150A CONCRETE BARRIER. SEE BRIDGE PLANS FOR DETAILS
- ALL WORK AND MATERIALS NECESSARY TO CONNECT GUARDRAIL TRANSITION TO EXISTING PARAPET IN ACCORDANCE WITH ITD STANDARD DRAWING REQUIREMENTS (INCLUDING DRILLING NEW HOLES) ARE INCIDENTAL TO ITEMS 612-120A GUARDRAIL TRANSITION, LOW SPEED & S901-05A SP GUARDRAIL TRANSITION TYPE 12. SEE BRIDGE PLANS FOR DETAILS

BEGIN PROJECT A019(292)
Sta. 1160+41.18
N=2142302.6620
E=2503285.0566



605-635A	ADJUST MANHOLE COVERS 1 EACH	STA 1162+50.71, 16.21' LT
605-640A	ADJUST VALVE COVERS 1 EACH	STA 1162+46.00, 13.26' RT
612-005A	W-BEAM GUARDRAIL 59.1 FT	STA 1160+42.02 TO 1161+01.02 RT
		141.9 FT STA 1162+31.25 TO 1162+74.21 LT
612-085A	GUARDRAIL TERMINAL TYPE 8	1 EACH STA 1160+42.02, 22.21' RT
612-115C	GUARDRAIL TERMINAL TANGENT	1 EACH STA 1162+74.21, 134.05' LT
612-120A	GUARDRAIL TRANSITION, LOW SPEED	1 EACH STA 1161+01.02, 19.08; RT
612-150A	CONCRETE BARRIER 44.5 FT	STA 1160+56.70 TO 1161+00.90 LT
612-155A	CONCRETE TERMINAL TYPE A	1 EACH STA 1160+56.70, 17.72' LT
614-015A	SIDEWALK 10.6 SY	STA 1160+72.93 TO 1161+06.34 RT
		42.7 SY STA 1162+25.91 TO 1163+05.31 RT
614-025A	CURB RAMP 2.7 SY	STA 1160+78.93, 15.76' RT
		5.5 SY STA 1163+15.29, 15.45' RT
615-257A	CURB TYPE 2 33.3 FT	STA 1160+72.93 TO 1161+06.25 RT
		89.4 STA 1162+25.91 TO 1163+15.29 RT
624-005A	LOOSE RIPRAP (CLASS VII) 525.0 CY	STA 1161+05.88 TO 1161+51.88
		522.0 CY STA 1161+79.95 TO 1162+25.88
640-010A	RIPRAP/EROSION CONTROL GEOTEXTILE	503.0 SY STA 1161+05.88 TO 1161+51.88
		501.0 SY STA 1161+79.95 TO 1162+25.88
S901-05A	SP GUARDRAIL TRANSITION TYPE 12	1 EACH STA 1162+31.25, 14.97' LT

LEGEND:

 3/4" AGGREGATE TYPE A FOR BASE

NOTE:
SECTION A-A, B-B, AND C-C
SEE ROADWAY DETAILS

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED	M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED	G.E. SIEGFORD	
DETAILED	M. LEVESEY	CADD FILE NAME 19292 PLAN 001.dgn
DRAWING CHECKED	G.E. SIEGFORD	DRAWING DATE: 30-AUG-2024

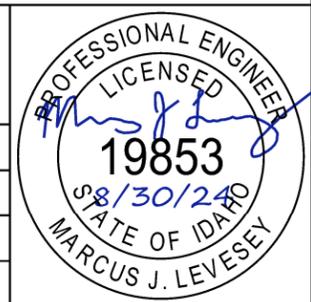
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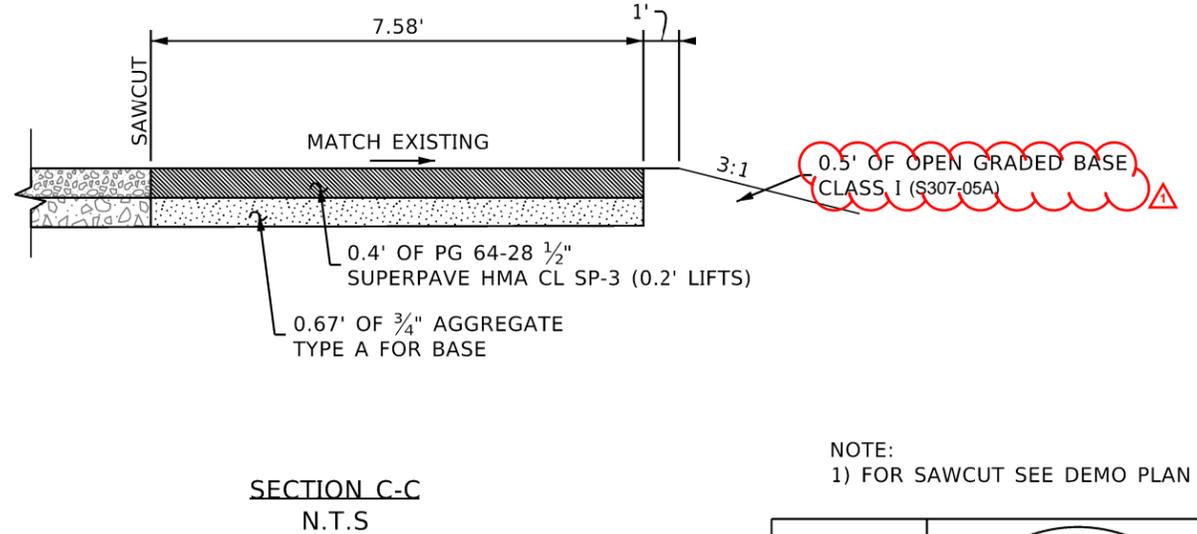
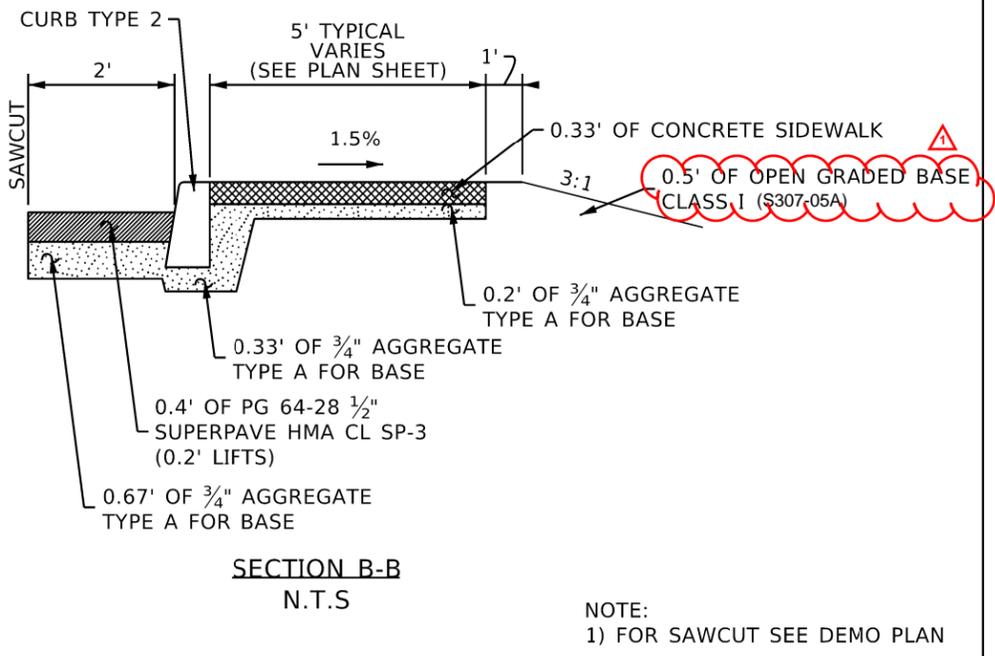
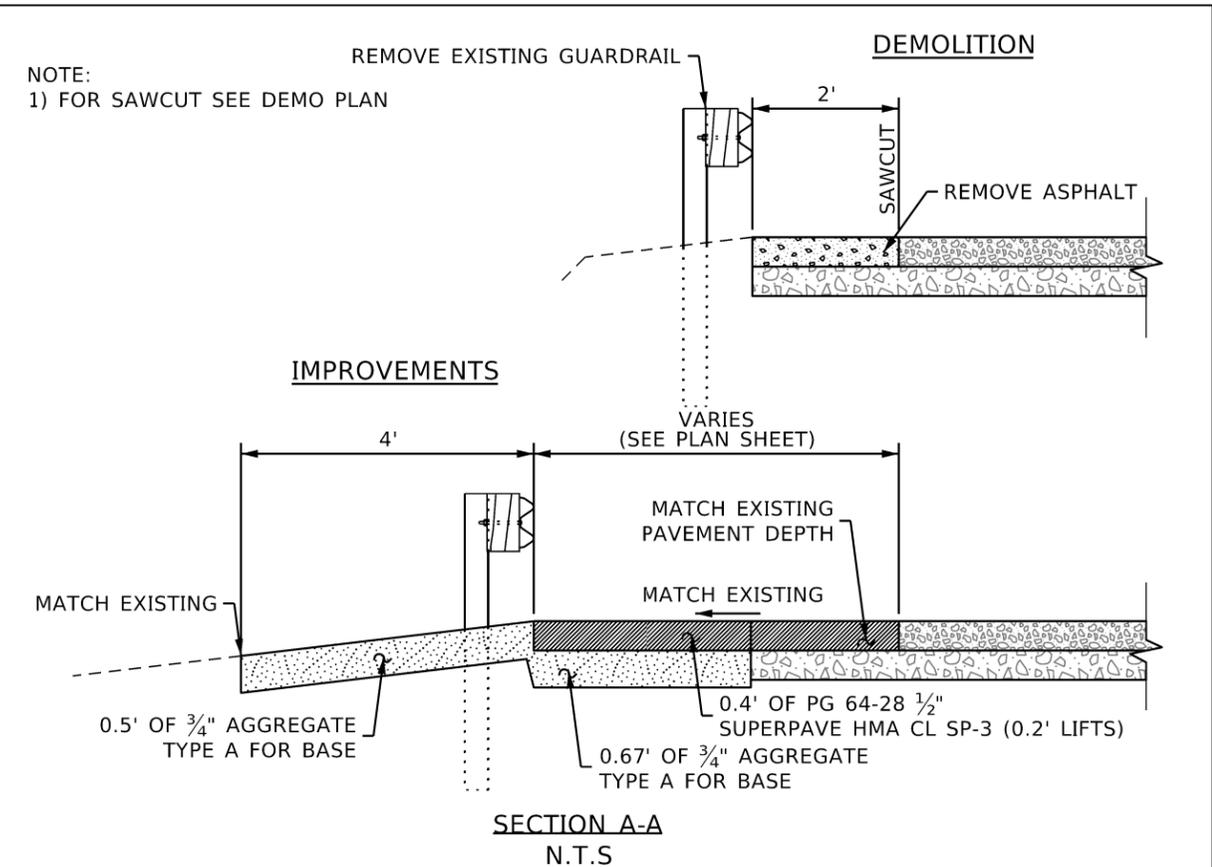
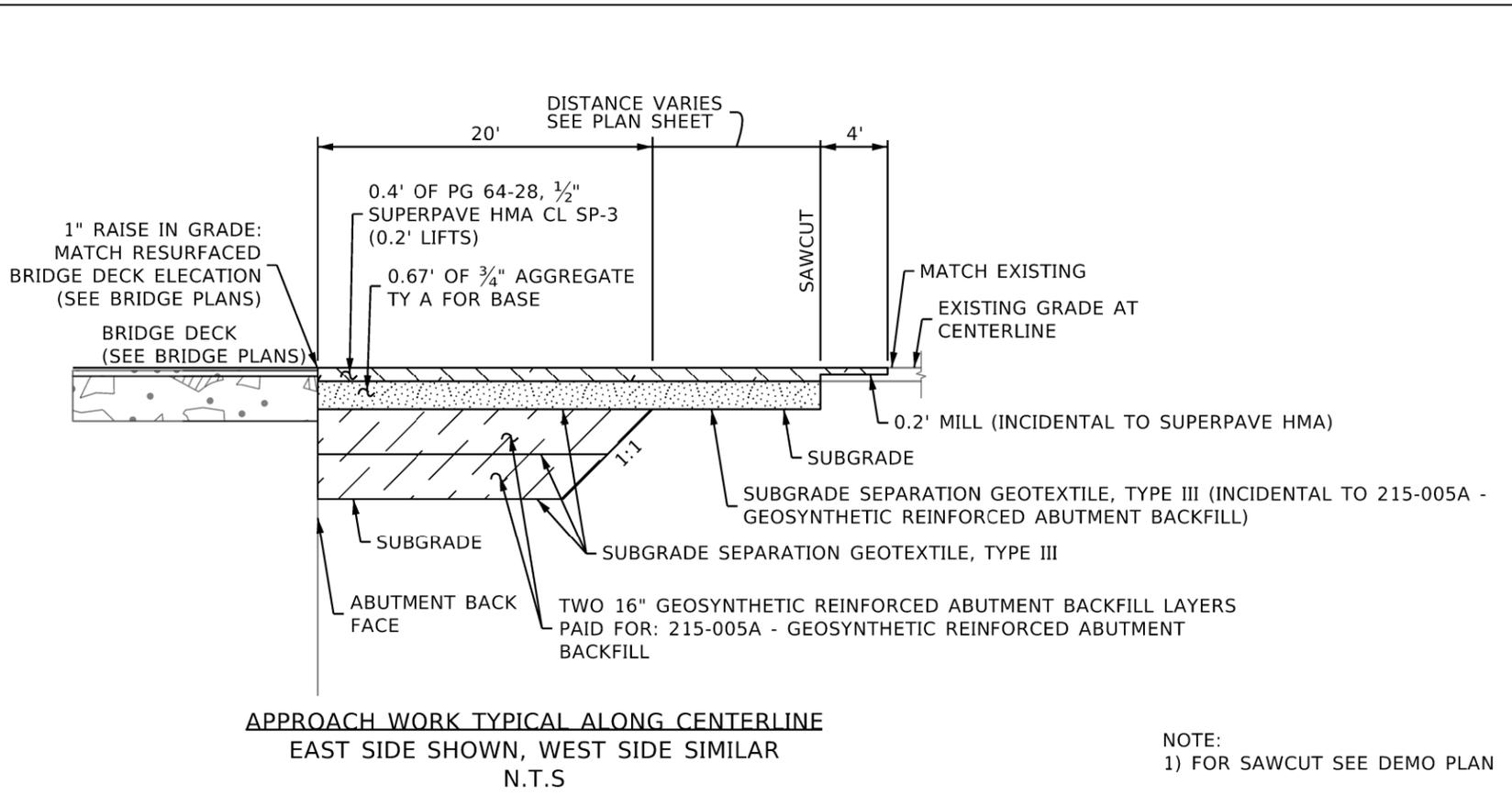


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PROJECT NO.	PLAN SHEET
A019(292)	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 6 OF 15





REVISIONS			
NO	DATE	BY	DESCRIPTION
1	11/19/2024	CEH	Open Graded Base Class I is Item S912-05A

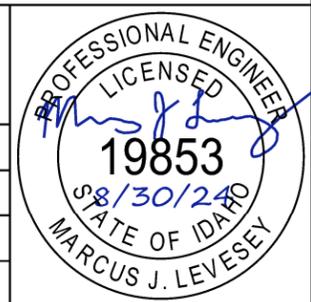
DESIGNED	M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED	G.E. SIEGFORD	
DETAILED	M. LEVESEY	CADD FILE NAME 19292 DETL 001.dgn
DRAWING CHECKED	G.E. SIEGFORD	DRAWING DATE: 30-AUG-2024

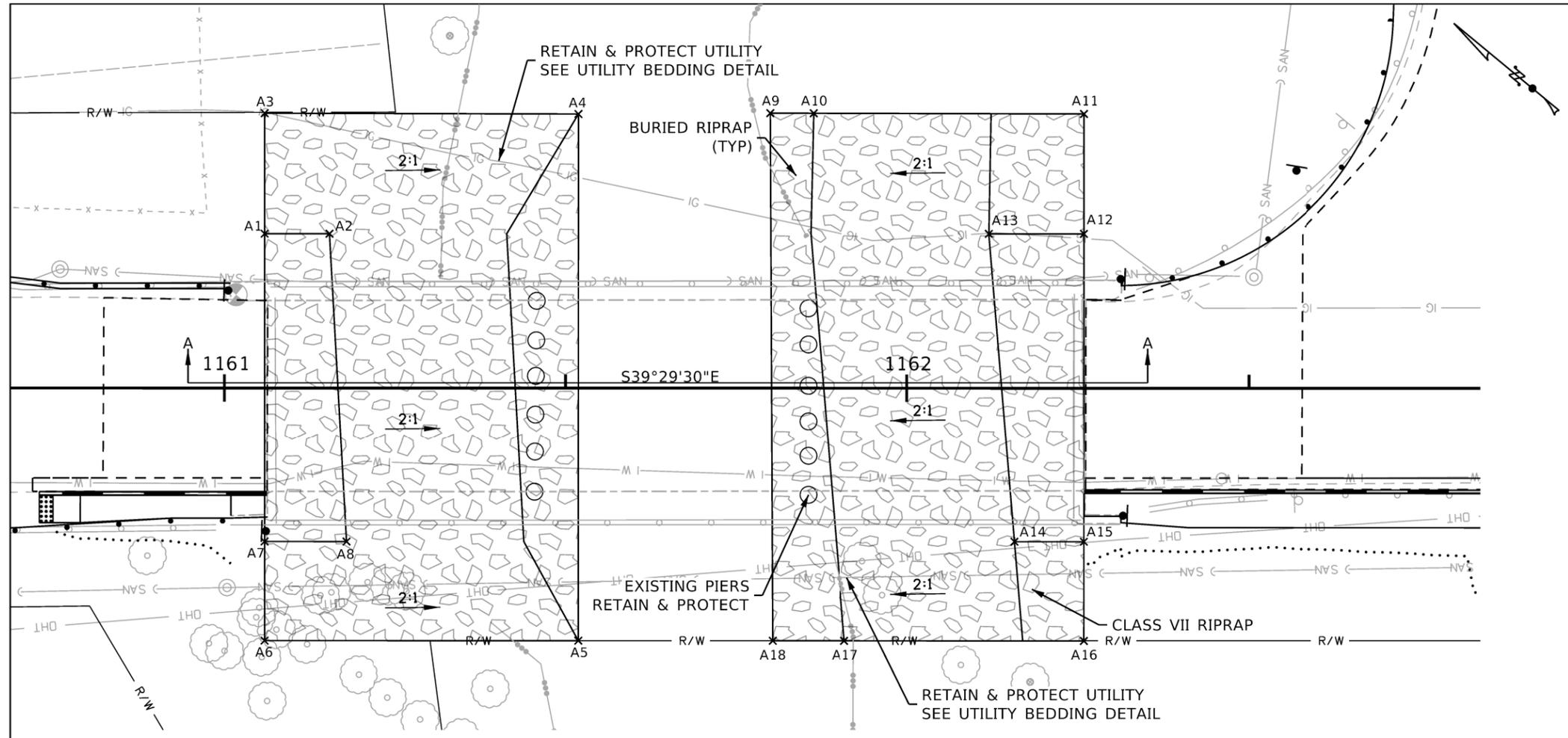
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PROJECT NO.
A019(292)

ROADWAY DETAILS
MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

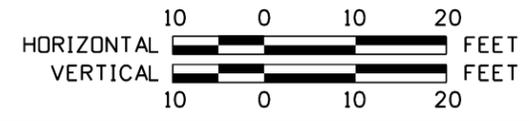
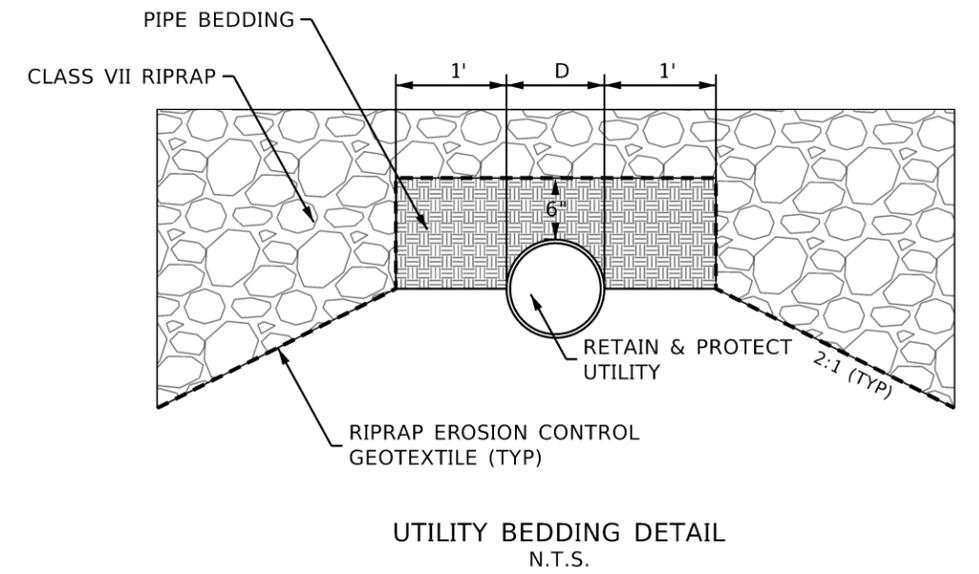
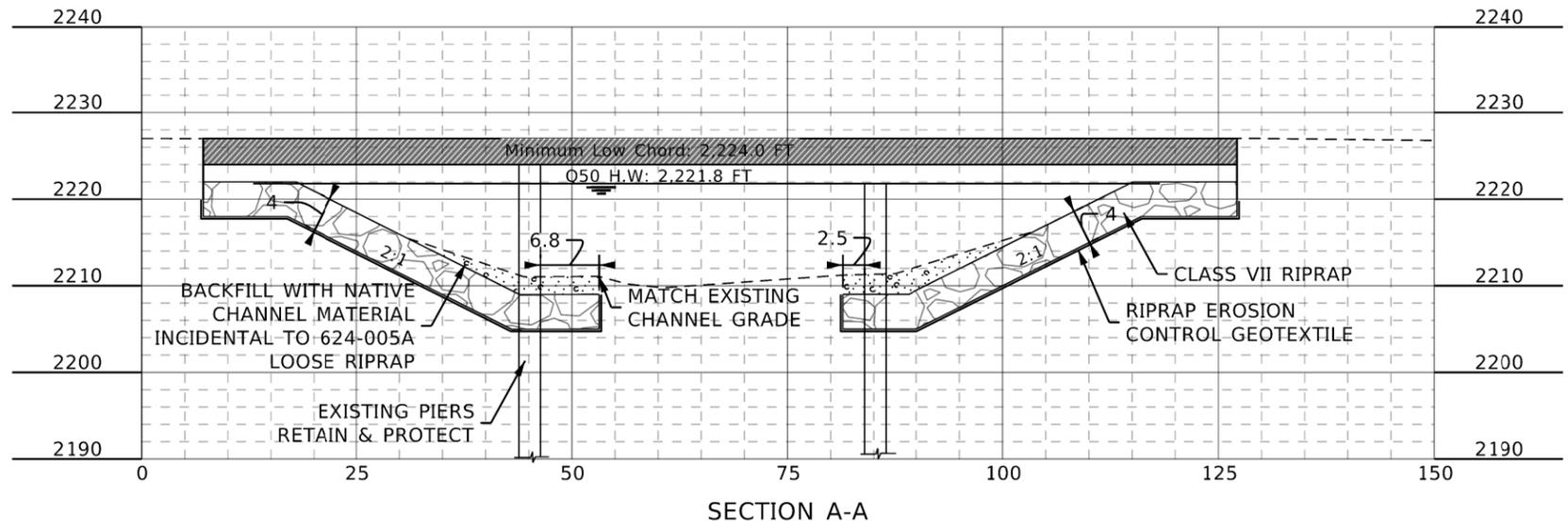
ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 7 OF 15





LOG LOCATION DATA				
POINT	STATION	OFFSET	ELEV	DESC
A1	1161+05.88	22.50' LT	2226.97	RIPRAP
A2	1161+15.36	22.50' LT	2222.00	RIPRAP
A3	1161+05.88	40.06' LT	2226.84	RIPRAP
A4	1161+51.88	39.96' LT	2209.54	RIPRAP
A5	1161+51.88	39.97' RT	2210.18	RIPRAP
A6	1161+05.88	36.97' RT	2224.65	RIPRAP
A7	1161+05.88	22.50' RT	2224.91	RIPRAP
A8	1161+17.87	22.50' RT	2222.00	RIPRAP
A9	1161+79.95	40.09' LT	2211.27	RIPRAP
A10	1161+86.31	40.08' LT	2212.18	RIPRAP
A11	1162+25.88	39.99' LT	2225.20	RIPRAP
A12	1162+25.88	22.50' LT	2225.67	RIPRAP
A13	1162+11.98	22.50' LT	2222.00	RIPRAP
A14	1162+15.74	22.50' RT	2222.59	RIPRAP
A15	1162+25.88	22.50' RT	2226.23	RIPRAP
A16	1162+25.88	40.00' RT	2224.62	RIPRAP
A17	1161+90.86	36.98' RT	2209.00	RIPRAP
A18	1161+80.33	36.97' RT	2209.00	RIPRAP

ELEVATIONS ARE TO TOP OF FINISHED RIPRAP



REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED F. HALL	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY CADD FILE NAME 19292 DETL 001.dgn DRAWING DATE: 30-AUG-2024
DESIGN CHECKED J. SHAW	
DETAILED F. HALL	
DRAWING CHECKED J. SHAW	

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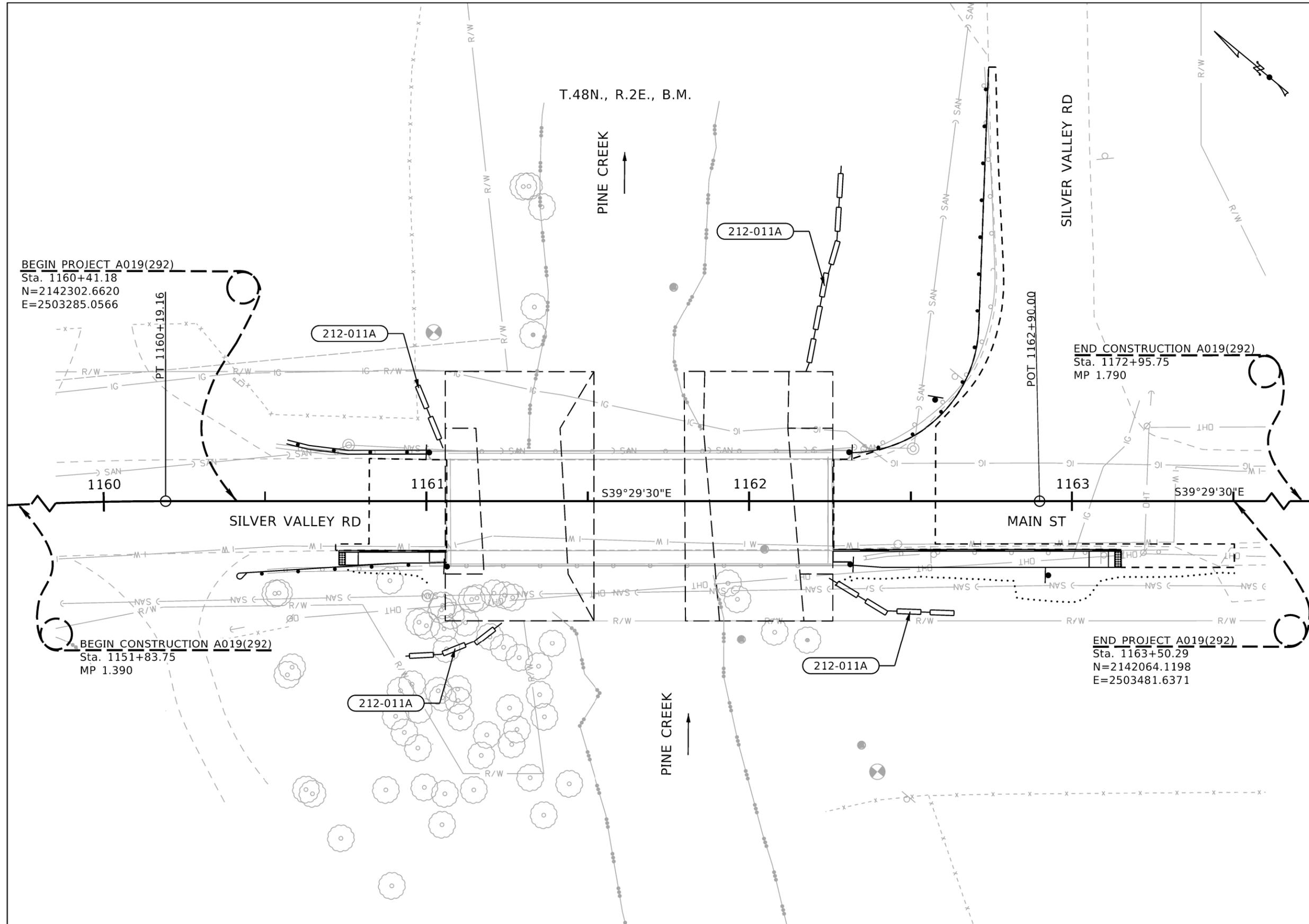
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PROJECT NO.
A019(292)

RIPRAP DETAIL
MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 8 OF 15





212-011A	FIBER WATTLE
32.5 FT	STA 1160+93.54 TO 1161+23.40 RT
23.0 FT	STA 1160+96.65 TO 1161+05.21 LT
65.0 FT	STA 1162+17.56 TO 1162+28.48 LT
36.5 FT	STA 1162+24.70 TO 1162+58.34 RT

BEGIN PROJECT A019(292)
 Sta. 1160+41.18
 N=2142302.6620
 E=2503285.0566

END CONSTRUCTION A019(292)
 Sta. 1172+95.75
 MP 1.790

BEGIN CONSTRUCTION A019(292)
 Sta. 1151+83.75
 MP 1.390

END PROJECT A019(292)
 Sta. 1163+50.29
 N=2142064.1198
 E=2503481.6371

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED	M. LEVESEY
DESIGN CHECKED	G.E. SIEGFORD
DETAILED	M. LEVESEY
DRAWING CHECKED	G.E. SIEGFORD

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME 19292 SWPP 001.dgn

DRAWING DATE: 30-AUG-2024

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PROJECT NO.
A019(292)

POLLUTION PREVENTION PLAN

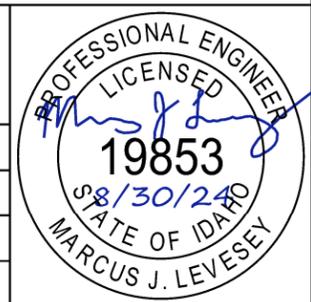
MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

ENGLISH

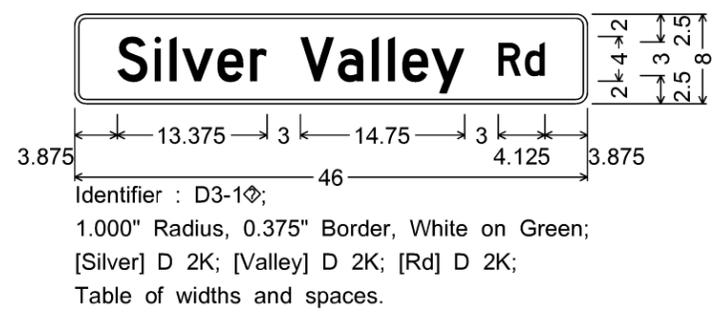
COUNTY SHOSHONE

KEY NUMBER 19292

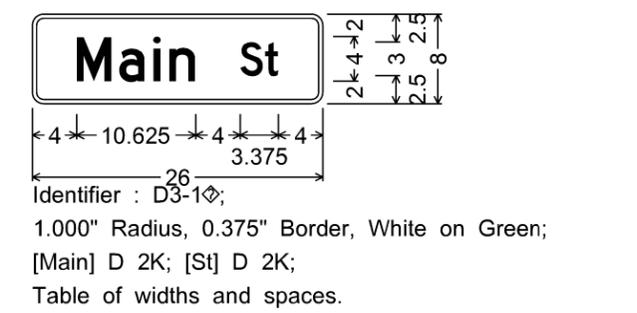
SHEET 9 OF 15



SIGN ASSEMBLY NO.	STATION		RAMP NO.	FOUNDATION SIZE	POST TYPE	NO. OF POST	POST SPACING	APPROX. LENGTH OF 1ST POST	APPROX. LENGTH OF 2ND POST	C	E	SIGN TYPE	SIGN DETAIL NUMBERS	SIGN SIZE W" x H"			APPROX. SQ. FT. OF SIGN	SIGN BACKGROUND COLOR	SIGN BRACKETS & BRACE ANGLES WEIGHT (LBS)	BRACKET NO.	REMARKS
	LT. OR RT.																				
1	1161+00.90	LEFT		E-1	E-1	1		7.5'			4.00'	B	OM3-R	6	X	18	0.8	YELLOW	0.0		OBJECT MARKER
2	1161+06.40	RIGHT		E-1	E-1	1		7.5'			4.00'	B	OM3-R	6	X	18	0.8	YELLOW	0.0		OBJECT MARKER
3	1162+30.93	LEFT		E-1	E-1	1		7.5'			4.00'	B	OM3-L	6	X	18	0.8	YELLOW	0.0		OBJECT MARKER
4	1162+31.27	RIGHT		E-1	E-1	1		7.5'			4.00'	B	OM3-L	6	X	18	0.8	YELLOW	0.0		OBJECT MARKER
5	1162+57.66	LEFT		E-2	E-2	1		17.3'			10.17'	B	D3-1	26	X	8	1.4	GREEN	0.0		MAIN ST
											10.17'	B	D3-1	26	X	8	1.4	GREEN	0.0		MAIN ST
											9.50'	B	D3-1	46	X	8	2.6	GREEN	0.0		SILVER VALLEY RD
											9.50'	B	D3-1	46	X	8	2.6	GREEN	0.0		SILVER VALLEY RD
											7.00'	B	R1-1	30	X	30	6.3	RED	0.0		STOP
6	1162+92.68	RIGHT		E-1	E-1	1		11.5'			7.00'	B	R2-1	24	X	30	5.0	WHITE	0.0		MAXIMUM SPEED ALL STREET 20 MPH OR AS POSTED (Paid as 616-080A)



3.875	S	2.625	0.625	i	0.625	0.875	l	0.625	0.500	v	2.750	0.375	e	2.375	0.500	r	1.500
3.000	V	3.125	0.250	a	2.250	0.875	l	0.625	0.750	l	0.625	0.625	e	2.375	0.250	y	3.000
3.000	R	2.000	0.375	d	1.750	3.875											



4.000	M	3.125	0.625	a	2.250	0.750	i	0.750	0.750	n	2.375
4.000	S	2.000	0.250	t	1.125	4.000					

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED	M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED	G.E. SIEGFORD	
DETAILED	M. LEVESEY	CADD FILE NAME 19292 SIGN 001.dgn
DRAWING CHECKED	G.E. SIEGFORD	DRAWING DATE: 30-AUG-2024

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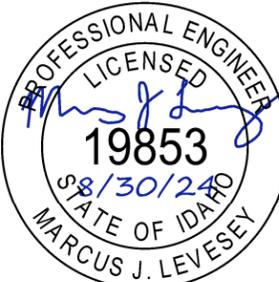


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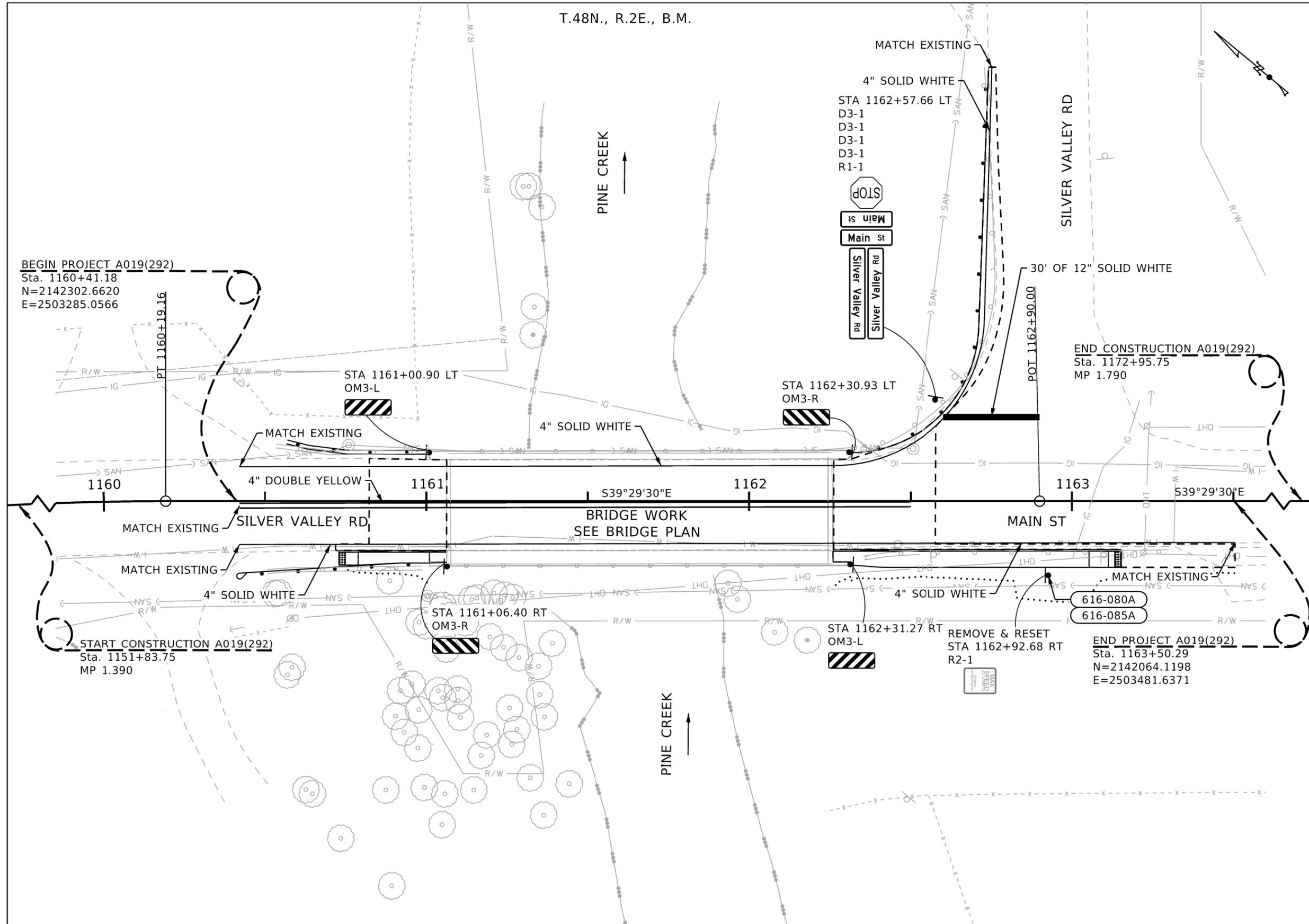
PROJECT NO.	A019(292)
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SIGN ERECTION SHEET	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 10 OF 15



T.48N., R.2E., B.M.



- 616-080A REINSTALL SIGN FACE TYPE B-1
1 EACH
STA 1162+92.68, 22.89' RT
- 616-085A REINSTALL SIGN POST
1 EACH
STA 1162+92.68, 22.89' RT
- 630-005A TRANSVERSE, WORD, SYMBOL, AND ARROW PAVEMENT MARKINGS- WATERBORNE (12" SOLID WHITE)
30 SF
STA 1162+60.15 TO 1162+90.00 LT
- 630-025A LONGITUDINAL PAVEMENT MARKING - WATERBORNE
832.0 FT (4" DOUBLE YELLOW) STA 1160+41.18 TO 1162+50.00 RT
617.0 FT (4" SOLID WHITE) STA 1160+41.18 TO 1163+50.29 RT
668.0 FT STA 1160+41.18 TO 1162+75.21 LT

BEGIN PROJECT A019(292)
Sta. 1160+41.18
N=2142302.6620
E=2503285.0566

END CONSTRUCTION A019(292)
Sta. 1172+95.75
MP 1.790

START CONSTRUCTION A019(292)
Sta. 1151+83.75
MP 1.390

END PROJECT A019(292)
Sta. 1163+50.29
N=2142064.1198
E=2503481.6371

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY CADD FILE NAME 19292 SPM 001.dgn DRAWING DATE: 30-AUG-2024
DESIGN CHECKED G.E. SIEGFORD	
DETAILED M. LEVESEY	
DRAWING CHECKED G.E. SIEGFORD	

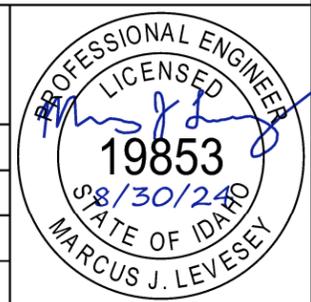
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PROJECT NO.
A019(292)

SIGN & PAVEMENT MAKINGS PLAN
MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST

ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 11 OF 15



GENERAL NOTES TRAFFIC CONTROL DEVICES

1. FLAGGERS WILL BE USED ON APPROACHES WHEN VOLUMES REQUIRE IT OR AS DIRECTED BY THE ENGINEER. ALL FLAGGERS MUST HAVE TWO-WAY RADIOS ON THE PROJECT.
2. CONFORM TO ALL APPLICABLE PROVISIONS OF THE FHWA'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AS ADOPTED BY THE STATE FOR FABRICATION AND INSTALLATION OF TRAFFIC CONTROL DEVICES.
3. USE CONTRACTOR APPROVED TRAFFIC CONTROL PLANS FOR MOUNTING CONFIGURATION, NUMBER OF SIGNS AND MINOR ADJUSTMENTS NEEDED FOR TRAFFIC CONTROL DEVICES, OR AS DIRECTED BY THE ENGINEER. PERIODICALLY CHECK THE OVERALL EFFECTIVENESS AND PLACEMENT OF THESE INSTALLATIONS UNDER BOTH NIGHT AND DAY CONDITIONS.
4. SPACING FOR ALL CHANNELIZATION DEVICES SHOULD NOT EXCEED A DISTANCE EQUAL TO THE POSTED SPEED LIMIT WHEN USED FOR TAPER CHANNELIZATION AND A DISTANCE OF TWICE THE POSTED SPEED LIMIT WHEN USED FOR TANGENT CHANNELIZATION.
5. MOUNT ALL SIGNS IN A HIGH PROFILE MANNER WITH 2 STANDARD FLAGS (SEE THE MUTCD, PART 6 FIG. 6F-1 & 6F-2). PLACE ALL SIGNS REMAINING UP FOR THE DURATION OF THE PROJECT ON GROUND MOUNTED POSTS.
6. ALL PORTABLE SIGN STANDS, FLAGS, TWO-WAY RADIOS, AND WARNING LIGHTS ARE CONSIDERED AS INCIDENTAL ITEMS PAID FOR UNDER ITEM 626-105A TEMPORARY TRAFFIC CONTROL MAINTENANCE.
7. COVER UP OR REMOVE ALL EXISTING SIGNING THAT CONFLICTS WITH THE TRAFFIC CONTROL SIGNING. REPLACE SIGNS REMOVED DURING CONSTRUCTION PRIOR TO COMPLETION OF THE PROJECT. REPLACE ANY SIGNS DAMAGED DURING REMOVAL OR STORAGE AT CONTRACTOR'S EXPENSE.
8. ALL SIGN NUMBER DESIGNATIONS MATCH THOSE LISTED IN THE MUTCD, UNLESS OTHERWISE INDICATED.
9. REMOVE OR LAY DOWN SIGNS AND SIGN STANDS NOT IN USE OUTSIDE THE CLEARZONE.
10. IF A BUFFER SPACE IS USED, THE VALUES SHOWN IN TABLE 6C-2 MAY BE USED TO DETERMINE THE LENGTH OF THE LONGITUDINAL BUFFER SPACE.
11. IF THE SPEED IS BEING REDUCED BY MORE THAN 10 MPH, USE ADDITIONAL WARNING SIGNS PER THE MUTCD.
12. PLACE PCMS 7 CALENDAR DAYS BEFORE CONSTRUCTION START DATE. SUBMIT A PROPOSED MESSAGE PRIOR TO PLACING THE PCMS. REMOVE THE PCMS WHEN TRAFFIC RESTORED TO NORMAL OPERATION.

APPROXIMATE TRAFFIC CONTROL SIGN QUANTITIES							
SIGN NUMBER	DESCRIPTION	SIZE			AREA (SF)	QUAN	TOTAL AREA (SF)
M4-8a	END DETOUR	18	x	24	3.00	2	6.00
M4-8	DETOUR	24	x	12	2.00	2	4.00
M4-9L	DETOUR WITH ARROW	30	x	24	5.00	10	50.00
M4-9R	DETOUR WITH ARROW	30	x	24	5.00	2	10.00
M6-2	DIRECTIONAL ARROW	21	x	15	2.19	2	4.38
R11-2	ROAD CLOSED	30	x	48	10.00	3	30.00
R11-3b	BRIDGE OUT __ MILES AHEAD LOCAL TRAFFIC ONLY	30	x	60	12.50	3	37.50
SS-1	EXIT 43 NO ACCESS TO CITY OF PINEHURST	48	x	72	24.00	2	48.00
SS-2	PEDESTRIANS REQUIRING ASSISTANCE WITH PASSAGE THROUGH PROJECT AREA TO CONTACT XXX-XXX-XXXX	30	x	24	5.00	3	15.00
TEMPORARY TRAFFIC CONTROL SIGNS TOTAL (SF)							204.88

SUB-TOTAL 204.88
 CONTINGENCY 10%
 TOTAL 226

MUTCD TABLE 6C-3 TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES	
MERGING TAPER = AT LEAST L	
SHIFTING TAPER = AT LEAST 0.5 L	
SHOULDER TAPER (ST) = AT LEAST 0.33L	
ONE LANE, TWO WAY TRAFFIC TAPER = 100' MAX.	
DOWNSTREAM TAPER = 100' PER LANE	

MUTCD TABLE 6C-4 FORMULAS FOR DETERMINING TAPER LENGTHS	
(40 MPH or Less)	(45 MPH or More)
$L = \frac{WS^2}{60}$	$L = WS$
W = WIDTH OF OFFSET IN FEET	W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED	S = POSTED SPEED
L = Merging Taper ½L = Shifting Taper ¼L = Shoulder Taper	

MUTCD TABLE 6C-2 STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED		
*SPEED (MPH)	DISTANCE (FT.)	
20	115	
25	155	
30	200	
35	250	
40	305	
45	360	
50	425	
55	495	
60	570	
65	645	
70	730	
75	820	

*Posted speed, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
RURAL	500'	500'	500'
URBAN (HIGH SPEED)	350'	350'	350'
URBAN (LOW SPEED)	100'	100'	100'

TEMPORARY TRAFFIC CONTROL DEVICES			
BID ITEM	DESCRIPTION	UNIT	QUAN
626-010A	TEMPORARY TRAFFIC CONTROL SIGNS	SF	226
626-040A	BARRICADE TYPE 3	EACH	9
626-105A	TEMPORARY TRAFFIC CONTROL MAINTENANCE	HR	144
626-115B	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (3 EACH)	DAY	237

SYMBOL LEGEND

- WORK ZONE
- TRAFFIC FLOW DIRECTION
- CONCRETE BARRIER
- DRUMS
- PCMS
- BARRICADE TYPE III
- PORTABLE TRAFFIC SIGNAL
- SIGN
- TEMPORARY CRASH CUSHION

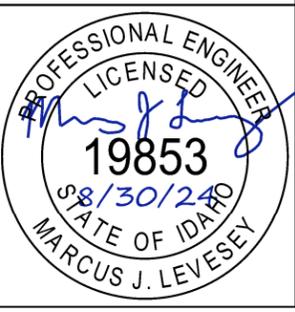
REVISIONS			
NO	DATE	BY	DESCRIPTION

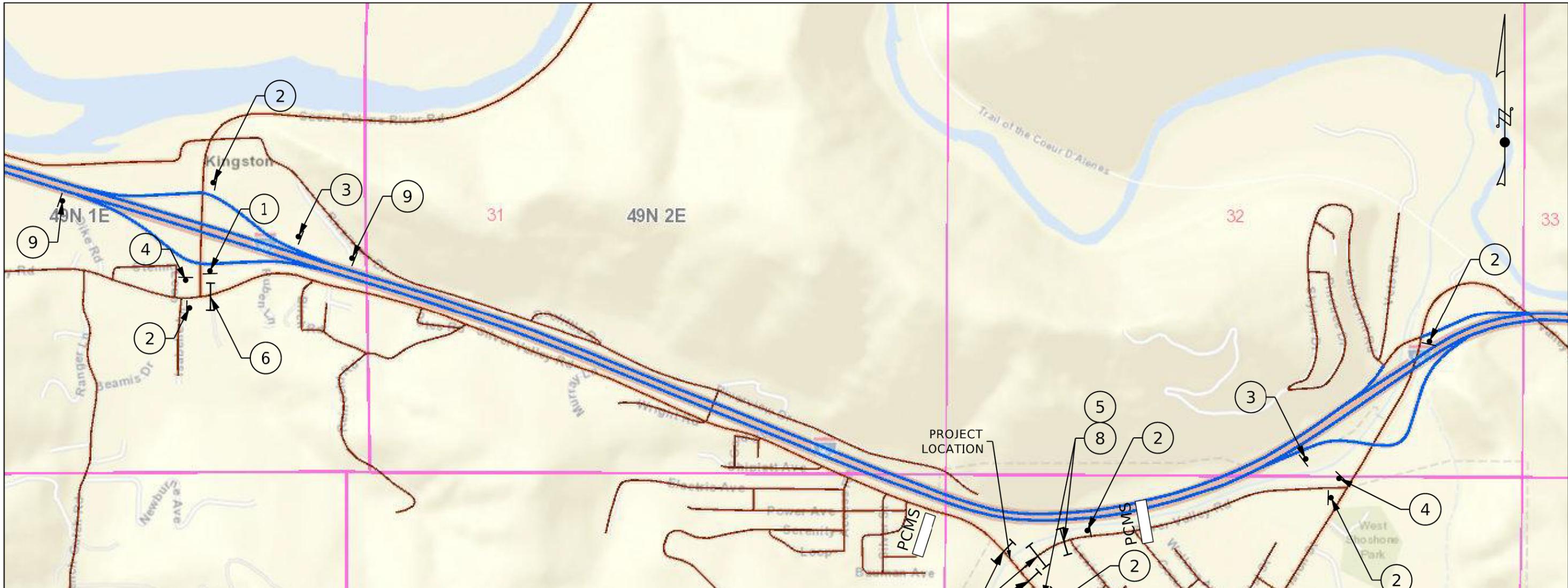
DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED G.E. SIEGFORD	CADD FILE NAME 19292 TRCP 001.dgn
DETAILED M. LEVESEY	DRAWING DATE: 30-AUG-2024
DRAWING CHECKED G.E. SIEGFORD	

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PROJECT NO. A019(292)	TEMPORARY TRAFFIC CONTROL PLAN MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 12 OF 15





1		M4-9R	6		R11-3b	9		SS-1
2		M4-9L	7		R11-2			
3		M6-2 M4-8	8		R11-3b			
4		M4-8a						
5		SS-2						

REVISIONS			
NO	DATE	BY	DESCRIPTION

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DETAILED	M. LEVESEY	CADD FILE NAME 19292 TRCP 001.dgn
DRAWING CHECKED	G.E. SIEGFORD	DRAWING DATE: 30-AUG-2024

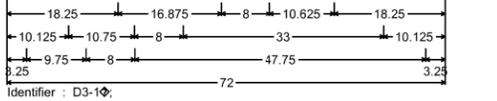
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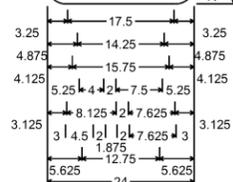
PROJECT NO.	A019(292)
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TEMPORARY TRAFFIC CONTROL PLAN	ENGLISH
	COUNTY SHOSHONE
	KEY NUMBER 19292
	SHEET 13 OF 15



Identifier : D3-1Φ;
 3.000" Radius, 1.250" Border, 0.750" Indent, Black on Orange;
 [EXIT 43] C 2K; [NO ACCESS] C 2K; [TO PINEHURST] C 2K;
 Table of widths and spaces.

18.250	E	4.000	0.750	X	4.750	1.125	I	1.125	T	4.000																	
8.000	4	5.000	1.250	3	4.375	18.250																					
10.125	N	4.375	1.625	O	4.750																						
8.000	A	5.125	1.000	C	4.500	1.375	C	4.500	1.625	E	4.000	1.000	S	4.500	1.000	S	4.375	10.125									
3.250	T	4.000	1.000	O	4.750																						
8.000	P	4.500	1.500	I	1.125	1.750	N	4.500	1.750	E	4.125	1.375	H	4.500	1.750	U	4.500	1.750	R	4.375	1.000	S	4.500	0.750	T	4.000	3.250



3.000" Radius, 1.000" Border, Black on White;
 [PEDESTRIANS] B 2K;
 [REQUIRING] B 2K;
 [ASSISTANCE] B 2K;
 [WITH PASSAGE] B 2K;
 [THROUGH PROJECT] B 2K;
 [AREA TO CONTACT] B 2K;
 [XXX-XXX-XXXX] B 2K;
 Table of widths and spaces.

3.250	P	1.375	0.375	E	1.125	0.500	D	1.250	0.625	E	1.125	0.250	S	1.375	0.250	T	1.125	0.375	R	1.250	0.500	I	0.375	0.500	A	1.625	0.375	N	1.250	0.500	S	1.375	3.250	
4.875	R	1.250	0.500	E	1.125	0.500	O	1.375	0.500	U	1.250	0.750	I	0.375	0.625	R	1.250	0.500	I	0.375	0.750	N	1.250	0.625	G	1.250	4.875							
4.125	A	1.625	0.250	S	1.250	0.250	S	1.375	0.375	I	0.500	0.375	S	1.375	0.250	T	1.125	0.125	A	1.625	0.375	N	1.375	0.500	C	1.375	0.500	E	1.125	4.125				
5.250	W	1.250	0.250	I	0.250	0.250	T	0.750	0.375	H	0.875																							
2.000	P	0.750	0.125	A	1.125	0.125	S	0.875	0.250	S	0.875	0.125	A	1.125	0.125	G	0.875	0.375	E	0.750	5.250													
3.125	T	0.750	0.375	H	0.750	0.500	R	0.875	0.250	O	0.875	0.375	U	0.875	0.375	G	0.875	0.375	H	0.875														
2.000	P	0.875	0.250	R	0.875	0.250	O	1.000	0.125	J	0.875	0.500	E	0.750	0.250	C	0.875	0.250	T	0.750	3.125													
3.000	A	1.000	0.375	R	0.750	0.375	E	0.750	0.125	A	1.125																							
2.000	T	0.750	0.250	O	0.875																													
2.000	C	0.875	0.375	O	0.875	0.375	N	0.875	0.250	T	0.750	0.125	A	1.125	0.250	C	0.750	0.250	T	0.750	3.000													
5.625	X	1.000	0.125	X	1.000	0.250	X	0.875	0.125	0.625	0.250	X	0.875	0.250	X	0.875	0.250	X	0.875	0.250	0.625	0.125	X	0.875	0.250	X	0.875	0.250	X	1.000	0.125	X	1.000	5.625

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED G.E. SIEGFORD	CADD FILE NAME 19292 TRCP 001.dgn
DETAILED M. LEVESEY	DRAWING DATE: 30-AUG-2024
DRAWING CHECKED G.E. SIEGFORD	

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DEPARTMENT

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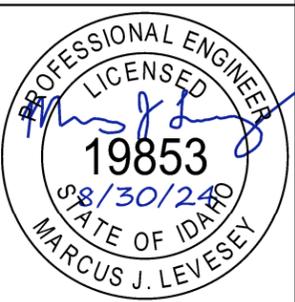
HMH engineering

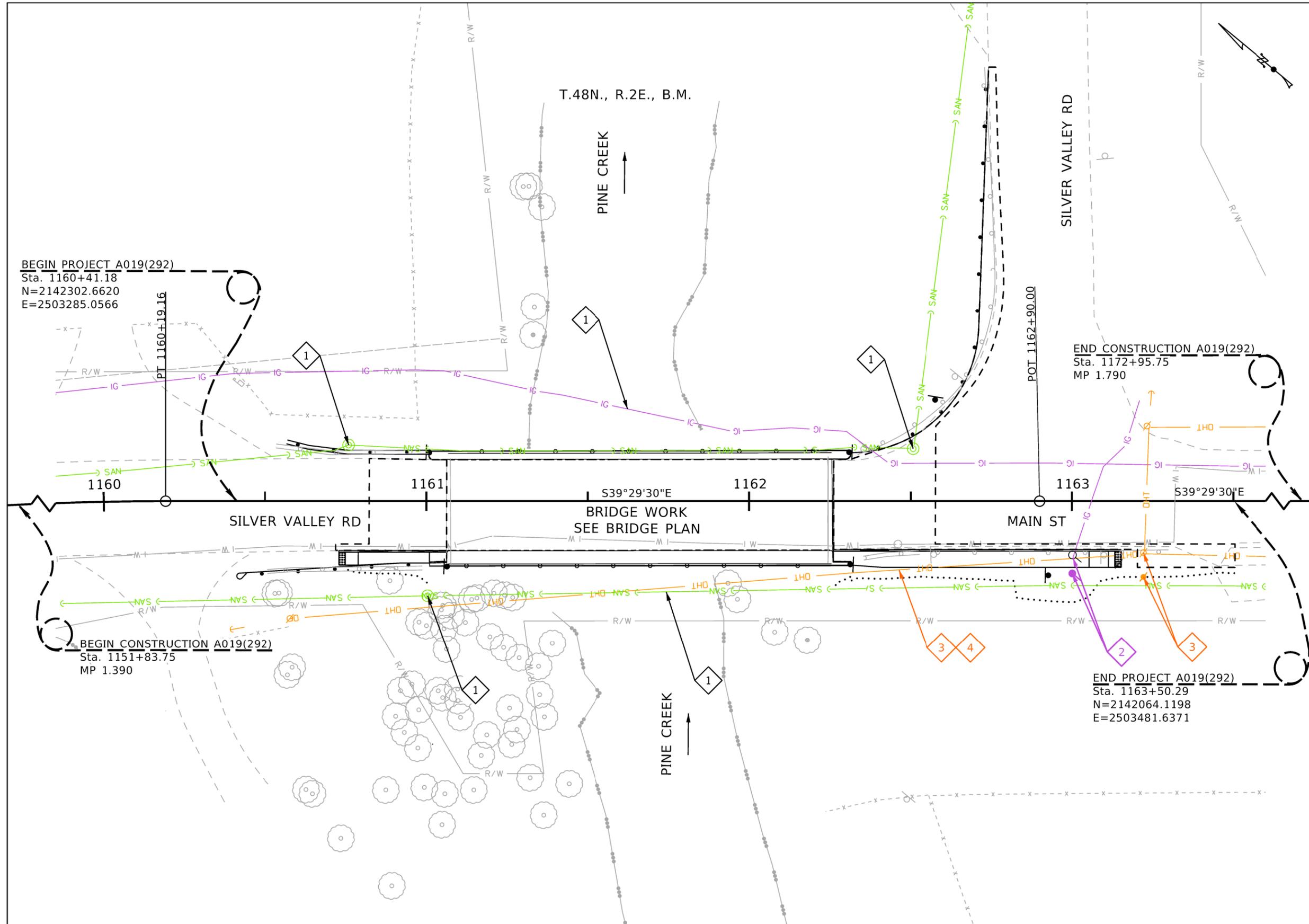


PROJECT NO.	A019(292)
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TEMPORARY TRAFFIC CONTROL PLAN	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
--------------------------------	---

ENGLISH
COUNTY SHOSHONE
KEY NUMBER 19292
SHEET 14 OF 15





- 1 RETAIN AND PROTECT
- 2 ADJUST/RELOCATE GAS MARKER BELONGING TO WILLIAMS NORTHWEST PIPELINES BY WILLIAMS NORTHWEST PIPELINES AT COMPANY EXPENSE
- 3 ADJUST/RELOCATE UTILITY BELONGING TO ZIPLY BY ZIPLY AT COMPANY EXPENSE
- 4 ADJUST/RELOCATE UTILITY BELONGING TO SUDDENLINK BY SUDDENLINK AT COMPANY EXPENSE

CALL BEFORE YOU DIG
811 or 800-626-4950

REVISIONS			
NO	DATE	BY	DESCRIPTION

DESIGNED M. LEVESEY	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY CADD FILE NAME 19292 UTIL 001.dgn DRAWING DATE: 30-AUG-2024
DESIGN CHECKED G.E. SIEGFORD	
DETAILED M. LEVESEY	
DRAWING CHECKED G.E. SIEGFORD	

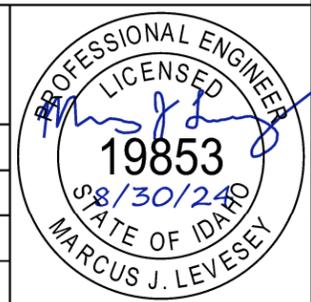
IDAHO TRANSPORTATION DEPARTMENT
 YOUR Safety-YOUR Mobility-YOUR Economic Opportunity

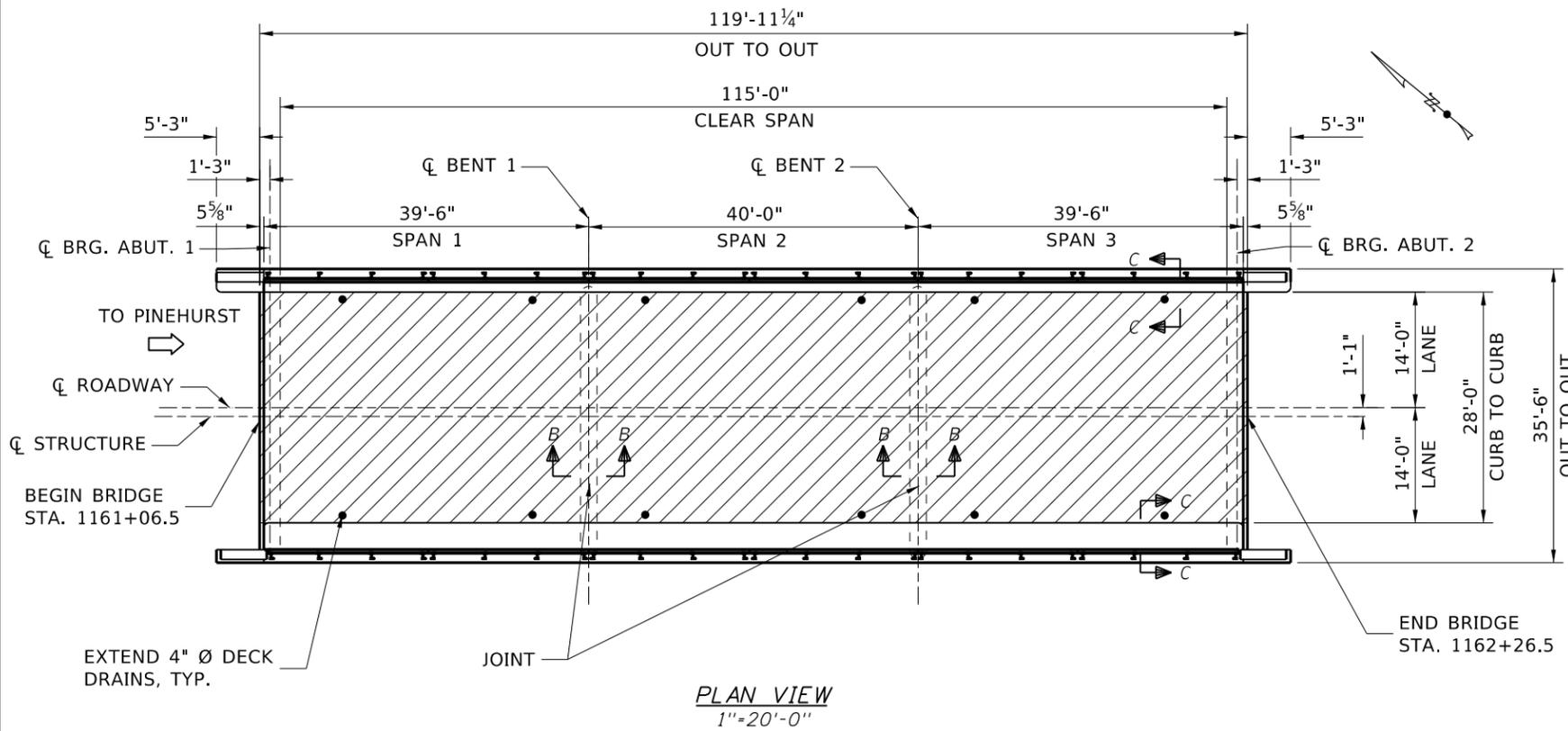
HMH engineering

PROJECT NO.	A019(292)
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UTILITY PLAN	MAIN ST/SILVER VALLEY RD BRIDGE PINEHURST
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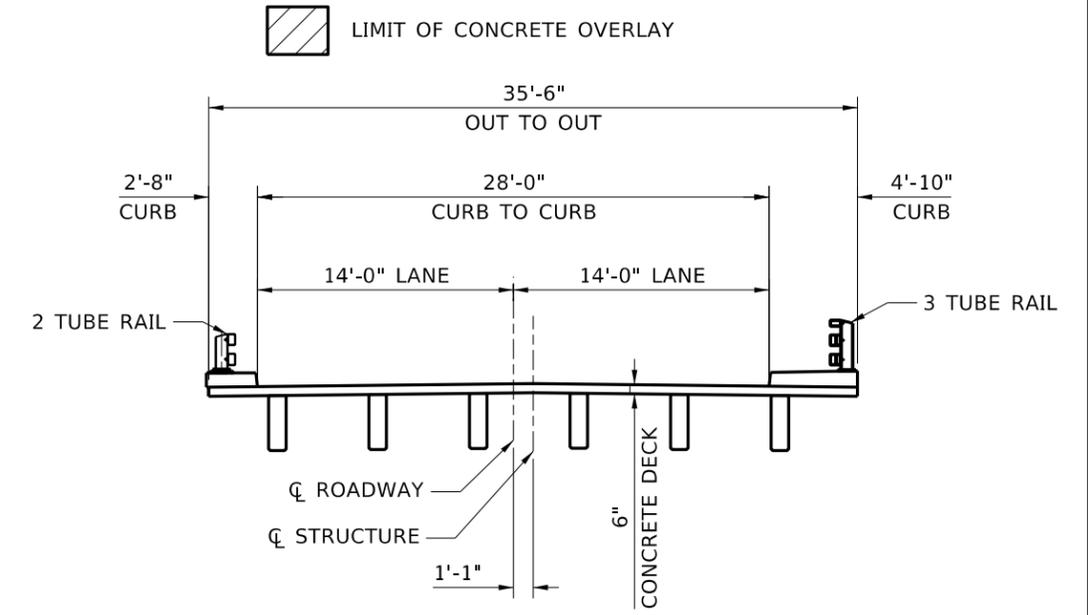
ENGLISH	COUNTY SHOSHONE
KEY NUMBER	19292
SHEET	15 OF 15



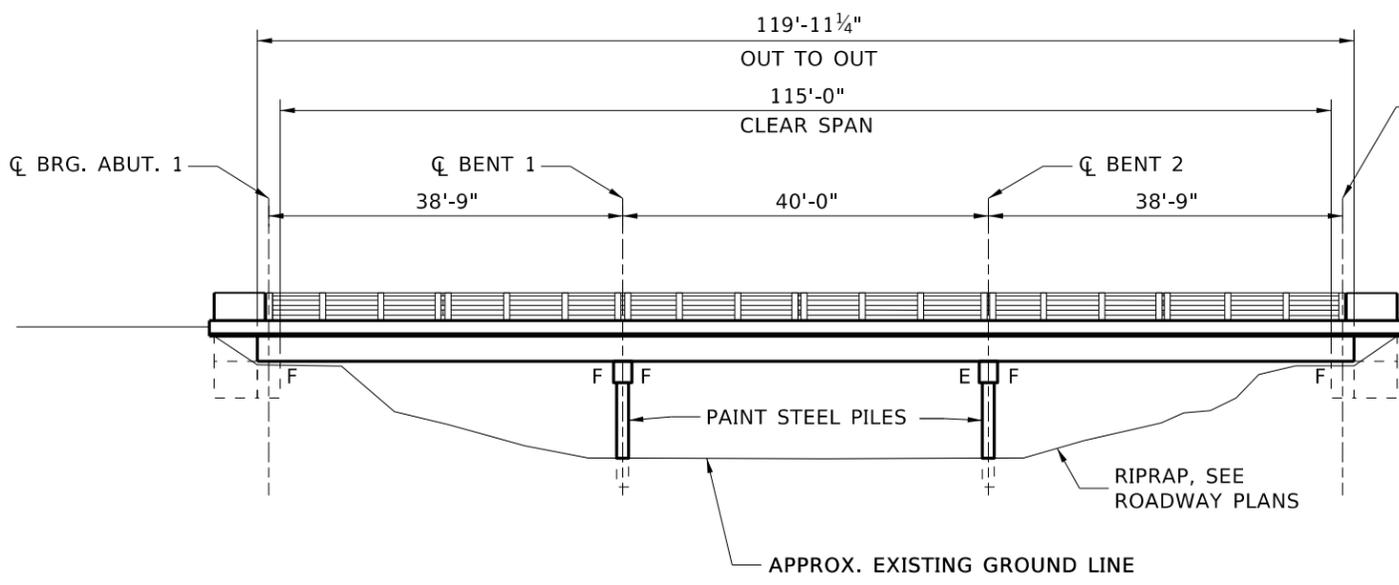


PLAN VIEW
1"=20'-0"

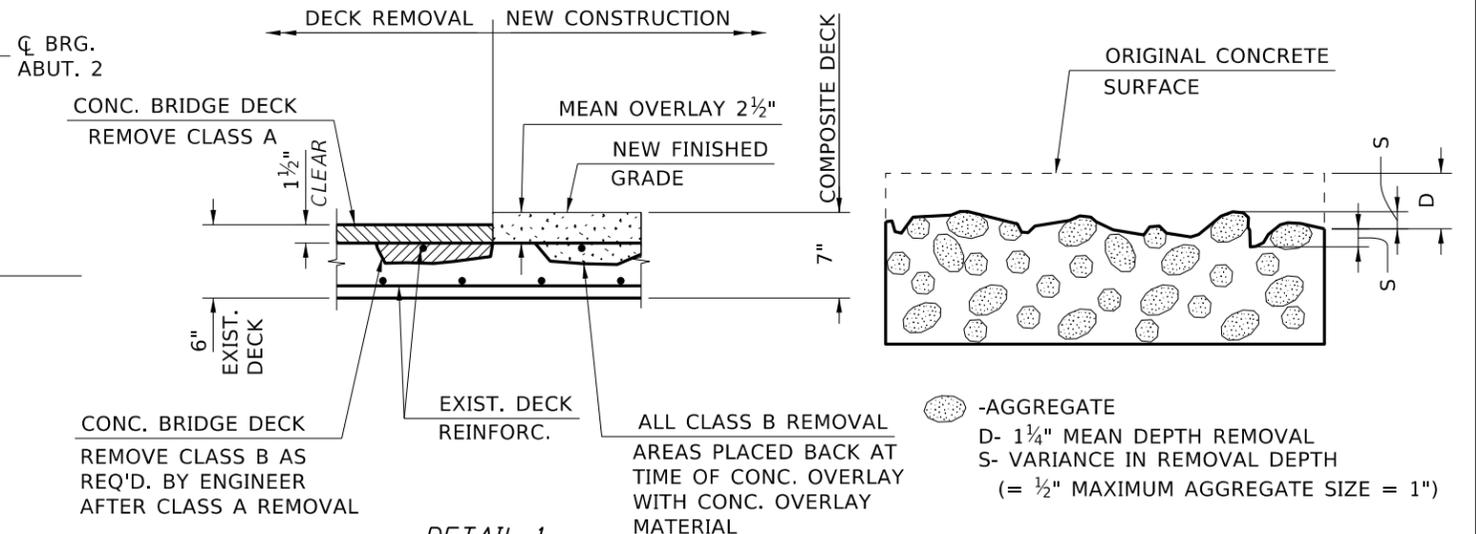
- SCOPE OF WORK**
1. PERFORM CONCRETE DECK REMOVAL CLASS A AND B.
 2. PLACE CONCRETE OVERLAY.
 3. INSTALL NEW EXPANSION JOINTS.
 4. MODIFY AND PAINT BRIDGE RAIL.
 5. REPAIR PILE CAP CRACKS BY EPOXY INJECTION.
 6. PAINT STEEL PIPE PILES.
 7. APPLY CONCRETE WATERPROOFING SYSTEM TYPE C TO BOTH CURBS.
 8. EXTEND DECK DRAINS.



TYPICAL SECTION
1"=5'-0"



ELEVATION VIEW
1"=20'-0"



DETAIL 1
N.T.S.

DETAIL A
N.T.S.

CONCRETE REMOVAL AND OVERLAY DETAIL
N.T.S.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

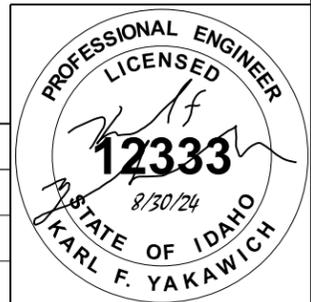
DESIGNED G.GILLIN	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED K.YAKAWICH	
DETAILED P.STETSON	
DWG. CHECKED G.GILLIN	
CORRECTIONS	
CADD FILE NAME DXI\prj\XXXX\ProjDev\Bridges\Plans 19292_SIPC_001.DGN	DRAWING DATE: AUGUST 2024

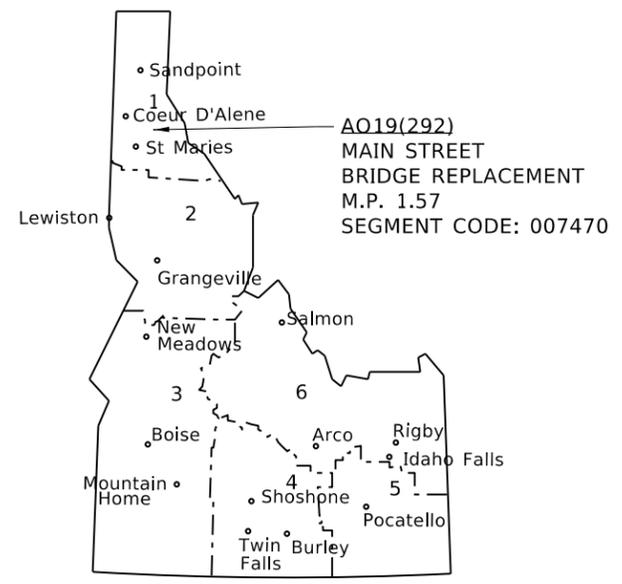
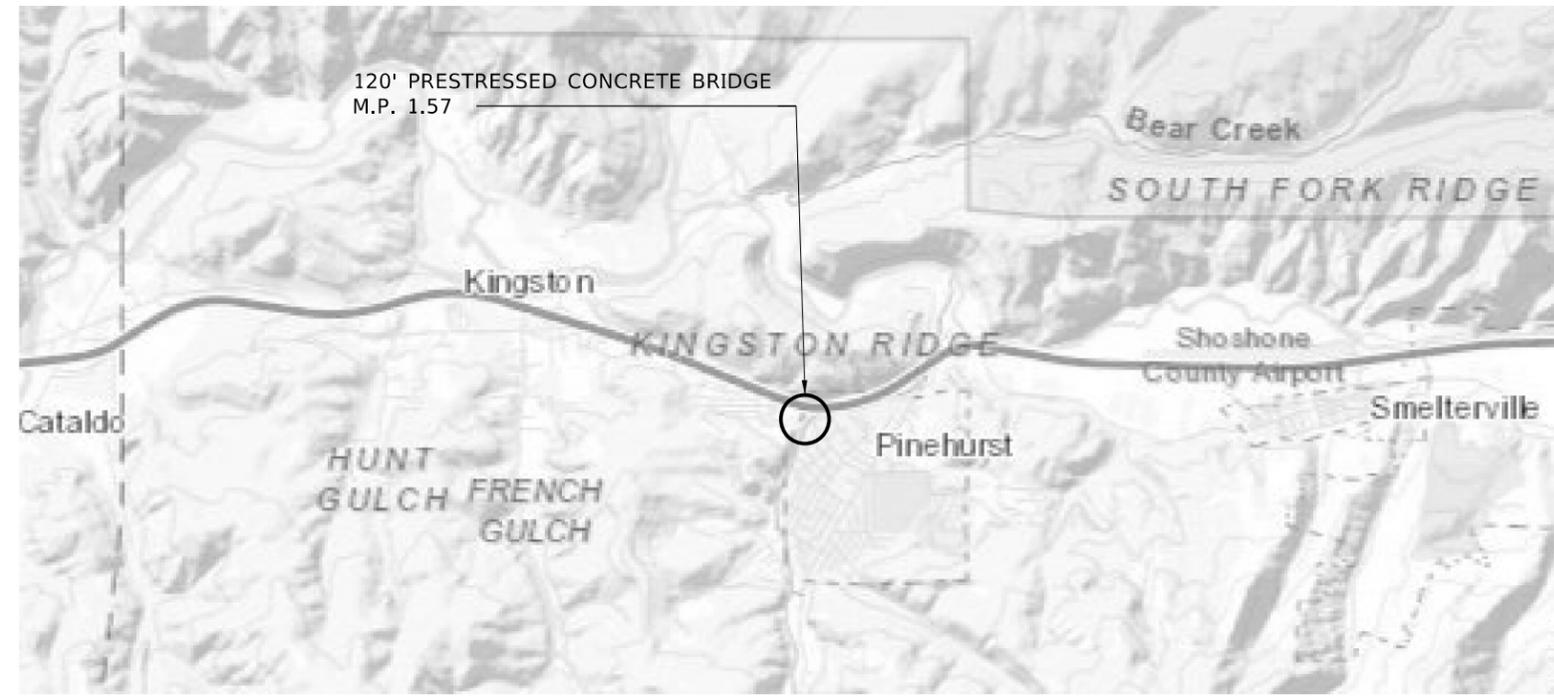
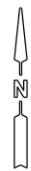
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 GREAT WEST ENGINEERING

ENGLISH
 PROJECT NO.
 A019(292)

SITUATION AND LAYOUT
 120' CONCRETE BRIDGE
 MAIN STREET OVER PINE CREEK
 CITY OF PINEHURST

BRIDGE PLANS	
BRIDGE KEY NO. 20590	KEY NO. 19292
COUNTY SHOSHONE	SHEET 1 OF 5
BRIDGE DWG. NO. 10200-A	





VICINITY MAP
NTS

SHEET INDEX

SITUATION AND LAYOUT.....	1
SHEET INDEX, QUANTITIES & VICINITY MAP.....	2
MISCELLANEOUS DETAILS.....	3
HANDRAIL DETAILS.....	4
DECK DRAIN EXT. & BRIDGE END GUARDRAIL CONNECTION DETAILS.....	5

TRAFFIC DATA

CONSTRUCTION YEAR 2025	
AADT	660
CAADT	90
9.0 %	
FUTURE YEAR 2038	
AADT	990
CAADT	120
9.5 %	

QUANTITIES

504-010B	STRUCTURAL STEEL (TUBE RAIL EXTENSION)	1	LS
510-005A	CONCRETE OVERLAY	36.3	CY
511-005A	CONCRETE WATERPROOF SYSTEM TYPE C	123.9	SY
560-005A	DEWATERING FOUNDATION	40,000	CA
566-005A	COMPRESSION SEAL EXPANSION JOINT, 1"	71.0	FT
569-005A	REMOVAL OF EXPANSION JOINT	71.0	FT
581-005A	CONCRETE CRACK REPAIR PREPARATION	80	FT
581-010A	CONCRETE CRACK EPOXY INJECTION	1.6	GAL
587-005A	PAINTING STRUCTURAL STEEL (BRIDGE RAIL, APPROX. 235 FEET)	1	LS
587-005B	PAINTING STRUCTURAL STEEL (PILING, APPROX. 413 SF)	1	LS
632-005A	CONCRETE BRIDGE DECK REMOVAL CLASS A	373	SY
632-010A	CONCRETE BRIDGE DECK REMOVAL CLASS B	55	SY
S501-20A	SP BRIDGE, EXTEND DECK DRAINS	12	EA
S900-05B	SP BRIDGE, DEWATERING FOUNDATION	55,000	CA

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS

MATERIALS, CONSTRUCTION AND WORKMANSHIP WILL BE IN ACCORDANCE WITH THE STATE OF IDAHO TRANSPORTATION DEPARTMENT, "STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION", 2023 EDITION, THE PROJECT PLANS AND SUPPLEMENTAL SPECIFICATIONS UNLESS NOTED OTHERWISE. EXISTING BRIDGE DESIGN IS IN ACCORDANCE WITH (AASHTO SPECIFICATIONS OF 1961).

PLAN DIMENSIONS

THE DIMENSIONS SHOWN ARE FROM EXISTING PLANS. FIELD VERIFY DIMENSIONS OF THE EXISTING STRUCTURE BEFORE ORDERING MATERIALS. PLANS FOR THE EXISTING STRUCTURE (DWG #10200) ARE AVAILABLE FOR REVIEW AT LHTAC OFFICE IN BOISE, IDAHO.

CONSTRUCTION

EXERCISE CARE DURING REMOVAL OPERATIONS TO PREVENT DAMAGE TO THE PORTIONS OF THE STRUCTURE AND REINFORCING STEEL THAT ARE TO BE RETAINED. ANY CONCRETE OVERBREAK OR DAMAGE OUTSIDE THE LIMITS DESIGNATED IN THE PLANS MUST BE REMOVED, FORMED, AND REPLACED AT THE CONTRACTOR'S EXPENSE.

REPLACE DAMAGED REINFORCING STEEL BEYOND DESIGNATED LIMITS AT THE CONTRACTOR'S EXPENSE.

ALL MATERIALS REMOVED FROM STRUCTURES BECOMES THE CONTRACTOR'S PROPERTY AND MUST BE DISPOSED OF PROPERLY.

TRAFFIC DURING CONSTRUCTION WILL BE IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN.

NO DEBRIS IS ALLOWED TO FALL INTO THE WATERWAY BELOW.

INCIDENTAL ITEMS

ALL ITEMS SHOWN OR NOTED ON PLANS WHICH ARE NOT SPECIFICALLY BID ITEMS ARE CONSIDERED INCIDENTAL ITEMS. THE COST OF FURNISHING AND INSTALLING ALL INCIDENTAL ITEMS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR OTHER ITEMS, UNLESS NOTED OTHERWISE.

NO.	DATE	BY	DESCRIPTION
▲	11/19/24	CEH	Correct Item Number
▲			
▲			
▲			

DESIGNED G.GILLIN	SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
DESIGN CHECKED K.YAKAWICH	CADD FILE NAME DX\prj\XXXX\ProjDev\Bridges\Plans 19292_BRIC_002.DGN
DETAILED P.STETSON	DRAWING DATE: AUGUST 2024
DWG. CHECKED G.GILLIN	
CORRECTIONS	

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ENGLISH

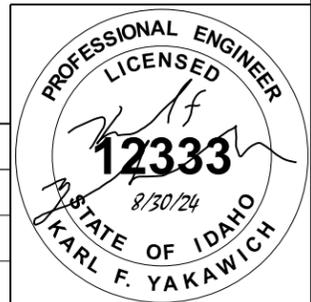
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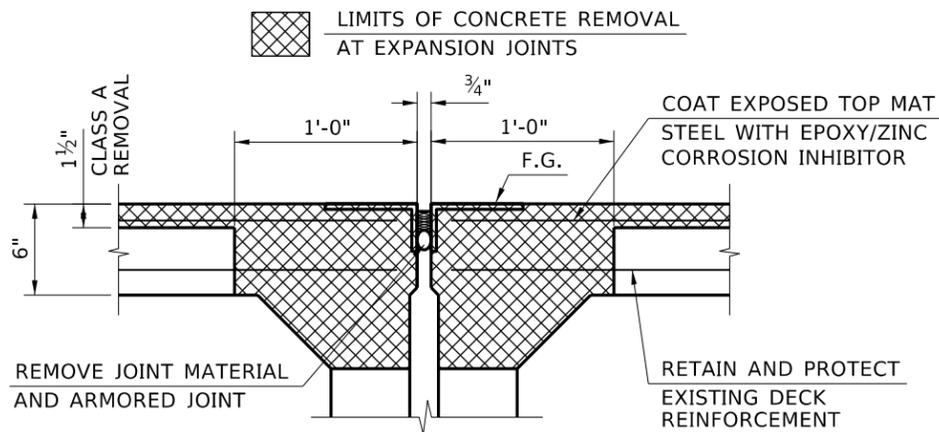
A019(292)

SHEET INDEX, QUANTITIES, AND VICINITY MAP

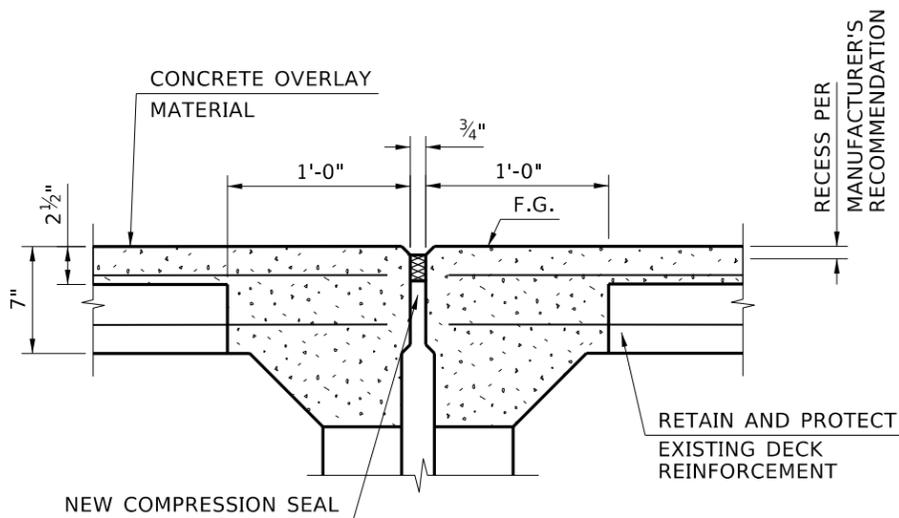
**120' CONCRETE BRIDGE
MAIN STREET OVER PINE CREEK
CITY OF PINEHURST**

BRIDGE PLANS	
BRIDGE KEY NO. 20590	
COUNTY SHOSHONE	KEY NO. 19292
BRIDGE DWG. NO. 10200-A	SHEET 2 OF 5





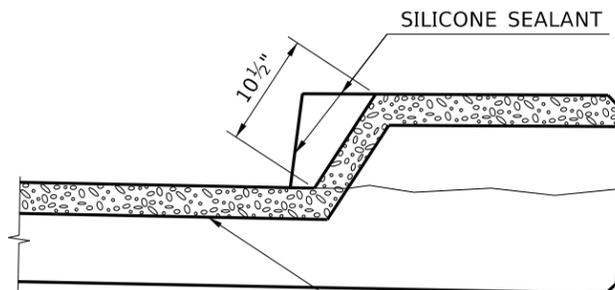
SECTION B-B
AT (EXISTING) BENTS 1,2
3/4" = 1'-0"



SECTION B-B
AT (PROPOSED) BENTS 1,2
3/4" = 1'-0"

JOINT NOTES

1. PROVIDE SUITABLE FORMWORK SUPPORT DURING JOINT CONCRETE POUR.
2. ADJUST JOINT GAP 0.029" FOR EVERY 10° CHANGE IN TEMPERATURE FROM THE MEDIUM TEMPERATURE OF 60° AT THE TIME OF INSTALLATION OF THE JOINT.
3. PROVIDE CONTINUOUS JOINT SEAL BETWEEN FACE OF CURBS.
4. INSTALL JOINT SEALS AS PER THE MANUFACTURER'S RECOMMENDATIONS USING AN ADHESIVE LUBRICANT. ADHESIVE WILL MEET THE REQUIREMENTS OF ASTM D-4070.
5. PREFORMED EXPANSION JOINT SEAL WILL CONFORM TO ASSHTO M-297.
6. THE COMPLETED JOINT ASSEMBLY, INCLUDING ALL COMPONENTS AND SUBASSEMBLIES, MUST BE FABRICATED BY ONE MANUFACTURER.
7. SILICONE SEALANT MEETS ASTM D5893 AND IS INCIDENTAL TO ITEM 566 005A.



SECTION C-C
1 1/2" = 1'-0"
REPLACE JOINT WITH NEW COMPRESSION SEAL

TYPICAL LOCATION OF CAP CRACK FOR EPOXY INJECTION

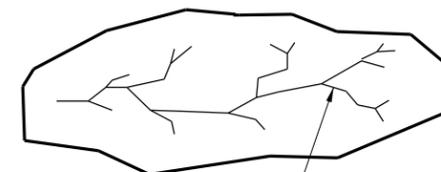


EXISTING STEEL PILES AND CONCRETE CAP
NTS

CRACK REPAIR NOTES

1. REPAIR CONCRETE SURFACE CRACK WIDTHS EXCEEDING 0.016" IN ACCORDANCE WITH SECTION 581.
2. REPAIR QUANTITIES ARE APPROXIMATE. REPAIR ADDITIONAL DETERIORATED CONCRETE AREAS NOT SHOWN OR NOTED IN ACCORDANCE WITH SECTION 581. CONTRACTOR AND ENGINEER WILL AGREE ON CONCRETE CRACK REPAIR LENGTHS PRIOR TO WORK.

TABLE OF ESTIMATED BRIDGE REPAIR QUANTITIES		
LOCATION	581-005A CONCRETE CRACK REPAIR PREPARATION (FT)	581-010A CONCRETE CRACK EPOXY INJECTION (GAL)
BENT CAPS	60	1.6
TOTAL	60	1.6



FOR CRACK REPAIR AND INJECTION (SEE SECTION 581)

CRACK REPAIR DETAIL
NTS

PILE NOTES:

1. PAINT PILE IN ACCORDANCE WITH 587 USING SYSTEM C IN ACCORDANCE WITH 627 TABLE 627.02-1.
2. PROVIDE COLOR GRAY SELECTED BY CITY AMS STD-595 FOR THE TOP COAT.

PAINT EXPOSED SURFACES OF EXISTING 10"Ø STEEL PILES AT BENTS 1 & 2. COATING TO EXTEND TO BASE OF NEW RIPRAP (4-FT BELOW GRADE)

RECOMMENDED MANUFACTURES OF THE SHOWN JOINT ASSEMBLY *				
LOCATION	MANUFACTURER	STYLE	SEAL SIZE - INCHES	
			WIDTH	HEIGHT
BENT 1,2	D.S. BROWN	J-100	1.0	1.19
BENT 1,2	WATSON BOWMAN ACME	25W	1.0	2.00

* OR APPROVED EQUAL

REVISIONS			
NO.	DATE	BY	DESCRIPTION

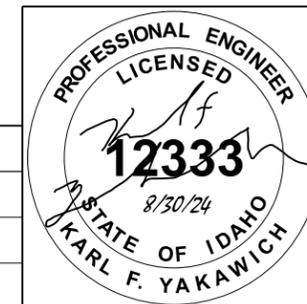
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DESIGN CHECKED K.YAKAWICH	CADD FILE NAME DX1prjXXXXX\ProjDev\Bridg\Plans 19292_SIPC_003.DGN
DETAILED P.STETSON	DRAWING DATE: AUGUST 2024
DWG. CHECKED G.GILLIN	
CORRECTIONS	

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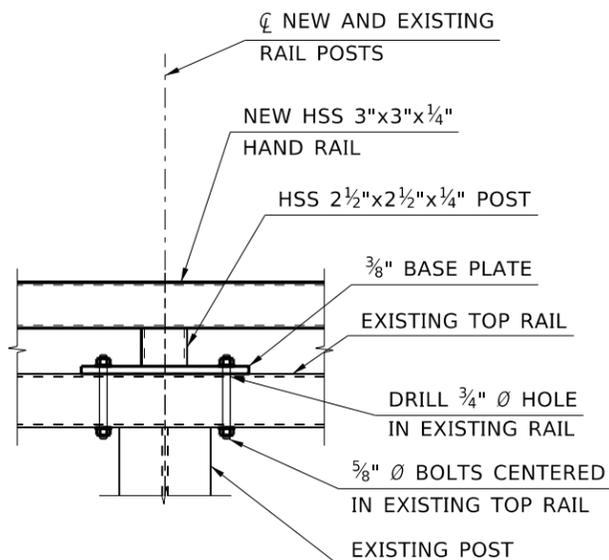
ENGLISH
PROJECT NO.
A019(292)

MISCELLANEOUS DETAILS
120' CONCRETE BRIDGE
MAIN STREET OVER PINE CREEK
CITY OF PINEHURST

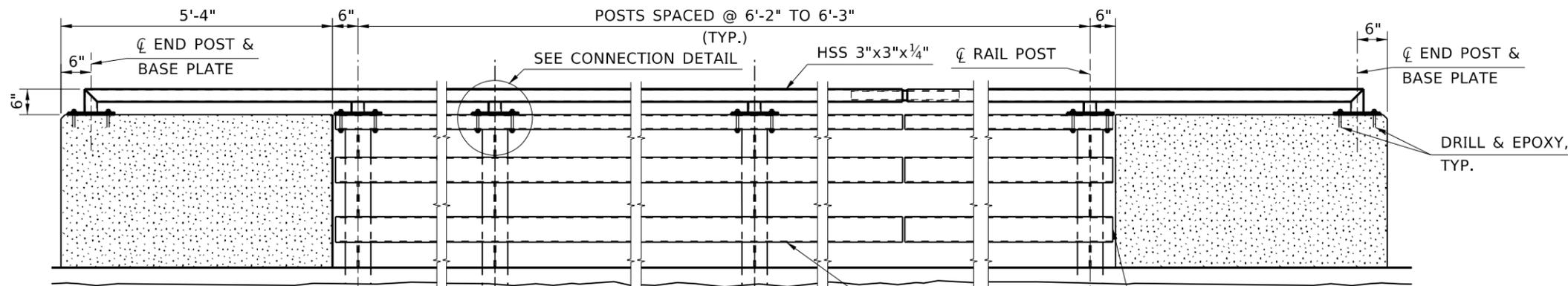
BRIDGE PLANS	
BRIDGE KEY NO. 20590	KEY NO. 19292
COUNTY SHOSHONE	SHEET 3 OF 5
BRIDGE DWG. NO. 10200-A	



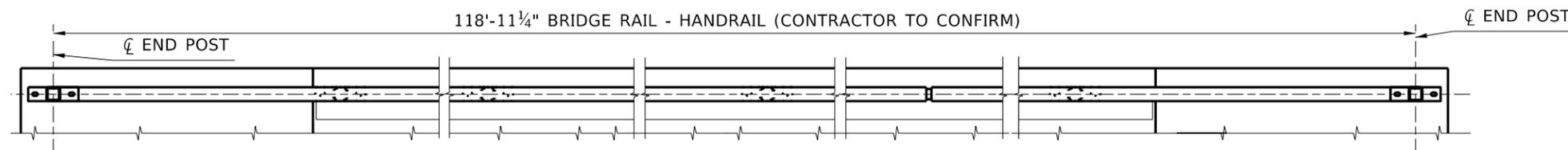
NOTE:
CONTRACTOR TO FIELD
VERIFY EXISTING DIMENSIONS.



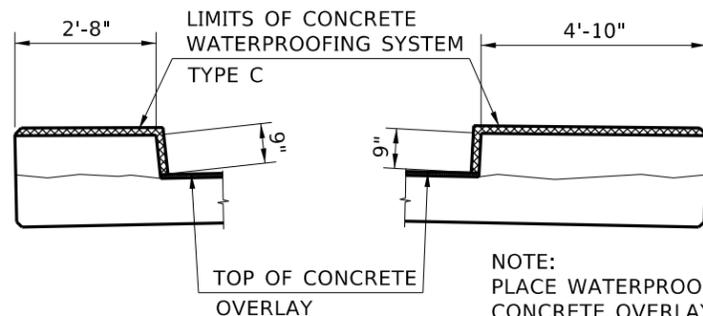
CONNECTION DETAIL
N.T.S.



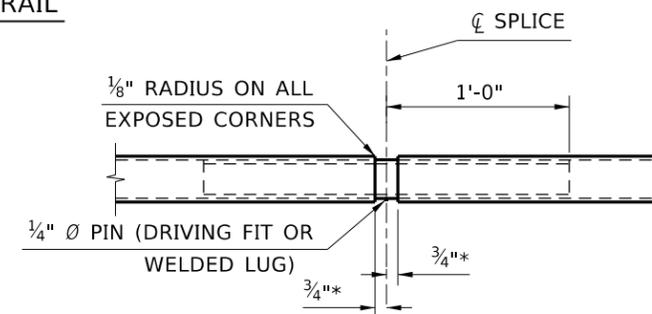
INSIDE ELEVATION OF RAIL
N.T.S.



PLAN VIEW OF RAIL
N.T.S.

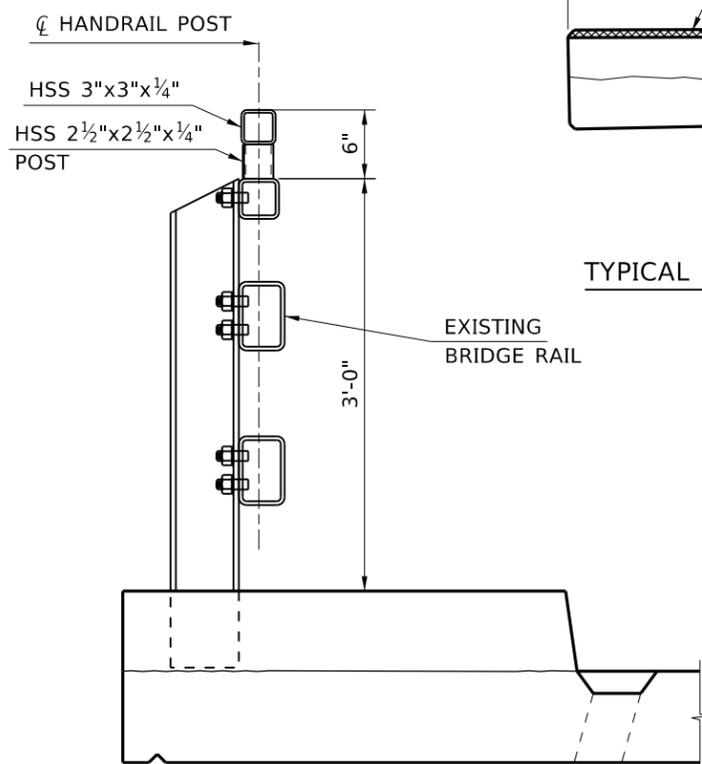


TYPICAL CURB WATERPROOFING TREATMENT DETAIL
N.T.S.

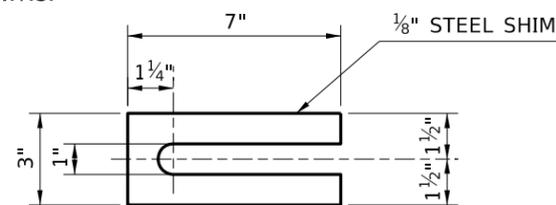


TUBE SPLICE DETAIL
N.T.S.

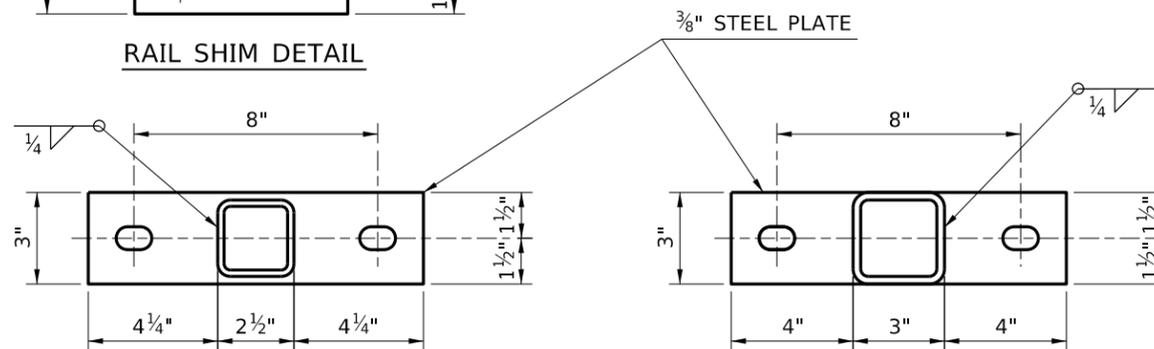
*NOTE: The dimension shown is for a standard tube splice. For splices crossing expansion joints, match the total width of the splice to the expansion gap shown elsewhere in the plans.



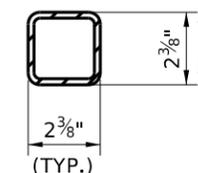
POST ASSEMBLY DETAIL
N.T.S.



RAIL SHIM DETAIL
N.T.S.

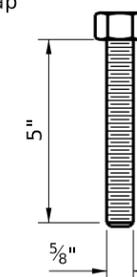


RAIL BASE PLATES
N.T.S.



SPLICE FABRICATION OPTIONS

NOTE:
Fabricate sleeves using channel, angles, plates or bent plates meeting the dimensions shown. Weld and grind smooth as required. Fabricate sleeves using no more than four welds. Fabricate sleeves with a minimum wall thickness of 1/4".



ANCHOR BOLT DETAIL
N.T.S.

- RAIL NOTES:
1. PAINT EXISTING AND PROPOSED RAIL IN ACCORDANCE WITH 587 USING SYSTEM C IN ACCORDANCE WITH 627 TABLE 627.02-1.
 2. PROVIDE COLOR GRAY SELECTED BY CITY AMS STD-595 FOR THE TOP COAT.
 3. HANDRAIL REQUIRED ON SOUTH SIDE OF BRIDGE ONLY. PAINT EXISTING THREE TUBE RAIL SYSTEM ON SOUTH SIDE OF BRIDGE AND TWO TUBE RAIL SYSTEM ON NORTH SIDE OF BRIDGE.

REVISIONS			
NO.	DATE	BY	DESCRIPTION

DESIGNED G. GILLIN
DESIGN CHECKED K. YAKAWICH
DETAILED P. STETSON
DWG. CHECKED G. GILLIN
CORRECTIONS

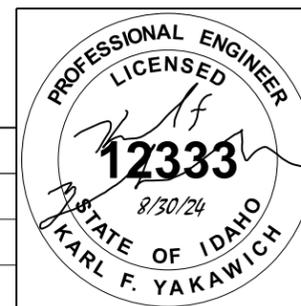
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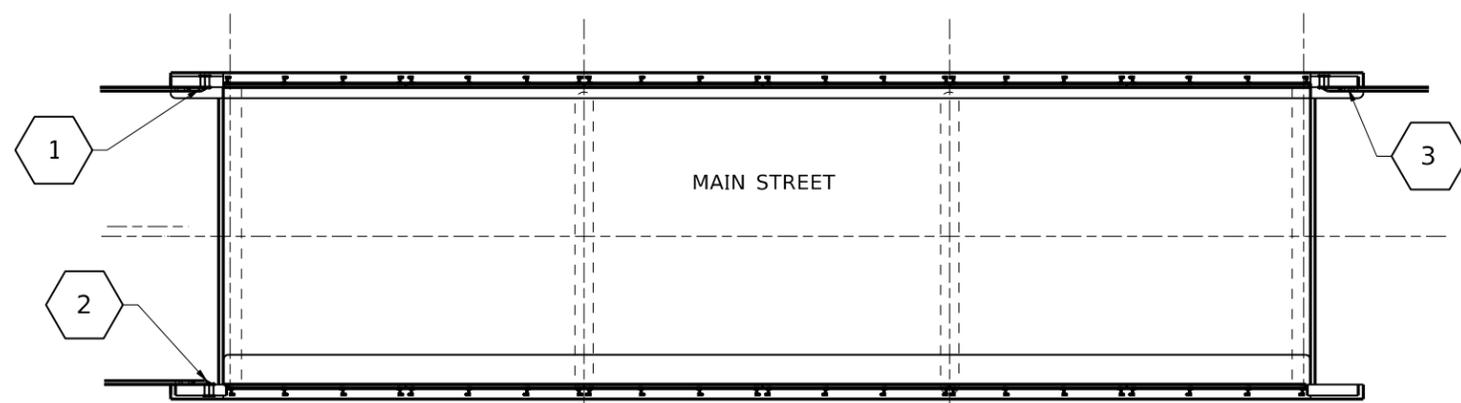
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PROJECT NO.
A019(292)

HANDRAIL DETAILS 120' CONCRETE BRIDGE MAIN STREET OVER PINE CREEK CITY OF PINEHURST

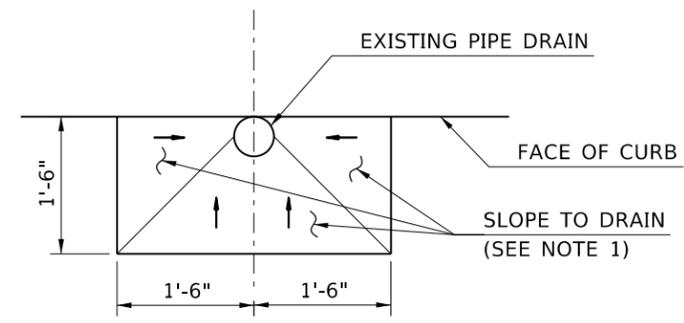
BRIDGE PLANS BRIDGE KEY NO. 20590 COUNTY SHOSHONE BRIDGE DWG. NO. 10200-A	KEY NO. 19292 SHEET 4 OF 5
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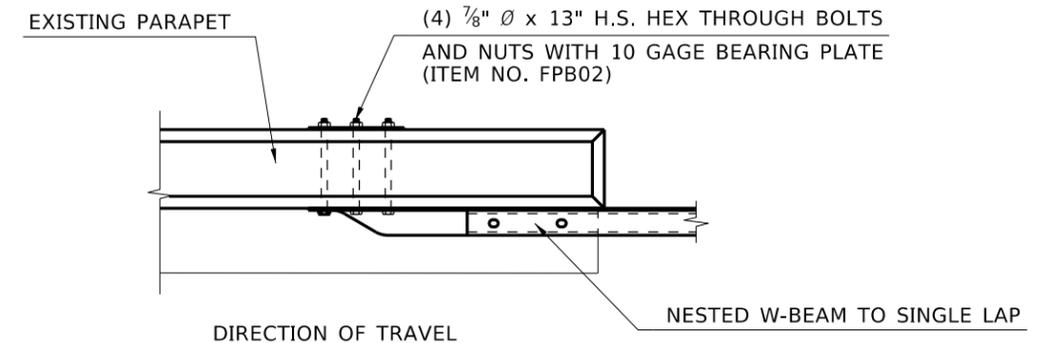
BRIDGE END GUARDRAIL CONNECTIONS
NTS

- NOTES**
1. DRILL AND BOND END LOOP BARS TO EXISTING BRIDGE END CONCRETE PARAPET TO CREATE A PINNED CONNECTION. INSTALL ADHESIVE PER SECTION 579. ATTACHED LOOP BARS TO PRECAST CONCRETE BARRIERS. REFER TO STANDARD DRAWING NO. 612-18 FOR END LOOP BAR SIZE AND GEOMETRY. WORK AND MATERIALS ARE INCIDENTAL TO 612-0150A CONCRETE BARRIER.
 2. THRIE BEAM TERMINAL CONNECTOR: REFER TO ITD STANDARD DRAWING 612-10 GUARDRAIL TRANSITION LOW SPEED.
 3. TERMINAL CONNECTOR ITEM NO. RWE01a. SEE DETAIL THIS SHEET.

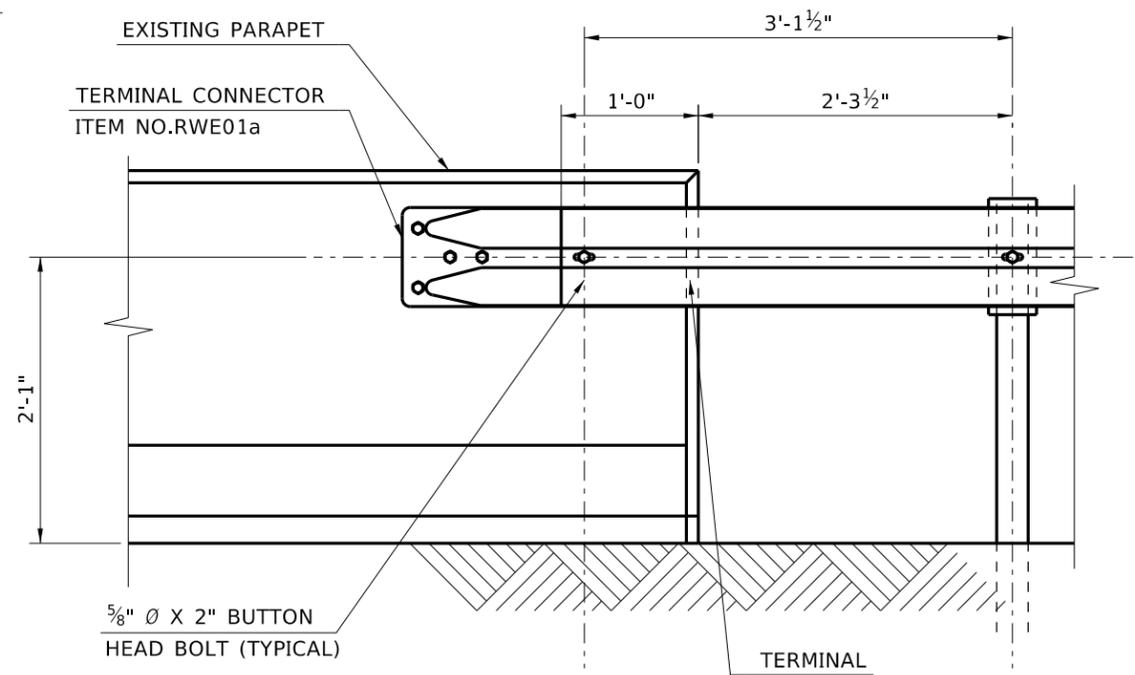


- DRAIN NOTES**
1. HAND TROWEL AT NEW OVERLAY.
 2. FINISHED AREA AROUND DECK DRAIN SHALL BE CONSIDERED INCIDENTAL TO BID IEM 510-005A, CONCRETE OVERLAY.

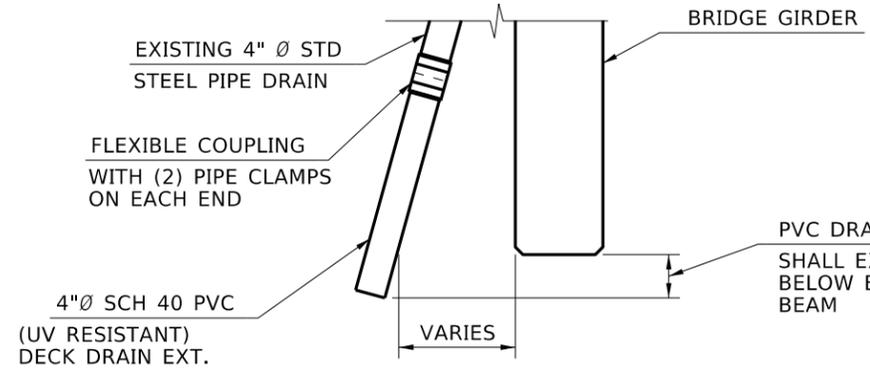
FINISHED DECK DRAIN PLAN
NTS



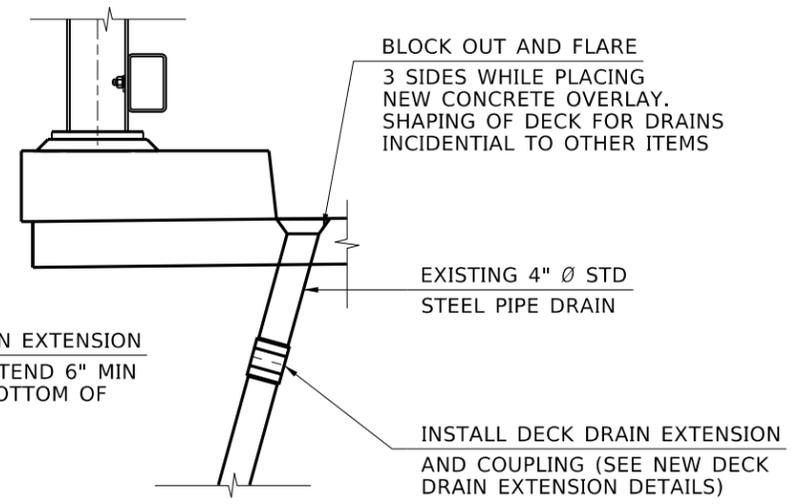
DETAIL A
NTS



RAIL END CONNECTION ELEVATION
NTS



NEW DECK DRAIN EXTENSION
NTS



DECK DRAIN DETAIL
NTS

NO.	DATE	BY	DESCRIPTION

DESIGNED
G.GILLIN
DESIGN CHECKED
K.YAKAWICH
DETAILED
P.STETSON
DWG. CHECKED
G.GILLIN
CORRECTIONS

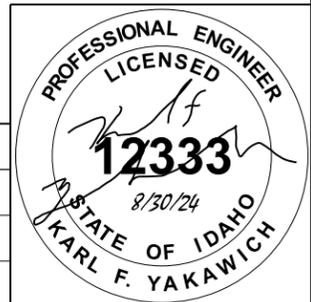
SCALES SHOWN
ARE FOR 11" X 17"
PRINTS ONLY
CADD FILE NAME
DX\prj\XXXX\ProjDev\Bridg\Plans
19292_SIPC_005.DGN
DRAWING DATE:
AUGUST 2024

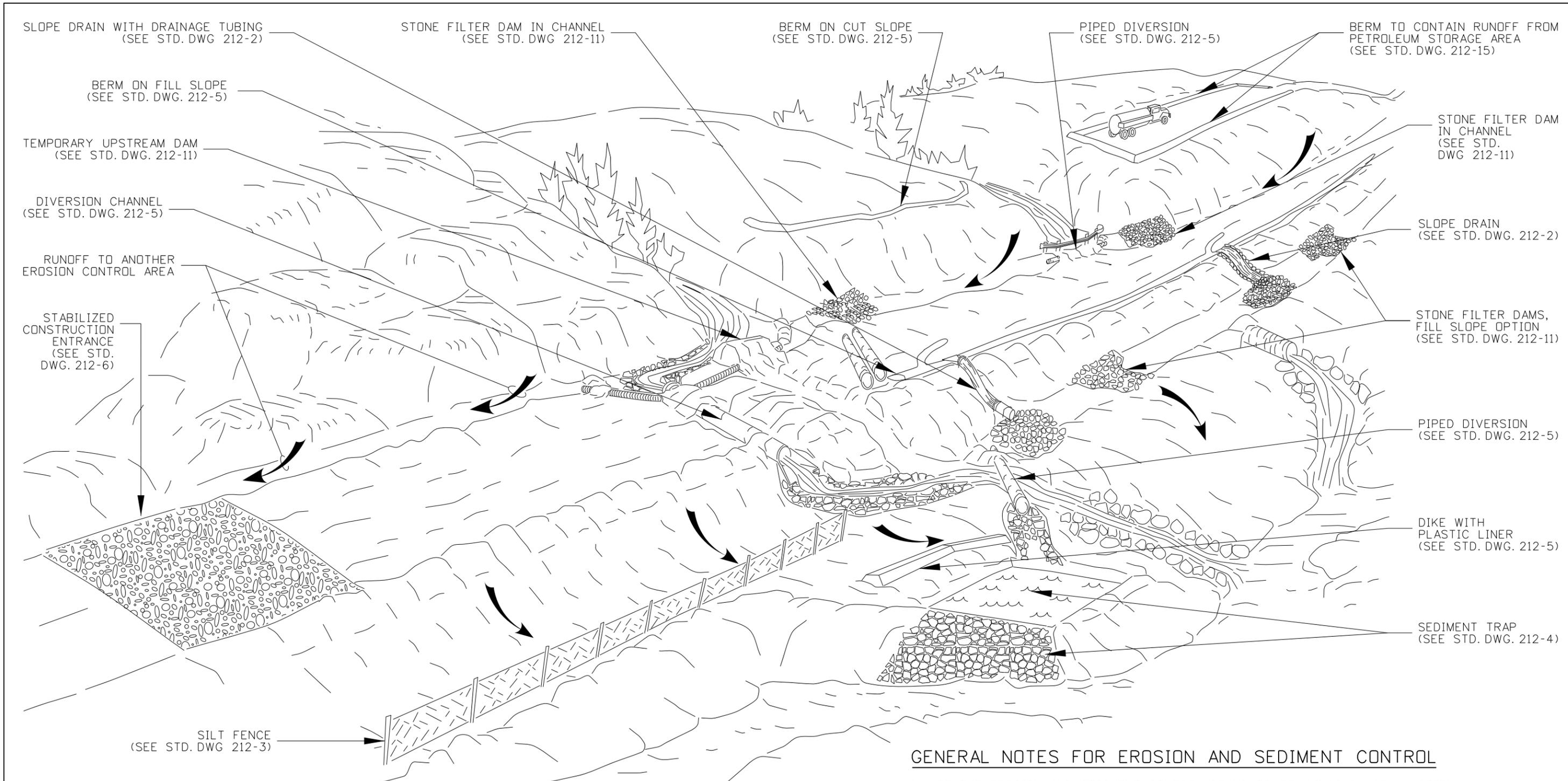
IDAHO TRANSPORTATION DEPARTMENT
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GREAT WEST ENGINEERING

ENGLISH
PROJECT NO.
A019(292)

DECK DRAIN EXT. & BRIDGE END GUARDRAIL CONNECTION DETAILS
120' CONCRETE BRIDGE
MAIN STREET OVER PINE CREEK
CITY OF PINEHURST

BRIDGE PLANS
BRIDGE KEY NO.
20590
COUNTY
SHOSHONE
BRIDGE DWG. NO.
10200-A
KEY NO.
19292
SHEET
5 OF 5





GENERAL NOTES FOR EROSION AND SEDIMENT CONTROL

1. USE THE EROSION AND SEDIMENT CONTROL STANDARD DRAWINGS IN CONJUNCTION WITH THE ITD BEST MANAGEMENT PRACTICES MANUAL.
2. THE PLACEMENT OF EROSION CONTROL MEASURES IS SITE SPECIFIC. OBTAIN THE ENGINEER'S APPROVAL OF THE EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO INSTALLATION.
3. EROSION AND SEDIMENT CONTROL MEASURES PLACEMENT AND INSTALLATION MAY BE CONTROLLED BY THE NPDES, 404 PERMIT OR CONTRACT SPECIFICATIONS.
4. DRAWING NOT TO SCALE

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	9-93	MSM	6	12-16	RDL			
2	6-96	MSM	7	02-21	TWF			
3	10-10	KEH						
4	10-11	KEH						
5	12-12	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 212-01_0421.dgn
 DRAWING DATE: APRIL, 1993

IDAHO TRANSPORTATION DEPARTMENT



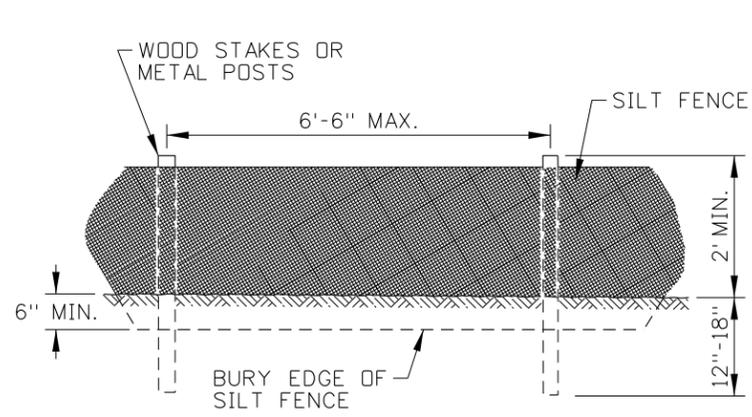
BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

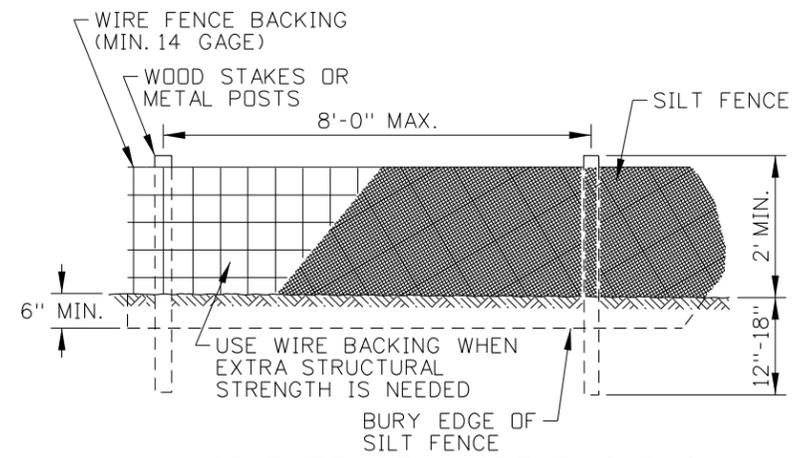
STANDARD DRAWING
EROSION AND SEDIMENT CONTROL
 EXAMPLE APPLICATIONS

English
 STANDARD DRAWING NO.
 212-1
 SHEET 1 OF 1

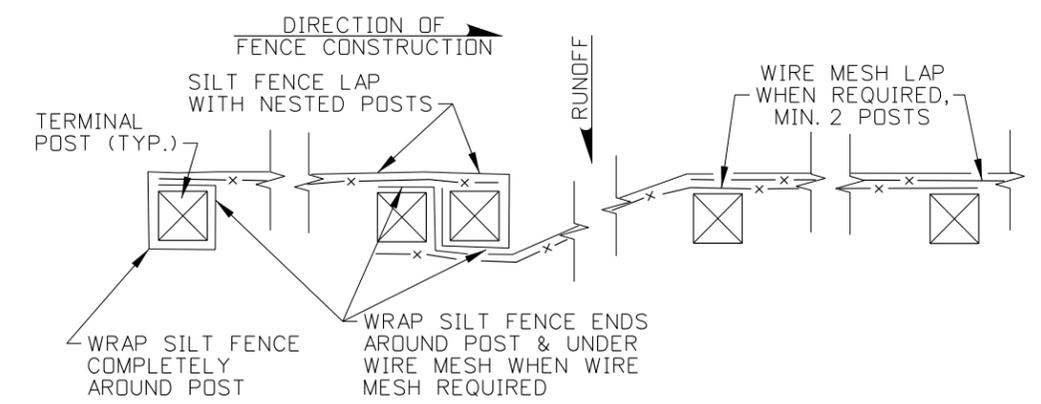




SILT FENCE (NO WIRE BACKING)



SILT FENCE (WIRE BACKING)



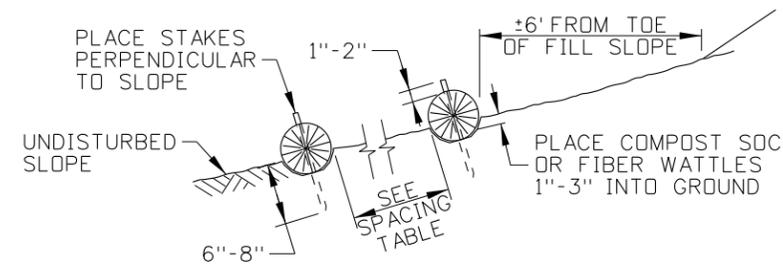
SILT FENCE LAP DETAIL

SLOPE	WATTLE SIZE			
	6"	9"	12"	20"
1:1	5 FT	10 FT	15 FT	20 FT
2:1	10 FT	20 FT	30 FT	40 FT
3:1	15 FT	30 FT	45 FT	60 FT
4:1 OR FLATTER	20 FT	40 FT	60 FT	80 FT

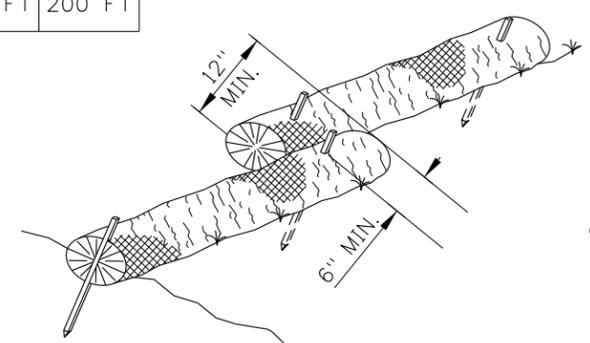
SLOPE	SOIL TYPE		
	SILTY	CLAYS	SANDY
1:1	50 FT	75 FT	100 FT
2:1	75 FT	100 FT	125 FT
4:1	100 FT	125 FT	150 FT
10:1 OR FLATTER	125 FT	150 FT	200 FT

NOTES

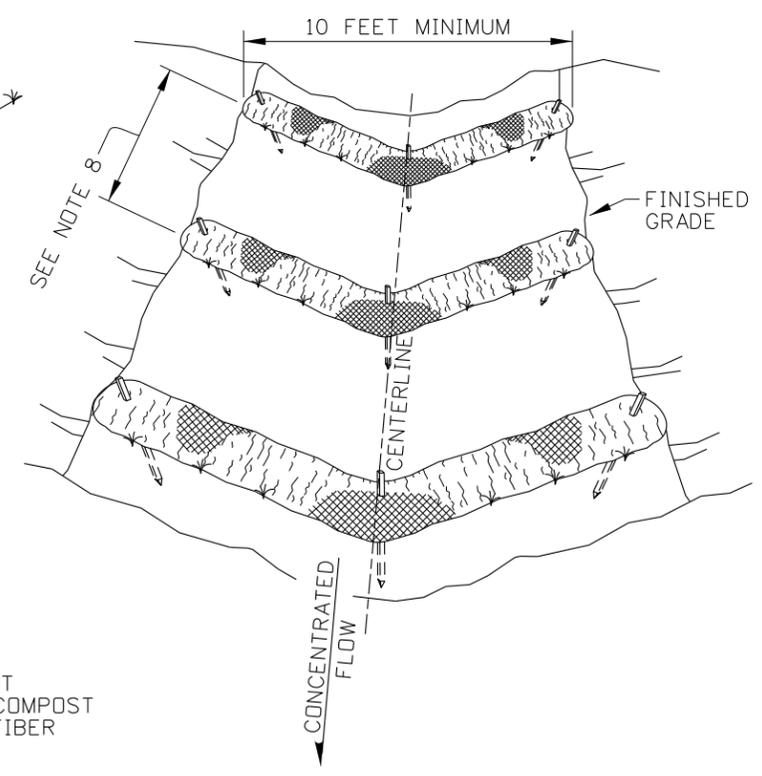
- SEE THE GENERAL NOTES FOR EROSION CONTROL STANDARD DRAWINGS ON 212-1.
- THE NEED FOR TEMPORARY SEDIMENT CONTROL DEVICES ARE DETERMINED BY SITE DESIGN. SPACE SILT FENCES, COMPOST SOCKS, AND FIBER WATTLES IN ACCORDANCE WITH THE SILT FENCE SPACING TABLE AND FIBER WATTLE & COMPOST SOCK SPACING TABLE.
- INSTALL TEMPORARY SEDIMENT CONTROL BARRIERS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS. THE DIMENSIONS SHOWN ARE GENERAL GUIDELINES.
- PLACE SEDIMENT BARRIERS TO FOLLOW THE SLOPE CONTOURS. USE EITHER METAL POSTS OR WOOD STAKES.
- ENSURE RUNOFF PASSES THROUGH THE SILT FENCE AND NOT AROUND THE FENCE.
- GROUND SILT FENCES WITH WIRE MESH IN ACCORDANCE WITH THE GROUNDING DETAIL SHOWN ON STANDARD DRAWING 610-1.
- EXTEND OR JOIN SILT FENCE USING SILT FENCE LAP WITH NESTED POSTS.
- SPACE CHECK DAMS ACCORDING TO THE HEIGHT OF THE DAM AND THE SLOPE OF THE CHANNEL SO THE BACKWATER FROM THE DOWNSTREAM DAM REACHES THE TOE OF THE UPSTREAM DAM.
- ON SLOPES, TURN THE ENDS OF EACH ROW OF COMPOST SOCKS AND FIBER WATTLES UPSLOPE TO PREVENT RUNOFF FROM FLOWING AROUND THE SOCK OR WATTLE.
- REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF SILT FENCES, COMPOST SOCKS, AND FIBER WATTLES WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE BARRIER.
- DRAWING NOT TO SCALE.



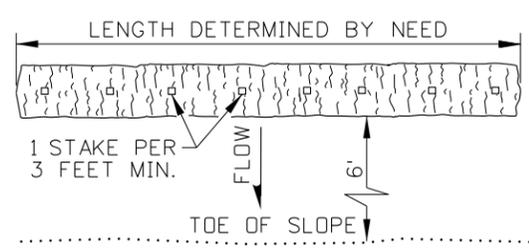
COMPOST SOCK AND FIBER WATTLE SIDE VIEW



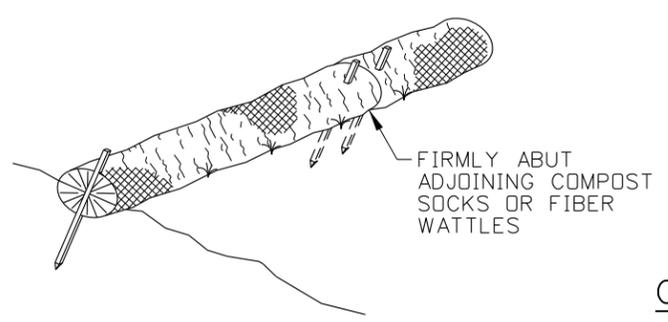
COMPOST SOCK AND FIBER WATTLE OVERLAPPING DETAIL



COMPOST SOCK AND FIBER WATTLE TEMPORARY CHECK DAM DETAIL



COMPOST SOCK AND FIBER WATTLE PLAN VIEW



COMPOST SOCK AND FIBER WATTLE ABUTTING DETAIL

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-93	MSM	6	01-13	RDL			
2	12-94	MSM	7	03-21	TWF			
3	06-96	GFK						
4	10-10	KEH						
5	10-11	KEH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 212-03_0421.dgn
 DRAWING DATE: APRIL, 1993

IDAHO TRANSPORTATION DEPARTMENT

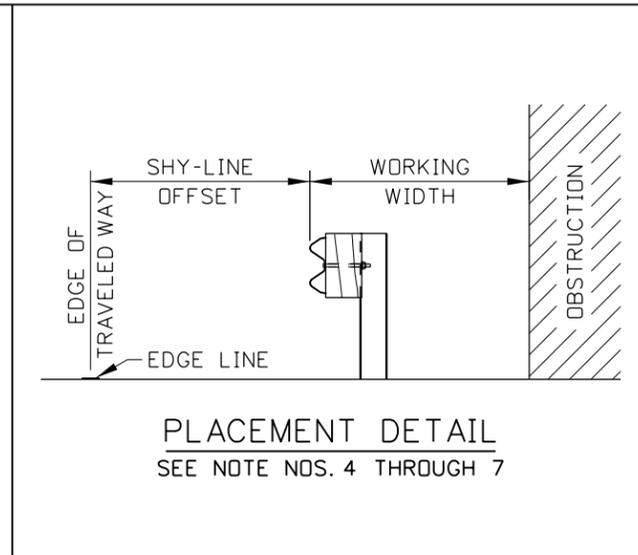
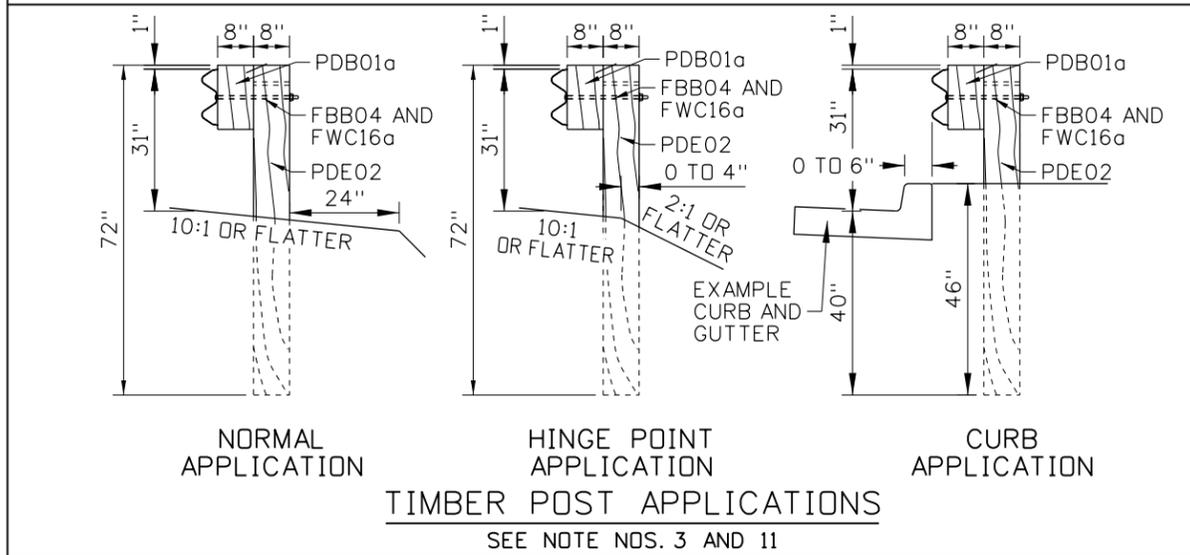
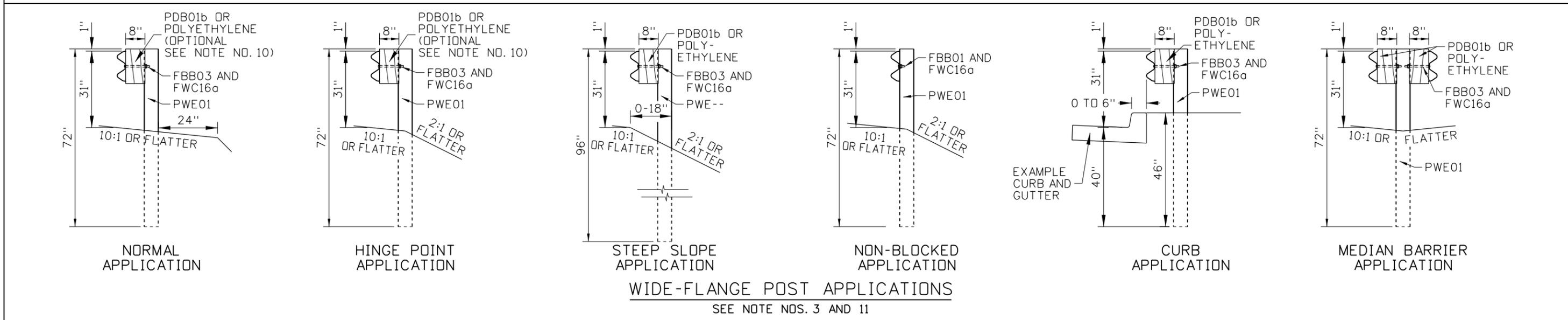
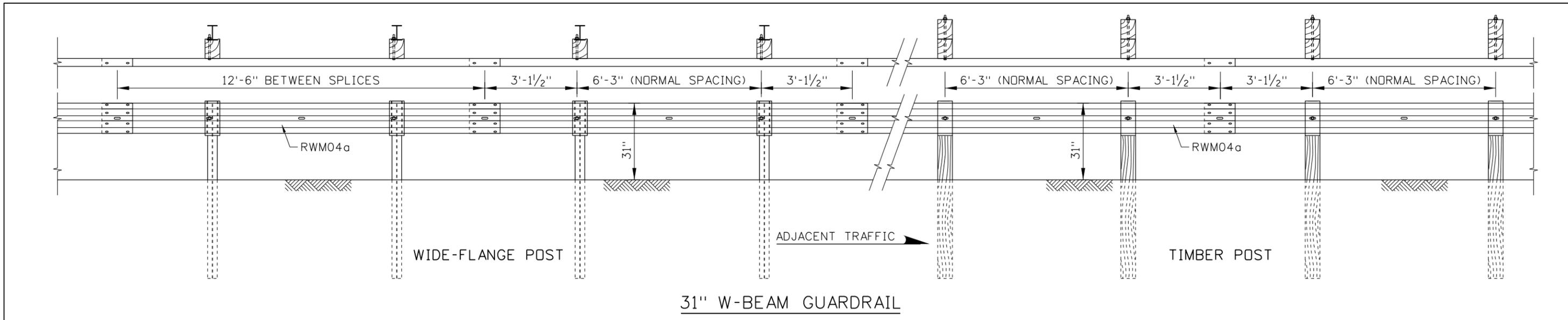
BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
TEMPORARY EROSION AND SEDIMENT CONTROL
 SILT FENCE, FIBER WATTLE, AND COMPOST SOCK
 REQUIRES STD. DWG. 212-1

English
 STANDARD DRAWING NO.
212-3
 SHEET 1 OF 1

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho



SHY-LINE OFFSET AND FLARE RATE TABLE

DESIGN SPEED (MPH)	SHY-LINE OFFSET (FT)	BARRIER FLARE RATE	
		INSIDE SHY LINE	AT OR BEYOND SHY LINE
80	12	30:1	15:1
70	9	30:1	15:1
60	8	26:1	14:1
55	7	24:1	12:1
50	6.5	21:1	11:1
45	6	18:1	10:1
40	5	16:1	8:1
30	4	13:1	7:1

DEFLECTION TABLE

APPLICATION	POST SPACING	WORKING WIDTH
NORMAL SPACING	6'-3"	54"
1/2 SPACING	3'-1 1/2"	46"
1/4 SPACING	1'-6 3/4"	38"
STEEP SLOPE	6'-3"	56"
HINGE POINT	6'-3"	78"
LONG SPAN	≤ 25'	96"

REVISIONS

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-1_0420.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

31" W-BEAM GUARDRAIL

English

STANDARD DRAWING NO. 612-1

SHEET 1 OF 5

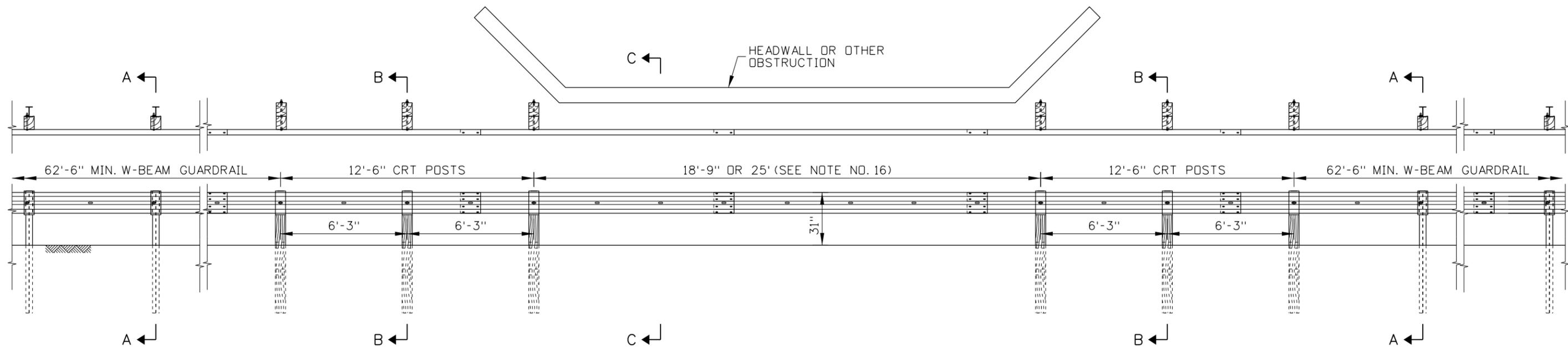
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PROFESSIONAL ENGINEER

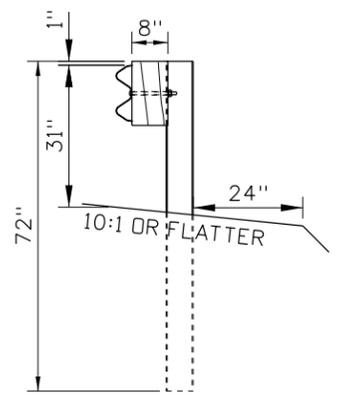
RYAN D. LANCASTER

13683

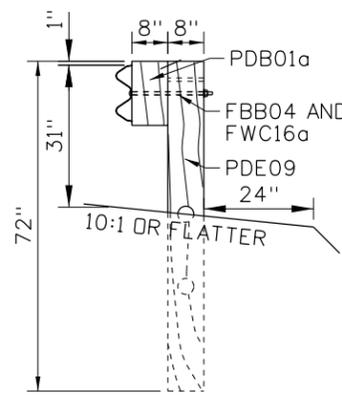
STATE OF IDAHO



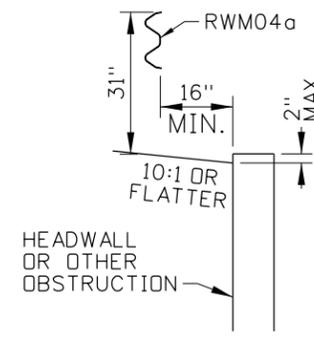
31" LONG-SPAN APPLICATION
SEE NOTE NOS. 17 AND 18



SECTION A-A
WIDE-FLANGE OR TIMBER POST



SECTION B-B



SECTION C-C

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-1_0420.dgn
DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
31" W-BEAM GUARDRAIL

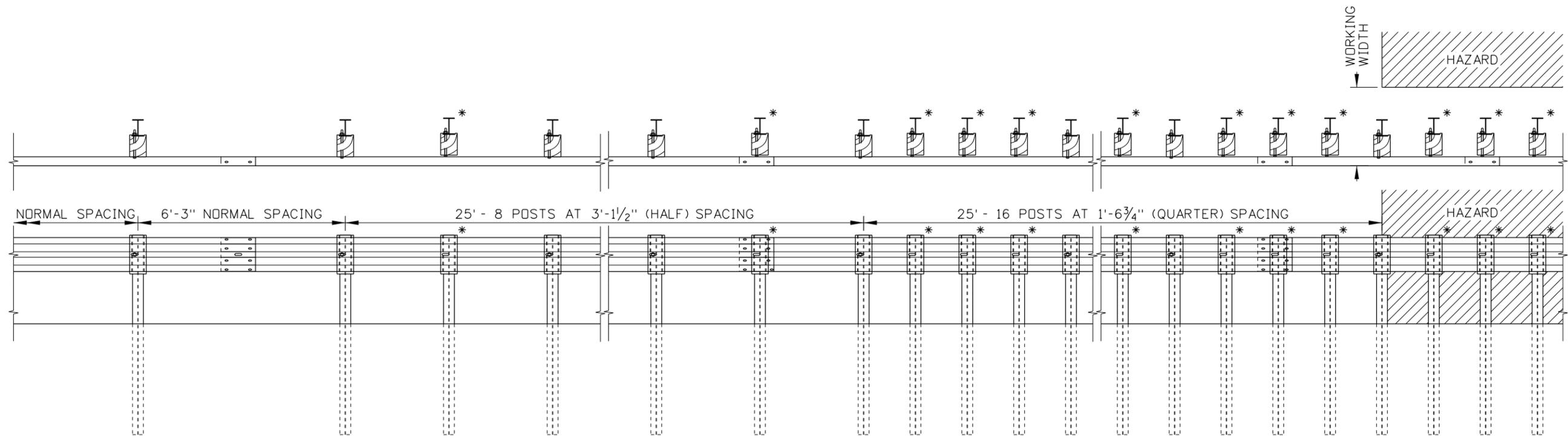
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO. 612-1

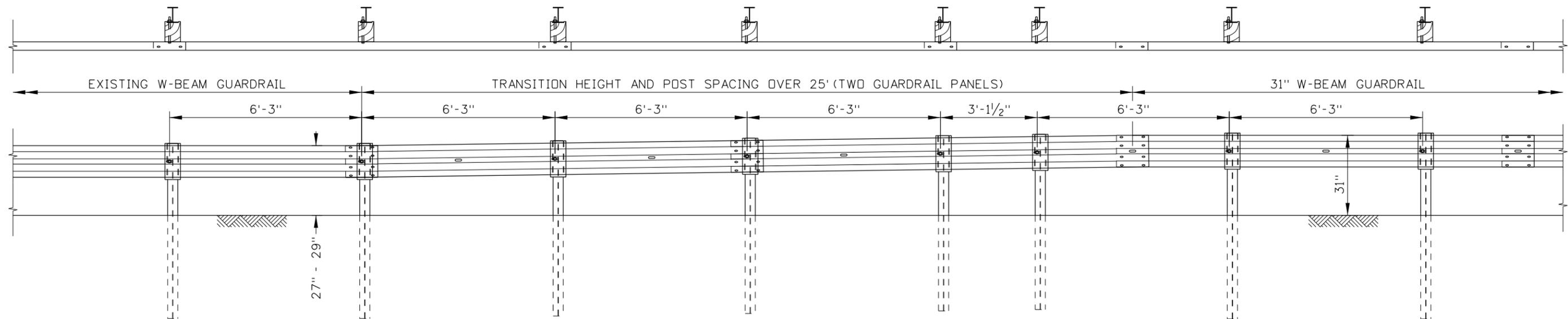
SHEET 2 OF 5

PROFESSIONAL ENGINEER
LICENSED
RYAN D. LANCASTER
13683
STATE OF IDAHO
MARCH 10, 2017



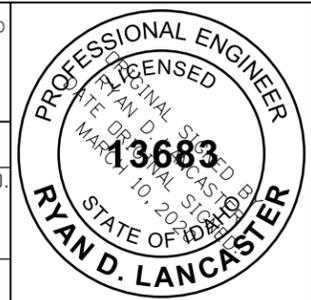
REDUCED POST SPACING
SEE NOTE NO. 7

LEGEND:
* EXTRA POSTS.
BOLT BLOCKOUT TO POST, BUT
DO NOT BOLT TO GUARDRAIL



TRANSITION TO 31" W-BEAM GUARDRAIL
SEE NOTE NO. 19

ORIGINAL STORED
AT: ITD,
Headquarters
3311 West State
Boise, Idaho



REVISIONS								
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1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN
ARE FOR 11" X 17"
PRINTS ONLY
CADD FILE NAME:
612-1_0420.dgn
DRAWING DATE:
JUNE, 2017

**IDAHO
TRANSPORTATION
DEPARTMENT**

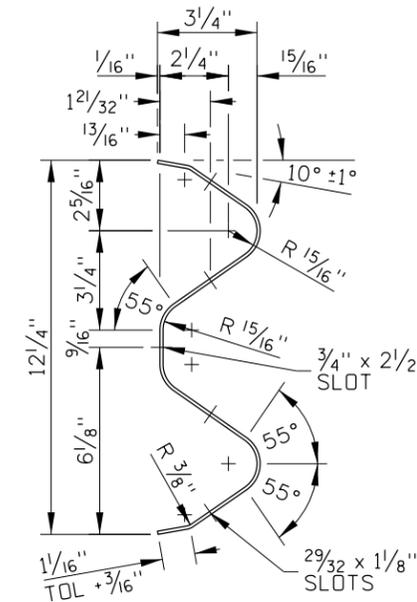
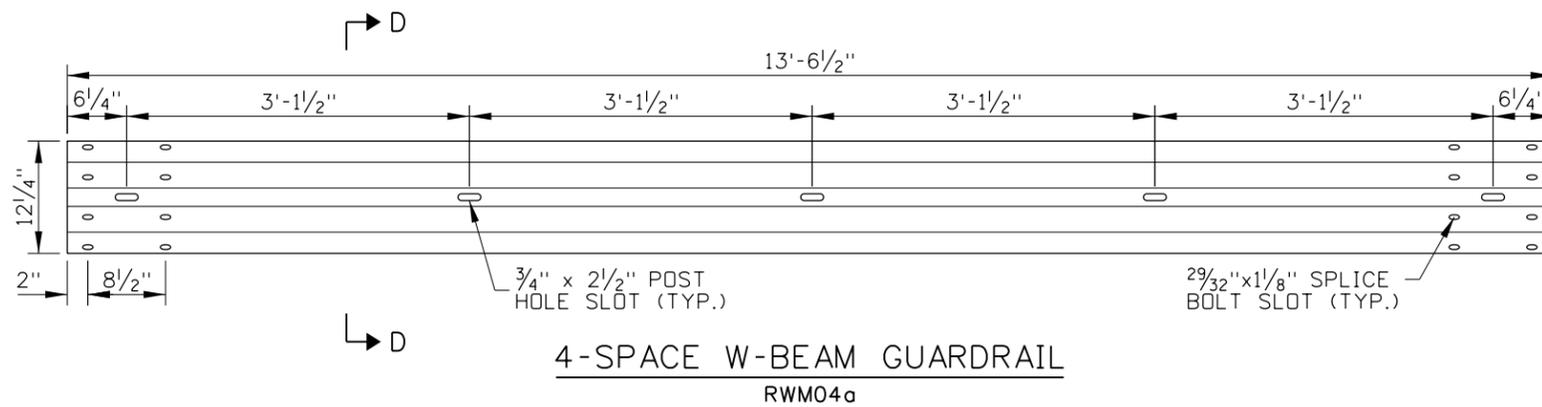


BOISE IDAHO

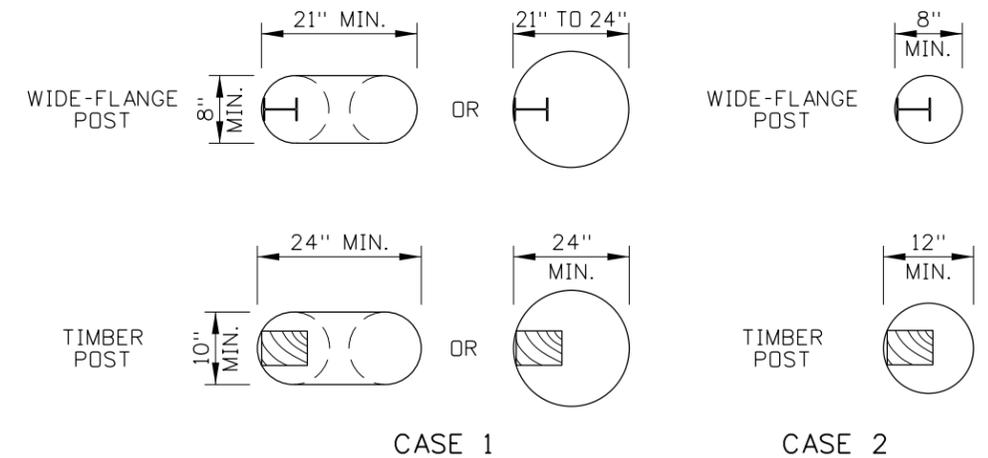
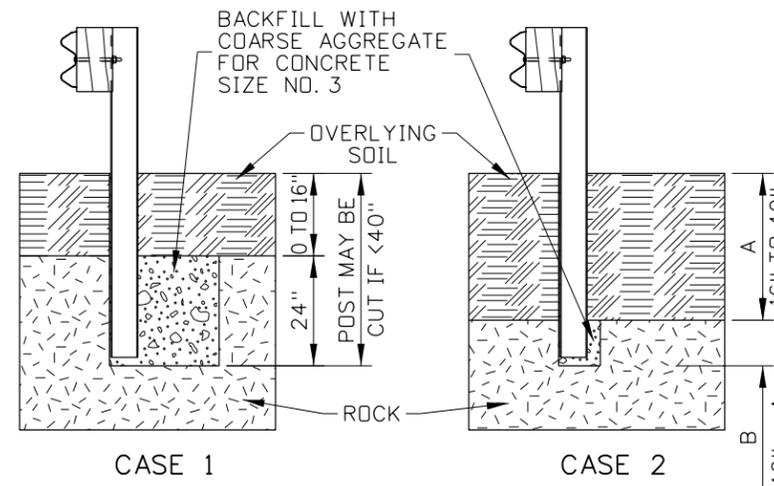
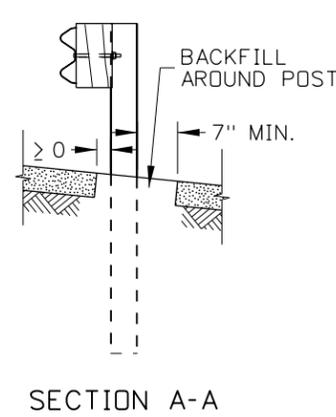
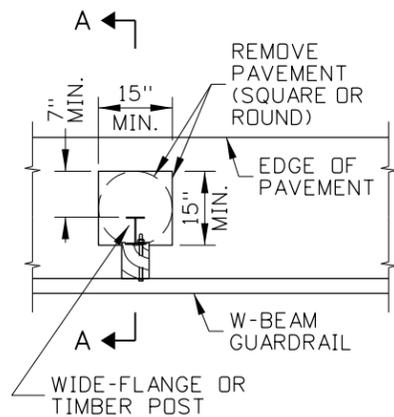
ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
31" W-BEAM GUARDRAIL

English
STANDARD DRAWING NO.
612-1
SHEET 3 OF 5



31" W-BEAM GUARDRAIL HARDWARE COMPONENTS TABLE		
COMPONENT DESCRIPTION	WIDE-FLANGE POST	TIMBER POST
4-SPACE W-BEAM GUARDRAIL	RWM04a	RWM04a
WIDE-FLANGE GUARDRAIL POSTS	PWE01, PWE--	-
TIMBER GUARDRAIL POSTS	-	PDE02
CRT TIMBER GUARDRAIL POST	-	PDE09
W-BEAM BLOCKOUT	PDB01b OR POLYETHYLENE	PDB01a
5/8" GUARDRAIL SPLICE BOLT AND RECESSED NUT	FBB01	FBB01
5/8" GUARDRAIL BOLT AND RECESSED NUT	FBB03	FBB04
5/8" PLAIN ROUND WASHER	FWC16a	FWC16a
16D GALVANIZED NAIL	-	N/A



GUARDRAIL POST IN PAVEMENT
SEE NOTE NO. 9

GUARDRAIL POST IN ROCK FORMATION
SEE NOTE NO. 9

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-1_0420.dgn
DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

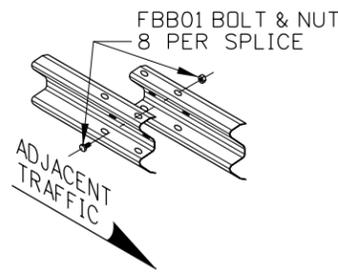
ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
31" W-BEAM GUARDRAIL

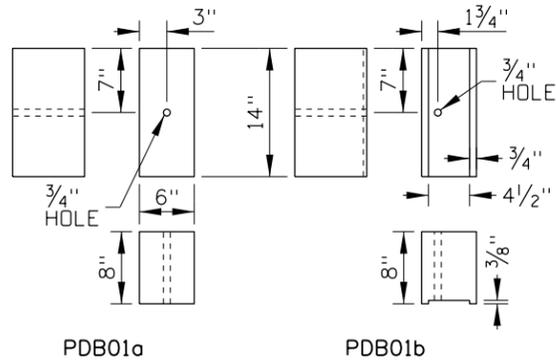
English
STANDARD DRAWING NO.
612-1
SHEET 4 OF 5

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

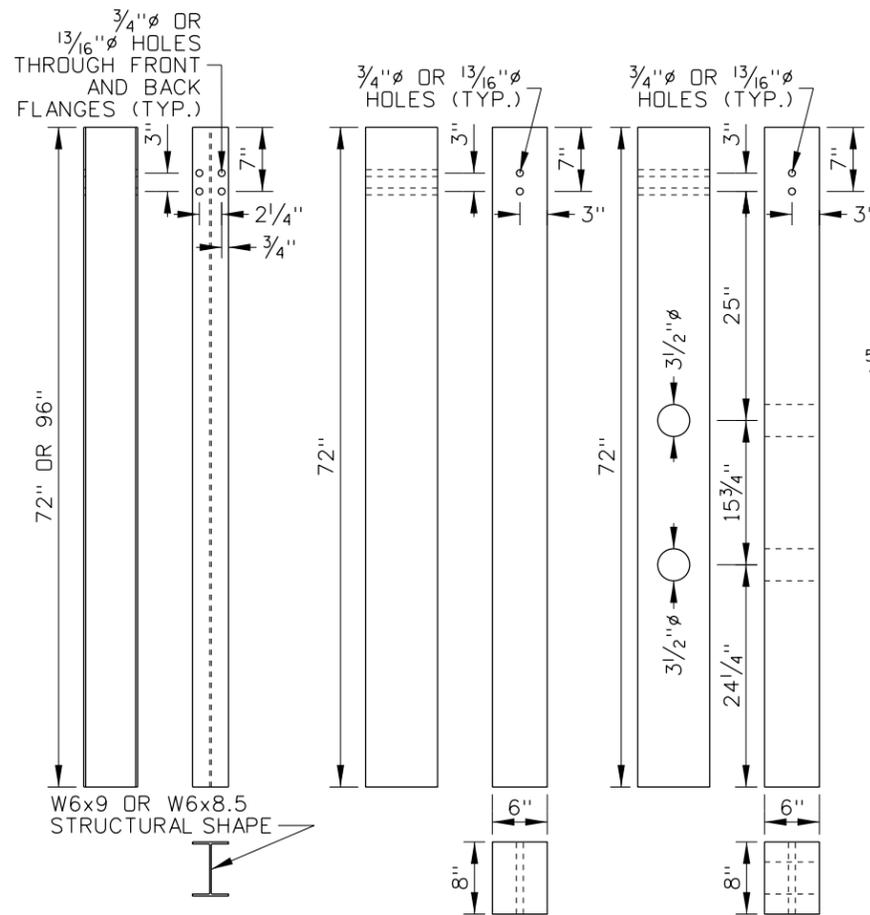
PROFESSIONAL ENGINEER
RYAN D. LANCASTER
13683
STATE OF IDAHO



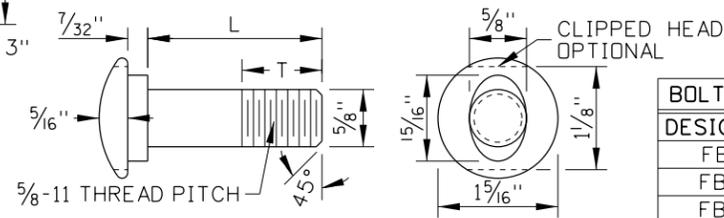
W-BEAM SPLICE DETAIL
SEE NOTE NO. 14



W-BEAM TIMBER BLOCKOUTS

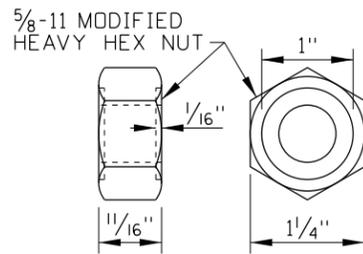


GUARDRAIL POSTS

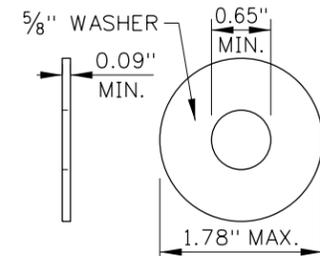


GUARDRAIL BOLT (BUTTON-HEADED)
FBB01, FBB03, FBB04

BOLT DIMENSION TABLE		
DESIGNATOR	L	T
FBB01	1 1/4"	1 1/8"
FBB03	10"	1 3/4"
FBB04	18"	4"



RECESSED NUT



PLAIN ROUND WASHER
FWC16a

NOTES

1. THE 31" W-BEAM GUARDRAIL SYSTEM SHOWN IS A MASH TEST LEVEL 3 BARRIER SYSTEM.
2. PROVIDE BARRIER HARDWARE AS SHOWN AND AS SPECIFIED IN THE PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." WHERE THE GUIDE AND PLANS CONFLICT, PROVIDE HARDWARE COMPONENTS AS SHOWN ON THE PLANS.
3. INSTALL GUARDRAIL AS SHOWN IN THE NORMAL APPLICATION UNLESS OTHERWISE INDICATED ON THE PROJECT PLANS. THE CURB APPLICATIONS CAN BE USED WITH ANY OF THE CURB AND GUTTER OR CURB TYPES SHOWN ON THE CURB AND GUTTER STANDARD DRAWING.
4. PLACE 31" W-BEAM GUARDRAIL AS FAR FROM THE TRAVELED WAY AS PRACTICAL. WHERE PRACTICAL PROVIDE THE SHY-LINE OFFSET DISTANCE SHOWN IN THE SHY-LINE OFFSET TABLE.
5. WHERE PRACTICAL, FLARE THE 31" W-BEAM GUARDRAIL AWAY FROM THE TRAVELED WAY. SEE THE SHY-LINE OFFSET AND FLARE RATE TABLE.
6. PROVIDE ADEQUATE DEFLECTION DISTANCE TO OBSTRUCTIONS BEHIND THE GUARDRAIL BY PROVIDING THE WORKING WIDTH SHOWN ON THE PLACEMENT DETAIL AND IN THE DEFLECTION TABLE.
7. DECREASE DEFLECTION BY REDUCING POST SPACING. INTRODUCE EACH REDUCTION IN POST SPACING OVER 25' OR MORE. DO NOT BOLT THE GUARDRAIL TO THE EXTRA POSTS.
8. WIDE-FLANGE OR TIMBER POSTS MAY BE USED UNLESS OTHERWISE INDICATED ON THE PROJECT PLANS. USE THE SAME POST MATERIAL FOR THE PROJECT LENGTH (EXCEPT IN THE 31" LONG-SPAN APPLICATION).
9. REMOVE PAVEMENT AND ROCK AROUND GUARDRAIL POSTS.
10. USE TIMBER OR POLYETHYLENE BLOCKOUTS WITH WIDE-FLANGE POSTS. USE TIMBER BLOCKOUTS WITH TIMBER POSTS. USE THE SAME BLOCKOUT MATERIAL FOR THE PROJECT LENGTH (EXCEPT IN THE 31" LONG-SPAN APPLICATION). THE WIDE-FLANGE POST NORMAL APPLICATION CAN BE CONSTRUCTED WITHOUT BLOCKOUTS IF INDICATED ON THE PROJECT PLANS OR IF APPROVED BY THE ENGINEER.
11. INSTALL THE BLOCKOUT AND W-BEAM GUARDRAIL USING THE HOLE 7" FROM THE TOP OF THE POST. THE HIGHER HOLE IS RESERVED FOR FUTURE GUARDRAIL HEIGHT ADJUSTMENT.
12. NAIL TIMBER BLOCKOUTS TO TIMBER POSTS TO RESTRICT BLOCK ROTATION. NAIL THROUGH THE SIDES OF THE BLOCKOUT AND POST.
13. WHEN WIDE-FLANGE POSTS ARE USED AND WHEN PRACTICAL, INSTALL THE BOLT (FBB03) ON THE UPSTREAM SIDE OF THE POST IN RELATION TO THE ADJACENT TRAFFIC.
14. SPLICE 31" W-BEAM GUARDRAIL BETWEEN POSTS. OVERLAP SPLICES SO THAT THE EXPOSED W-BEAM EDGE IS DOWNSTREAM OF THE ADJACENT TRAFFIC.
15. BEGIN AND END 31" W-BEAM GUARDRAIL WITH A TERMINAL, ANCHOR, OR TRANSITION. CONSTRUCT TERMINALS OR TRANSITIONS USING THE SAME POST MATERIAL AS THE GUARDRAIL WHEN PRACTICAL. SOME ANCHORS AND TERMINALS ARE ONLY AVAILABLE WITH TIMBER OR WIDE-FLANGE POSTS.
16. DELINEATE GUARDRAILS WITH TYPE 9 DELINEATORS. SEE THE DELINEATOR STANDARD DRAWING FOR DELINEATOR SPACING.
17. ONE POST CAN BE OMITTED WITHOUT OTHER MODIFICATION IF APPROVED BY THE ENGINEER. THE LONG-SPAN APPLICATION CAN BE USED WHERE TWO POSTS (18'-9" SPAN) OR THREE POSTS (25' SPAN) ARE OMITTED.
18. WHEN THE LONG-SPAN APPLICATION (18'-9", OR 25') IS USED, INSTALL THREE CRT TIMBER POSTS (PDE09) WITH TIMBER BLOCKOUTS ADJACENT TO THE UPSTREAM AND DOWNSTREAM ENDS OF THE UNSUPPORTED SECTION. DO NOT NEST THE 4-SPACE W-BEAM GUARDRAIL IN THE UNSUPPORTED SECTION. INSTALL AT LEAST 62'-6" OF 31" W-BEAM GUARDRAIL UPSTREAM AND DOWNSTREAM OF THE CRT POSTS.
19. WHEN CONNECTING TO EXISTING GUARDRAIL, TRANSITION THE GUARDRAIL HEIGHT TO 31". REPLACE THE EXISTING W-BEAM GUARDRAIL IF THE TOP OF GUARDRAIL HEIGHT IS LESS THAN 27".
20. DRAWING NOT TO SCALE.

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-19	RDL						
3	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-1_0420.dgn
DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

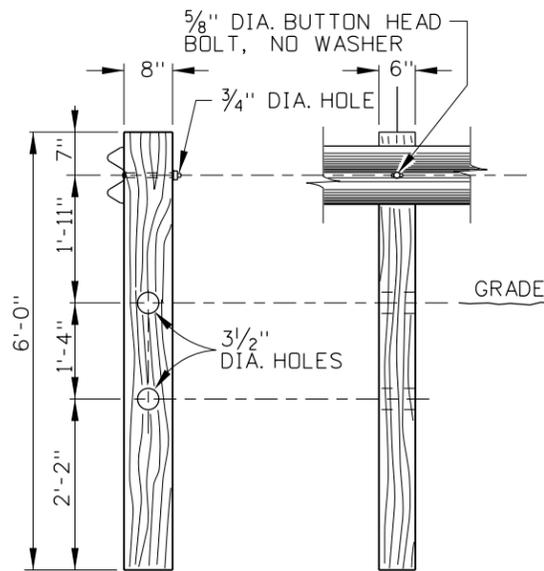
STANDARD DRAWING
31" W-BEAM GUARDRAIL

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

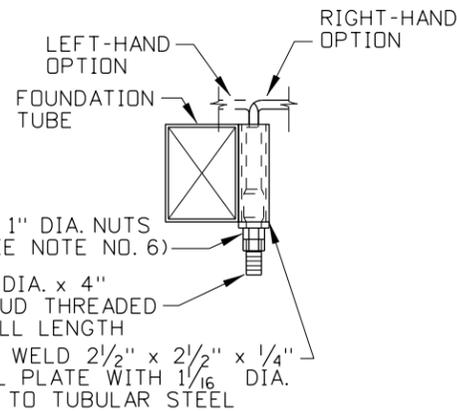
English

STANDARD DRAWING NO. **612-1**

SHEET 5 OF 5



MODIFIED CRT TIMBER POST



ANCHOR DETAIL
(SEE NOTE NO. 9)

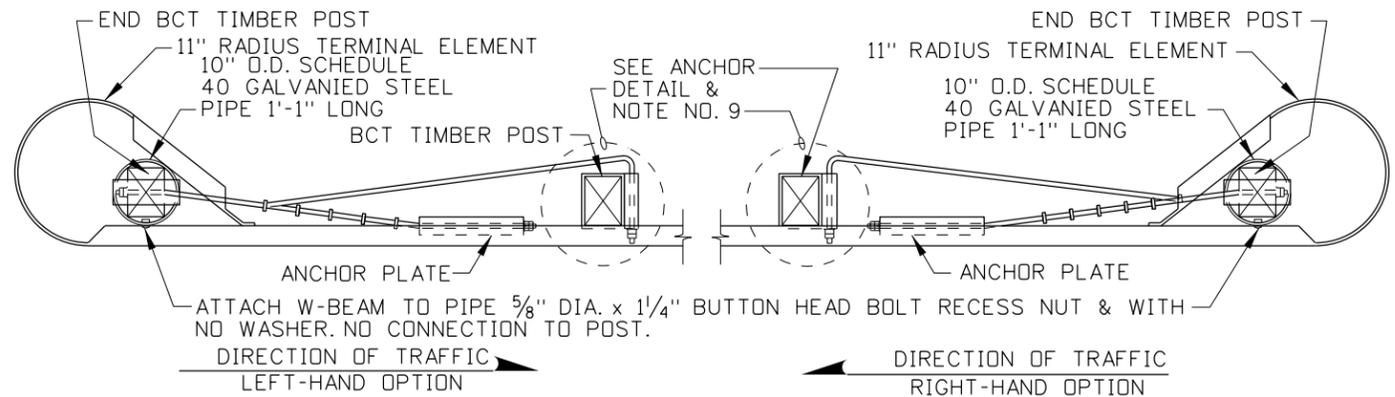


TABLE OF MAXIMUM TAPERS

DESIGN SPEED	TAPER
70	15:1
60	13:1
50	11:1
40	9:1

PLACEMENT TABLE

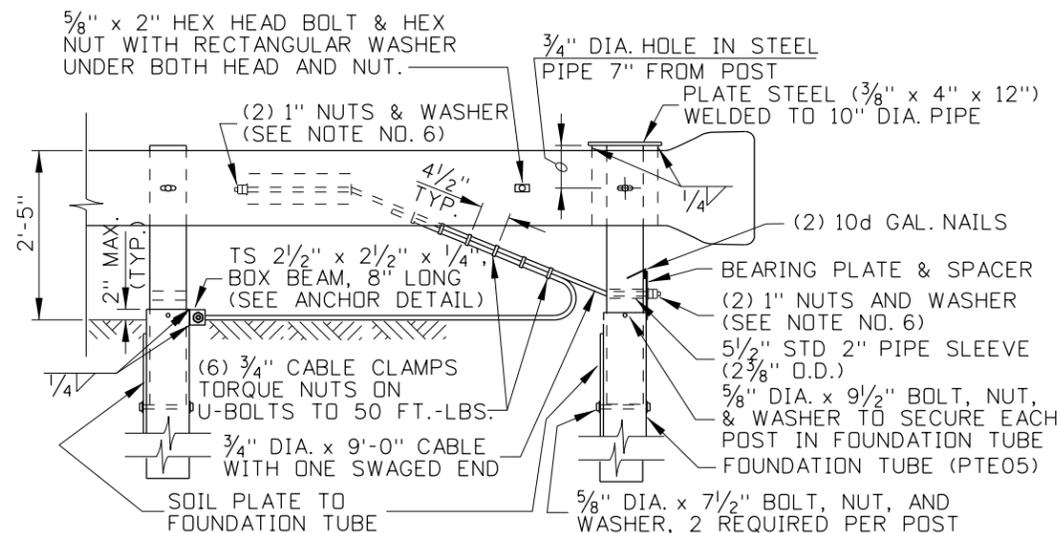
DELTA ANGLE	RAIL RADIUS	NO. RAIL SECTIONS	NO. CRT POSTS	AREA FREE OF FIXED OBJECTS	
				L	W
75° -105°	8'	1	5	25'	15'
75° -105°	16'	2	7	30'	15'
75° -105°	24'	3	9	40'	20'
75° -80°	32'	3	9	40'	20'
>80° -100°	32'	4	11	40'	20'
>100° -105°	32'	5	13	40'	20'

NOTES

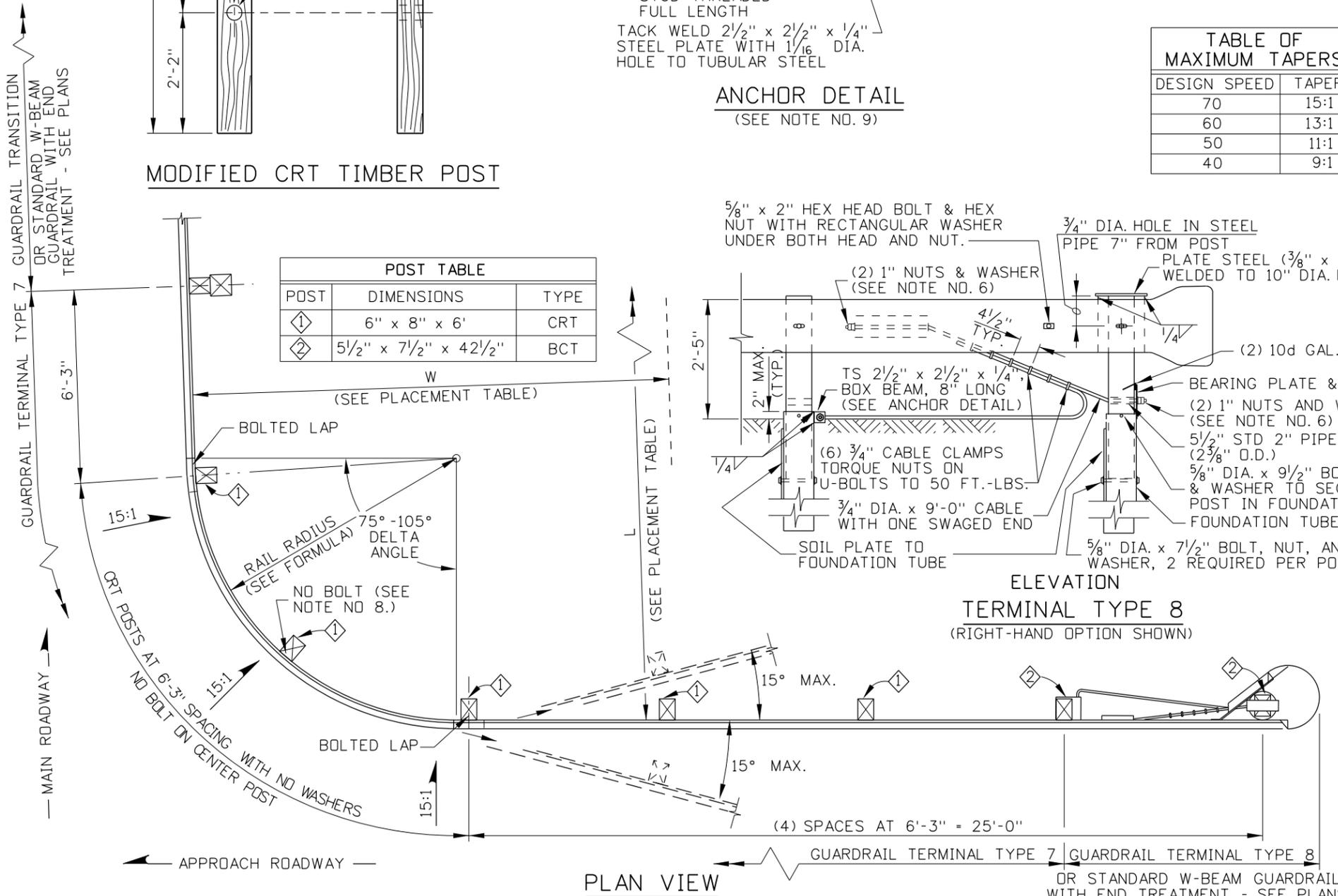
1. THE TYPE 8 TERMINAL SHALL ONLY BE USED OUTSIDE THE CLEAR ZONE OR WHEN THE APPROACH ROADWAY SPEED IS 35 MPH OR LESS. OTHERWISE AN APPROPRIATE NCHRP 350 TERMINAL IS REQUIRED.
2. THE GUARDRAIL ALONG THE APPROACH ROADWAY MAY BE ANGLED 15° TO EITHER SIDE OF THE PERPENDICULAR AXIS TO THE MAIN ROADWAY. HOWEVER, FLARE RATES ALONG ROADWAYS WITH 35 MPH OR GREATER SPEEDS MUST FOLLOW STANDARD TAPER RATES (SEE "TABLE OF MAXIMUM TAPERS").
3. THE ROADWAY IN FRONT THE CURVED PORTION OF THE TERMINAL SHALL BE 15:1 OR FLATTER. GRADE TERRAIN TO A 10:1 SLOPE OR FLATTER FOR 2' BEYOND THE GUARDRAIL POST, THEN A 2:1 OR FLATTER SLOPE. A 6:1 OR FLATTER SLOPE IS DESIRABLE. IF THE FILL HEIGHT IS GREATER THAN 30' OTHER SOLUTIONS SHOULD BE CONSIDERED. AN AREA FREE OF FIXED OBJECTS SHALL BE MAINTAINED BEHIND THE GUARDRAIL.
4. THIS DRAWING REQUIRES STANDARD DRAWING 612-1 AND IS SUBJECT TO THE W-BEAM GUARDRAIL INSTALLATION REQUIREMENTS AND HARDWARE/ACCESSORY SPECIFICATIONS.
5. ALL TERMINAL HARDWARE ITEMS SHALL MEET THE SPECIFICATIONS IN THE "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" (CURRENT EDITION). ALL WELDING SHALL MEET THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY.
6. WHEN FASTENING THE CABLE ENDS THE OUTSIDE NUTS SHALL BE TORQUED AGAINST INSIDE NUTS A MINIMUM OF 100 FT.-LBS.
7. ALL CURVED GUARDRAIL SHALL BE SHOP BENT, FIELD BENDING WILL NOT BE ALLOWED.
8. ALL CURVED RAIL SECTIONS SHALL BE 12'-6" IN LENGTH AND BOLTED TO THE POSTS ONLY AT THE LAPS.
9. THE ANCHOR CABLE FROM POST #1 TO POST #2 MUST BE ATTACHED ON THE FAR SIDE OF THE FOUNDATION TUBE FOR LEFT-HAND INSTALLATIONS.
10. NOT TO SCALE.

POST TABLE

POST	DIMENSIONS	TYPE
①	6" x 8" x 6"	CRT
②	5 1/2" x 7 1/2" x 42 1/2"	BCT



ELEVATION
TERMINAL TYPE 8
(RIGHT-HAND OPTION SHOWN)



PLAN VIEW

REVISIONS

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	05-90	GB	6	05-06	MSM			
2	04-93	MSM	7	11-06	MSM			
3	04-99	MSM	8	09-10	MGL			
4	03-03	MSM						
5	12-04	MSM						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-3_1010.dgn
DRAWING DATE: MAY, 1989

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
ASSISTANT CHIEF ENGINEER (DEVELOPMENT)

ORIGINAL SIGNED BY: TOM COLE
CHIEF ENGINEER

STANDARD DRAWING

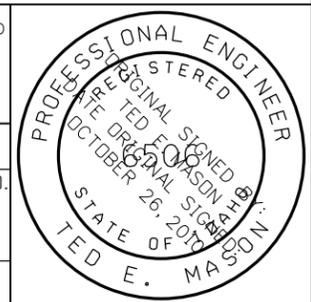
GUARDRAIL TERMINAL TYPES 7 & 8

REQUIRES STD. DWG. 612-1

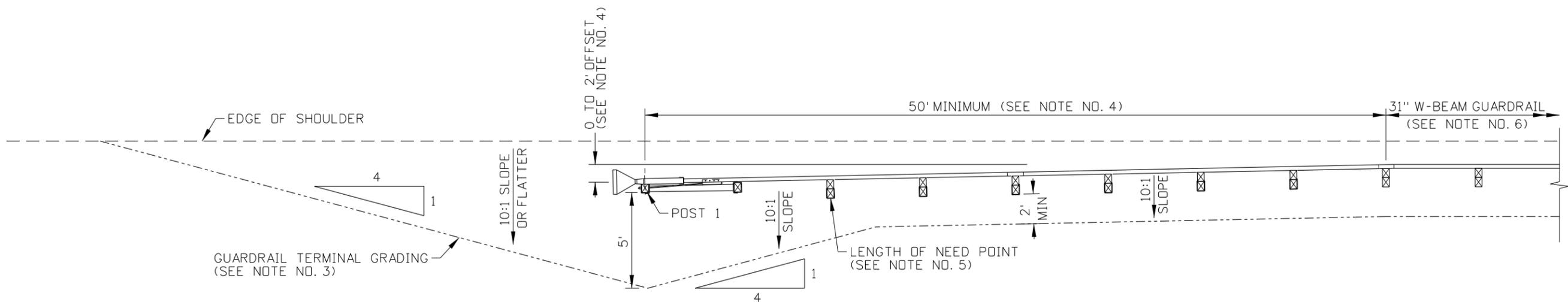
English

STANDARD DRAWING NO. **612-3**

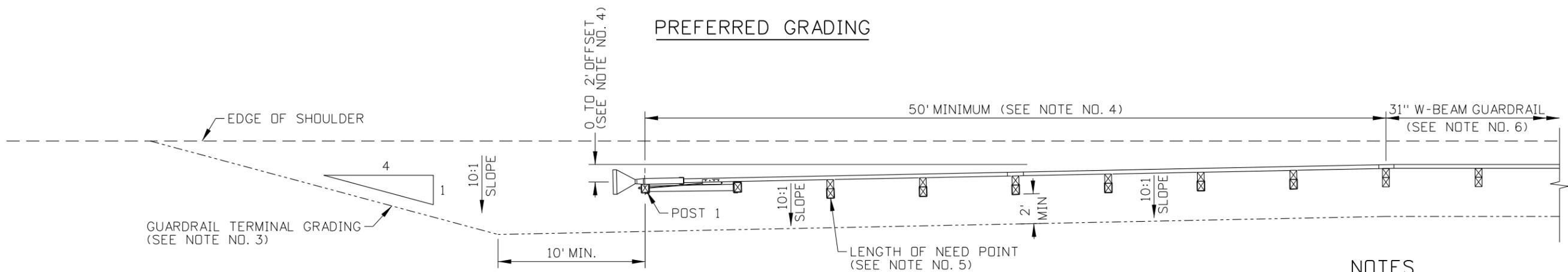
SHEET 1 OF 1



ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho



PREFERRED GRADING



ALTERNATIVE GRADING

NOTES

1. THE TANGENT TERMINAL SHOWN IS AN EXAMPLE ONLY. TANGENT TERMINAL DESIGNS VARY BY PRODUCT AND MANUFACTURER.
2. USE THE PREFERRED GRADING LAYOUT WHEN PRACTICAL. THE ALTERNATIVE GRADING LAYOUT MAY BE USED WHEN UPGRADING AN EXISTING TERMINAL WITH SITE LIMITATIONS. DISTANCES SHOWN FROM THE TERMINAL POSTS TO THE GRADING EXTENTS ARE MEASURED FROM THE BACK OF THE POST.
3. PROVIDE A 4:1 OR FLATTER SLOPE OUTSIDE OF THE GUARDRAIL TERMINAL GRADING EXTENTS WHERE PRACTICAL.
4. INSTALL THE TERMINAL IN ACCORDANCE WITH THE MANUFACTURERS INSTALLATION INSTRUCTIONS. REFER TO THE INSTRUCTIONS FOR SYSTEM LENGTH, OFFSET, NUMBER OF POSTS, POST SPACING, AND WHEN A TANGENT TERMINAL IS TO BE INSTALLED ON A HORIZONTAL CURVE.
5. VERIFY THE LENGTH OF NEED POINT WITH MANUFACTURER INSTRUCTIONS FOR A SPECIFIC PRODUCT. ELEMENTS OF THE GUARDRAIL TERMINAL DOWNSTREAM OF THE LENGTH OF NEED POINT CAN BE INCLUDED AS PART OF THE LENGTH OF NEED.
6. PROVIDE A MINIMUM OF 12'-6" OF 31" W-BEAM GUARDRAIL BETWEEN THE GUARDRAIL TERMINAL AND A GUARDRAIL TRANSITION.
7. IF THE TANGENT TERMINAL DESIGN USES AN ANCHOR CABLE, INSTALL AN EXTRA HEX NUT ON EACH END OF THE CABLE.
8. AFFIX A TYPE 3 OBJECT MARKER TO THE TERMINAL END SECTION.
9. DRAWING NOT TO SCALE.

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	08-18	RDL						
2	03-21	PBH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 612-8_0421.dgn

DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

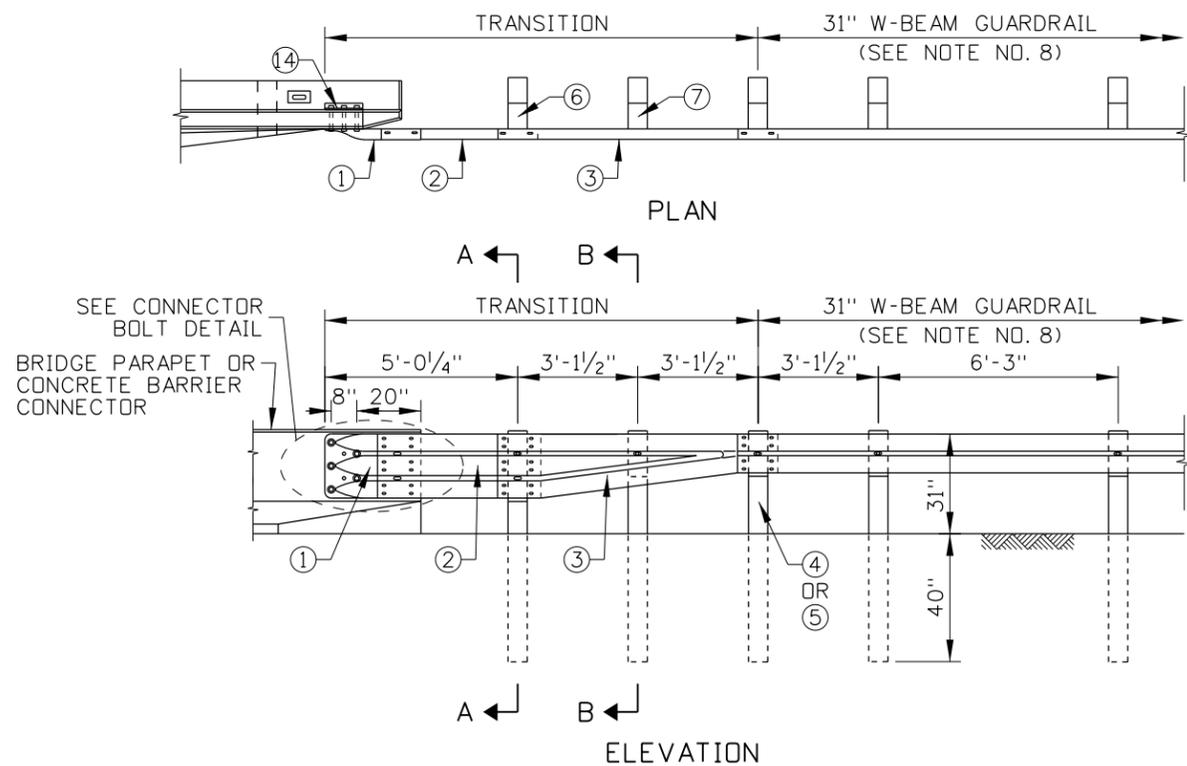
GUARDRAIL TERMINAL TANGENT

English

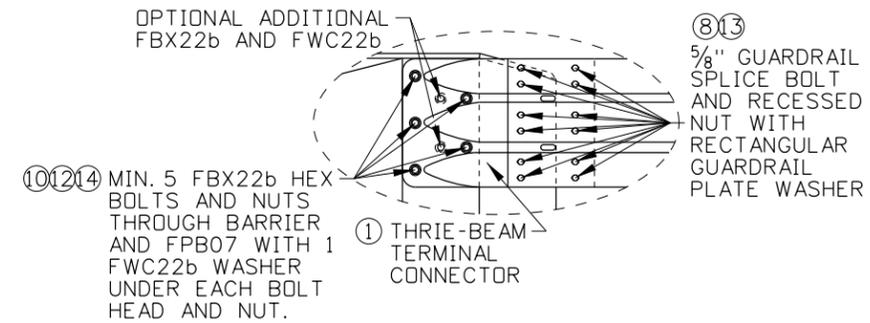
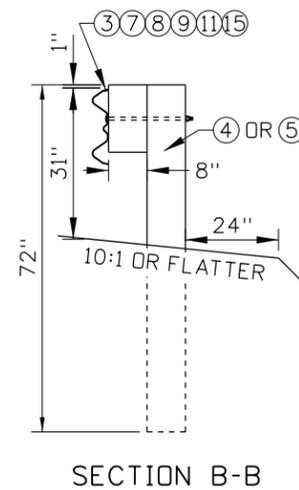
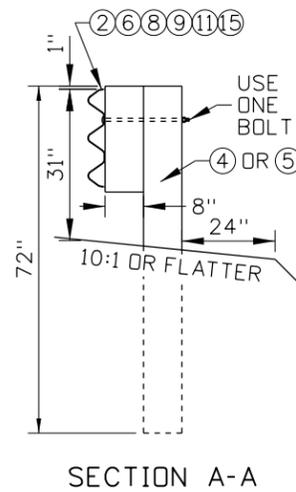
STANDARD DRAWING NO.
612-8

SHEET 1 OF 1

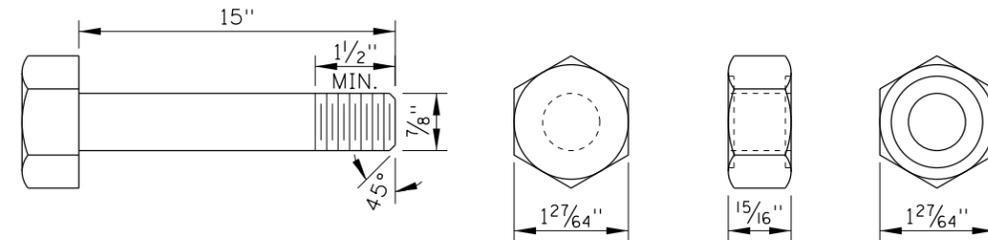
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho



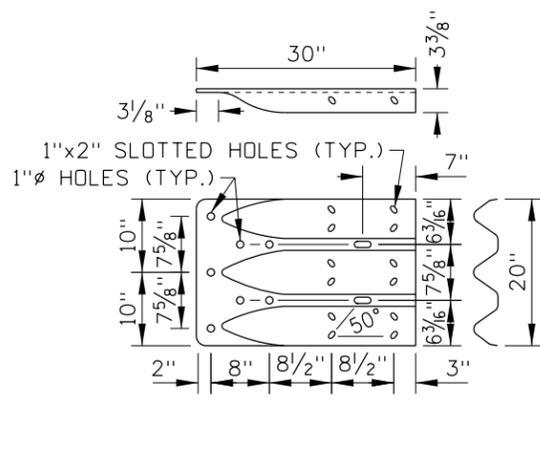
LOW SPEED GUARDRAIL TRANSITION



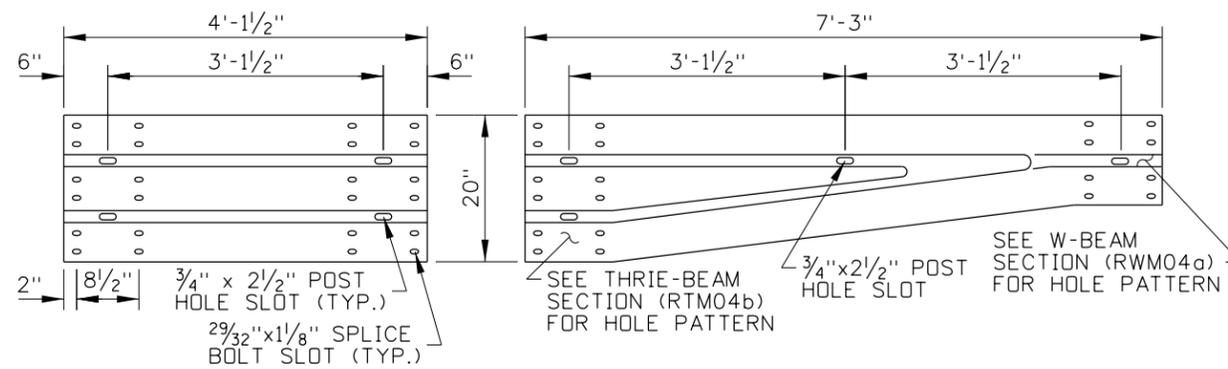
CONNECTOR BOLT DETAIL



**⑩ STRUCTURAL HEX BOLT AND NUT
FBX22b**

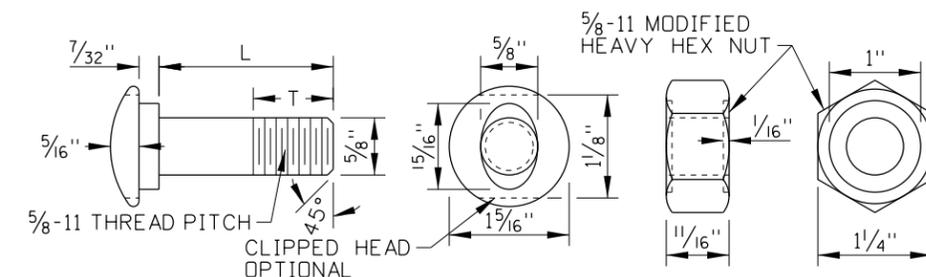


**① THRIE-BEAM
TERMINAL CONNECTOR
RTE01b (10 GAUGE)**



**② 4-SPACE THRIE-BEAM
GUARDRAIL
RTM04b (10 GAUGE)**

**③ ASYMMETRICAL W-THRIE
BEAM TRANSITION SECTION
RWT01b (10 GAUGE)**



**⑧⑨ GUARDRAIL BOLT AND RECESSED NUT
FBB01, FBB03, FBB04**

BOLT DIMENSION TABLE		
DESIGNATOR	L	T
FBB01	1 1/4"	1 1/8"
FBB03	10"	4"
FBB04	18"	4"

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	08-18	RDL					
2	02-20	RDL					

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-10_0420.dgn
DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

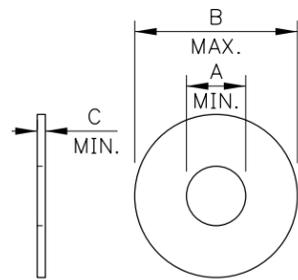
STANDARD DRAWING
**GUARDRAIL TRANSITION
LOW SPEED**

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

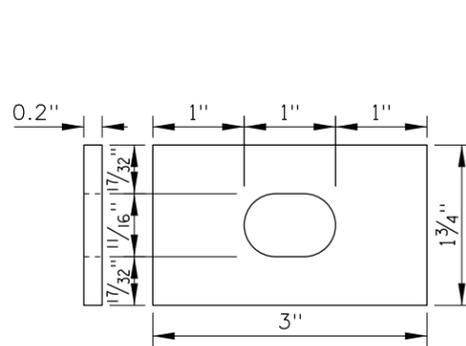
STANDARD DRAWING NO. 612-10

SHEET 1 OF 2

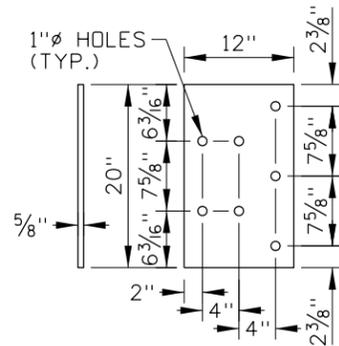


WASHER DIMENSION TABLE			
DESIGNATOR	A	B	C
FWC16a	0.649"	1.780"	0.090"
FWC22b	0.938"	1.780"	0.136"

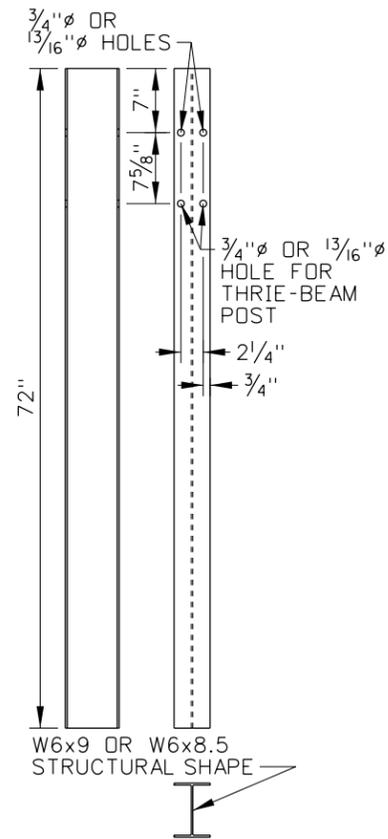
⑪⑫ ROUND WASHERS
FWC16a, FWC22b



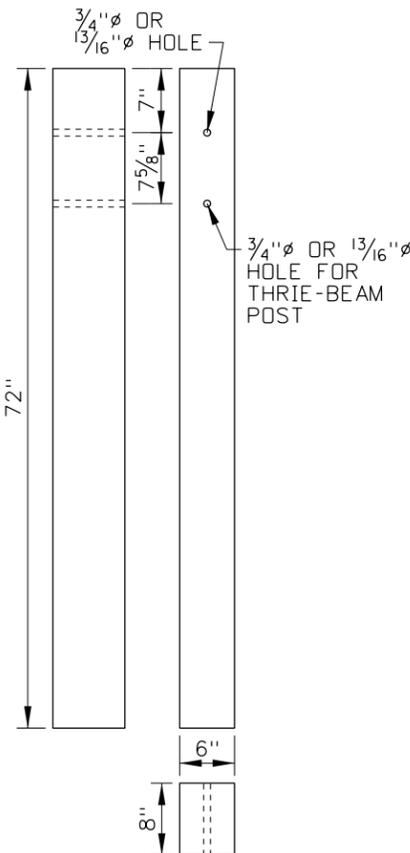
⑬ RECTANGULAR GUARDRAIL
PLATE WASHER
FWR03



⑭ THRIE-BEAM TERMINAL
CONNECTOR PLATE
FPB07

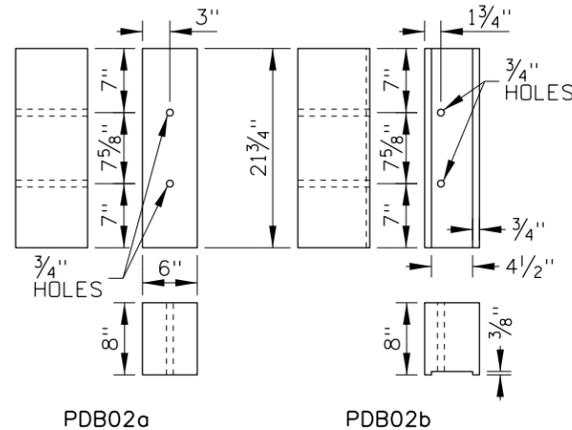


④ WIDE-FLANGE
PWE01

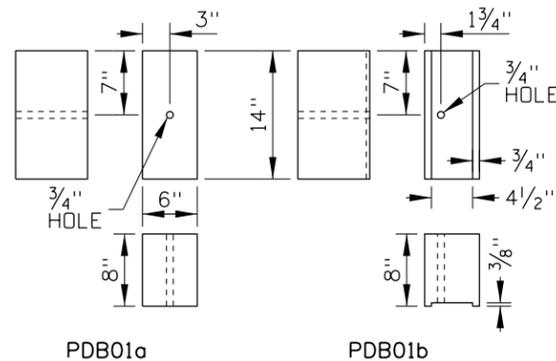


⑤ TIMBER
PDE02

GUARDRAIL POSTS



⑥ THRIE-BEAM TIMBER BLOCKOUTS



⑦ W-BEAM TIMBER BLOCKOUTS

LOW SPEED GUARDRAIL TRANSITION HARDWARE COMPONENTS TABLE				
ITEM NO.	COMPONENT DESCRIPTION	QTY.	WIDE-FLANGE POST	TIMBER POST
①	THRIE-BEAM TERMINAL CONNECTOR	1	RTE01b	RTE01b
②	4-SPACE THRIE-BEAM GUARDRAIL	1	RTM04b	RTM04b
③	ASYMMETRICAL W-THRIE BEAM TRANSITION SECTION	1	RWT01b	RWT01b
④	72" WIDE-FLANGE GUARDRAIL POST	3	PWE01	-
⑤	72" TIMBER GUARDRAIL POST	3	-	PDE02
⑥	THRIE-BEAM BLOCKOUT	1	PDB02b OR POLYETHYLENE	PDB02a
⑦	W-BEAM BLOCKOUT	2	PDB01b OR POLYETHYLENE	PDB01a
⑧	5/8" GUARDRAIL SPLICE BOLT AND RECESSED NUT	32	FBB01	FBB01
⑨	5/8" GUARDRAIL BOLT AND RECESSED NUT	3	FBB03	FBB04
⑩	7/8" X 15" STRUCTURAL HEX BOLT & NUT	5	FBX22b	FBX22b
⑪	5/8" PLAIN ROUND WASHER	3	FWC16a	FWC16a
⑫	7/8" HARDENED ROUND WASHER	10	FWC22b	FWC22b
⑬	RECTANGULAR GUARDRAIL PLATE WASHER	12	FWR03	FWR03
⑭	THRIE-BEAM TERMINAL CONNECTOR PLATE	1	FPB07	FPB07
⑮	16D GALVANIZED NAIL	6	-	N/A

NOTES

1. THE GUARDRAIL TRANSITION SHOWN IS A MASH TEST LEVEL 2 TRANSITION. USE THE TRANSITION ON HIGHWAYS WHERE THE POSTED SPEED LIMIT IS 40 MPH OR LESS AND WHERE A SEMI-RIGID GUARDRAIL, SUCH AS 31" W-BEAM GUARDRAIL, JOINS A RIGID BARRIER, SUCH AS A BRIDGE RAIL, BRIDGE PARAPET OR CONCRETE BARRIER.
2. PROVIDE BARRIER HARDWARE AS SHOWN AND AS SPECIFIED IN THE PUBLICATION "A GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE." WHERE THE GUIDE AND PLANS CONFLICT, PROVIDE HARDWARE COMPONENTS AS SHOWN ON THE PLANS.
3. WIDE-FLANGE OR TIMBER POSTS MAY BE USED UNLESS OTHERWISE INDICATED. USE THE SAME POST MATERIAL AS IN THE ADJOINING 31" W-BEAM GUARDRAIL.
4. USE TIMBER OR POLYETHYLENE BLOCKOUTS WITH WIDE-FLANGE POSTS. USE TIMBER BLOCKOUTS WITH TIMBER POSTS.
5. NAIL TIMBER BLOCKOUTS TO TIMBER POSTS TO RESTRICT BLOCK ROTATION.
6. WHEN WIDE-FLANGE POSTS ARE USED AND WHEN PRACTICAL, INSTALL THE BOLT (FBB03) ON THE UPSTREAM SIDE OF THE POST IN RELATION TO THE ADJACENT TRAFFIC.
7. OVERLAP SPLICES SO THAT THE EXPOSED W-BEAM EDGE IS DOWNSTREAM OF THE ADJACENT TRAFFIC.
8. PROVIDE A MINIMUM OF 12'-6" OF 31" W-BEAM GUARDRAIL BETWEEN THE GUARDRAIL TRANSITION AND A GUARDRAIL TERMINAL OR ANCHOR.
9. INSTALL RECTANGULAR GUARDRAIL PLATE WASHERS UNDER GUARDRAIL NUTS AT THE SPLICE BETWEEN THE THRIE-BEAM GUARDRAIL AND THRIE-BEAM TERMINAL CONNECTOR.
10. A CONNECTOR PLATE TO KEEP THE THRIE-BEAM TERMINAL CONNECTOR IN A VERTICAL PLANE IS OPTIONAL. SEE THE DETAIL ON THE HIGH SPEED GUARDRAIL TRANSITION STANDARD DRAWING.
11. DELINEATE THE TRANSITION. SEE THE DELINEATOR STANDARD DRAWING.
12. DRAWING NOT TO SCALE.

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	08-18	RDL					
2	02-20	RDL					

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-10_0420.dgn
DRAWING DATE: JUNE, 2017

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

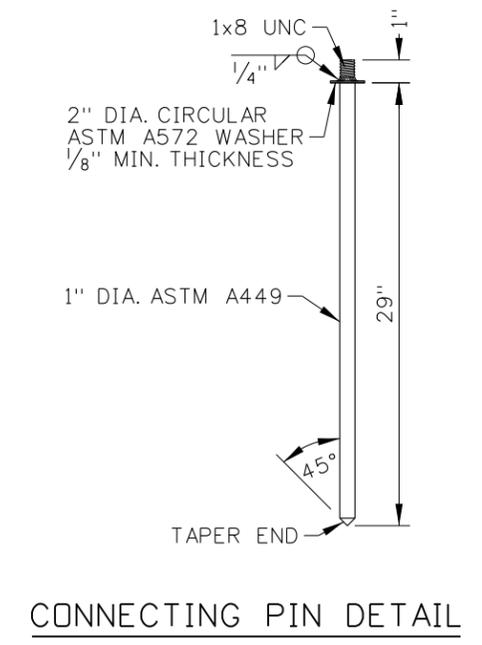
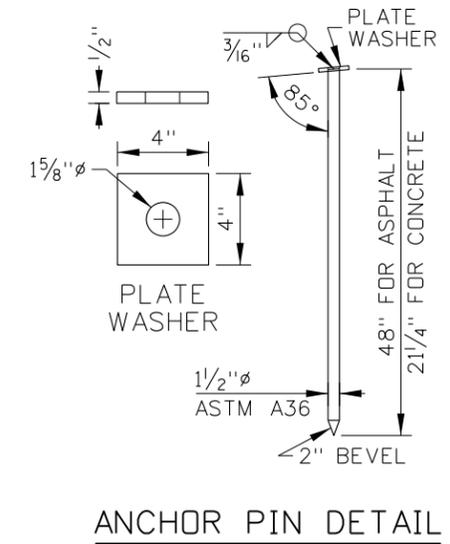
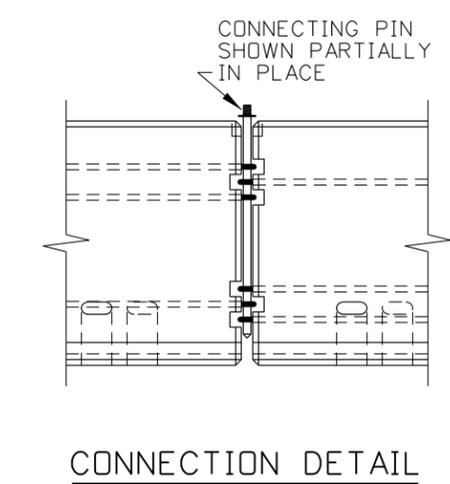
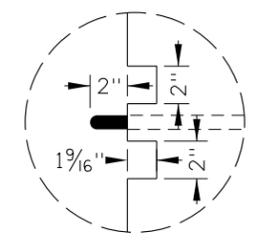
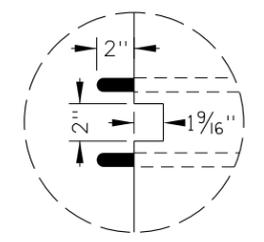
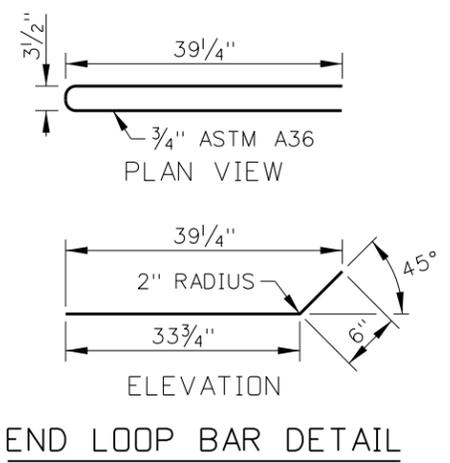
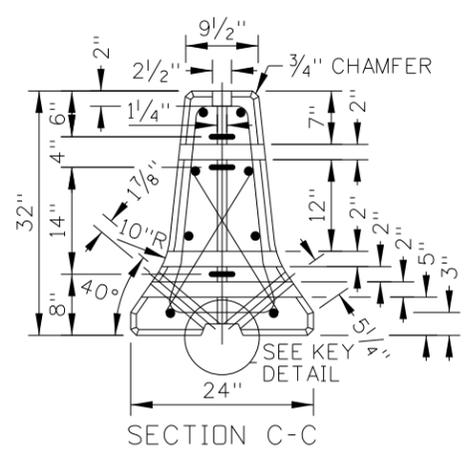
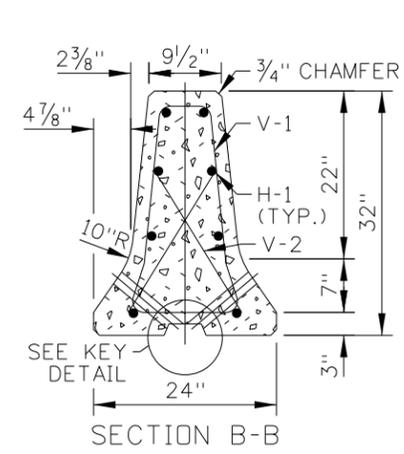
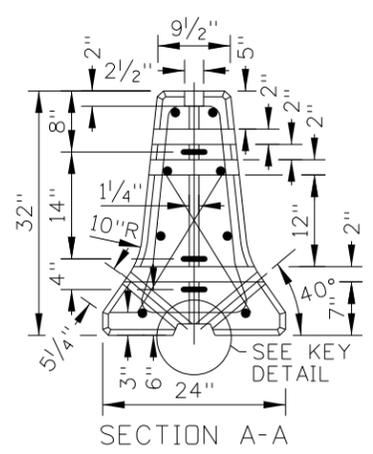
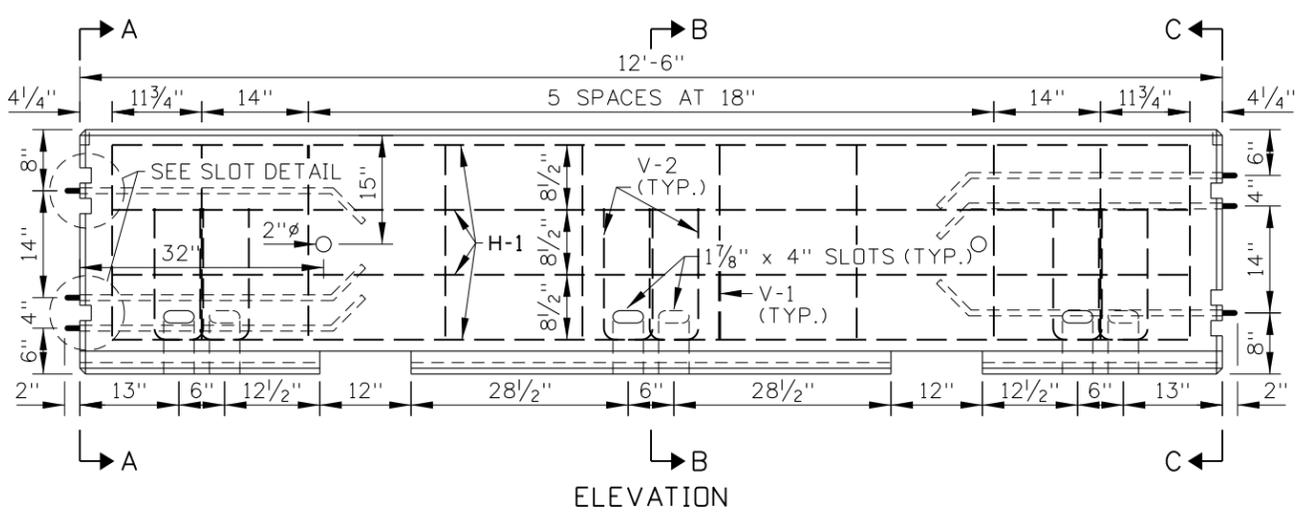
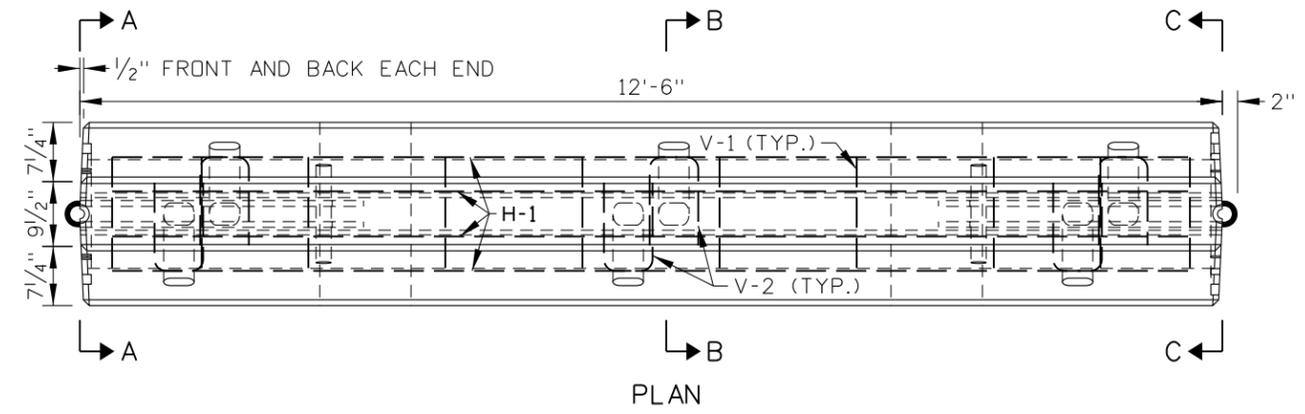
STANDARD DRAWING
**GUARDRAIL TRANSITION
LOW SPEED**

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO.
612-10

SHEET 2 OF 2



REINFORCING STEEL TABLE				
MARK	LOCATION	BAR SIZE	NUMBER OF BARS	SKETCH
H-1	HORIZONTAL BAR. TIED INSIDE V-1 BARS.	NO. 4	8	11'-10"
V-1	VERTICAL BAR.	NO. 4	10	<p>7' TOTAL BAR LENGTH</p>
V-2	VERTICAL BAR AROUND SLOTS.	NO. 4	6	<p>4' TOTAL BAR LENGTH</p>

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	02-20	RDL						
2	03-21	PBH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 612-18_0421.dgn
 DRAWING DATE: MARCH, 2019

IDAHO TRANSPORTATION DEPARTMENT
 BOISE IDAHO

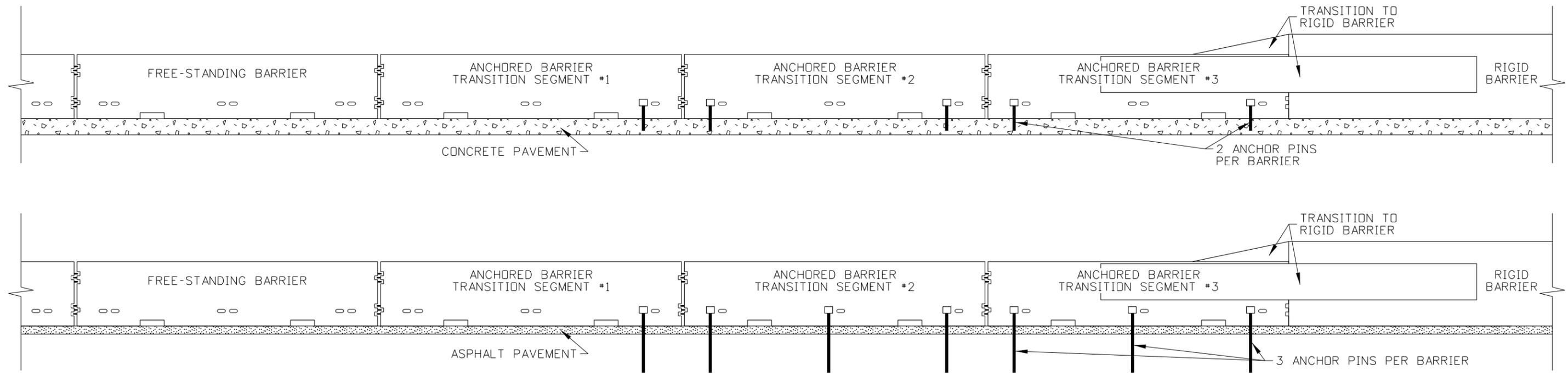
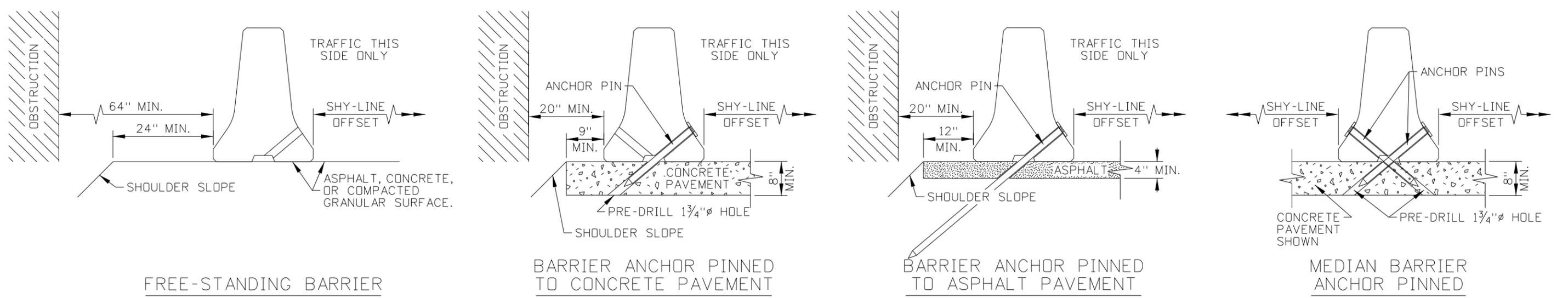
ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
PRECAST CONCRETE BARRIER

English
 STANDARD DRAWING NO. 612-18
 SHEET 1 OF 3

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho





TRANSITION FROM FREE-STANDING TO ANCHOR PINNED
AND FROM ANCHOR PINNED TO RIGID BARRIER
(SEE NOTE NOS. 5 THROUGH 8)

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	02-20	RDL						
2	03-21	PBH						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 612-18_0421.dgn
DRAWING DATE: MARCH, 2019

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
PRECAST CONCRETE BARRIER

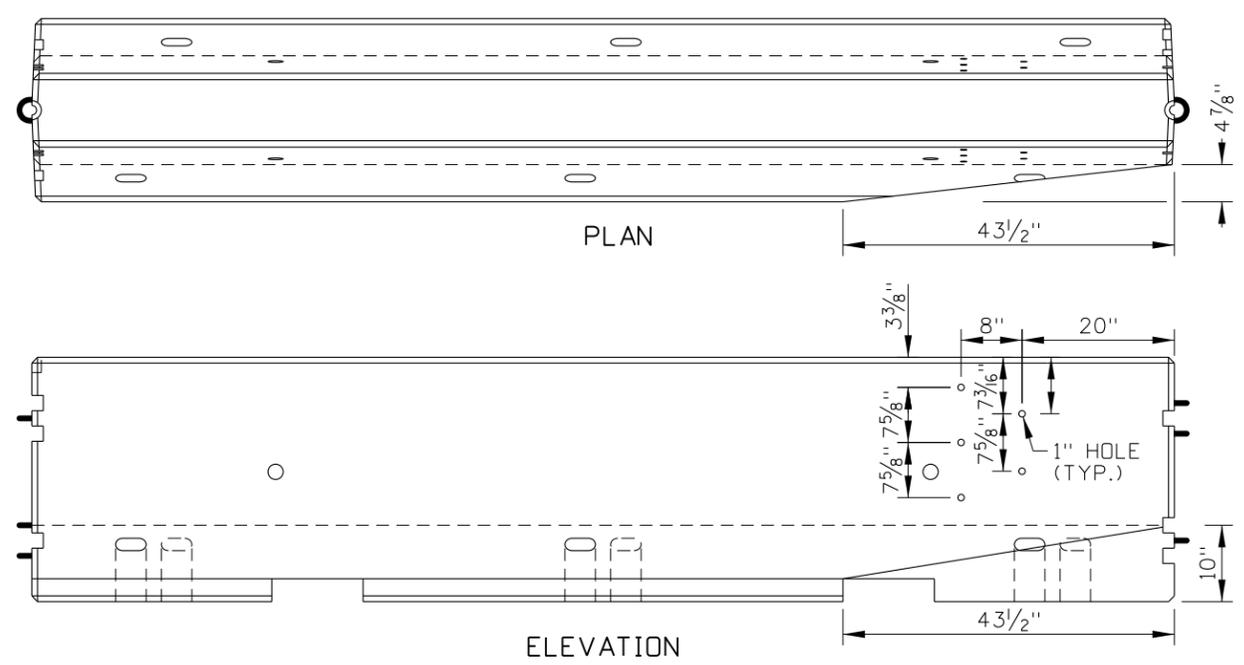
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO.
612-18

SHEET 2 OF 3

CONCRETE BARRIER SHY-LINE OFFSET AND FLARE RATE TABLE				
DESIGN SPEED (MPH)	SHY-LINE OFFSET (FT)	BARRIER FLARE RATE		
		INSIDE SHY LINE	AT OR BEYOND SHY LINE NOT STAKED	STAKED
70	9	30:1	15:1	20:1
60	8	26:1	14:1	18:1
55	7	24:1	12:1	16:1
50	6.5	21:1	11:1	14:1
45	6	18:1	10:1	12:1
40	5	16:1	8:1	10:1
30	4	13:1	7:1	8:1



CHAMFERED BARRIER FOR GUARDRAIL TRANSITIONS
(SEE NOTE NO. 8)

NOTES

1. THE PRECAST CONCRETE BARRIER SHOWN IS A MASH TEST LEVEL 3 LONGITUDINAL BARRIER SYSTEM. THE BARRIER USES THE F-SHAPE CROSS SECTION.
2. PRECAST USING CLASS 50AF CONCRETE. CHAMFER TOP, BOTTOM, AND ENDS 3/4". PROVIDE 2" MINIMUM CONCRETE COVER OVER REINFORCING STEEL. A 2" WHITE PVC SLEEVE MAY BE USED TO FORM THE LIFTING HOLE. IF USED, LEAVE THE PVC SLEEVE IN PLACE.
3. PIN CONNECT BARRIER UNITS. PRECAST CONCRETE BARRIERS MAY BE ANGLED APPROXIMATELY 7° AT CONNECTIONS.
4. PROVIDE THE CALCULATED LENGTH OF NEED UPSTREAM FROM HAZARDS AND PROVIDE AT LEAST THREE PRECAST CONCRETE BARRIER SEGMENTS DOWNSTREAM OF HAZARDS. DO NOT INSTALL FEWER THAN SIX BARRIER SEGMENTS.
5. THE PRECAST CONCRETE BARRIER CAN BE INSTALLED FREE-STANDING OR ANCHOR PINNED TO PAVEMENT.
 - A. IF FREE-STANDING, ANCHOR THE TWO BARRIER SEGMENTS NEAREST THE END (NOT COUNTING A CONCRETE BARRIER TERMINAL) WITH ANCHOR PINS AS DESCRIBED IN NOTE 5B.
 - B. IF ANCHOR PINNED, USE TWO PINS IN EACH BARRIER SEGMENT INSTALLED ON CONCRETE PAVEMENT AND USE THREE PINS IN EACH BARRIER SEGMENT INSTALLED ON ASPHALT PAVEMENT. IF ANCHOR PINNED IN A MEDIAN, INSTALL ANCHOR PINS ON BOTH SIDES OF THE BARRIER (4 TOTAL ON CONCRETE PAVEMENT, 6 TOTAL ON ASPHALT PAVEMENT). PRE-DRILL ANCHOR PIN HOLES IN CONCRETE PAVEMENT USING THE SLOT AS A GUIDE.
6. WHEN TRANSITIONING FROM FREE-STANDING TO ANCHOR PINNED BARRIER, INSTALL ONE ANCHOR PIN IN THE SLOT OF THE LAST FREE-STANDING SEGMENT CLOSEST TO THE FIRST ANCHOR PINNED SEGMENT.
7. WHEN TRANSITIONING FROM FREE-STANDING BARRIER TO RIGID BARRIER (SUCH AS CAST-IN-PLACE CONCRETE BARRIER OR BRIDGE RAIL/PARAPET), TRANSITION FIRST TO ANCHOR PINNED PRECAST BARRIER (MINIMUM THREE SEGMENTS), THEN TO THE RIGID BARRIER. CUT OFF THE END LOOPS OF THE LAST SEGMENT OF PRECAST BARRIER IN THE F-SHAPE TO SINGLE SLOPE TRANSITION.
8. WHEN TRANSITIONING FROM FREE-STANDING BARRIER TO W-BEAM GUARDRAIL, ANCHOR PIN THE LAST THREE PRECAST CONCRETE BARRIER SEGMENTS AND CONNECT TO A GUARDRAIL TRANSITION. CHAMFER THE LAST 43 1/2 INCHES OF THE BARRIER AND DRILL FIVE 1" DIAMETER HOLES AS SHOWN.
9. FLARE THE UPSTREAM END OF THE BARRIER IN ACCORDANCE WITH THE CONCRETE BARRIER SHY-LINE OFFSET AND FLARE RATE TABLE.
10. TERMINATE THE BARRIER WITH A CRASHWORTHY END TREATMENT OR TRANSITION TO ANOTHER BARRIER SYSTEM. ACCEPTABLE END TREATMENTS INCLUDE TAPERING THE BARRIER OUTSIDE OF THE CLEAR ZONE, TRANSITIONING TO W-BEAM GUARDRAIL, A CRASH CUSHION, A PRECAST CONCRETE BARRIER TERMINAL, OR TRANSITION TO A BRIDGE RAIL OR PARAPET. WHEN CONNECTING THE F-SHAPE PRECAST CONCRETE BARRIER TO A NEW JERSEY SHAPE PRECAST CONCRETE BARRIER, USE THE F-SHAPE TO NEW JERSEY SHAPE TRANSITION.
11. DRAWINGS NOT TO SCALE.

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	02-20	RDL						
2	03-21	PBH						

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DRAWING DATE: MARCH, 2019

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
PRECAST CONCRETE BARRIER

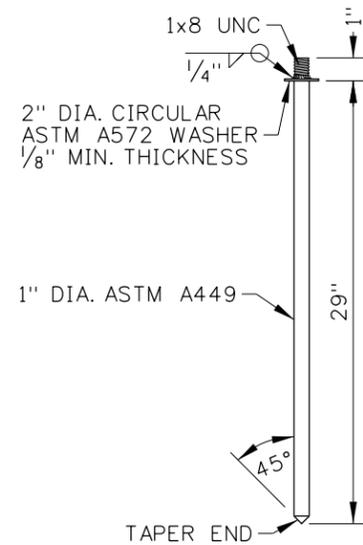
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

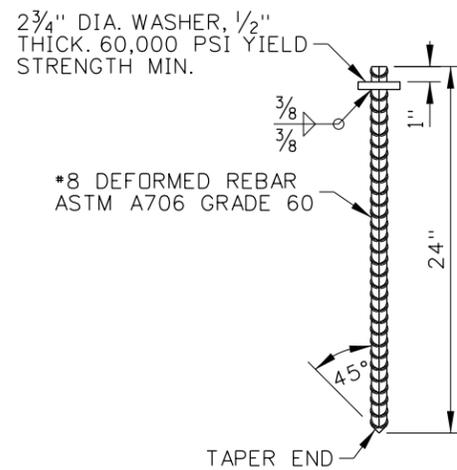
STANDARD DRAWING NO.
612-18

SHEET 3 OF 3

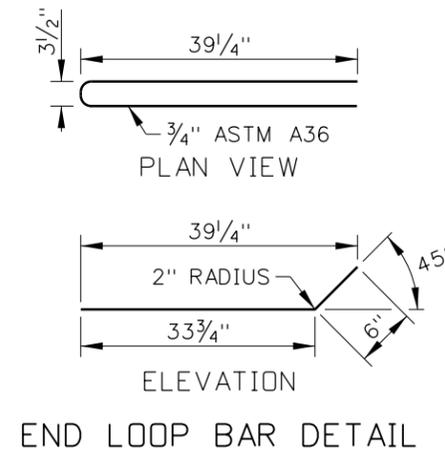




CONNECTING PIN DETAIL

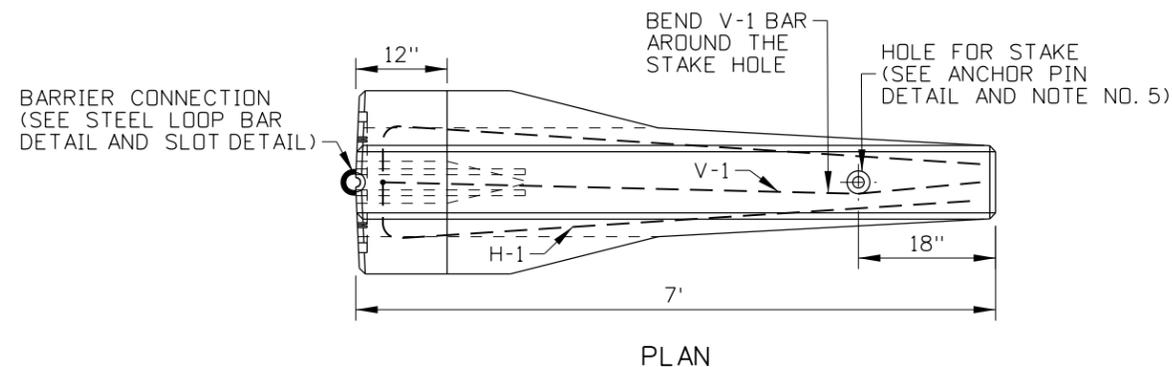


ANCHOR PIN DETAIL

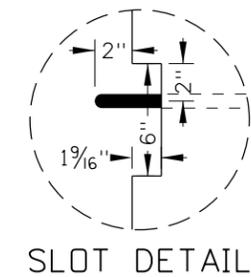


END LOOP BAR DETAIL

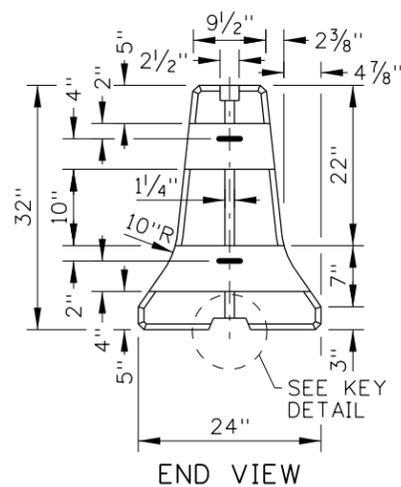
TERMINAL TYPE A REINFORCING STEEL TABLE				
MARK	LOCATION	BAR SIZE	NUMBER OF BARS	SKETCH
H-1	HORIZONTAL BAR.	NO. 5	1	
V-1	VERTICAL BAR.	NO. 5	1	



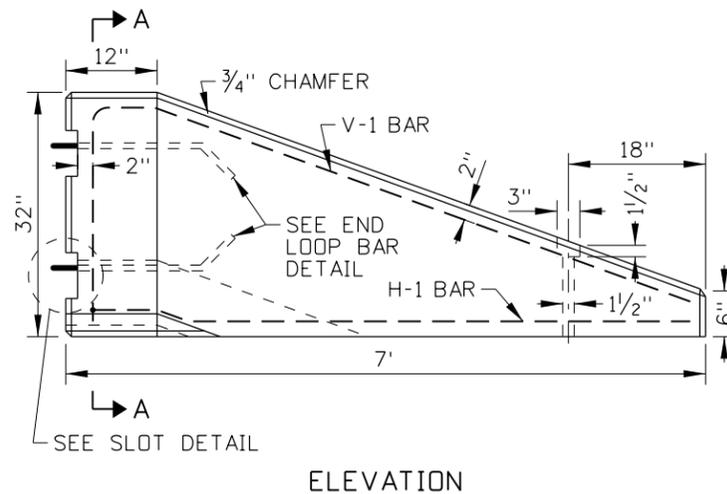
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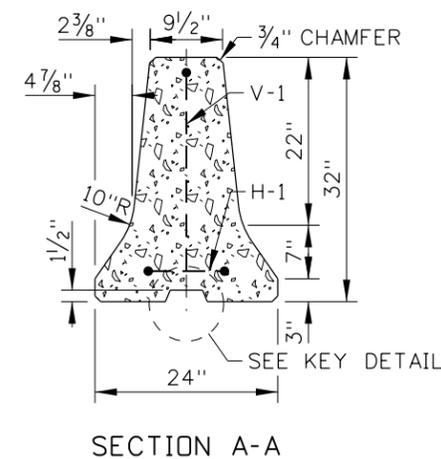
SLOT DETAIL



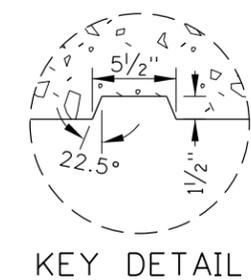
END VIEW



ELEVATION



SECTION A-A



KEY DETAIL

TERMINAL TYPE A

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
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2	08-86	GB	7	09-93	MSM	12	11-14
3	06-87	GB	8	02-96	MSM	13	03-19
4	04-89	GB	9	01-00	MSM	14	02-20
5	01-91	GB	10	12-04	MSM		

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 612-20_0420.dgn
 DRAWING DATE: NOVEMBER, 1974

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

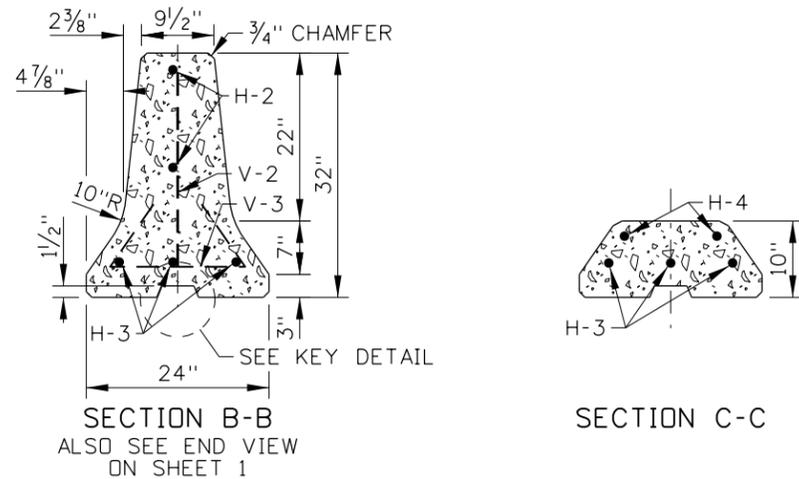
STANDARD DRAWING
PRECAST CONCRETE BARRIER TERMINALS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

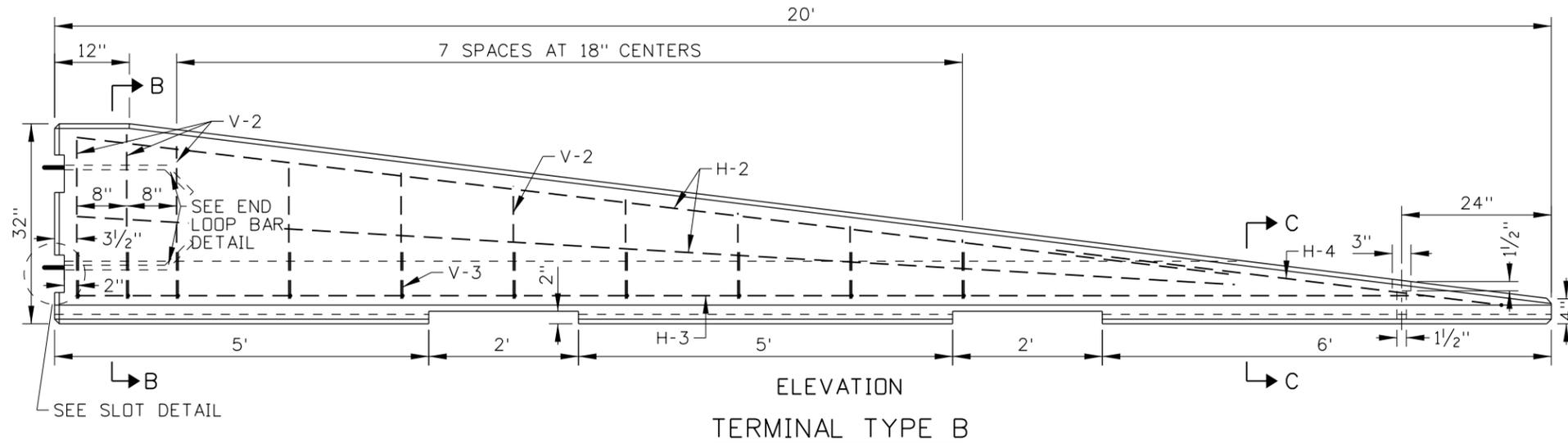
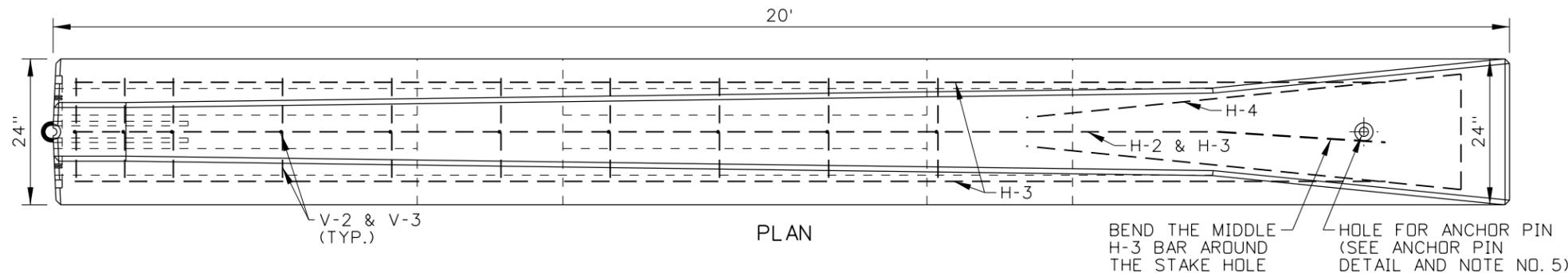
English

STANDARD DRAWING NO. 612-20

SHEET 1 OF 2



TERMINAL TYPE B REINFORCING STEEL TABLE																								
MARK	LOCATION	BAR SIZE	NUMBER OF BARS	SKETCH																				
H-2	HORIZONTAL BAR. TIED TO V-1 BARS.	NO. 5	2	15'-6"																				
H-3	HORIZONTAL BAR. TIED TO V2 BARS.	NO. 5	3	18'																				
H-4	HORIZONTAL BAR. AT END OF BARRIER ALONG TOP SLOPE.	NO. 5	1	6'-0" (sketch), 13'-10" TOTAL BAR LENGTH																				
V-2	VERTICAL BAR.	NO. 5	10	<table border="1"> <thead> <tr> <th>L (IN.)</th> <th>QTY.</th> </tr> </thead> <tbody> <tr><td>26</td><td>2</td></tr> <tr><td>25</td><td>1</td></tr> <tr><td>23</td><td>1</td></tr> <tr><td>21</td><td>1</td></tr> <tr><td>18</td><td>1</td></tr> <tr><td>16</td><td>1</td></tr> <tr><td>14</td><td>1</td></tr> <tr><td>12</td><td>1</td></tr> <tr><td>10</td><td>1</td></tr> </tbody> </table>	L (IN.)	QTY.	26	2	25	1	23	1	21	1	18	1	16	1	14	1	12	1	10	1
L (IN.)	QTY.																							
26	2																							
25	1																							
23	1																							
21	1																							
18	1																							
16	1																							
14	1																							
12	1																							
10	1																							
V-3	VERTICAL BAR. TIE TO V-1 AND H-2 BARS.	NO. 5	10	3'-2" TOTAL BAR LENGTH (sketch), 18" (sketch)																				



NOTES

1. THE TYPE A TERMINAL MAY BE USED ON THE TRAILING END OF PRECAST CONCRETE BARRIER IF THE TERMINAL IS OUTSIDE OF THE CLEAR-ZONE OF TRAVEL LANES IN THE OPPOSING DIRECTION.
2. THE TYPE B TERMINAL MAY BE USED WITHIN THE CLEAR-ZONE WHEN TRAFFIC SPEEDS ARE 40 MPH OR LESS AND THE AVAILABLE SPACE IS LIMITED BY RIGHT-OF-WAY CONSTRAINTS OR THE OTHER ROADSIDE FEATURES THAT PRECLUDE USING A GUARDRAIL TERMINAL OR CRASH CUSHION.
3. PRECAST TYPE A TERMINAL WITH CLASS 30AF OR HIGHER STRENGTH CONCRETE. PRECAST TYPE B TERMINAL WITH CLASS 50AF CONCRETE. CHAMFER TOP, BOTTOM, AND ENDS 3/4". PROVIDE 2" MINIMUM CONCRETE COVER OVER REINFORCING STEEL.
4. PIN CONNECT THE TERMINALS TO CONCRETE BARRIERS.
5. ANCHOR PIN THE TERMINALS AT THE TAPERED END. ENSURE THE ANCHOR PIN DOES NOT PROTRUDE BEYOND THE EXTERIOR OF THE TERMINAL SURFACE.
6. DRAWING NOT TO SCALE.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
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2	08-86	GB	7	09-93	MSM	12	11-14	RDL
3	06-87	GB	8	02-96	MSM	13	03-19	RDL
4	04-89	GB	9	01-00	MSM	14	02-20	PBH
5	01-91	GB	10	12-04	MSM			

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 CADD FILE NAME: 612-20_0420.dgn
 DRAWING DATE: NOVEMBER, 1974

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

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 DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

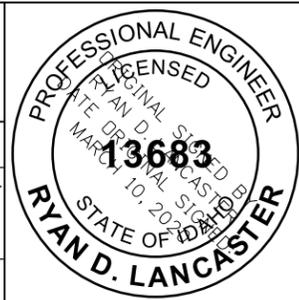
PRECAST CONCRETE BARRIER TERMINALS

English

STANDARD DRAWING NO.

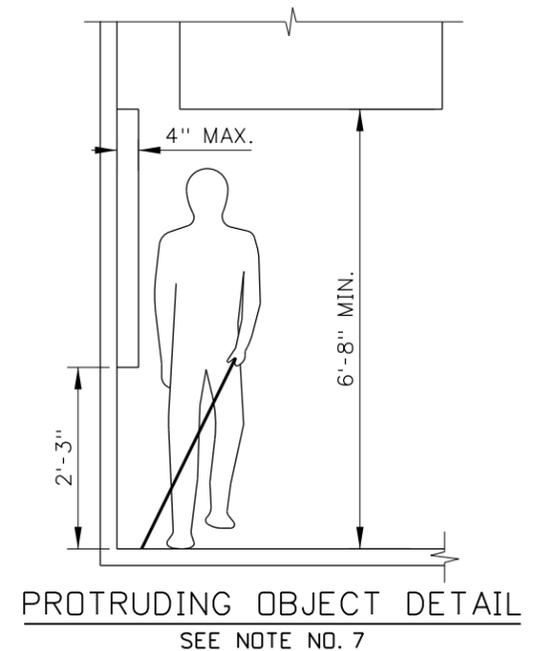
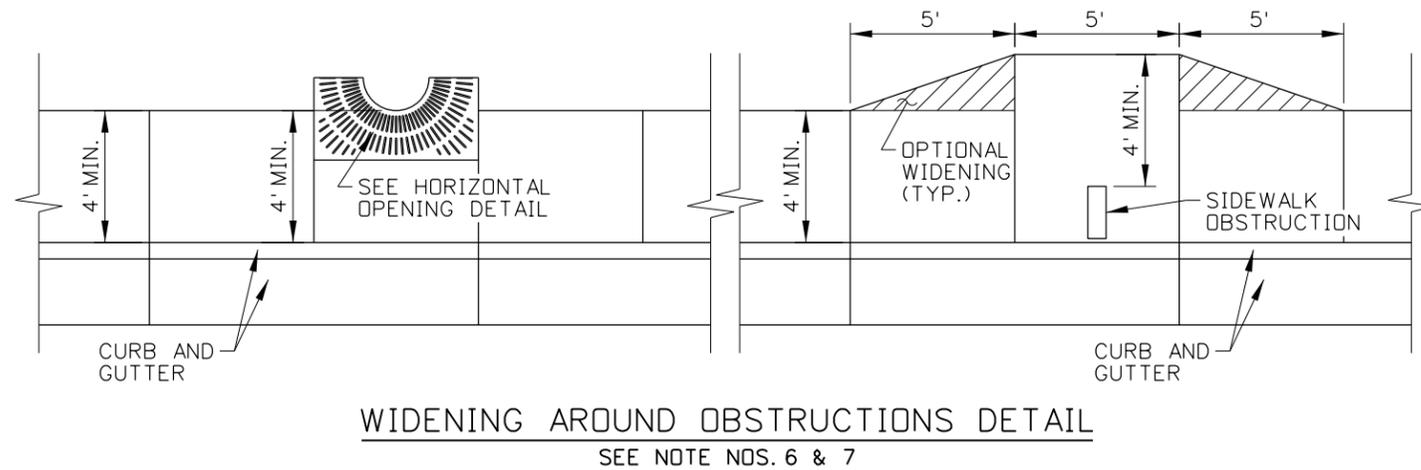
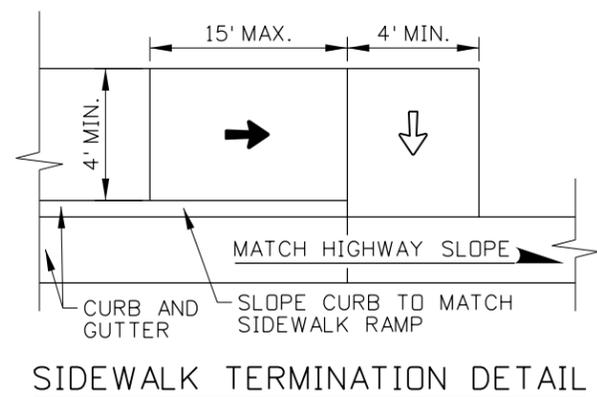
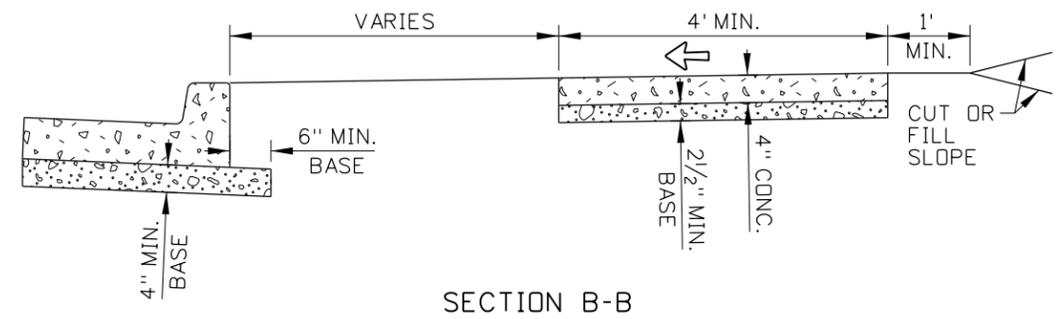
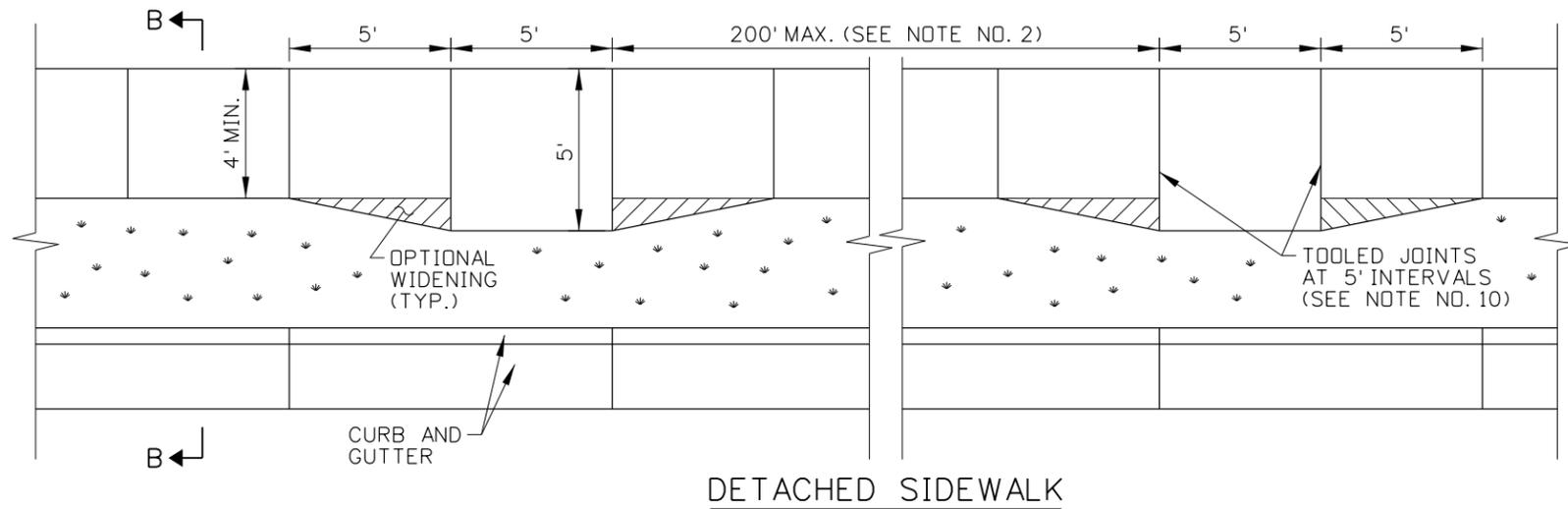
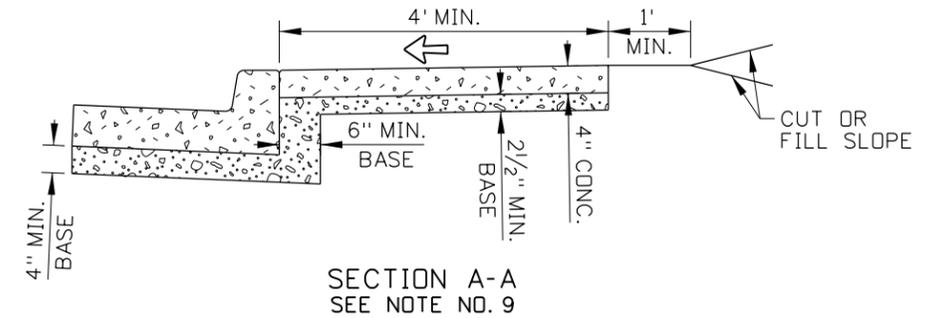
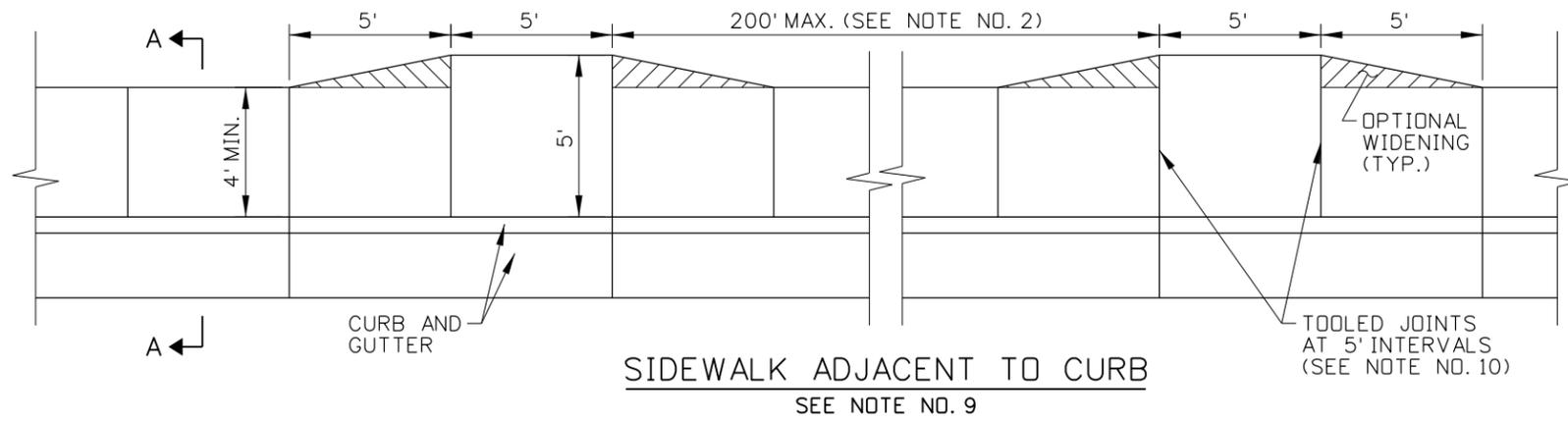
612-20

SHEET 2 OF 2



SYMBOL LEGEND

- ↖ 1.0% TO 2.0% SLOPE
- ↙ 5.0% TO 8.3% RUNNING SLOPE, 2.0% OR FLATTER CROSS SLOPE



REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE

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DRAWING DATE: MAY, 2015

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STANDARD DRAWING
SIDEWALKS

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English

STANDARD DRAWING NO. **614-1**

SHEET 1 OF 2

PROFESSIONAL ENGINEER
LICENSED
RYAN D. LANCASTER
STATE OF IDAHO
JUN 15, 2011

SYMBOL LEGEND

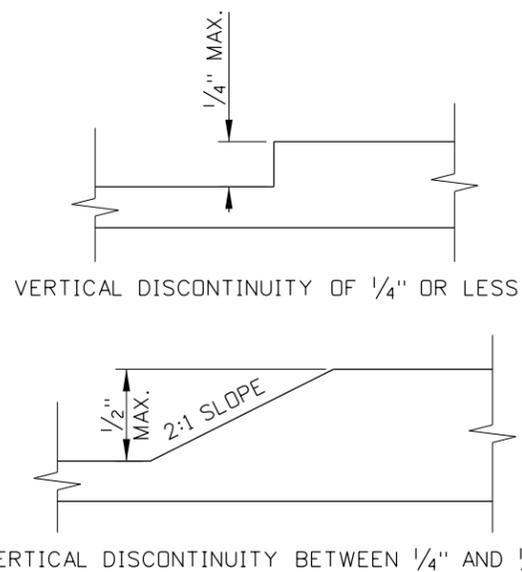
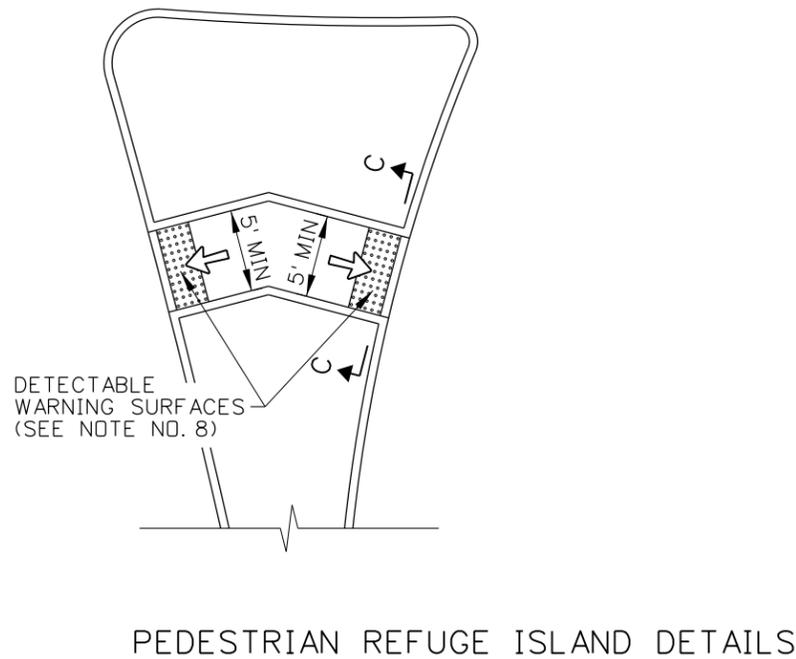
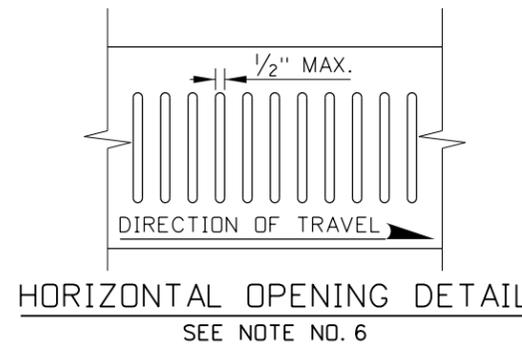
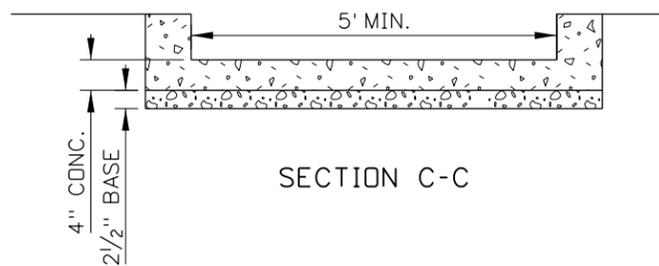
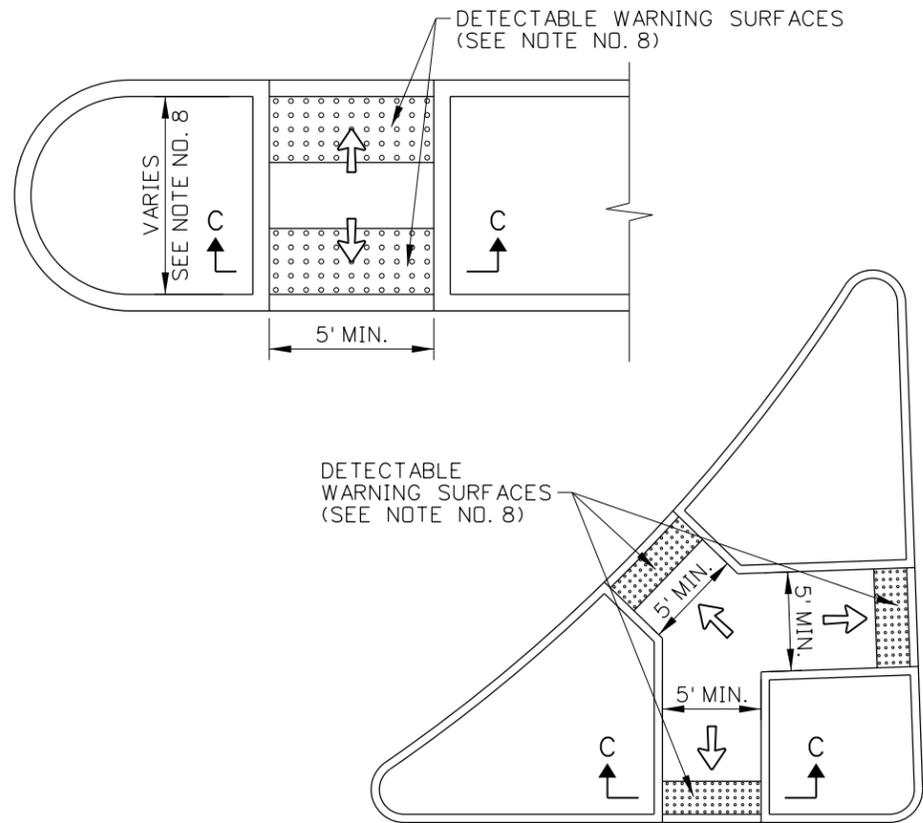
- ↖ 1.0% TO 2.0% SLOPE
- ↙ 5.0% TO 8.3% RUNNING SLOPE,
2.0% OR FLATTER CROSS SLOPE

NOTES

1. SIDEWALKS MAY CONSIST OF A PEDESTRIAN CIRCULATION PATH AND A PEDESTRIAN ACCESS ROUTE. THE PEDESTRIAN CIRCULATION PATH IS A PREPARED SURFACE PROVIDED FOR PEDESTRIAN TRAVEL IN THE PUBLIC RIGHT-OF-WAY. THE PEDESTRIAN ACCESS ROUTE IS A CONTINUOUS AND UNOBSTRUCTED PATH OF TRAVEL PROVIDED FOR PEDESTRIANS WITH DISABILITIES WITHIN OR COINCIDING WITH A PEDESTRIAN CIRCULATION PATH.
2. PROVIDE AT LEAST 4' OF CONTINUOUS CLEAR WIDTH OF PEDESTRIAN ACCESS ROUTE, EXCLUSIVE OF THE CURB WIDTH. WHERE SIDEWALKS ARE WIDER THAN 4', ONLY A PORTION OF THE SIDEWALK IS REQUIRED TO BE PART OF THE PEDESTRIAN ACCESS ROUTE.

PROVIDE A PASSING SPACE AT 200' OR SHORTER INTERVALS WHEN THE CLEAR WIDTH OF THE PEDESTRIAN ACCESS ROUTE IS LESS THAN 5'. ENSURE THAT THE DIMENSIONS OF THE PASSING SPACE ARE AT LEAST 5' BY 5'. INTERSECTING SIDEWALKS, DRIVEWAYS, AND ALLEYS MAY BE USED AS PASSING SPACES.
3. ENSURE THAT THE GRADE OF THE PEDESTRIAN ACCESS ROUTE DOES NOT EXCEED THE GENERAL GRADE ESTABLISHED FOR THE ADJACENT HIGHWAY.
4. ENSURE THAT THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE WITHIN THE SIDEWALK DOES NOT EXCEED TWO PERCENT.
5. VERTICAL SURFACE DISCONTINUITIES MAY OCCASIONALLY OCCUR AT EXPANSION JOINTS, UTILITY COVERS, VAULT FRAMES, AND GRATINGS WITHIN THE SIDEWALK. ENSURE THAT VERTICAL SURFACE DISCONTINUITIES DO NOT EXCEED 1/2". BEVEL VERTICAL SURFACE DISCONTINUITIES BETWEEN 1/4" AND 1/2" WITH A 2:1 SLOPE ACROSS THE ENTIRE VERTICAL SURFACE DISCONTINUITY.
6. ENSURE THAT HORIZONTAL OPENINGS IN GRATINGS AND JOINTS DO NOT PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" IN DIAMETER.
7. OBJECTS PROTRUDING INTO OR OVERHANGING A PEDESTRIAN CIRCULATION PATH MUST NOT REDUCE THE MINIMUM CLEAR WIDTH OF THE PEDESTRIAN ACCESS ROUTE. PROTRUDING OBJECTS INCLUDE STREET FURNITURE, STREET LIGHTS, UTILITY POLES, EQUIPMENT CABINETS, SIGN POSTS AND SIGNS, PARKING METERS, TRASH RECEPTACLES, PUBLIC TELEPHONES, MAILBOXES, NEWSPAPER VENDING MACHINES, BENCHES, TRANSIT SHELTERS, KIOSKS, BICYCLE RACKS, PLANTERS AND PLANTED TREES, AND STREET SCULPTURES.

ENSURE THAT OBJECTS WITH LEADING EDGES BETWEEN 2'-3" AND 6'-8" ABOVE THE FINISH SURFACE DO NOT PROTRUDE MORE THAN 4" HORIZONTALLY INTO THE PEDESTRIAN CIRCULATION PATH.
8. PROVIDE DETECTABLE WARNING SURFACES ON PEDESTRIAN REFUGE ISLANDS WITH CURB RAMPS OR WHEN CUT-THROUGH AT STREET LEVEL AND REFUGE ISLAND WIDTHS ARE GREATER THAN SIX FEET IN THE DIRECTION OF PEDESTRIAN TRAVEL. DO NOT INSTALL DETECTABLE WARNING SURFACES AT PEDESTRIAN REFUGE ISLANDS THAT ARE CUT-THROUGH AT STREET LEVEL AND ARE LESS THAN SIX FEET IN WIDTH IN THE DIRECTION OF PEDESTRIAN TRAVEL. SEE STANDARD DRAWING 614-3 FOR DETECTABLE WARNING SURFACE DETAILS.
9. USE A BOND PREVENTATIVE BETWEEN THE SIDEWALK AND CURB WHEN CONSTRUCTED SEPARATELY AND PLACED ADJACENT TO EACH OTHER.
10. ALIGN CURB AND SIDEWALK JOINTS. CONSTRUCT JOINTS AT 5' INTERVALS THAT ARE APPROXIMATELY 1/8" WIDE AND 3/4" IN DEPTH. CONSTRUCT A LONGITUDINAL JOINT WHEN THE SIDEWALK IS 8' WIDE OR WIDER. INSTALL A PREFORMED EXPANSION JOINT FILLER EVERY 40'.
11. DRAWING NOT TO SCALE.



REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE

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CADD FILE NAME: 614-1_0615.dgn

DRAWING DATE: MAY, 2015

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

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STANDARD DRAWING

SIDEWALKS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO. **614-1**

SHEET 2 OF 2

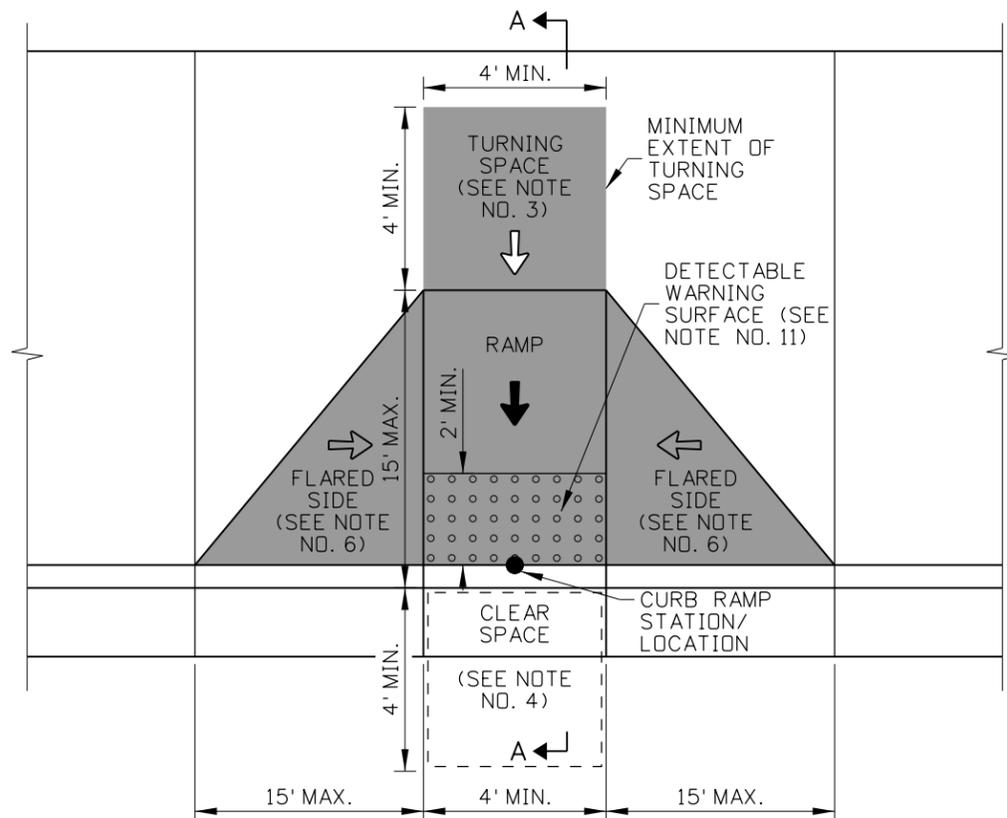
PROFESSIONAL ENGINEER

RYAN D. LANCASTER

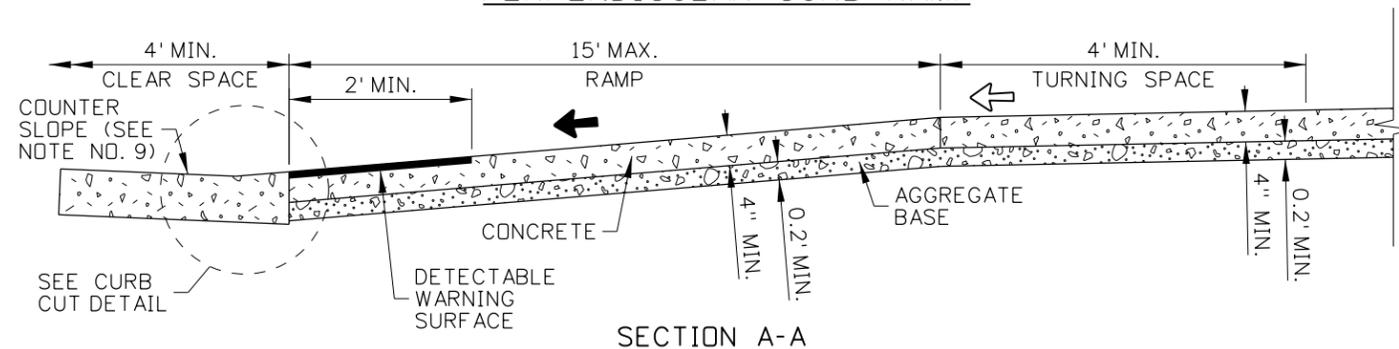
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JUN 15, 2018

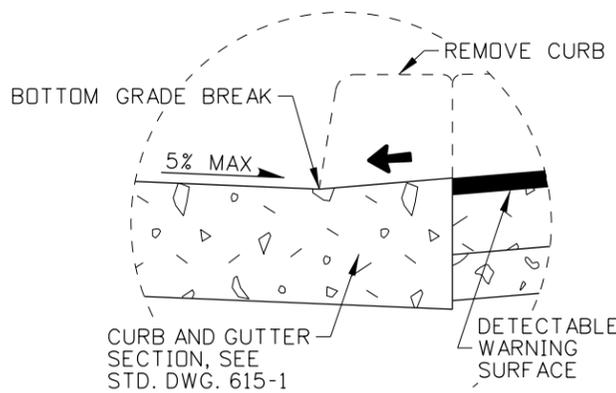
STATE OF IDAHO



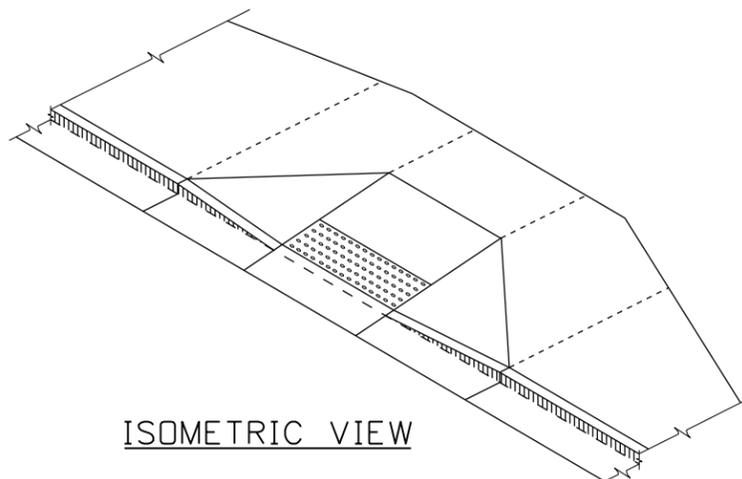
PERPENDICULAR CURB RAMP



SECTION A-A



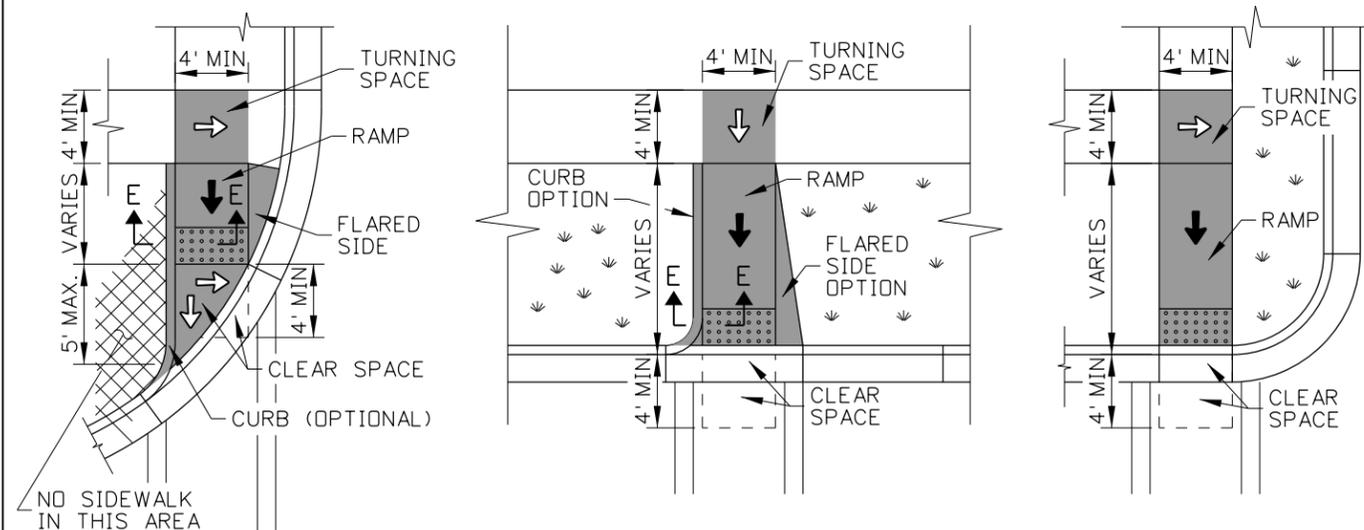
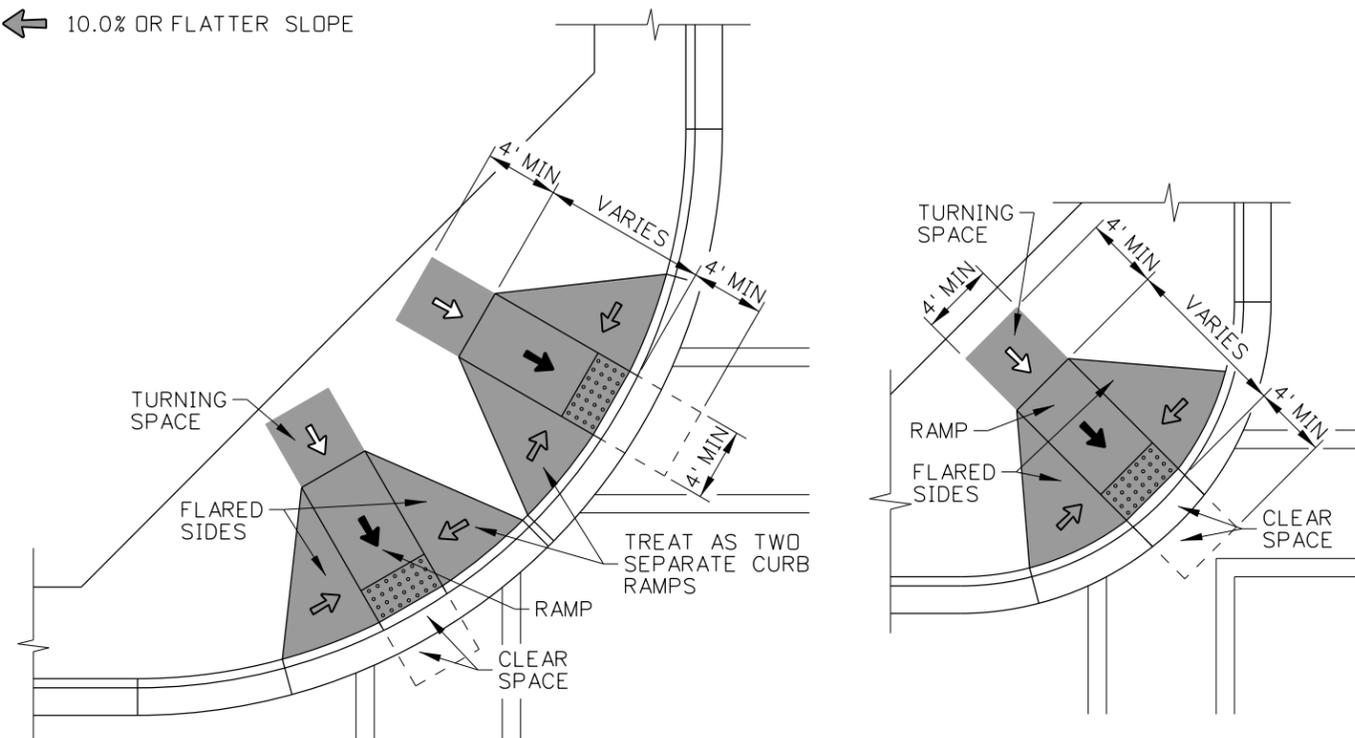
CURB CUT DETAIL



ISOMETRIC VIEW

SYMBOL LEGEND

- ↔ 1.0% TO 2.0% SLOPE
- ↖ 5.0% TO 8.3% RUNNING SLOPE, 2.0% OR FLATTER CROSS SLOPE
- ↗ 10.0% OR FLATTER SLOPE



EXAMPLE APPLICATIONS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-93	MSM	6	07-03	MSM	11	07-10	JAW
2	12-95	MSM	7	12-04	MSM	12	09-11	TEM
3	06-98	MSM	8	06-05	MSM	13	05-15	RDL
4	08-01	MSM	9	05-06	MSM			
5	10-02	MSM	10	05-07	MSM			

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
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IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

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 DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

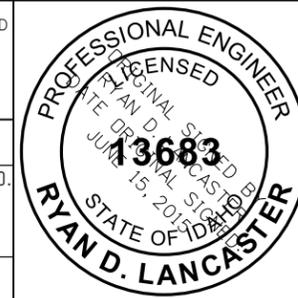
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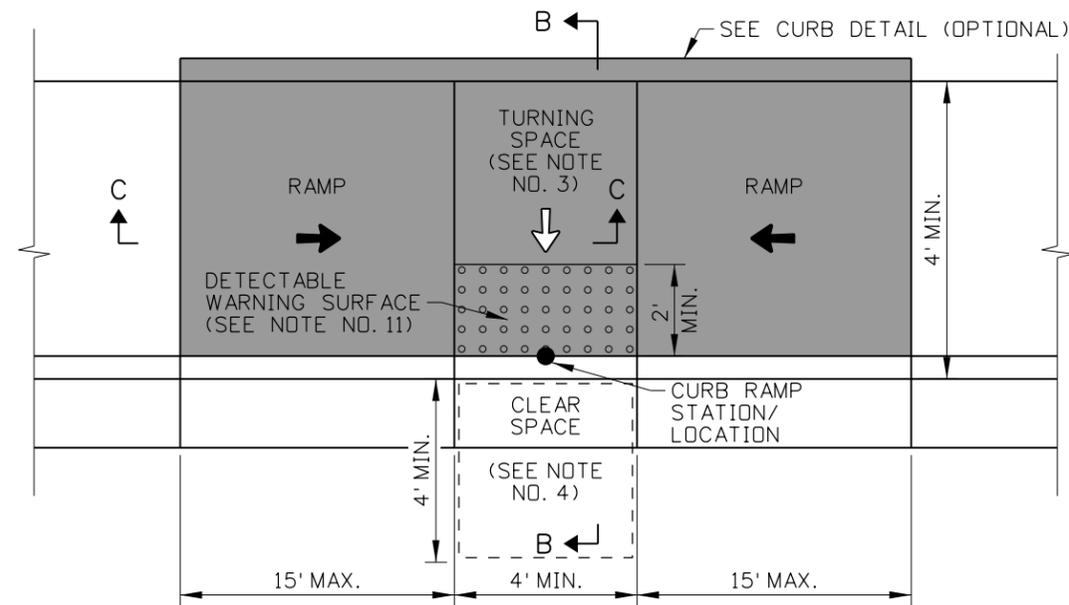
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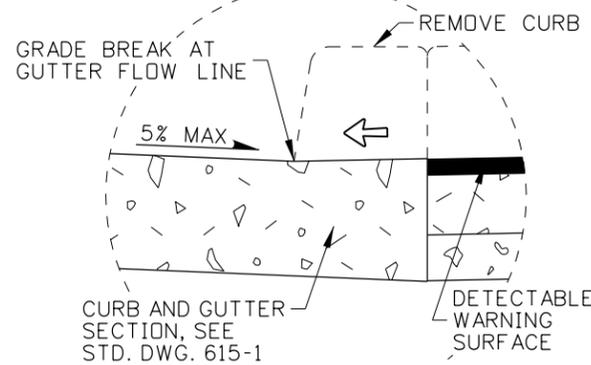
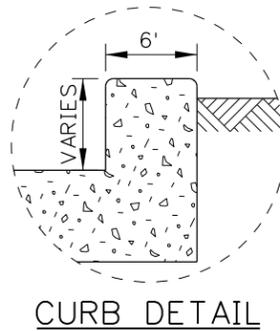
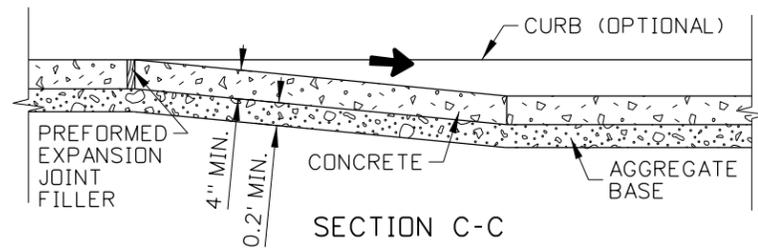
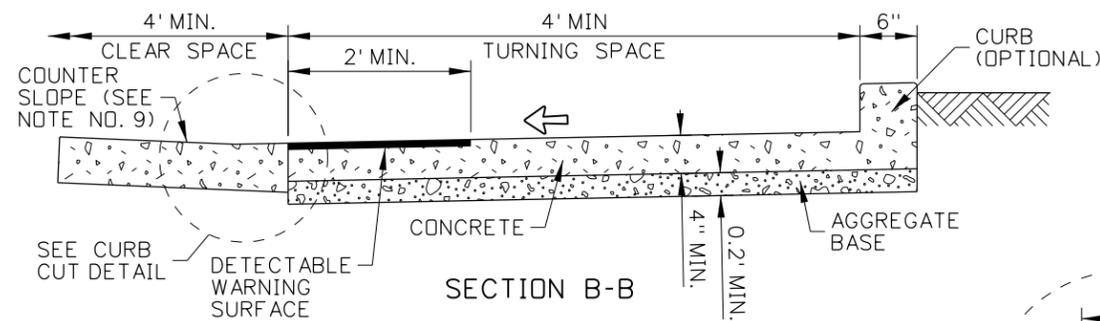
614-3

SHEET 1 OF 4

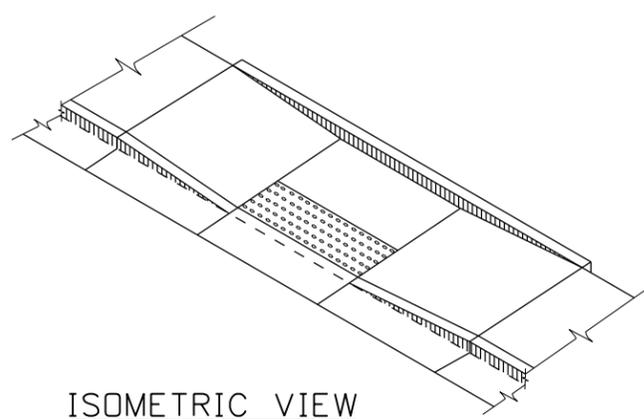




PARALLEL CURB RAMP

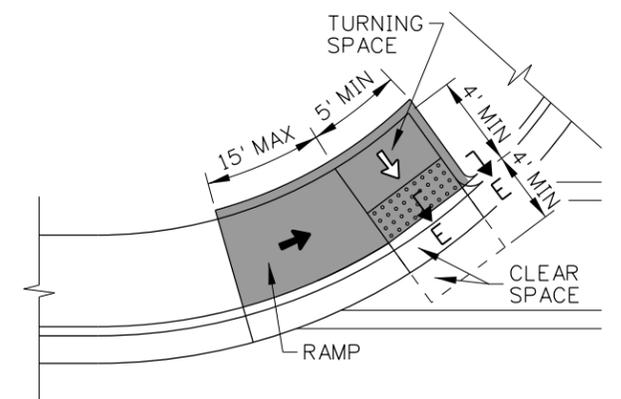
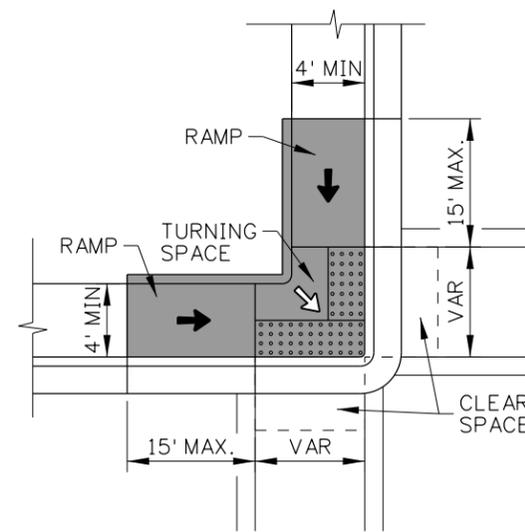
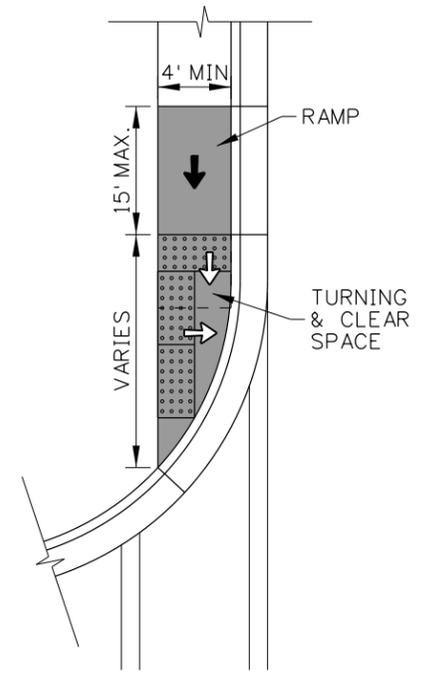
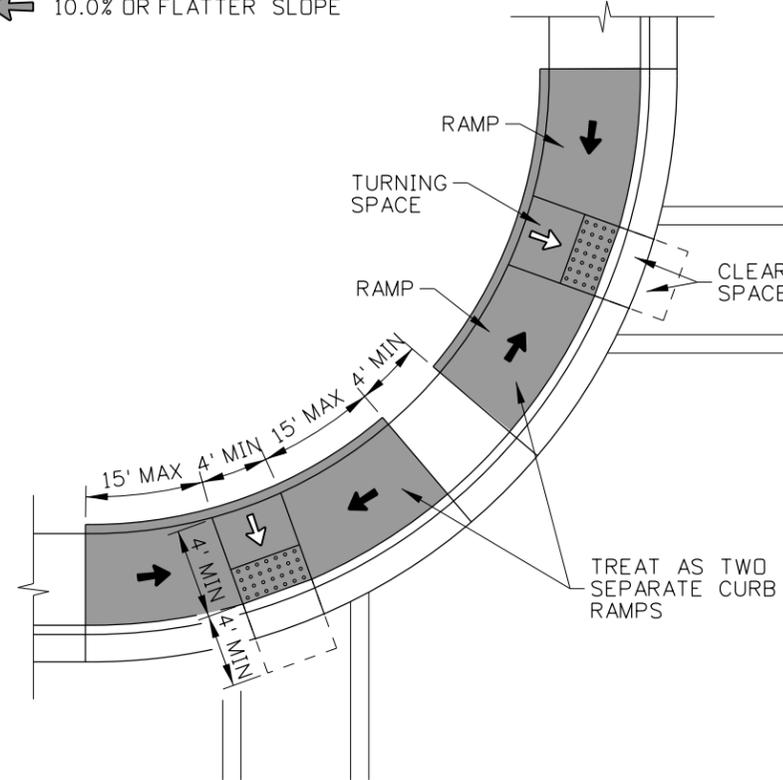


CURB CUT DETAIL



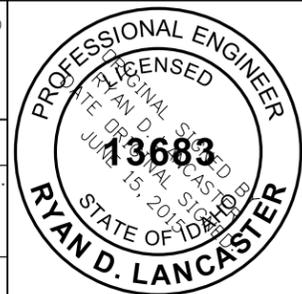
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- ↖ 1.0% TO 2.0% SLOPE
- ↙ 5.0% TO 8.3% RUNNING SLOPE, 2.0% OR FLATTER CROSS SLOPE
- ↘ 10.0% OR FLATTER SLOPE



EXAMPLE APPLICATIONS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho



REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	09-93	MSM	6	07-03	MSM	11	07-10	JAW
2	12-95	MSM	7	12-04	MSM	12	09-11	TEM
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4	08-01	MSM	9	05-06	MSM			
5	10-02	MSM	10	05-07	MSM			

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DRAWING DATE: JUNE, 1990

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

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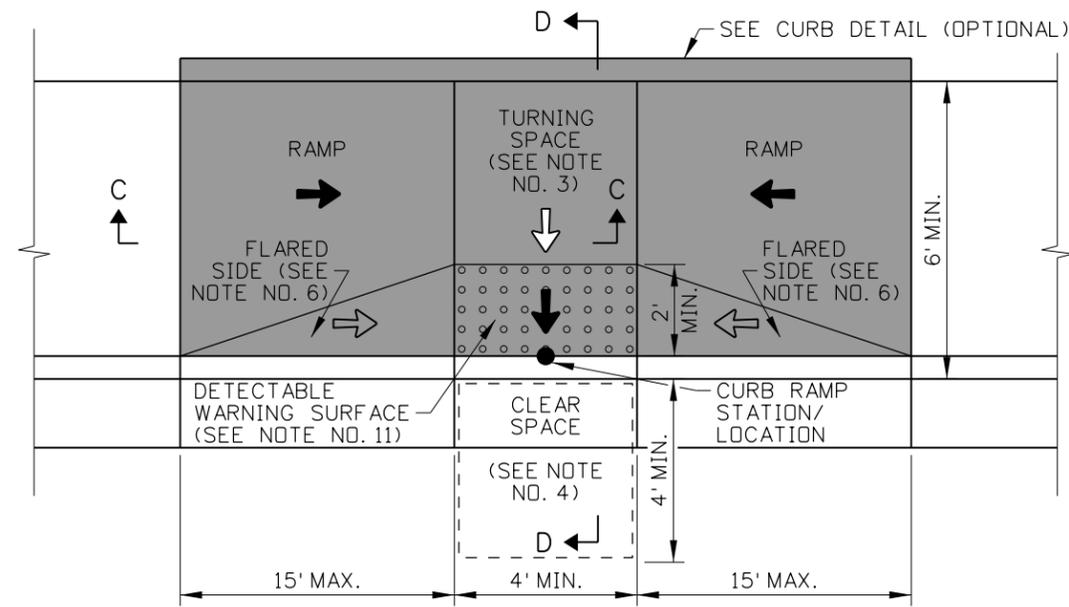
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CURB RAMPS

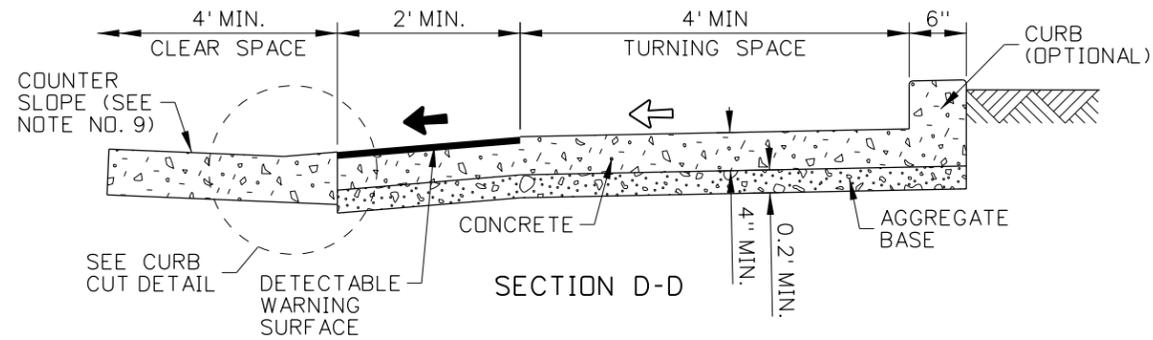
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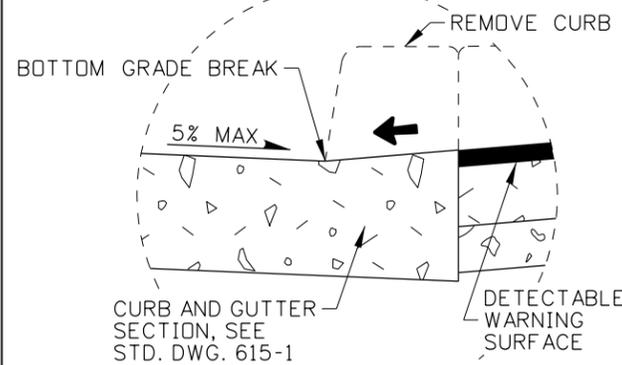
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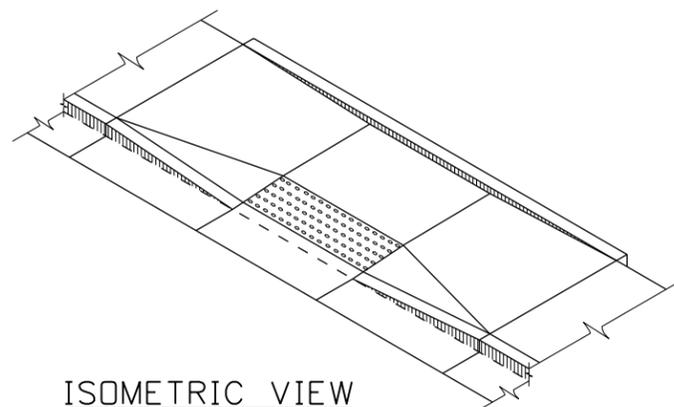
COMBINATION CURB RAMP



SECTION D-D



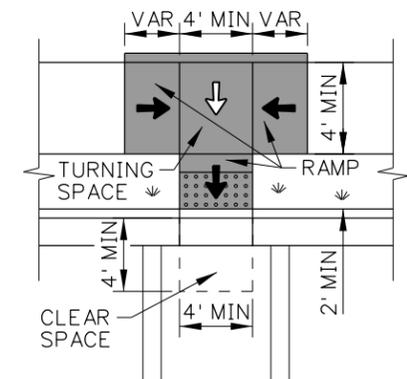
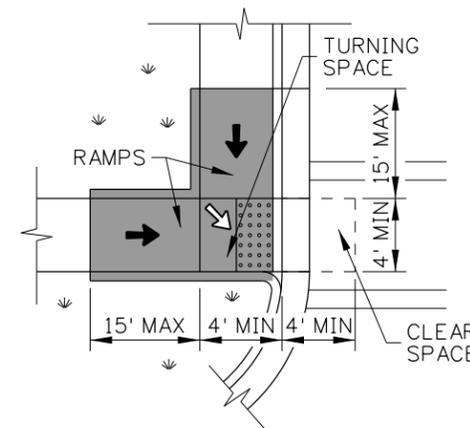
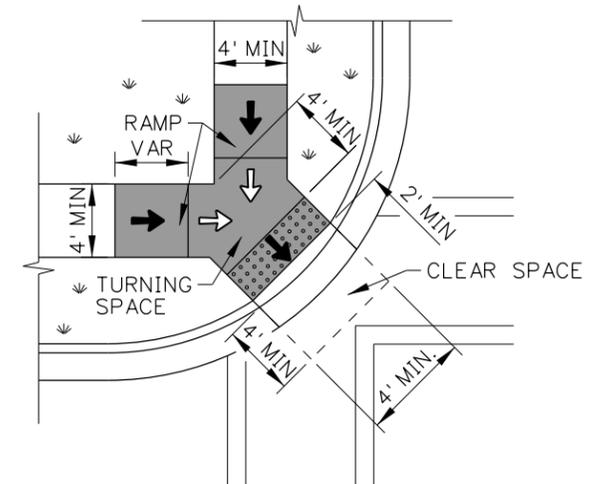
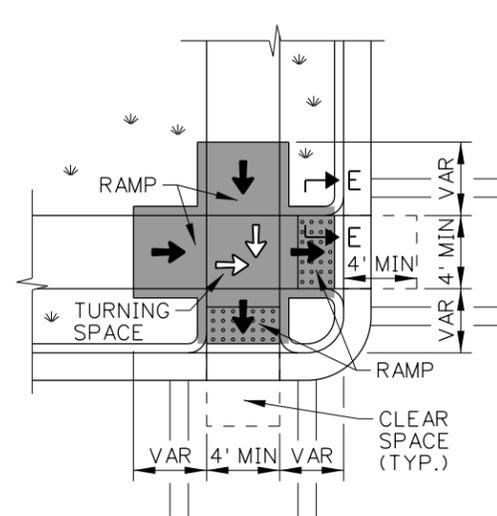
CURB CUT DETAIL



ISOMETRIC VIEW

SYMBOL LEGEND

- ↔ 1.0% TO 2.0% SLOPE
- ↖ 5.0% TO 8.3% RUNNING SLOPE, 2.0% OR FLATTER CROSS SLOPE
- ↙ 10.0% OR FLATTER SLOPE



EXAMPLE APPLICATIONS

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IDAHO TRANSPORTATION DEPARTMENT
 BOISE IDAHO

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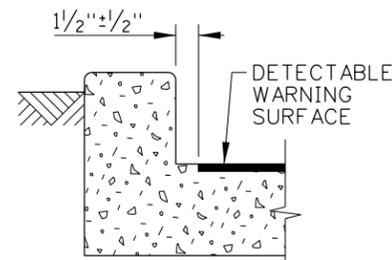
STANDARD DRAWING
 CURB RAMPS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho
English
 STANDARD DRAWING NO. 614-3
 SHEET 3 OF 4

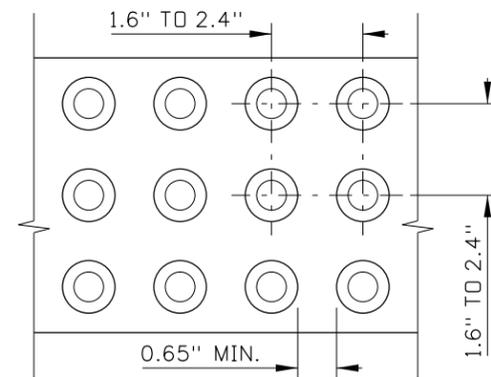
PROFESSIONAL ENGINEER
 LICENSED
 13683
 RYAN D. LANCASTER
 STATE OF IDAHO

SYMBOL LEGEND

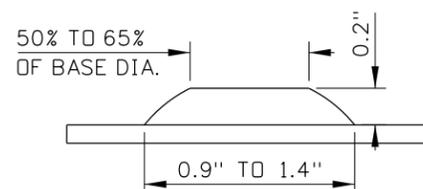
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- ← 5.0% TO 8.3% RUNNING SLOPE, 2.0% OR FLATTER CROSS SLOPE
- ← 10.0% OR FLATTER SLOPE



SECTION E-E

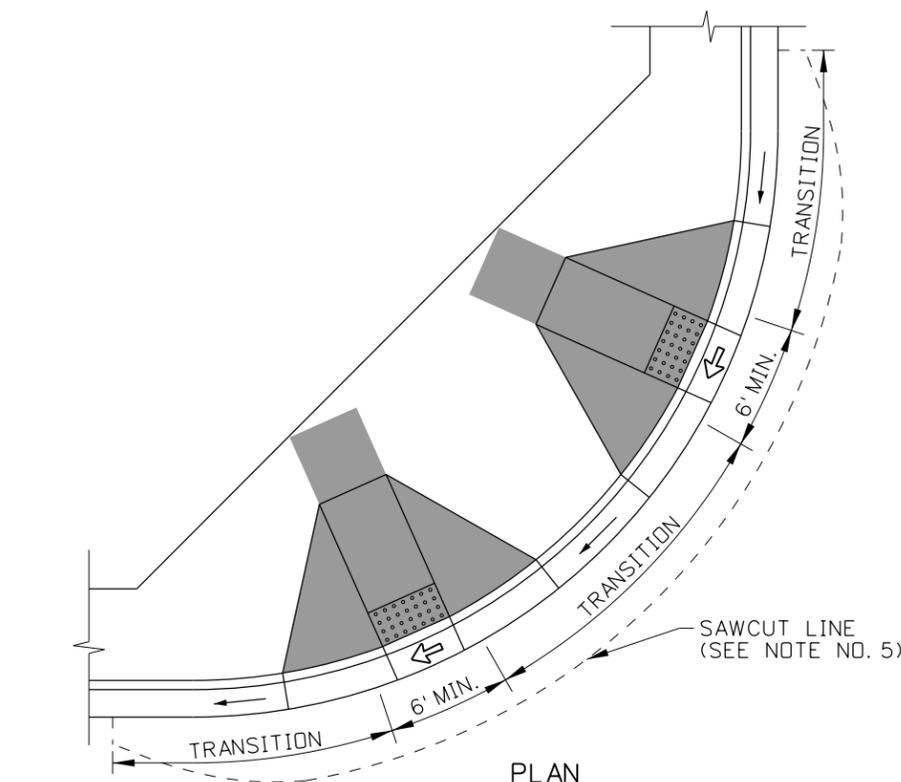


DOME SPACING

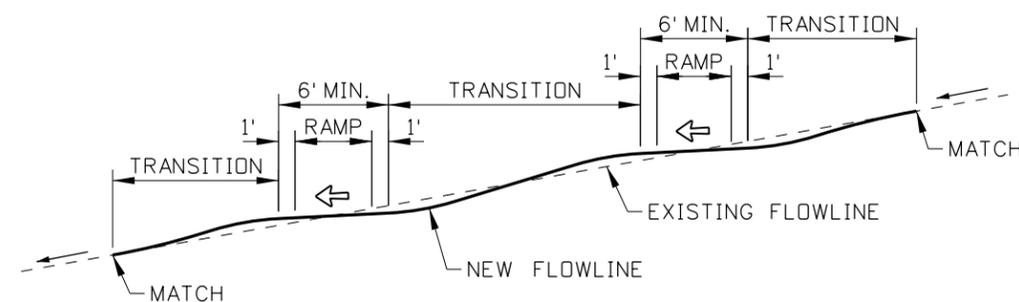


DOME SIZE

DETECTABLE WARNING SURFACE DETAILS
SEE NOTE NO. 11



PLAN



PROFILE

FLOWLINE PROFILE DETAIL
SEE NOTE NO. 5

NOTES

1. EXTENTS OF CURB RAMP PAY ITEMS ARE SHOWN IN GRAY SHADING.
2. CURB RAMP CAN BE PERPENDICULAR, PARALLEL, OR A COMBINATION OF PARALLEL AND PERPENDICULAR RAMP. EXAMPLE APPLICATIONS OF EACH ARE SHOWN ON SHEETS 1, 2, AND 3.
PERPENDICULAR CURB RAMP: PERPENDICULAR CURB RAMP HAS A RAMP THAT CUTS THROUGH THE CURB AT RIGHT ANGLES OR MEETS THE GUTTER GRADE BREAK AT RIGHT ANGLES WHEN THE CURB IS CURVED.
PARALLEL CURB RAMP: PARALLEL CURB RAMP HAS A RAMP OR RAMPS IN-LINE WITH THE DIRECTION OF SIDEWALK TRAVEL AND LOWER THE SIDEWALK TO A LEVEL TURNING SPACE WHERE A TURN IS MADE TO ENTER THE PEDESTRIAN STREET CROSSING.
COMBINATION CURB RAMP: COMBINATION CURB RAMP HAS FEATURES FROM PERPENDICULAR AND PARALLEL CURB RAMP.
3. PROVIDE A TURNING SPACE WITH A 2.0% OR FLATTER SLOPE IN EACH DIRECTION. TURNING SPACES MAY OVERLAP WITH OTHER TURNING SPACES AND CLEAR SPACES.
PERPENDICULAR CURB RAMP: PROVIDE A 4' BY 5' MINIMUM TURNING SPACE WHEN THE TURNING SPACE IS CONSTRAINED AT THE BACK-OF-SIDEWALK.
PARALLEL CURB RAMP: PROVIDE A 4' BY 5' TURNING SPACE WHEN THE TURNING SPACE IS CONSTRAINED ON TWO OR MORE SIDES. ENSURE THAT THE 5' DIMENSION IS PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
4. PROVIDE A CLEAR SPACE BEYOND THE BOTTOM OF THE GRADE BREAK THAT IS WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAFFIC LANE.
5. CROSS SLOPE IS THE SLOPE PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. ENSURE THAT THE CROSS SLOPE OF THE RAMP AND TURNING SPACE DOES NOT EXCEED TWO PERCENT. AT PEDESTRIAN STREET CROSSINGS WITHOUT YIELD OR STOP CONTROL AND AT MIDBLOCK PEDESTRIAN STREET CROSSINGS, THE CROSS SLOPE MAY MATCH THE STREET OR HIGHWAY GRADE. FLATTEN THE GUTTER FLOWLINE THROUGH CURB RAMP TO TWO PERCENT OR FLATTER WHEN NEEDED. WHEN THE PAVEMENT IS SAWCUT TO FLATTEN THE FLOWLINE, VARY THE WIDTH OF THE SAWCUT SO THAT THE PAVEMENT PATCH SMOOTHLY MATCHES THE EXISTING PAVEMENT.
6. PROVIDE FLARED SIDES ON PERPENDICULAR CURB RAMP, OR COMBINATION CURB RAMP WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP. THE FLARED SIDES ARE PART OF THE PEDESTRIAN CIRCULATION PATH, BUT ARE NOT PART OF THE PEDESTRIAN ACCESS ROUTE. THE SLOPE OF THE FLARED SIDES IS MEASURED PARALLEL TO THE CURB LINE. FLARED SIDES ARE NOT NEEDED OR MAY BE STEEPER WHEN THE PEDESTRIAN CIRCULATION PATH DOES NOT CROSS THE CURB RAMP.
7. THE PEDESTRIAN CIRCULATION PATH IS A PREPARED SURFACE PROVIDED FOR PEDESTRIAN TRAVEL IN THE PUBLIC RIGHT-OF-WAY. THE PEDESTRIAN ACCESS ROUTE IS A CONTINUOUS AND UNOBSTRUCTED PATH OF TRAVEL PROVIDED FOR PEDESTRIANS WITH DISABILITIES WITHIN OR COINCIDING WITH A PEDESTRIAN CIRCULATION PATH.
8. ENSURE THAT GRADE BREAKS ARE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN AND ARE FLUSH. DO NOT CREATE GRADE BREAKS ON THE SURFACE OF RAMP RUNS AND TURNING SPACES.
9. ENSURE THAT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE FOOT OF CURB RAMP RUNS DOES NOT EXCEED FIVE PERCENT.
10. WHERE PRACTICAL, PLACE UTILITY COVERS, VAULT FRAMES, AND GRATINGS OUTSIDE RAMP RUNS, TURNING SPACES, OR GUTTER AREAS. LOCATE CATCH BASINS AND INLETS OUTSIDE OF RAMP RUNS.
11. DETECTABLE WARNING SURFACES CONSIST OF TRUNCATED DOMES ALIGNED IN A SQUARE OR RADIAL GRID PATTERN. PROVIDE DETECTABLE WARNING SURFACES THAT CONTRAST VISUALLY WITH ADJACENT GUTTER, HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. ENSURE THAT THE DETECTABLE WARNING SURFACE EXTENDS THE FULL WIDTH OF THE RAMP RUN (EXCLUDING FLARED SIDES) OR TURNING SPACE.
PERPENDICULAR AND COMBINATION CURB RAMP: WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE IN FRONT OF THE BACK OF CURB, PLACE THE DETECTABLE WARNING SURFACE AT THE BACK OF CURB.
WHERE THE ENDS OF THE BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB, PLACE THE DETECTABLE WARNING SURFACE ON THE RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK AND WITHIN 5' OF THE BACK OF CURB.
PARALLEL CURB RAMP: PLACE DETECTABLE WARNING SURFACE ON THE TURNING SPACE AT THE BACK OF CURB.
12. USE A BOND PREVENTATIVE BETWEEN THE CURB RAMP OR SIDEWALK AND CURB WHEN CONSTRUCTED SEPARATELY AND PLACED ADJACENT TO EACH OTHER.
13. ALIGN ALTERNATING CURB AND SIDEWALK JOINTS. CONSTRUCT JOINTS APPROXIMATELY 1/8" WIDE AND 3/4" IN DEPTH.
14. DRAWING NOT TO SCALE.

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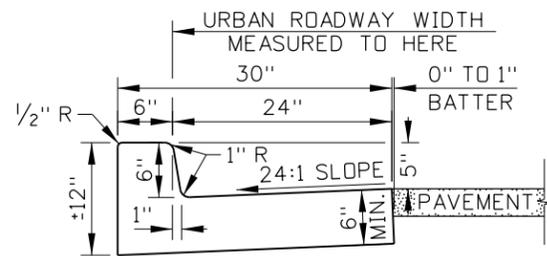
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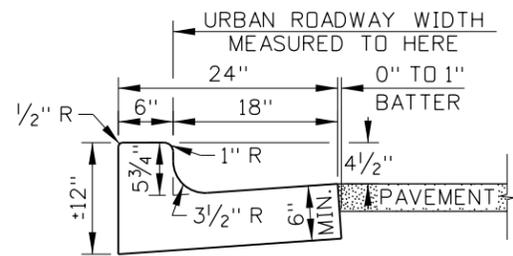
STANDARD DRAWING
CURB RAMPS

English
STANDARD DRAWING NO.
614-3
SHEET 4 OF 4

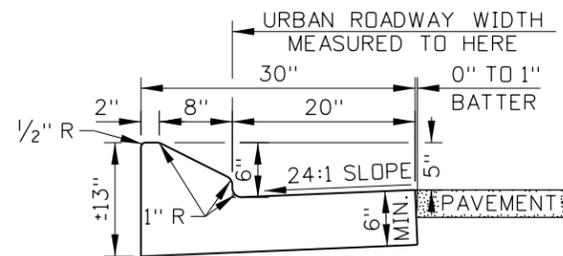
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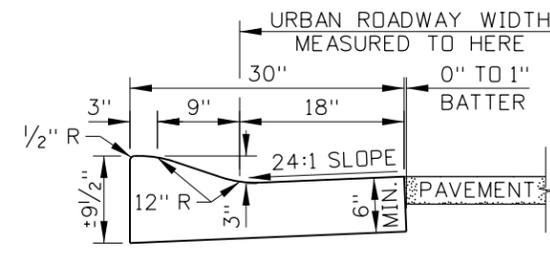
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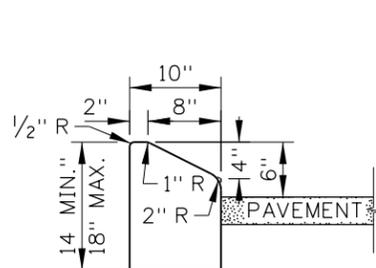
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(SEE NOTE NO. 4)



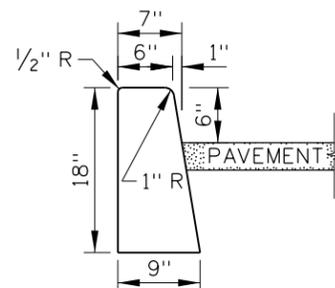
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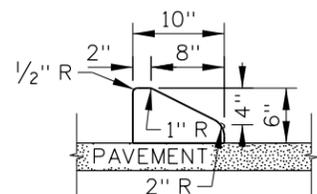
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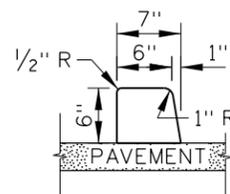
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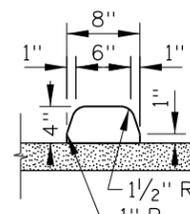
CURB TYPE 2



CURB TYPE 3
(SEE NOTE NO. 3)



CURB TYPE 4
(SEE NOTE NO. 3)



CURB TYPE 5
(SEE NOTE NO. 3)

NOTES

1. TRANSITION BETWEEN DIFFERENT TYPES OVER 10 FEET.
2. PROVIDE 4 INCHES OF AGGREGATE BASE UNDER CURB AND GUTTER, CURB, OR GUTTER UNLESS THE CURB IS PLACED ON PAVEMENT.
3. PORTLAND CEMENT CONCRETE CURB OR TRAFFIC SEPARATOR ON ASPHALT CONCRETE PAVEMENT:

PROVIDE A KEY IN THE PAVEMENT AT THE CENTERLINE OF THE CURB OR TRAFFIC SEPARATOR. SEE THE KEY DETAIL.

CONCRETE CURBS OR TRAFFIC SEPARATORS MAY BE PINNED TO THE PAVEMENT STRUCTURE IN LIEU OF THE KEY. DRILL THE PAVEMENT AND PLACE PINS BEFORE THE CURB OR TRAFFIC SEPARATOR IS CONSTRUCTED. SEE THE PIN DETAIL.

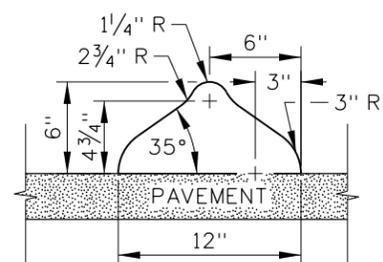
PORTLAND CEMENT CONCRETE CURB OR TRAFFIC SEPARATOR ON PORTLAND CEMENT CONCRETE PAVEMENT:

USE AN EPOXY BONDING AGENT. NO KEY IS NEEDED.

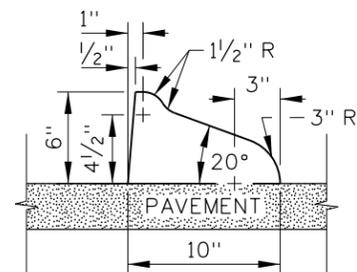
ASPHALT CONCRETE CURB OR TRAFFIC SEPARATOR ON ASPHALT CONCRETE PAVEMENT:

NO KEY IS NEEDED. ENSURE THAT THE CURB IS BONDED TO THE PAVEMENT.

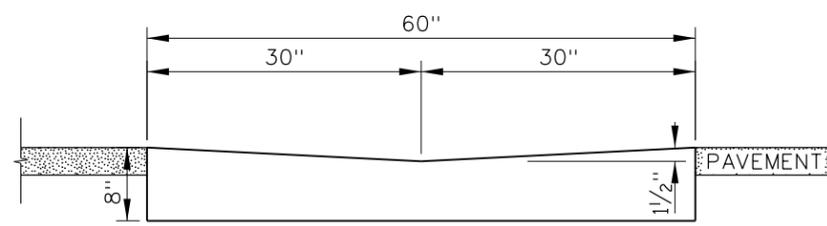
4. ENSURE THAT THE GUTTER SLOPE DOES NOT EXCEED 5 PERCENT AT CURB RAMPS.
5. TAPER THE LAST 6 FEET OF CURB AND GUTTER TYPES 1, 2, 3, AND 4 AND CURB TYPES 1 AND 2 DOWN TO A 1 INCH HEIGHT. TAPER CURB TYPES 3, 4, AND 5 AND TRAFFIC SEPARATORS TYPES 1 AND 2 DOWN TO A 1 INCH HEIGHT AT A 1:1 SLOPE.
6. DRAWING NOT TO SCALE.



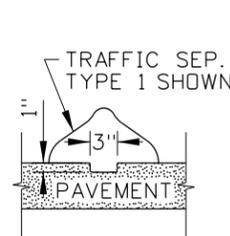
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(SEE NOTE NO. 3)



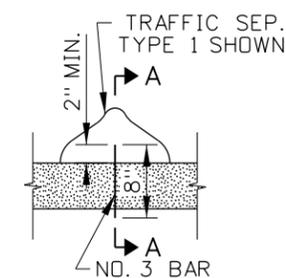
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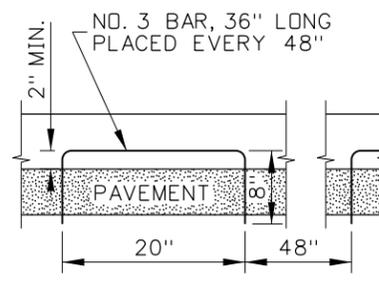
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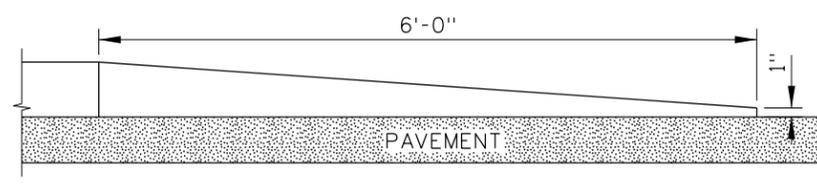
KEY DETAIL
(SEE NOTE NO. 3)



PIN DETAIL
(SEE NOTE NO. 3)

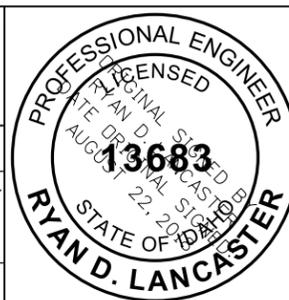


SECTION A-A



CURB TERMINUS DETAIL
(SEE NOTE NO. 5)

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho



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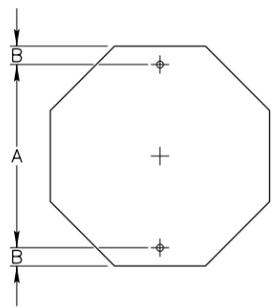
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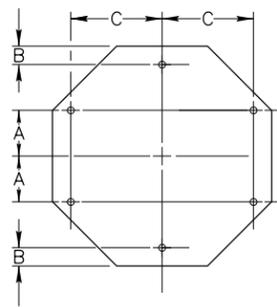
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STANDARD DRAWING
CURB AND GUTTER

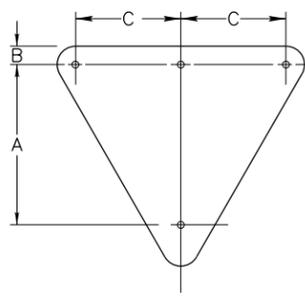
English
STANDARD DRAWING NO. 615-1
SHEET 1 OF 1



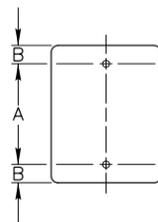
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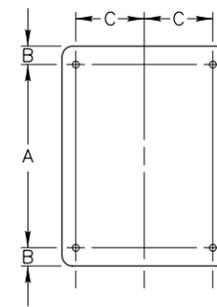
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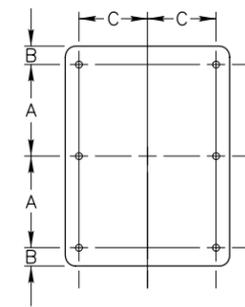
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60"X60"	35"	4"	23"



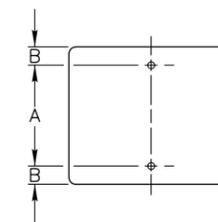
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24"X30"	24"	3"
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30"X36"	30"	3"



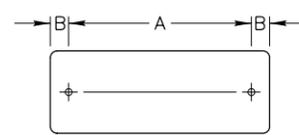
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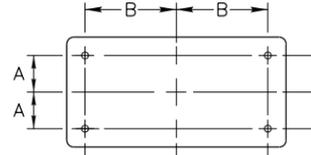
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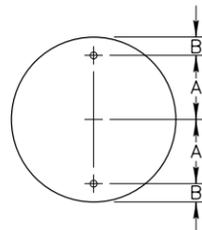
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24"X12"	9"	1 1/2"
24"X18"	15"	1 1/2"
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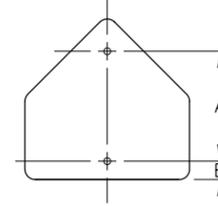
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54"X18"	48"	3"



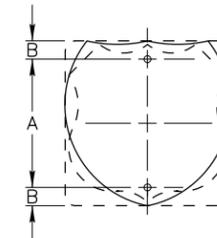
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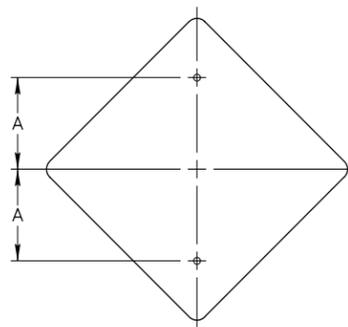
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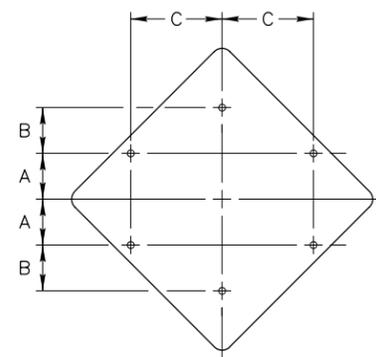
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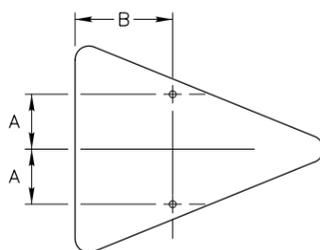
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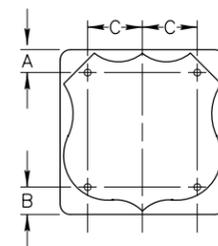
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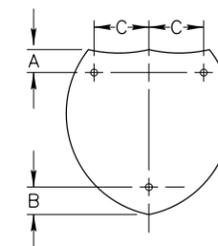
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48"X48"	10"	—	20"



SIGN SIZE	A	B
36"X48"	9"	16"



SIGN SIZE	A	B	C
36"X36"	5"	6"	12"



SIGN SIZE	A	B	C
36"X36"	5"	6"	12"
45"X36"	5"	6"	16"

NOTES:

- ALL MOUNTING HOLES SHALL BE 3/8" DIAMETER.

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

REVISIONS							
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE
1	12-01	NQB					
2	06-07	HEB					
3	07-14	HEB					
4	05-17	HEB					

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
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 DRAWING DATE: DECEMBER, 1994

IDAHO TRANSPORTATION DEPARTMENT



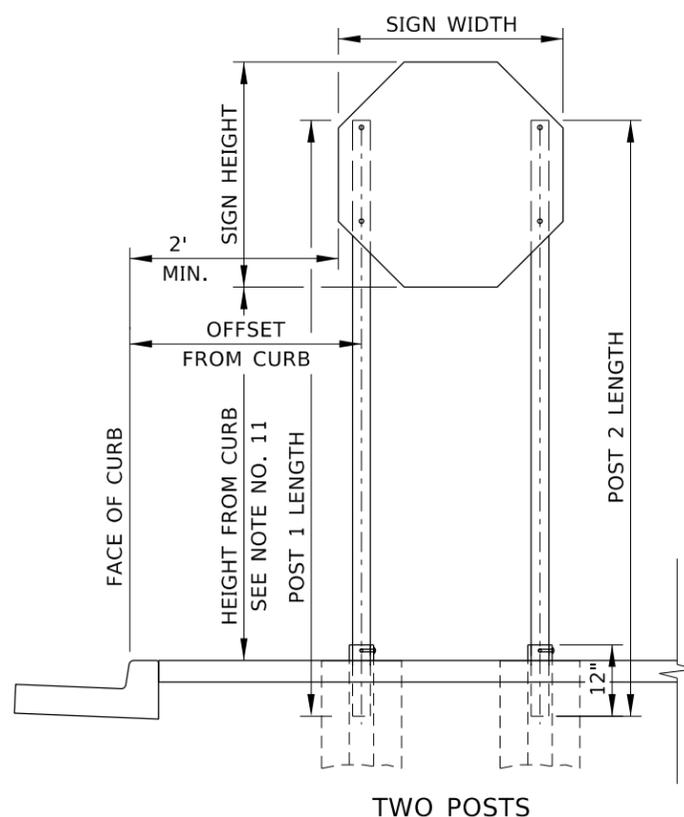
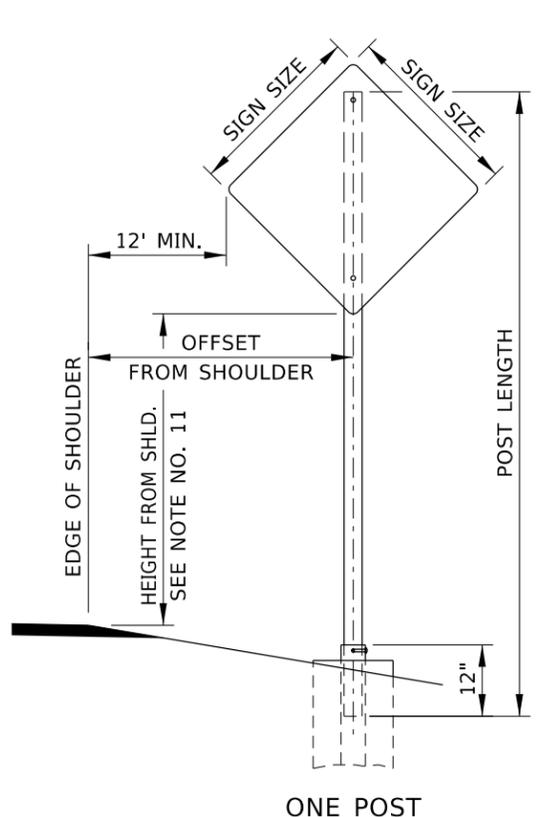
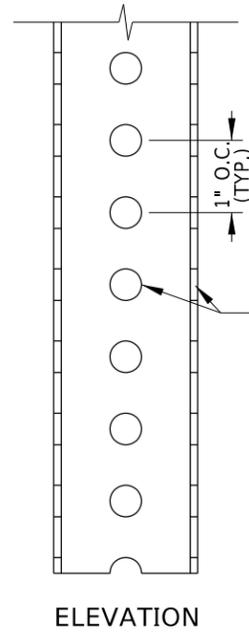
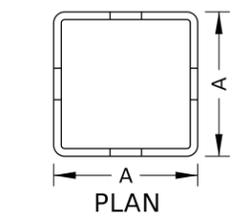
BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

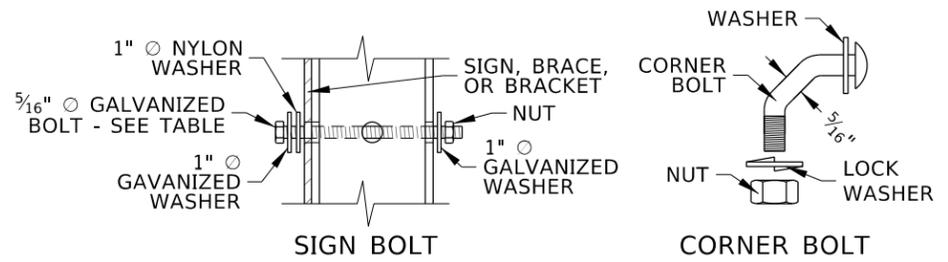
STANDARD DRAWING
PUNCHING SCHEDULE FOR TYPE "B" OR TYPE "E" SIGNS

English
 STANDARD DRAWING NO. **616-1**
 SHEET 1 OF 1

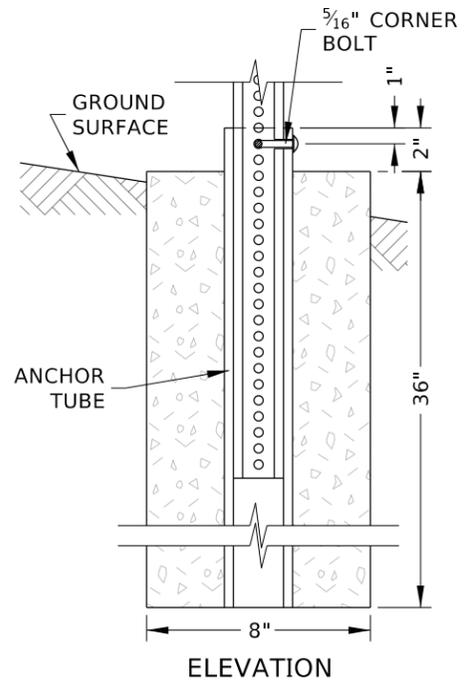
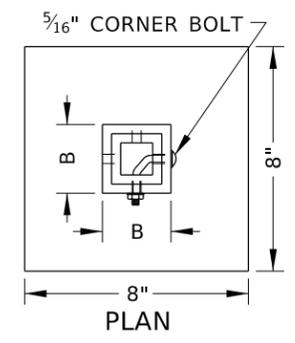
PROFESSIONAL ENGINEER
 LICENSED
 RYAN D. LANCASTER
 STATE OF IDAHO
 13683



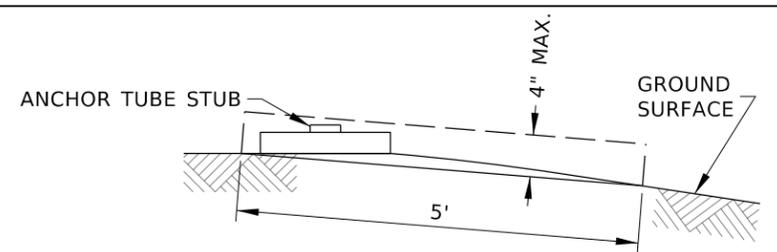
SIGN ASSEMBLY MEASUREMENTS



FASTENER DETAILS
SEE NOTE NO. 10



FOUNDATION
SEE NOTE NOS. 12 & 13



FOUNDATION AND STUB HEIGHT DETAIL
SEE NOTE NO. 15

NOTES

1. USE TYPE E - PERFORATED STEEL TUBE POSTS - WITH TYPE B - SHEET ALUMINUM AND TYPE E - HDO PLYWOOD SIGNS.
2. SEE THE TRAFFIC MANUAL TO CALCULATE SIGN LOAD PER POST.
3. SEE PROJECT SIGN SUMMARY FOR SIGN ASSEMBLY DIMENSIONS.
4. USE ONE OR MORE TYPE E - PERFORATED STEEL TUBE POST. DO NOT MIX E-1 AND E-2 POSTS ON THE SAME SIGN ASSEMBLY.
5. POST 1 IS CLOSEST TO THE HIGHWAY, WHETHER INSTALLED ON THE RIGHT OR LEFT SIDE.
6. A BREAKAWAY DEVICE MUST BE INSTALLED IF THREE POSTS ARE USED. REFER TO THE ITD QUALIFIED PRODUCTS LIST FOR BREAKAWAY DEVICES.
7. TYPE E - PERFORATED STEEL TUBE POSTS - DO NOT NEED TO BE SHIELDED BY GUARDRAIL OR BARRIER. WHEN PERFORATED STEEL POSTS ARE INSTALLED BEHIND GUARDRAIL OR BARRIER, ENSURE THE POSTS ARE OUTSIDE OF THE GUARDRAIL OR BARRIER WORKING WIDTH.
8. SIGNS CAN BE MOUNTED BACK-TO-BACK IF THE SHAPE OF STOP, YIELD, OR WARNING SIGNS ARE NOT SHIELDED.
9. SIGNS ARE INSTALLED WITH OR WITHOUT BRACES DEPENDENT ON SIGN SIZE AND APPLICATION.
10. TYPE B - SHEET ALUMINUM - OR TYPE E - HDO PLYWOOD - SIGNS CAN BE AFFIXED TO THE POST OR THROUGH BRACES OR BRACKETS.
11. INSTALL SIGNS AT THE FOLLOWING HEIGHTS:
 - A. IF INSTALLED IN A RURAL AREA, 5 FEET ABOVE THE PAVEMENT ELEVATION OR 4 FEET IF A SUPPLEMENTARY PLAQUE IS INSTALLED BELOW THE SIGN.
 - B. IF INSTALLED IN THE VICINITY OF A CURB OR IN A BUSINESS, COMMERCIAL, OR RESIDENTIAL AREA WHERE PARKING OR PEDESTRIAN MOVEMENTS ARE LIKELY, 7 FEET ABOVE THE PAVEMENT ELEVATION OR 6 FEET IF A SUPPLEMENTARY PLAQUE IS INSTALLED BELOW THE SIGN. IF INSTALLED LOWER THAN 7 FEET, ENSURE SIGNS DO NOT PROJECT MORE THAN 4 INCHES INTO THE PEDESTRIAN FACILITY.
12. PRECAST FOUNDATION OR CAST FOUNDATION IN PLACE. ENSURE THE BOTTOM OF THE FOUNDATION IS KEPT OPEN TO DRAIN. IF THE ANCHOR TUBE IS PERFORATED, ENSURE THE INSIDE OF THE ANCHOR REMAINS OPEN.
13. IF SOLID BEDROCK IS ENCOUNTERED WITHIN THE FOUNDATION DEPTH, DRILL A 4.5 INCH VERTICAL HOLE AND SOCKET THE ANCHOR TUBE. FILL DRILLED HOLES WITH GROUT, TYPE B, CLASS 1. ENSURE THE INSIDE OF THE ANCHOR TUBE REMAINS OPEN. WHEN INSTALLED IN BEDROCK, ENSURE THE E-1 POST IS EMBEDDED 18 INCHES DEEP AND THE E-2 POST IS EMBEDDED 24 INCHES.
14. WHEN THE SIGN IS INSTALLED ON A BACKSLOPE, ENSURE THE SIGN POST IS AT LEAST 5' HIGHER THAN THE GROUND SURFACE.
15. ENSURE NO PART OF THE FOUNDATION OR SIGN POST STUB PROJECTS MORE THAN 4 IN. ABOVE ANY 5 FT. CHORD ALIGNED PERPENDICULARLY TO THE EDGE OF THE HIGHWAY BETWEEN A POINT ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE OF THE SUPPORT.
16. DRAWING NOT TO SCALE.

POST TYPE	TYPE E PERFORATED STEEL TUBE POST		POST WEIGHT (LB/FT)	MAXIMUM SIGN LOAD (SFxFT)	FOUNDATION		ANCHOR TUBE		POST WEIGHT (LB/FT)	SIGN BOLT LENGTH (IN)
	PERFORATED TUBE POST SIZE A (IN)	GAUGE			SIZE (INxINxIN)	CONCRETE (CY)	B (IN)	GAUGE		
E-1	2	12	2.42	43	8x8x36	0.05	2 1/2 x 2 1/2	7	5.59	2 1/2
E-2	2 1/2	12	4.01	91	8x8x36	0.05	3x3	7	6.87	3

NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	02-92	JEC	6	05-15	HEB			
2	12-94	HEB	7	12-16	HEB			
3	06-99	HEB	8	02-23	RDL			
4	12-01	NQB						
5	12-13	HEB						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
CADD FILE NAME: 616-7_0423.dgn
DRAWING DATE: JULY, 1991

IDAHO TRANSPORTATION DEPARTMENT
YOUR Safety → YOUR Mobility → YOUR Economic Opportunity
BOISE IDAHO

ORIGINAL SIGNED BY: MONICA CRIDER
HIGHWAY DESIGN ENGINEER

STANDARD DRAWING
STEEL SIGN POST AND FOUNDATION
TYPE E - PERFORATED STEEL TUBE POST

ENGLISH
STANDARD DRAWING NO. 616-7
SHEET 1 OF 1

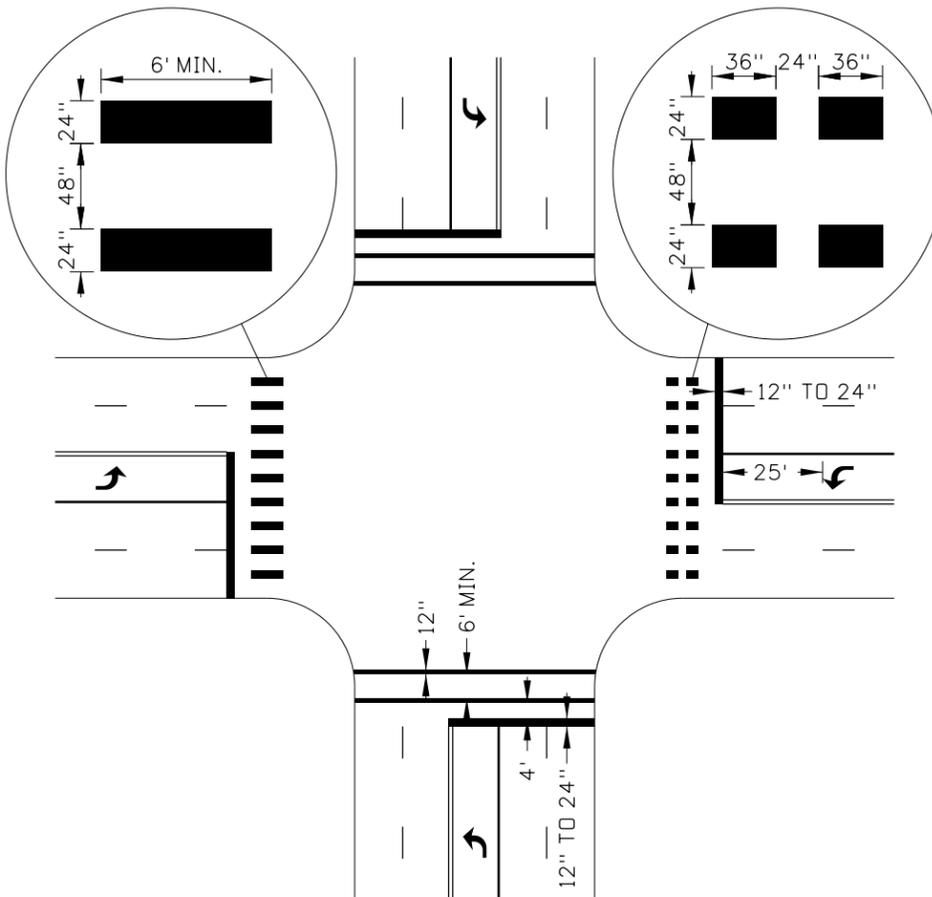
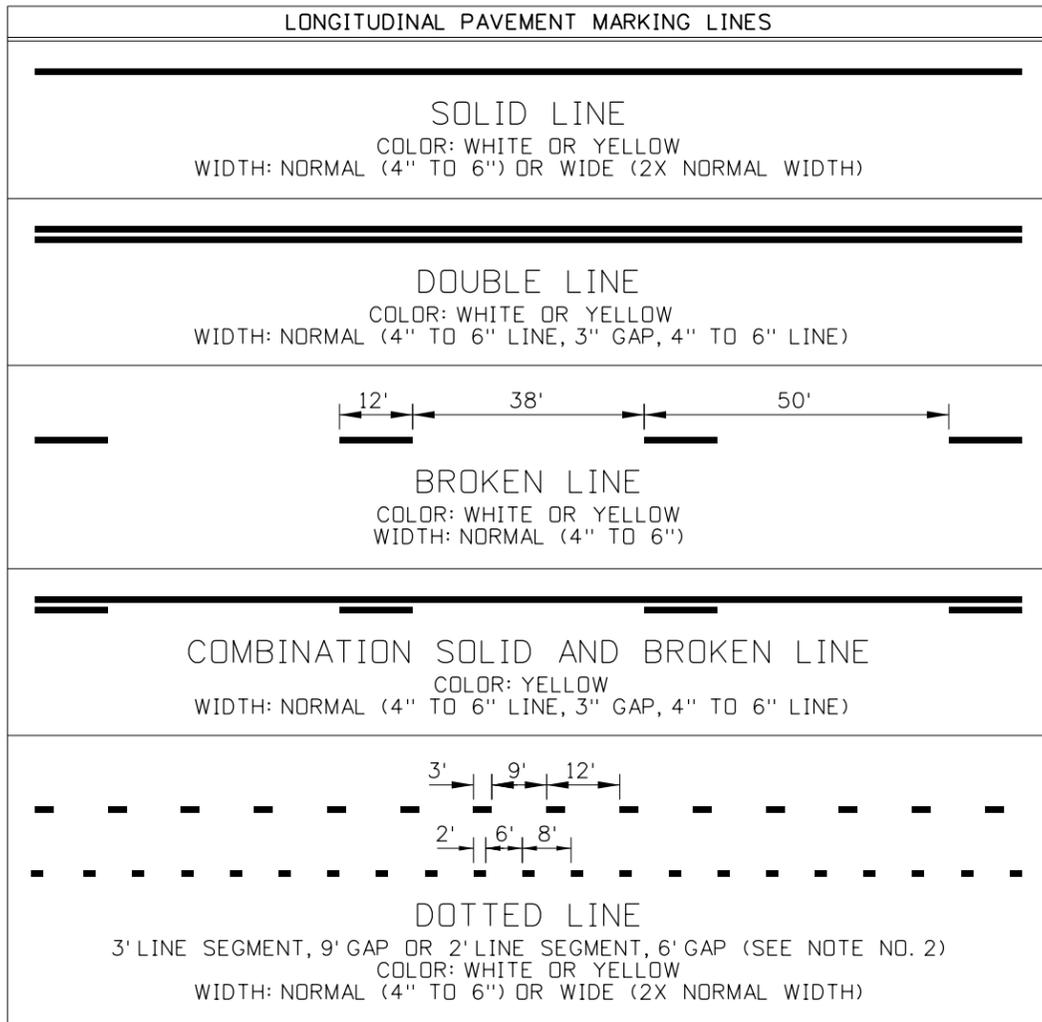
ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER
RYAN D. LANCASTER
MAINT 1, 2014
STATE OF IDAHO

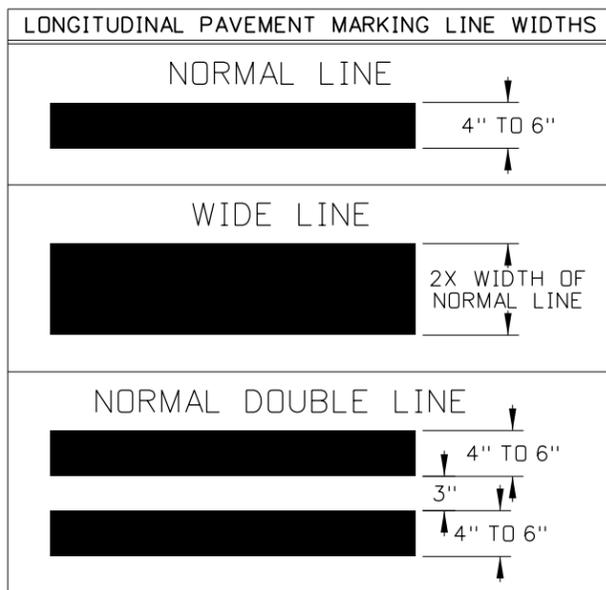
NOTES

1. USE WHITE AND YELLOW PAVEMENT MARKINGS AS FOLLOWS:
 - WHITE:
 - A. THE SEPARATION OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
 - B. THE RIGHT-HAND EDGE OF THE HIGHWAY.
 - YELLOW:
 - A. THE SEPARATION OF TRAFFIC TRAVELING IN OPPOSITE DIRECTIONS.
 - B. THE LEFT-HAND EDGE DIVIDED HIGHWAYS, ONE-WAY STREETS, OR RAMP.
 - C. TWO-WAY LEFT-TURN LANES.
2. USE LONGITUDINAL PAVEMENT MARKINGS AS FOLLOWS:
 - A. USE SOLID LINES TO INDICATE THE LEFT OR RIGHT EDGE OF TRAVEL WAY OR TO DISCOURAGE LANE CHANGING.
 - B. USE DOUBLE LINES TO PROHIBIT PASSING OR LANE CHANGING.
 - C. USE BROKEN LINES TO INDICATE PASSING OR LANE CHANGING ARE PERMITTED. USE THE 12' LINE SEGMENT, 38' GAP PATTERN FOR ALL SPEEDS.
 - D. USE COMBINATION SOLID AND BROKEN LINES TO PROHIBIT PASSING IN ONE DIRECTION WHILE PERMITTING PASSING IN THE OPPOSITE DIRECTION OR TO INDICATE A TWO-WAY LEFT-TURN LANE.
 - E. USE DOTTED LINES AS FOLLOWS:
 - 3' LINE SEGMENT, 9' GAP:
 - I. TO SEPARATE A THROUGH LANE AND A LANE THAT BECOMES A MANDATORY EXIT OR TURN LANE (DROPPED LANE).
 - II. TO SEPARATE THROUGH LANES AND TURN LANES OR RAMPS.
 - III. TO SEPARATE A THROUGH LANE AND AN AUXILIARY LANE 2 MILES OR LESS IN LENGTH BETWEEN FREEWAY ENTRANCE RAMP AND EXIT RAMPS OR 1 MILE OR LESS IN LENGTH BETWEEN INTERSECTIONS.
 - 2' LINE SEGMENT, 6' GAP:
 - I. AS A LANE LINE EXTENSION THROUGH AN INTERSECTION.
3. USE 12' VEHICULAR TRAVEL LANES UNLESS OTHERWISE INDICATED. MEASURE LANE WIDTHS FROM THE CENTER OF LINE TO THE CENTER OF LINE.
4. THE PAVEMENT MARKING APPLICATION EXAMPLES PRESENTED SHOW COMMON APPLICATION. MODIFY AS NEEDED TO ACCOMMODATE OTHER SITUATIONS.
5. METHODS FOR DETERMINING TURN-LANE LENGTH ARE DESCRIBED IN THE ITD TRAFFIC MANUAL.
6. USE 15W FOR POSTED SPEED LIMITS OF 45 MPH OR GREATER. USE 8W FOR POSTED SPEED LIMITS OF 40 MPH OR LESS. W IS THE OFFSET WIDTH IN FEET.
7. USE DISTANCE L WHEN PRACTICAL. USE THE FOLLOWING EQUATION TO DETERMINE L:

$$L = WS$$
 WHERE:
 - W = OFFSET WIDTH IN FEET
 - S = POSTED SPEED LIMIT
8. USE LANE-USE ARROWS AND WORD PAVEMENT MARKINGS AS SHOWN. SOME MARKINGS ARE OPTIONAL.
 - A. USE TWO OR MORE LANE-USE ARROWS UNLESS THE TURN-LANE LENGTH IS LESS THAN 75 FEET. IF SHORTER THAN 75 FEET, THE DOWNSTREAM ARROW CAN BE OMITTED.
 - B. USE TWO-WAY LEFT-TURN ARROW MARKINGS NEAR THE BEGINNING OF A TWO-WAY LEFT-TURN LANE AND EVERY 1/2 MILE THEREAFTER.
9. BREAK EDGE AND LANE LINES AT INTERSECTIONS WITH MINOR ROADS. CONTINUE EDGE AND LANE LINES THROUGH DRIVEWAY APPROACHES.
10. ON TWO-LANE HIGHWAYS, PAINT THE CENTERLINE IN ONE DIRECTION IN ASCENDING STATION/MILEPOST DIRECTION AS SHOWN.
11. DRAWINGS NOT TO SCALE.



EXAMPLE STOP LINE AND CROSSWALK DETAIL



REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY

CADD FILE NAME: 630-1_0420.dgn

DRAWING DATE: DECEMBER, 2016

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING

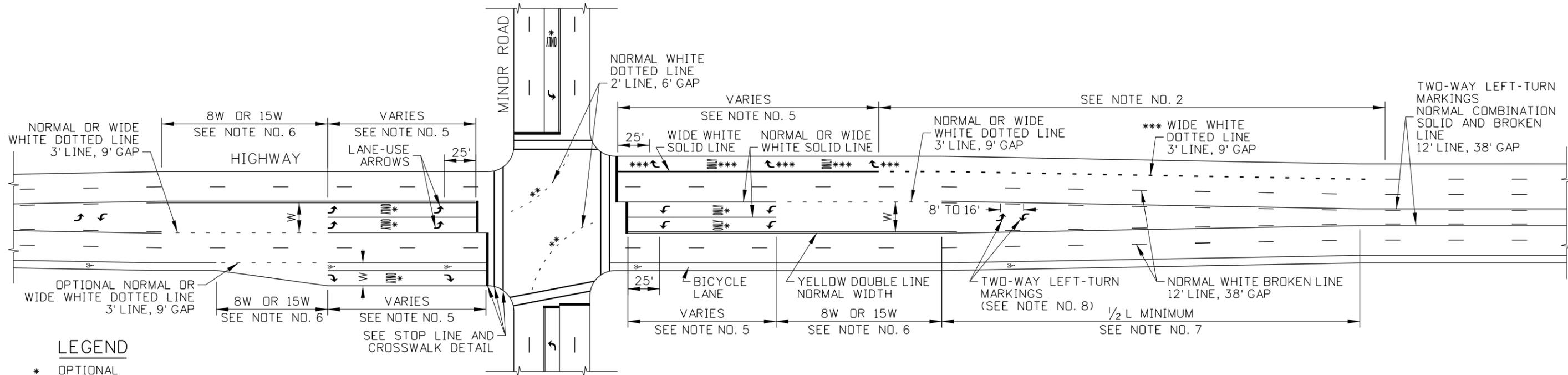
PAVEMENT MARKINGS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO. **630-1**

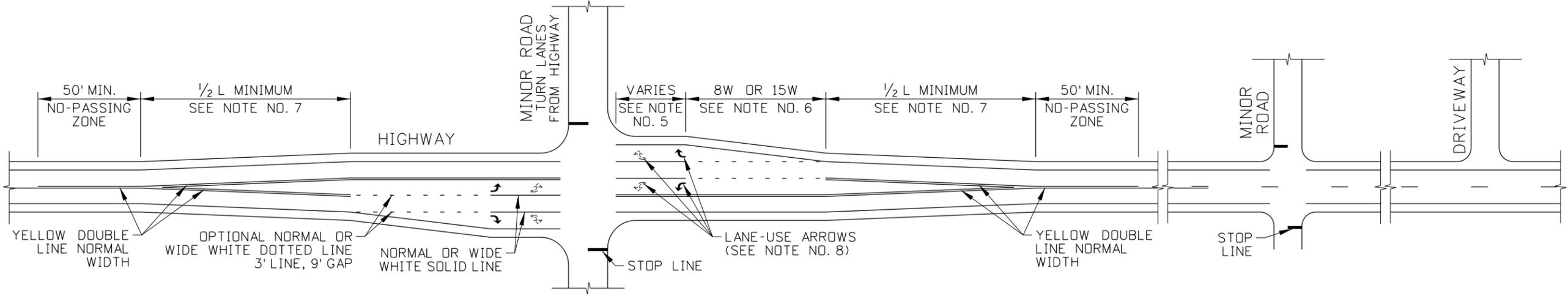
SHEET 1 OF 4



EXAMPLE URBAN HIGHWAY PAVEMENT MARKINGS

LEGEND

- * OPTIONAL
- ** DOTTED LANE LINE EXTENSION (2' SEGMENT, 6' GAP)
- *** REQUIRED WHERE THROUGH LANE BECOMES MANDATORY TURN LANE



EXAMPLE RURAL HIGHWAY PAVEMENT MARKINGS

SEE NOTE NO. 9

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 630-1_0420.dgn
 DRAWING DATE: DECEMBER, 2016

IDAHO TRANSPORTATION DEPARTMENT



BOISE IDAHO

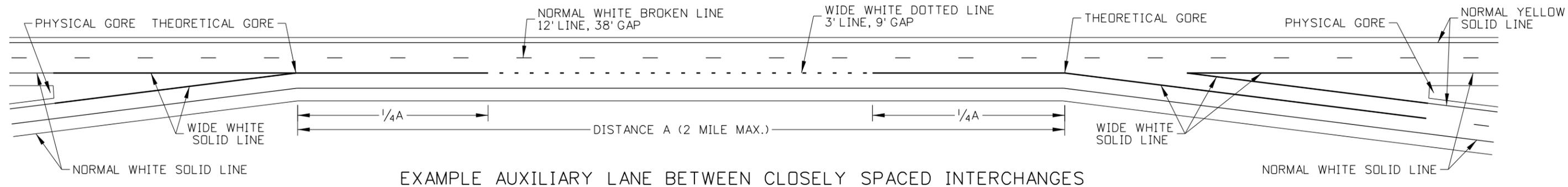
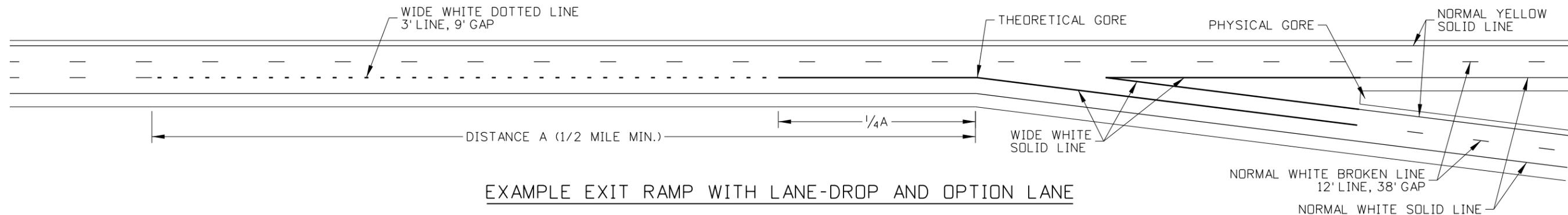
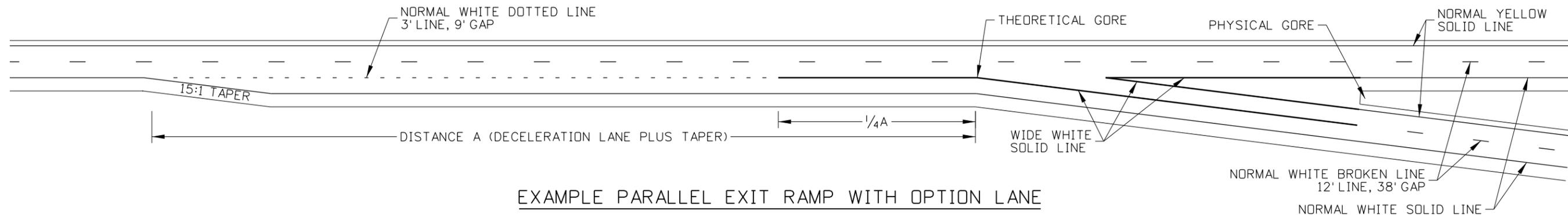
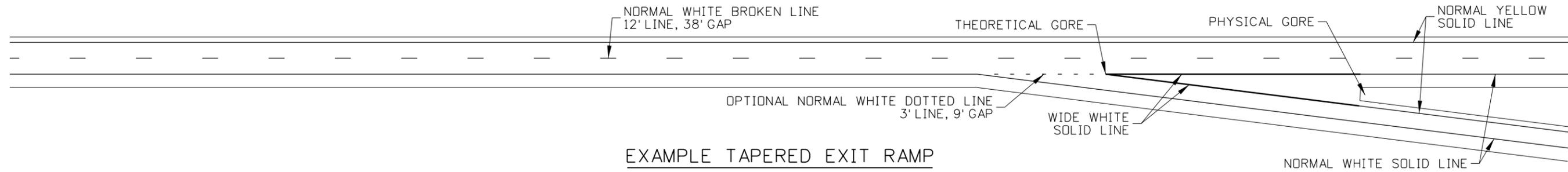
ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
PAVEMENT MARKINGS

English
 STANDARD DRAWING NO.
630-1
 SHEET 2 OF 4

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

PROFESSIONAL ENGINEER
 LICENSED
 13683
 RYAN D. LANCASTER
 STATE OF IDAHO
 MARCH 17, 2016



REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	03-20	RDL						

SCALES SHOWN
ARE FOR 11" X 17"
PRINTS ONLY

CADD FILE NAME:
630-1_0420.dgn

DRAWING DATE:
DECEMBER, 2016

**IDAHO
TRANSPORTATION
DEPARTMENT**



BOISE IDAHO

ORIGINAL SIGNED BY: KEVIN SABLAN
DESIGN/TRAFFIC SERVICES ENGINEER

STANDARD DRAWING
PAVEMENT MARKINGS

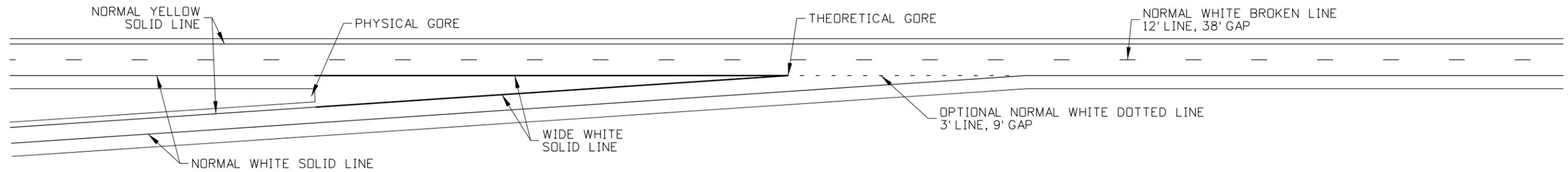
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Headquarters
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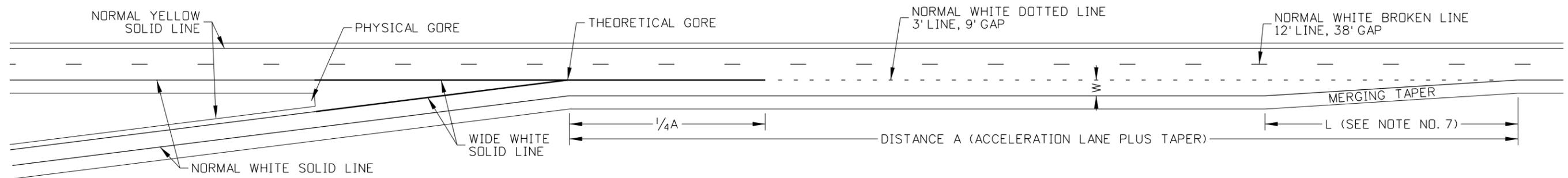
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630-1

SHEET 3 OF 4

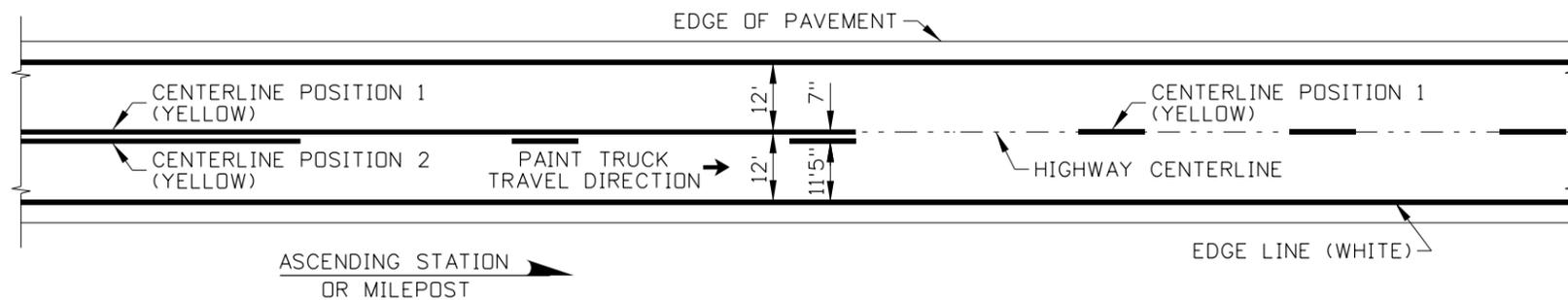
PROFESSIONAL ENGINEER
LICENSED
RYAN D. LANCASTER
13683
STATE OF IDAHO
MARCH 17, 2015



EXAMPLE TAPERED ENTRANCE RAMP

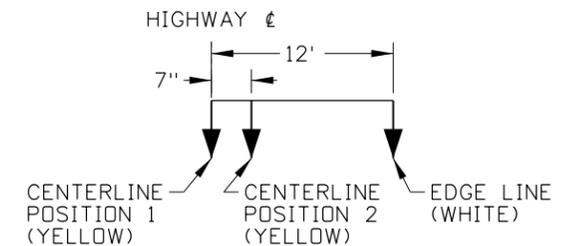


EXAMPLE PARALLEL ENTRANCE RAMP



PAVEMENT MARKINGS ON TWO-WAY HIGHWAYS

SEE NOTE NO. 10 AND PAINT TRUCK SETUP DETAIL



PAINT TRUCK SETUP DETAIL

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	03-20	RDL						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: 630-1_0420.dgn
 DRAWING DATE: DECEMBER, 2016

IDAHO TRANSPORTATION DEPARTMENT



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ORIGINAL SIGNED BY: KEVIN SABLAN
 DESIGN/TRAFFIC SERVICES ENGINEER

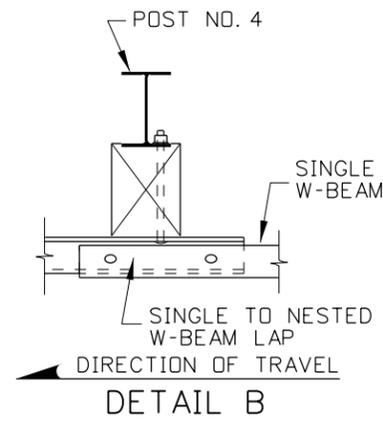
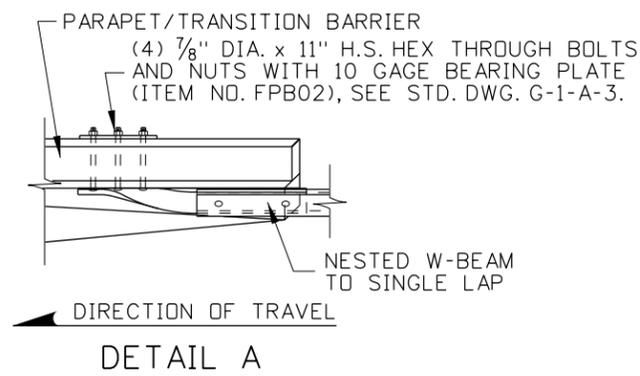
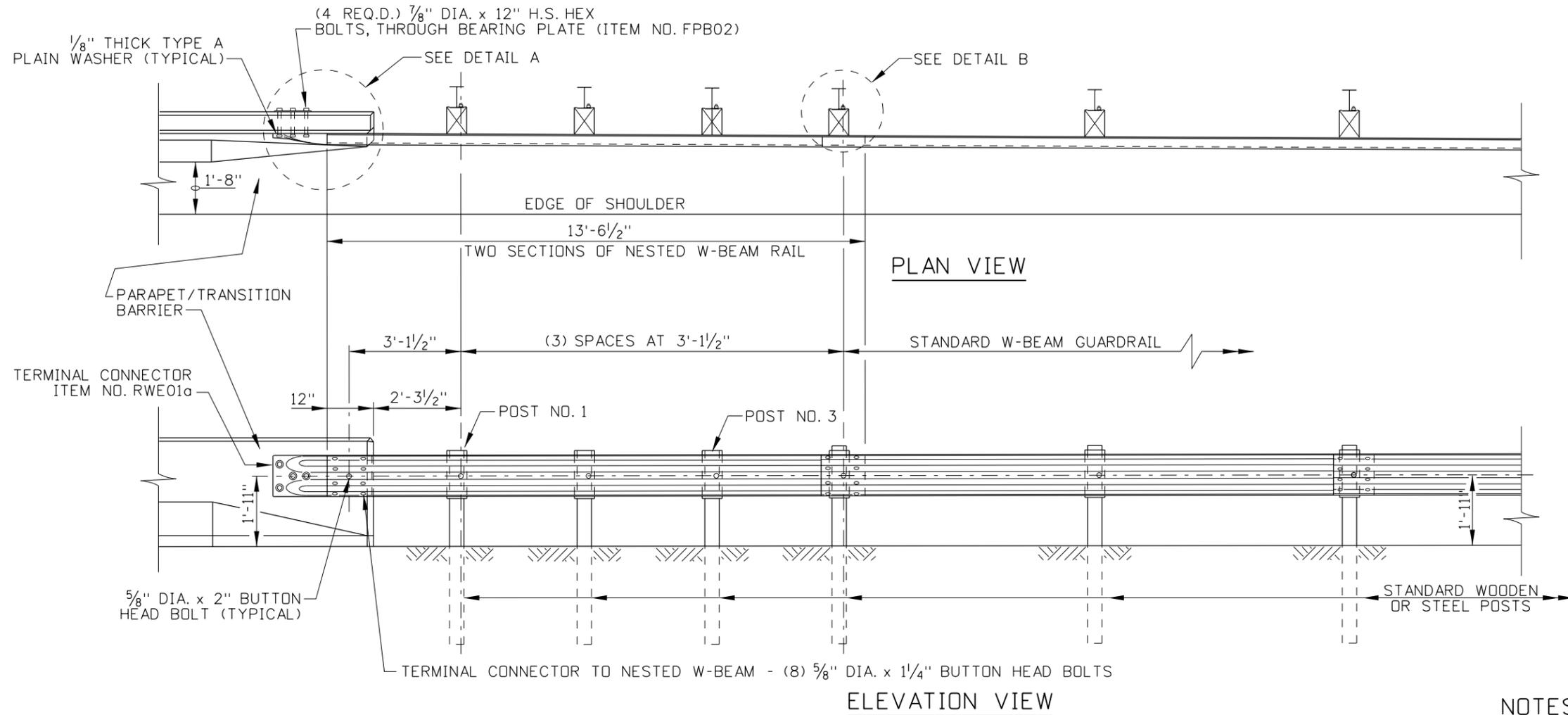
STANDARD DRAWING
PAVEMENT MARKINGS

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

English

STANDARD DRAWING NO. 630-1

SHEET 4 OF 4



NOTES

1. THE TYPE 12 TERMINAL MAY BE INSTALLED AS AN APPROACH OR END TERMINAL ON ROADWAYS WITH A MAXIMUM POSTED SPEED OF 45 MPH OR LESS.
2. THIS DRAWING REQUIRES STANDARD DRAWINGS G-1-A-1 THROUGH G-1-A-4 AND IS SUBJECT TO THE W-BEAM GUARDRAIL INSTALLATION REQUIREMENTS AND HARDWARE/ACCESSORY SPECIFICATIONS.
3. ALL GUARDRAIL INCLUDING THE TERMINAL CONNECTOR SHALL BE LAPPED IN THE DIRECTION OF NEAREST TRAFFIC LANE TO PREVENT SNAGGING, SEE DETAILS A & B.
4. THE TERMINAL TYPE 12 AS SHOWN MEETS THE REQUIREMENTS SET FORTH IN NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 FOR TL-2, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE OF HIGHWAY FEATURES".
5. NOT TO SCALE.

REVISIONS								
NO.	DATE	BY	NO.	DATE	BY	NO.	DATE	BY
1	05-06	MSM						
2	09-10	PLR						

SCALES SHOWN ARE FOR 11" X 17" PRINTS ONLY
 CADD FILE NAME: g1n_1010.dgn
 DRAWING DATE: NOVEMBER, 2005

IDAHO TRANSPORTATION DEPARTMENT

BOISE IDAHO

ORIGINAL SIGNED BY: LOREN THOMAS
 ASSISTANT CHIEF ENGINEER (DEVELOPMENT)

ORIGINAL SIGNED BY: TOM COLE
 CHIEF ENGINEER

STANDARD DRAWING
**GUARDRAIL TERMINAL
 TYPE 12**

REQUIRES STD. DWGS. G-1-A-1 THRU G-1-A-4

English
 STANDARD DRAWING NO.
G-1-N
 SHEET 1 OF 1

ORIGINAL STORED AT: ITD, Headquarters 3311 West State Boise, Idaho

ORIGINAL SIGNED BY:
 DATE: TED E. MASDON
 OCTOBER 26, 2010