

# STATE OF ALASKA DEPARTMENT OF TRANSPORTATION

PUBLIC FACILITIES

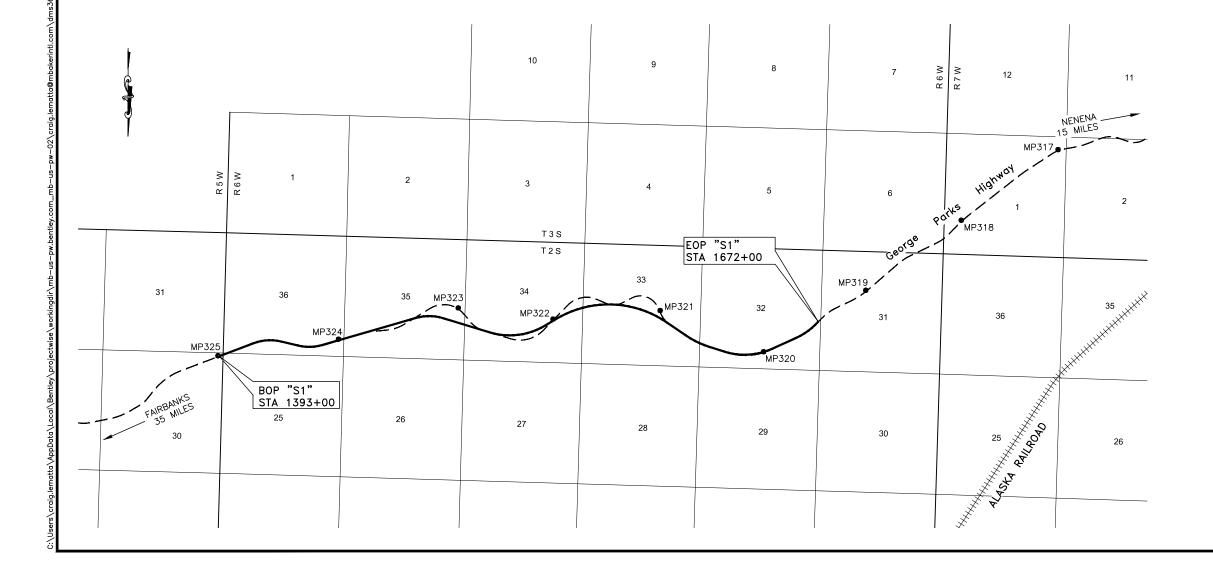


PROPOSED HIGHWAY PROJECT

PARKS HIGHWAY MP 319-325 RECONSTRUCTION

0A45028/Z606570000 GRADING, DRAINAGE, PAVING

REVIEW PS&E



| STATE   | PROJECT DES | SIGNATION  | YEAR  | SHEET<br>NO. | TOTAL<br>SHEETS |
|---------|-------------|------------|-------|--------------|-----------------|
| ALASKA  | 0A45028/Z60 | 2021       | A1    | 59           |                 |
| CDS ROL | JTE: 170000 | MILEPOINT: | 278.3 | 49 TO 2      | 289.022         |

| 11        | NDEX OF SHEETS                  |
|-----------|---------------------------------|
| SHEET NO. | DESCRIPTION                     |
| A1        | TITLE SHEET                     |
| A2        | LEGEND                          |
| A3        | GENERAL NOTES                   |
| A4        | KEY PLAN                        |
| A5        | PROJECT CONTROL                 |
| B1-B2     | TYPICAL SECTIONS                |
| C1        | ESTIMATE OF QUANTITIES          |
| D1        | SUMMARIES                       |
| E1-E4     | DETAILS                         |
| F1-F14    | PLAN & PROFILE                  |
| G1-G6     | APPROACHES                      |
| H1-H8     | SIGNING & STRIPING              |
| Q1-Q9     | EROSION & SEDIMENT CONTROL PLAN |
| T1-T9     | TRAFFIC CONTROL PLAN            |

THE FOLLOWING STANDARD PLANS APPLY TO THIS PROJECT: C-04.12, C-05.20 D-01.20, D-04.22 G-00.05, G-05.115, G-10.20, G-20.12, G-47.00

I-81.00

M-20.15, M-23.13 S-00.12, S-01.02, S-05.02, S-30.05, S-31.02, S-32.02 T-20.04, T-21.04

| DESIGN DESIGNA           | TIONS     |
|--------------------------|-----------|
| ADT (2016)               | 1800      |
| ADT (2040)               | 2430      |
| DHV (%)                  | 14.5%     |
| PERCENT TRUCKS (T)       | 17%       |
| DIRECTIONAL SPLIT (D)    | 35/65     |
| DESIGN SPEED (V)         | 70 MPH    |
| DESIGN ESAL'S (15 YEARS) | 1,530,697 |

| PROJECT           | SUMMARY  |
|-------------------|----------|
| WIDTH OF PAVEMENT | 40 FT    |
| LENGTH OF GRADING | 27900 FT |
| LENGTH OF PAVING  | 27900 FT |
| LENGTH OF PROJECT | 27900 FT |

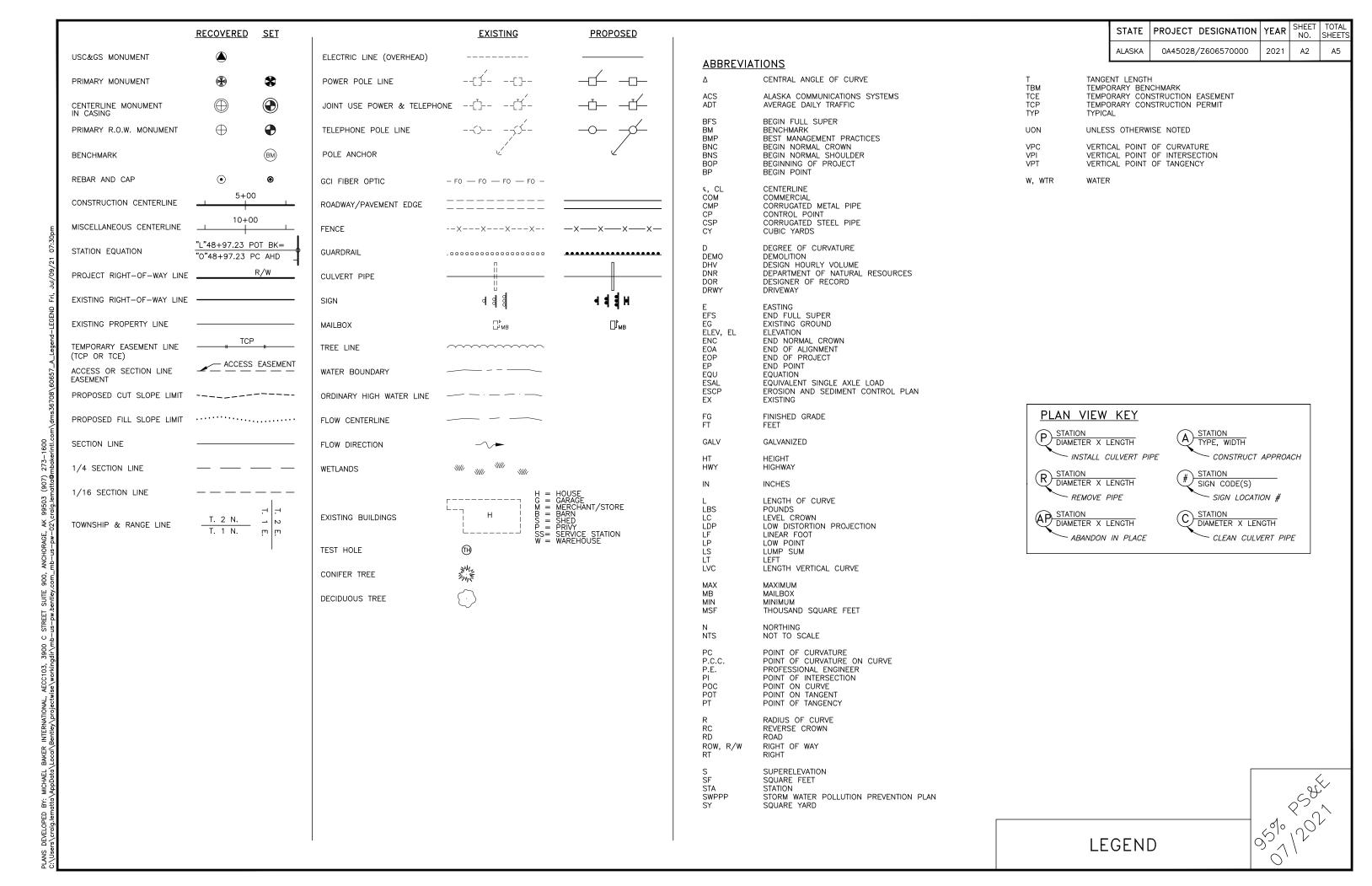
JENNIFER WRIGHT, P.E., PROJECT MANAGER

# STATE OF ALASKA DEPARTMENT OF TRANSPORTATION PUBLIC FACILITIES APPROVED BY: Sarah E. Schacher, P.E.

Preconstruction Engineer, Northern Region ACCEPTED FOR CONSTRUCTION:

DATE \_\_

Ryan F. Anderson, P.E. Regional Director, Northern Region



| STATE  | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|--------|---------------------|------|--------------|-----------------|
| ALASKA | 0A45028/Z606570000  | 2021 | A3           | A5              |

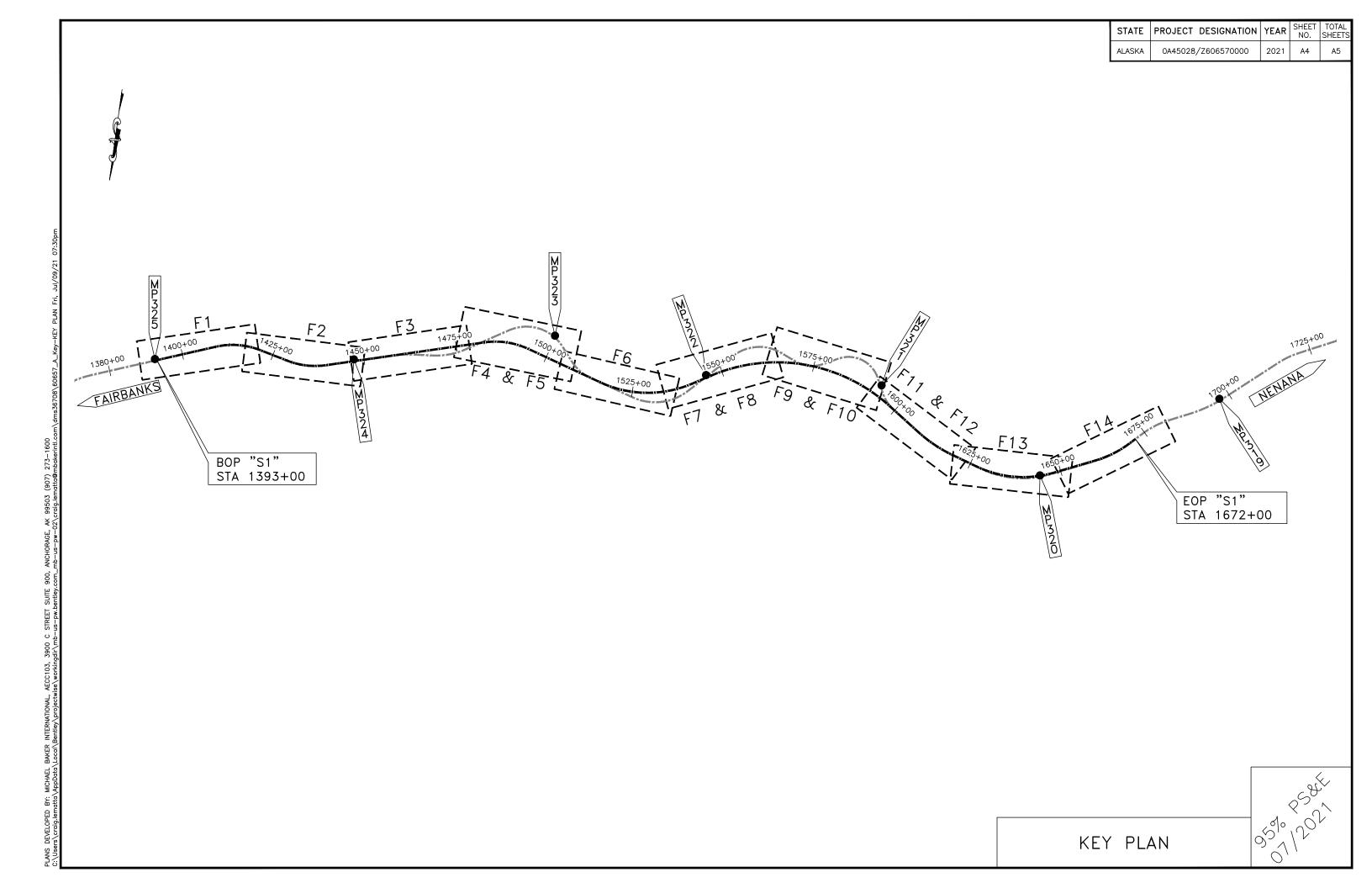
#### **GENERAL NOTES:**

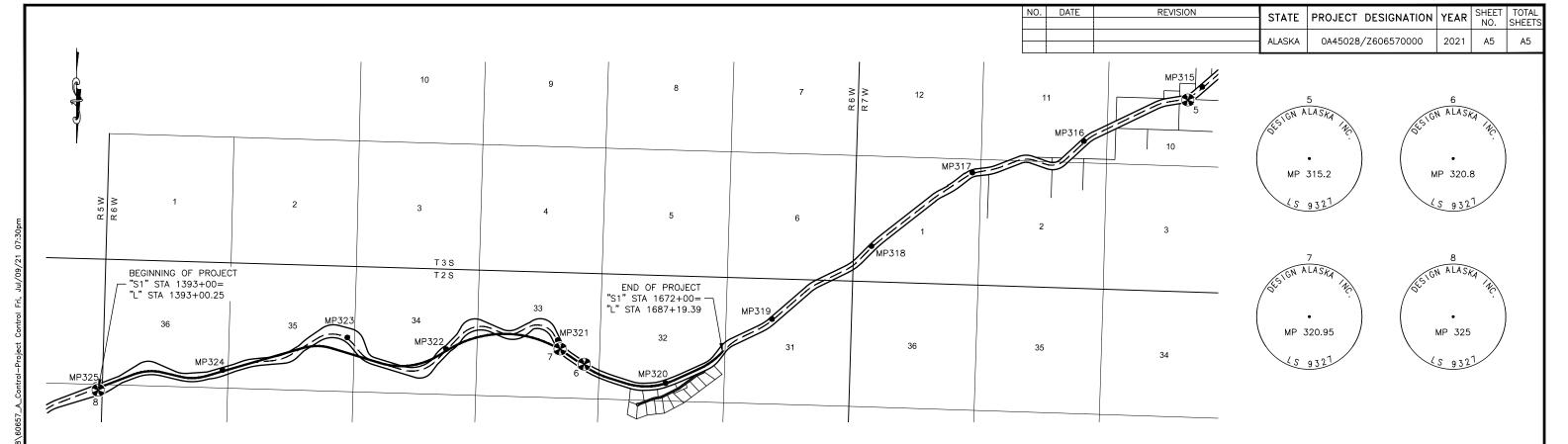
- 1. PERFORM ALL WORK WITHIN THE ESTABLISHED RIGHT-OF-WAY AND TEMPORARY CONSTRUCTION PERMIT AND TEMPORARY CONSTRUCTION EASEMENT AREAS.
- 2. PRESERVE EXISTING PRIMARY AND SECONDARY MONUMENTS TO THE EXTENT PRACTICABLE. REPLACE MONUMENTS DISTURBED BY CONSTRUCTION ACTIVITIES AS FOLLOWS: REPLACE DESTROYED MONUMENTS WITH 2 REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION FOOTPRINT. THIS WORK WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT IS SUBSIDIARY TO PAY ITEM 642.0001.0000.
- 3. FUEL STORAGE WILL NOT BE ALLOWED WITHIN 100-FT OF WATER BODIES AND MUST HAVE SECONDARY CONTAINMENT.

# **UTILITY NOTES:**

- 1. LOCATE AND PROTECT ALL UTILITIES PRIOR TO CONSTRUCTION. ALL UTILITIES WITHIN THE PROJECT SHALL REMAIN IN PLACE AND IN SERVICE DURING CONSTRUCTION. THE PRESENCE AND LOCATION OF UTILITIES SHOWN ARE BASED OFF OF LIMITED SURVEY, UTILITY PERMITS & SYSTEM MAPS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE PRESENCE AND LOCATION OF UTILITIES IN THE FIELD PRIOR TO PERFORMING ANY EARTH DISTURBING ACTIVITIES. CALL THE DIGLINE AT 1-800-478-3121 OR 811 FOR LOCATES, OR THE UTILITY OWNER DIRECTLY.
- 2. PROTECT OR REMOVE AND REPLACE EXISTING UTILITY MARKER POSTS. THIS WORK IS SUBSIDIARY TO OTHER PAY ITEMS.

51. 1202





1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH: 2010.0000) OPUS AVERAGED POSITION OF SURVEY CONTROL MONUMENT #5 "MP 315.2".

NAD 83 LATITUDE AND LONGITUDE LATITUDE 64°40'06.914700" N, LONGITUDE 148°56'08.109993" W

N: 1188781.772 METERS, E: 550828.624 METERS

PROJECT (GROUND) COORDINATES (US SURVEY FEET)

N: 138603.31 FEET, E: 486308.38 FEET

THE BASIS OF ELEVATIONS IS THE OPUS AVERAGED GEOID 12B (NAVD88) ELEVATION OF 412.16 FEET AT SURVEY CONTROL MONUMENT #5 "MP

PROJECT IS LOCATED ENTIRELY WITHIN THE FAIRBANKS, ALASKA LOW DISTORTION PROJECTION (LDP), A LOCAL, LOW DISTORTION GRID COORDINATE SYSTEM, EXPRESSED IN US SURVEY FEET, DEVELOPED BY THE ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES. FAIRBANKS LDP

PROJECTION TYPE: LAMBERT CONFORMAL CONIC, 1-PARALLEL STANDARD PARALLEL: 64°51'00.0"N (64.85)

LATITUDE OF GRID ORIGIN: 64'51'00.0"N (64.85)
CENTRAL MERIDIAN (GRID ORIGIN): 146'56'00.0"W (-146.93333333333)
FALSE NORTHING: 200000.0 FEET

FALSE EASTING: 800000.0 FEET

GRID SCALE FACTOR: 1.00003 (EXACT)

LINEAR UNIT: SURVEY FEET

DATUM: NAD 1983-2011 ELLIPSOID: GRS 1980

SEMI-MAJOR AXIS (M): 6378137.0

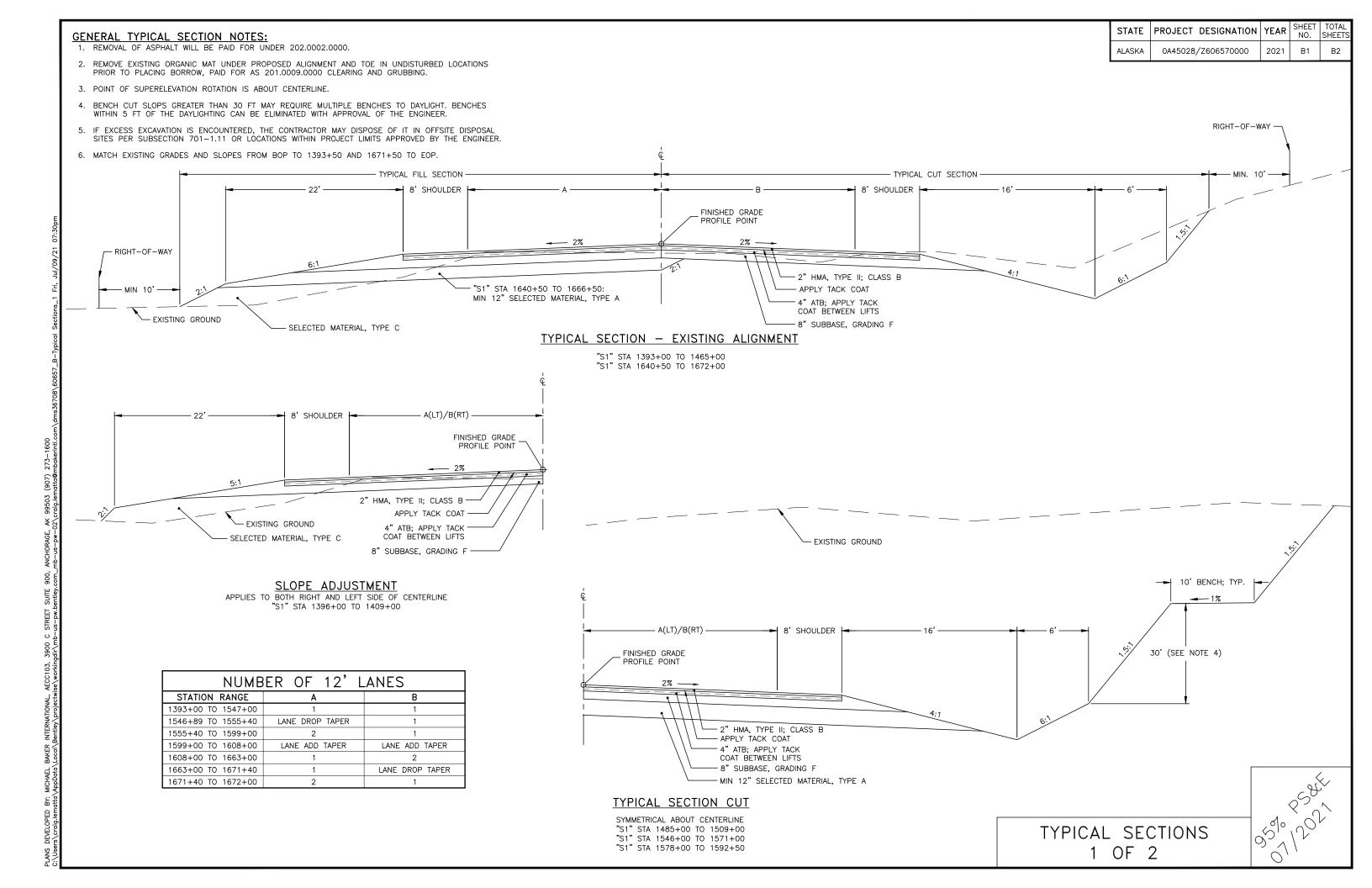
INVERSE FLATTENING: 298.257222101

- DISTANCES ARE IN FEET ALONG THE GROUND.
- THE BASIS OF COORDINATES AND ELEVATIONS WERE DERIVED FROM STATIC GPS OBSERVATIONS CONDUCTED BY DESIGN ALASKA, INC. IN
- THE BASIS OF STATIONING FOR THIS PROJECT IS THE CALCULATED PT AT RECOVERED CONCRETE RIGHT OF WAY MONUMENTS AT STATION "L" 1375+23.83 PT FROM STATE OF ALASKA DEPARTMENT OF HIGHWAYS RIGHT OF WAY MAP NO. F-037-1(13) TITLED "FROM 25 MI. S.W. OF ESTER SOUTHWEST" APPROVED AUGUST 6, 1965.
- 6. CENTERLINE STATIONING AND ALIGNMENT CALCULATED FROM:
- 6.1. TANGENTS DEFINED BY RECOVERED CENTERLINE MONUMENTS BETWEEN STATIONS 1604+95.56 AND 2210+50.74 (F-037-1(13) APPROVED
- 6.1.1. NOTE THAT CENTERLINE MONUMENTS WERE ESTABLISHED ON THE "O" LINE OF F-037-1(13) BETWEEN STATIONS 1912+52.75 AND
- 7. MONUMENT #5 IS LOCATED 4.34 MILES SOUTH OF THE END OF PROJECT.

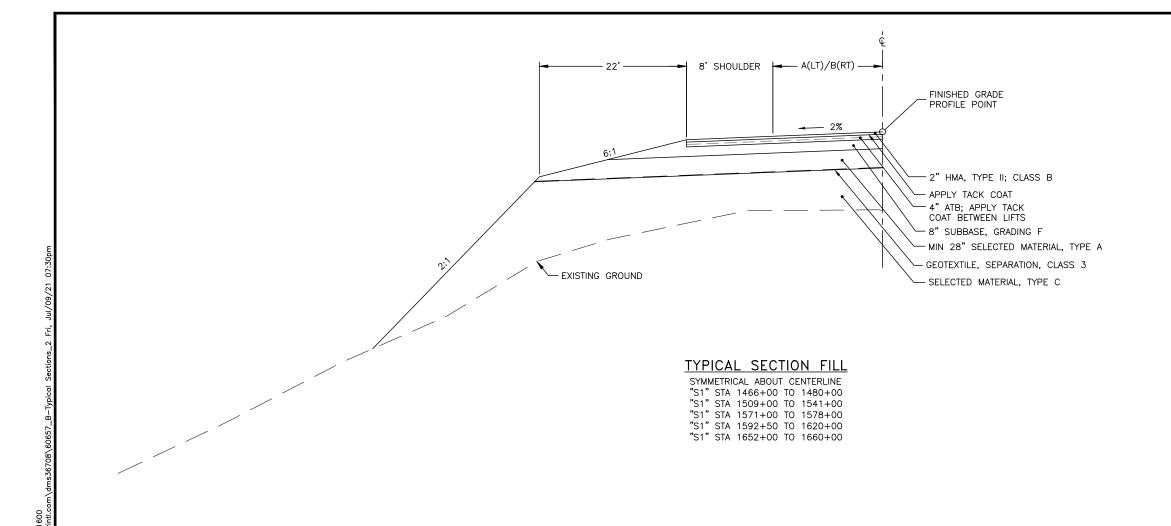
| SURVEY CONTROL MONUMENTS |                         |                        |                        |                       |           |           |           |                        |
|--------------------------|-------------------------|------------------------|------------------------|-----------------------|-----------|-----------|-----------|------------------------|
| POINT NO.                | EXISTING "L"<br>STATION | EXISTING "L"<br>OFFSET | FUTURE "S1"<br>STATION | FUTURE "S1"<br>OFFSET | NORTHING  | EASTING   | ELEVATION | DESCRIPTION            |
| 8                        | 1392+56.80              | 91.52 RT               | 1392+56.55             | 91.52 RT              | 150830.32 | 532210.16 | 1328.08   | PRIM MON SET MP 325    |
| 7                        | 1610+89.07              | 55.04 RT               | 1595+79.99             | 21.90 LT              | 149093.37 | 512755.10 | 969.34    | PRIM MON SET MP 320.95 |
| 6                        | 1622+80.59              | 61.58 LT               | 1607+81.80             | 61.58 LT              | 149733.58 | 511735.76 | 931.38    | PRIM MON SET MP 320.8  |
| 5                        | 1916+61.98              | 96.66 RT               |                        |                       | 138603.31 | 486308.38 | 412.16    | PRIM MON SET MP 315.2  |

| "S1"        | ALIGNMEN   | T COORDI  | NATES     |
|-------------|------------|-----------|-----------|
| DESCRIPTION | STATION    | NORTHING  | EASTING   |
| BOP         | 1393+00.00 | 150729.35 | 532201.90 |
| PI          | 1415+23.91 | 149935.69 | 530104.38 |
| PI          | 1434+42.91 | 150388.19 | 528207.87 |
| PI          | 1488+64.41 | 148876.72 | 522970.65 |
| PI          | 1528+62.28 | 150074.85 | 519055.26 |
| PI          | 1572+51.16 | 147615.12 | 514949.50 |
| PI          | 1614+12.81 | 150142.33 | 511245.99 |
| PI          | 1637+47.48 | 150865.71 | 508969.64 |
| PI          | 1664+94.10 | 149713.93 | 506415.16 |
| EOP         | 1672+00.00 | 149212.48 | 505910.45 |

PROJECT CONTROL







| SLOPE WIDENING SUMMARY     |         |      |       |         |  |
|----------------------------|---------|------|-------|---------|--|
| STATION EXTENDED 6:1 WIDTH |         |      |       | REMARKS |  |
| FROM                       | TO      | LEFT | RIGHT | KEMAKKS |  |
| 1397+50                    | 1400+00 | 20   | 20    |         |  |
| 1405+00                    | 1409+00 | 20   | 20    |         |  |
| 1468+00                    | 1470+00 |      | 30    |         |  |
| 1470+00                    | 1474+00 |      | 50    |         |  |
| 1474+00                    | 1476+00 |      | 30    |         |  |
| 1527+00                    | 1528+00 |      | 50    |         |  |
| 1528+00                    | 1541+00 |      | 80    |         |  |
| 1592+50                    | 1597+50 | 75   |       |         |  |
| 1597+50                    | 1601+00 | 25   |       |         |  |
| 1601+00                    | 1604+00 | 60   |       |         |  |
| 1604+00                    | 1639+00 | 75   |       |         |  |
| 1639+00                    | 1650+50 | 60   |       |         |  |

| t | CLEAR AND SEED TYPICAL SECTION FILL   | <del>-</del>  |
|---|---|---|
|   |   |   |
|   | VARIES —  |   |
|   | With the second |   |
|   |   |   |
|   | 6:1   |   |
|   | 6:1   |   |
|   |   | DOLLOW OF SCIENTED WATERIAL TARE  |
|   |   | — BOTTOM OF SELECTED MATERIAL, TYPE A   |
|   |   |   |
|   |   |   |
|   | 2.1   |   |
|   |   | <b>SLOPE WIDENING NOTES:</b>  |
|   |   | <ol> <li>THE SLOPE WIDENING SUMMARY TABLE<br/>REPRESENTS APPROVED LOCATIONS<br/>FOR PLACEMENT OF EXCESS<br/>EXCAVATION MATERIAL.</li> </ol> |
|   |   | <ol> <li>SLOPES SHALL BE SMOOTH AND FREE<br/>OF PROTRUDING STUMPS, BRUSH, OR<br/>ROOT WADS.</li> </ol>                                      |
| [ | EXCESS EXCAVATION MATERIAL  | <ol> <li>SEE E3 FOR INSTALLING EXCESS<br/>EXCAVATION AROUND A CULVERT.</li> </ol>   |

TYPICAL SECTIONS 2 OF 2

- 50/0 /202

| STATE | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------|---------------------|------|--------------|-----------------|
| LASKA | 0A45028/Z606570000  | 2021 | C1           | C1              |

|                                 | ESTIMATE OF QUANTITIES   |                |              |  |  |
|---------------------------------|--|----------------|--------------|--|--|
| ITEM NO.                        | PAY ITEM   | UNIT           | QUANTITY     |  |  |
| 201.0003.0000                   | CLEARING AND GRUBBING  | ACRE           | 138          |  |  |
| 202.0002.0000                   | REMOVAL OF PAVEMENT  | SQUARE YARD    | 90900        |  |  |
| 202.0011.0000                   | MULTIPLE MAIL BOX INSTALLATION                                 | EACH           | 1            |  |  |
| 202.0017.0000                   | REMOVAL OF CULVERT PIPE  | EACH           | 4            |  |  |
| 202.0021.000                    | REMOVAL OF MULTIPLE MAILBOX                                    | EACH           | 1            |  |  |
| 202.2015.0000                   | ABANDON PIPE IN PLACE  | EACH           | 7            |  |  |
| 203.0002.0000                   | ROCK EXCAVATION  | CY             | 670400       |  |  |
| 203.0003.0000                   | UNCLASSIFIED EXCAVATION  | CY             | 2640000      |  |  |
| 203.0006.000A                   | BORROW, TYPE A   | TON            | 187800       |  |  |
| 204.2004.0000                   | EMBEDMENT MATERIAL   | TON            | 78700        |  |  |
| 301.0001.00D1                   | AGGREGATE BASE COURSE, GRADING D-1                             | TON            | 160          |  |  |
| 301.0003.00E1                   | AGGREGATE SURFACE COURSE, GRADING E-1                          | TON            | 1410         |  |  |
| 304.0001.000F                   | SUBBASE, GRADING F   | TON            | 85500        |  |  |
| 306.0001.0000                   | ATB  | TON            | 34900        |  |  |
| 306.0002.5228                   | ASPHALT BINDER, GRADE PG 52-28                                 | TON            | 1730         |  |  |
| 401.0001.002B                   | HMA, TYPE II. CLASS B  | TON            | 18400        |  |  |
| 401.0004.5240                   | ASPHALT BINDER, GRADE PG 52-40                                 | TON            | 1120         |  |  |
| 401.0008.002B                   | HMA PRICE ADJUSTMENT, TYPE 2, Class B                          | CONTINGENT SUM | ALL REQUIRED |  |  |
| 401.0008.0028                   | LONGITUDINAL JOINT DENSITY PRICE ADJUSTMENT                    | CONTINGENT SUM | ALL REQUIRED |  |  |
| 401.0010.0000                   | PAVEMENT SMOOTHNESS PRICE ADJUSTMENT, METHOD                   | CONTINGENT SUM | ALL REQUIRED |  |  |
| 401.0015.0000                   | ASPHALT MATERIAL PRICE ADJUSTMENT                              | CONTINGENT SUM | ALL REQUIRED |  |  |
| 402.00013.0000<br>402.0001.STE1 | STE-1 ASPHALT FOR TACK COAT                                    | TON            | 110          |  |  |
| 406.0003.0000                   | RUMBLE STRIPS  | LUMP SUM       | ALL REQUIRED |  |  |
|                                 | CSP 12 INCH  | LINEAR FOOT    |              |  |  |
| 603.0001.0012                   |  |                | 62           |  |  |
| 603.0001.0036                   | CSP 36 INCH  | LINEAR FOOT    | 1571         |  |  |
| 606.0001.0000                   | W-BEAM GUARDRAIL   | LINEAR FOOT    | 400          |  |  |
| 606.0006.0000                   | REMOVING AND DISPOSING OF GUARDRAIL                            | LINEAR FOOT    | 8005         |  |  |
| 606.2019.0000                   | ADDITIONAL GUARDRAIL   | CONTINGENT SUM | ALL REQUIRED |  |  |
| 611.0001.0001                   | RIPRAP, CLASS I  | CUBIC YARD     | 320          |  |  |
| 613.0002.0000                   | CULVERT MARKER POST  | EACH           | 10           |  |  |
| 615.0001.0000                   | STANDARD SIGN  | SQUARE FOOT    | 174          |  |  |
| 615.0007.0000                   | SALVAGE AND DISPOSE SIGN                                       | EACH           | 66           |  |  |
| 618.0002.0000                   | SEEDING  | POUNDS         | 14100        |  |  |
| 630.0001.0003                   | GEOTEXTILE, SEPARATION, CLASS 3                                | SQUARE YARD    | 109930       |  |  |
| 631.0002.0001                   | GEOTEXTILE, EROSION CONTROL, CLASS 1                           | SQUARE YARD    | 2139         |  |  |
| 639.0001.0000                   | DRIVEWAY   | EACH           | 7            |  |  |
| 640.0001.0000                   | MOBILIZATION & DEMOBILIZATION                                  | LUMP SUM       | ALL REQUIRED |  |  |
| 641.0001.0000                   | EROSION, SEDIMENT, AND POLLUTION CONTROL ADMINISTRATION        | LUMP SUM       | ALL REQUIRED |  |  |
| 641.0003.0000                   | TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL             | LUMP SUM       | ALL REQUIRED |  |  |
| 641.0004.0000                   | TEMPORARY EROSION, SEDIMENT, AND POLLUTION CONTROL ADDITITIVES | CONTINGENT SUM | ALL REQUIRED |  |  |
| 641.0006.0000                   | WITHHOLDINGS   | CONTINGENT SUM | ALL REQUIRED |  |  |
| 641.0007.0000                   | SWPPP MANAGER  | LUMP SUM       | ALL REQUIRED |  |  |
| 642.0001.0000                   | CONSTRUCTION SURVEYING   | LUMP SUM       | ALL REQUIRED |  |  |
| 642.0013.0000                   | THREE PERSON SURVEY PARTY                                      | CONTINGENT SUM | ALL REQUIRED |  |  |
| 643.0002.0000                   | TRAFFIC MAINTENANCE  | LUMP SUM       | ALL REQUIRED |  |  |
| 643.0003.0000                   | PERMANENT CONSTRUCTION SIGNS                                   | LUMP SUM       | ALL REQUIRED |  |  |
| 643.0023.0000                   | TRAFFIC PRICE ADJUSTMENT                                       | CONTINGENT SUM | ALL REQUIRED |  |  |
| 643.0025.0000                   | TRAFFIC CONTROL  | CONTINGENT SUM | ALL REQUIRED |  |  |
| 644.0001.0000                   | FIELD OFFICE   | LUMP SUM       | ALL REQUIRED |  |  |
| 644.0002.0000                   | FIELD LABORATORY   | LUMP SUM       | ALL REQUIRED |  |  |
| 644.0006.0000                   | VEHICLES   | LUMP SUM       | ALL REQUIRED |  |  |
| 644.0015.0000                   | NUCLEAR TESTING EQUIPMENT STORAGE SHED                         | EACH           | 1            |  |  |
| 644.2001.0000                   | ENGINEERING COMMUNICATIONS, MOBILE HOT SPOTS                   | LUMP SUM       | ALL REQUIRED |  |  |
| 645.0001.0000                   | TRAINING PROGRAM, 1 TRAINEES/APPRENTICES                       | HOURS          | 1000         |  |  |
| 646.0001.0000                   | CPM SCHEDULING   | LUMP SUM       | ALL REQUIRED |  |  |
| 670.0001.0000                   | PAINTED TRAFFIC MARKINGS                                       | LUMP SUM       | ALL REQUIRED |  |  |
| 0.0001.0000                     |  |                |              |  |  |

| ESTIMATE OF LUMP SUM QUANTITIES |                          |             |          |  |
|---------------------------------|--------------------------|-------------|----------|--|
| ITEM NO.                        | PAY ITEM                 | UNIT        | QUANTITY |  |
| 406.0003.0000                   | RUMBLE STRIPS            | LINEAR FOOT | 55,037   |  |
| 670.0001.0000                   | PAINTED TRAFFIC MARKINGS | LINEAR FOOT | 99,590   |  |

|               | ESTIMATING FACTOR                  | S                               |
|---------------|------------------------------------|---------------------------------|
| ITEM NO.      | PAY ITEM                           | VALUE                           |
| 203.0006.000A | BORROW, TYPE A                     | 1.94 TON/CY                     |
| 301.0001.00D1 | AGGREGATE BASE COURSE, GRADING D-1 | 1.94 TON/CY                     |
| 301.0003.00E1 | AGGREGATE BASE COURSE, GRADING E-1 | 1.94 TON/CY                     |
| 304.0001.000F | SUBBASE, GRADING F                 | 1.94 TON/CY                     |
| 306.0001.0000 | ATB                                | 2.00 TON/CY                     |
| 306.0002.5228 | ASPHALT BINDER, GRADE PG 52-28     | 4.5% WEIGHT OF<br>306.0001.0000 |
| 401.0001.002B | HOT MIX ASPHALT, TYPE II; CLASS B  | 2.04 TON/CY                     |
| 401.0004.5240 | ASPHALT BINDER, GRADE PG 52-40     | 5.5% WEIGHT OF<br>401.0001.002B |
| 402.0001.STE1 | STE-1 ASPHALT FOR TACK COAT        | 0.00024 TON/SY                  |
| 618.0002.0000 | SEEDING                            | 1.5 LB/MSF                      |

| STATE | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------|---------------------|------|--------------|-----------------|
| LASKA | 0A45028/Z606570000  | 2021 | D1           | D1              |

|                 | 60              | )6 GL | JARDRAIL I  | TEMS SUM | MARY  |
|-----------------|-----------------|-------|---|----------|---|
| BEGIN STATION   | END STATION     | RT/LT | 606.0001.0000<br>W-BEAM<br>GUARDRAIL<br>(LINEAR FOOT) | REMARKS  |   |
| "S1" 1396+62    | "S1" 1409+25    | RT    |   | 915.6    |   |
| "S1" 1396+50    | "S1" 1409+50    | LT    |   | 940.7    |   |
| "S1" 1488+66    | "S1" 1499+51    | LT    |   | 1292.8   |   |
| "S1" 1546+01    | "S1" 1555+89    | LT    |   | 1099.0   |   |
| "S1" 1572+91    | "S1" 1582+05    | LT    |   | 1110.0   |   |
| "S1" 1575+07    | "S1" 1579+97    | RT    |   | 597.9    |   |
| "S1" 1588+66    | "S1" 1600+99    | LT    |   | 1447.5   |   |
| "S1" 1596+50    | "S1" 1602+46    | RT    |   | 600.5    |   |
| "S1" 1651+42.13 | "S1" 1651+73.34 | LT    | 37.5  |          | INSTALL STANDARD W-BEAM END SECTIONS<br>PER STANDARD PLAN G-00.05 |
| "S1" 1651+77.50 | "S1" 1655+02.50 | LT    | 325   |          | INSTALL STANDARD W-BEAM END SECTIONS<br>PER STANDARD PLAN G-00.05 |
| "S1" 1655+06.66 | "S1" 1655+37.87 | LT    | 37.5  |          | INSTALL STANDARD W-BEAM END SECTIONS<br>PER STANDARD PLAN G-00.05 |
| ·               | ·               | TOTAL | 400.0   | 8004.0   |   |

| 202.0010.0                   | 202.0010.0000 MAILBOX SUMMARY |          |  |  |  |  |  |  |  |  |  |  |
|------------------------------|-------------------------------|----------|--|--|--|--|--|--|--|--|--|--|
| NUMBER OF EXISTING MAILBOXES | EXISTING STATION              | LOCATION |  |  |  |  |  |  |  |  |  |  |
| 1                            | "S1" 1661+73                  | RT       |  |  |  |  |  |  |  |  |  |  |

#### MAILBOX NOTES:

 CONSTRUCT THE MAILBOX IN ACCORDANCE WITH THE "WOOD POST (RURAL) INSTALLATION" AND "TYPICAL WOOD CANTILEVER INSTALLATION" SHOWN ON STANDARD PLANS M-20.15 AND M-23.13 RESPECTIVELY.

#### **GUARDRAIL NOTES:**

1. INSTALL GUARDRAIL POSTS IN ACCORDANCE WITH STANDARD PLAN G-10.20.

| 670.0001.0000 F  | PAINTED TRAFFIC | MARKING SUMMARY |
|------------------|-----------------|-----------------|
| DESCRIPTION      | QUANTITY        | UNIT            |
| 4" WHITE         | 55,070          | LF              |
| 4" WHITE SKIP    | 8,740           | LF              |
| 8" WHITE         | 480             | LF              |
| 4" DOUBLE YELLOW | 18,100          | LF              |
| 4" YELLOW        | 7,400           | LF              |
| 4" YELLOW SKIP   | 9,800           | LF              |
| LANE DROP ARROWS | 6               | EACH            |

#### TRAFFIC MARKING NOTES:

- 1. INSTALL LANE EDGE AND CENTERLINES PER STANDARD PLAN T-21.04.
- 2. IF STRIPING IS NOT ALIGNED AT BOP/EOP, TRANSITION STRIPING OVER 100 FEET TO MATCH EXISTING.

|            | SUPERELEVATION SUMMARY |                     |                           |            |                              |                            |                            |            |                           |                   |         |  |  |  |
|------------|------------------------|---------------------|---------------------------|------------|------------------------------|----------------------------|----------------------------|------------|---------------------------|-------------------|---------|--|--|--|
| CURVE PI   | RADIUS (FT)            | BEGIN<br>TRANSITION | TRANSITION<br>LENGTH (FT) | CURVE PC   | BEGIN FULL<br>SUPERELEVATION | SUPERELEVATION<br>RATE (%) | END FULL<br>SUPERELEVATION | CURVE PT   | TRANSITION<br>LENGTH (FT) | END<br>TRANSITION | REMARKS |  |  |  |
| 1415+23.91 | 2050                   | 1407+30             | 240                       | 1409+13.06 | 1409+70                      | 6.0                        | 1420+85                    | 1421+34.75 | 240                       | 1423+25           |         |  |  |  |
| 1434+42.91 | 2050                   | 1427+30             | 240                       | 1429+14.85 | 1429+70                      | 6.0                        | 1439+20                    | 1439+70.98 | 240                       | 1441+60           |         |  |  |  |
| 1488+64.41 | 2100                   | 1480+75             | 240                       | 1482+57.59 | 1483+15                      | 6.0                        | 1494+20                    | 1494+71.23 | 240                       | 1496+60           |         |  |  |  |
| 1528+62.28 | 3020                   | 1514+30             | 220                       | 1515+98.85 | 1516+50                      | 5.4                        | 1540+80                    | 1541+25.71 | 220                       | 1543+00           |         |  |  |  |
| 1572+51.16 | 4500                   | 1545+45             | 185                       | 1546+89.41 | 1547+30                      | 4.2                        | 1597+80                    | 1598+12.91 | 185                       | 1599+65           |         |  |  |  |
| 1614+12.81 | 3800                   | 1607+05             | 200                       | 1608+59.69 | 1609+05                      | 4.6                        | 1619+25                    | 1619+65.93 | 200                       | 1621+25           |         |  |  |  |
| 1637+47+48 | 2900                   | 1625+10             | 230                       | 1626+87.12 | 1627+40                      | 5.6                        | 1647+60                    | 1648+07.83 | 230                       | 1649+90           |         |  |  |  |
| 1664+94.10 | 2865                   | 1658+05             | 230                       | 1659+80.44 | 1660+35                      | 5.6                        | 1669+60                    | 1670+07.76 | 230                       | 1671+90           |         |  |  |  |



SUMMARIES

| STATE | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|-------|---------------------|------|--------------|-----------------|
| LASKA | 0A45028/Z606570000  | 2021 | E1           | E4              |

|              |          |           |           |                     | 1 1101 0  | 000       | 2 - 1 - 1 - 1       | SUMMARY                 |               |               |                  |
|--------------|----------|-----------|-----------|---------------------|-----------|-----------|---------------------|-------------------------|---------------|---------------|------------------|
| STATION      | DIAMETER | INLET     |           |                     |           | C         | UTLET               |                         | NEW CULVERT   | LENGTH (FT)   | DEVARVO          |
| STATION      | (IN)     | STATION   | OFFSET    | INVERT<br>ELEVATION | STATION   | OFFSET    | INVERT<br>ELEVATION | CULVERT<br>RIPRAP APRON | 603.0001.0036 | 603.0001.0012 | REMARKS          |
| "S1" 1429+00 | 36       | 1429+00.0 | 42.0' RT  | 1273.8              | 1429+00.0 | 62.2'LT   | 1265.5              | X                       | 105           |               | CROSS CULVERT    |
| "S1" 1472+42 | 36       | 1472+42.0 | 77.4'RT   | 1192.1              | 1472+42.0 | 91.5'LT   | 1185.1              | X                       | 170           |               | CROSS CULVERT    |
| "S1" 1529+77 | 36       | 1529+76.6 | 108.1' RT | 1135.6              | 1529+76.7 | 123.6'LT  | 1126                | Х                       | 232           |               | CROSS CULVERT    |
| "S1" 1535+94 | 36       | 1536+70.0 | 102.0' RT | 1161.0              | 1535+17.0 | 110.0' RT | 1153.1              |                         | 159           |               | APPROACH CULVERT |
| "S1" 1595+62 | 36       | 1594+45.0 | 121.3' RT | 986.7               | 1596+79.4 | 212.7'RT  | 928.2               |                         | 251           |               | APPROACH CULVERT |
| "S1" 1613+83 | 36       | 1614+31.4 | 85.9'RT   | 934.7               | 1613+35.5 | 114.0' RT | 927.6               |                         | 103           |               | APPROACH CULVERT |
| "S1" 1619+00 | 36       | 1619+00.0 | 48.0' RT  | 954                 | 1619+00.0 | 54.2'LT   | 945.8               | Х                       | 103           |               | CROSS CULVERT    |
| "S1" 1626+00 | 36       | 1626+00.0 | 48.0' RT  | 973.8               | 1626+00.0 | 58.2' LT  | 965.3               | Х                       | 107           |               | CROSS CULVERT    |
| "S1" 1636+00 | 36       | 1636+00.0 | 66.9'RT   | 1003.3              | 1636+00.0 | 58.8' LT  | 996.3               | Х                       | 126           |               | CROSS CULVERT    |
| "S1" 1648+00 | 36       | 1648+00.0 | 48.0' RT  | 1032.5              | 1648+00.0 | 54.6'LT   | 1024.3              | Х                       | 103           |               | CROSS CULVERT    |
| "S1" 1660+00 | 36       | 1660+00.0 | 60.7' RT  | 1041.5              | 1660+00.0 | 50.8' LT  | 1036.8              | Х                       | 112           |               | CROSS CULVERT    |
| "S1" 1661+39 | 12       | 1661+69.3 | 47.8' RT  | 1045.5              | 1661+08.9 | 48.8' RT  | 1044.8              |                         |               | 62            | APPROACH CULVERT |
|              |          |           |           |                     |           |           |                     | TOTAL                   | 1571          | 62            |                  |

#### **CULVERT NOTES:**

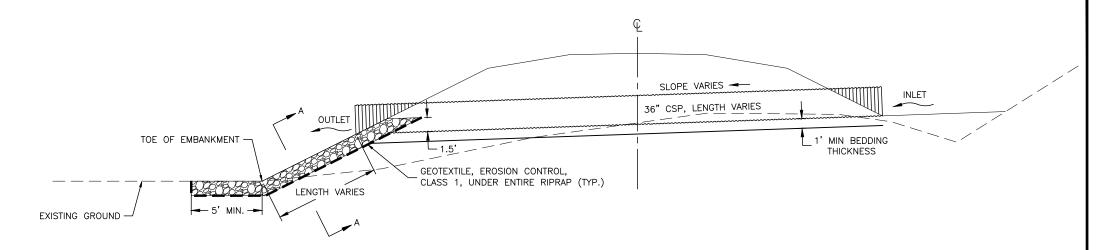
- 1. CULVERT LOCATIONS AND ORIENTATION ARE SUBJECT TO MINOR REVISIONS BY THE ENGINEER.
- 2. CULVERT LENGTHS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR
- 3. DITCH WORK AND RE-GRADING REQUIRED FOR NEW CULVERTS IS SUBSIDIARY TO 603 PAY ITEMS.
- 4. INSTALL CULVERTS WITH A MINIMUM CAMBER EQUAL TO 1% OF THE LENGTH OF THE PIPE, OR AS DIRECTED BY THE ENGINEER.
- 5. CULVERT LENGTHS ARE FOR PLACEMENT WITHIN THE TYPICAL ROADWAY EMBANKMENT. IF EXCESS MATERIAL IS PLACED ALONG EMBANKMENT SEE DETAIL E3 FOR FILL AROUND CULVERT END.
- 6. CULVERTS SHALL BE BEDDED PER TYPE A FOUNDATION STABILIZATION DETAIL FOUND IN STANDARD PLAN D-01.02 SHEET 1 OF 1.

|              |                  |                              |         | E         | XISTING             | CULVEF  | RT SUMN   | <i>I</i> IARY       |  |
|--------------|------------------|------------------------------|---------|-----------|---------------------|---------|-----------|---------------------|--|
| STATION      | REMOV            | 04.0000<br>'AL OF<br>RT PIPE |         | INLET     |                     |         | OUTLET    |                     | REMARKS  |
|              | DIAMETER<br>(IN) | REMOVE<br>(FT)               | STATION | OFFSET    | INVERT<br>ELEVATION | STATION | OFFSET    | INVERT<br>ELEVATION |  |
| "S1" 1425+85 | 24               | 95                           | 1425+86 | 34.6' RT  | 1272.45             | 1425+86 | 59.91' LT | 1261.98             | ABANDON IN PLACE                                     |
| "S1" 1479+61 | 24               | 83                           | 1479+81 | 78.7' RT  | 1209.51             | 1479+61 | 2.1' LT   | 1205.04             | REMOVE CULVERT, TRENCH EMBANKMENT, SEE DETAILS ON E3 |
| "S1" 1490+33 | 24               | 103                          | 1490+52 | 409.3' LT | 1216.14             | 1490+14 | 501.8' LT | 1201.83             | REMOVE CULVERT, TRENCH EMBANKMENT, SEE DETAILS ON E3 |
| "S1" 1496+00 | 24               | 128                          | 1496+03 | 594.3'LT  | 1219.82             | 1495+96 | 721.9'LT  | 1194.71             | REMOVE CULVERT, TRENCH EMBANKMENT, SEE DETAILS ON E3 |
| "S1" 1512+00 | 24               | 91                           | 1512+00 | 30.9' RT  | 1166.66             | 1512+00 | 59.6'LT   | 1150.99             | ABANDON IN PLACE                                     |
| "S1" 1621+63 | 24               | 95                           | 1621+70 | 36.7' RT  | 953.17              | 1621+53 | 57.0' LT  | 934.19              | ABANDON IN PLACE                                     |
| "S1" 1626+45 | 24               | 90                           | 1626+45 | 37.0' RT  | 968.73              | 1626+46 | 53.5' LT  | 963.16              | ABANDON IN PLACE                                     |
| "S1" 1636+00 | 24               | 126                          | 1636+00 | 66.9' RT  | 1003.34             | 1636+00 | 58.8' LT  | 996.30              | ABANDON IN PLACE                                     |
| "S1" 1646+34 | 24               | 100                          | 1646+34 | 51.5' RT  | 1028.13             | 1646+34 | 48.2' LT  | 1006.52             | ABANDON IN PLACE                                     |
| "S1" 1658+66 | 24               | 113                          | 1658+66 | 60.3' RT  | 1036.84             | 1658+66 | 52.4'LT   | 1013.86             | ABANDON IN PLACE                                     |
| "S1" 1661+44 | 12               | 54                           | 1661+70 | 47.6' RT  | 1045.23             | 1661+17 | 49.1' RT  | 1043.93             | REMOVE APPROACH CULVERT                              |
|              | TOTAL            | 1078                         |         |           |                     |         |           |                     |  |

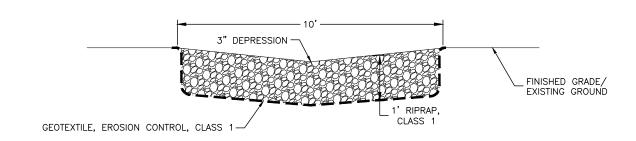
| STATE  | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|--------|---------------------|------|--------------|-----------------|
| ALASKA | 0A45028/Z606570000  | 2021 | E2           | E4              |

#### NOTES:

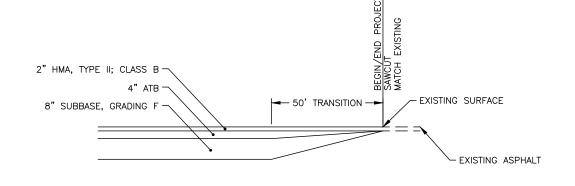
- EROSION CONTROL STRUCTURES MAY BE FIELD ADJUSTED BY THE ENGINEER TO TAKE ADVANTAGE OF EXISTING CHANNEL TOPOGRAPHY.
- 2. CULVERT RIPRAP APRON DETAILS SHOWN ON THIS SHEET ARE SCHEMATIC AND NOT TO SCALE.
- 3. CULVERT RIPRAP APRON DETAILS ARE ONLY APPLICABLE TO OUTLET FOR THIS PROJECT
- 4. THE TOP OF RIPRAP SHALL BE FLUSH WITH THE ADJACENT DITCH CHANNEL AND/OR EXISTING GROUND.
- 5. RIPRAP WILL BE APPLIED TO ALL PROPOSED CROSS CULVERTS. REFERENCE THE CULVERT SUMMARY TABLE FOR APRON LOCATIONS.
- 6. GEOTEXTILE, EROSION CONTROL SHALL BE PLACED SO THAT IT IS NOT VISIBLE UPON PROJECT COMPLETION.



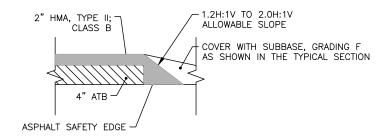
### CULVERT RIPRAP APRON - PROFILE VIEW



# SECTION A-A



## BOP AND EOP TRANSITION DETAIL



## ASPHALT SAFETY EDGE DETAIL

#### ASPHALT SAFETY EDGE NOTES:

- 1. LABOR AND EQUIPMENT REQUIRED TO CONSTRUCT THE SAFETY EDGE IS SUBSIDIARY TO PAY ITEM 306.0001.0000 AND 401.0001.002B.
- 2. MATERIAL WILL BE MEASURED AND PAID UNDER PAY ITEMS 306.0001.0000 AND 401.0001.002B RESPECTIVELY.
- 3. DO NOT CONSTRUCT THE SAFETY EDGE ACROSS DRIVEWAYS.

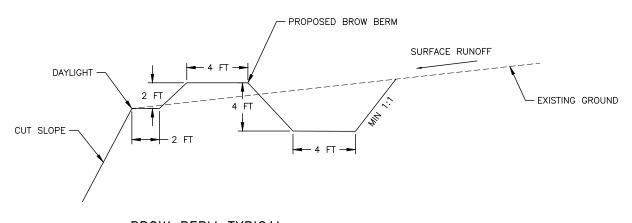
ND ROAD

RIPRAP AND ROAD DETAILS

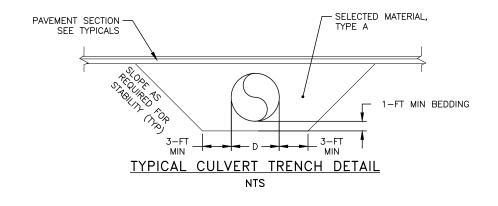


## **BROW BERM NOTES:**

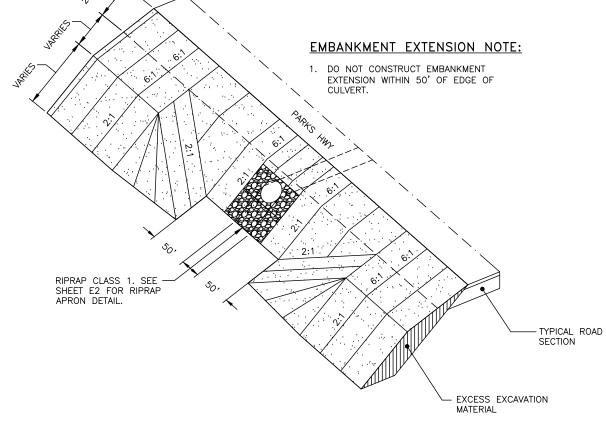
- SEE F7 AND F9 SLOPE CUTS FOR LOCATION OF BROW BERM ALONG "S1" ALIGNMENT.
- 3. BROW BERM IS SUBSIDIARY TO 203 PAY



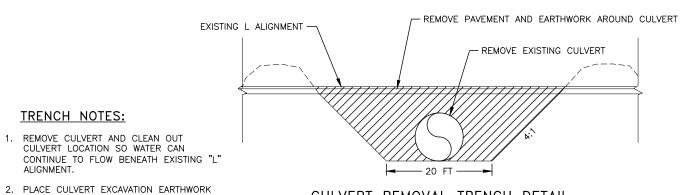
# **BROW BERM TYPICAL**



- 1. BROW BERM TO BE USED ONLY ON NORTH SIDE OF "S1" ALIGNMENT.



### EMBANKMENT EXTENSION AROUND A CULVERT

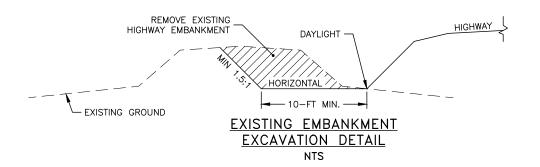


TRENCH NOTES:

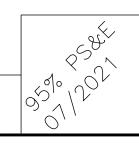
1. REMOVE CULVERT AND CLEAN OUT

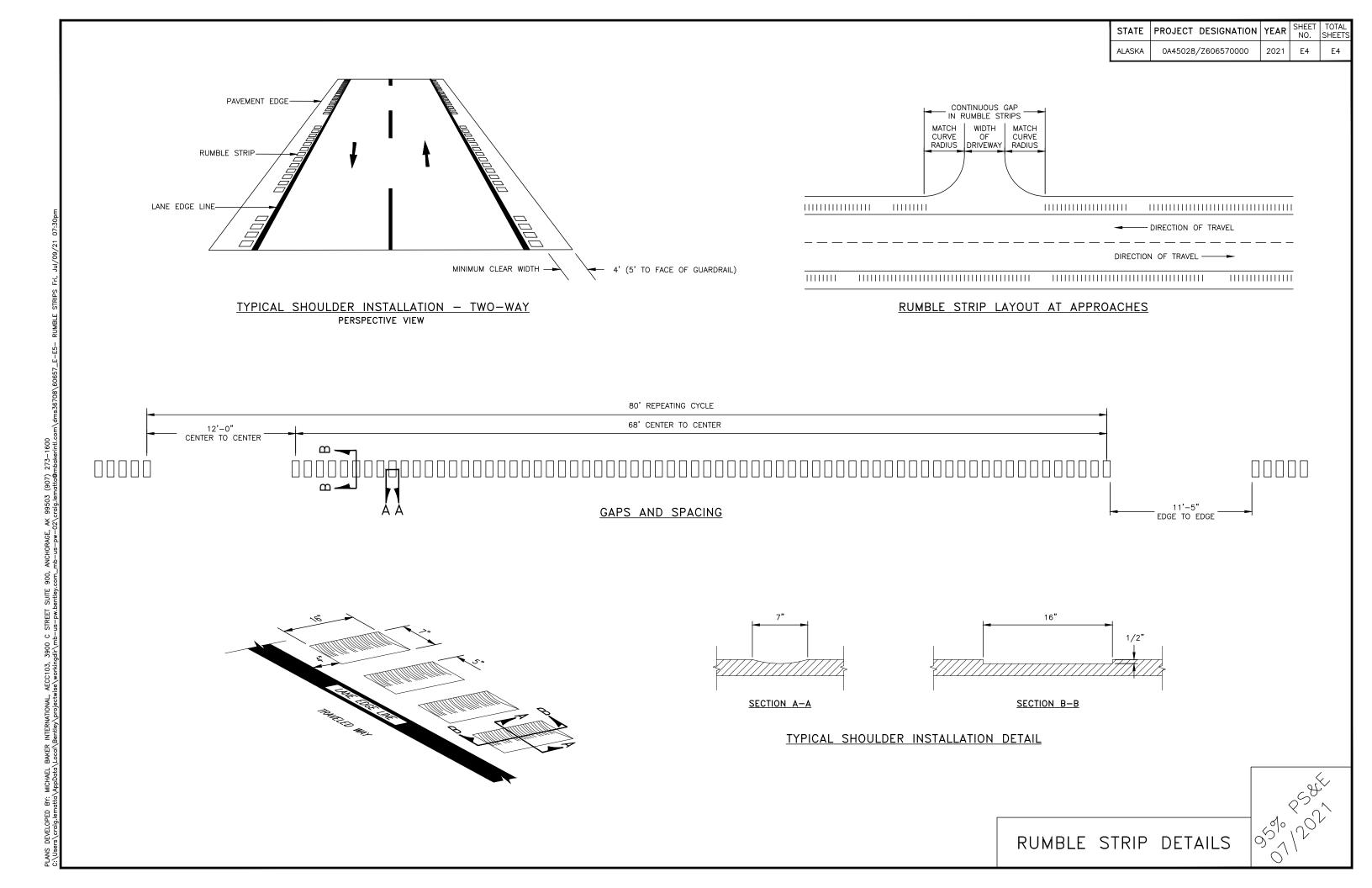
OVER EXISTING "L" ALIGNMENT OUTSIDE OF TRENCH AND GRADE TO DRAIN.

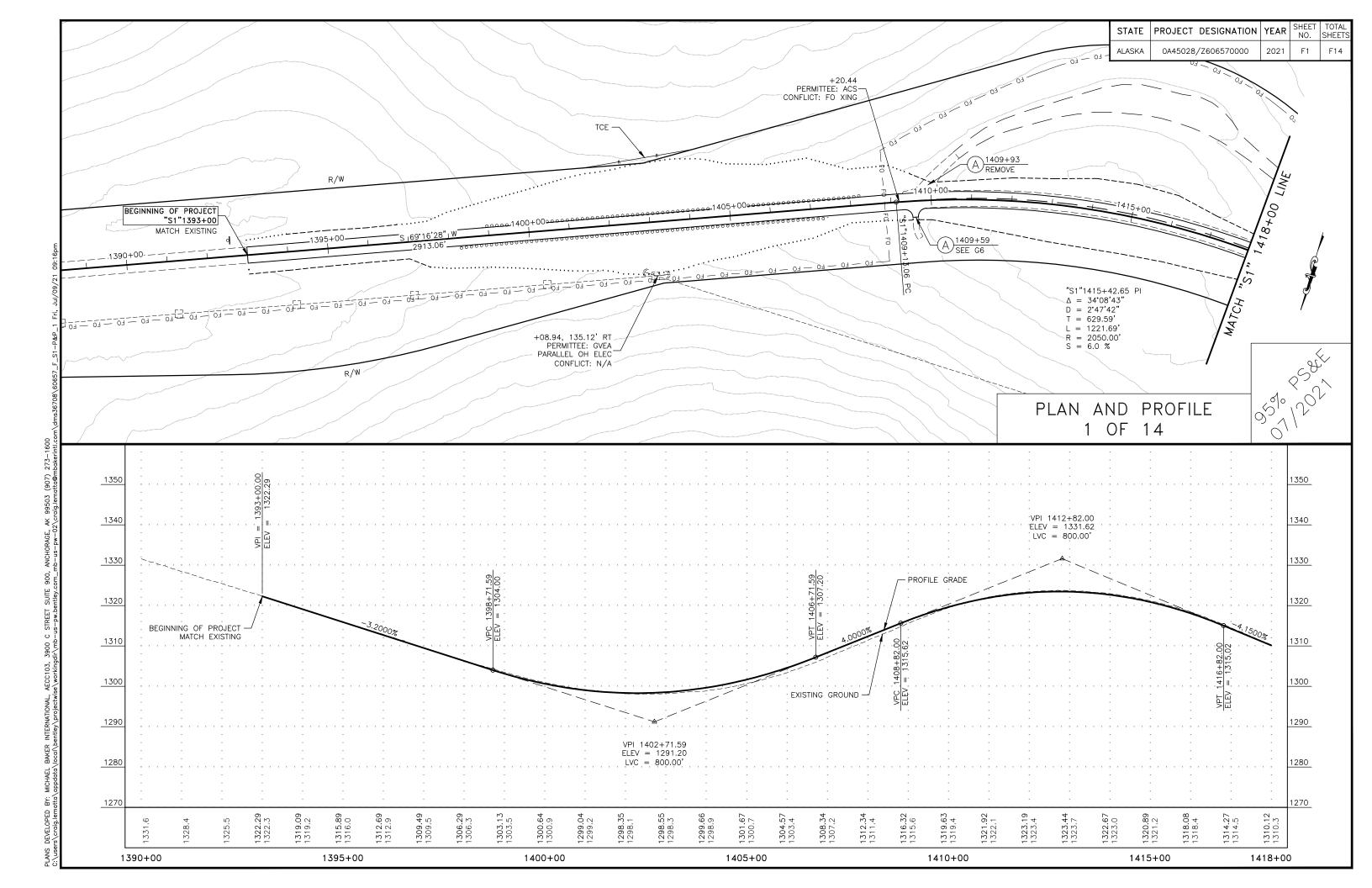
#### CULVERT REMOVAL TRENCH DETAIL

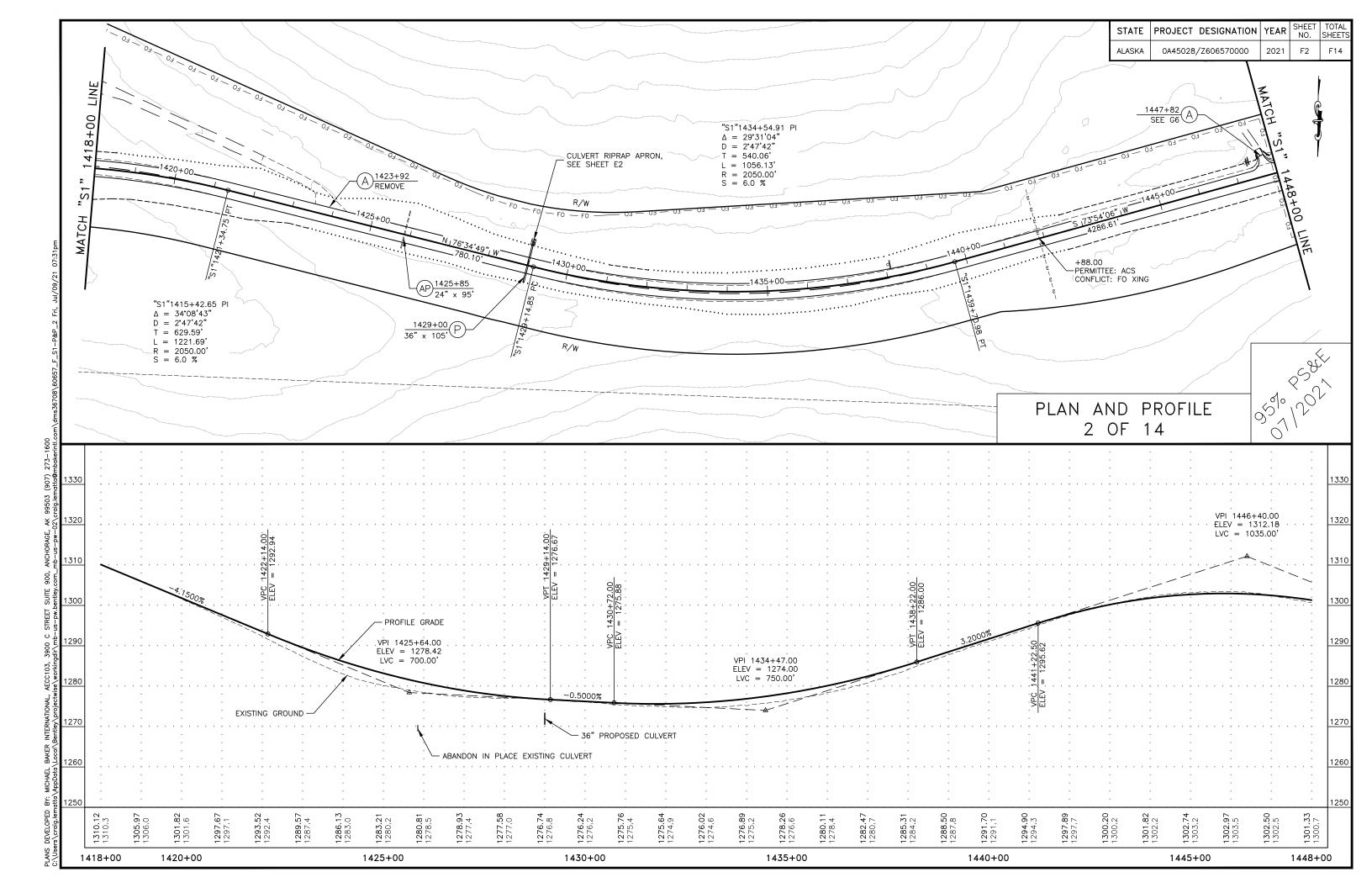


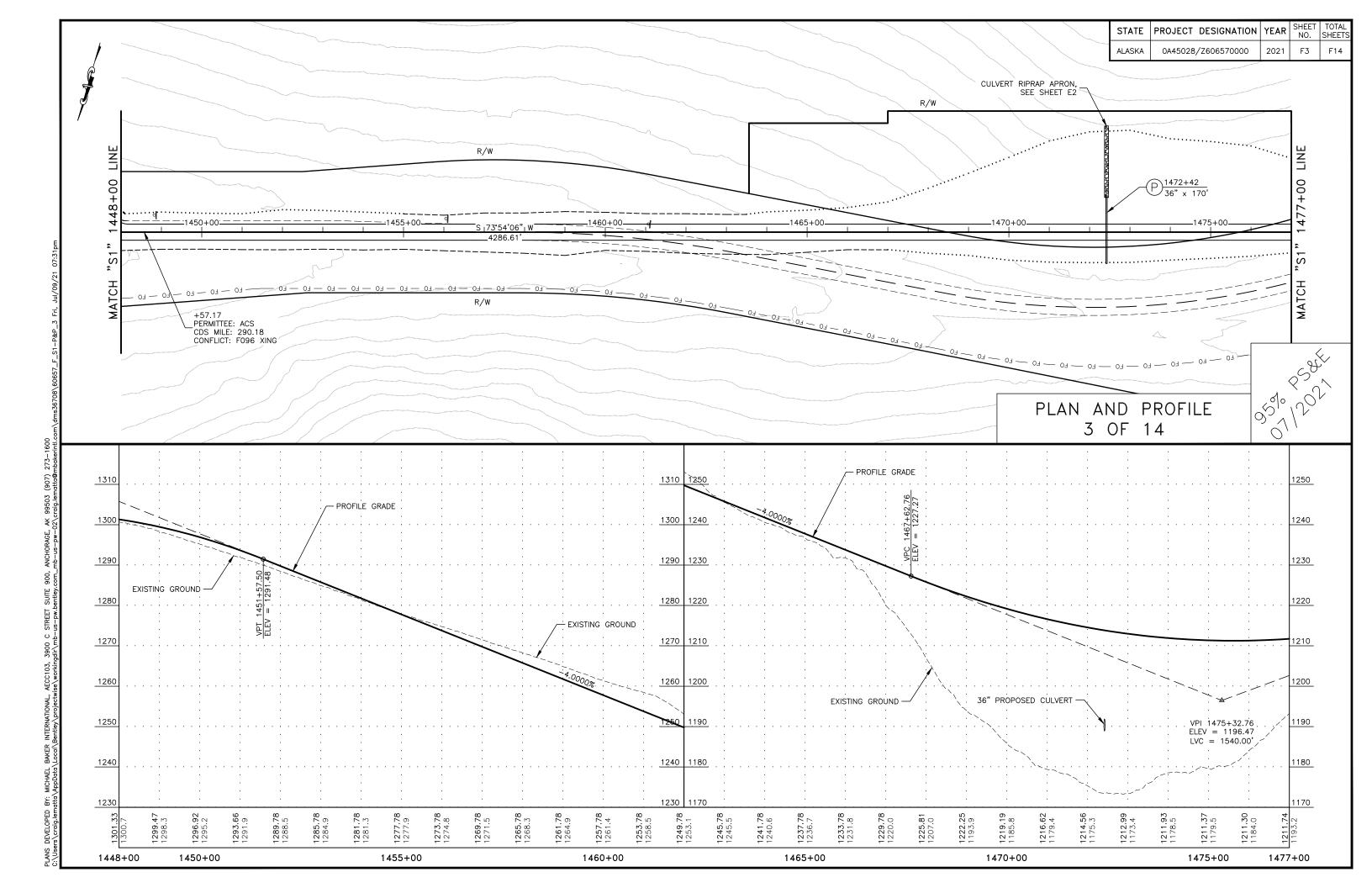
CULVERT AND BERM **DETAILS** 

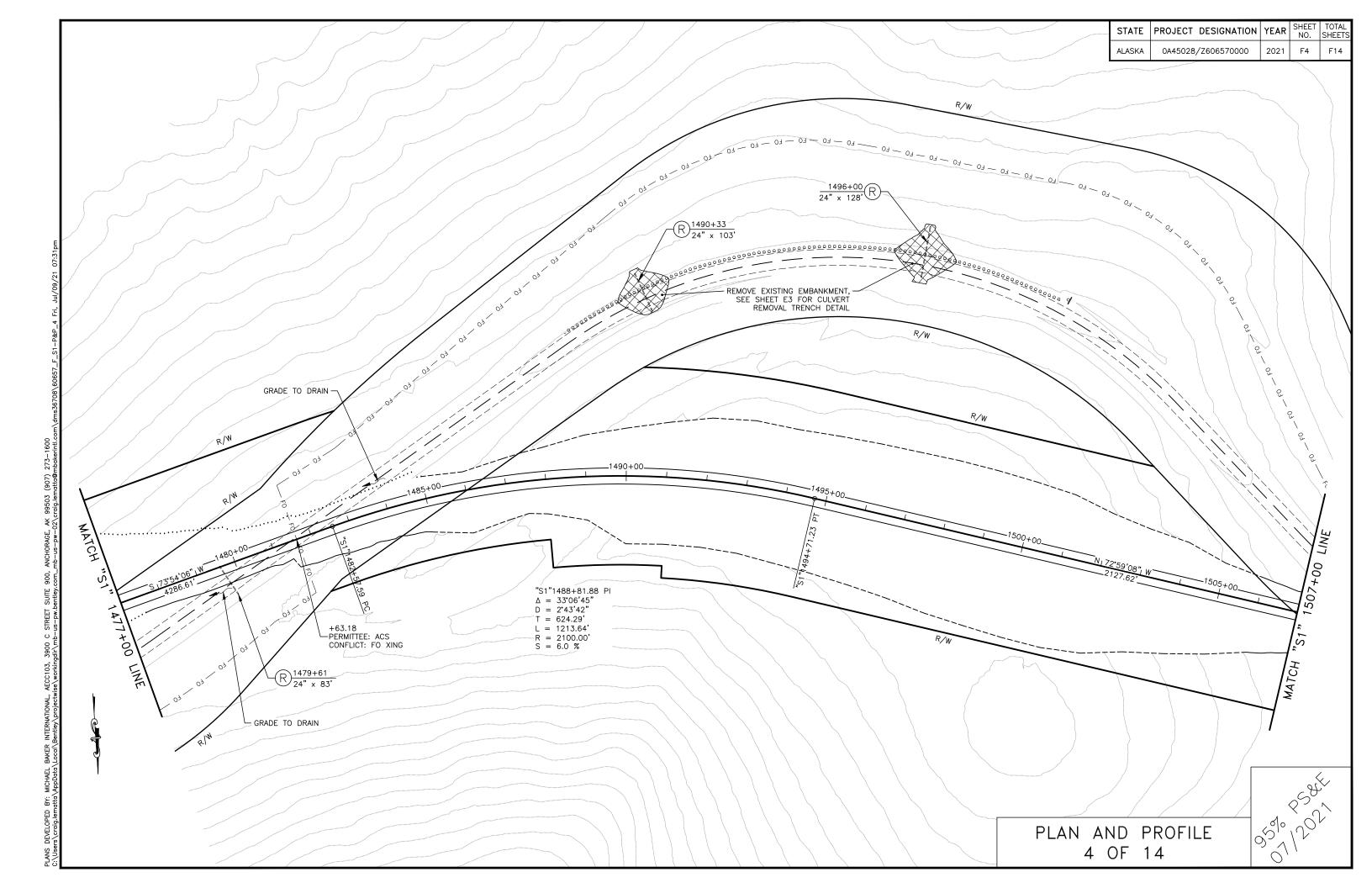


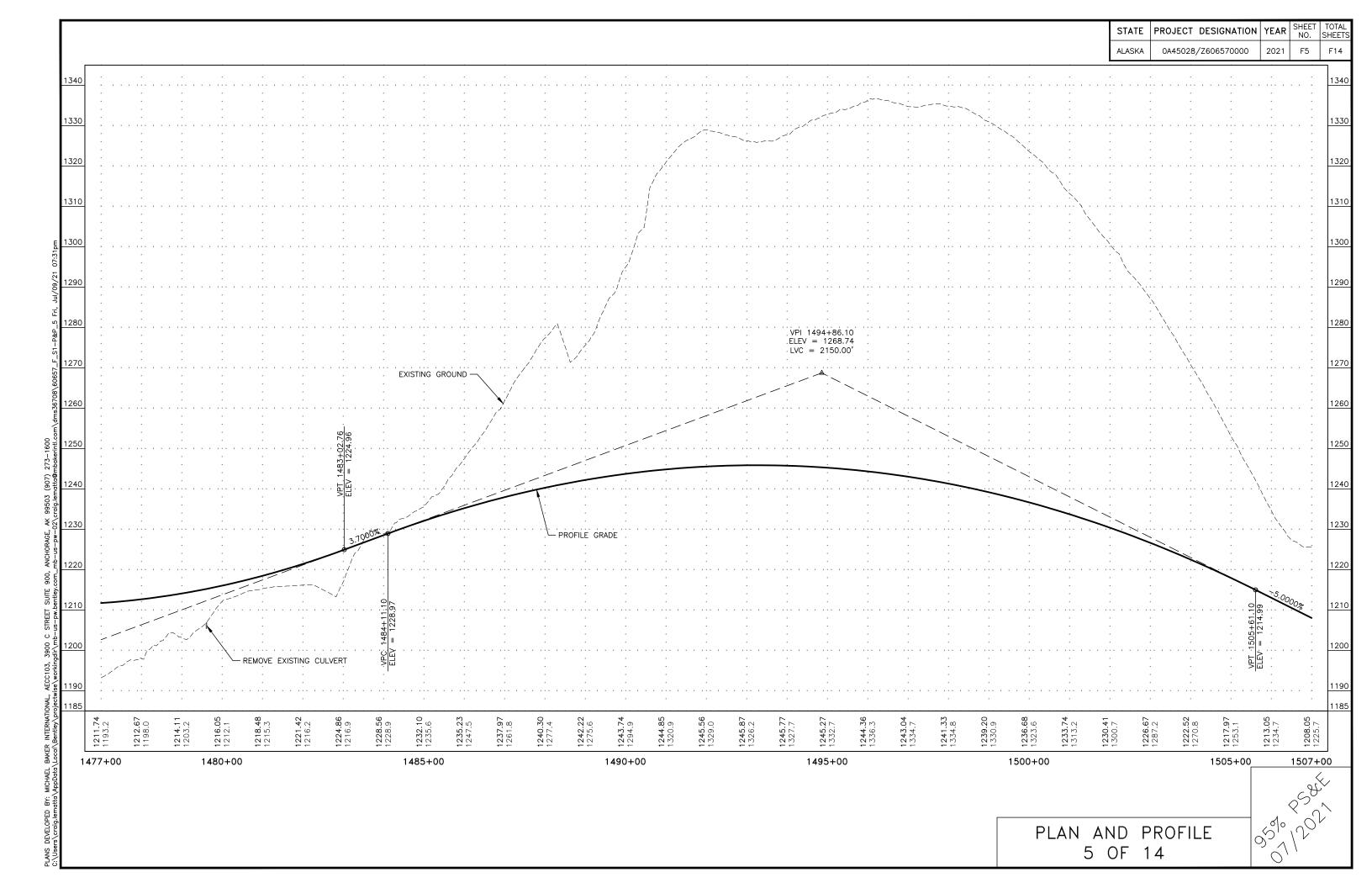


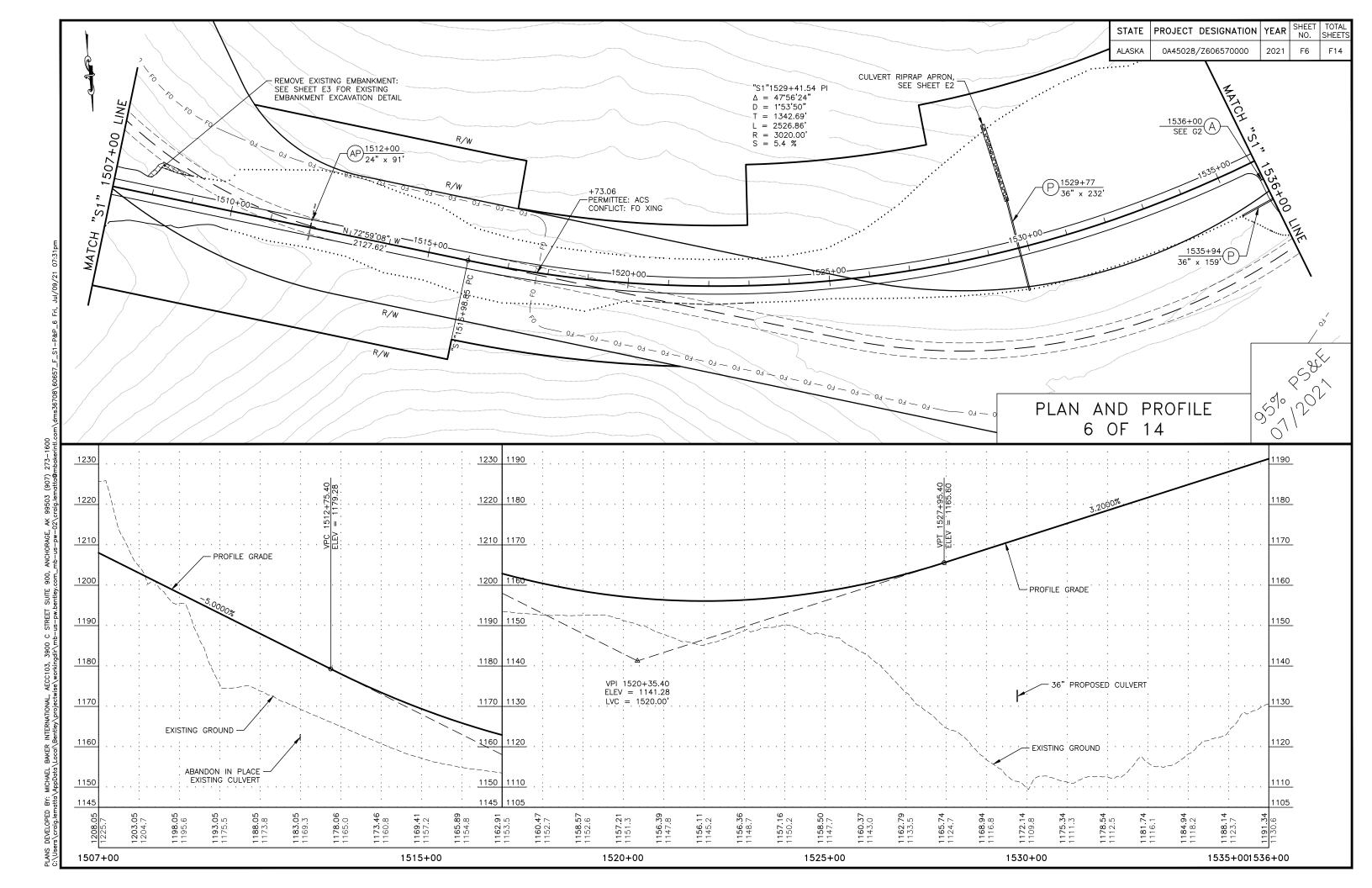


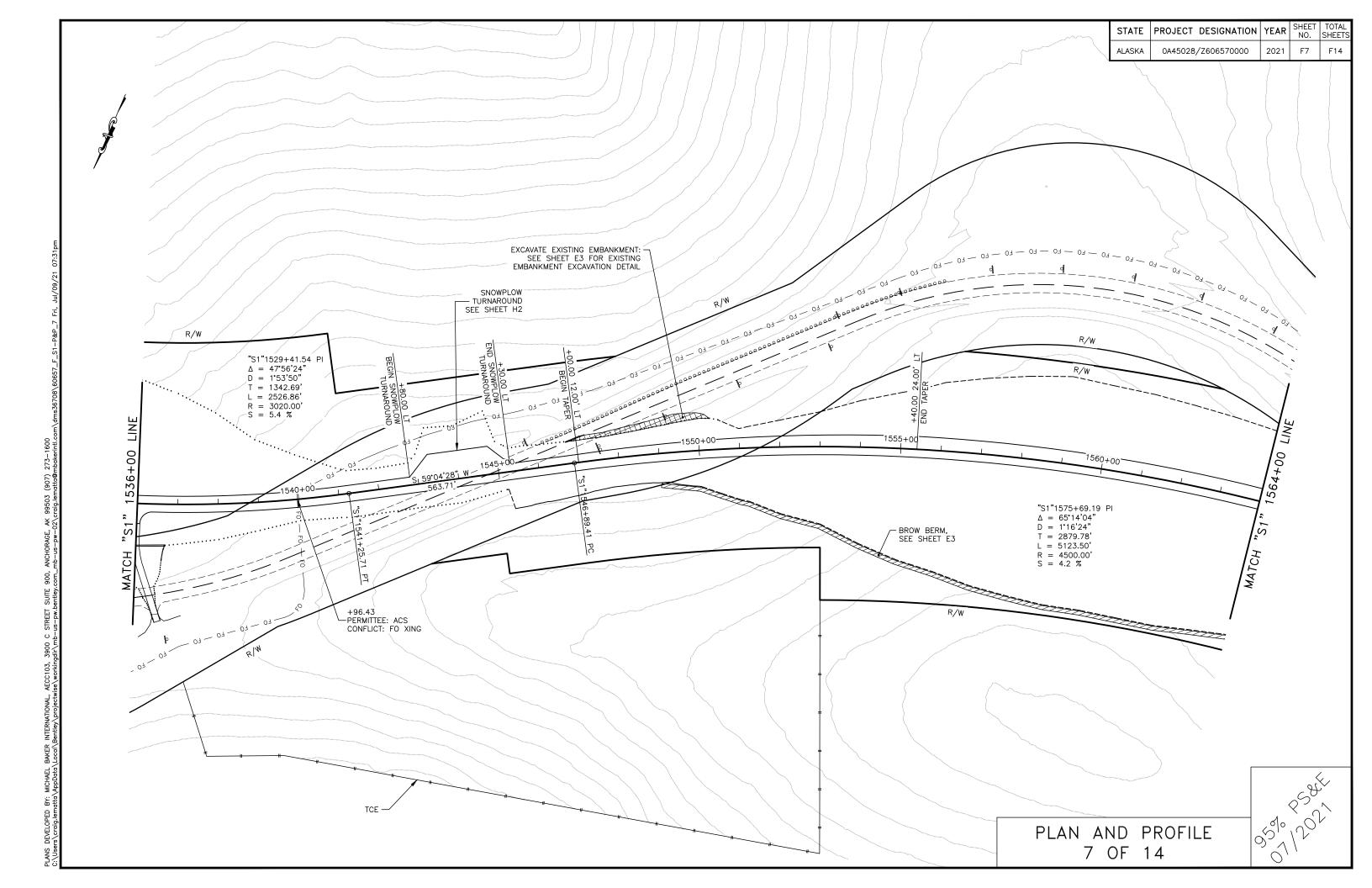


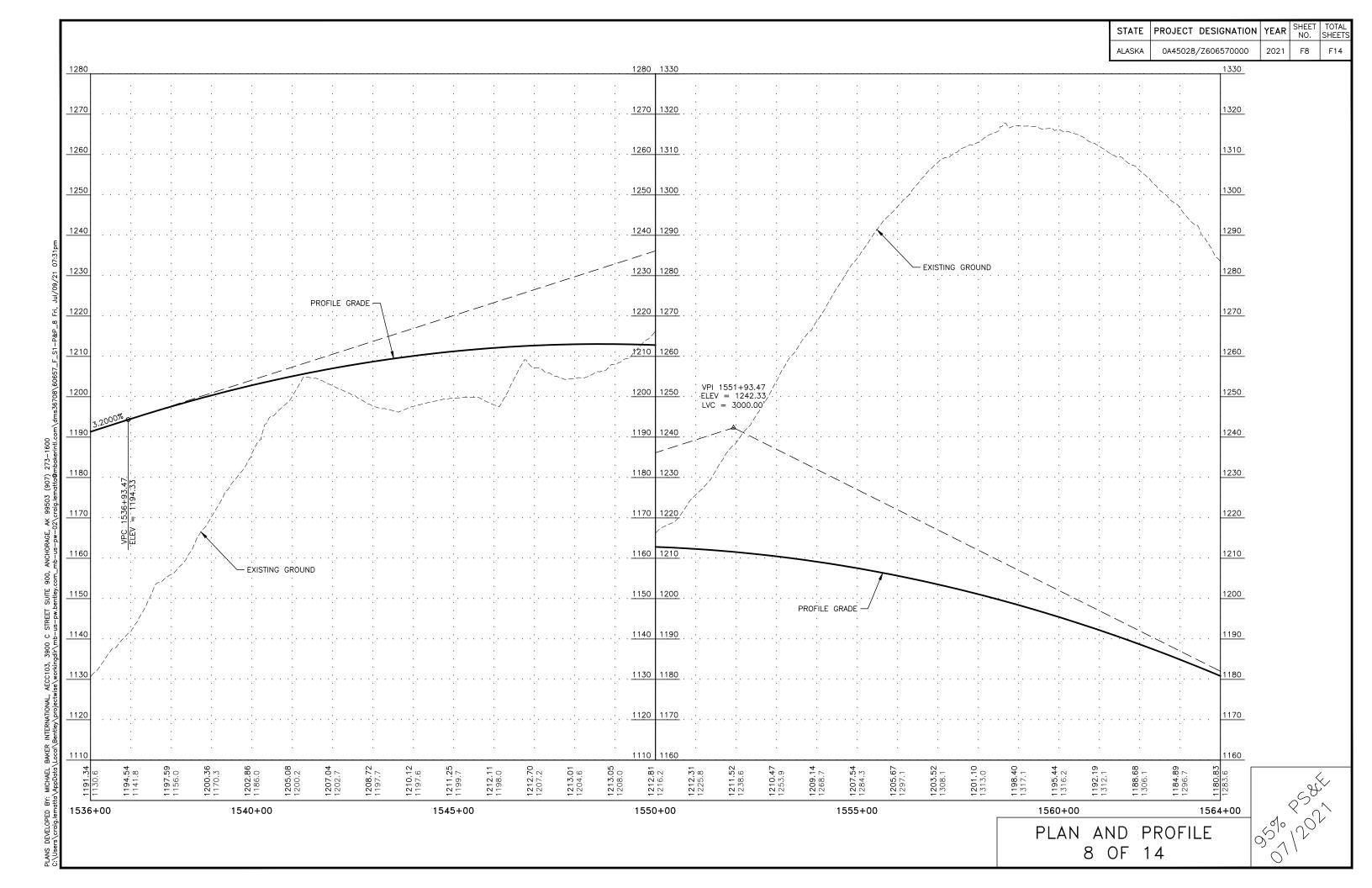


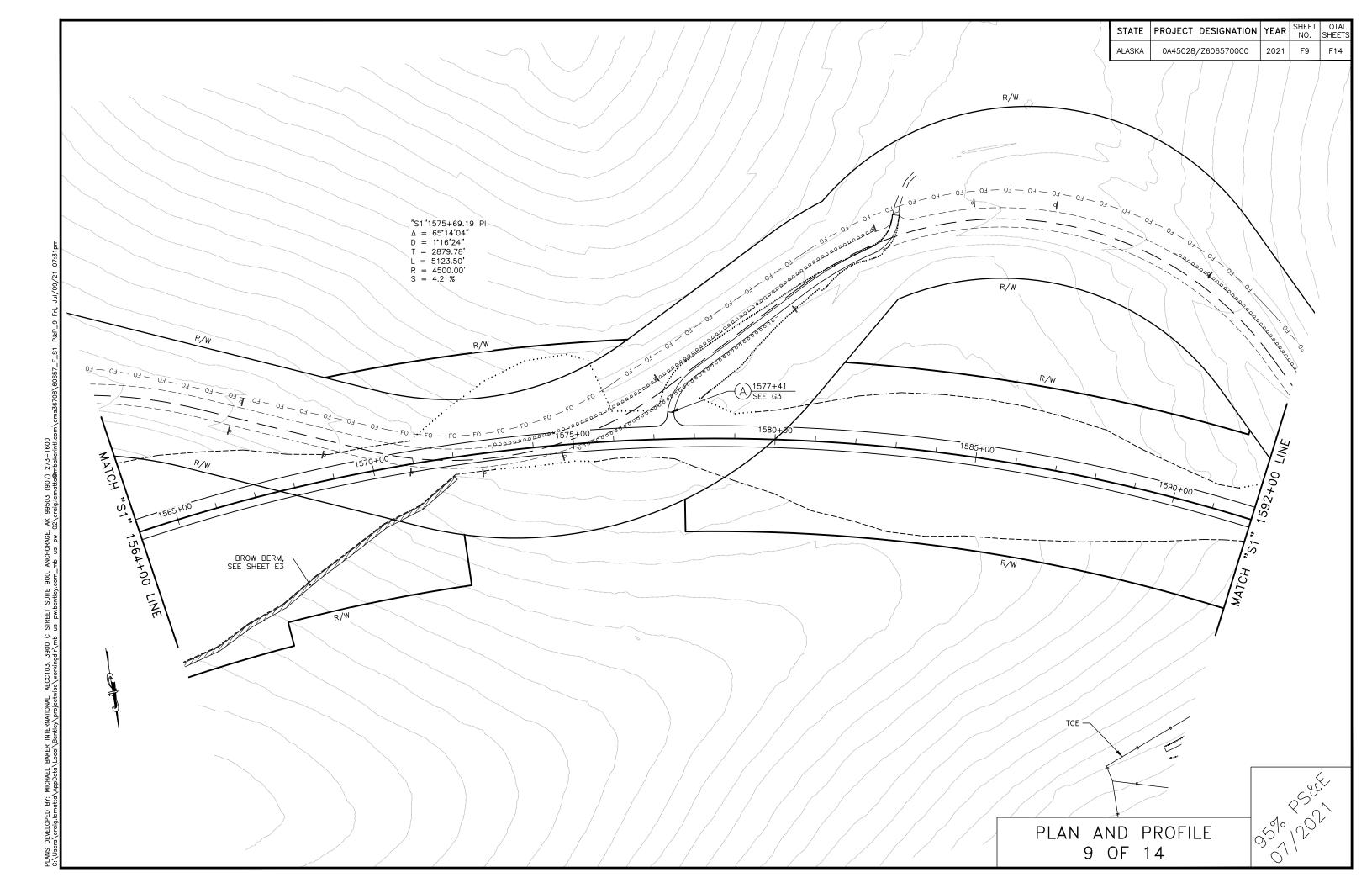


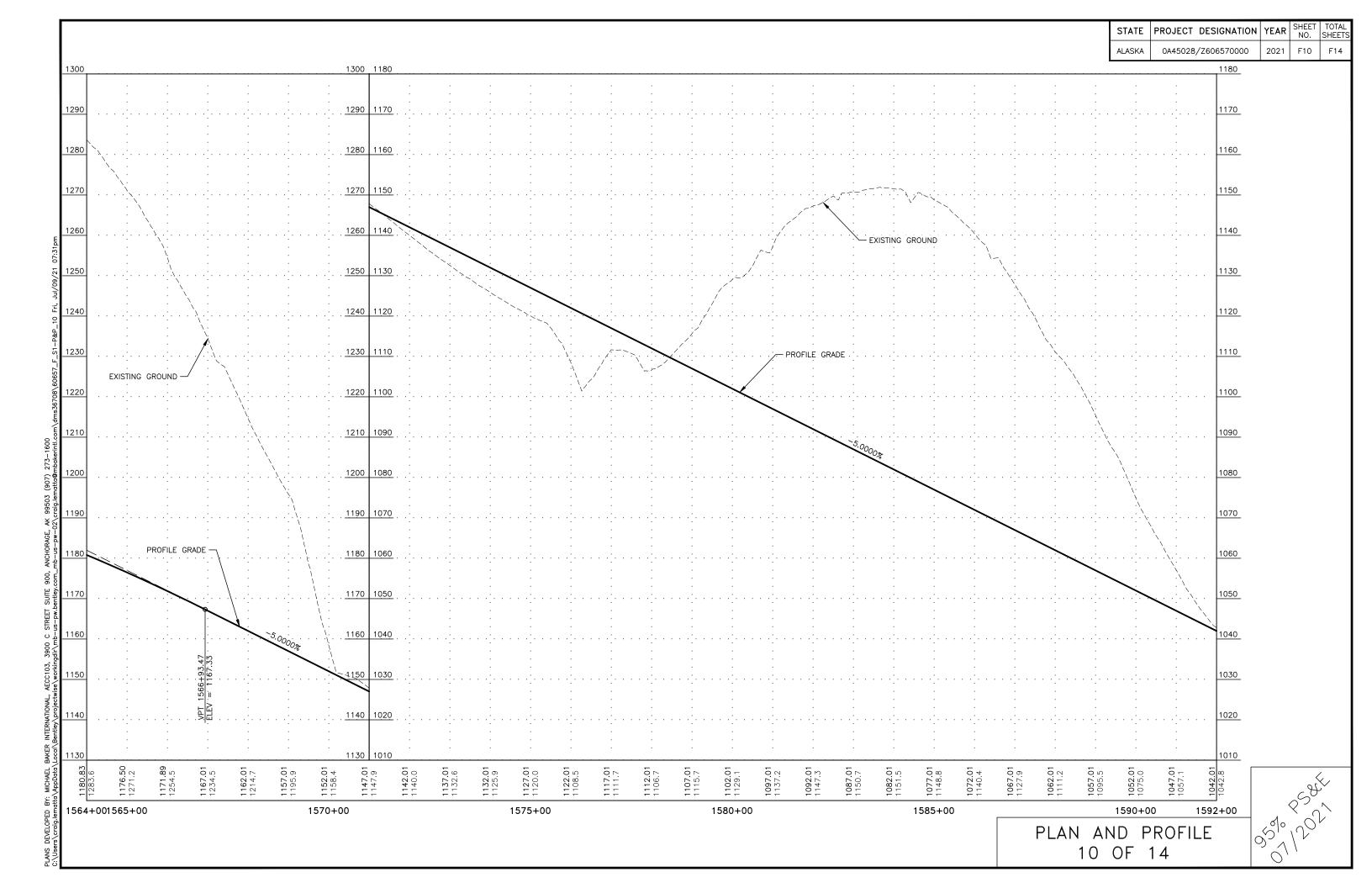


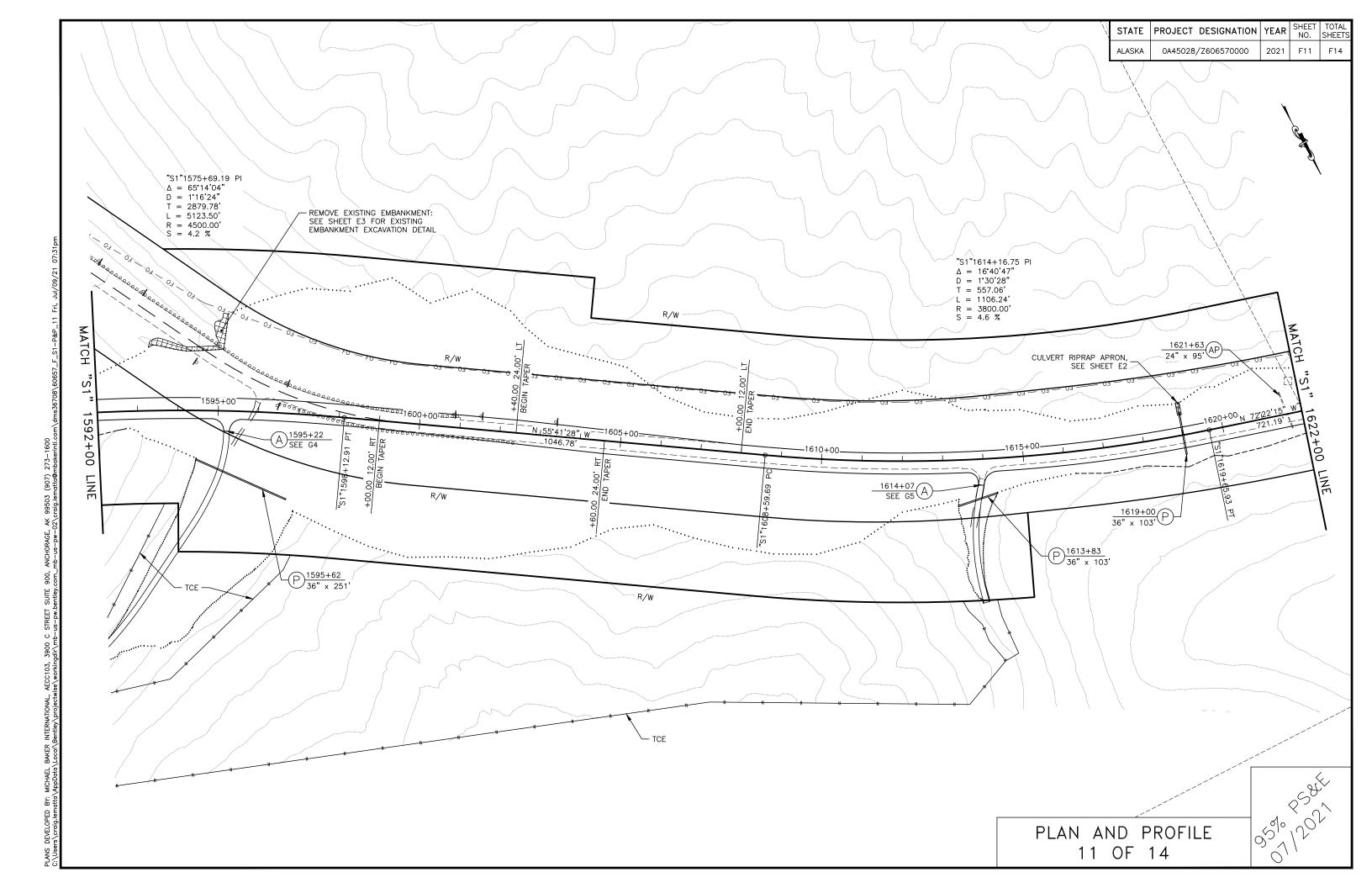


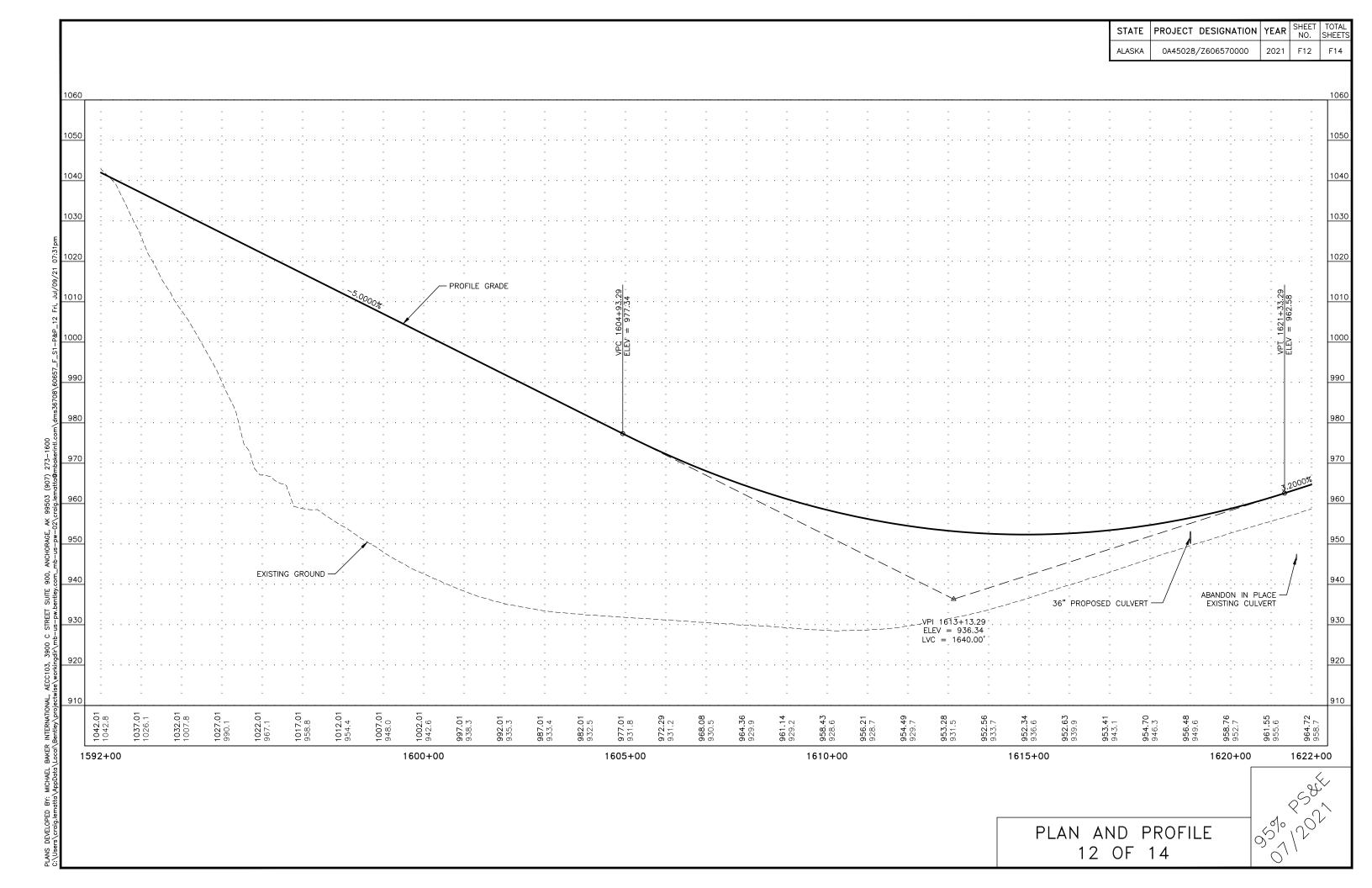


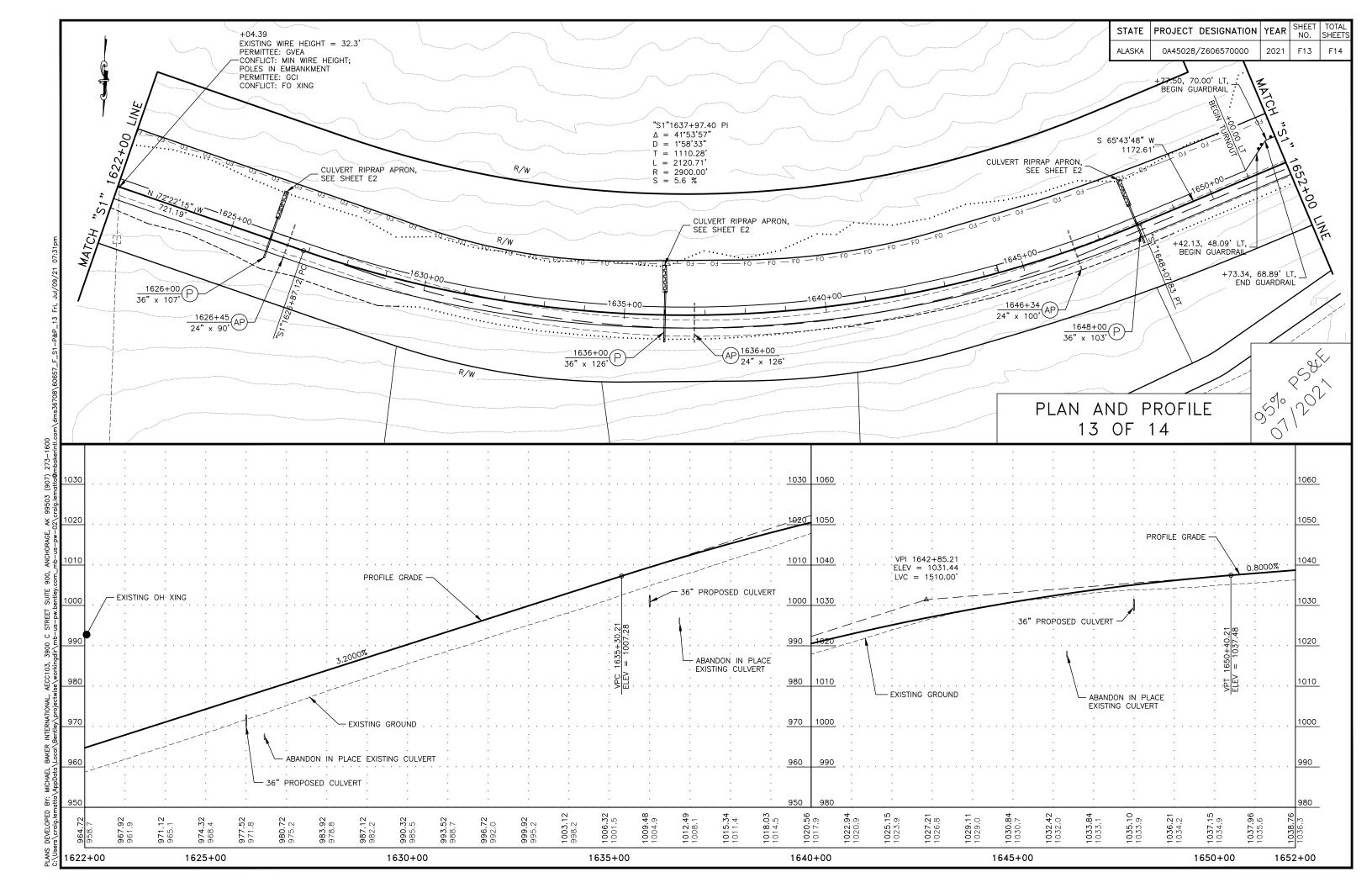


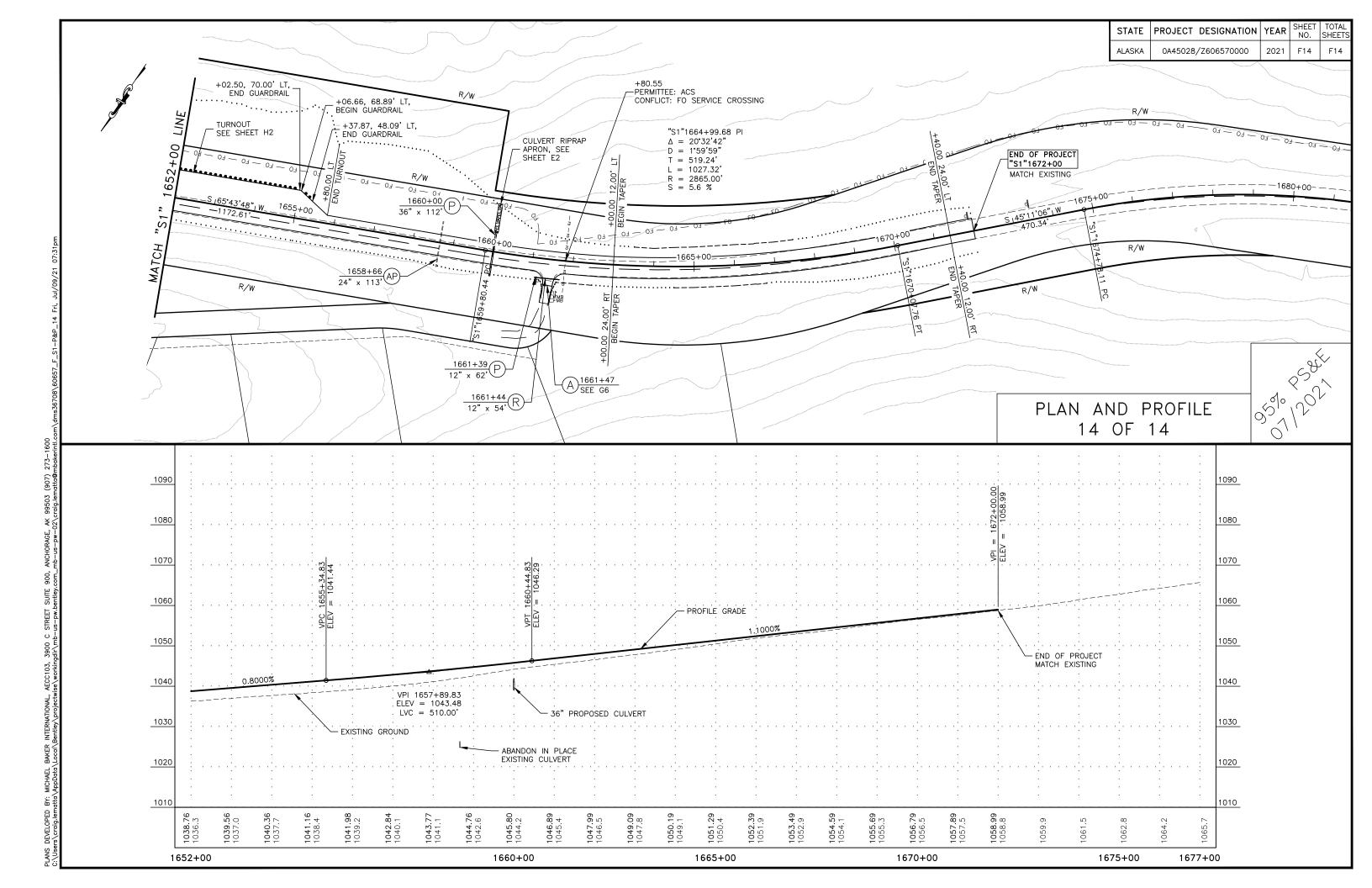


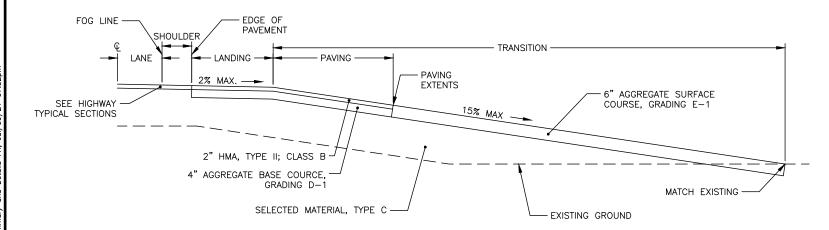


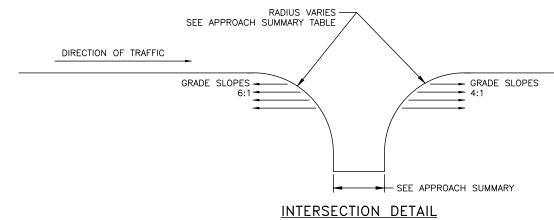




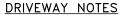




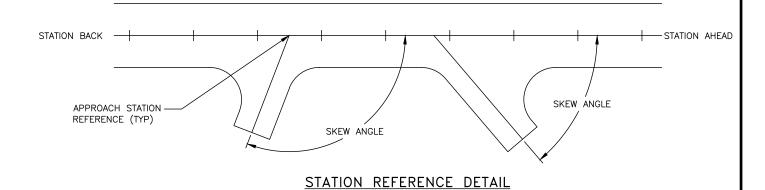




### RESIDENTIAL APPROACH ELEVATION



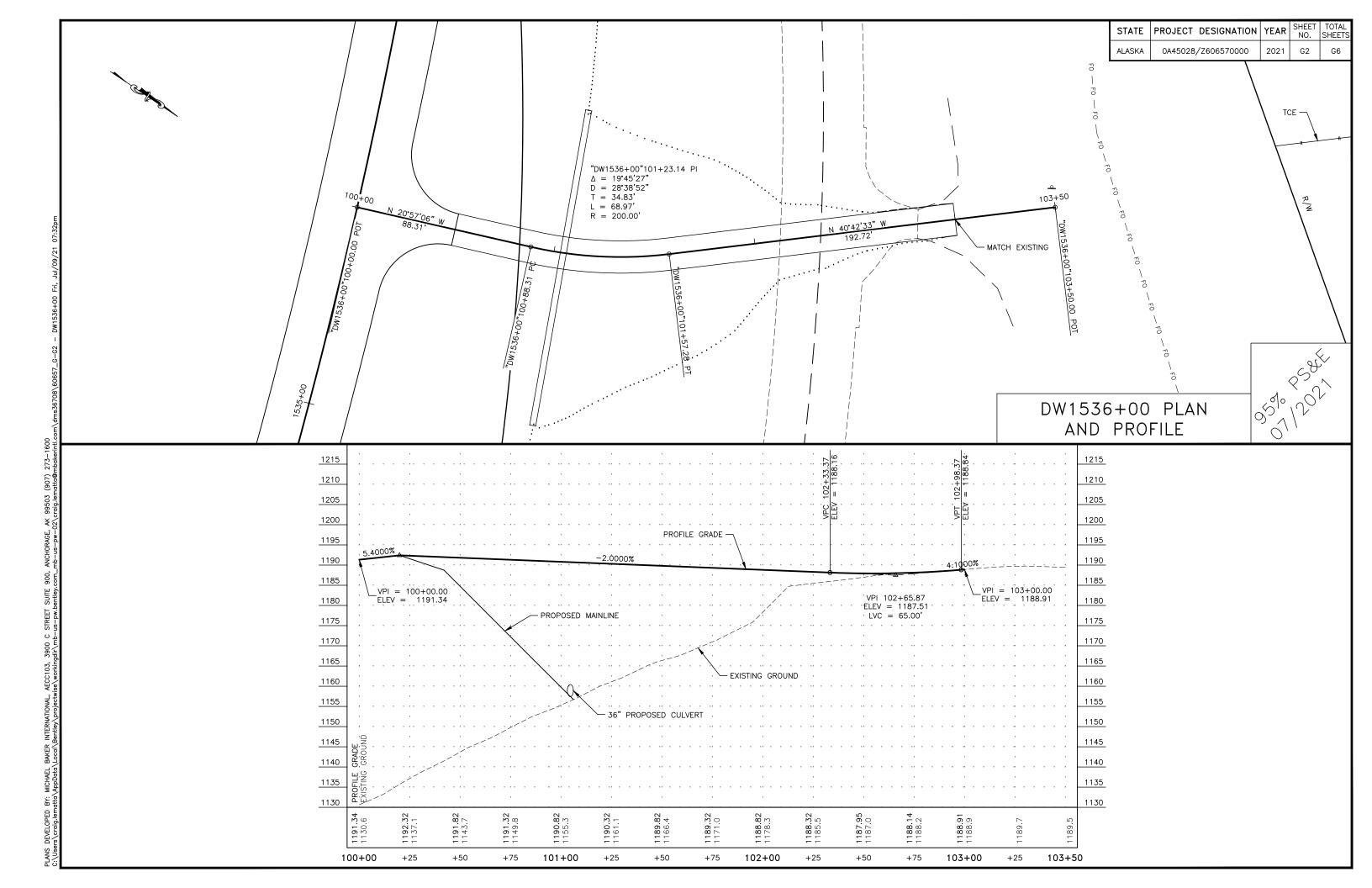
- 1. MATCH EXISTING EDGE OF APPROACH AND APPROXIMATE APPROACH LOCATION. TRANSITIONS, DIMENSIONS, AND LOCATIONS ARE LISTED IN THE APPROACH SUMMARY TABLE AND MAY BE FIELD ADJUSTED BY THE ENGINEER.
- 2. RE-GRADING APPROACH SLOPES IS SUBSIDIARY TO PAY ITEM 639.0001.0000.
- 3. IF NO VERTICAL CURVE IS CONSTRUCTED, THE MAXIMUM ALGEBRAIC DIFFERENCE BETWEEN LANDING GRADE AND TRANSITION IS NOT TO EXCEED 8%.

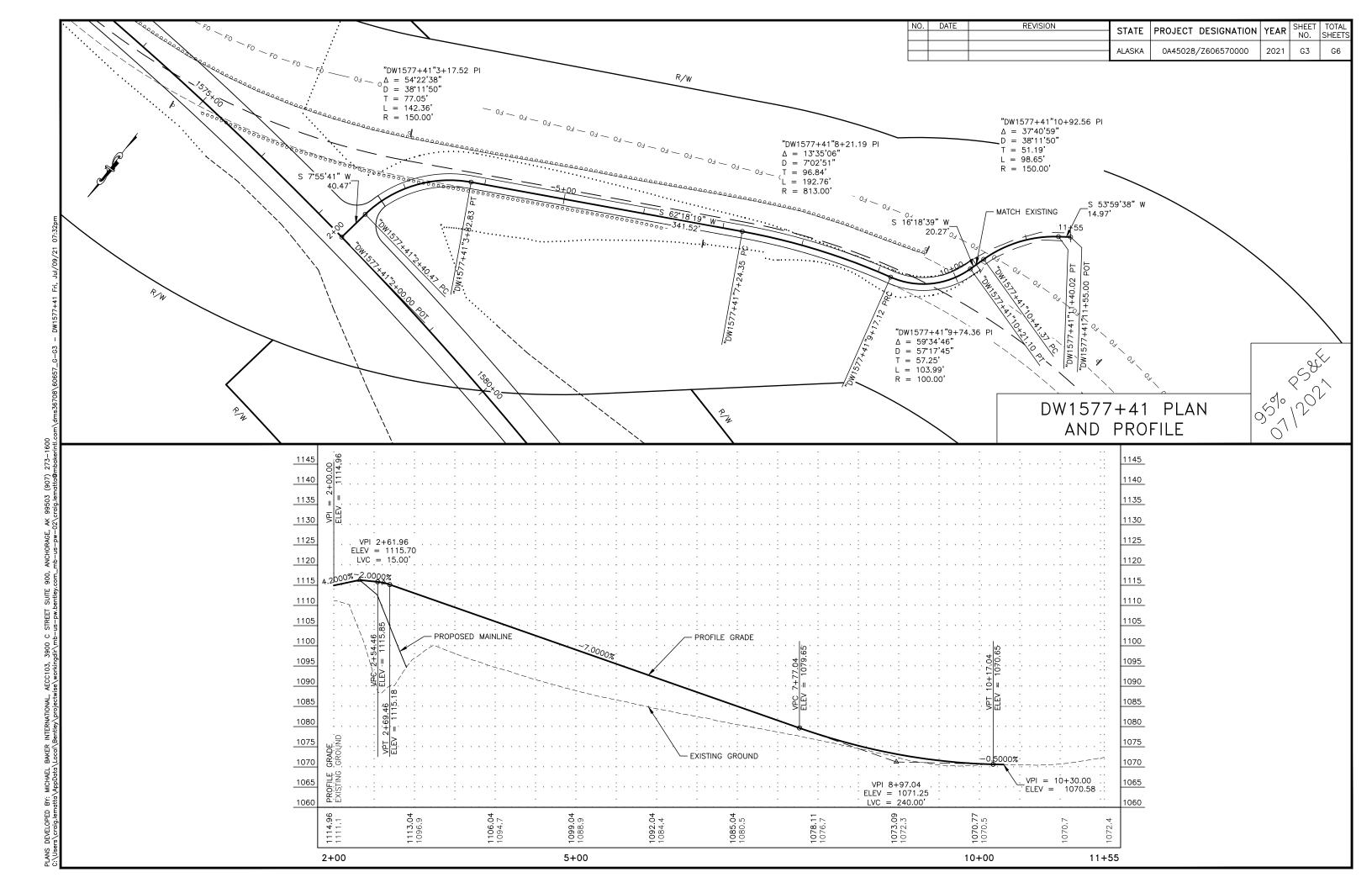


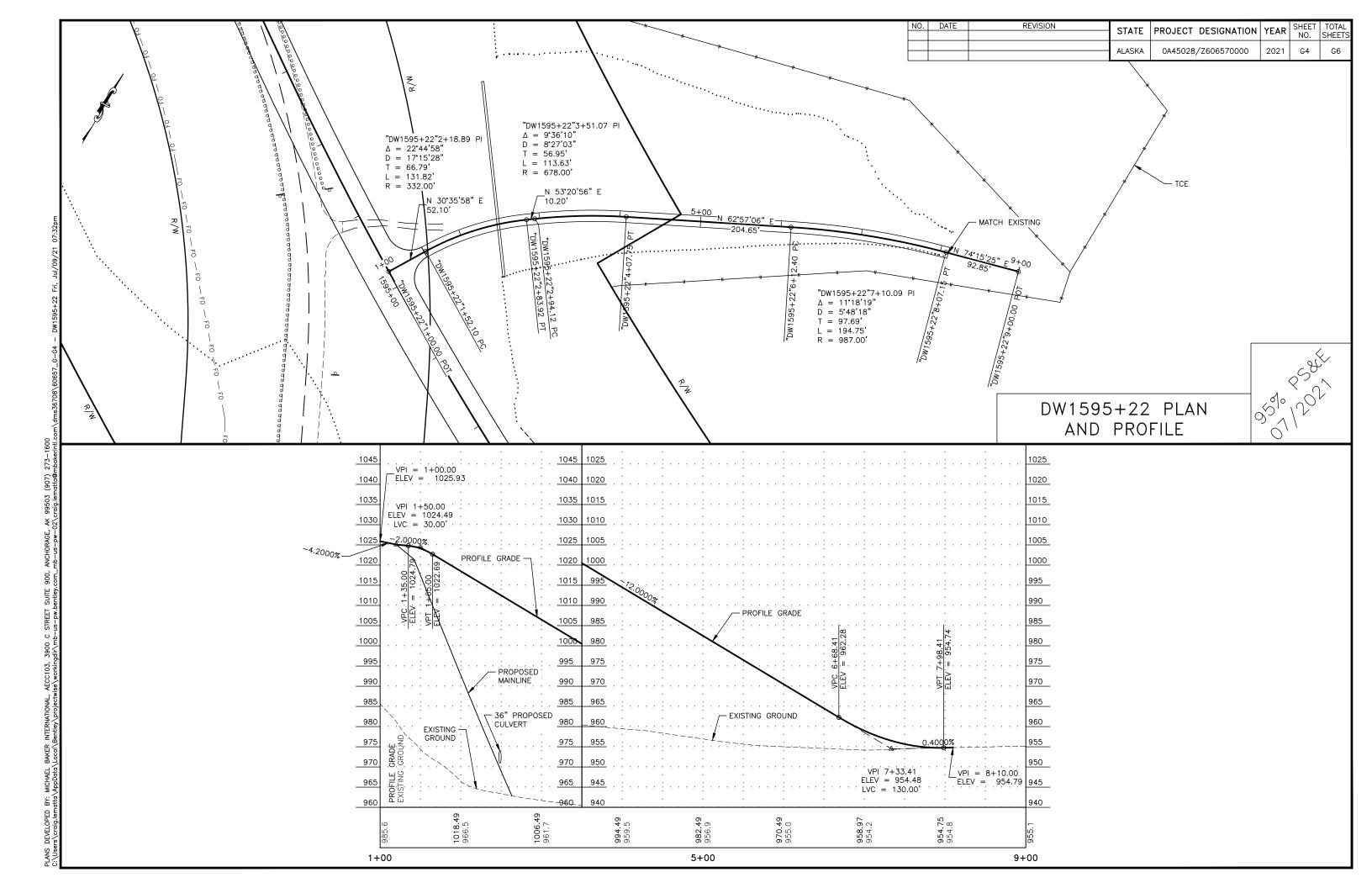
APPROACH INTERSECTION

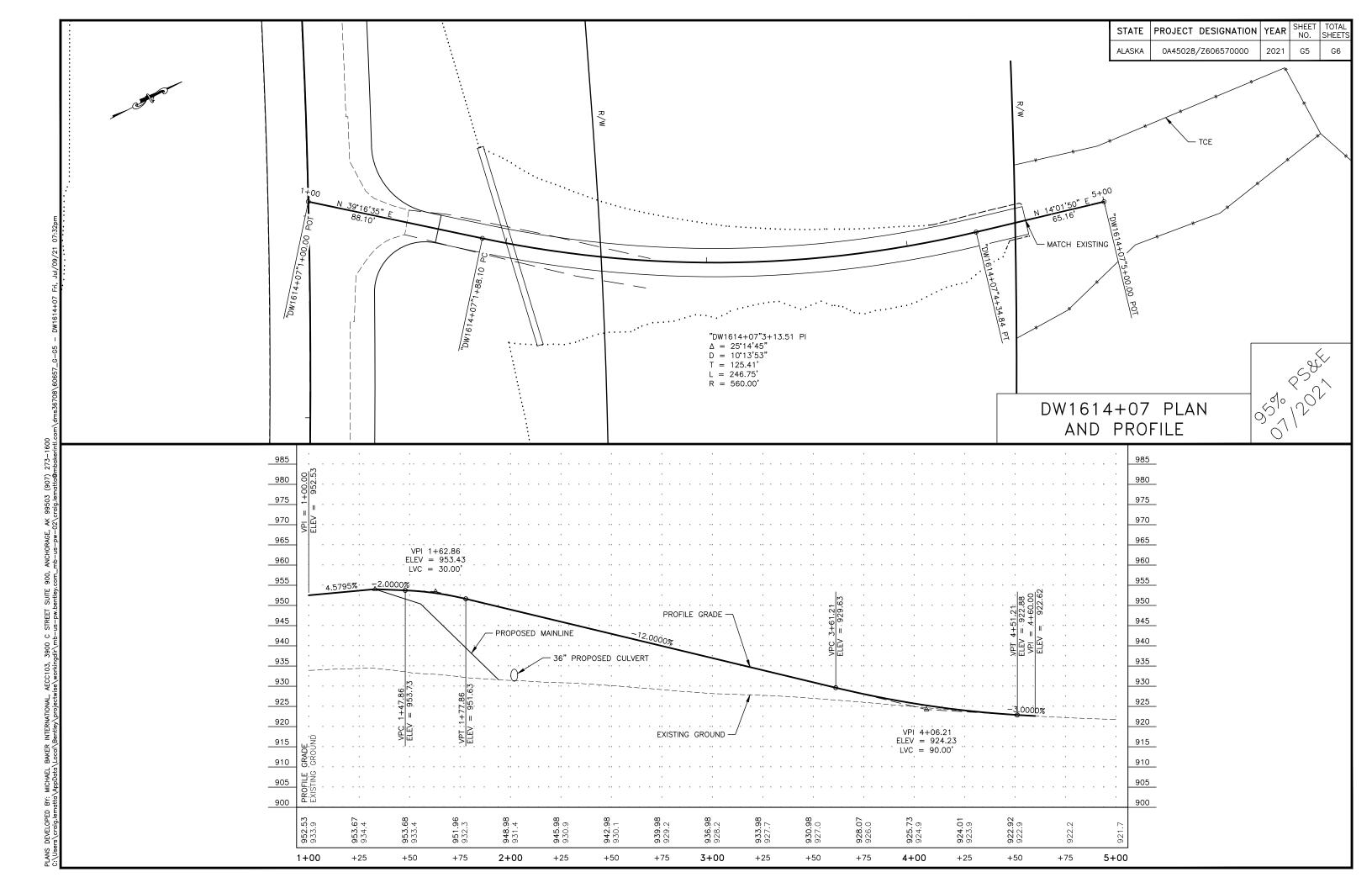
|         | 639.0001.0000 — APPROACH SUMMARY |       |             |                   |                  |         |            |                     |        |               |   |  |  |  |
|---------|----------------------------------|-------|-------------|-------------------|------------------|---------|------------|---------------------|--------|---------------|---|--|--|--|
| STATION | RT/LT                            | WIDTH | TYPE        | RAD<br>AHD<br>STA | IUS<br>BK<br>STA | LANDING | TRANSITION | TRANSITION<br>SLOPE | PAVING | SKEW<br>ANGLE | REMARKS   |  |  |  |
| 1409+59 | RT                               | 14'   | COMMERCIAL  | 20'               | 20'              | 20'     |            |                     | 20'    | 90°           | SEE SHEET G6  |  |  |  |
| 1447+82 | LT                               | 14'   | COMMERCIAL  | 40'               | 25'              | 30'     | 18'        | -10.00%             | 33'    | 102°          | ACCESS HAS ACCESS GATE BUT NO EXISTING PAVEMENT, SEE SHEET G6 |  |  |  |
| 1536+00 | RT                               | 16'   | COMMERCIAL  | 30'               | 30'              | 30'     |            |                     | 30'    | 90°           | EXTEND ACCESS TO REALIGNMENT,<br>SEE SHEET G2                 |  |  |  |
| 1577+41 | LT                               | 16'   | COMMERCIAL  | 30'               | 30'              | 30'     |            |                     | 35'    | 90°           | ACCESS ALONG EXISTING HIGHWAY ALIGNMENT, SEE SHEET G3         |  |  |  |
| 1595+22 | RT                               | 14'   | COMMERCIAL  | 30'               | 30'              | 30'     |            |                     | 30'    | 90°           | SEE SHEET G4  |  |  |  |
| 1614+07 | RT                               | 14'   | COMMERCIAL  | 30'               | 30'              | 30'     |            |                     | 33'    | 103°          | SEE SHEET G5  |  |  |  |
| 1661+47 | RT                               | 24'   | RESIDENTIAL | 30'               | 30'              | 30'     | 48'        | 2.95%               | 33'    | 94°           | SEE SHEET G6  |  |  |  |

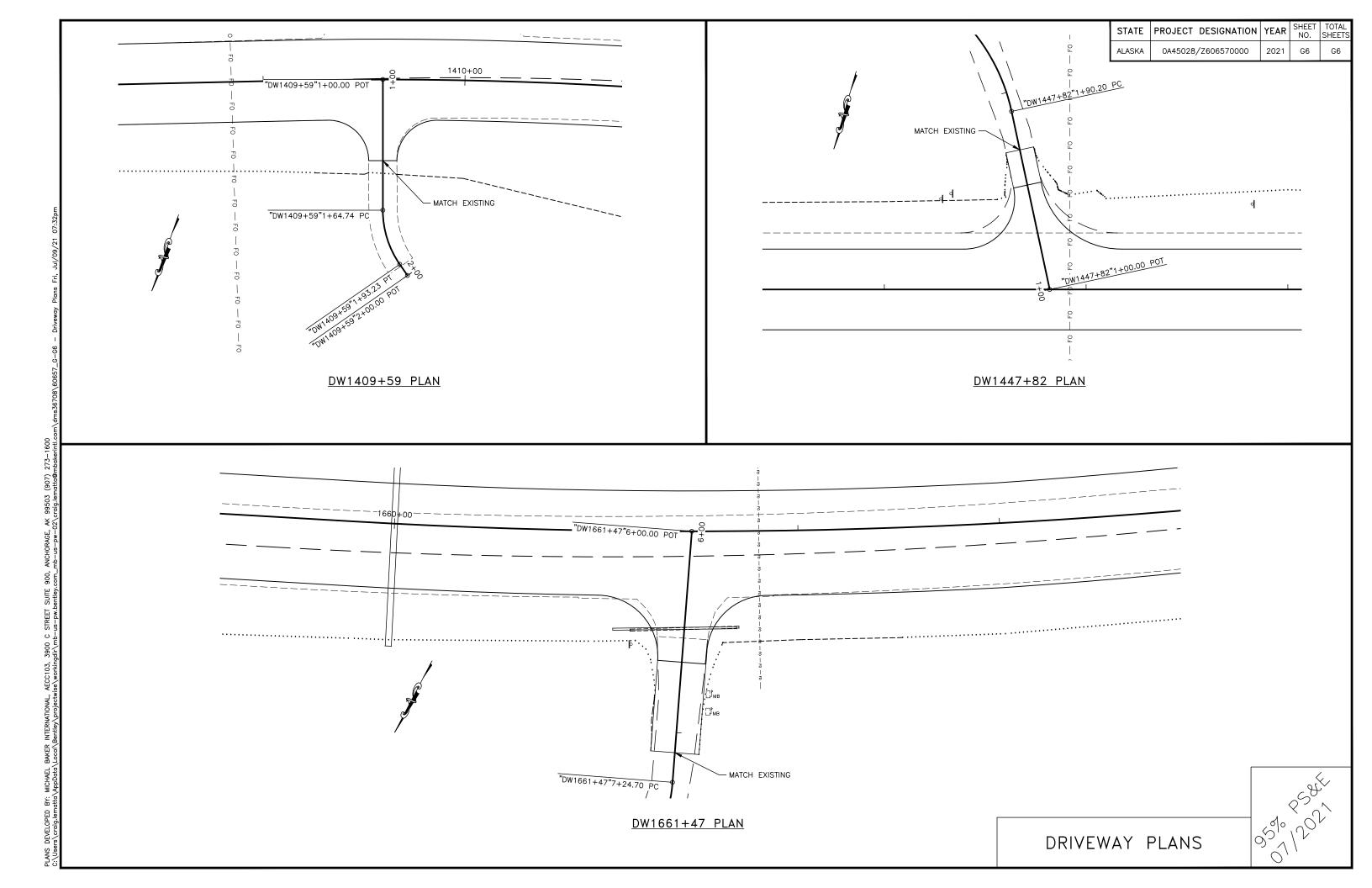
APPROACH SUMMARY
AND DETAILS











|           |           |      |      |         | SIG                                    | NING     | SUM    | 1MAR    | Y        |       |         |       |          |     |                            |
|-----------|-----------|------|------|---------|--|----------|--------|---------|----------|-------|---------|-------|----------|-----|----------------------------|
|           |           |      |      |         |  | SIZE     | BRAC   | ING/    |          | MTG.  |         |       | POST     |     |                            |
| Loc.      | STATION   | LOCA | TION | ASDS    | LEGEND                                 | нху      | FRA    | MING    | AREA     | HGT.  | DIR.    | TYPE  | SIZE     | NO. | REMARKS                    |
| No.       |           | LT.  | RT.  | CODE    |  | (INCHES) | BRACED | FRAMED  | (SQ.FT.) | (FT.) |         |       | (INCHES) |     |                            |
|           |           |      |      | D10-203 | MILE 325                               | 14 X 36  |        |         | 3.50     |       | W/E     |       |          |     | MESSAGE ON BOTH SIDES      |
| 1 1       | 1392+54   | X    |      |         | ADOPT A HIGHWAY                        | 30 X 24  | X      |         | 5.00     |       |         | PST   | 2.5      | 1   |                            |
|           |           |      |      | D14-100 | RRC                                    | 30 X 12  | X      |         | 2.50     |       | W       |       |          |     |                            |
|           |           |      |      |         |  |          |        |         |          |       |         |       | 1        |     |                            |
| 2         | 1447+33   | Х    |      | D10-203 | MILE 324                               | 14 X 36  |        |         | 3.50     |       | W/E     | PST   | 2.5      | 1   | MESSAGE ON BOTH SIDES      |
| <b></b> ' |           |      |      |         |  |          |        |         |          |       | •       |       |          |     |                            |
| 3         | 1499+00   |      | Х    | D17-2   | PASSING LANE 2 MILES                   | 42 X 42  | X      |         | 12.25    |       | Е       | PST   | 2.5      | 1   |                            |
|           |           |      |      |         |  |          |        |         |          |       |         |       | I        |     |                            |
| 4         | 1499+70   | Х    |      | D10-203 | MILE 323                               | 14 X 36  |        |         | 3.50     |       | W/E     | PST   | 2.5      | 1   | MESSAGE ON BOTH SIDES      |
|           |           |      |      |         |  |          |        |         |          |       | ,       |       |          |     |                            |
| 5         | 1542+00   |      | Х    | W16-102 | WATCH FOR ICE                          | 30 X 30  | X      |         | 6.25     |       | NE      | PST   | 2.5      | 1   |                            |
| $\vdash$  |           |      |      |         | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 00 X 00  |        |         |          |       |         |       | 2.0      | ·   |                            |
|           |           |      |      | R8-3    | NO PARKING                             | 36 X 36  | X      |         | 9.00     |       |         |       |          |     |                            |
| 6         | 1543+80   | X    |      | SPECIAL | SNOW PLOW TURN AROUND <>               |          | X      |         | 5.00     |       | NW      | PST   | 2.5      | 1   |                            |
|           |           |      |      | SFECIAL | SNOW FLOW TOKIN AROUND ()              | 30 X 24  | _ ^    |         | 3.00     |       |         |       |          |     |                            |
|           |           |      |      | D0 7    | NO DADIZINO                            | 70 V 70  |        |         | 0.00     |       |         |       |          |     | I                          |
| 7         | 1544+30   | X    |      | R8-3    | NO PARKING                             | 36 X 36  | X      |         | 9.00     |       | NW      | PST   | 2.5      | 1   |                            |
|           |           |      |      | SPECIAL | SNOW PLOW TURN AROUND <>               | 30 X 24  | X      |         | 5.00     |       |         |       |          |     |                            |
|           |           |      | 1    |         |  |          |        |         |          |       |         | ı     |          | ı   |                            |
| 8         | 1546+00   | Χ    |      | D10-203 | MILE 322                               | 14 X 36  |        |         | 3.50     |       | SW/NE   | PST   | 2.5      | 1   | MESSAGE ON BOTH SIDES      |
| <u> </u>  |           |      |      |         |  |          |        |         |          |       |         |       |          |     |                            |
|           |           |      |      |         | Nenana 17                              |          |        |         |          |       |         |       |          |     |                            |
| 9         | 1547+55   |      | X    | D2-3    | Clear 43                               | 78 X 42  | X      |         | 22.75    |       | NE      | TS    | 3        | 2   | SEE NOTES 13 AND 14        |
|           |           |      |      |         | Anchorage 322                          |          |        |         |          |       |         |       |          |     |                            |
| 10        | 1550 : 41 |      | \ \  | 147 4   | (LIII.) SYMBOL                         | 70 V 70  |        |         | C 0F     |       | NE      | DCT   | 0.5      | 1   |                            |
| 10        | 1550+41   |      | Х    | W7-1    | (HILL) SYMBOL                          | 30 X 30  | X      |         | 6.25     |       | NE      | PST   | 2.5      | 1   |                            |
| 11        | 1567+40   | Х    |      | W4-2R   | (RIGHT LANE ENDS) SYMBOL               | 36 X 36  |        |         | 0.00     |       | W       | PST   | 2.5      | 1   |                            |
| 11        | 1367+40   |      |      | W4-ZK   | (RIGHT LAINE EINDS) STMBOL             | 36 X 36  | X      |         | 9.00     |       | VV      | P31   | 2.5      | !   |                            |
| 12        | 1572+40   | Х    |      | W9-1    | RIGHT LANE ENDS                        | 36 X 36  | X      |         | 9.00     |       | W       | PST   | 2.5      | 1   |                            |
| 12        | 1372+40   |      |      | W9-1    | RIGHT LANE ENDS                        | 30 X 30  | _ ^    |         | 9.00     |       | VV      | F31   | 2.5      | '   |                            |
| 13        | 1593+20   | Х    |      | D10-203 | MILE 321                               | 14 X 36  |        |         | 3.50     |       | NW/SE   | PST   | 2.5      | 1   | MESSAGE ON BOTH SIDES      |
| 13        | 1393+20   | ^    |      | D10-203 | MILE 321                               | 14 / 30  |        |         | 3.30     |       | INW/ SL | F31   | 2.5      | ı   | MESSAGE ON BOTH SIDES      |
| 14        | 1602+40   | Х    |      | R4-5    | TRUCKS USE RIGHT LANE                  | 24 X 30  | X      |         | 5.00     |       | NW      | PST   | 2.5      | 1   |                            |
| 14        | 1602+40   |      |      | K4-5    | TRUCKS USE RIGHT LAINE                 | 24 X 30  | _ ^    |         | 5.00     |       | INW     | P31   | 2.5      | !   |                            |
| 15        | 1604+60   |      | Х    | R4-16   | KEEP RIGHT EXCEPT TO PASS              | 24 X 30  | Х      |         | 5.00     |       | SE      | PST   | 2.5      | 1   | I                          |
| 15        | 1604+60   |      | _ ^  | K4-16   | REEP RIGHT EXCEPT TO PASS              | 24 X 30  | _ ^    |         | 3.00     |       | - SE    | F31   | 2.5      | '   |                            |
| 16        | 1628+80   | Х    |      | D17-2   | TRUCK LANE 1/2 MILE                    | 42 X 42  | X      |         | 12.25    |       | W       | PST   | 2.5      | 1   | I                          |
|           | 1020+00   |      |      | D17-2   | THOOK BARE 172 WILL                    | 42 X 42  | _ ^    |         | 12.23    |       | v v     | ГЭТ   | 2.5      | '   |                            |
| 17        | 1644+33   | Х    |      | D10-203 | MILE 320                               | 14 X 36  |        |         | 3.50     |       | W/E     | PST   | 2.5      | 1   | MESSAGE ON BOTH SIDES      |
| '         | 10+++33   | _ ^  |      | D10-203 | WILL 520                               | 17 / 20  |        |         | 5.50     |       | **/ L   | F 31  | ۷.۵      | '   | INITO SUPER OIL DOLL SIDES |
| 18        | 1646+00   |      | Х    | W9-1    | RIGHT LANE ENDS                        | 36 X 36  | X      |         | 9.00     |       | E       | PST   | 2.5      | 1   |                            |
| '0        | 10+0+00   |      | _ ^  | 113-1   | MOITI DANE LINDS                       | JU N JU  | _ ^    |         | 3.00     |       |         | 1 31  | 2.0      |     |                            |
| 19        | 1651+00   |      | Х    | W4-2R   | (RIGHT LANE ENDS) SYMBOL               | 36 X 36  | Х      |         | 9.00     |       | NE      | PST   | 2.5      | 1   |                            |
| 19        | 1001100   |      | _ ^  | 117-211 | ( CHOIN BULL LINDS) STRIBUL            | JO X JO  | ^      |         | 3.00     |       | 114     | ' ' ' | 2.0      | '   |                            |
|           |           |      |      | D3-1    | Dineegee Ave                           | 60 X 12  |        |         | 5.00     |       | SW/NE   |       |          |     | MESSAGE ON BOTH SIDES      |
| 20        | 1661+66   |      | Х    | R1-1    | STOP                                   | 30 X 30  |        |         | 6.25     |       | NW      | PST   | 2.5      | 1   | INCOMOL ON DOTTI SIDES     |
| $\vdash$  |           | 1    |      | 101=1   | J 510F                                 | JO A JO  |        | TOTAL = |          |       | 1444    | l     |          |     |                            |
|           |           |      |      |         |  |          | 300    | TOTAL = | 1/3.30   |       |         |       |          |     |                            |

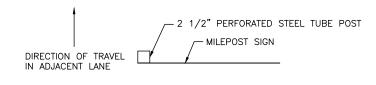
| FASTENER SPECIFICATION TABLE |            |                 |  |
|------------------------------|------------|-----------------|--|
| FASTENERS                    | STEEL      | STAINLESS STEEL |  |
| BOLTS                        | ASTM A 307 | ASTM F 593      |  |
| NUTS                         | ASTM A 563 | ASTM F 594      |  |
| WASHERS                      | ASTM F 844 | ASTM A 480      |  |

THESE SPECIFICATIONS APPLY TO ALL SIGN FASTENER HARDWARE ON THE PROJECT.

**POST TYPE LEGEND:** 

= TUBE STEEL

PST = PERFORATED STEEL TUBE



MILEPOST MOUNTING DETAIL

#### **SIGNING NOTES:**

- 1. REMOVE AND DISPOSE OF ALL EXISTING SIGNS AND SIGN FOUNDATIONS WITHIN THE PROJECT LIMITS.
- 2. INSTALL MILEPOST SIGNS (D10-203 SERIES) IN ACCORDANCE WITH STANDARD PLAN S-05.02, EXCEPT WITH A 15 TO 30 FOOT OFFSET. REDUCE THE OFFSET AS NECESSARY SO THE BOTTOM OF THE SIGN IS NO MORE THAN 15 FEET ABOVE THE GROUND. THE SIGN OFFSET SHALL NOT BE LESS THAN THE OFFSETS SHOWN IN S-05.02.

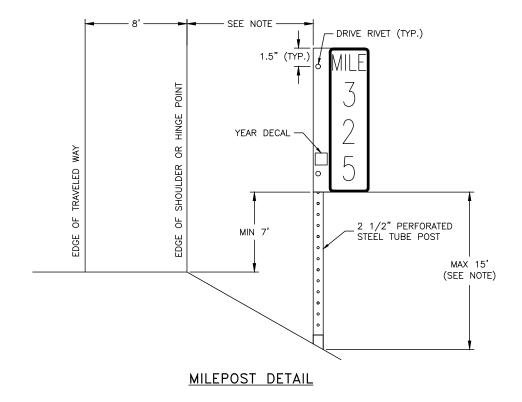
STATE PROJECT DESIGNATION YEAR 0A45028/Z606570000

2021

Н1

Н8

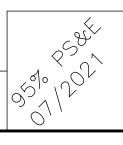
- 3. MOUNTING HEIGHTS ARE PER STANDARD PLAN S-05.02 UNLESS OTHERWISE NOTED.
- 4. DETERMINE POST LENGTHS IN THE FIELD. DO NOT EXTEND POSTS ABOVE TOP OF SIGN.
- 5. INSTALL PST SIGN POSTS WITH SLEEVE TYPE CONCRETE FOUNDATION PER STANDARD PLAN S-30.05. ATTACH THE SIGN POST TO THE SLEEVE USING GALVANIZED 3/8" BOLT, NUT, SPLIT LOCK WASHER AND TWO FLAT WASHERS.
- 6. 1/4" X 1 1/2" ALUMINUM ALLOY 6061-T6 BAR MAY ALSO BE USED TO FABRICATE SIGN BRACES.
- 7. ATTACH ALL SIGNS TO THEIR SUPPORTS WITH 3/8" BOLTS, EXCEPT ATTACH UNFRAMED SIGNS TO PST POSTS WITH ALUMINUM DRIVE RIVETS. WIND WASHERS ARE NOT REQUIRED WITH DRIVE RIVETS. INCLUDE SPLIT LOCK WASHERS WHEN BOLTS ARE USED.
- 8. ALL FASTENER HARDWARE SHALL MEET THE REQUIREMENTS OF THE "FASTENER SPECIFICATION TABLE" ON SHEET H1.
- 9. MAINTAIN EXISTING SIGNS UNTIL NEW SIGNS ARE INSTALLED. DO NOT LEAVE DUPLICATE OR CONFLICTING SIGNING UP AT ANY TIME.
- 10. LOCATE AND PROTECT ALL NEW AND EXISTING UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO: FIBER OPTIC CABLE, TELEPHONE AND ELECTRICAL CABLES, PRIOR TO INSTALLING SIGN POSTS. NOT ALL EXISTING UTILITIES MAY BE SHOWN ON THE PLANS.
- 11. THE 4" MOUNTING AREA ON MILEPOST SIGNS (D10-203 SERIES) SHALL BE BARE ALUMINUM. THIS ELIMINATES THE OPTION OF INSTALLING GREEN REFLECTIVE SHEETING IN THIS AREA AS NOTED IN THE ASDS.
- 12. FABRICATE ALL SIGNS FROM 0.125 INCH THICK SHEET ALUMINUM.
- 13. INSTALL WEATHER TIGHT CAPS ON ALL TS POSTS.
- 14. INSTALL FRANGIBLE COUPLING SYSTEMS IN ACCORDANCE WITH STANDARD PLAN S-31.02.
- 15. CLEARING, AS DIRECTED BY ENGINEER, MAY BE REQUIRED TO ENSURE ADEQUATE VISIBILITY OF SIGNS. THIS WORK IS SUBSIDIARY TO PAY ITEM 615.0001.0000.



#### MILEPOST SIGN NOTE:

INSTALL MILEPOST SIGNS (D10-203 SERIES) WITH A 15 TO 30 FOOT OFFSET. REDUCE THE OFFSET AS NECESSARY SO THE BOTTOM OF THE SIGN IS NO MORE THAN 15 FEET ABOVE THE GROUND. THE SIGN OFFSET SHALL NOT BE LESS THAN THE OFFSETS SHOWN ON STANDARD PLAN S-05.02.

SIGNING SUMMARY

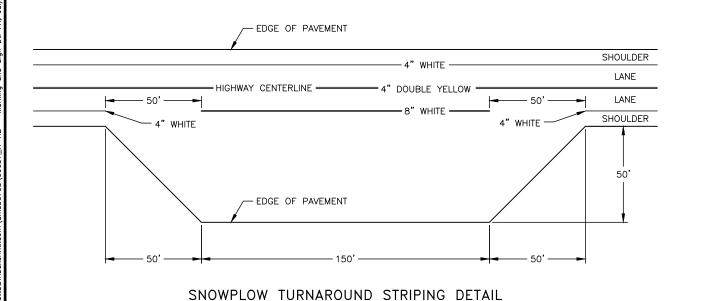


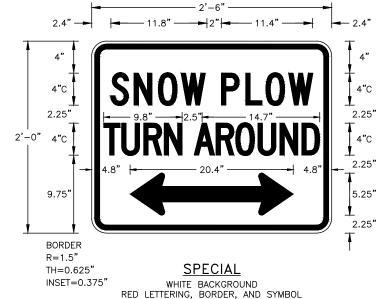
| STATE  | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|--------|---------------------|------|--------------|-----------------|
| ALASKA | 0A45028/Z606570000  | 2021 | H2           | Н8              |

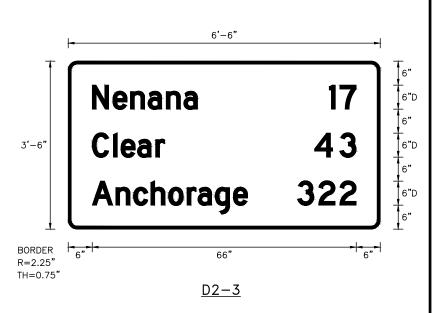
| PAINTED TRAFFIC MARKINGS SUMMARY |             |  |  |  |
|----------------------------------|-------------|--|--|--|
| DESCRIPTION                      | LENGTH (FT) | REMARKS  |  |  |
| 4" WHITE                         | 55,070      |  |  |  |
| 4" WHITE SKIP                    | 8,740       | SEE AUXILIARY LANE STRIPING DETAIL ON SHEET H3 |  |  |
| 8" WHITE                         | 480         | SEE TURNOUT STRIPING DETAIL                    |  |  |
| 4" DOUBLE YELLOW                 | 18,100      |  |  |  |
| 4" YELLOW                        | 7,400       |  |  |  |
| 4" YELLOW SKIP                   | 9,800       |  |  |  |
| LANE DROP ARROW                  | 6 (EACH)    | SEE AUXILIARY LANE STRIPING DETAIL ON SHEET H3 |  |  |

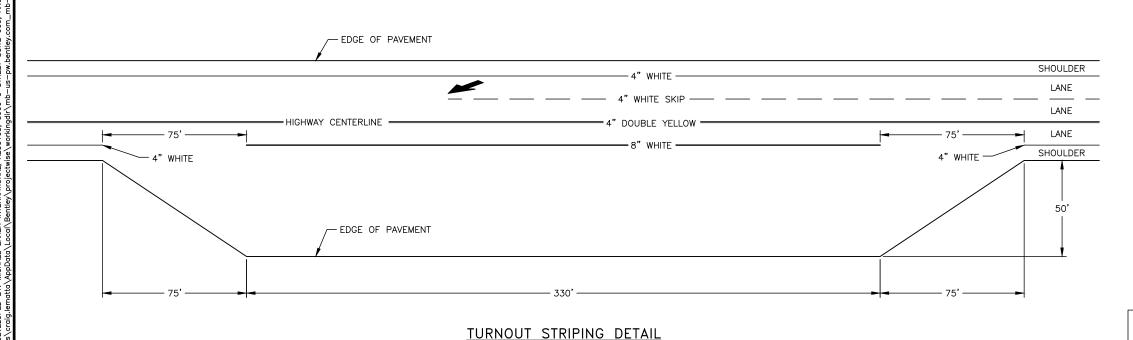
#### TRAFFIC MARKING NOTES:

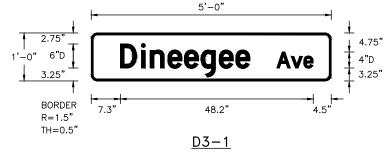
- 1. IF NEW AND EXISTING LONGITUDINAL MARKINGS ARE NOT ALIGNED AT THE MATCH LINE, TRANSITION BETWEEN THE TWO USING A 100:1 TAPER.
- 2. THE STRIPE/SKIP RATIO FOR THIS PROJECT WILL BE 10 FT/30 FT. THE PASS/NO-PASS ZONES WILL BE DETERMINED IN THE FIELD BY THE CONTRACTOR ACCORDING TO SECTION 670. THIS WORK IS SUBSIDIARY TO PAY ITEM 670.0001.0000 PAINTED TRAFFIC MARKINGS.
- 3. PAVEMENT MARKINGS WILL BE PLACED IN ACCORDANCE WITH STANDARD PLANS T-20.04 AND T21.04 AND SECTION 670.
- 4. LENGTH OF 4" DOUBLE YELLOW IS BASED ON A CONTINUOUS 4" DOUBLE YELLOW STRIPE THROUGH THE LENGTH OF THE PROJECT. NO ADJUSTMENT WILL BE MADE TO THE 670.0001.0000 PAY ITEM FOR DIFFERENCES IN QUANTITY OF YELLOW STRIPE ACCORDING TO 670-3.05, PRELIMINARY SPOTTING.





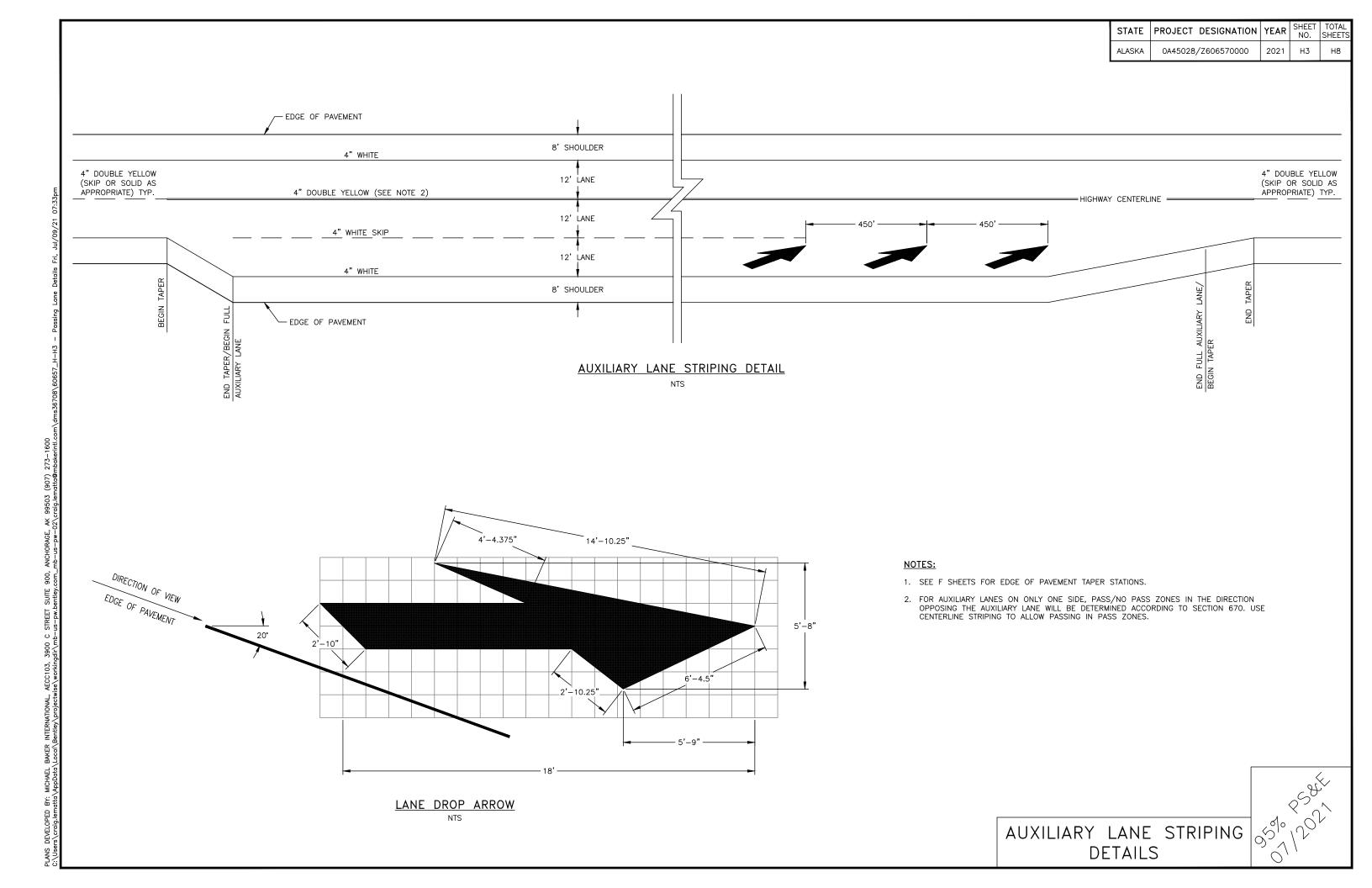


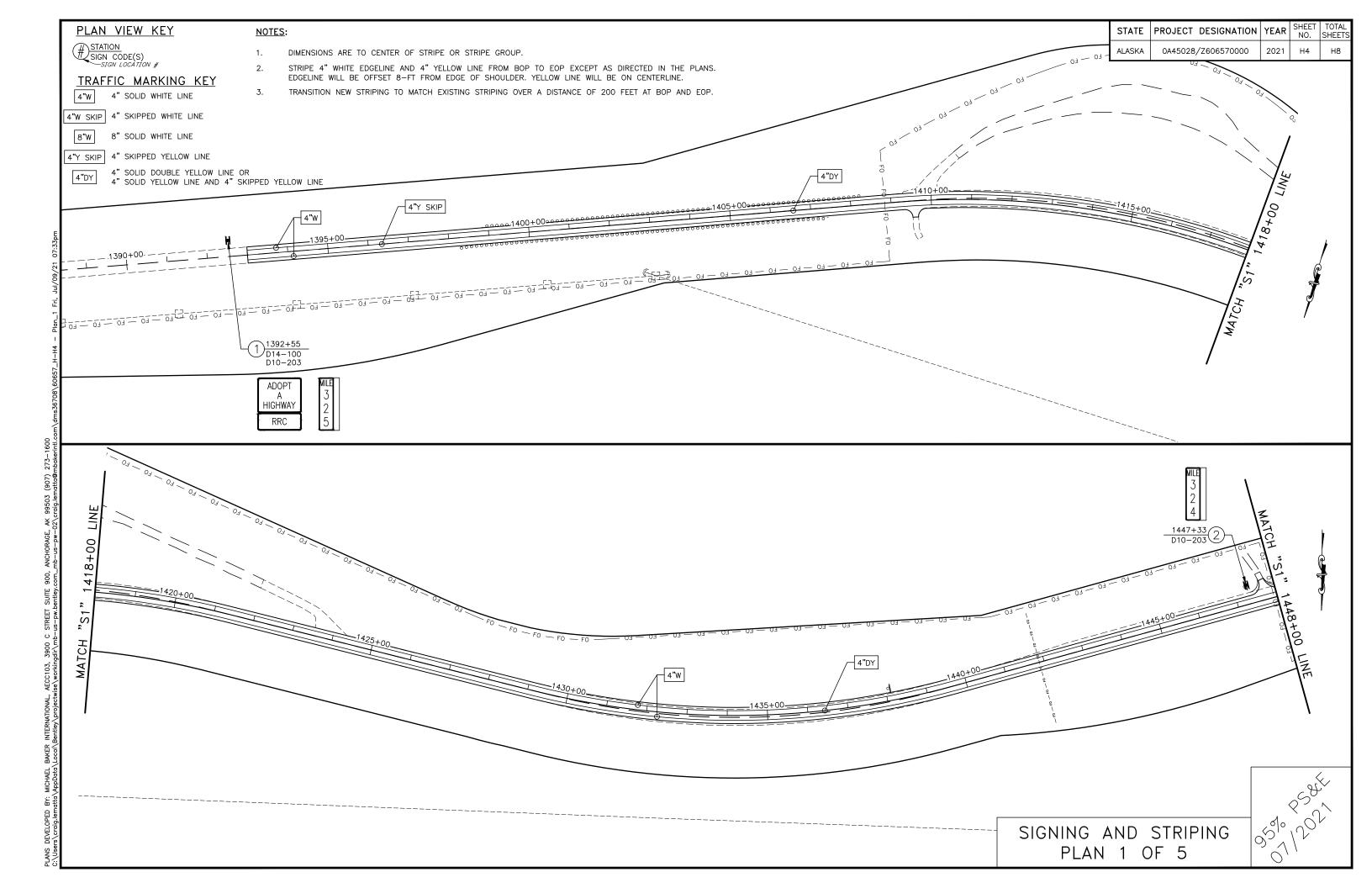


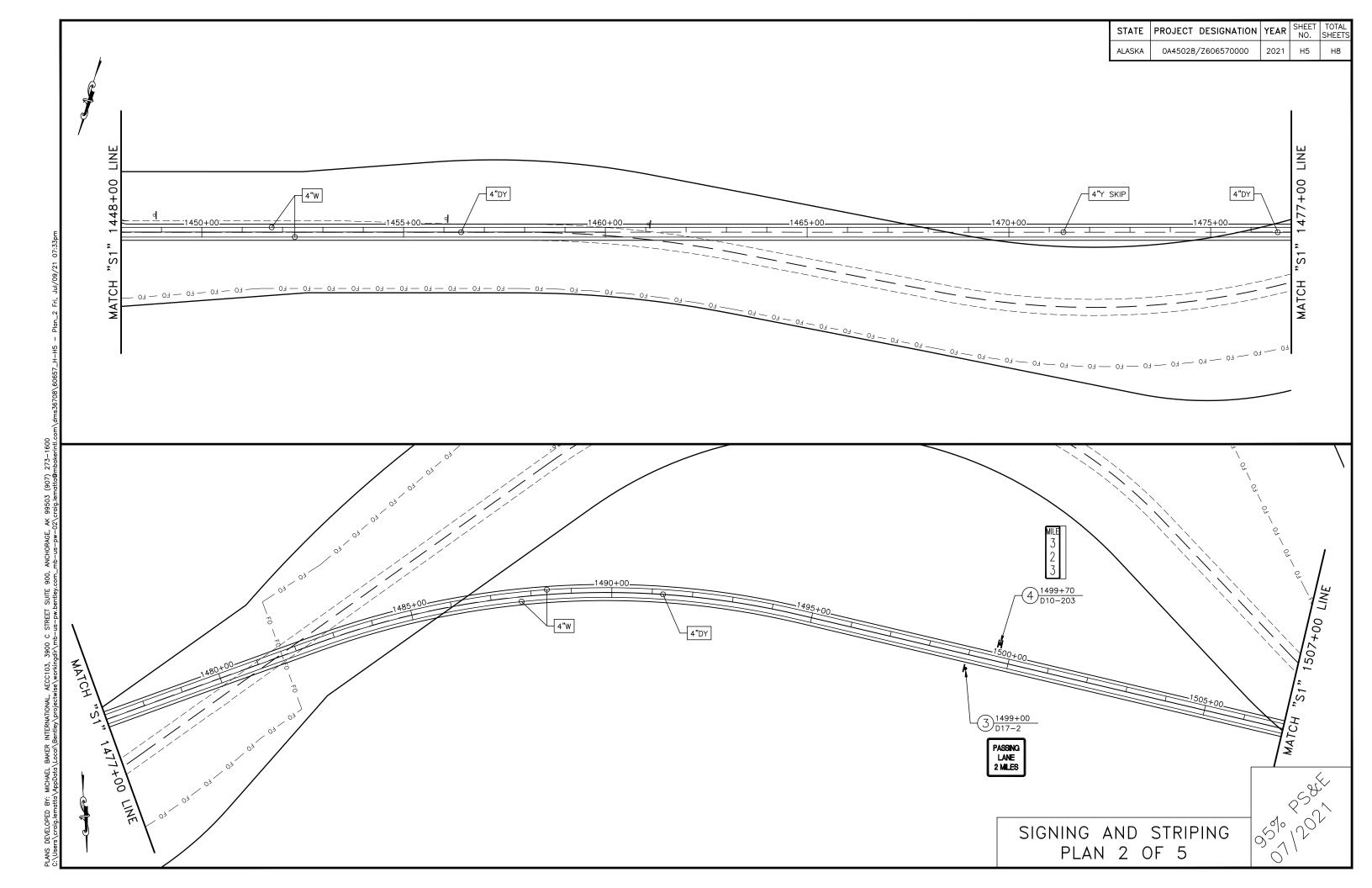


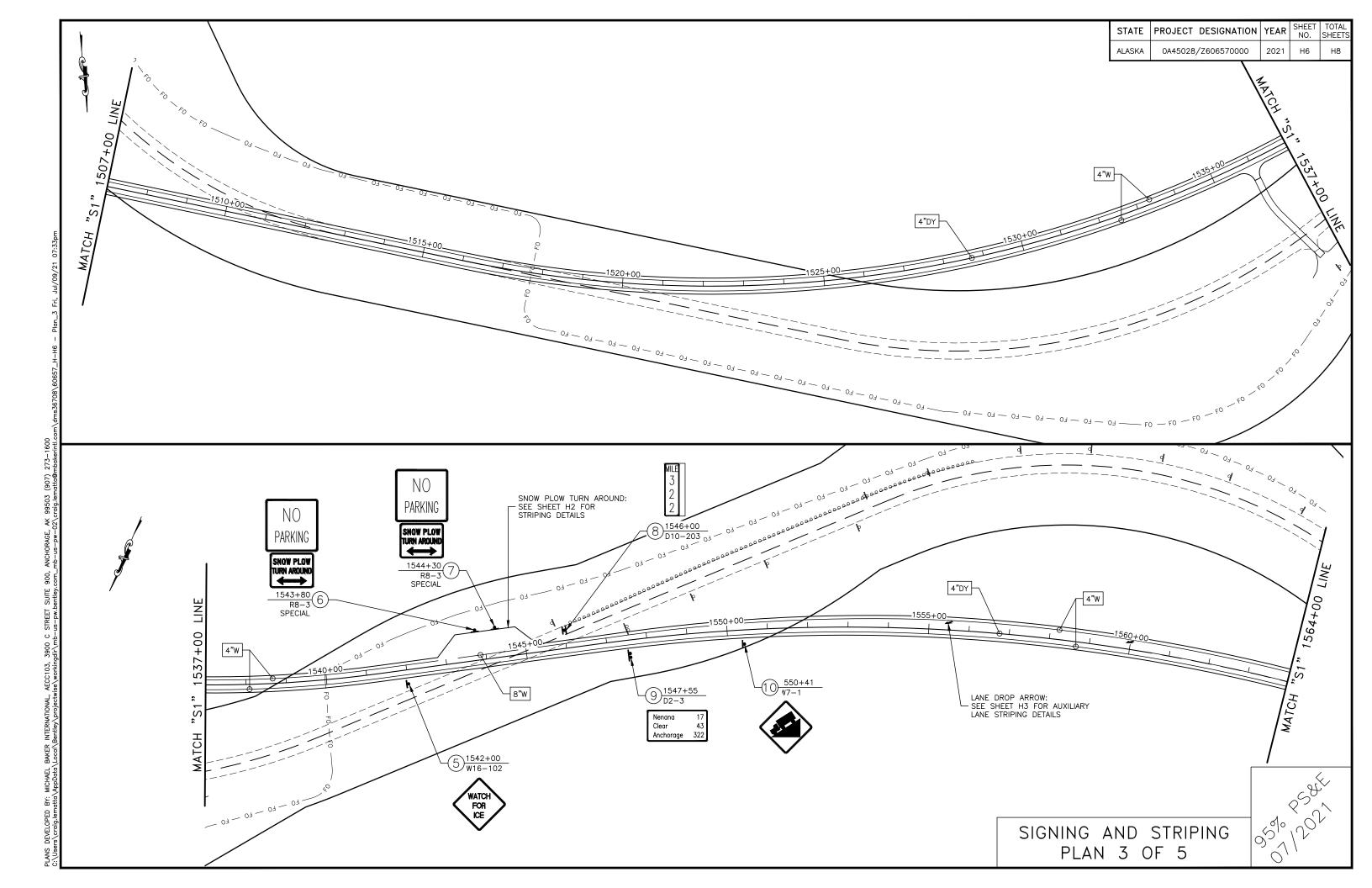
SIGNING AND STRIPING DETAILS

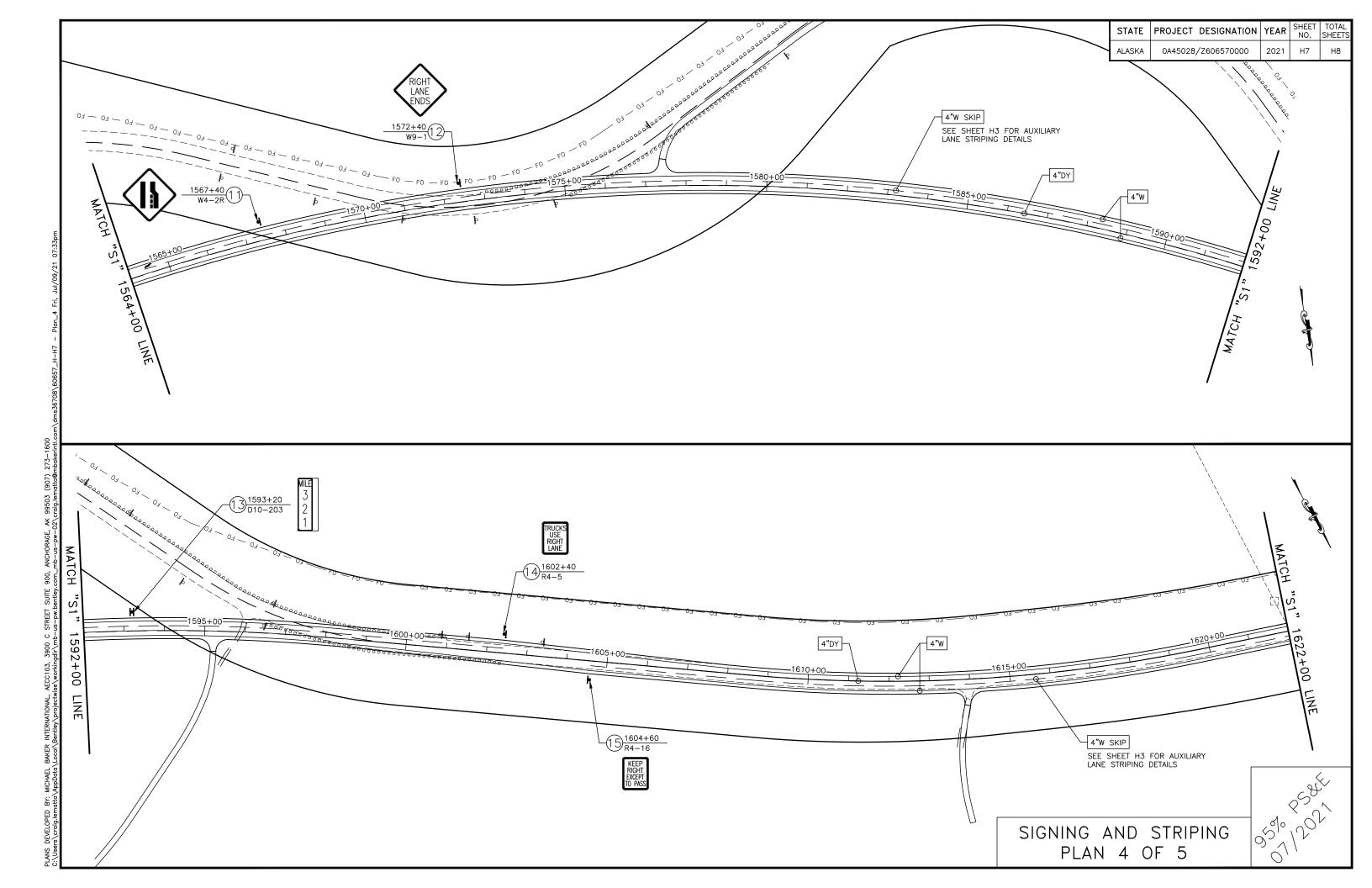
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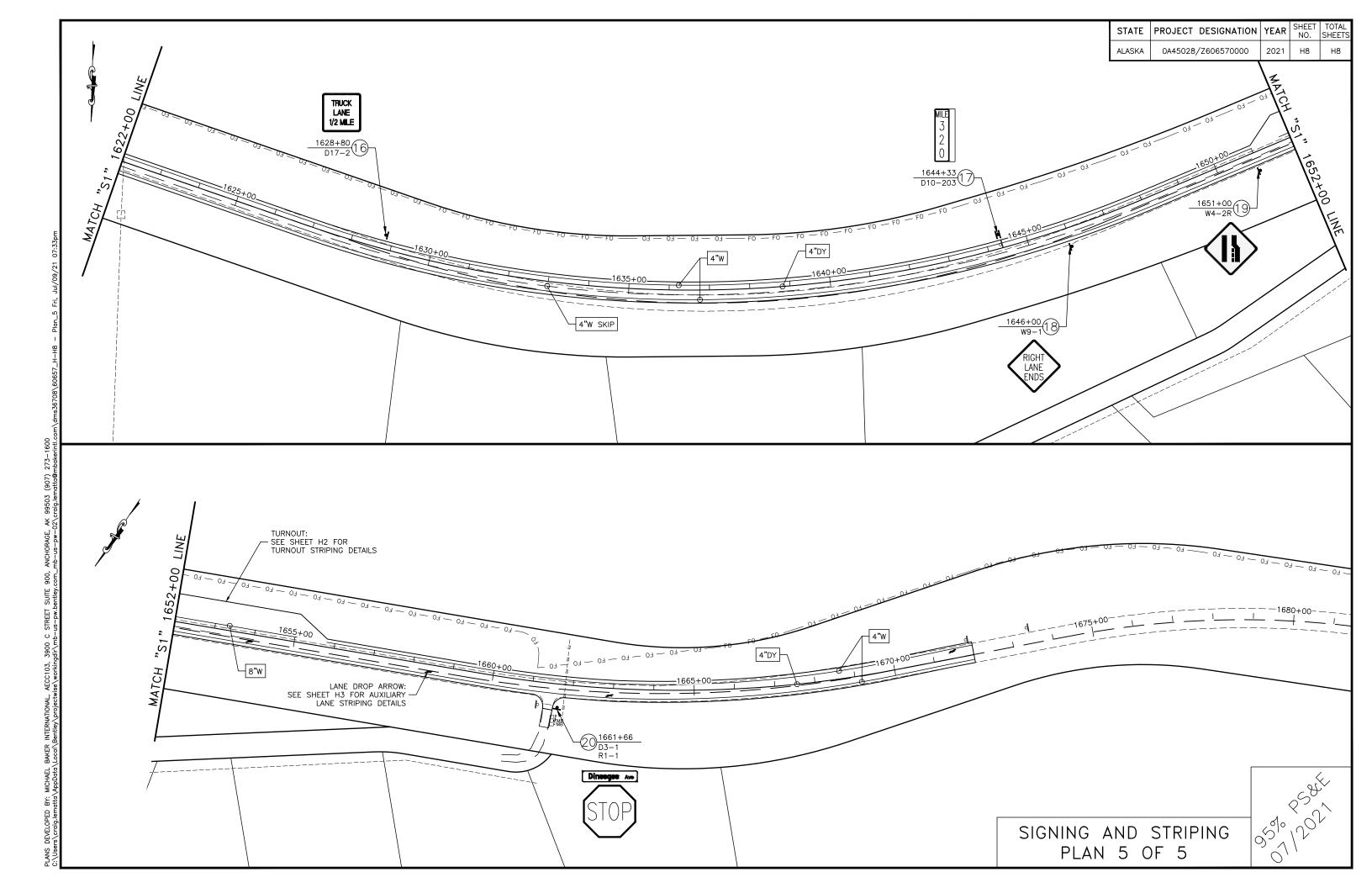


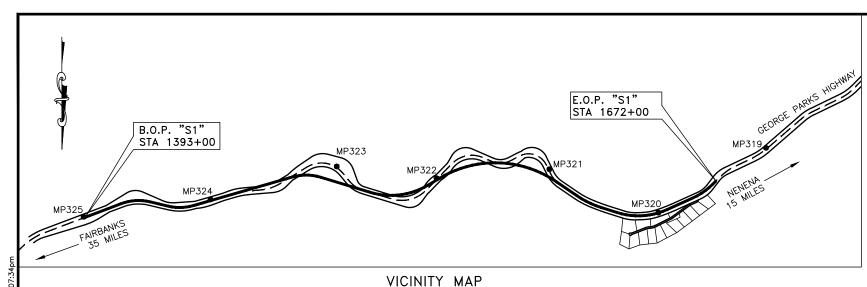












# ENVIRONMENTAL INFORMATION:

- RECEIVING WATER BODIES: LITTLE GOLDSTREAM CREEK WATERSHED, GOLDSTREAM CREEK WATERSHED
- IMPAIRED WATER BODIES: N/A
- TOTAL MAXIMUM DAILY LOAD (TMDL) WATERS: N/A
- THREATENED AND ENDANGERED SPÉCIES: N/A
- HISTORIC PLACES: N/A
- MIGRATORY BIRD TREATY: ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE MIGRATORY BIRD TREATY ACT TO PREVENT THE KILLING OR TAKING OF
  MIGRATORY BIRDS OR ANY PART, NEST, OR EGG OF ANY SUCH BIRDS. ADDITIONAL INFORMATION MAYBE FOUND IN THE US FISH & WILDLIFE SERVICE'S "LAND
  CLEARING TIMING GUIDANCE FOR ALASKA." FOR THIS PROJECT.
- REFER TO APPENDIX A FOR PROJECT SPECIFIC PERMITS AND ENVIRONMENTAL COMMITMENTS.

# PROJECT SITE SPECIFIC CONDITIONS:

- SITE FUNCTION: HIGHWA
- MEAN ANNUAL PRECIPITATION: 10.76 INCHES (SOURCE: WESTERN REGIONAL CLIMATE CENTER WEBSITE FOR NENANA)
- 2-YEAR 24-HOUR PRECIPITATION: 1.19 INCHES (SOURCE: HTTPS://HDSC.NWS.NOAA.GOV/HDSC/PFDS/PFDS\_MAP\_AK.HTML)
- LANDSCAPE TOPOGRAPHY: MODERATE TO DENSE FOREST WITH STEEP SLOPES RANGING FROM 7 TO 45 PERCENT
- EVIDENCE OF HISTORIC CONTAMINATION: NONE WITHIN 1500 FEET

| PROJECT AREA SUMMARY |                |                                  |                                   |                                     |                                      |
|----------------------|----------------|----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|
| PROJECT AREA         | DISTURBED AREA | PRE-CONSTRUCTION IMPERVIOUS AREA | POST-CONSTRUCTION IMPERVIOUS AREA | PRE-CONSTRUCTION RUNOFF COEFFICIENT | POST-CONSTRUCTION RUNOFF COEFFICIENT |
| 366 ACRES            | 174 ACRES      | 7.2 %                            | 10.1 %                            | 0.64                                | 0.64                                 |

### **ESCP GENERAL NOTES:**

| STATE  | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|--------|---------------------|------|--------------|-----------------|
| ALASKA | 0A45028/Z606570000  | 2021 | Q1           | Q9              |

#### **GENERAL**

- 1. READ AND COMPLY WITH THE ADEC CONSTRUCTION GENERAL PERMIT (CGP) AND SECTION 641 OF THE PROJECT SPECIFICATIONS.
- 2. INITIATE EROSION AND SEDIMENT CONTROLS PRIOR TO ANY EARTH DISTURBING ACTIVITIES.
- 3. THE CONTRACTOR MUST PROVIDE EROSION AND SEDIMENT CONTROL (ESC) MEASURES IN ACCORDANCE WITH THEIR SWPPP (STORM WATER POLLUTION PREVENTION PLAN).
- 4. ALL DISTURBED GROUND CAPABLE OF SUPPORTING VEGETATION MUST BE RE-VEGETATED FOR FINAL STABILIZATION. FINAL STABILIZED AREAS NOT RE-VEGETATED MUST BE 100% COVERED BY ROCK OR OTHER PERMANENT NON-ERODIBLE MATERIAL. ATTAINMENT OF FINAL STABILIZATION WILL BE AS APPROVED IN THE FIELD BY THE ENGINEER.
- 5. STOCKPILE AND STAGING LOCATIONS MUST BE RECLAIMED TO THEIR ORIGINAL CONDITION AS APPROVED BY THE ENGINEER.
- 6. TEMPORARY BMP'S REQUIRED BY THIS ESCP WILL NOT BE MEASURED FOR PAYMENT AND ARE SUBSIDIARY TO PAY ITEM 641.0003.0000.
- 7. EXISTING GROUND CONTOURS ARE DISPLAYED AT 2' MINOR AND 10' MAJOR INTERVALS.
- 8. STABILIZE THE TEMPORARY DIVERSION TO PREVENT EROSION AND SEDIMENT TRANSPORT.

#### CULVERTS

- 9. PROVIDE TEMPORARY INLET AND OUTLET PROTECTION FOR ALL CULVERTS (EXISTING AND PROPOSED) IN THE AREA OF DISTURBANCE PRIOR TO MAKING THEM OPERATIONAL OR BEGINNING EARTH DISTURBING ACTIVITIES.
- 10. PERMANENT CULVERT INLET AND OUTLET PROTECTION IS ESTABLISHED VEGETATION UNLESS OTHERWISE NOTED IN PLANS.

#### DITCH PROTECTION AND CONCENTRATED FLOWS:

- 11. DURING CONSTRUCTION, PROTECT DITCHES TO LIMIT RELEASE OF SEDIMENT. PROVIDE TEMPORARY DITCH PROTECTION IN THE FORM OF VELOCITY CONTROLS OR TEMPORARY NON-ERODIBLE LINING.
- 12. EXPOSED MATERIAL OF NEW DITCHES CAPABLE OF SUPPORTING VEGETATION MUST BE SEEDED PER THE PLANS FOR FINAL STABILIZATION.
- 13. WHEN POSSIBLE, AVOID CONDITIONS WHICH PROMOTE CONCENTRATED FLOWS. OTHERWISE, INSTALL VELOCITY CONTROLS BMP'S (I.E, WATTLE CHECK DAMS OR ROCK CHECK DAMS) OR NON-ERODIBLE CHANNEL LINING (I.E. DITCH LINING).

### **HAULING:**

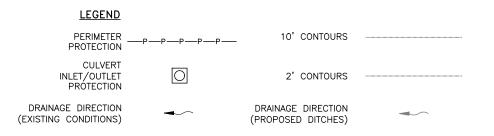
- 14. ENSURING LOADS ARE STABLE OR COVERED SO THAT NO MATERIAL ESCAPEMENT OCCURS DURING HAULING ACTIVITIES.
- 15. STABILIZED CONSTRUCTION EXITS MUST BE SWEPT CLEAN EACH SHIFT OR AS DIRECTED BY THE ENGINEER.

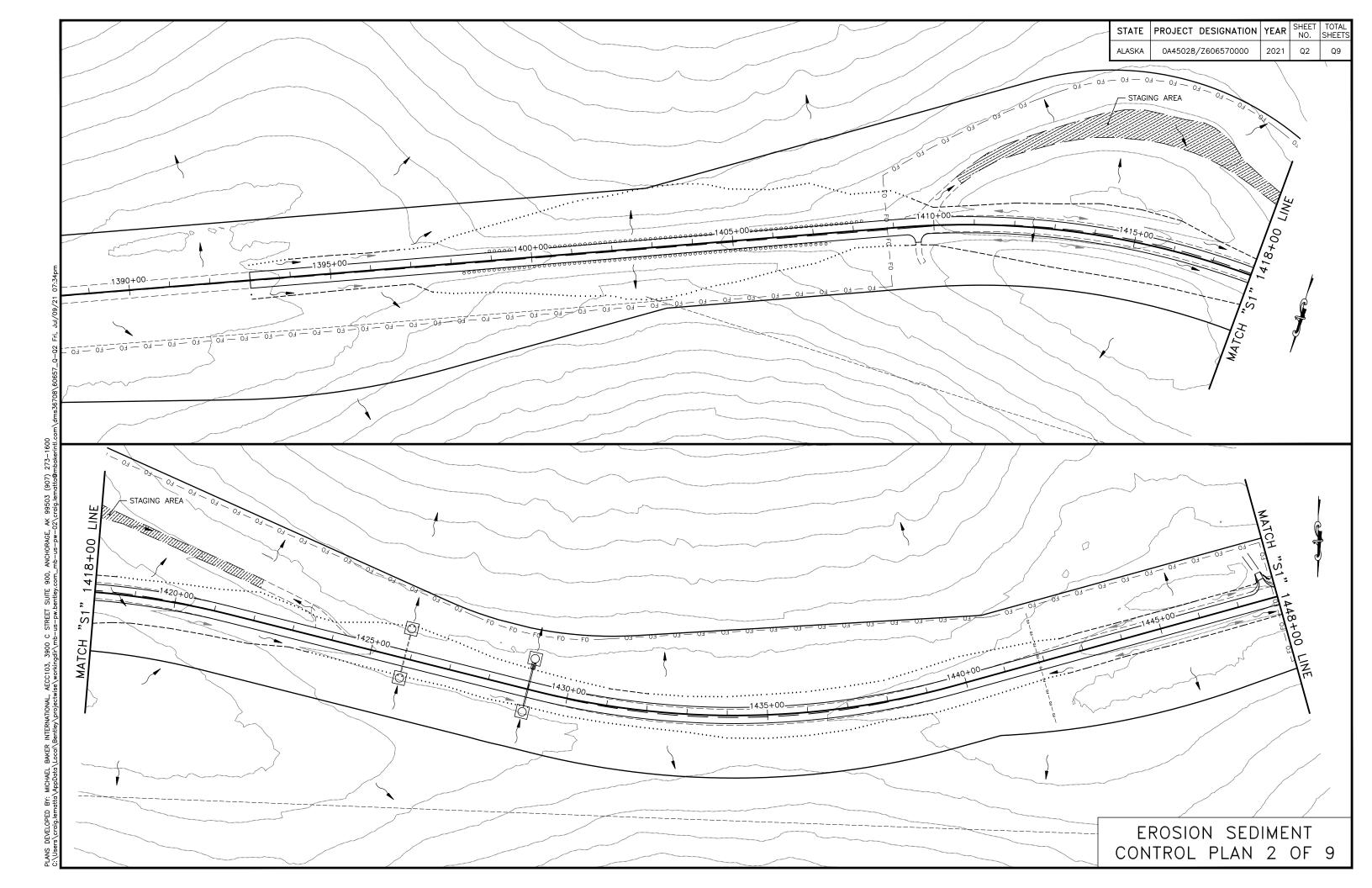
#### STOCKPILE PROTECTION:

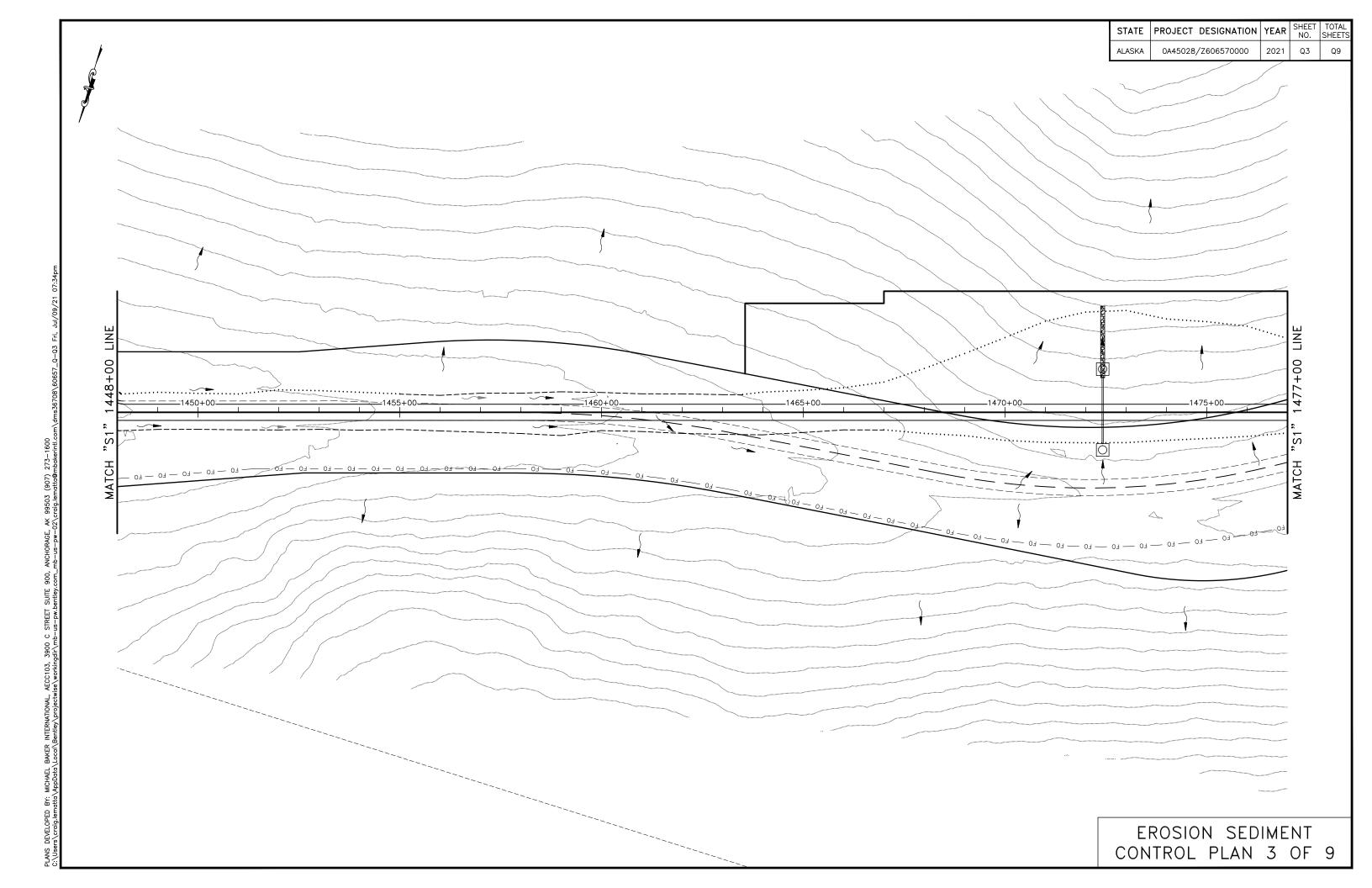
- 16. ALL ERODIBLE STOCKPILES MUST BE CONTROLLED BY EROSION AND SEDIMENT CONTROL DEVICES.
- 17. EROSION AND SEDIMENT CONTROL BMP'S MAY HAVE TO BE REMOVED AND RE-INSTALLED EACH SHIFT.
- 18. COVER MUST BE USED ON STOCKPILES IN ACCORDANCE WITH SUBSECTION 641-3.01.5 TO PROVIDE ADDITIONAL EROSION PROTECTION.
- 19. LIMIT STOCKPILING OF NATIVE TOPSOIL/ORGANICS FROM GRUBBING ACTIVITIES TO SHALLOW 3-FT HIGH BERMS.

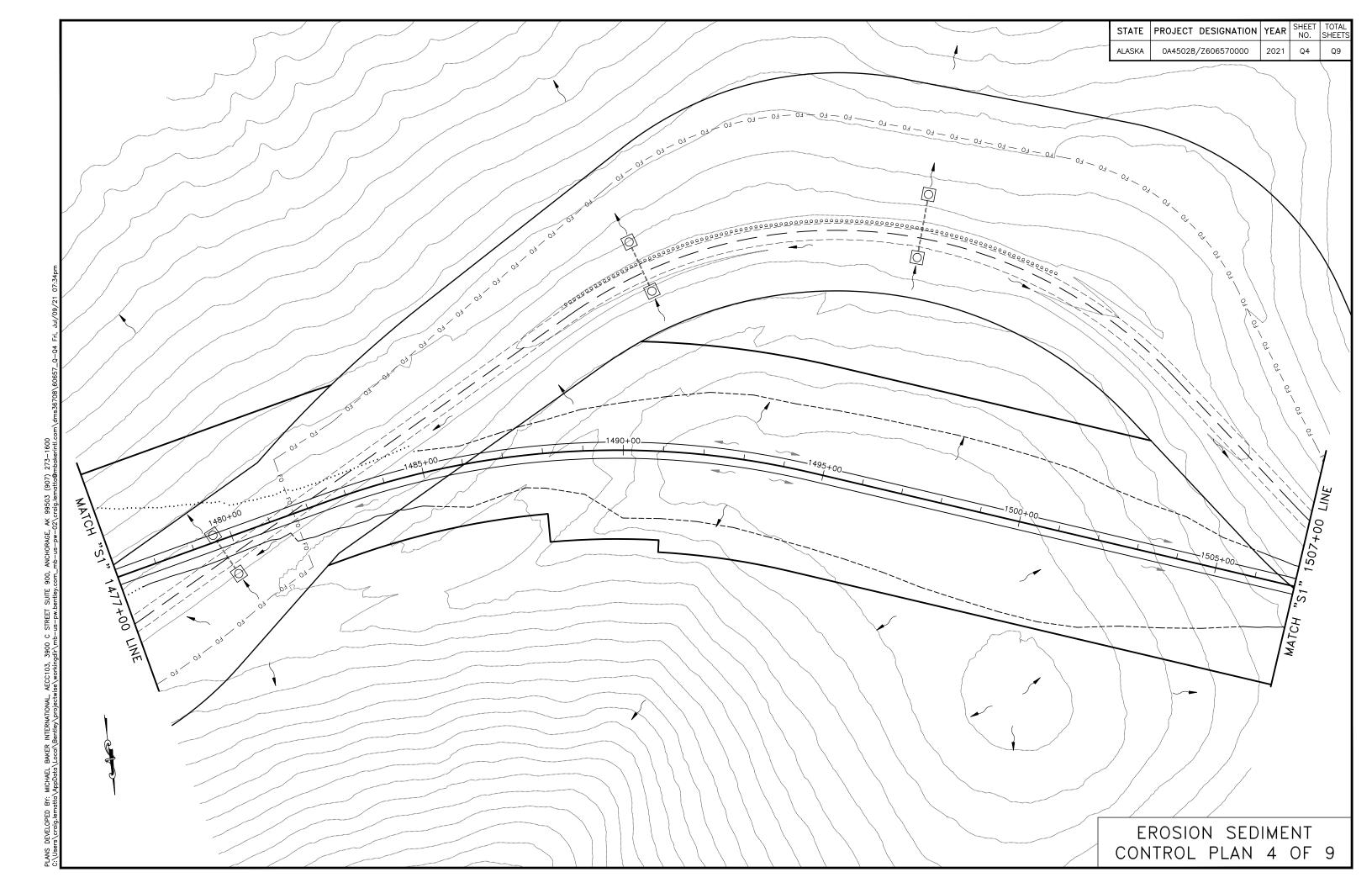
### TIMING OF BMP INSTALLATION:

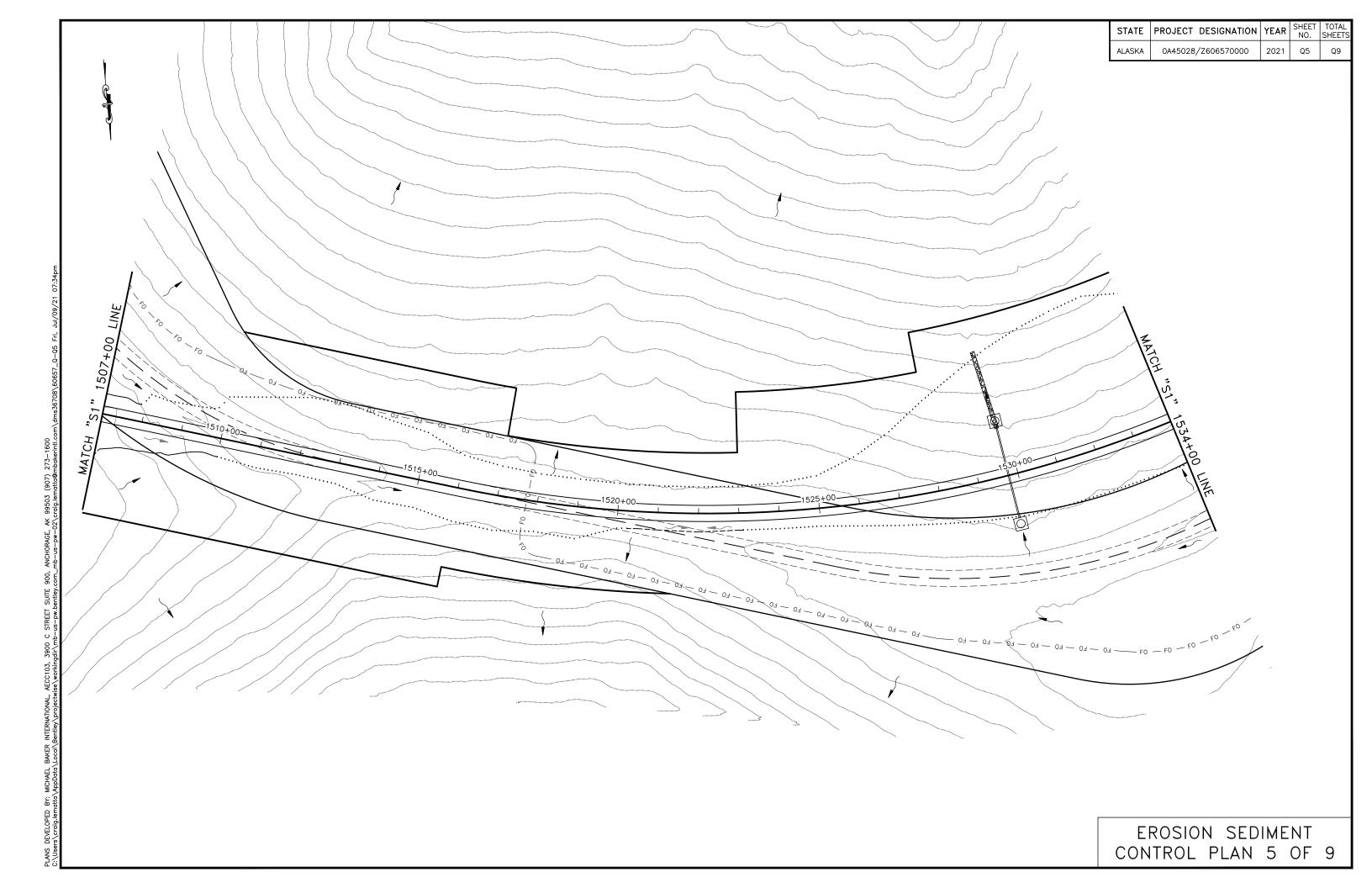
- 20. INSTALL EROSION AND SEDIMENT CONTROL BMP'S PRIOR TO THE START OF CONSTRUCTION, AS NECESSARY TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE.
- 21. INSTALL TEMPORARY PERIMETER CONTROL BMP'S BEFORE ANY UP-GRADIENT SOIL DISTURBANCE OCCURS.
- 22. START PLACEMENT OF DITCH LINING OR OTHER DISSIPATION MEASURES WITHIN 24 HOURS OF PLACEMENT OF THE CULVERT AND COMPLETED IN ONE CONTINUOUS OPERATION.

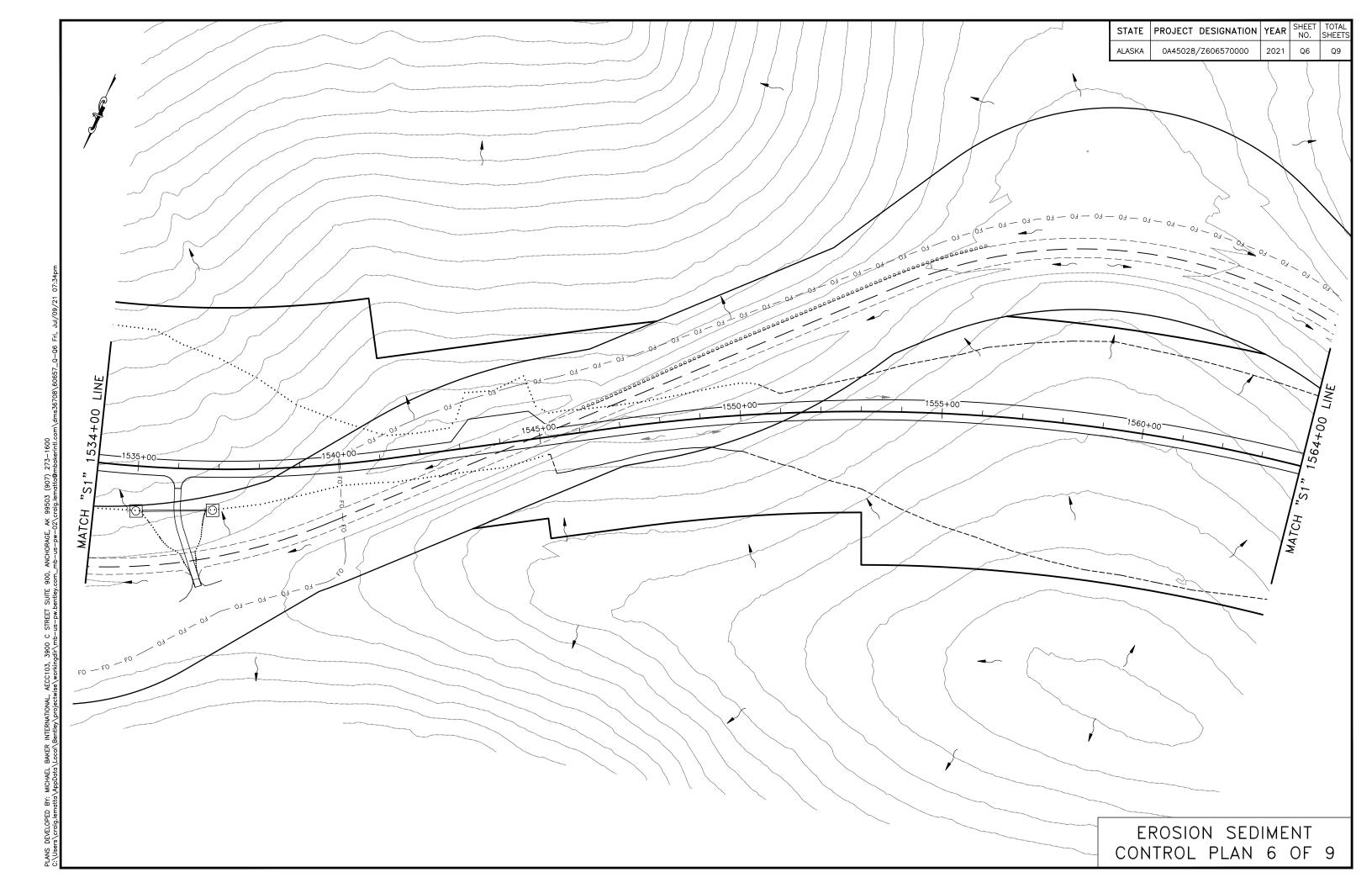


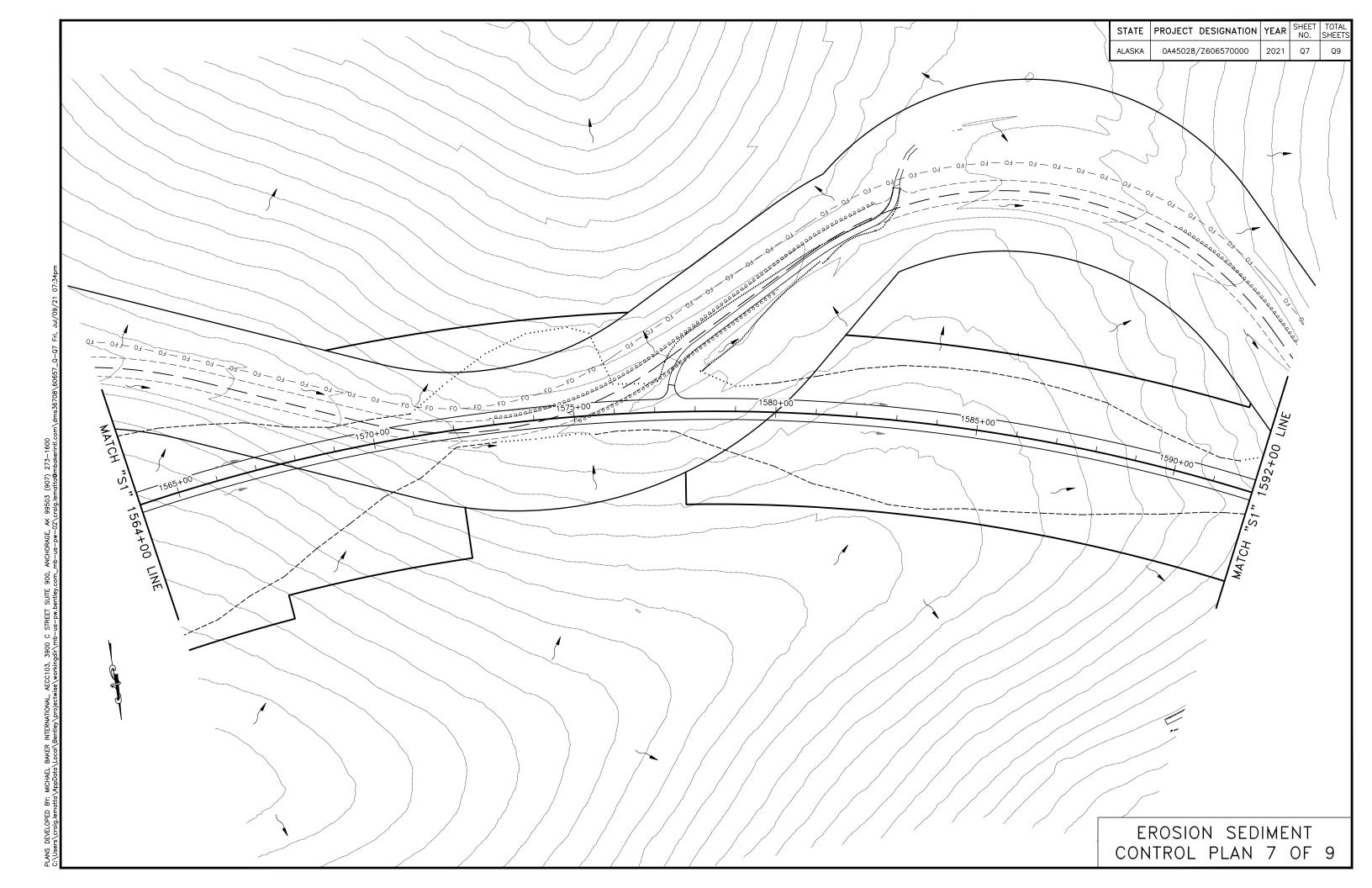


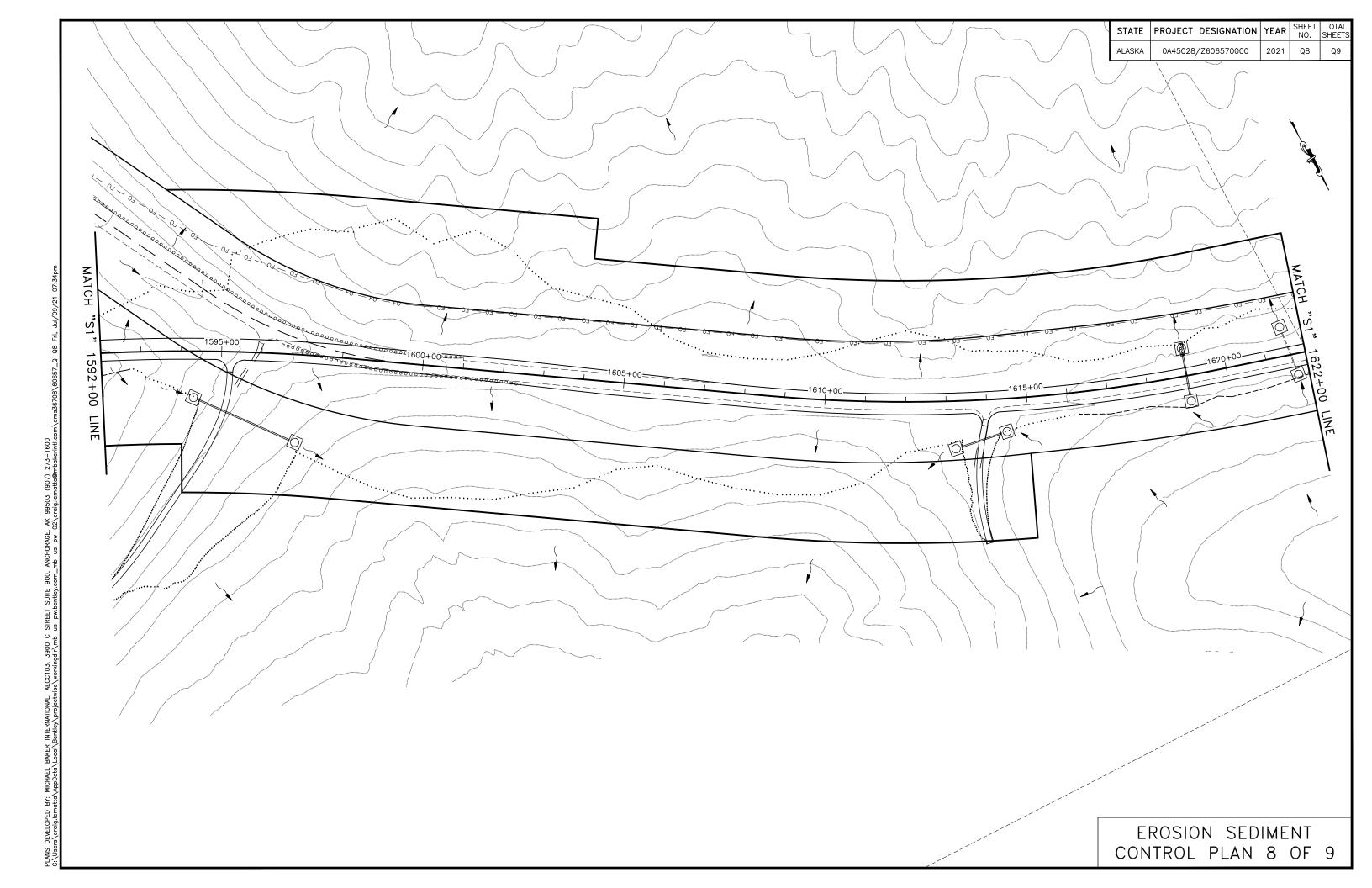


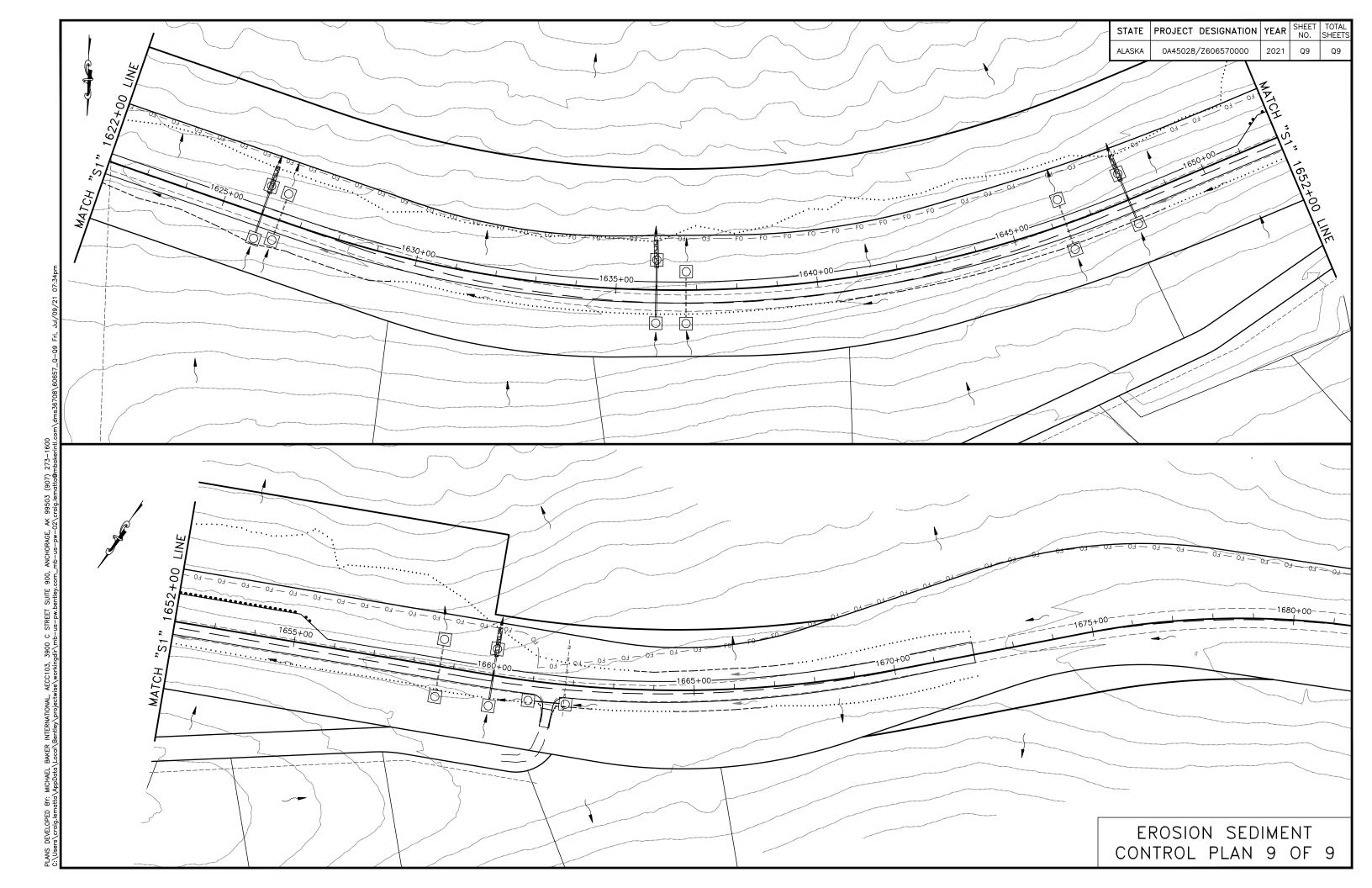


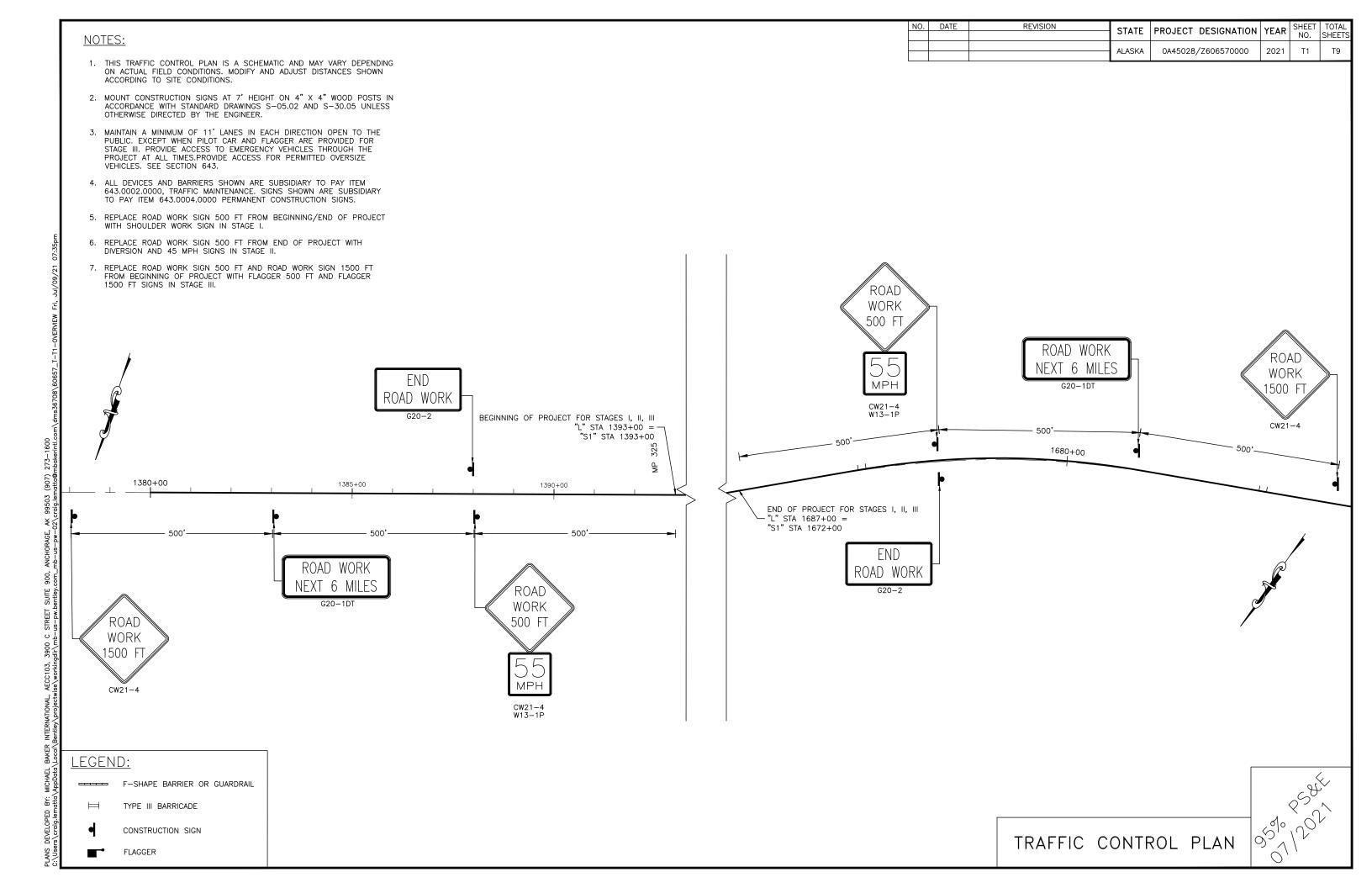


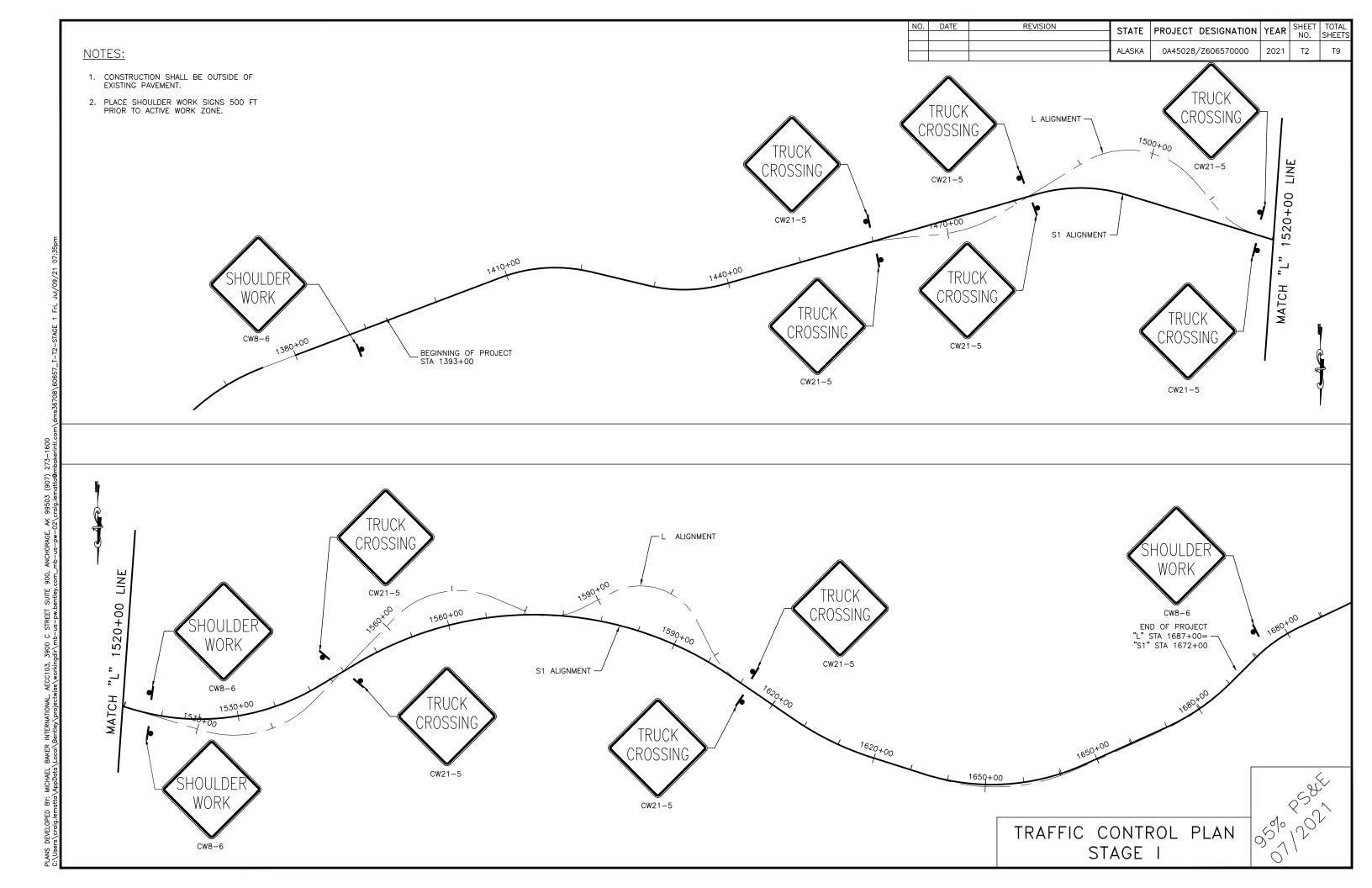


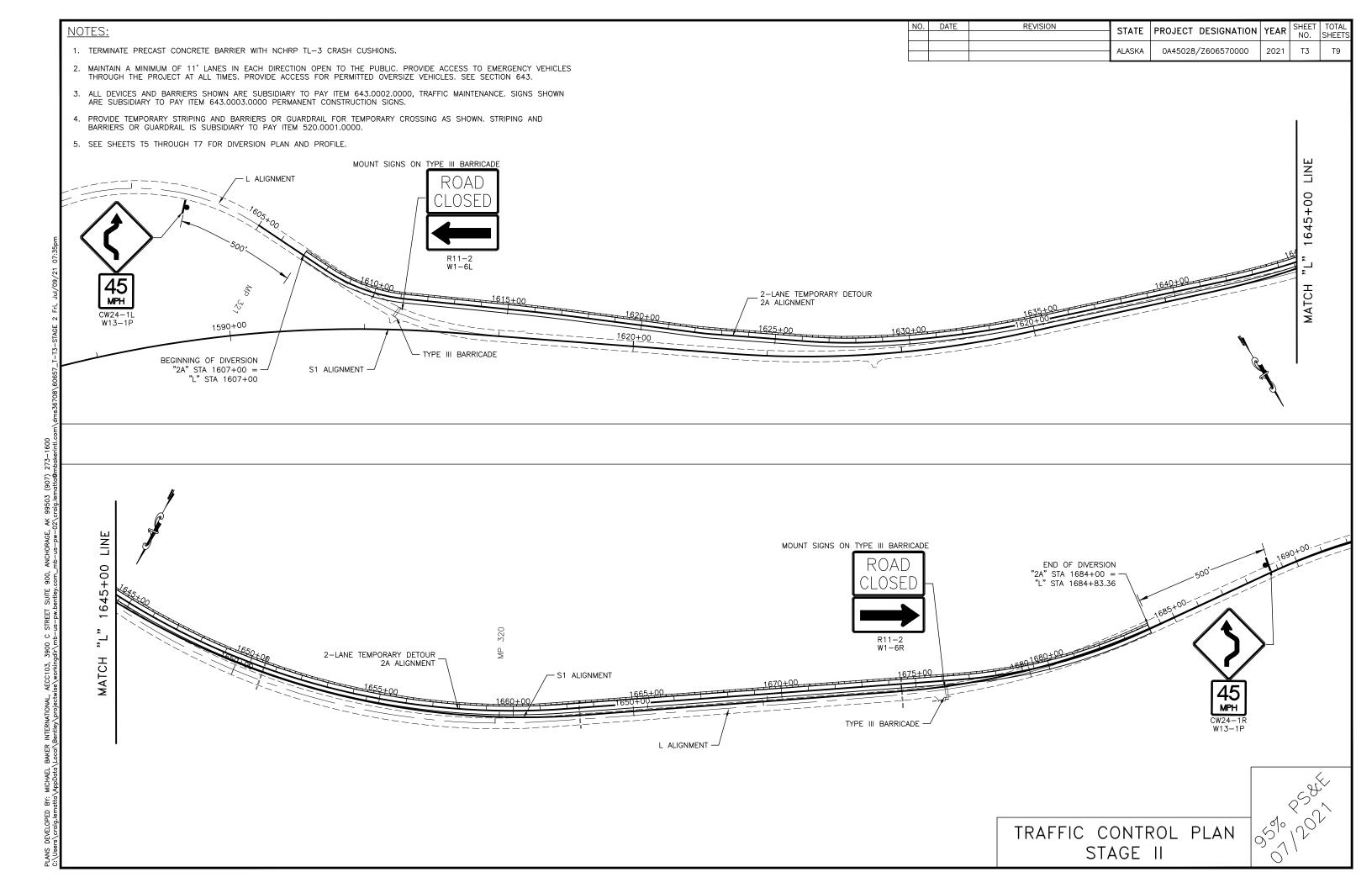


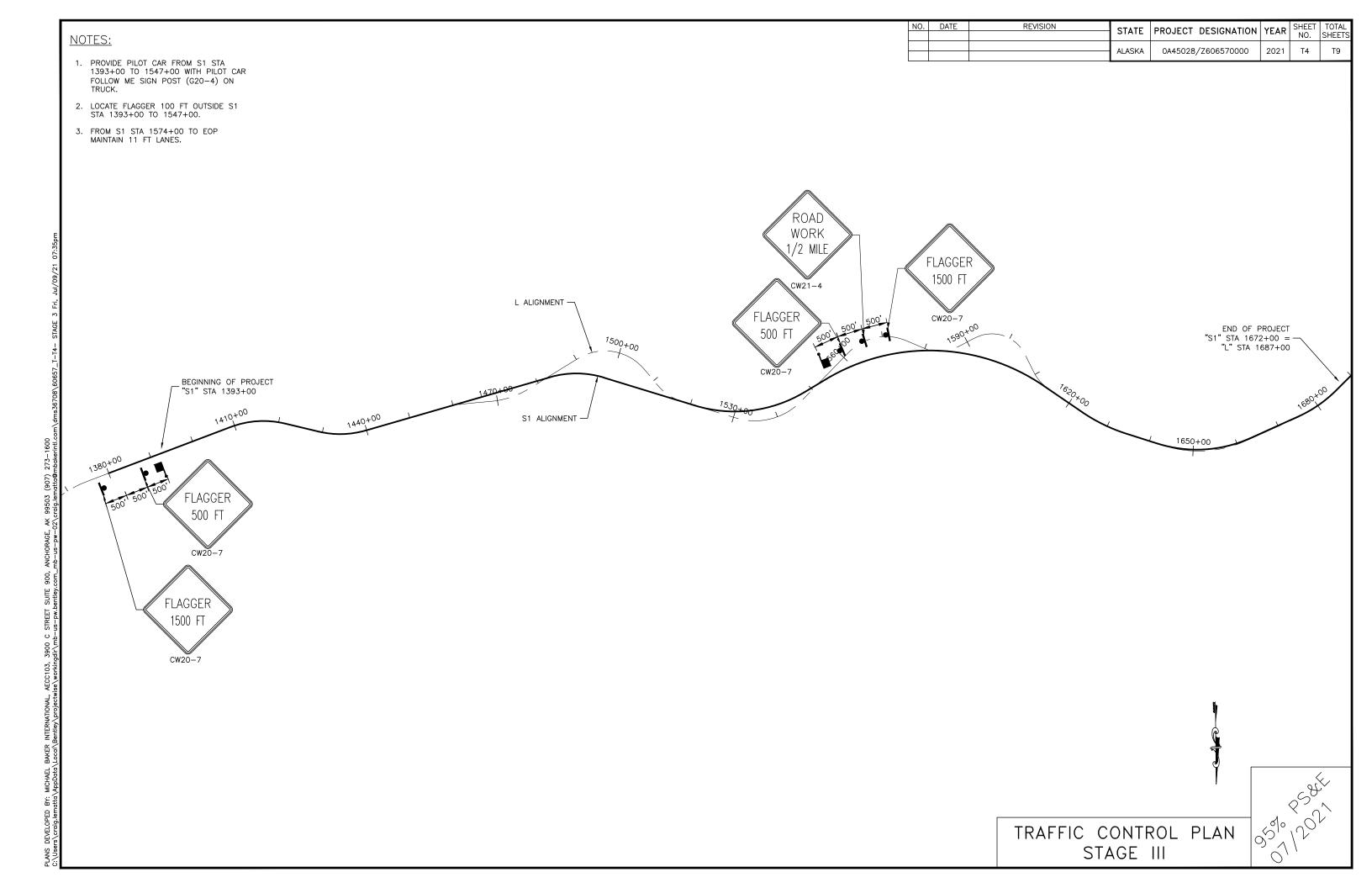


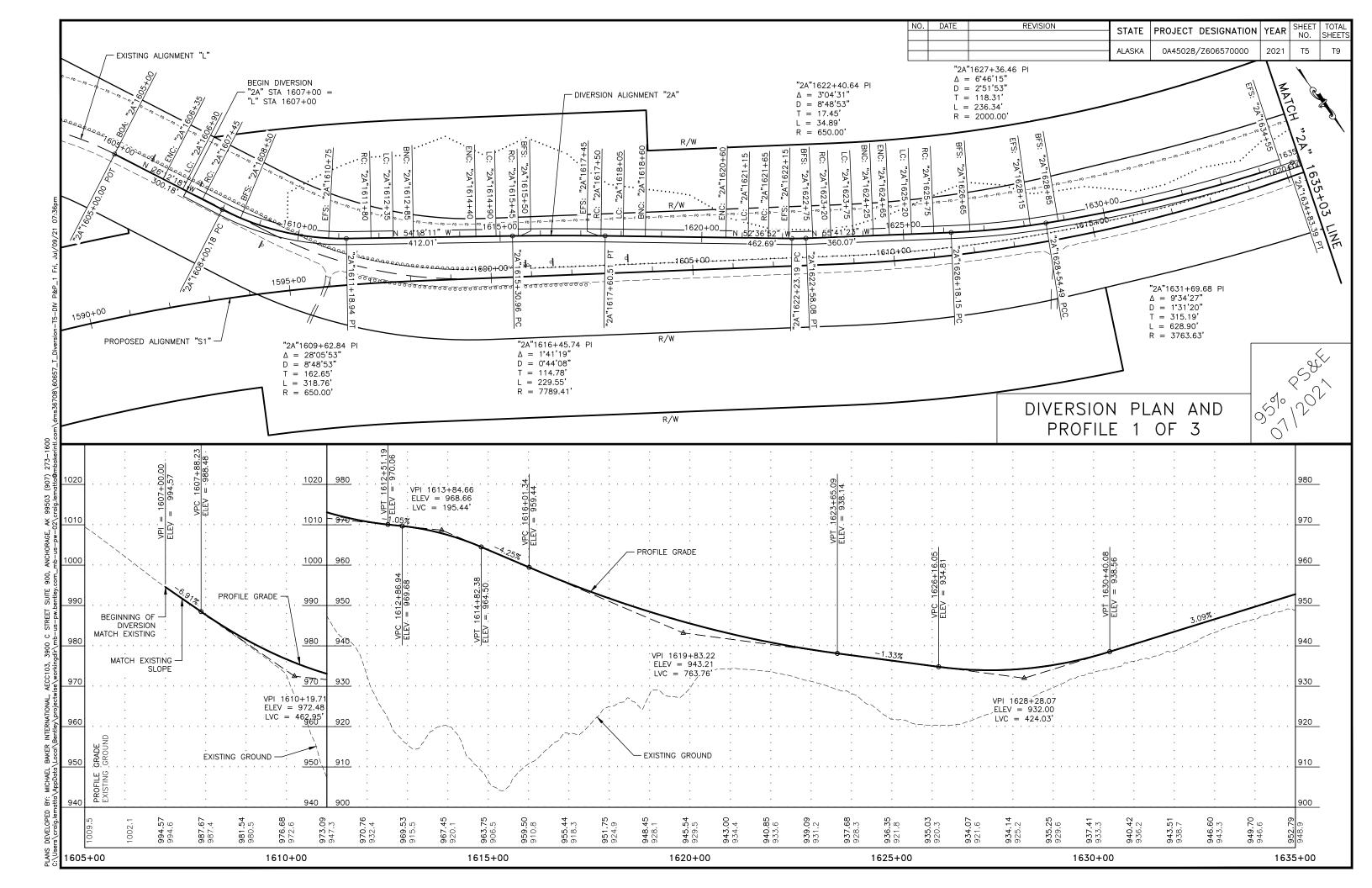


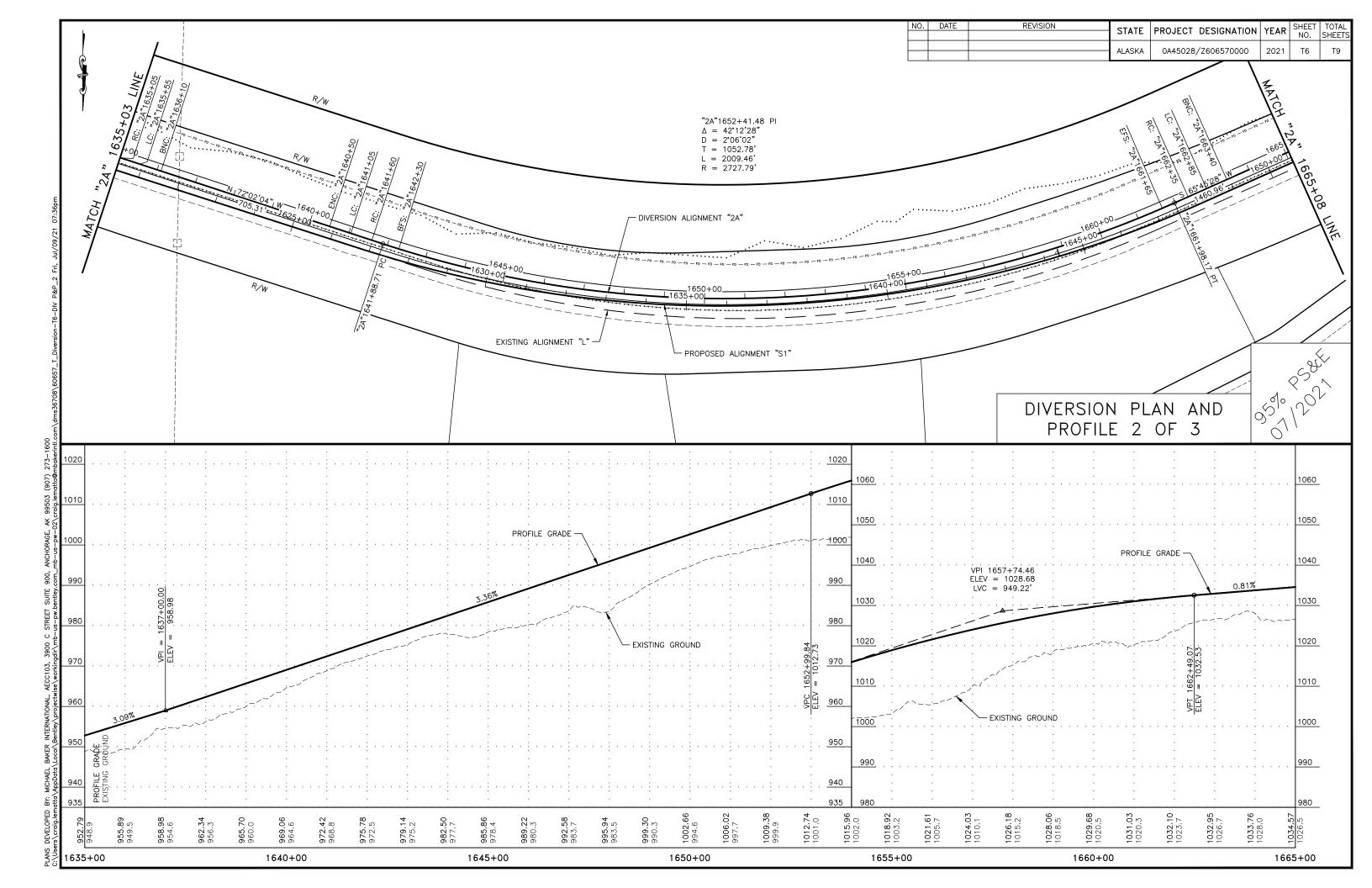


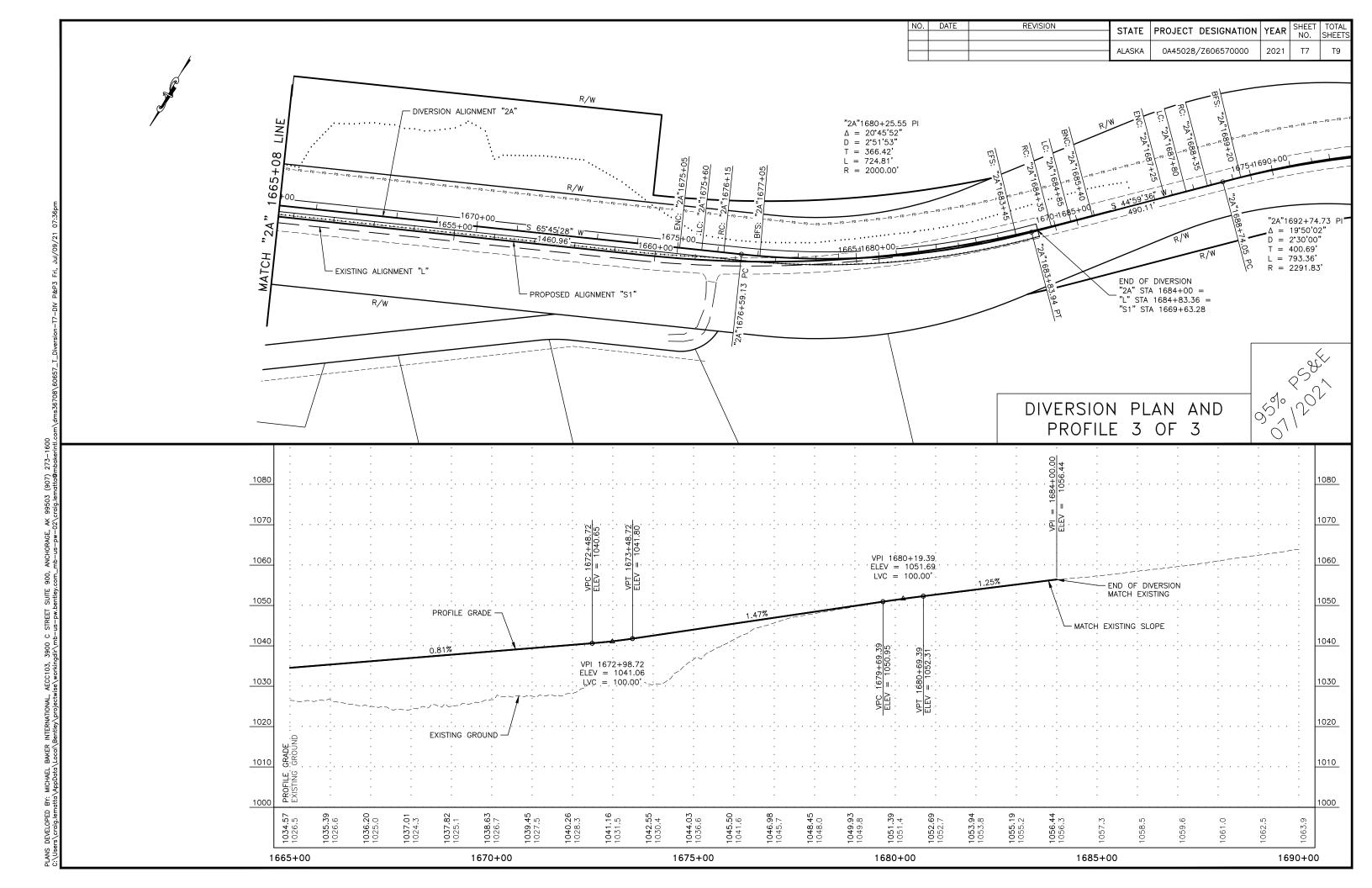


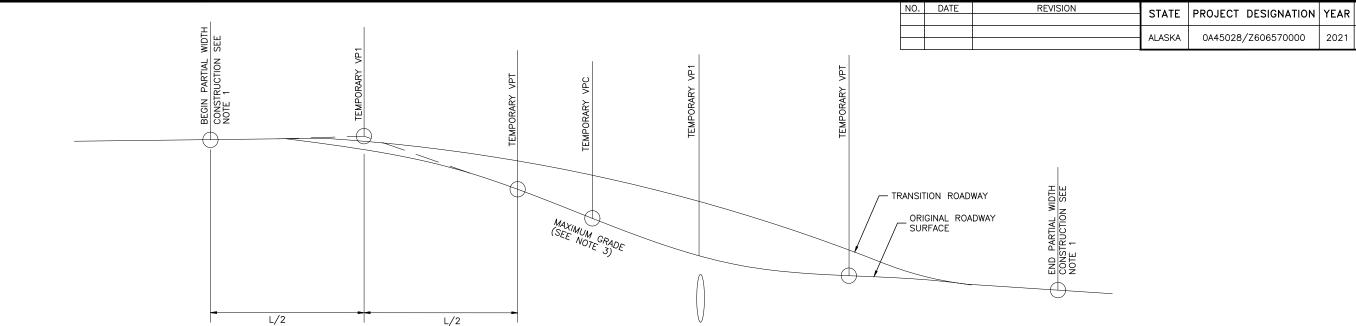






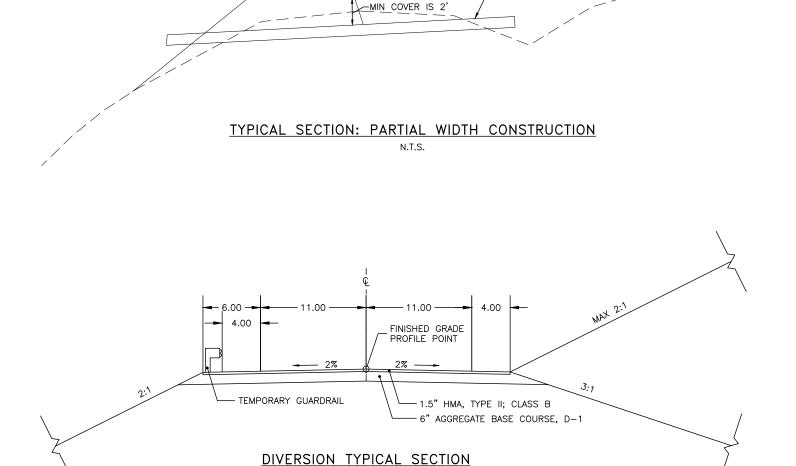






# TRANSITION AND PARIAL WIDTH CONSTRUCTION VERTICAL PROFILE DETAIL N.T.S.

CULVERT



"2A" STA 1607+00 TO 1684+00

SEE NOTE 4

# CONSTRUCTION HORIZONTAL ALIGNMENT AND VERTICAL PROFILE NOTES: FOR TRANSITIONS AND PARTIAL WIDTH

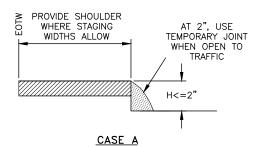
- 1. FOR TRANSITION BETWEEN "L" AND "S1" AND CULVERTS WITH MORE THAN 10' OF COVER, THE CONTRACTOR IS RESPONSIBLE FOR DEVELOPING AND SUBMITTING A PROFILE AND HORIZONTAL ALIGNMENT TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING TRANSITION WORK. THE ALIGNMENT WILL MAINTAIN A MINIMUM 30 MPH
- 2. UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE MINIMUM HORIZONTAL CURVE RADIUS FOR TRANSITION AND PARTIAL WIDTH CONSTRUCTION IS 235 FT.
- 3. THE MAXIMUM ALLOWABLE GRADE IS 7%.
- 4. THE MINIMUM ALLOWABLE LENGTH OF VERTICAL CURVE FOR PARTIAL WIDTH CONSTRUCTION SHALL BE DETERMINED BY MULTIPLYING THE ALGEBRAIC DIFFERENCE (K) IN GRADES BY THE APPLICABLE RATE OF VERTICAL CURVATURE
  - 4.1 FOR CREST VERTICAL CURVE K= 19 4.2 FOR SAG VERTICAL CURVES K= 37
- 5. MAINTAIN 2' OR GREATER OF COVER OVER THE TOP OF CULVERTS WITHIN PARTIAL WIDTH CONSTRUCTION.
- 6. OBTAIN THE ENGINEER'S APPROVAL ON ALL TRAFFIC CONTROL PLANS PRIOR TO ALIGNMENT TRANSITIONS.

TEMPORARY ROADWAY DIVERSION DETAILS

2021

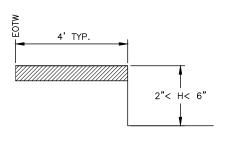
T8





DROP-OFFS <2 INCHES (PAVED SURFACES ONLY)

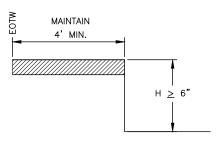
- 1. USE "UNEVEN LANES" (CW8-11) SIGNS FOR ALL DROP-OFFS IN BETWEEN TRAFFIC LANES.
- 2. LEAVE NO DROP-OFFS > 1.5" IN THE TRAFFIC LANE OR ACTIVE WHEEL TRACK.



CASE B

2" < DROP-OFFS < 6" (ALL ROADWAY SURFACES)

- 1. PLACE CONES OR CANDLES FOR DROP-OFFS ≥ 4 FEET AND ≤ 30 FEET FROM THE EOTW.
- 2. USE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS < 4 FEET FROM THE EOTW.



### CASE C

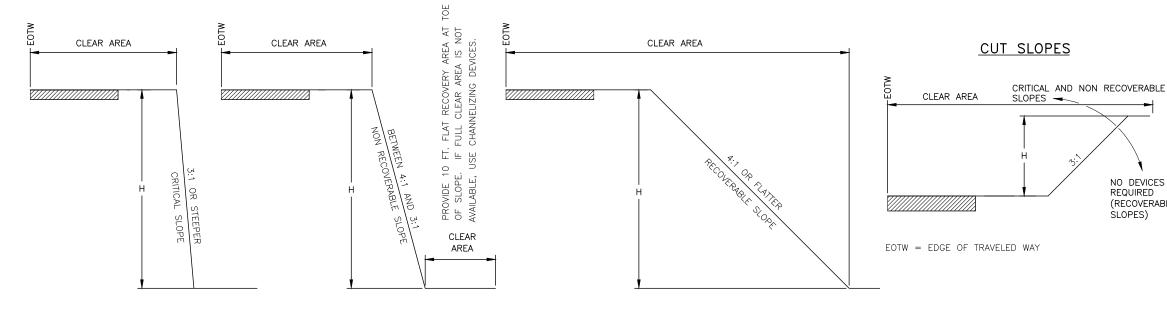
DROP-OFFS >6" (ALL ROADWAY SURFACES AND ROADSIDE SLOPES)

- 1. PLACE DRUMS OR TYPE II BARRICADES FOR DROP-OFFS < 24" WITHIN THE CLEAR AREA.
- 2. PROVIDE PORTABLE CONCRETE BARRIER FOR DROP-OFFS >24" WITHIN 15 FEET OF THE EOTW. USE DRUMS OR TYPE II BARRICADES IF BEYOND 15 FEET.

# FILL SLOPES

| 0. | DATE | REVISION | STATE  | PROJECT DESIGNATION | YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|----|------|----------|--------|---------------------|------|--------------|-----------------|
|    |      |          | ALASKA | 0A45028/Z606570000  | 2021 | Т9           | Т9              |

#### STEEPER THAN OR EQUAL TO 3:1 BETWEEN 4:1 AND 3:1



|         | CLEAR A                | AREA REQUIREMENTS        |                          |
|---------|------------------------|--------------------------|--------------------------|
|         | LOW SPEED              | INTERMEDIATE SPEED       | HIGH SPEED               |
|         | < = 35 MPH             | 40 MPH TO 45 MPH         | <u>&gt;</u> = 50 MPH     |
| RURAL   | 15'                    | 24'                      | 30'                      |
| LIDDANI | 10' DITCH SECTIONS, OR | 15' DITCH CONDITIONS, OR | 15' DITCH CONDITIONS, OR |
| URBAN   | 2' BEHIND CURB         | 2' BEHIND CURB           | 2' BEHIND CURB           |

| CHANNELIZING DEVICE REQUIREMENTS FOR SLOPES 3:1 OR STEEPER WITHIN THE CLEAR AREA |                            |  |  |  |
|--|----------------------------|--|--|--|
|  | H <= 15'                   | H > 15'  |  |  |
| < 2000 VPD<br>LOW VOLUME   | CANDLES OR CONES           | TYPE II BARRICADES OR DRUMS                      |  |  |
| > 2000 VPD   | TYPE II BARRICADE OR DRUMS | PORTABLE CONCRETE BARRIER OR TEMPORARY GUARDRAIL |  |  |

### TRAFFIC CONTROL NOTES:

- USE THE EXISTING CROSS-SECTION (PRIOR TO CONSTRUCTION) AS A BASIS FOR DETERMINING WHEN CHANNELIZING DEVICES ARE NEEDED.
- INSTALL CHANNELIZING DEVICES WHEN THE HORIZONTAL OR VERTICAL CURVATURE IS MADE MORE SEVERE.
- INSTALL FLEXIBLE DELINEATORS WHEN ALL VEGETATION OVER 4 FEET HIGH IS CLEARED FROM FILL SLOPES THAT ARE 3:1 OR STEEPER IN THE CLEAR AREA.
- USE PORTABLE CONCRETE BARRIER FOR WARRANTING CONDITIONS WHICH LAST LONGER THAN 3 DAYS. FOR CONDITIONS LASTING LESS THAN 3 DAYS, OTHER CHANNELIZING DEVICES MAY BE INSTALLED.
- TERMINATE RUNS OF PORTABLE CONCRETE BARRIER USING THE FOLLOWING METHODS:
  - CONNECT TO A PORTABLE CRASH CUSHION, OR
  - PROVIDE A CONCRETE BARRIER WITH THRIE BEAM TRANSITION TO W-BEAM GUARDRAIL, TREATED WITH A PARALLEL TERMINAL (SEE SECTION 710).
  - FLARE THE ENDS OF THE PORTABLE CONCRETE BARRIER AWAY FROM THE ROADWAY AT A RATE OF 7:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER, OUTSIDE OF THE CLEAR AREA. INSTALL A SLOPING PORTABLE CONCRETE BARRIER END TREATMENT, OR
  - BURY IN THE BACKSLOPE.

- TERMINATE THE RUNS OF TEMPORARY W-BEAM GUARDRAIL USING THE FOLLOWING METHODS:
  - PROVIDE A PARALLEL TERMINAL (SEE SECTION 710)
  - FLARE THE ENDS OF THE TEMPORARY GUARDRAIL AWAY FROM THE ROADWAY AT A RATE OF 6:1 ON A COMPACTED SLOPE OF 6:1 OR FLATTER OUTSIDE OF THE CLEAR AREA, TERMINATE WITH A STANDARD W-BEAM END SECTION, OR

FLATTER THAN OR EQUAL TO 4:1

C) BURY IN THE BACKSLOPE.

# **EQUIPMENT NOTES:**

- WHEN THERE IS ACTIVE. NONMOBILE CONSTRUCTION EQUIPMENT WITHIN THE CLEAR AREA, DELINEATE THE ROADSIDE WITH TRAFFIC CONES.
- SEPARATE PROCEDURES ARE REQUIRED FOR MOBILE WORK ZONE OPERATIONS AND SHORT DURATION WORK OF LESS THAN 12 HOURS.

### **WINTER SHUTDOWN NOTES:**

- WHEN REQUIRED, USE CHANNELIZING DEVICES WHICH CAN BE MAINTAINED OVER WINTER.
- NO CHANNELIZING DEVICES ARE REQUIRED IF:
  - CONSTRUCTION SLOPES ARE RECOVERABLE, AND
  - B) SLOPES ARE SMOOTH AND COMPACTED, AND
  - C) REQUIRED CLEAR AREA IS PROVIDED

TRAFFIC CONTROL PLAN



NO DEVICES

(RECOVERABLE SLOPES)

REQUIRED