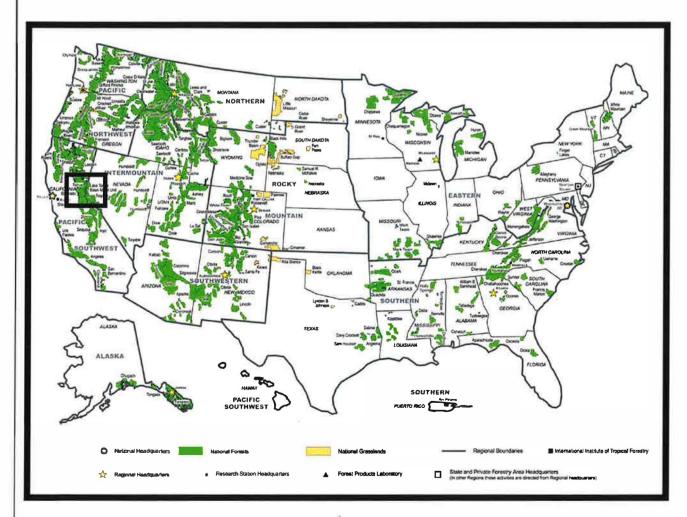
# United States Department of Agriculture Forest Service

# (R05) PACIFIC SOUTHWEST REGION LAKE TAHOE BASIN MANAGEMENT UNIT

WASHOE COUNTY, NEVADA
TOWNSHIP 15 NORTH, RANGE 18 EAST, SECTION 14

# CHIMNEY BEACH TRAIL HEAD PARKING LOT UPGRADES PROJECT







# **VICINITY MAP**

#### TRAVEL DIRECTIONS:

FROM THE 35 COLLEGE DR. LAKE TAHOE BASIN MANAGEMENT UNIT SUPERVISOR'S OFFICE: TRAVEL NORTHEAST ON COLLEGE AVE TOWARD AL TAHOE BLVD FOR 305 FEET. CONTINUE NORTHEAST ON JOHNSON BLVD FOR 1.0 MILES. TURN RIGHT ONTO US HIGHWAY 50 FOR 14.1 MILES. TURN LEFT ONTO HIGHWAY 28 FOR 5.3 MILES. TURN RIGHT ONTO CHIMNEY BEACH TRAIL HEAD ROAD.

39.16775° N 119.92699° W

	INDEX OF SHEETS		
	SHEET	SHEET TITLE	
	G-01	COVER SHEET	
	G-02	GENERAL NOTES	
	C-01	SITE OVERVIEW AND FEATURES	
	C-02	UPPER LOOP PLAN	
	C-03	LOWER LOOP PLAN	
	C-04	DECOMMISSIONING	
	C-05	UPPER LOOP PROFILE 0+00 - 5+00	
	C-06	UPPER LOOP PROFILE 5+00 - 10+15	
	C-07	LOWER LOOP PROFILE	
		STORM DRAIN PLAN AND PROFILE	
		ROAD AND BASIN DETAILS	
	D-02	SIDEWALK AND ROCKERY DETAILS	
	D-03	EROSION CONTROL DETAILS	
	D-04	SIGN DETAILS	
	D-05	DRAINAGE INLET DETAILS	
	D-06	DRAINAGE INLET DETAILS	
	D-07	FLARED END SECTION DETAILS	
	D-08	REINFORCED CONCRETE PIPE DETAILS	
	D-09	REINFORCED CONCRETE PIPE DETAILS	
	D-10	GATE DETAILS	
	D-11	UTILITY POLE/SLOPE STABILIZATION	

DATE PRINTED 3/6/2023

## **RECOMMENDED BY:**

FOREST ENGINEER

DATE

FOREST RECREATION STAFF

DATE

## **APPROVED:**

FOREST SUPERVISOR

DATE

G1 SHEET 001 OF 021

#### GENERAL NOTES

- 1. NO EARTH MOVING ACTIVITIES SHALL BE COMPLETED PRIOR TO MAY 1, OR AFTER OCTOBER 15. NO GRADING WILL BE ALLOWED IF SOILS ARE SATURATED OR IF HEAVY PRECIPITATION IS OCCURRING.
- 2. PUBLIC SAFETY, TRAFFIC CONTROL, AND DUST CONTROL SHALL BE PROVIDED BY CONTRACTOR IN ACCORDANCE WITH STATE AND COUNTY REQUIREMENTS. CONTRACTOR MUST ALLOW FOR PEDESTRIAN ACCESS TO NATIONAL FOREST LAND AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN DETAILING PEDESTRIAN TRAFFIC ACCESS.
- 3. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE C.O.R. OF ANY DISCREPANCIES ENCOUNTERED IN THE FIELD OR ERRORS IDENTIFIED IN THE CONTRACT.
- 4. THE CONTRACTOR SHALL KEEP DETAILED RECORDS AND AS—BUILTS SHOWING ALL MODIFICATIONS MADE TO THESE PLANS. THESE RECORDS AND AS—BUILTS SHALL BE PROVIDED TO THE C.O.R. UPON PROJECT COMPLETION FOR USE IN PREPARING RECORD DRAWINGS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING. STAKING SHALL ADHERE TO SECTION 152 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14). AN AUTOCAD FILE CONTAINING ALL INFORMATION REQUIRED FOR CONSTRUCTION STAKING WILL BE PROVIDED.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS. ANY MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 7. STAGING AREAS FOR EQUIPMENT STORAGE OR MATERIAL STOCKPILES WILL BE ALLOWED ONLY WITHIN THE LIMITS OF DISTURBANCE AND IN AREAS SHOWN ON THE PLANS AND APPROVED BY THE C.O.R.
- 8. ALL VEGETATION OUTSIDE OF THE AREA TO BE CLEARED FOR NECESSARY CONSTRUCTION SHALL BE PROTECTED.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR RESTROOMS.
- 10. ALL IMPORTED MATERIAL MUST BE CERTIFIED WEED FREE AND COME FROM A LOCATION APPROVED BY THE C.O.R.
- 11. ALL EQUIPMENT WILL ARRIVE ON SITE WASHED AND FREE OF ALL VISIBLE SOIL, DEBRIS, OR ORGANIC MATTER. ALL EQUIPMENT WILL BE INSPECTED AND APPROVED BY THE C.O.R. PRIOR TO UNLOADING ON THE PROJECT SITE.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING LOCATION OF UTILITIES. UTILITY LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE.
- 13. TREES WITHIN 10 FEET OF THE PROPOSED EDGE OF PAVEMENT NOT PLANNED TO BE REMOVED WILL REQUIRE TREE PROTECTION ACCORDING TO THE DETAILS. ADDITIONAL TREES MAY BE PROTECTED AT THE DISCRETION OF THE CONTRACTOR. THE COST OF TREE PROTECTION IS INCIDENTAL TO OTHER ITEMS. TREES WOUNDED BY CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

#### CONSTRUCTION NOTES

- 1. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING ASPHALT, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH SMOOTH TRANSITIONS AND FOR AVOIDING ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES IN CONFORMANCE WITH THESE DESIGN DRAWINGS. BACKFILL OR EXCAVATION REQUIRED FOR SUCH TRANSITIONS SHALL BE INCLUDED IN THE CONTRACTOR'S EXPENSES.
- 2. GRADING ACTIVITIES SHALL BE SCHEDULED TO ENSURE THAT REPEATED GRADING WILL NOT BE REQUIRED, AND IMPLEMENTATION OF THE DESIRED LAND USE (E.G. CONSTRUCTION. PAVING) WILL OCCUR AS SOON AS POSSIBLE AFTER GRADING.
- 3. SOIL PROPERTIES AND BEDROCK ARE VISIBLE ALONG THE CUT SLOPE OF HIGHWAY 28 DIRECTLY WEST OF THE PROPOSED PARKING LOT. DEPTH TO BEDROCK RANGES BETWEEN 19" TO 38" THROUGHOUT THE SITE.
- 4. ASPHALT CONCRETE (AC) SHALL BE SAWCUT WHEN MATCHING NEW AND EXISTING ASPHALT OR WHEN REMOVING EXISTING ASPHALT PATHS OR ROADWAYS.
- 5. ALL EXCAVATED MATERIAL SHALL BE STOCKPILED AT AN APPROVED SITE AND MATERIAL MEETING THE SPECIFICATIONS MAY BE USED AS BACKFILL. IT IS ANTICIPATED THAT ALL EXCAVATED MATERIAL FREE OF DEBRIS AND ORGANICS WILL BE USED ON THE PROJECT SITE. ALL EXCAVATED MATERIAL NOT USED AS SUBGRADE, OR NOT SUITABLE AS BACKFILL WILL BE PLACED ON—SITE IN LOCATIONS APPROVED BY THE C.O.R. AT THE CONTRACTOR'S EXPENSE. NO MATERIAL WILL BE HAULED OFF SITE.
- 6. A PRE-PAVEMENT INSPECTION SHALL BE CONDUCTED BY THE C.O.R. A MINIMUM OF 2 DAYS PRIOR TO PLACING PAVEMENT. GRADES AND ELEVATIONS WILL BE CHECKED FOR COMPLIANCE WITH THE PLANS. IT IS THE CONTRACTORS RESPONSIBILITY TO ASSURE ELEVATIONS AND GRADES MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
- 7. ALL PAVEMENT MARKINGS SHALL CONFORM TO FP-14 SECTION 634 AND THE MUTCD.

#### DEMOLITION NOTES

- 1. THE PAY ITEM FOR TREE REMOVAL INCLUDES REMOVAL OF TREES WITH A D.B.H. GREATER THAN 6", REMOVAL OF OTHER TREES AND VEGETATION LESS THAN 6" WILL BE INCLUDED IN THE PAY ITEM FOR CLEARING AND GRUBBING. ALL STUMPS AND ROOTS WITHIN THE LIMITS OF THE ROAD AND PARKING LOT PRISM SHALL BE REMOVED UNLESS THERE IS A UTILITY CONFLICT. BOTH PAY ITEMS INCLUDE REMOVING ALL SLASH (STUMPS, LIMBS, TOPS, ETC.) AND DISPOSING LEGALLY OFF—SITE, UNLESS IT IS CHIPPED AND USED AS MULCH ON—SITE.
- 2. ALL TREES TO BE REMOVED WILL BE MARKED BY THE GOVERNMENT AND THE CONTRACTOR WILL OBTAIN A FOREST SERVICE PERMIT TO PURCHASE THE TREES PRIOR TO REMOVAL FROM THE SITE BY THE CONTRACTOR.
- 3. IN AREAS OF DECOMPACTION, REMOVE ANY EXISTING OBSTRUCTIONS, DE-COMPACT TO A MINIMUM DEPTH OF 6"-12". RE-CONTOUR TO MATCH EXISTING GRADE. COVER WITH 2" WOOD MULCH.
- 4. ALL TREE ROOTS ENCOUNTERED WITHIN NEW PAVEMENT FOOTPRINT WILL BE REMOVED. ROOTS OF LIVE TREES GREATER THAN 3" IN DIAMETER SHALL BE CUT CLEANLY USING APPROPRIATE STERILIZED ROOT PRUNING EQUIPMENT. CUT ROOTS OF LIVE TREES SHALL NOT BE LEFT EXPOSED AND SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE.
- 5. INSTALL CONSTRUCTION FENCING ALONG ALL CONSTRUCTION BOUNDARIES THAT INTERFACE WITH PUBLIC TRAFFIC. COST FOR FENCING IS INCIDENTAL TO OTHER PAY ITEMS.



United States Department of Agriculture Forest Service

R05
PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH
TRAIL HEAD PARKING
LOT UPGRADES
PROJECT

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

GENERAL NOTES

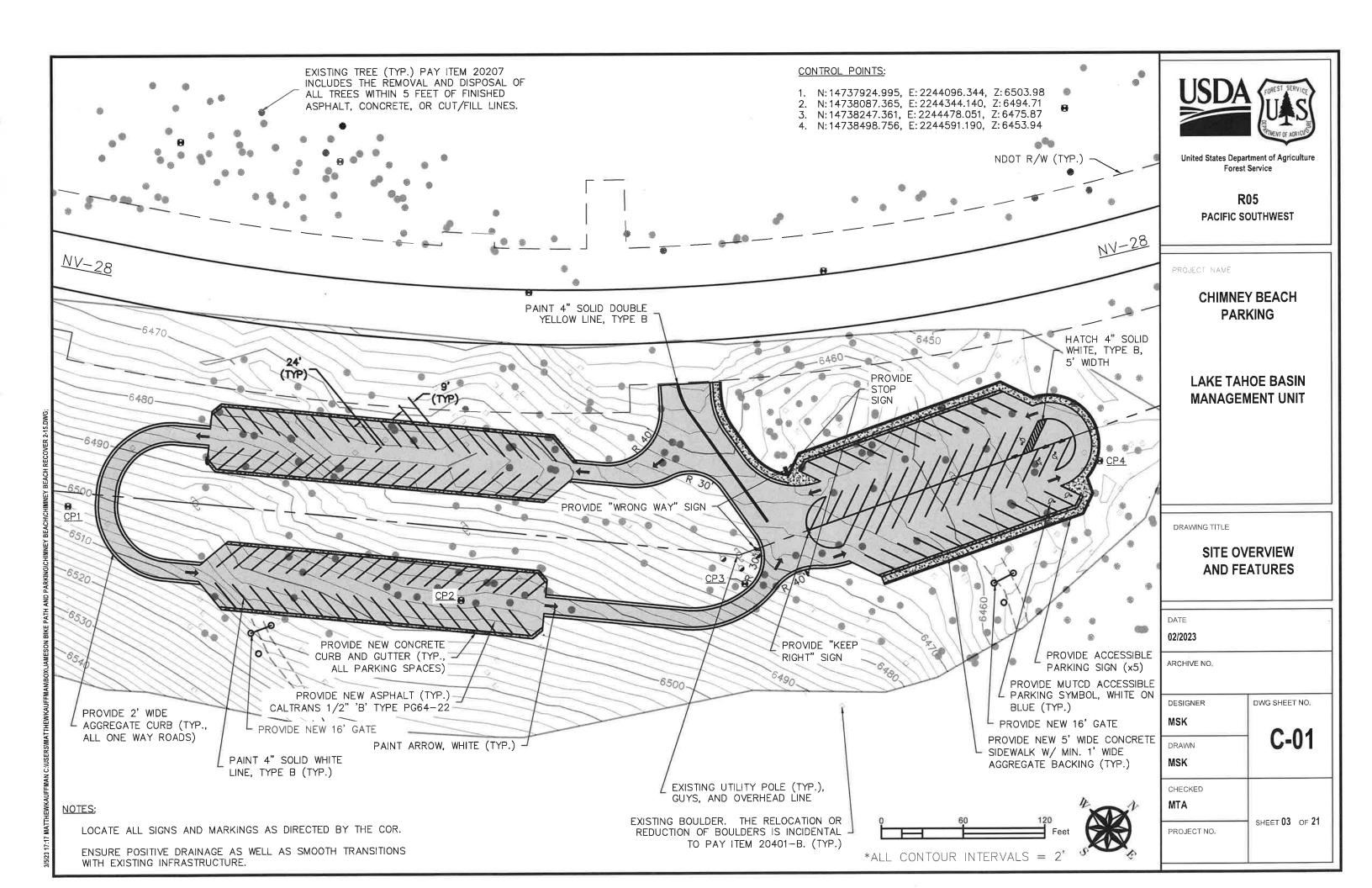
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3/6/2023	
ARCHIVE NO.	
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DESIGNER	DWG SHEET NO
DESIGNER MTA	
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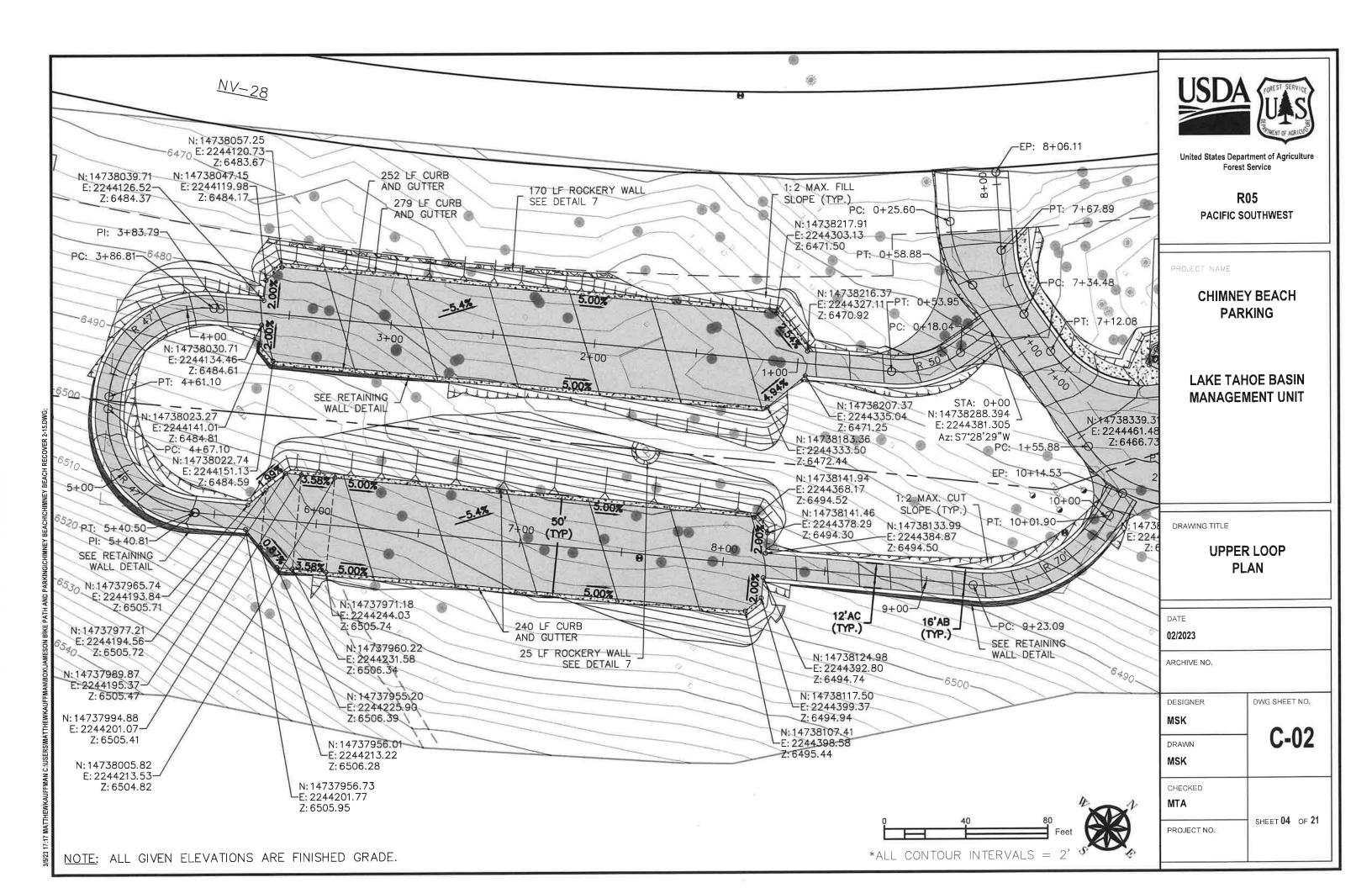
SHEET 002 OF 021

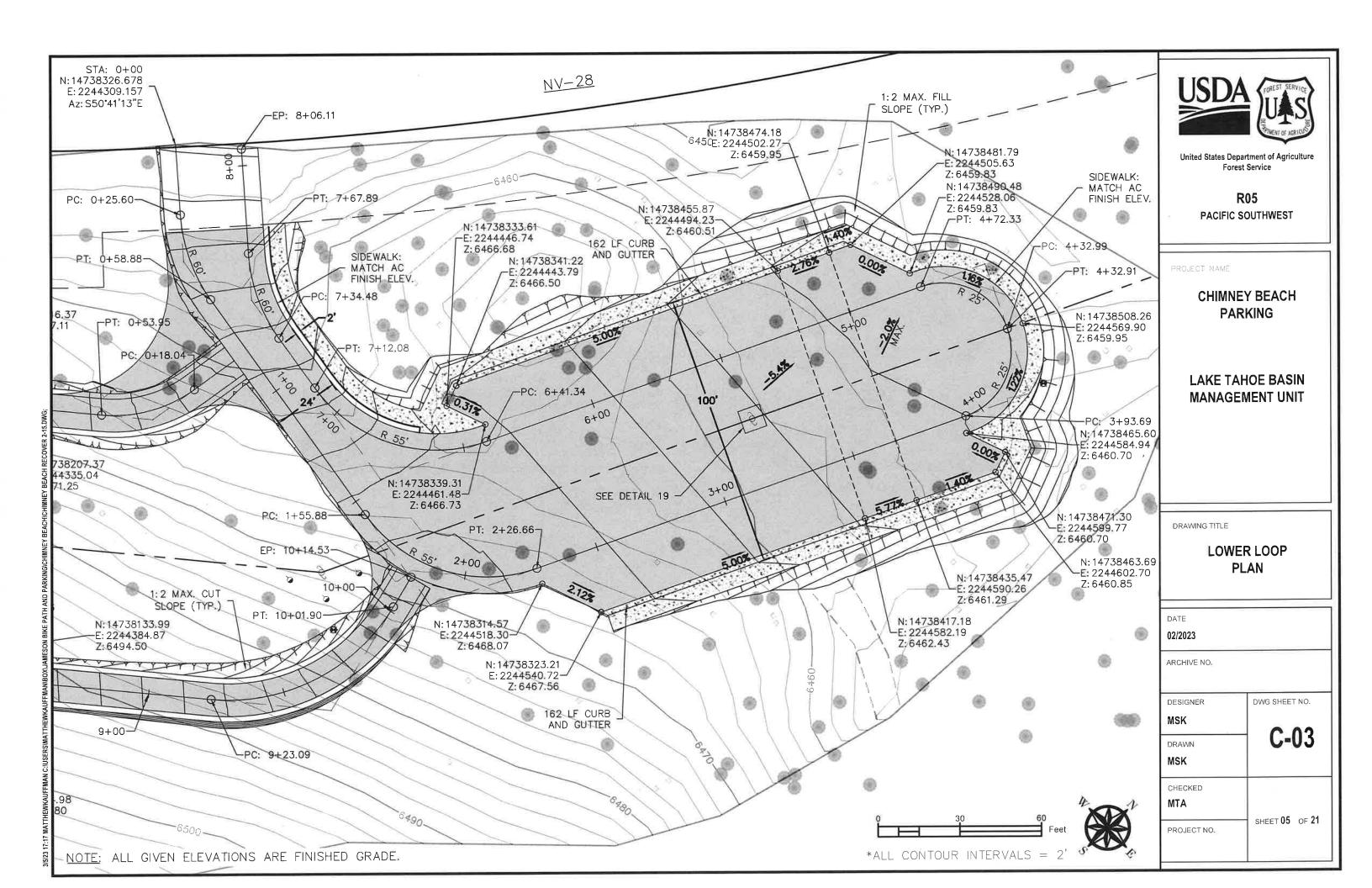
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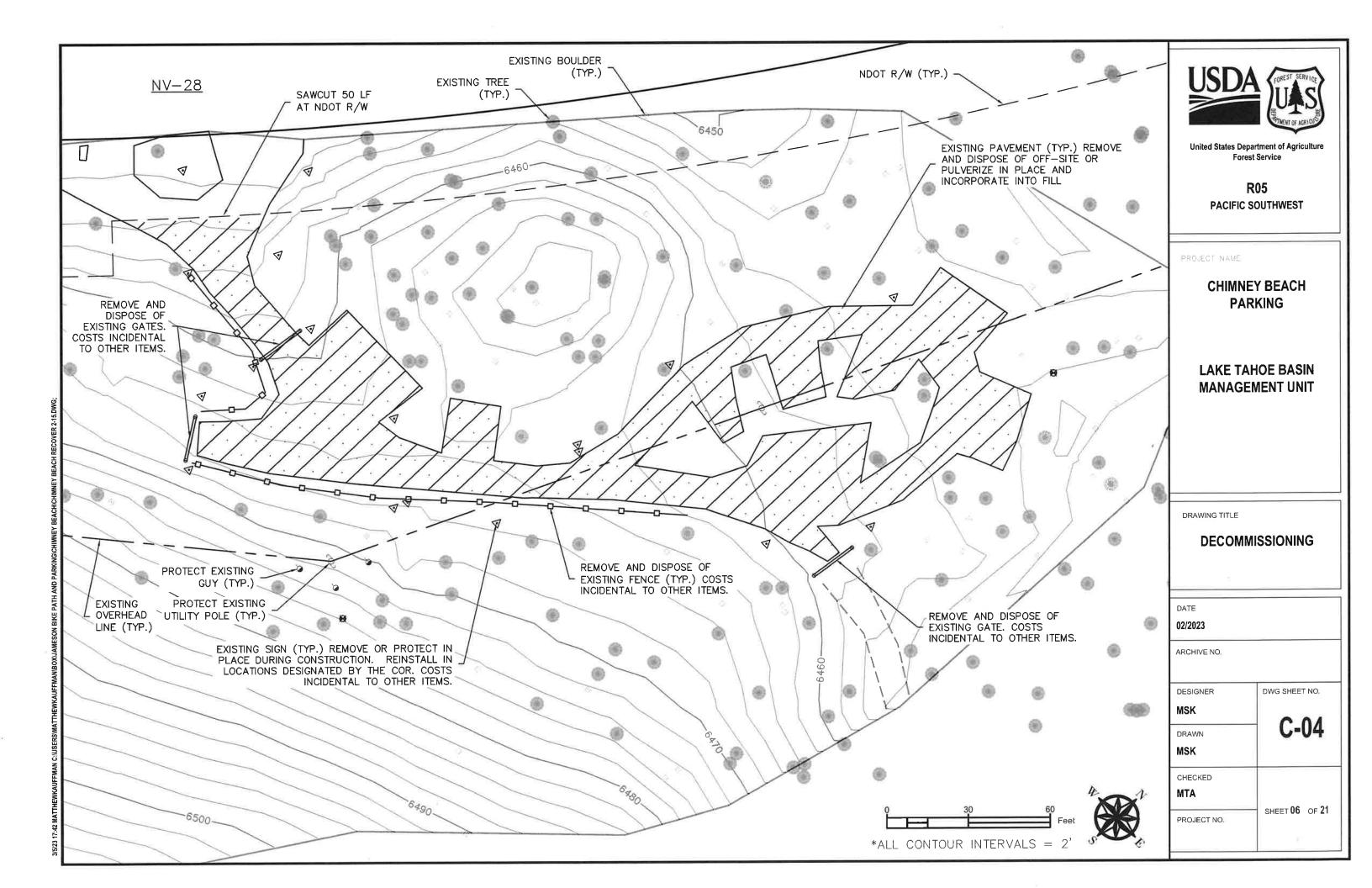
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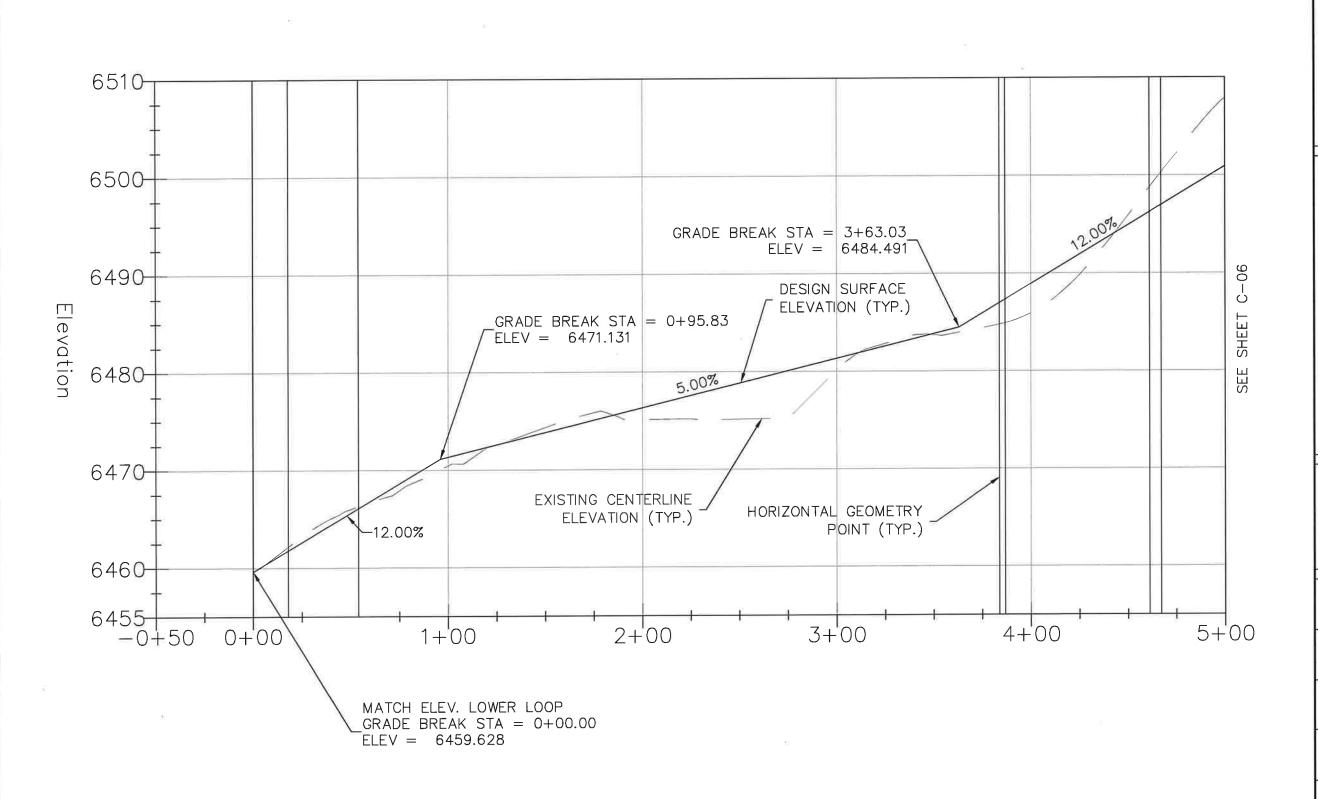
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United States Department of Agriculture Forest Service

R05
PACIFIC SOUTHWEST

PROJECT NAME

CHIMNEY BEACH PARKING

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

UPPER LOOP PROFILE 0+00 - 5+00

**02/2023**ARCHIVE NO.

DATE

DESIGNER DWG SHEET NO.

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C-05

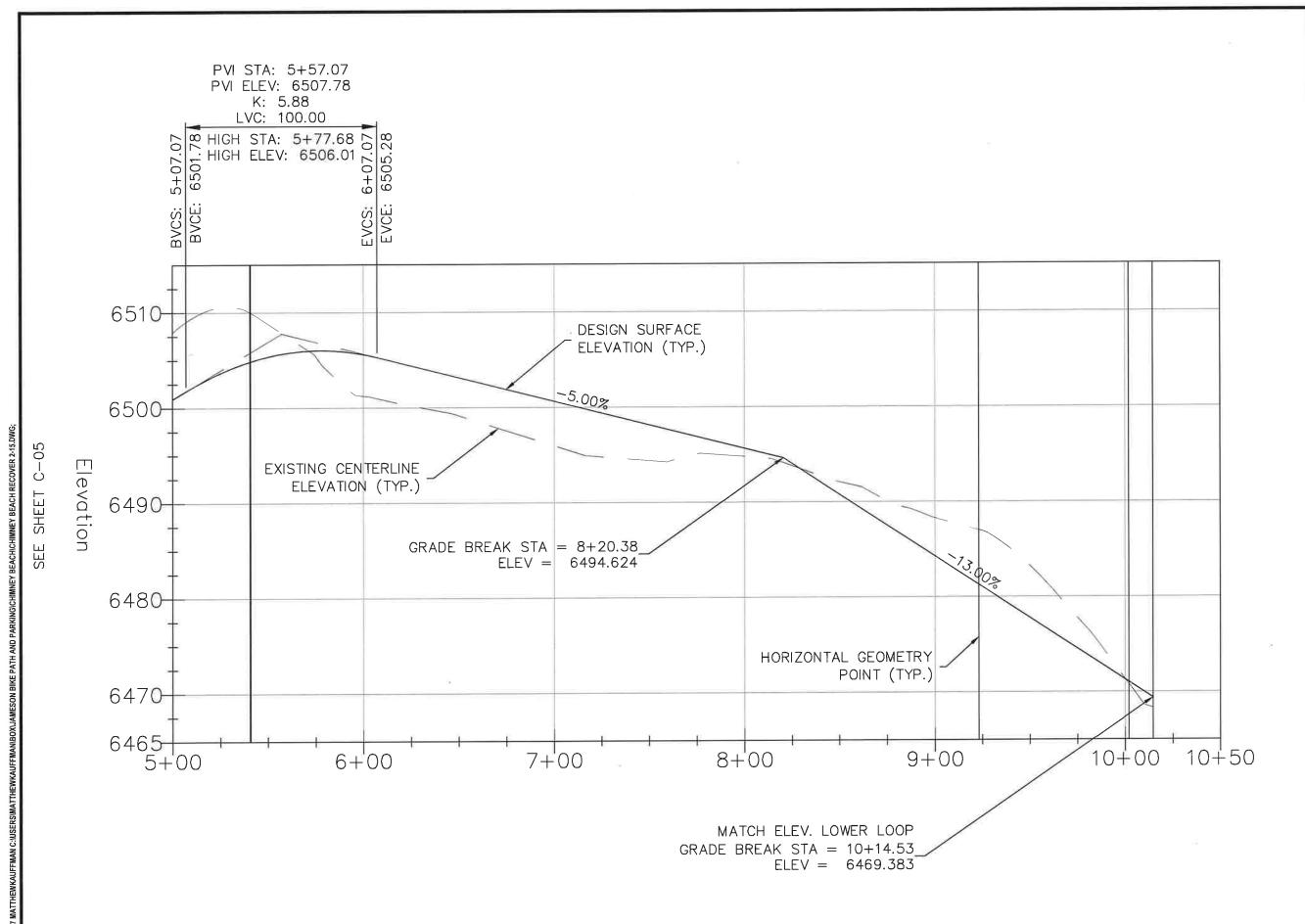
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PROJECT NO.

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SHEET 07 OF 21





United States Department of Agriculture Forest Service

R05
PACIFIC SOUTHWEST

PROJECT NAME

CHIMNEY BEACH PARKING

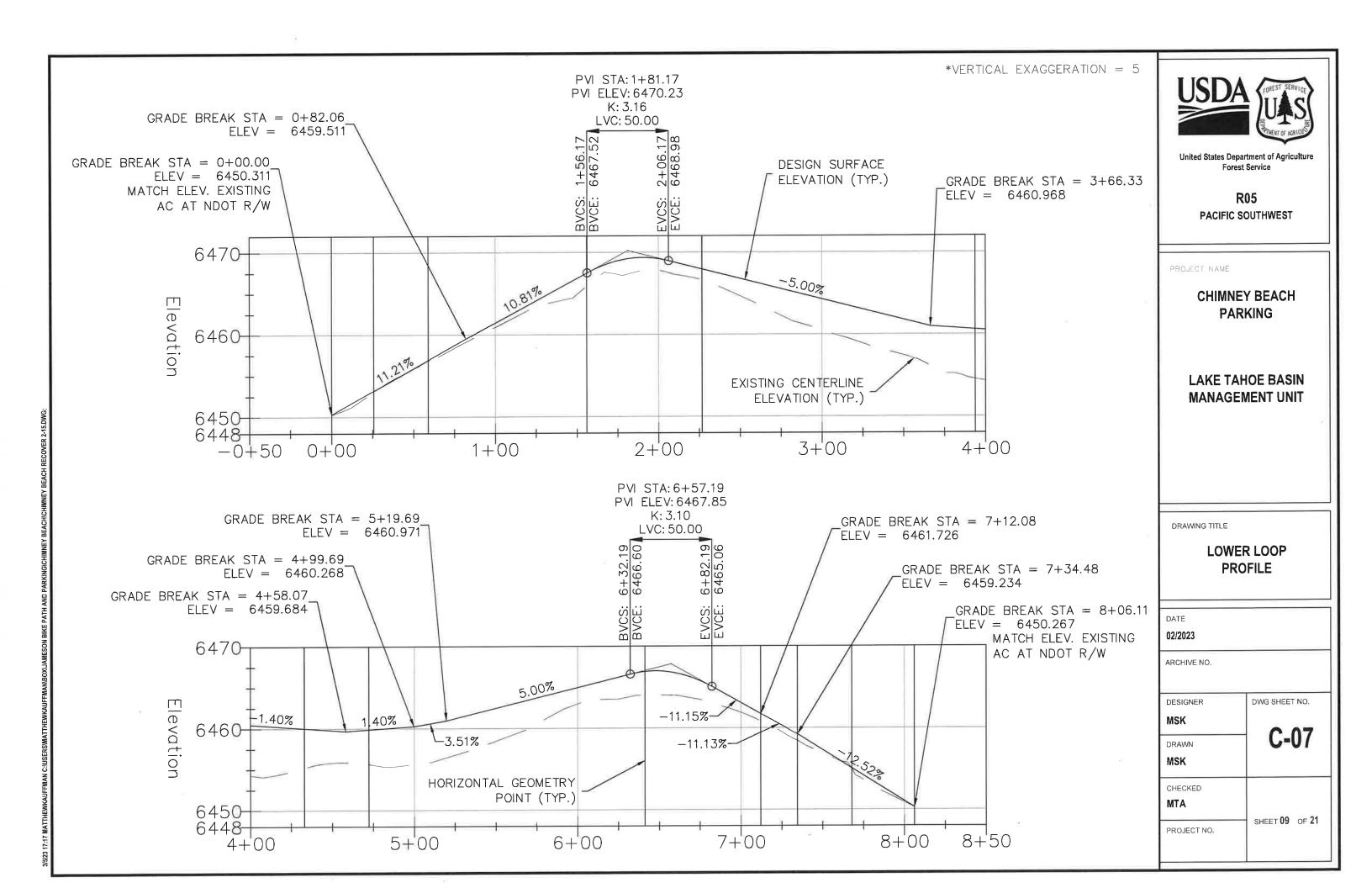
LAKE TAHOE BASIN MANAGEMENT UNIT

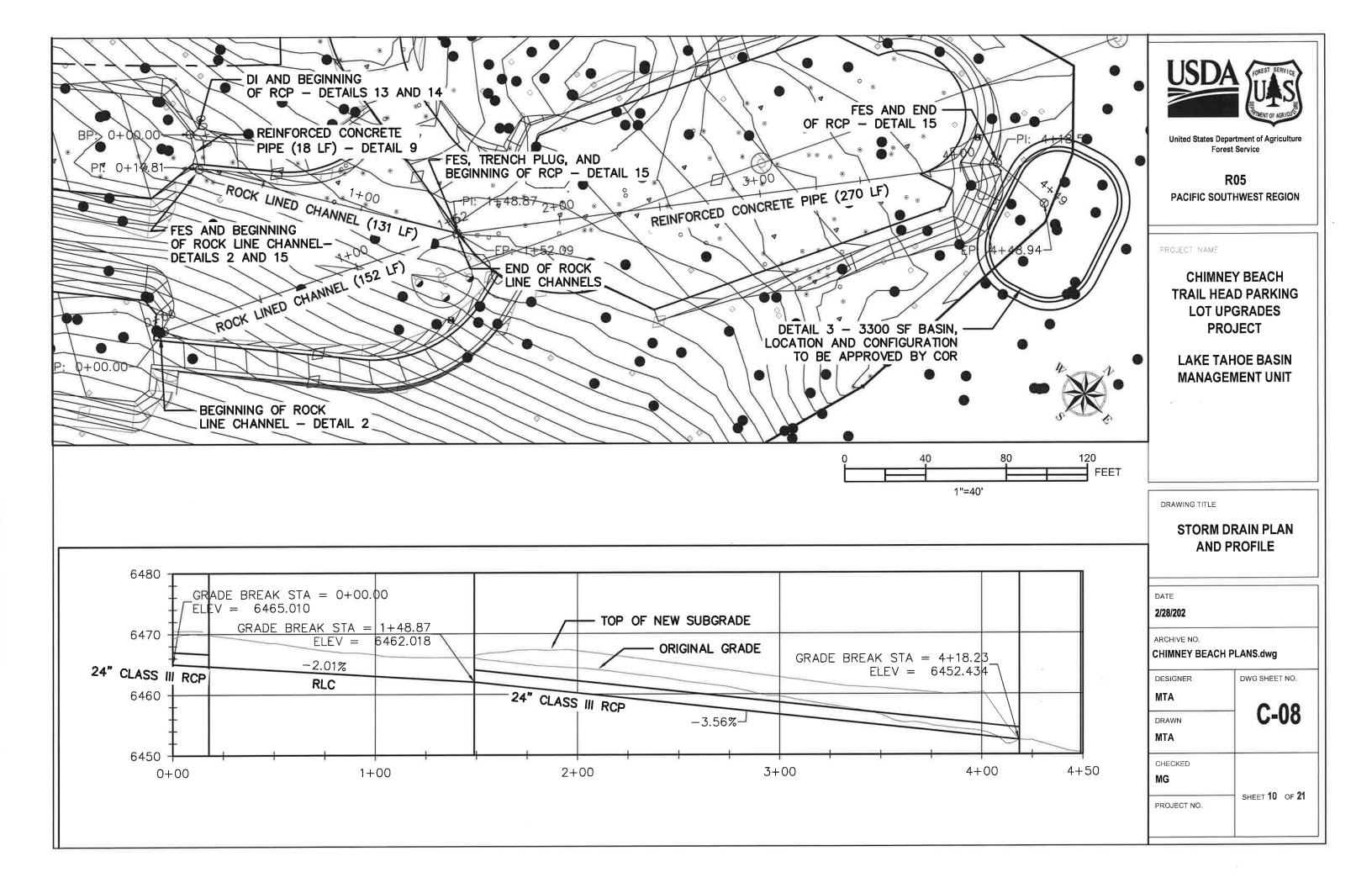
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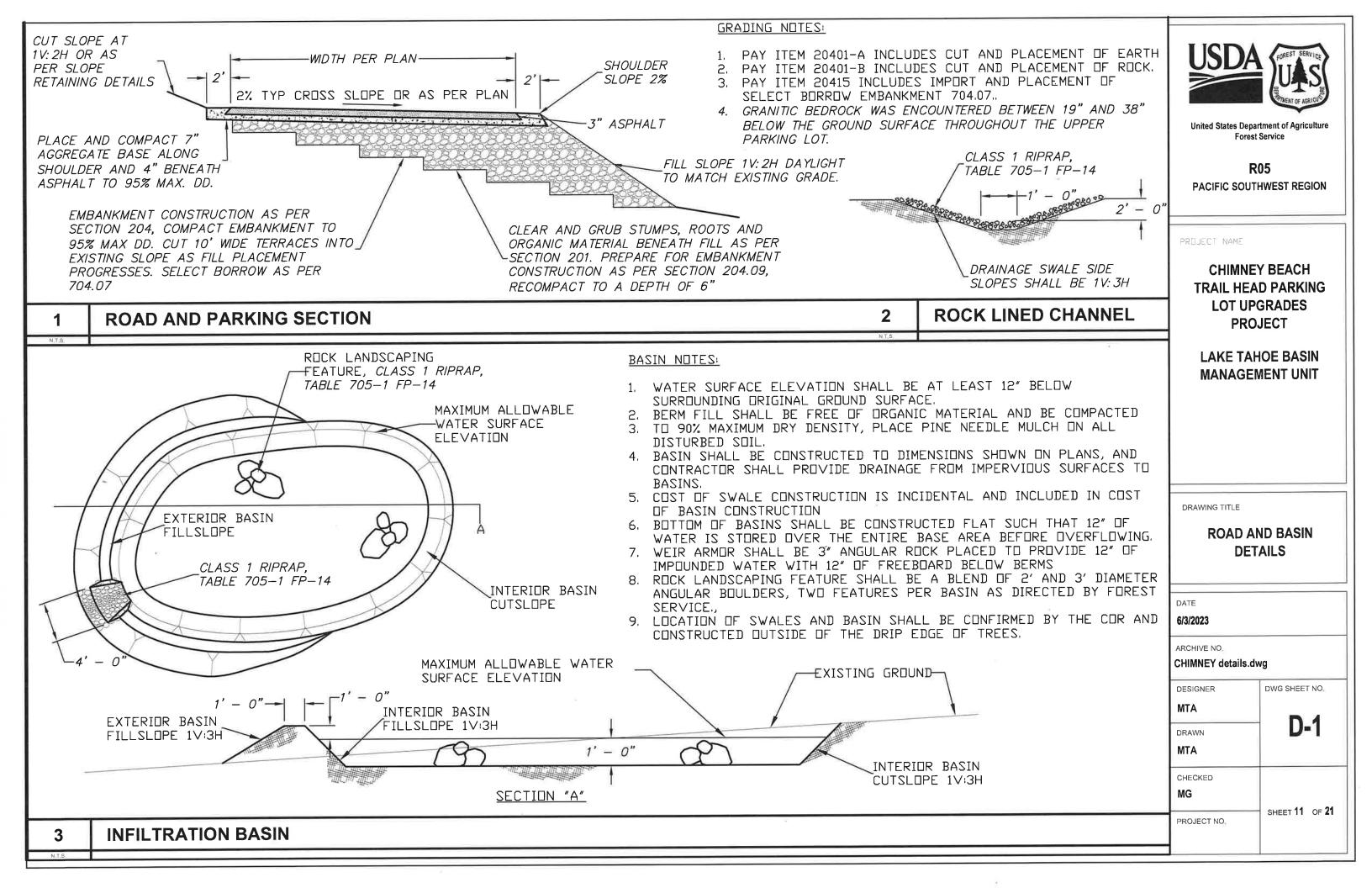
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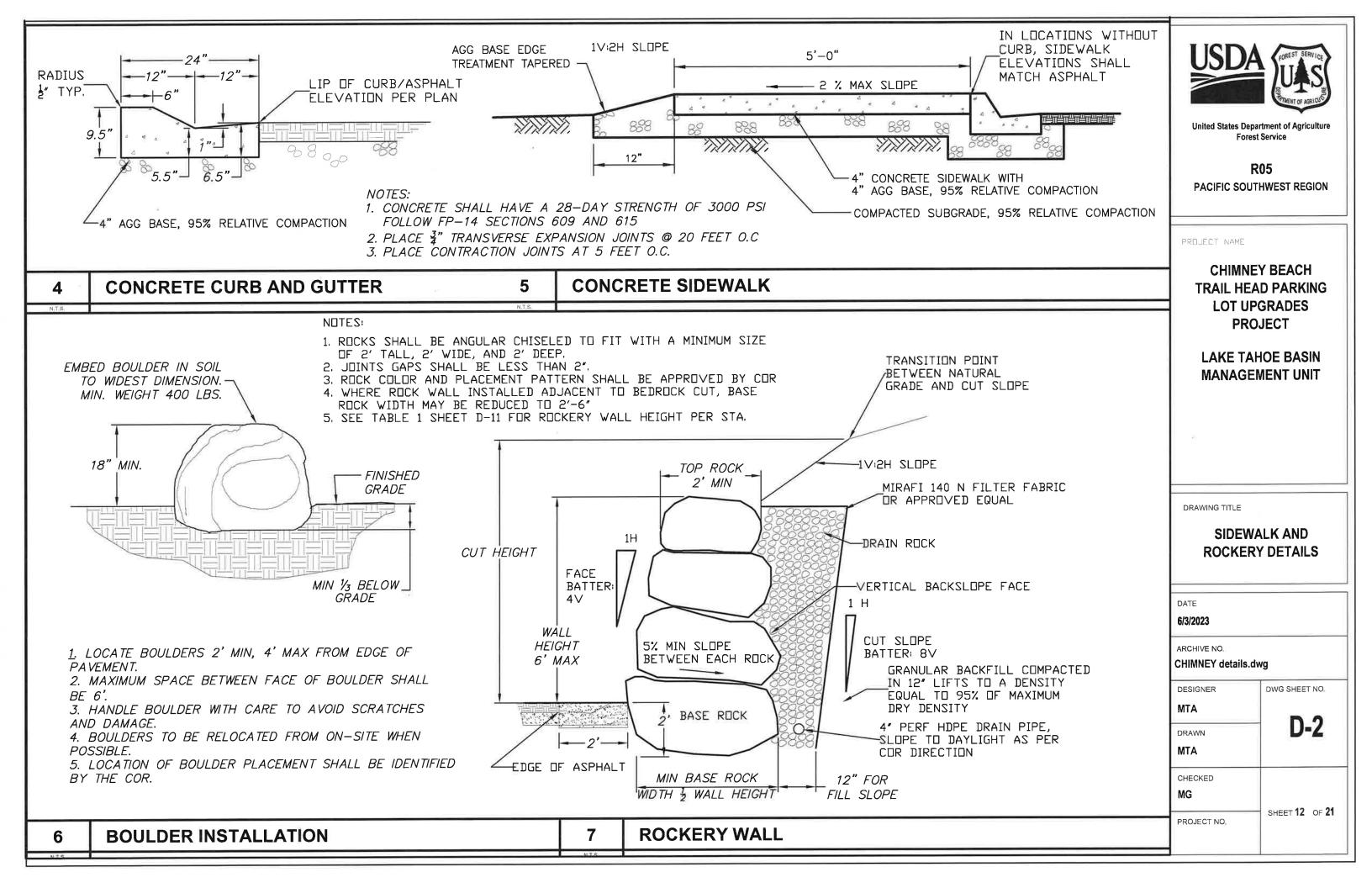
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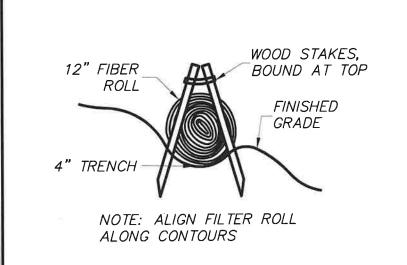
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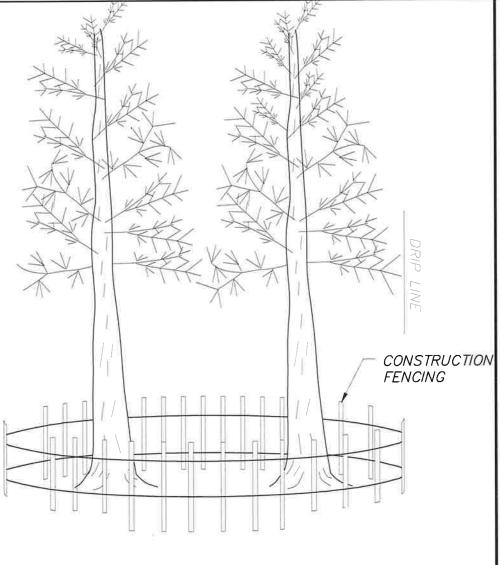


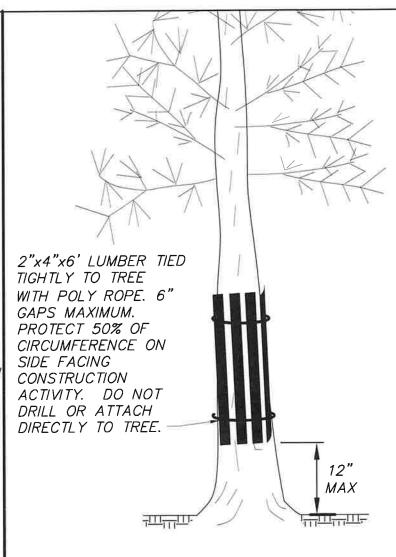




#### FIBER ROLL INSTALLATION 8

SYNTHETIC CONSTRUCTION FENCING 48" TALL 48" TALL METAL FENCE POSTS AT 10' O.C..





TREE PROTECTION

United States Department of Agriculture Forest Service

**R05** PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH TRAIL HEAD PARKING LOT UPGRADES **PROJECT** 

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

**EROSION CONTROL DETAILS** 

6/3/2023 ARCHIVE NO.

CHIMNEY details.dwg

DESIGNER DWG SHEET NO. MTA

DRAWN

MTA

CHECKED MG

PROJECT NO.

SHEET 13 OF 21

# **CONSTRUCTION FENCING**

1. THE COST OF ALL BMPS ARE INCIDENTAL TO OTHER ITEMS.

TREE PROTECTION FENCING 10

2. GRADING ACTIVITIES MAY ONLY OCCUR FROM MAY 1 TO OCTOBER 15. 3. TEMPORARY EROSION CONTROL MEASURES AND DETAILS AS SHOWN ON THIS PLAN ARE SUGGESTED MINIMUM METHODS OF CONTROLLING EROSION DURING CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES 9.

AS DICTATED BY FIELD CONDITIONS TO CONTROL EROSION AND SEDIMENTATION. 4. ALL TEMPORARY EROSION CONTROL FEATURES SHALL BE INSPECTED DAILY AND PRIOR TO INCLEMENT WEATHER; CORRECTIVE ACTION WILL BE TAKEN AS NECESSARY TO INSURE PROPER FUNCTION.

5. THE AREAS OF SOIL AND VEGETATION DISTURBANCE SHALL BE LIMITED TO THAT REQUIRED FOR CONSTRUCTION PURPOSES. EXCEPT WHERE REQUIRED FOR ACCESS, THERE SHALL BE NO DISTURBANCE IN AREAS TO BE LEFT IN A NATURAL STATE. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO AREAS TO BECOME PERMANENT CIRCULATION (E.G., ROADWAYS AND PARKING AREAS, ETC.) OR OTHER DESIGNATED ROUTES APPROVED BY THE COR.

6. FIBÉR ROLLS SHALL BE PLACED ALONG THE DOWNSLOPE EDGE OF STAGING AREAS TO PREVENT CONTAMINATED RUNOFF.

STOCKPILES SHALL BE LOCATED IN ALREADY DISTURBED AND FLAT AREAS, AND SHALL BE SURROUNDED WITH FIBER ROLLS. IF A STOCKPILE IS INACTIVE FOR 14 DAYS, IT SHALL BE STABILIZED WITH HYDRAULIC MULCH OR PLASTIC.

8. REMOVAL OF NATIVE VEGETATION SHALL BE AVOIDED. CONTRACTOR WILL PLACE WOOD OR PINE NEEDLE MULCH 2"-4" THICK IN DISTURBED AREAS DESIGNATED BY THE COR. ALL DISTURBED AREAS SHALL BE MULCHED. ALL MATERIAL TO BE CHIPPED WILL BE OBTAINED FROM SLASH ONSITE. CONTRACTOR SHALL MAINTAIN ADEQUATE DUST CONTROL PER STANDARD SPECIFICATIONS AND ATTACHED SWPPP (PAYMENT FOR WATERING IS INCIDENTAL TO CONTRACT). MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

11

A. CONSTRUCT MAJOR DUST-GENERATING ACTIVITIES WHEN WIND VELOCITIES

B. SPRINKLE WORK AREAS, CONSTRUCTION EQUIPMENT TRAVEL ROUTES, AND EQUIPMENT TO CONTROL DUST.

C. RESTRICT ALL TRUCKS AND VEHICLES WITHIN CONSTRUCTION SITE TO A MAX. SPEED OF 15 MPH.

D. WATER APPLICATION RATES SHALL BE MINIMIZED AS NECESSARY TO PREVENT RUNOFF AND PONDING.

10. SPILL KITS WITH ABSORBENT PADS SHALL BE ON SITE AT ALL TIMES IN PREPARATION OF EQUIPMENT LEAKS. ALL VEHICLE MAINTENANCE SHALL TAKE PLACE AT LEAST 100 FEET FROM SURFACE WATER AND ON A LEVEL AREA.

#### SIGN LIST: R1-1 24" 4' MIN. (2 REQ.) SIGN #1: STOP (2 REQ.) R5-1a 30x24" 4' MIN SIGN #2: WRONG WAY (5 REQ.) ACCESSIBLE PARKING ONLY 703.7.2.1 12x18' 4' MIN. SIGN #3: 4' MIN (1 REQ) R4-7a 18X24" SIGN #4: KEEP RIGHT

POSTS: ACQ. 0.40 PCF. BROWNTONE GALV STEEL 2" X 2" X 12 GAUGE WITH 2-1/4" X 2-1/4" X 10 GA SLEEVE (5 REQ.)

SEE BELOW

PAVED SURFACE

(4 REQ.)

SIGN POST SHALL HAVE 福 PERFORATIONS 1" O.C. ON

ALL FOUR SIDES FOR THE

1-3/4" Min

TO 21/4" Max

FULL LENGTH

-ANCHOR SLEEVE

United States Department of Agriculture Forest Service

**R05** 

PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH LOT UPGRADES

MANAGEMENT UNIT

DRAWING TITLE

6/3/2023

CHIMNEY details.dwg

DWG SHEET NO. DESIGNER MTA

MG

PROJECT NO.

TRAIL HEAD PARKING **PROJECT** 

LAKE TAHOE BASIN

SIGN DETAILS

ARCHIVE NO.

D-4 DRAWN

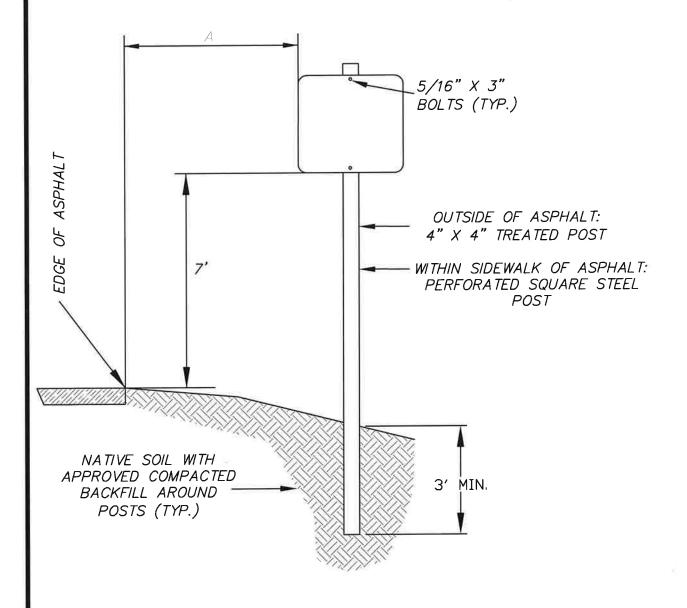
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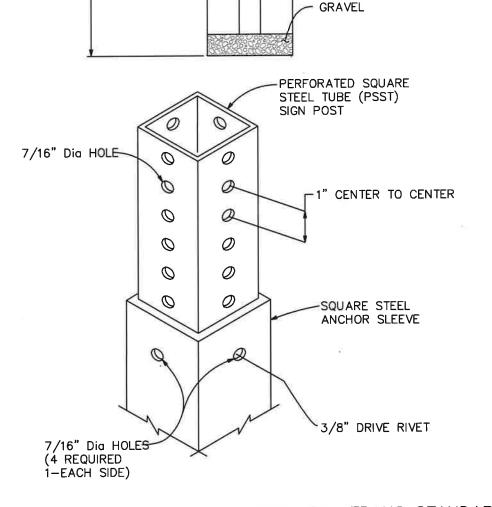
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SHEET 14 OF 21

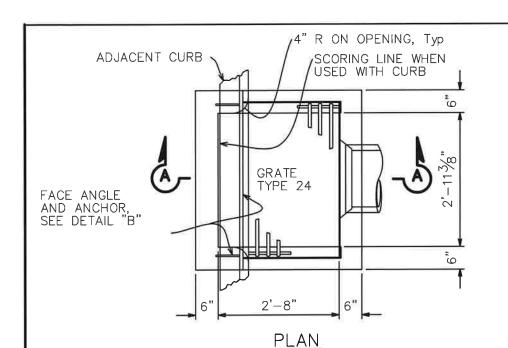
# NOTES:

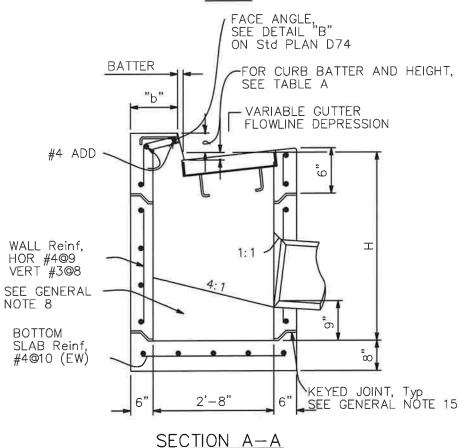
- 1. ATTACH ALL SIGN PANELS TO SIGN POSTS WITH BOLTS AT TOP AND BOTTOM.
- 2. ALL SIGNS SHALL BE 0.060" THICK ALUMINUM PANELS WITH HIGH INTENSITY RETROREFLECTIVE SHEETING WHICH MEETS MUTCD STANDARDS UNDER SECTION 2A.08 (MAINTAINING MINIMUM RETROREFLECTIVITY).
- 3. FINAL PLACEMENT OF ALL SIGNS SHALL BE APPROVED BY THE C.O.R. PRIOR TO INSTALLATION.
- ALL SIGNS SHALL BE INSTALLED USING VANDAL RESISTANT BOLTS AND NUTS.
- SEE FP-14 SECTION 633 FOR ADDITIONAL REQUIREMENTS.
- THE BACKS OF ALL SIGNS NOT MOUNTED BACK-TO-BACK SHALL BE PAINTED A SHADE OF BROWN APPROVED BY THE C.O.R.





ADAPTED FROM CAL TRANS STANDARD PLANS 2022





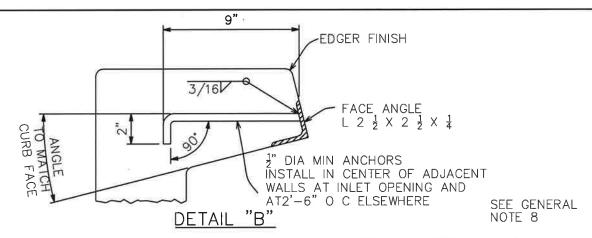


	TABLE A				
CURB TYPE	NORMAL CURB HEIGHT	CURB BATTER	"a" DIMENSION	"b" DIMENSION	
A16	6"	11/2"	T+71/2"	T+61/2"	
A1-8	8"	2"	T+7"	T+6"	
B1-6	6"	4"	T+5"	T+4"	
TYPE A DIKE	6"	3"	T+6"	T+5"	

Height of curb opening will vary with the type of curb and the depth of the local depression.

# NOTES:

1. See Standard Plan D73F for General Notes and additional details. See Standard Plan D73G for tables, wall thickness "T" and quantities.

Where shown on the project plans, place a 3/4"A plain round protection bar 2. horizontally across the length of the opening and bend back 4" into the inlet wall on each side.

Complete joint penetration butt welds may be substituted for the fillet welds on 3. all anchors.

Standard square, hexagon, round or equivalent headed anchors may be 4. substituted for the right angle hooks on the anchors shown on this plan.

USDA FOREST SERVICE USS

United States Department of Agriculture Forest Service

R05
PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH
TRAIL HEAD PARKING
LOT UPGRADES
PROJECT

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

DRAINAGE INLET DETAILS

6/3/2023

ARCHIVE NO.

CHIMNEY details.dwg

MTA

DRAWN

DESIGNER

DWG SHEET NO.

D-5

MTA

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PROJECT NO.

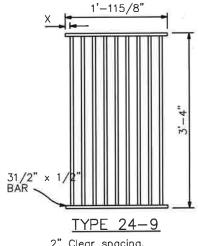
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SHEET 15 OF 21

ADAPTED FROM CAL TRANS STANDARD PLANS 2022

13 DRAINAGE INLET DETAILS

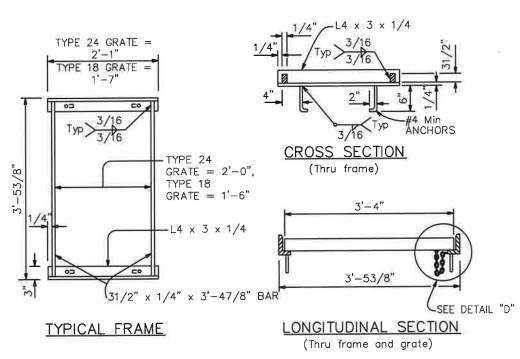
N.T.S.



2" Clear spacing. Use in locations off the roadbed on all types of highways.

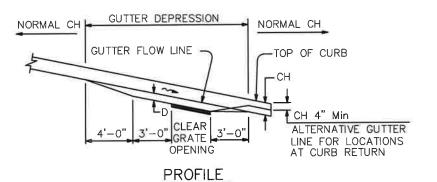
# RECTANGULAR GRATE DETAILS

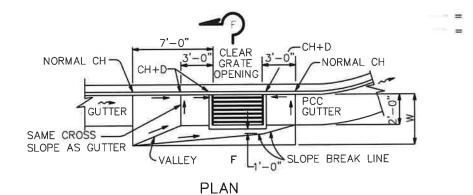
(See table below)



RECTANGULAR FRAME DETAILS

(For all rectangular grates)





THRU G6 INLETS ON GRADE

#### NOTES:

- Grate type numbers refer to approximate width of grate in inches and number of bars, respectively.
- 2. Rounded top of bars optional on all grates.
- 3. Pipe inlets with a grate shall be placed so that bars parallel direction of principle
- 4. Complete joint penetration butt welds may be substituted for the fillet welds on all
- 5. Standard square, hexagon, round or equivalent headed anchors may be substituted for the right angle hooks on the anchors shown on this plan.
- Grate and frame weights are based on welded grates (weights of face angles, steps, protection bars, etc. are not included).
- 7. Connect chain to grate and frame only at locations shown on the plans. When chain is required, do not use cast ductile iron

#### NOTES:

- 1. W= Width of depressed apron. Depressed aprons shall be 4'-0" on shoulder and 4'-0" to 6'-0"in city street gutters unless otherwise shown.
  - D= Gutter depression. The gutter depression shall be 11/4" for shoulder and 11/4" to 3" in city street gutter or locations outside of shoulder unless otherwise shown.
- CH= Curb Height. Straight grade, downward slope. Gutter or shoulders direction of flow.
- 2. Gutter depressions shall be 8" thick.
- 3. Establish curb opening height at midpoint of grate.
- 4. Details shown for concrete pavement. When hot mix asphalt pavement is used, corners to be cut off as shown on Detail of Hot Mix Asphalt Pavement

ADAPTED FROM CAL TRANS STANDARD PLANS 2022

**United States Department of Agriculture** Forest Service

R05 **PACIFIC SOUTHWEST REGION** 

PROJECT NAME

**CHIMNEY BEACH** TRAIL HEAD PARKING **LOT UPGRADES PROJECT** 

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

DRAINAGE INLET **DETAILS** 

DATE 6/3/2023

ARCHIVE NO.

CHIMNEY details.dwg

DWG SHEET NO. DESIGNER MTA **D-6** 

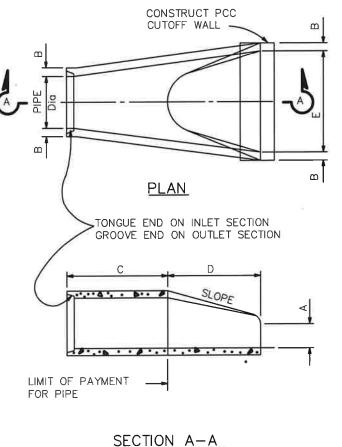
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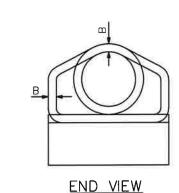
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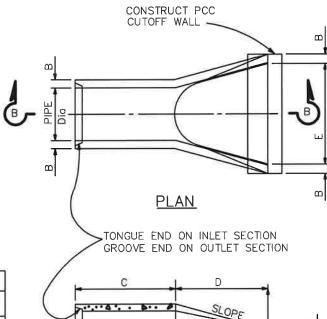
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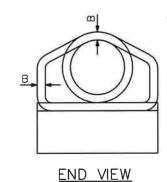
SHEET 16 OF 21

DRAINAGE INLET DETAILS 14









MINIMUM DIMENSIONS						
PIPE Dia	А	В	С	D	Е	SLOPE
12"	4"	11/2"		1'-10"	2'-0"	
18"	9"	13/4"		2'-1"	3'-0"	<u>ر</u> ا
24"	91/2"	21/4"	2	3'-6"	4'-0"	FLATTER
30"	1'-0"	23/4"	NOTE	4'-5"	5'-0"	FF
36"	1'-3"	31/4"	SEE 1	5'-2"	6'-0"	8
42"	1'-9"	31/2"	SS	5'-3"	6'-6"	2: 1
48"	2'-0"	4"		6'-0"	7'-0"	] ''
54"	2'-3"	43/8"		5'-6"	6'-10"	

MINIMUM DIMENSIONS PIPE Dia В С D Ε SLOPE 2'-0" 12" 13/4' 2'-0" 21/4" 2'-3" 3'-0" 18" 9" 24" 91/2" 23/4 30" 1'-0" 31/4" 4'-6" 6'-0" 36" 1'-3" 33/4 5'-3" 42" 1'-9" 5'-3" 6'-6" 41/4" 48" 2'-0" 43/4" 6'-0" 7'-0" 5'-5" 51/4"

SECTION B-B

LIMIT OF PAYMENT \_\_\_\_

FOR PIPE

PRECAST CONCRETE FLARED END SECTION TYPE A

PRECAST CONCRETE FLARED END SECTION TYPE B

## NOTES:

- 1. Contractor has the option of using either Type A or B precast concrete flared end section.
- 2. "C" dimension varies by manufacturer and will be paid for as concrete pipe.

ADAPTED FROM CAL TRANS STANDARD PLANS 2022

DATE 6/3/2023 ARCHIVE NO. **CHIMNEY** details.dwg DWG SHEET NO. DESIGNER MTA

DRAWING TITLE

United States Department of Agriculture

Forest Service

**R05** PACIFIC SOUTHWEST REGION

**CHIMNEY BEACH** 

TRAIL HEAD PARKING

**LOT UPGRADES PROJECT** 

LAKE TAHOE BASIN

MANAGEMENT UNIT

FLARED END SECTION

**DETAILS** 

PROJECT NAME

DRAWN MTA

CHECKED

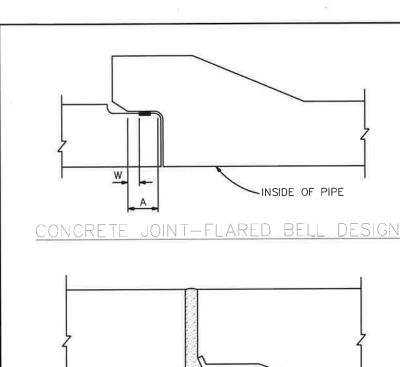
MG

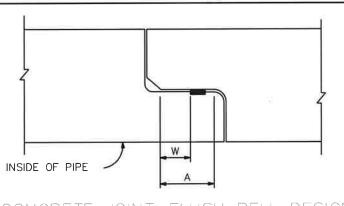
PROJECT NO.

SHEET 17 OF 21

**FLARED END SECTION DETAILS** 

15





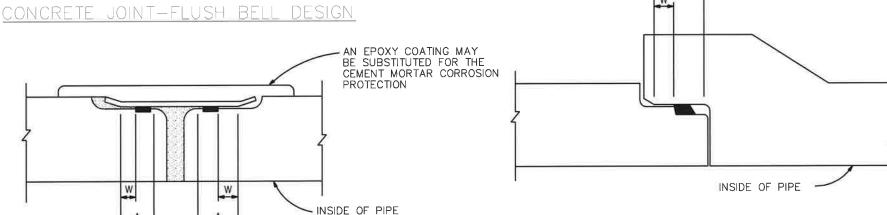
# **LEGEND**

CEMENT MORTAR





STEEL

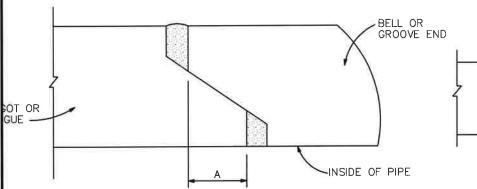


CONCRETE JOINT-SINGLE OR DOUBLE OFFSET DESIGN

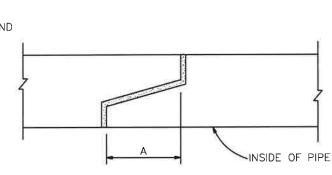
Flared or Flush Bell

# INSIDE OF PIPE JOINT-FLUSH BELL DESIGN

JOINT-DOUBLE GASKET DESIGN



SELF-CENTERING TONGUE & GROOVE



TONGUE & GROOVE DESIGN

# TABLE A

	MINIMUM JOINT OVERLAP			
PIPE DIAMETER LIMITS	STANDARD "A"	POSITIVE "A"	STANDARD "W"	POSITIVE "W"
6" THROUGH 12"	1/4"	1/2"	1/4"	3/8"
15" THROUGH 33"	1/2"	3/4"	1/4"	1/2"
GREATER THAN 33"	3/4"	1"	3/8"	5/8"

#### NOTES:

- 1. For pipe sections installed on straight alignment, the pipe sections shall be joined to provide maximum joint overlap at all points on the joint periphery, but in no case less than the values shown in Table A for "W" if the installation is required to be watertight or "A" for all other installations.
- 2. For pipe sections installed on curved alignment, the pipe sections shall be joined to provide maximum joint overlap on one side of the joint and not less than 1/4" overlap on the other. The 1/4" overlap shall be the "W" dimension for installations required to be watertight, or the "A" dimension for all other installations.
- 3. Watertight joint requirement shall typically be met with the use of rubber gaskets as shown. Pipe installed with rubber gaskets shall have a minimum overlap meeting or exceeding the indicated "W" dimension shown in Table A or indicated in Note 2. Joints shown with rubber gaskets may be installed without gaskets in non-watertight applications, in which case the joint shall be sealed with sealing materials and the minimum joint overlag shall meet or exceed the "A" dimension shown in Table A or indicated in Note 2.
- 4. For Self—Centering Tongue and Groove Joints, the mortar shall be applied after the pipe ends are pushed together. The mortar shall be applied to the joint gap on the inside of the pipe for pipe diameters of 24" or more, or to the gap on the outside of the pipe for pipe smaller than 24" in diameter.
- 5. When watertight joints are required (See Note 3) and cement mortar joints are not allowed the taper on surfaces within the "W" dimension at full joint closure and the opposing sealing surfaces of the bells and spigots on which the rubber gaskets may bear during closure of the joint and at any degree of partial closure shall form an angle of not more than 2 degrees with the longitudinal axis of the pipe.

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United States Department of Agriculture Forest Service

**R05** PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH TRAIL HEAD PARKING **LOT UPGRADES PROJECT** 

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

REINFORCED **CONCRETE PIPE DETAILS** 

DATE 6/3/2023

ARCHIVE NO.

CHIMNEY details.dwg

DESIGNER DWG SHEET NO. MTA **D-8** 

DRAWN MTA

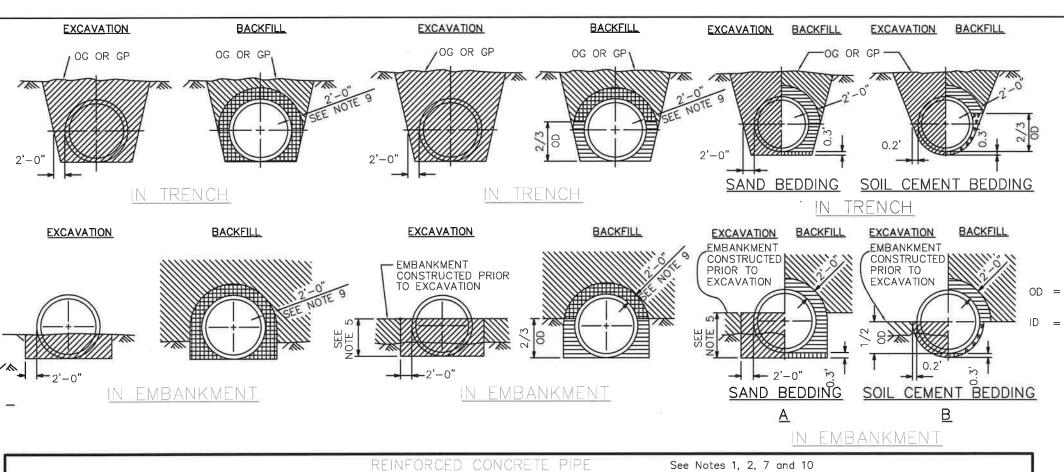
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PROJECT NO.

MG

SHEET 18 OF 21

REINFORCED CONCRETE PIPE DETAILS 16



	REINFORCED CONCRETE PIPE See Notes 1, 2, 7 and 10					
METHOD 1		METHOD 2		METHOD 3		
MINIMUM ALLOWABLE	CLASSES OF RCP FOR METHOD 1	MINIMUM ALLOWABLE	CLASSES OF RCP FOR METHOD 2	MINIMUM ALLOWABLE CLA	MINIMUM ALLOWABLE CLASSES OF RCP FOR METHOD 3	
COVER	MINIMUM CLASS AND D-LOAD	COVER	MINIMUM CLASS AND D-LOAD	COVER	MINIMUM CLASS AND D-LOAD	
5.9'	CLASS 1 1000D	15.9'	CLASS İİ 1000D	- 25.9'	CLASS II 1000D	
6.0' - 7.9'	CLASS ÎÎÎ 1350D	16.0' — 19.9'	CLASS ÎÎÎ 1350D	26.0' — 31.9'	CLASS ÎÎÎ 1350D	
8.0' - 9.9'	CLASS İİİ SPECIAL 1700D	20.0' - 24.9'	CLASS III SPECIAL 1700D	32.0' — 37.9'	CLASS III SPECIAL 1700D	
10.0' - 11.9'	CLASS IV 2000D	25.0' – 27.9'	CLASS IV 2000D	38.0' — 44.9'	CLASS IV 2000D	
12.0' - 13.9'	CLASS IV SPECIAL 2500D	28.0' - 34.9'	CLASS IV SPECIAL 2500D	45.0' — 55.9 <b>'</b>	CLASS IV SPECIAL 2500D	
14.0' - 16.9'	CLASS V 3000D	35.0' — 41.9'	CLASS V 3000D	56.0' — 67.9'	CLASS V 3000D	
17.0′ - 20.0′	CLASS V SPECIAL 3600D	42.0' - 50.0'	CLASS V SPECIAL 3600D	68.0′ — 80.0′	CLASS V SPECIAL 3600D	
See Notes 6 and 9		See Notes 8 and 9				

## LEGEND:

STRUCTURE EXCAVATION (CULVERT) STRUCTURE BACKFILL (CULVERT) 95% RELATIVE COMPACTION STRUCTURE BACKFILL (CULVERT)

90% RELATIVE COMPACTION ROADWAY EMBANKMENT

LOOSE BACKFILL

SOIL CEMENT BEDDING |||||||||||||| SAND BEDDING

= OUTSIDE DIAMETER FOR CIRCULAR PIPES AND MAXIMUM VERTICAL DIMENSION FOR OTHER SHAPES

= INSIDE DIAMETER FOR CIRCULAR PIPES AND MINIMUM VERTICAL DIMENSION FOR OTHER SHAPES

ADAPTED FROM CAL TRANS STANDARD PLANS 2022

United States Department of Agriculture Forest Service

**R05** PACIFIC SOUTHWEST REGION

PROJECT NAME

**CHIMNEY BEACH** TRAIL HEAD PARKING **LOT UPGRADES PROJECT** 

LAKE TAHOE BASIN **MANAGEMENT UNIT** 

DRAWING TITLE

REINFORCED **CONCRETE PIPE DETAILS** 

DATE

6/3/2023

ARCHIVE NO.

CHIMNEY details.dwg

DWG SHEET NO. DESIGNER MTA **D-9** 

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SHEET 19 OF 21 PROJECT NO

4. Embankment height prior to excavation for installation of all classes of RCP

under Methods 2 and 3A shall be as follows:

Pipe sizes 1'-0" to 3'-6", ID = 2'-6" Pipe sizes 4'-0" to 7'-0", ID = 2/3 OD Pipe sizes larger than 7'-0'', ID = 5'-0''

The maximum size for all classes of RCP placed under Method 1 is 6'-6" ID.

Non-reinforced precast pipe sizes 1'-0" or smaller may also be placed under

Methods 1, 2 or 3.

Elliptical shaped RCP shall be placed under Method 2 only.

8. Embankment compaction requirements govern over the 90% relative compaction backfill requirement within 2'-6" of finished grade.

Backfill shall be placed full width of excavation except where dimensions are

shown for backfill width or thickness. Dimensions shown are minimums. 10. Where the precast non-reinforced concrete pipe is used as a substitute for

the cast—in—place pipe, both the wall thickness and the concrete strength 11 shall be at least as great as that specified for the cast—in—place pipe. The fill height allowed shall not exceed that shown for the cast-in-place pipe.

#### NOTES:

Unless otherwise shown on the plans or specified in the special provisions, the Contractor shall have the option of selecting the class of RCP and the method of backfill to be used, provided the height of cover does not exceed the value shown for the RCP selected.

Example:

2'-0" RCP culvert with maximum cover of 19'-0" the options are:

a) Class I Special or stronger with Method 1.

b) Class III or stronger with Method 2.

c) Class II or stronger with Method 3.

Cover is defined as the maximum vertical distance from top of pipe to finished grade within the length of any given culvert.

The class of RCP, method of backfill and bedding selected shall be the same throughout the length of any given culvert.

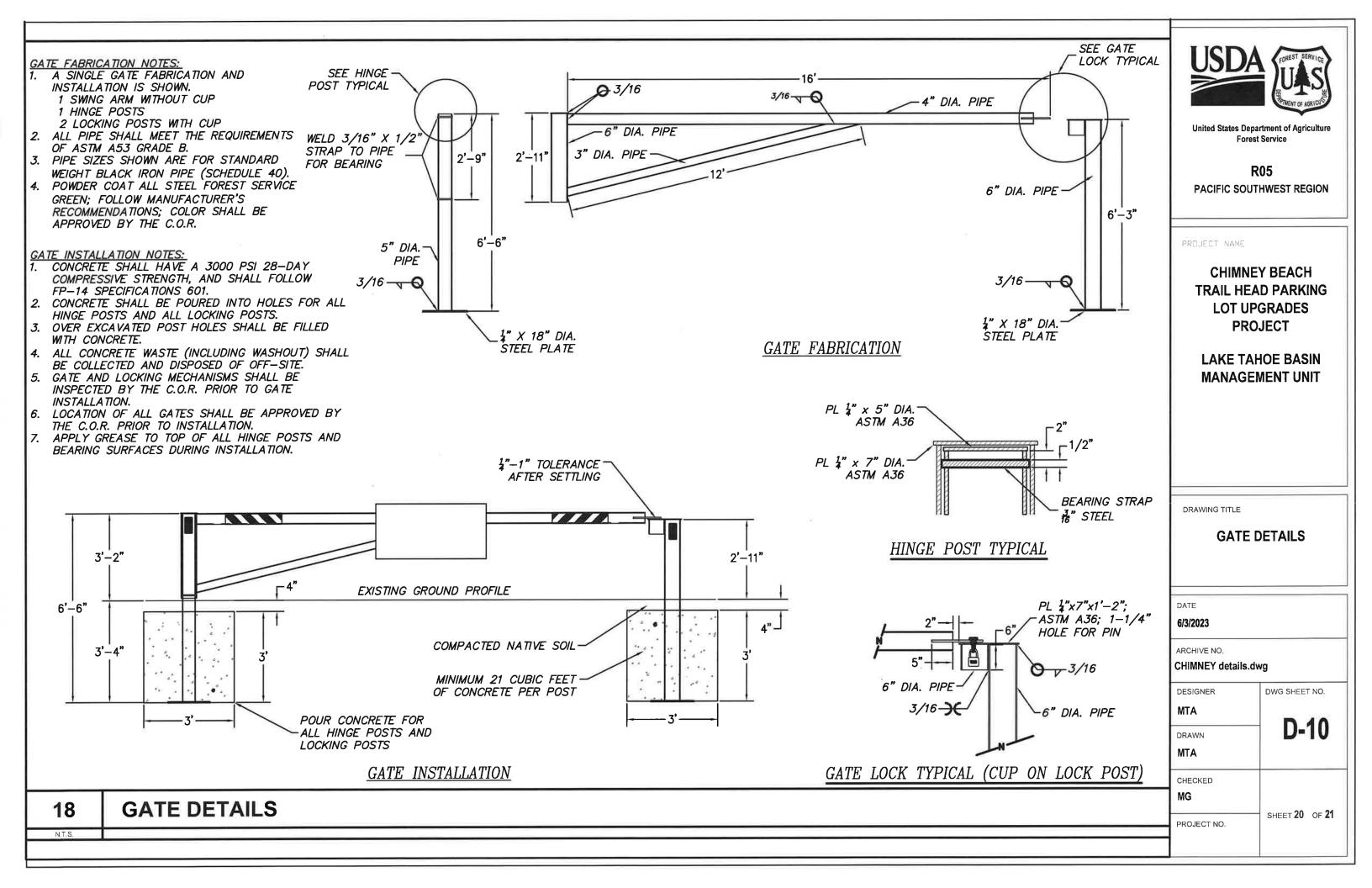
The "length of any culvert" is defined as the culvert between:

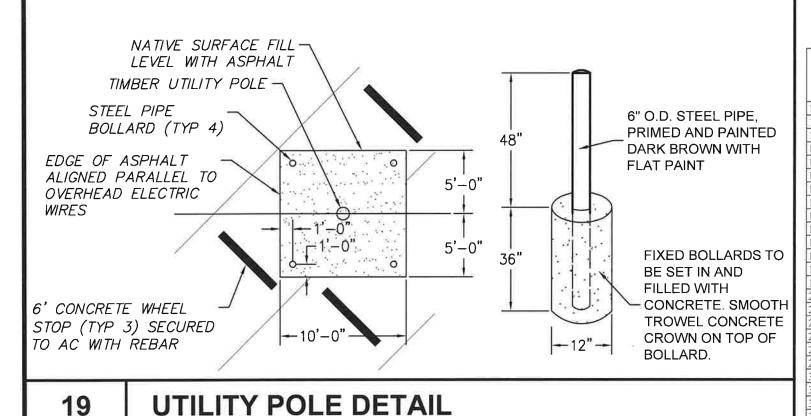
a) Successive drainage structures (inlets, junction boxes, headwalls, etc.).

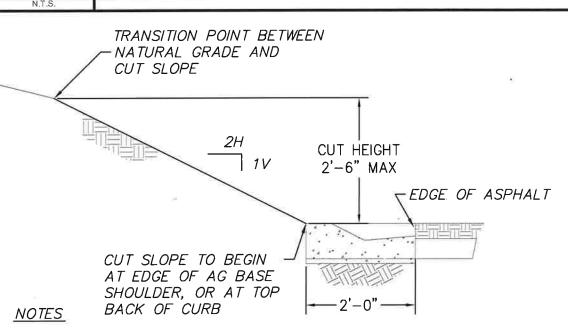
A drainage structure and the inlet or outlet end of the culvert. The inlet and outlet end of the culvert when there are no intervening

drainage structures.
Slope or shore excavation sides as necessary

#### REINFORCED CONCRETE PIPE DETAILS 17







- 1. COMPACT AND APPLY MULCH TO ALL FILL SLOPES.
- 2. PAY ITEM AREA FOR THE ROCKERY WALL WILL BE CALCULATED BASED ON WALL HEIGHT (H) AS SHOWN IN TABLE 1.
- 3. GRANITIC BEDROCK WAS ENCOUNTERED BETWEEN 19" AND 38" BELOW THE GROUND SURFACE THROUGHOUT THE UPPER PARKING LOT.
- 4. SEE SHEET D-2 FOR ROCKERY WALL DETAIL FOR CUT SLOPES GREATER THAN 2.5 FEET.

20 CUT SLOPES LESS THAN 2.5'

#### TABLE 1. ROCKERY WALL HEIGHT

ROAD SHOULDER					
	Cut	Rockery			
	Height	Height	Area		
STA	(ft)	(H) (ft)	(sy)		
1+10.95	2.25	0	0.0		
1+14.48	3.52	2	1.1		
1+19.36	3.38	2	1,1		
1+24.36	3.27	2	101		
1+29.36	3.25	2			
1+34.36	3.23	2	1.1		
		2			
1+39.36	3.28		1.1		
1+44.36	3.29	2	1.1		
1+49.36	3.31	2	1.1		
1+54.36	3.32	2	1.1		
1+59.36	3.28	2	1.1		
1+64.36	3.07	2	1,1		
1+69.36	2:75	2	1.1		
1+74.36	2.44	0	0.0		
2+74.36	2,16	0	0.0		
2+79_36	2:57	2	Lal		
2+84.36	3,13	2	1.1		
2+89.36	3.74	2	1.1		
2+94_36	4.22	2.66	1,5		
2+99_36	4.71	2.66	1.5		
3+04.36	5.11	2.66	1.5		
3+09.36	5,43	4	2,2		
3+14.36	5.75	4	2,2		
3+19.36	6.04	4	2.2		
3+24_36	5.87	4	2.2		
3+29.36	5.69	3.33	1.9		
3+34.36	5.58	3_33	1.9		
3+39_36	5.50	3.33	1.9		
3+44.36	5.41	3.33	1.9		
3+49.36	5.33	3.33	1.9		
3+54.36	5.24	3.33	1.9		
3+58.57	4.32	2	1.1		
3+62.15	3.51	2	21000		
3+63.03	2.40	0	0.0		
4+58.16	2.28	0	0.0		
1+62.66	3.07	2 2	1.1		
1+67.58	3.74		1.1		
1+71.85	4.42	3.33	1.9		
4+76.13	5.05	3.33	1.9		
4+80.40	5.82	3.33	1.9		
1+84.67	6.54	4.66	2.6		
1+88.94	7.18	4.66	2.6		
1+93.22	7.74	6	3,3		
1+97.49	8.19	6	3.3		
5+01.76	8.57	6	3,3		
5+06-03	8-82	6	3.3		
5+10.31	9_02	6	3.3		
5+14.58	9-01	6	3.3		
5+18.85	8.96	6	3.3		
5+23,12	8,72	6	3.3		
5+27.40	8.54	6	3.3		
5+31.67	8.20	6	3.3		
5+35.94	7.75	6	3.3		
		-			
5+40.22	6.99	4.66	2.6		

ROAD SHOULDER			
	Cut	Rockery	
	Height	Height	Area
STA	(ft)	(H) (ft)	(sy)
5+50.17			1.9
	5.27	3,33	
5+55.17	4,33	3.33	
5+60.17	3,49	2	1:1
5+65,17	2.73	2	1.1
5+69.48	3.13	2	1.1
5+73.02	3,65	2	1:1
5+76.55	4.25	2	LIL
5+80.09	4.8	2.66	1.5
5+83.62	5.13	2.66	1.5
5+88.17	4,52	2,66	1.5
5+93.17	2.97	2	1.1
7+52.30	1.42	0	0
7+67.30	2.43	0	0
7+72.30	2,77	2	1,1
7+77.30	3.05	2	1.1
7+82.30	3.09	2	1.1
7+87.30	3.16	2	1.1
7+92.30	3.22	2	1.1
7+97.30	3.29	2	1,1
8+02.30	3.38	2	1,1
8+07.30	3.47	2	1.1
8+12.30	3.56	2	1.1
8+16.34	3.26	2	1.1
8+19.93	2.53	0	0
8+44 04	2.27	0	0
8+49.04	2.68	2	1.1
8+54.04	3.1	2	1.1
8+59.04	3.51	2	I.1
8+64.04	3.85	2	1.1
8+69.04	3.94	2	1.1
8+74.04	4.11	2	1.1
8+79.04	4.53	2	1,1
8+84.04	4.95	3.33	1.9
8+89.04	5.31	3.33	1.9
8+94.04	5.6	3.33	1,9
8+99.04	5.93	4	2.2
9+04.04	6.29	4	2,2
9+09.04	6.65	4.66	2,6
9+14.04	7.01	4.66	2.6
9+19.04	7.37	5.33	3
9+23.94	7.68	5:33	3
9+28.43	8.01	6	3,3
9+32.92	- 8	6	3.3
9+37.40	7.82	-6	3.3
9+41.89	7.61	6	3.3
9+46.38	7.26	6	3.3
9+50.86	6.89	4.66	2.6
9+55.35	6.45	4_66	2-6
9+59.84	5.99	4	2.2
9+64.33	5.37	4	2.2
9+68.81	4.76	2.66	1:5
9+73.30	4.18	2.66	1.5
9+77.79	3-51	2	I.1
9+82.27	2.85	2	1.1
9+86.76	2.19	0	0

TOE OF FILL			
	Cut Height	Rockery Height	Area
STA	(ft)	(H) (ft)	(sy)
1+93,66	0.43	0.00	0.0
1+98.66	1.26	1,33	1,1
2+03.66	2.09	2.00	1:1
2+08.66	2.50	2.66	1.5
2+13.66	2.83	2.66	1.5
2+18.66	3.18	3.33	1.9
2+23.66	3.53	3,33	1.9
2+28.66	3.80	4.00	2.2
2+33.66	4.05	4.00	2.2
2+38.66	4.28	4.00	2.2
2+43_66	4,52	4.66	2.6
2+48.66	4.75	4.66	2,6
2+53.66	4,97	5.33	3.0
2+58.66	5,19	5,33	3,0
2+63.66	5.44	5,33	3.0
2+68.66	5,70	5.33	3.0
2+73.66	5.43	5.33	3.0
2+78.66	4.77	4.66	2.6
2+83.66	4.10	4.00	2.2
2+88.66	3.43	3.33	1.9
2+93.66	2.74	2.66	1.5
2+98.66	2.80	2.66	1.5
3+03.66	2.86	2.66	1.5
3+08.66	2.92	2.66	1.5
3+13.66	2.99	2.66	1.5
3+18.66	3.05	3.33	1.9
3+23.66	3.13	3.33	1.9
3+28.66	3.17	3.33	1.9
3+33.66	3.23	3.33	1.9
3+38.66	2.97	3.33	1.9
3+43.66	2.32	2.66	1.5
3+48.66	1.69	2.00	1.1
3+53.66	1.79	2.00	1,1
3+58.66	1.67	2.00	I.1
3+63.66	0.43	0.00	
7+47.31	0.43	0.00	0
7+50.01	1.44	2.00	1.1
7+52.69	2.44	2.66	1.5
7+58.91	2.52	2.66	1.5
7+63.08	1.57	2.00	1,1
7+67-24	0.52	0.00	0
TOTAL A	REA=	253.0	SY

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United States Department of Agriculture Forest Service

R05
PACIFIC SOUTHWEST REGION

PROJECT NAME

CHIMNEY BEACH
TRAIL HEAD PARKING
LOT UPGRADES
PROJECT

LAKE TAHOE BASIN MANAGEMENT UNIT

DRAWING TITLE

UTILITY POLE AND SLOPE STABILIZATION DETAILS

DATE		
6/3/2023		
ARCHIVE NO.		
CHIMNEY details.dv	vg	
DESIGNER	DWG SHEET NO.	
MTA	D 44	
DRAWN	D-11	
MTA		
CHECKED		
MG		
PROJECT NO.	SHEET <b>21</b> OF <b>21</b>	