

Appendix E. Design Drawings

Drawing 1. Title Sheet

Drawing 2. Work Area Location Map

Drawing 3. Well Abandonment Plan

Drawing 4. Waste Removal Area Plan and Sections A and B

Drawing 5. Waste Consolidation Area Plan and Sections C and D

Drawing 6. Final Grading Plan and Sections E and F

Drawing 7. Landfill Cover Design Details

Drawing 8. Surface Water Control System Plan and Details

Drawing 9. Landfill Gas Control System Plan and Details

Drawing 10. Perimeter Gas Monitoring Point Network Plan and Details

Drawing 11. French Drain Plan and Details

LANDFILL CAP 100% DESIGN AND CONSTRUCTION PLANS

MEYERS LANDFILL EL DORADO COUNTY, CALIFORNIA

UNITED STATES DEPARTMENT OF AGRICULTURE,
FOREST SERVICE CONTRACT NO. AG-91S8-C06-0056

DRAWING INDEX:

1. TITLE SHEET
2. WORK AREA LOCATION MAP
3. WELL ABANDONMENT PLAN
4. WASTE REMOVAL AREA PLAN AND SECTIONS A AND B
5. WASTE CONSOLIDATION AREA PLAN AND SECTIONS C AND D
6. FINAL GRADING PLAN AND SECTIONS E AND F
7. LANDFILL COVER DESIGN DETAILS
8. SURFACE WATER CONTROL SYSTEM PLAN AND DETAILS
9. LANDFILL GAS CONTROL SYSTEM PLAN AND DETAILS
10. PERIMETER GAS MONITORING NETWORK PLAN AND DETAILS
11. FRENCH DRAIN PLAN AND DETAILS

GENERAL NOTES:

1. CALL UNDERGROUND SERVICE ALERT (USA) AT 1-800-422-4133 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

LEGEND:

NUMBER OF SHEET ON WHICH CONDITION IS SHOWN

DETAIL IDENTIFICATION NUMBER

NUMBER OF SHEET ON WHICH DETAIL OF THE CONDITION IS DRAWN

- EXTENT OF BORROW AREA
- EXTENT OF WASTE REMOVAL
- EXTENT OF FINAL COVER
- LIMIT OF LANDFILL
- SAND DRAINAGE LAYER
- V-3 LANDFILL GAS WELL
- V-1 LANDFILL GAS LINE
- PIEZOMETER LOCATION
- MONITORING WELL LOCATION
- WELL TO BE ABANDONED
- ABANDONED WELL LOCATION
- EXTRACTION WELL LOCATION
- LANDFILL GAS MONITORING PROBE
- SS- EXTENT OF WASTE AFTER RELOCATION AND CONSOLIDATION
- EXISTING MANHOLE AND SEWER LINE
- PROPOSED TOPOGRAPHIC CONTOUR LINE
- EARTH-LINED DRAINAGE CHANNEL
- CONCRETE-LINED DRAINAGE CHANNEL
- CULVERT
- ROCK-LINED CHANNEL
- CHECK DAM
- LIMIT OF BORROW AREA
- LIMIT OF SEDIMENTATION BASIN AND INFILTRATION AREA
- LANDFILL GAS CONTROL VENT
- FENCELINE
- CREEK
- FRENCH DRAIN
- ANCHOR TRENCH DRAIN PIPE
- STORMWATER PIPE



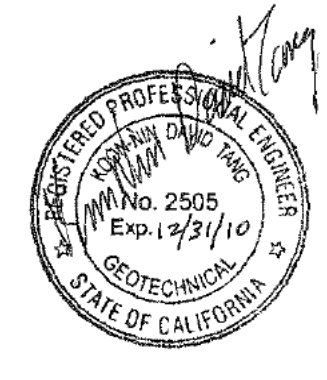
SITE VICINITY MAP

0 2 4
APPROXIMATE SCALE IN MILES



SITE LOCATION MAP

0 100 200
APPROXIMATE SCALE IN FEET



NO.	DATE	REVISIONS	APP'D	DATE

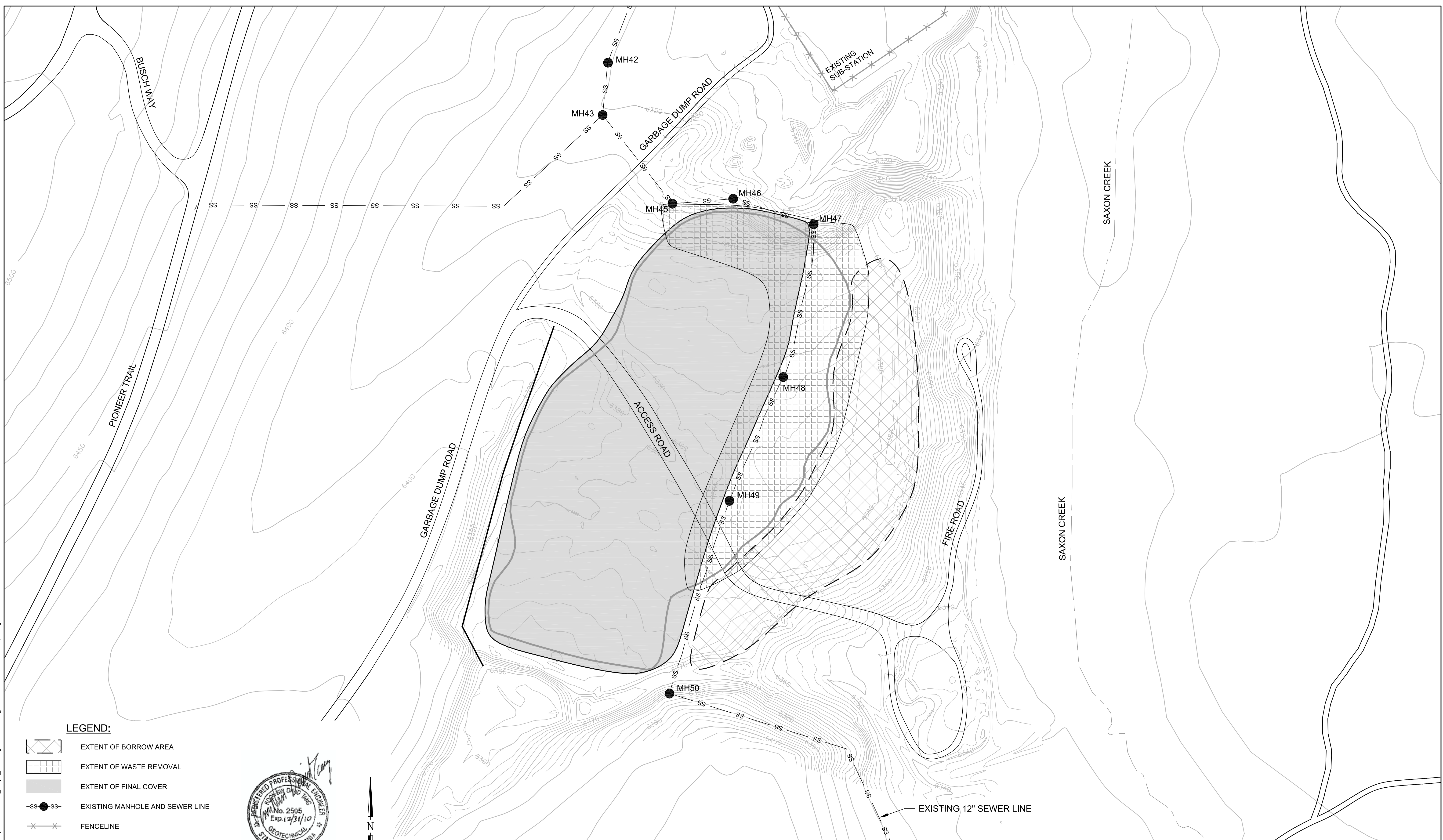
Engineering/Remediation Resources Group, Inc.

115 Sansome Street, Suite 200
San Francisco, California 94104
(415) 395-9974









CLIENT:	FOREST SERVICE	DESIGNED BY:	RDB 12/5/08	TITLE SHEET			
		CHECKED BY:	PDJ 12/8/08				
LOCATION:	MEYERS LANDFILL EL DORADO COUNTY, CA	P.E./P.G.:	DKT 12/8/08				
ERRG PROJECT NO.	28-072	REVISION NO.	0	SHEET	OF	DRAWING NO.	1

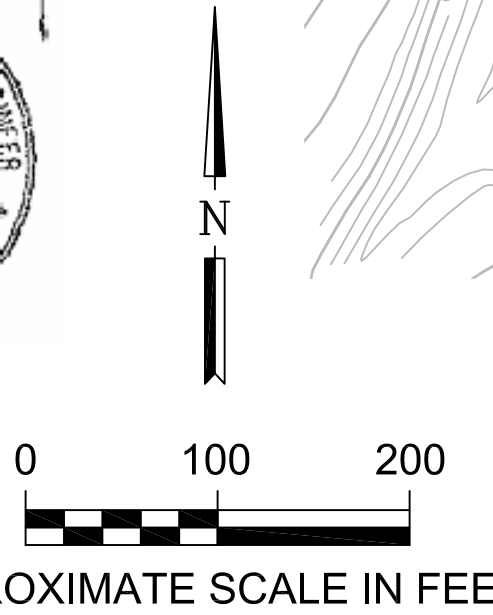
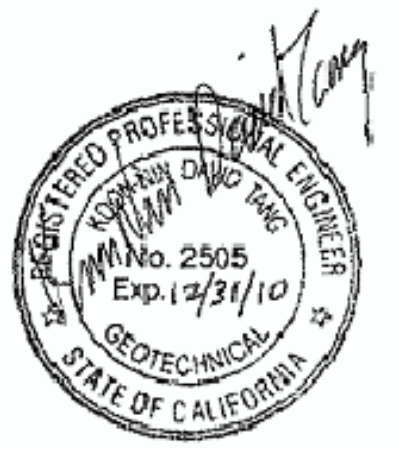
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P:\2008_P\Projects\28-072 USFS Meyers Landfill\IN_Maps_Drawings\100% Design\Work Area Location Map.Dwg



LEGEND:

-  EXTENT OF BORROW AREA
-  EXTENT OF WASTE REMOVAL
-  EXTENT OF FINAL COVER
-  EXISTING MANHOLE AND SEWER LINE
-  FENCELINE
-  CREEK
-  LIMIT OF EXISTING WASTE
-  EXISTING FRENCH DRAIN



SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

NO.	DATE	REVISIONS	APP'D	DATE

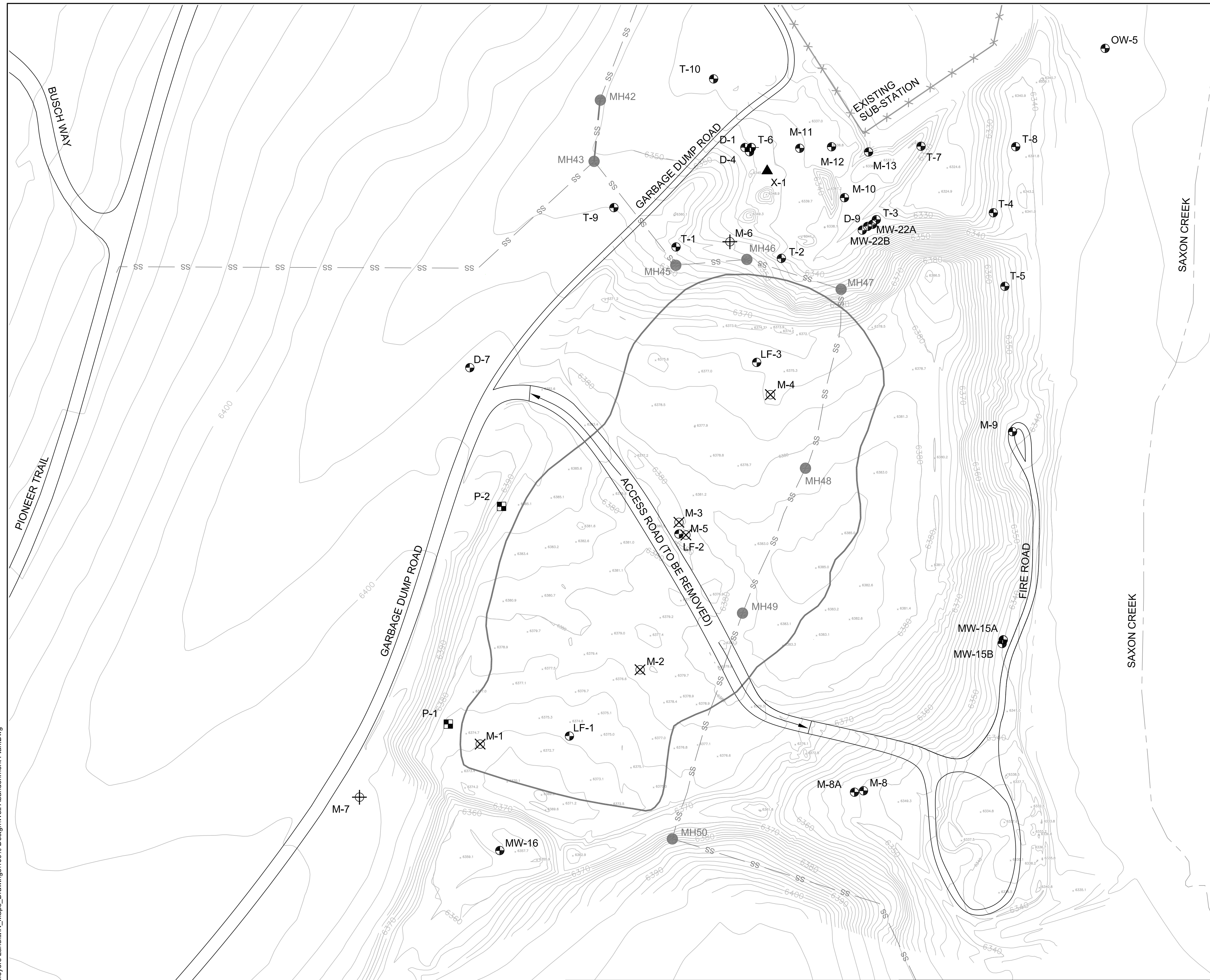


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115 Sansome Street, Suite 200
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(415) 395-9974

CLIENT:	FOREST SERVICE
LOCATION:	MEYERS LANDFILL EL DORADO COUNTY, CA

DESIGNED BY:	VZC 11/26/08
CHECKED BY:	PDL 12/1/08
P.E./P.G.:	DKT 12/1/08

WORK AREA LOCATION MAP				
ERRG PROJECT NO.	REVISION NO.	SHEET	OF	DRAWING NO.
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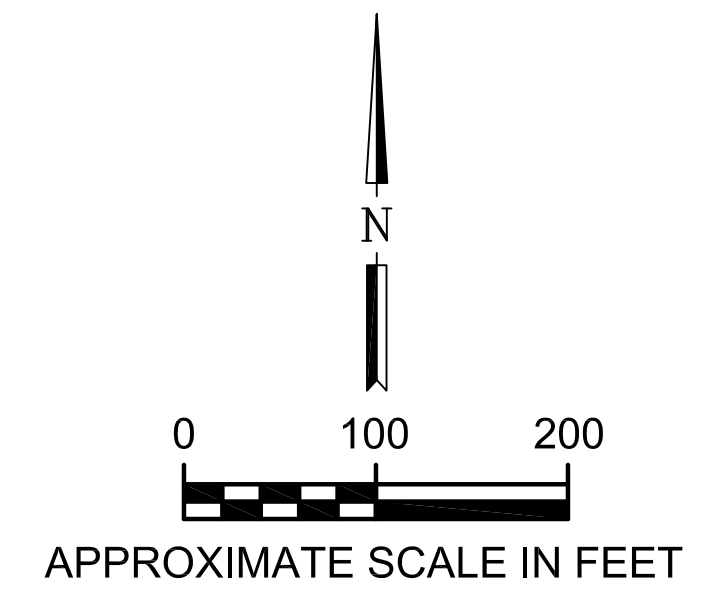


LEGEND:

- PIEZOMETER LOCATION
- MONITORING WELL LOCATION
- ⊗ WELL TO BE ABANDONED
- ⊕ ABANDONED WELL LOCATION
- ▲ EXTRACTION WELL LOCATION
- SS-SS- EXISTING MANHOLE AND SEWER LINE
- ×× FENCELINE
- CREEK
- LIMIT OF EXISTING WASTE

WELL ABANDONMENT NOTES:

1. Well abandonment to be conducted in accordance with:
 - a. California Water Code Division 7, Chapter 10 and California Health and Safety Code Division 104, Part 9.5
 - b. California Water Well Standards Bulletins 74-81 and 74-90
 - c. El Dorado County Department of Environmental Management Well Abandonment and Destruction Standards
2. Prior to destroying a well, it must be investigated to determine the construction details, maintenance history, and current condition. A work plan, including the investigation findings and destruction method, must be submitted with the well abandonment and destruction permit application.
3. Wells must be sounded immediately prior to destruction to ensure they are free of obstructions. If any chemicals are observed, the El Dorado County Department of Environmental Management must be immediately notified in writing. Wells will be cleaned to remove and properly dispose of all obstructions and chemicals.
4. All material within the original borehole (e.g., annular seal, casing, screen, filter pack, etc.) must be removed. The borehole must be completely filled with impervious sealing material.
5. Acceptable sealing materials include neat cement, sand-cement grout, or concrete.
6. Sealing material will be placed by tremie pipe or equivalent method in one continuous operation. Sealing pressure must be maintained until sealing materials are properly set.



P:\2008_P\Projects\25-072 USFS Meyers Landfill\Maps_Drawings\100% Design\Well Abandonment Plan.Dwg

SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

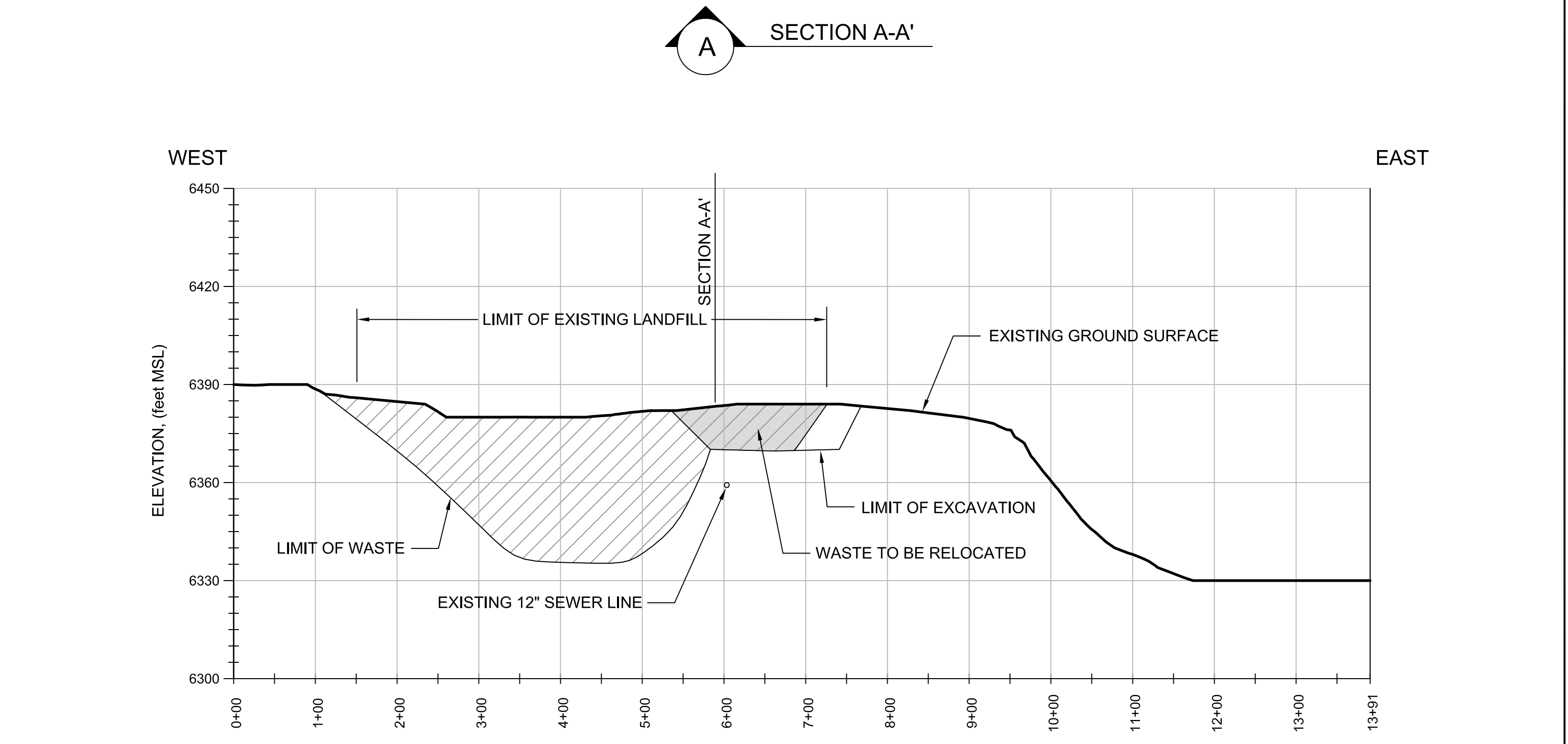
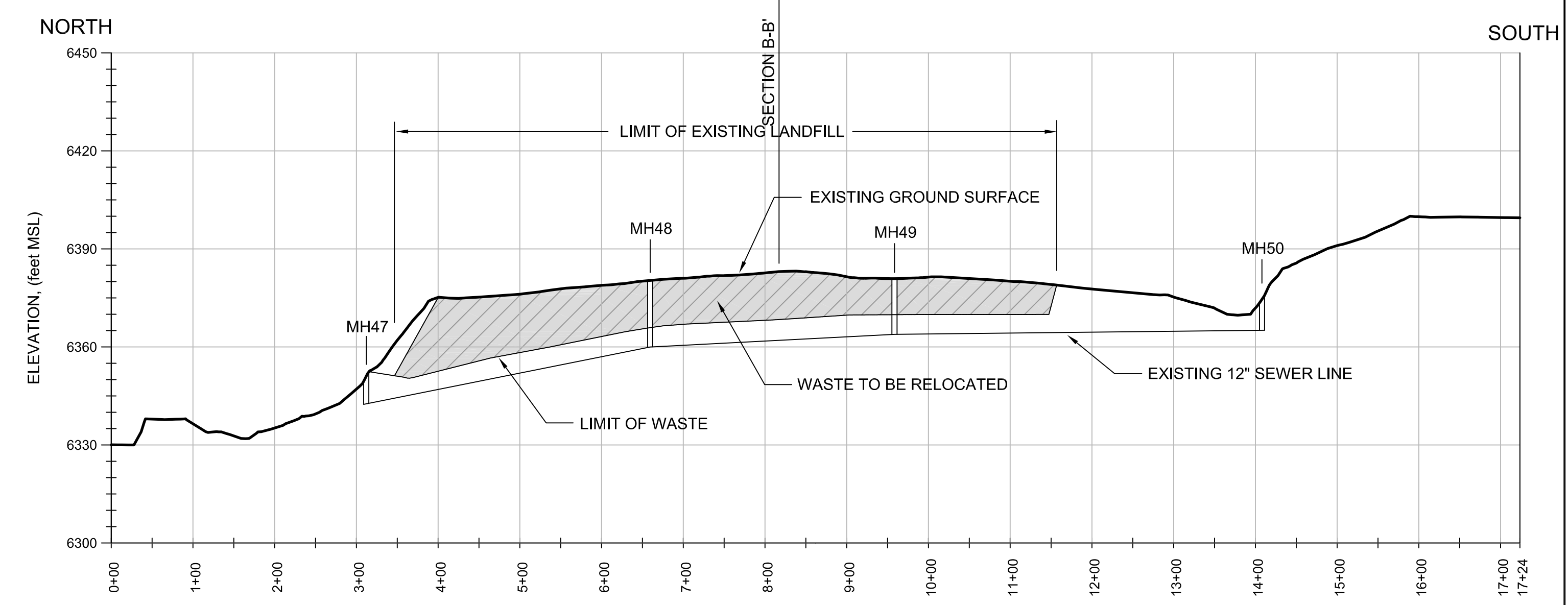
NO.	DATE	REVISIONS	APP'D	DATE

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(415) 395-9974

CLIENT:	FOREST SERVICE
LOCATION:	MEYERS LANDFILL EL DORADO COUNTY, CA

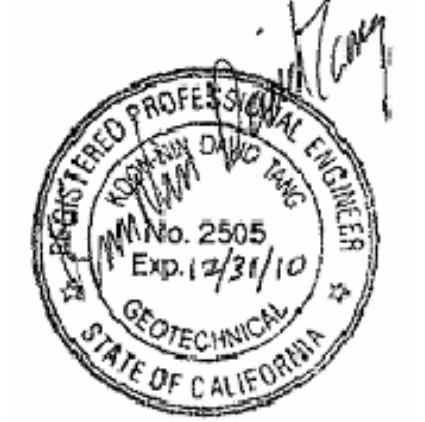
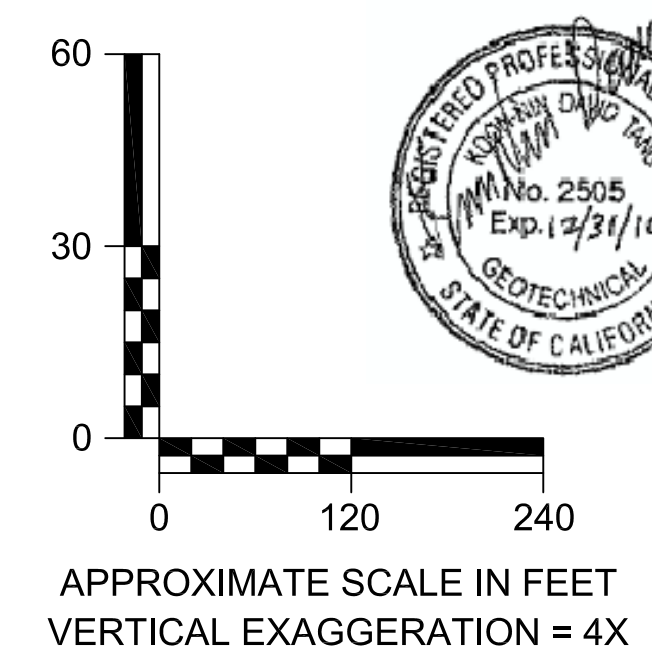
DESIGNED BY:	VZC 11/26/08
CHECKED BY:	PDL 12/1/08
P.E./P.G.:	DKT 12/1/08

WELL ABANDONMENT PLAN				
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28-072	0	1	1	3



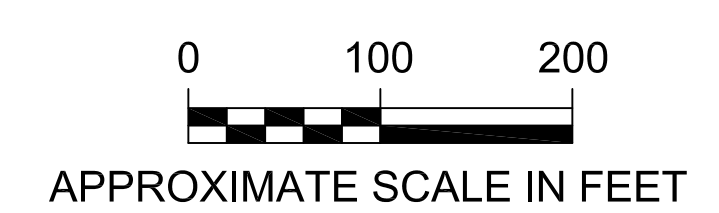
- LEGEND:**
- EXTENT OF EXISTING WASTE AREA
 - EXTENT OF WASTE REMOVAL
 - EXISTING MANHOLE AND SEWER LINE
 - FENCELINE
 - CREEK
 - LIMIT OF EXISTING WASTE
 - PROPOSED EXCAVATION CONTOURS

NOTE:
WINTERIZATION PLAN TO BE INCLUDED
IN CONSTRUCTION PLAN (BY OTHERS).



SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

LIMIT OF WASTE BASED ON GEOTECHNICAL INVESTIGATION
BY NORCAL, NOV. 2005.



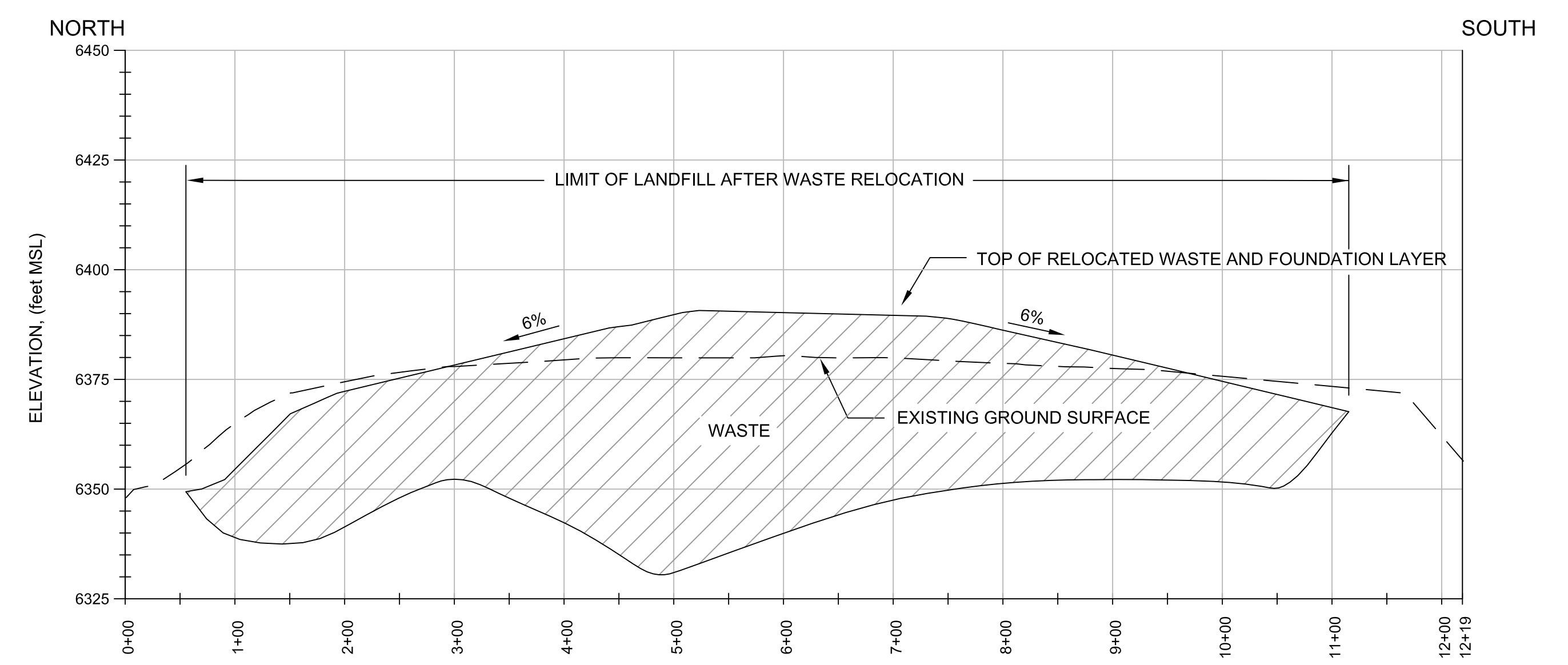
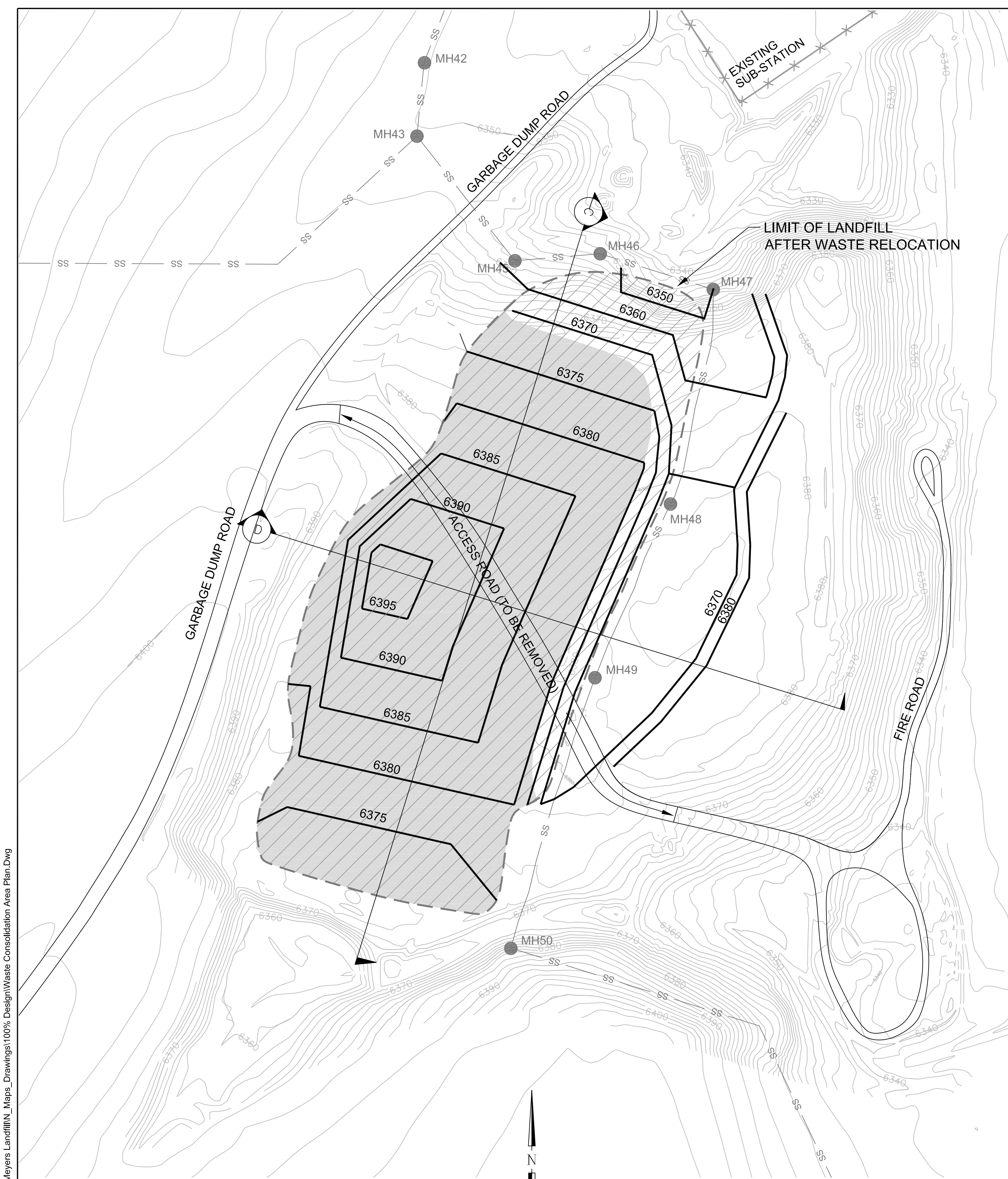
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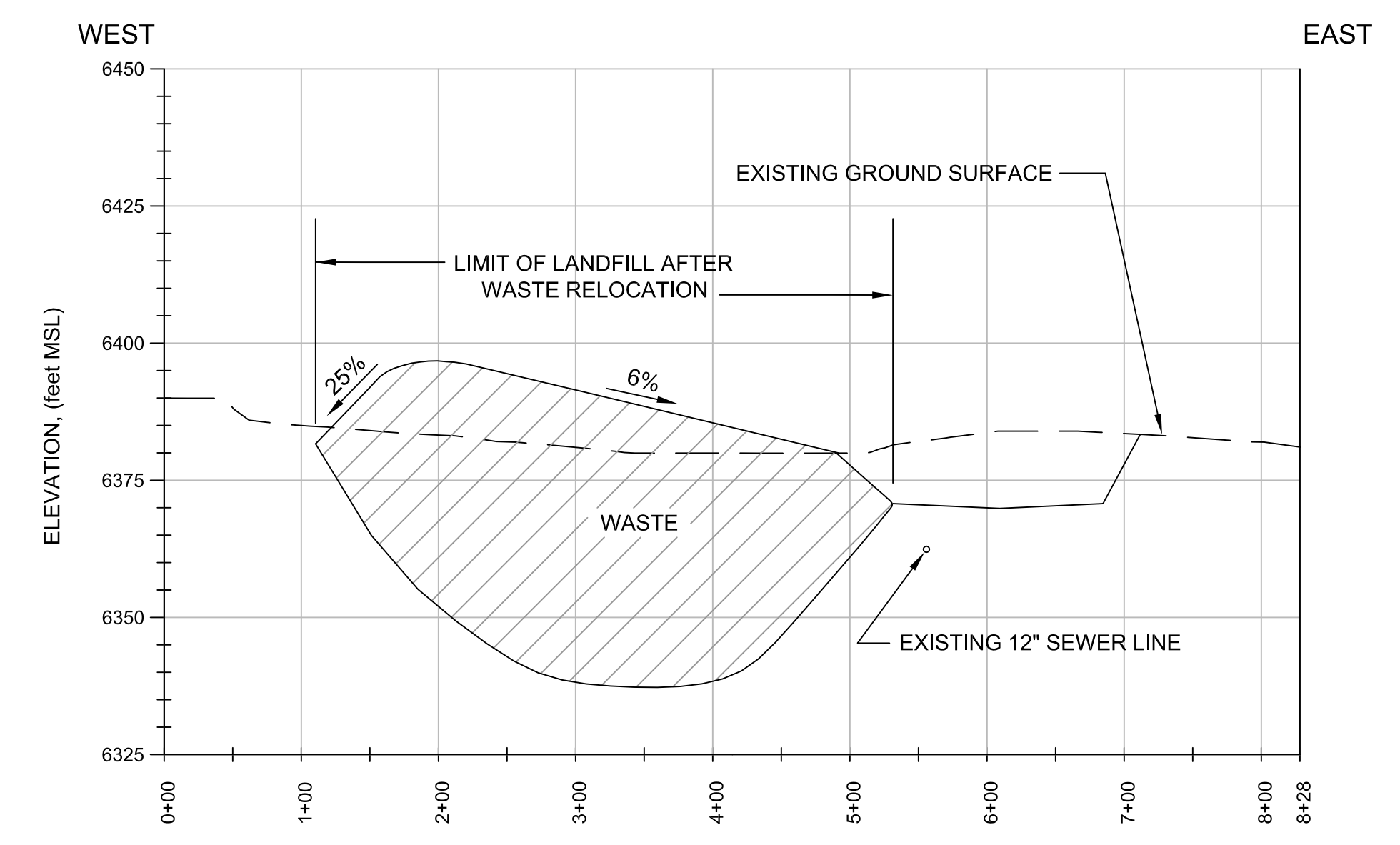
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LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 12/1/08
	P.E./P.G.: DKT 12/1/08

WASTE REMOVAL AREA PLAN AND SECTIONS A AND B				
ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 4

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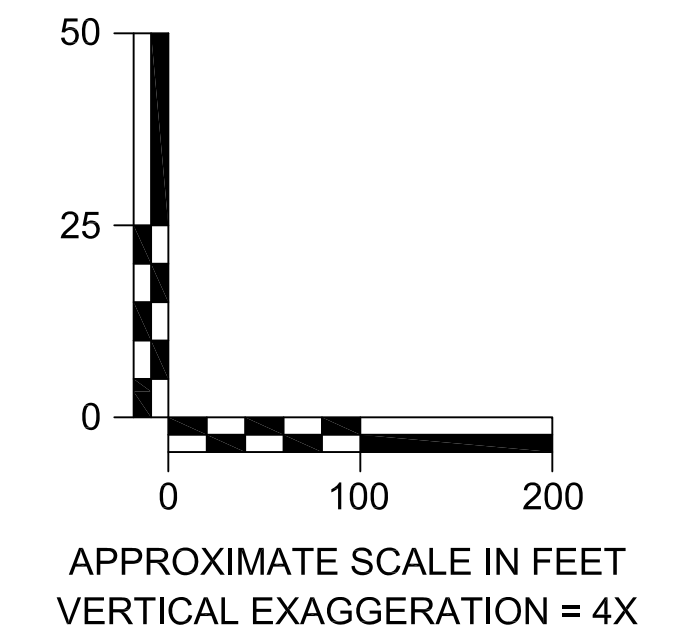


SECTION C-C'



SECTION D-D'

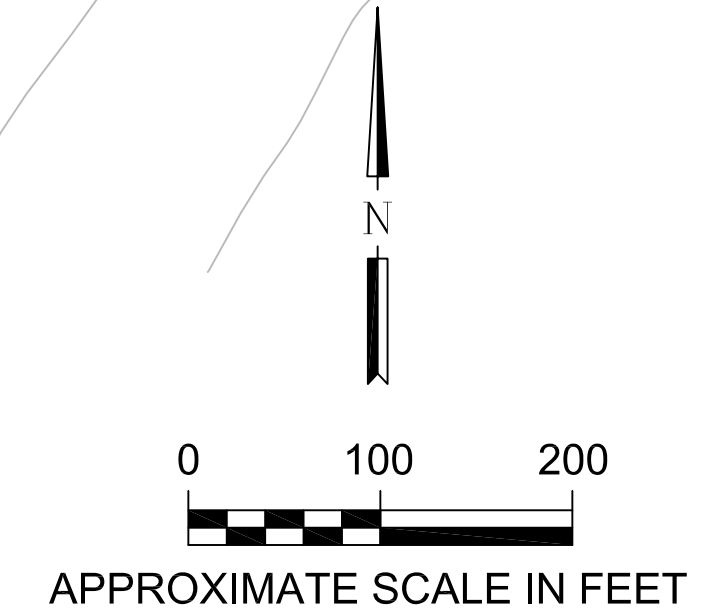
- LEGEND:**
- WASTE CONSOLIDATION AREA
 - EXTENT OF WASTE AFTER RELOCATION AND CONSOLIDATION
 - EXISTING MANHOLE AND SEWER LINE
 - PROPOSED TOPOGRAPHIC CONTOUR LINE
 - FENCELINE



P:\2008_P\Projects\28-072 USFS Meyers Landfill\Maps_Drawings\100% Design\Waste Consolidation Area Plan.Dwg

SOURCE:
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SURVEY CONDUCTED IN 2006.

LIMIT OF WASTE BASED ON GEOTECHNICAL INVESTIGATION
BY NORCAL, NOV. 2005.

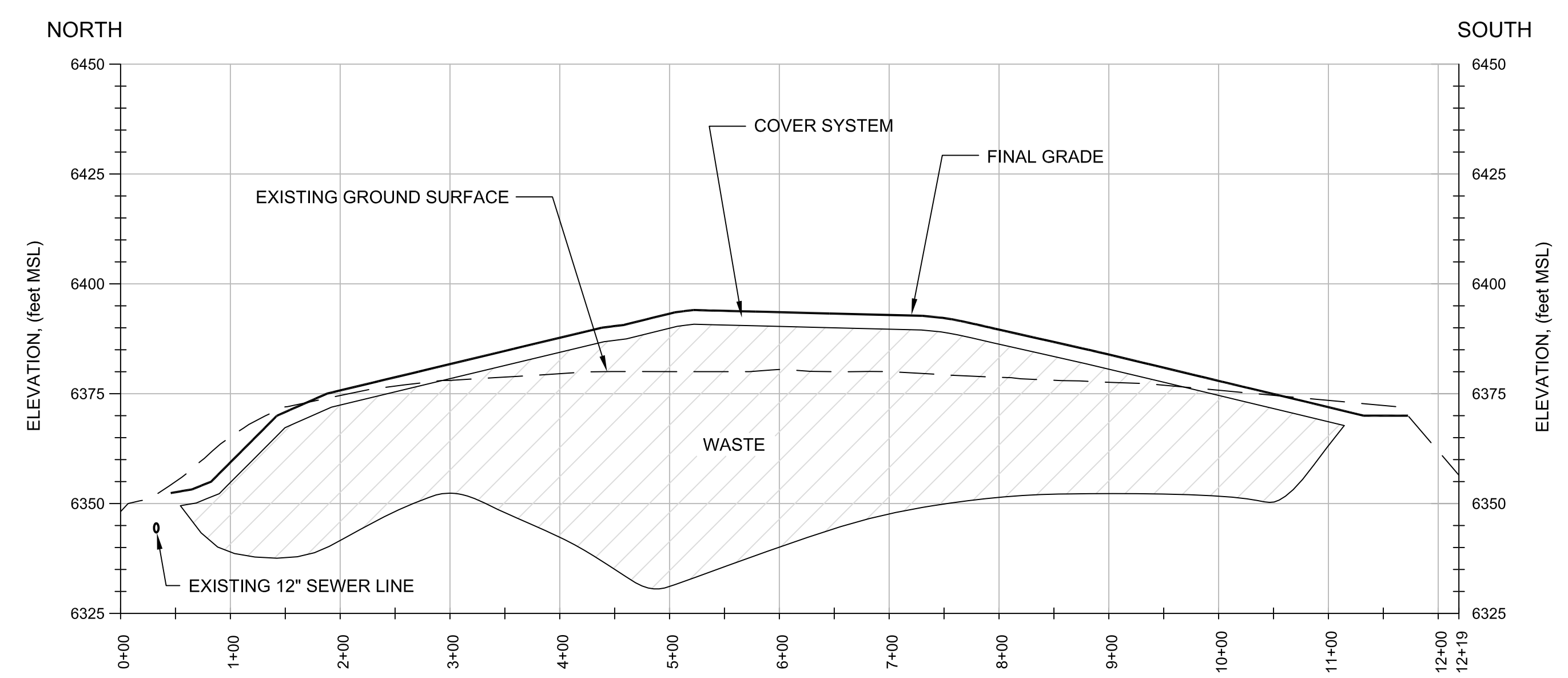
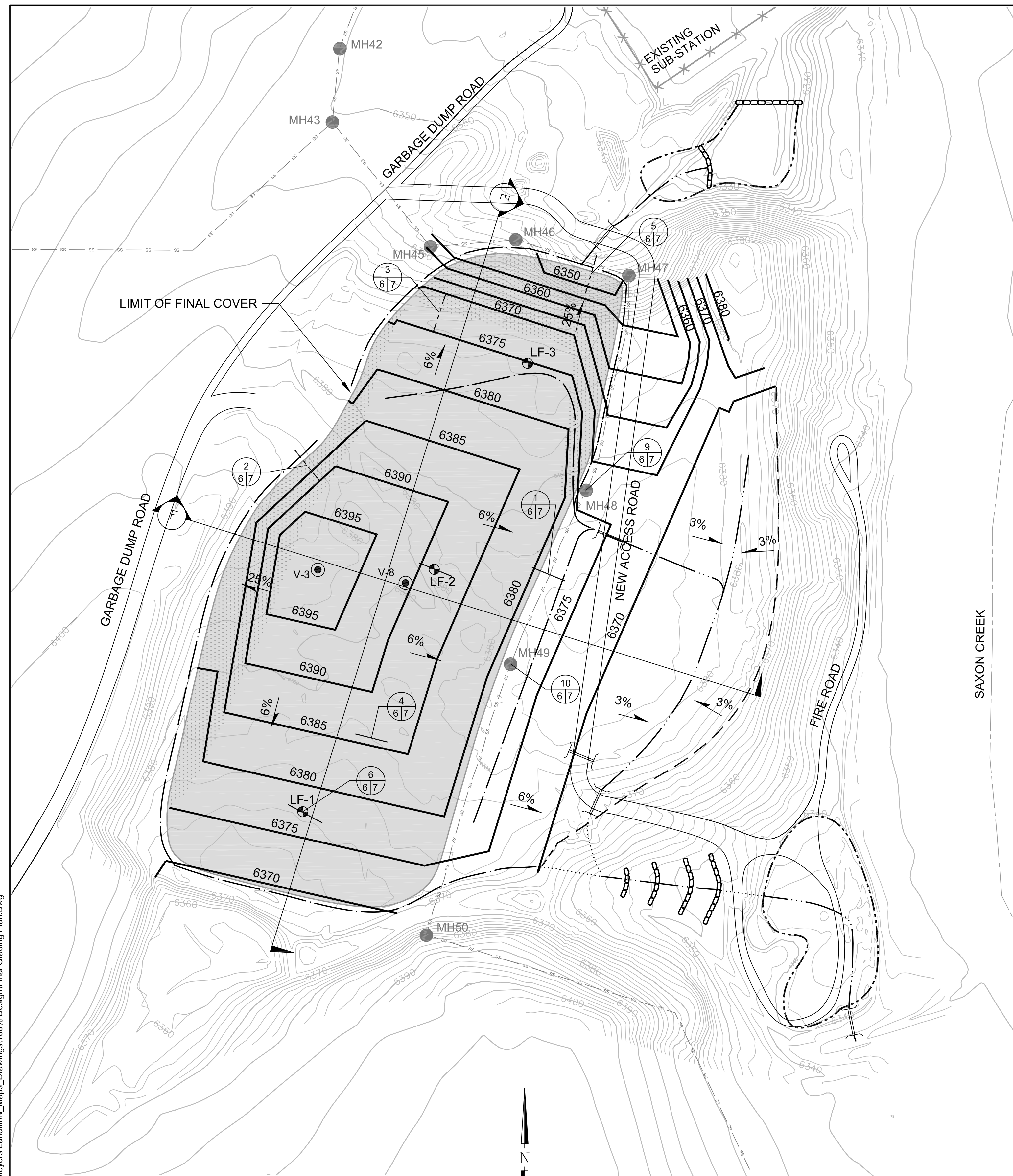


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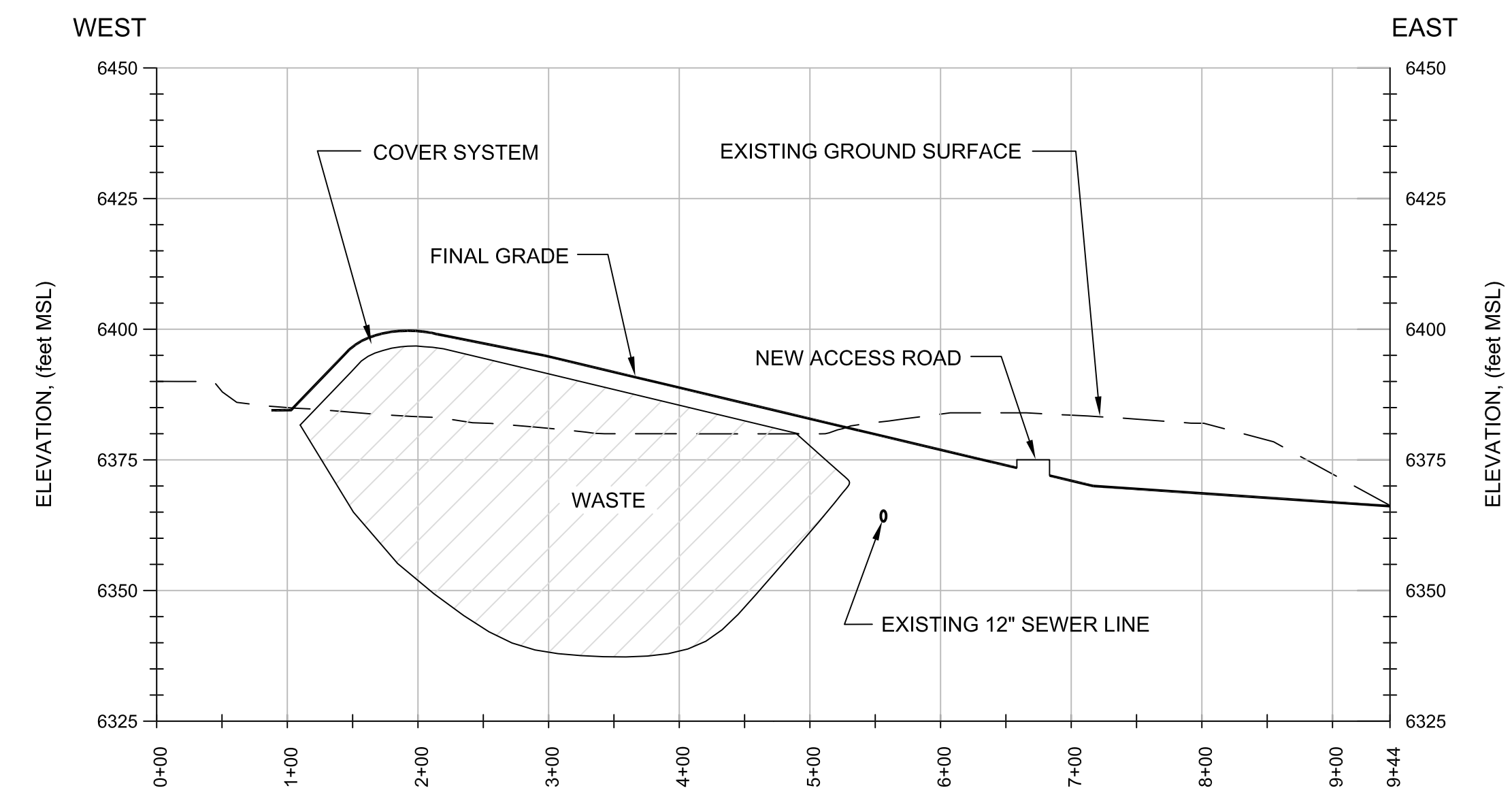
Engineering/Remediation Resources Group, Inc.
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San Francisco, California 94104
(415) 395-9974

CLIENT: FOREST SERVICE	DESIGNED BY: RDB 11/26/08
LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 12/1/08
	P.E.I.P.G.: DKT 12/1/08

WASTE CONSOLIDATION AREA PLAN AND SECTIONS C AND D				
ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 5



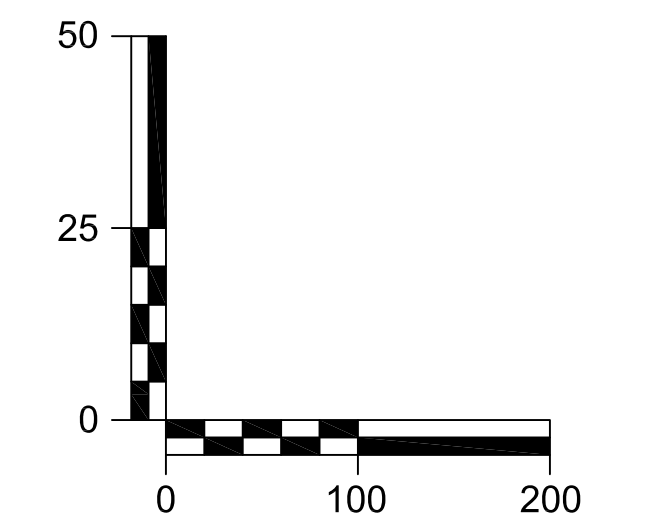
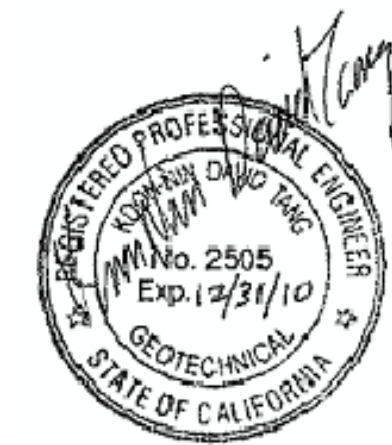
SECTION E-E'



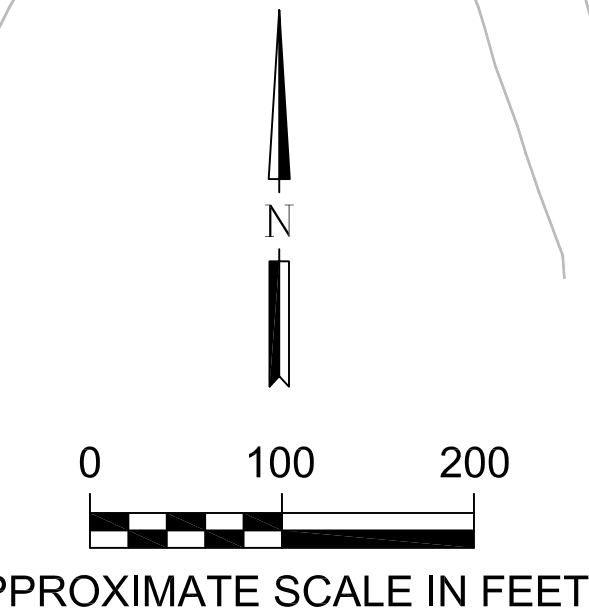
SECTION F-F'

LEGEND:

- EXTENT OF FINAL COVER
- SAND DRAINAGE LAYER
- MONITORING WELL
- LANDFILL GAS VENT
- EXISTING MANHOLE AND SEWER LINE
- PROPOSED FINAL CONTOUR LINE
- FENCELINE
- CREEK
- EARTH-LINED DRAINAGE CHANNEL
- CONCRETE-LINED DRAINAGE CHANNEL
- ROCK-LINED CHANNEL
- CHECK DAM
- LIMIT OF SEDIMENTATION BASIN AND INFILTRATION AREA
- LIMIT OF BORROW AREA



APPROXIMATE SCALE IN FEET
VERTICAL EXAGGERATION = 4X



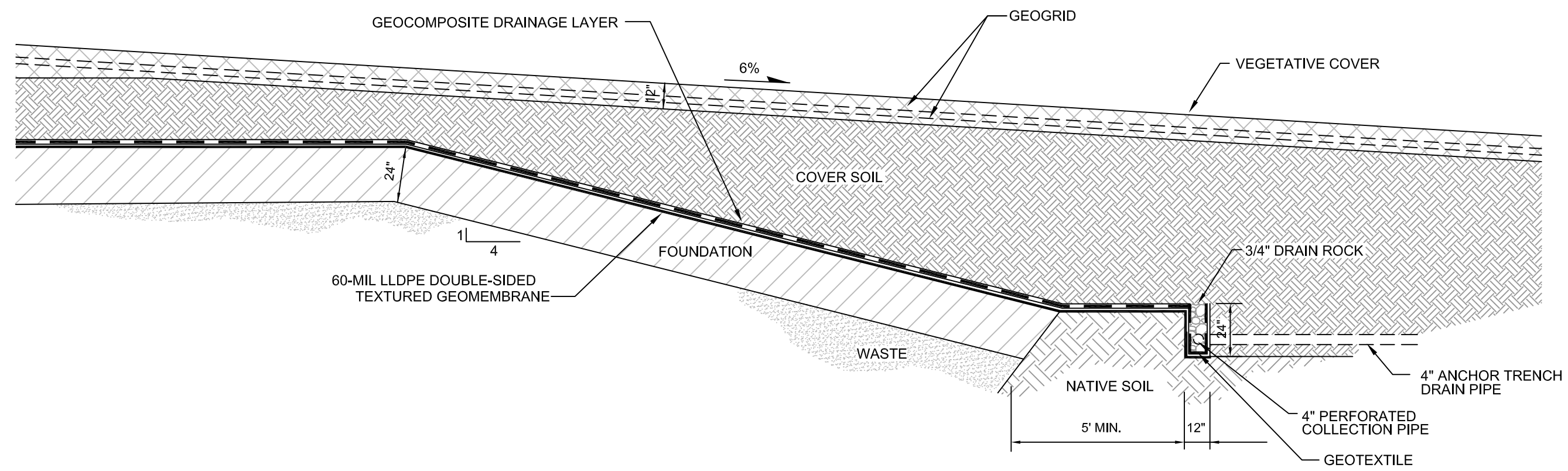
SOURCE:
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SURVEY CONDUCTED IN 2006.

LIMIT OF WASTE BASED ON GEOPHYSICAL INVESTIGATION
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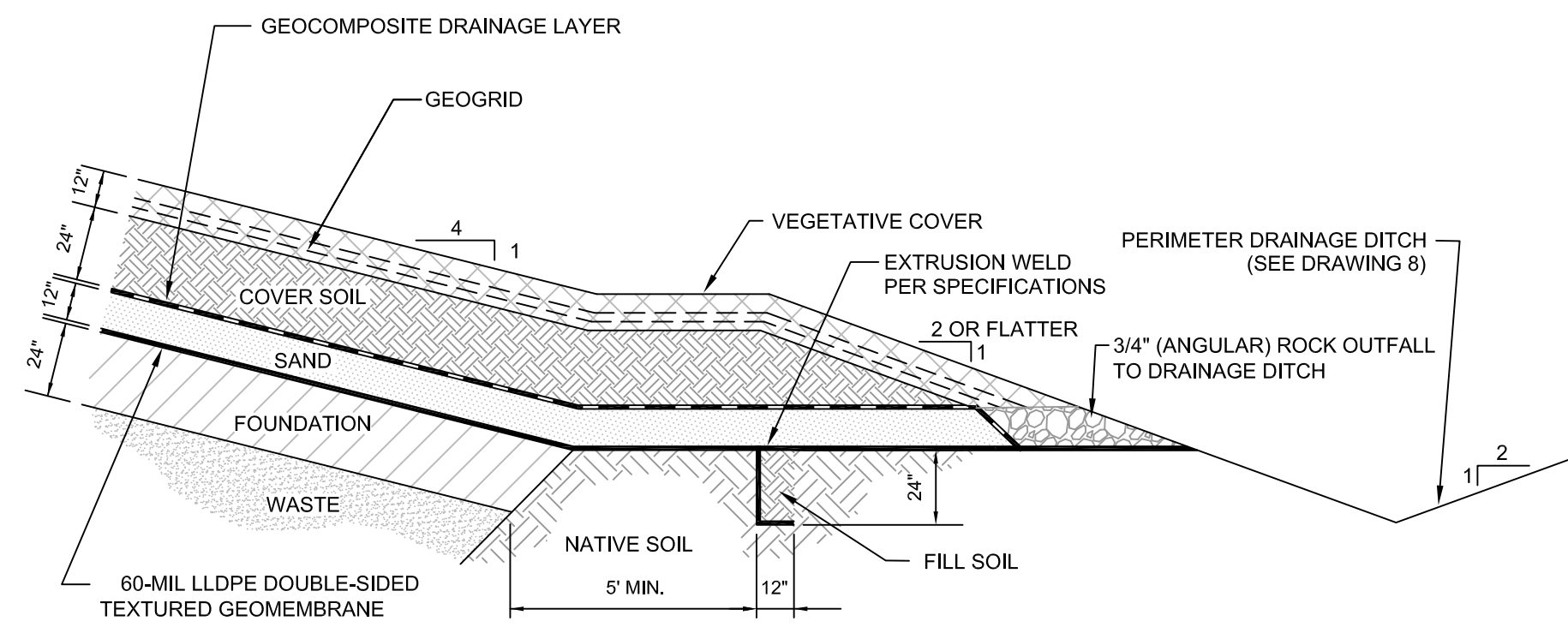
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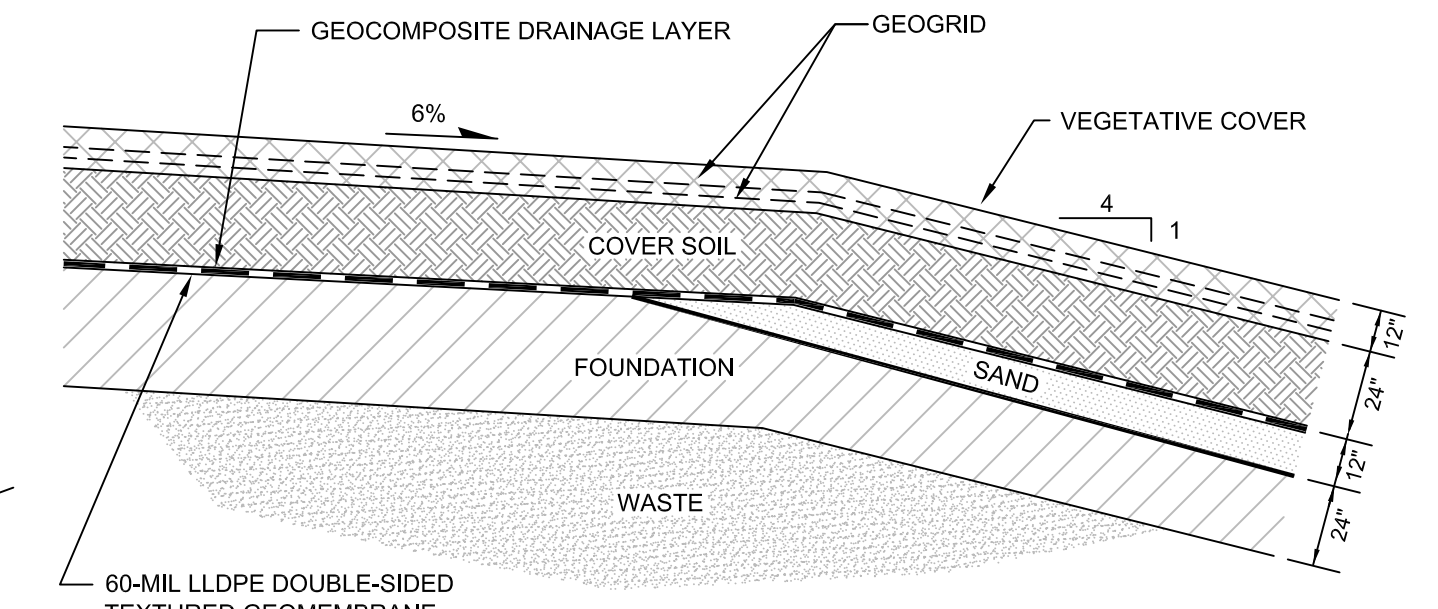
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LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 12/1/08				
P.E./P.G.: DKT 12/1/08	ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 6



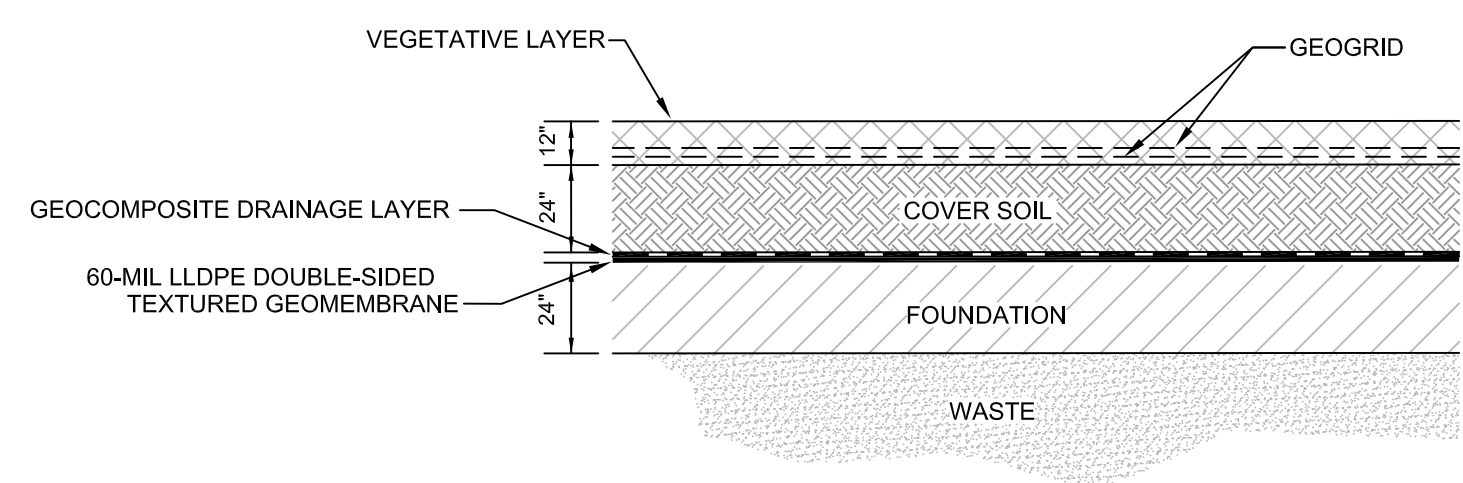
1 EAST SIDE ANCHOR TRENCH DETAIL
6 7 NOT TO SCALE



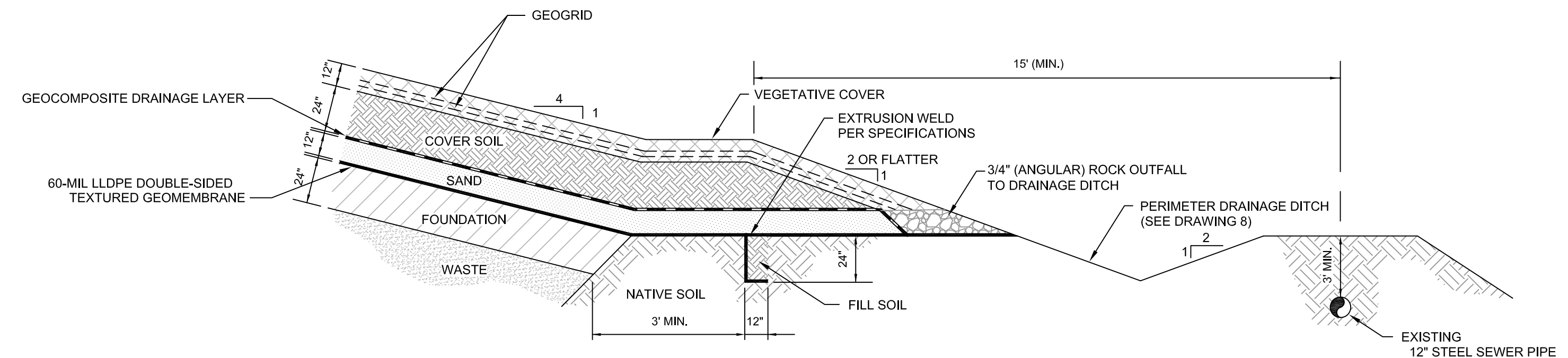
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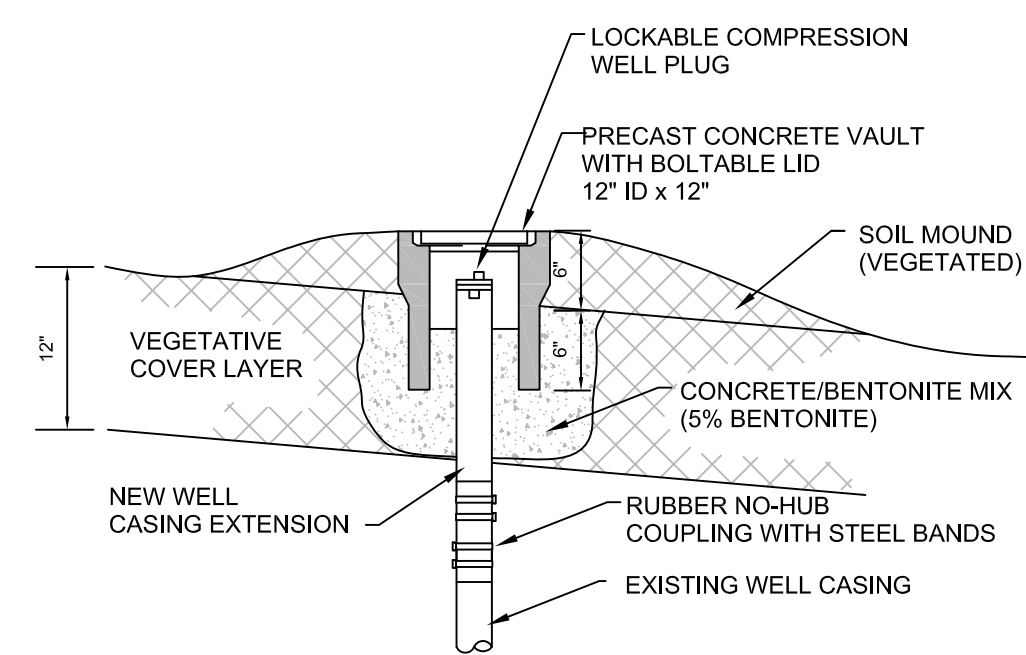
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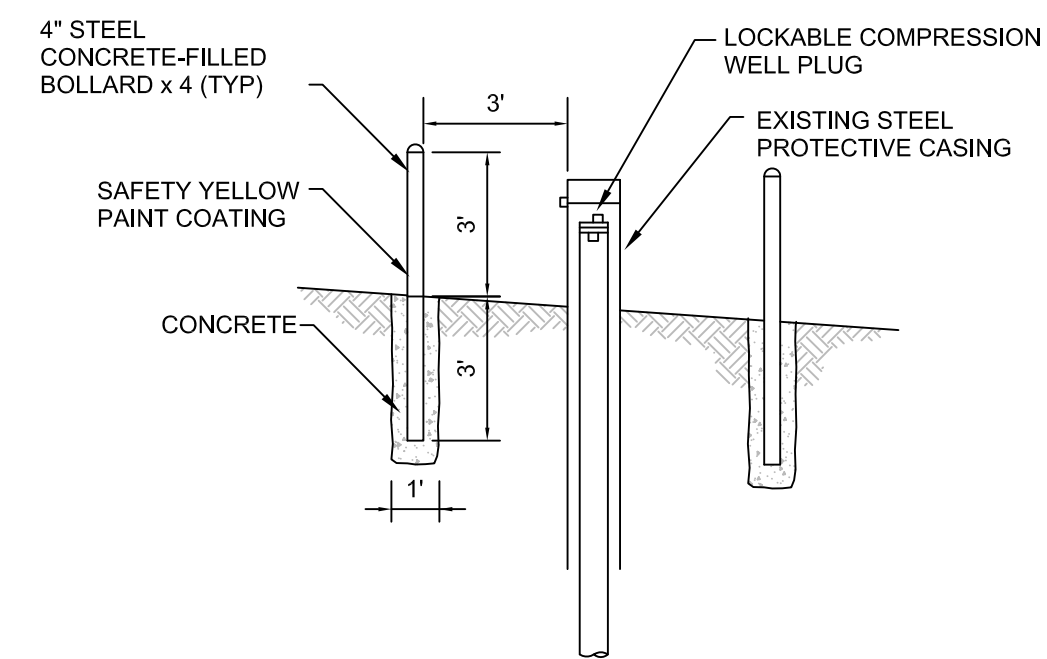
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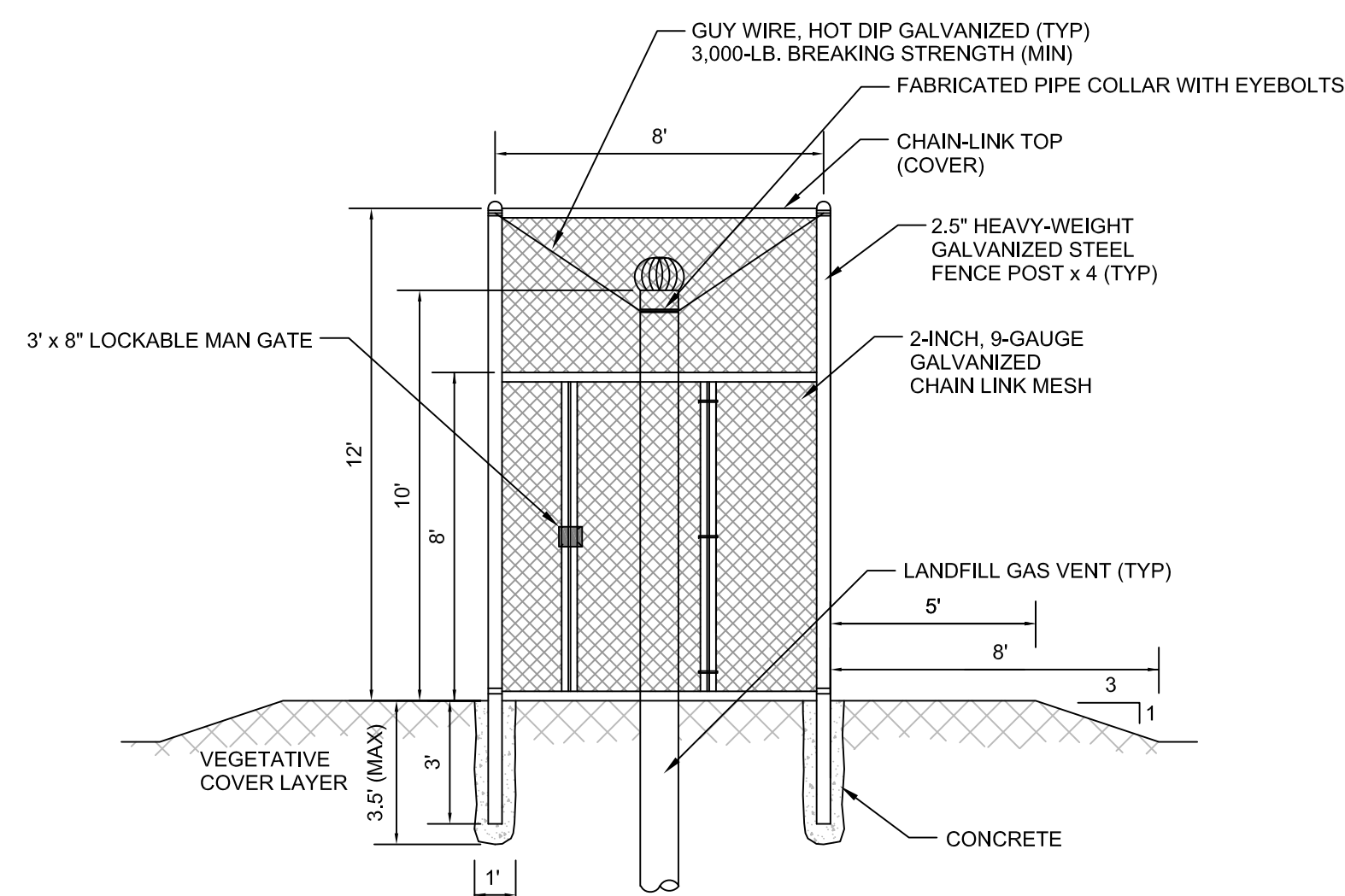
5 NORTH SIDE ANCHOR TRENCH DETAIL
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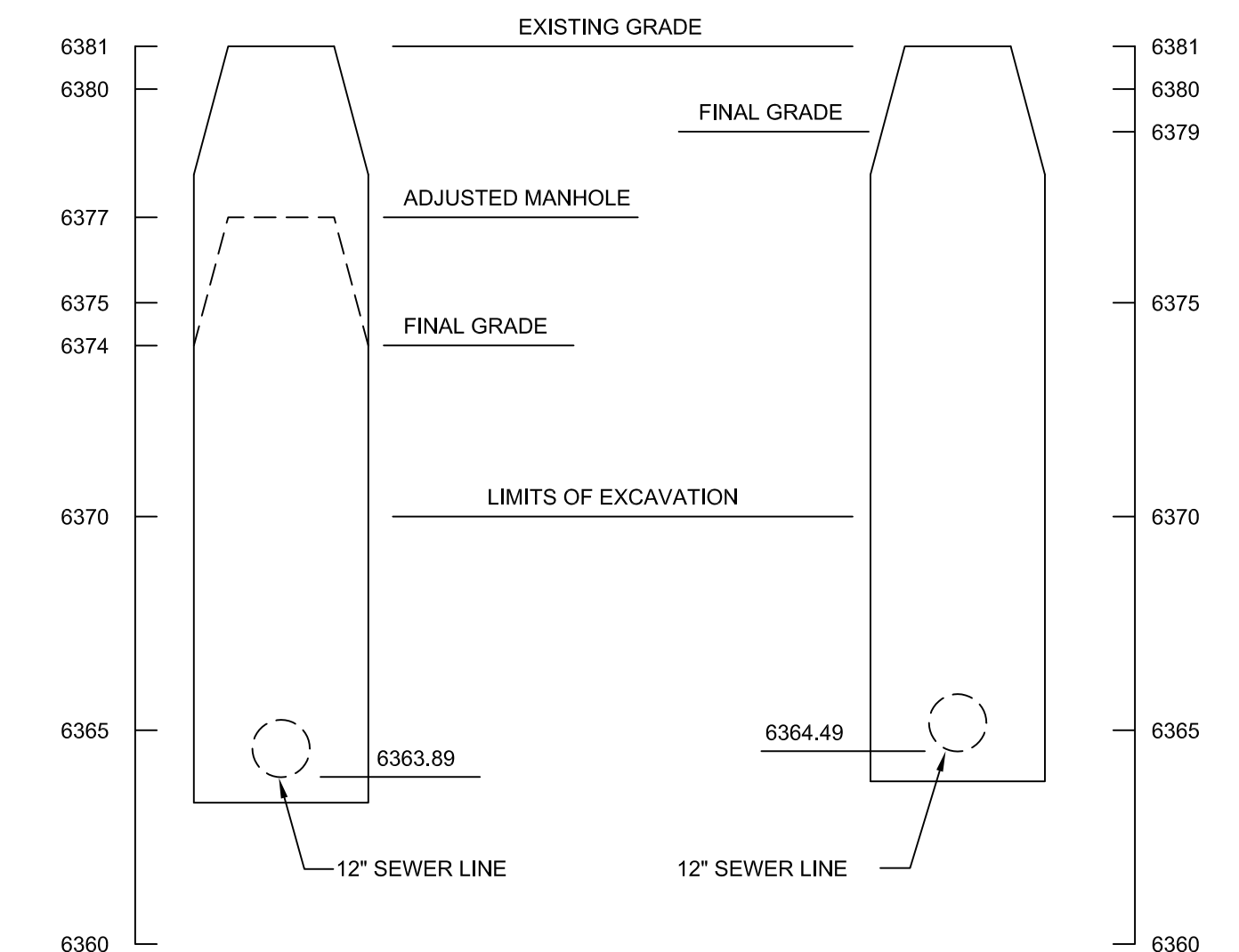
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6 7 NOT TO SCALE



7 COMPLETION DETAILS FOR WELLS LOCATED BEYOND CAP FOOTPRINT
6 7 NOT TO SCALE



8 LANDFILL GAS VENT ENCLOSURE DETAILS
6 7 NOT TO SCALE



9 MH 48 DETAIL
6 7 SCALE IN FEET

10 MH 49 DETAIL
6 7 SCALE IN FEET

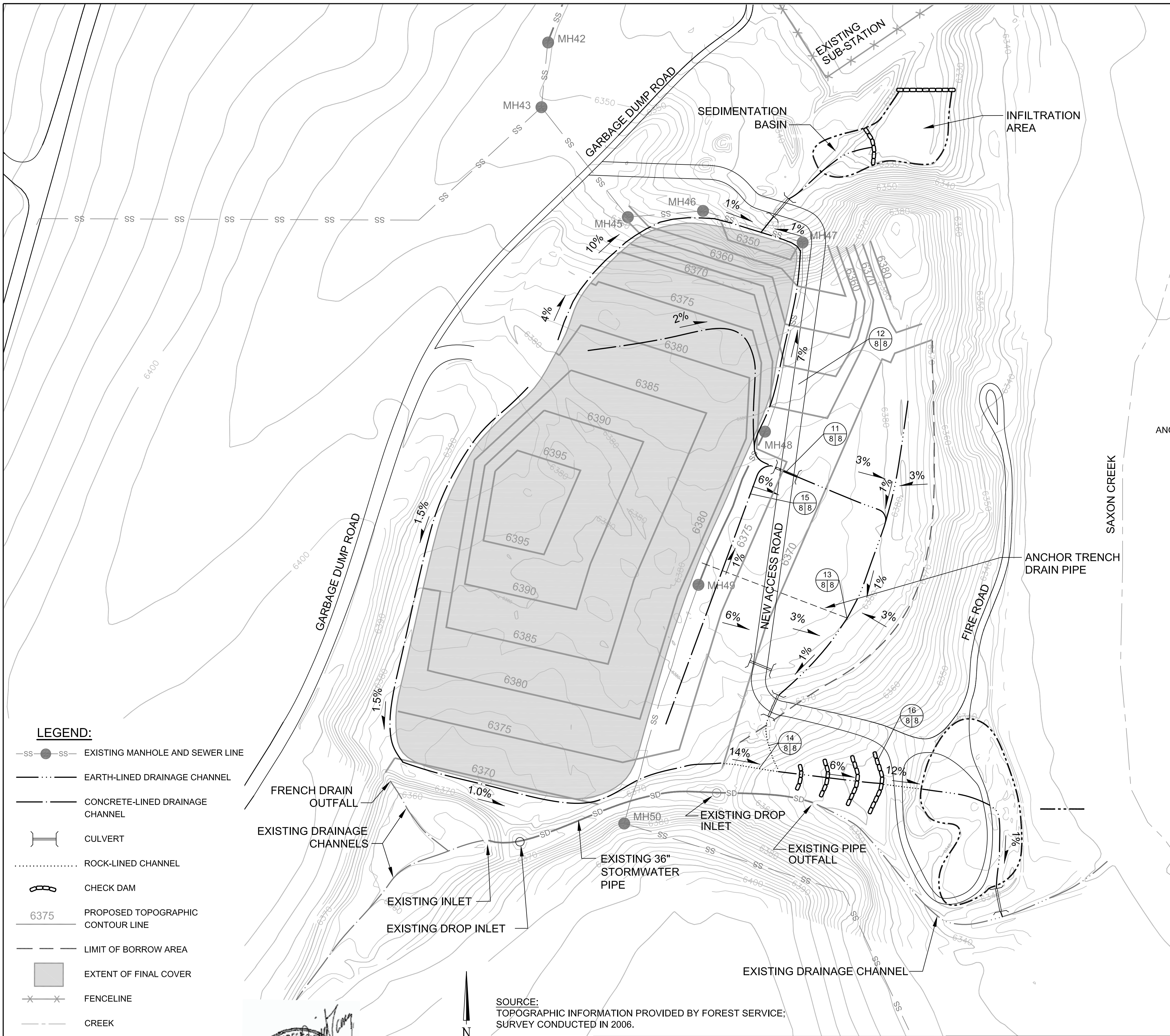


NO.	DATE	REVISIONS	APP'D	DATE

ERRG Engineering/Remediation Resources Group, Inc.
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San Francisco, California 94104
(415) 395-9974

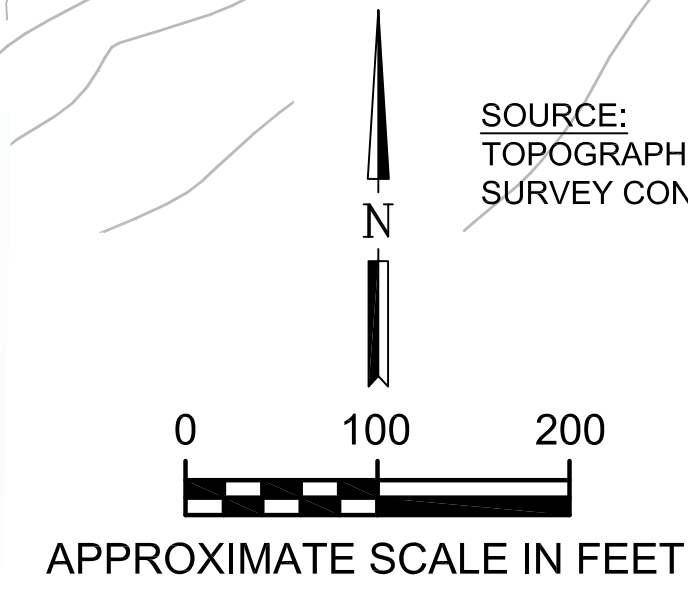
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LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 12/1/08				
	P.E./P.G.: DKT 12/1/08				
	ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 7

P:\2008_Projects\28-072 USFS Meyers Landfill\100% Design\Surface Water Control System.Dwg



LEGEND:

- EXISTING MANHOLE AND SEWER LINE
- — — EARTH-LINED DRAINAGE CHANNEL
- — — CONCRETE-LINED DRAINAGE CHANNEL
- — — CULVERT
- — — ROCK-LINED CHANNEL
- — — CHECK DAM
- 6375 PROPOSED TOPOGRAPHIC CONTOUR LINE
- — — LIMIT OF BORROW AREA
- EXTENT OF FINAL COVER
- x — FENCELINE
- — — CREEK
- — — LIMIT OF SEDIMENTATION BASIN AND INFILTRATION AREA
- — — ANCHOR TRENCH DRAIN PIPE
- SD — STORMWATER PIPE



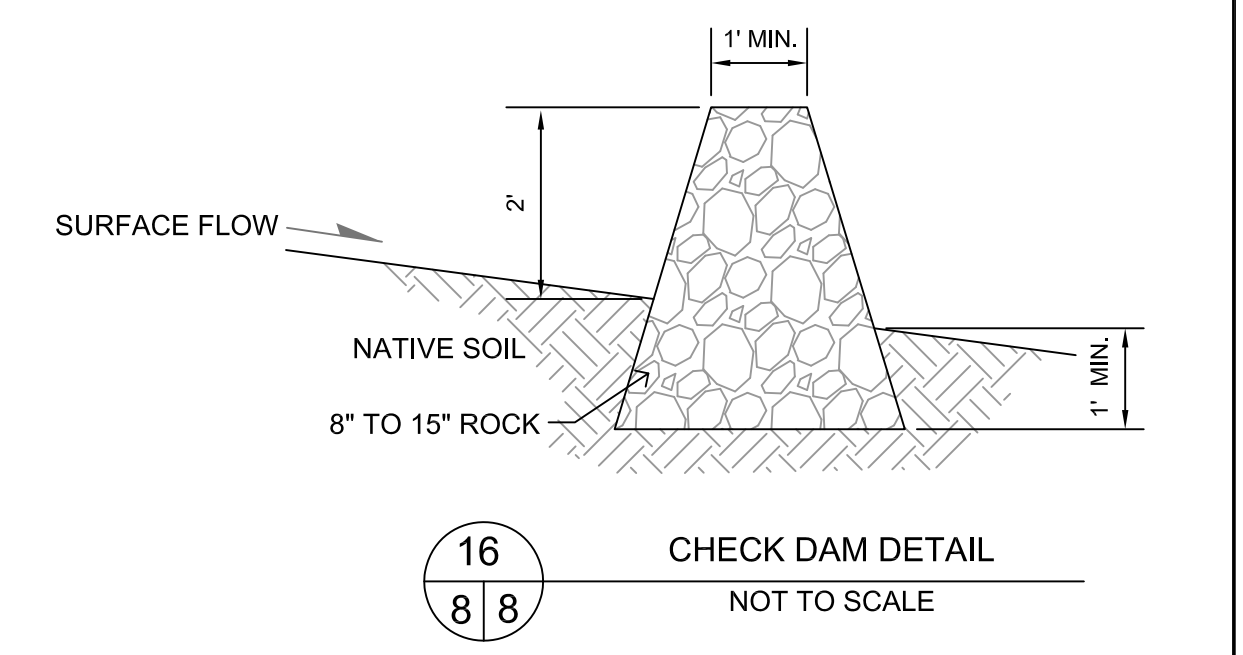
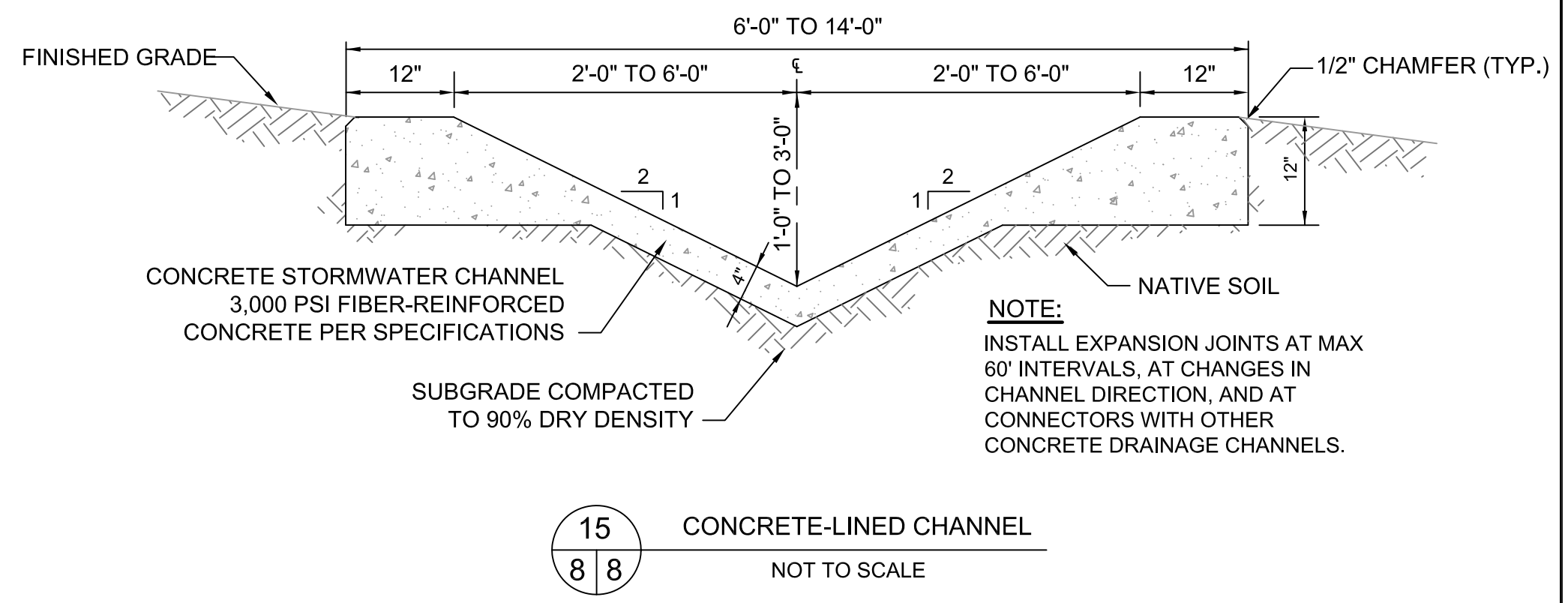
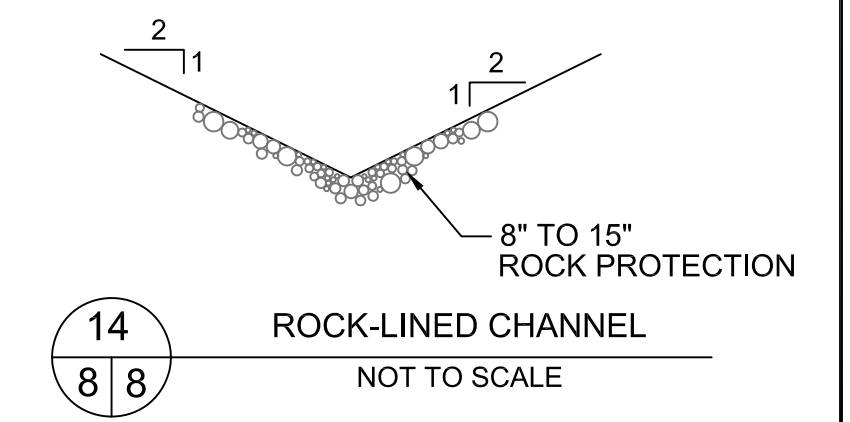
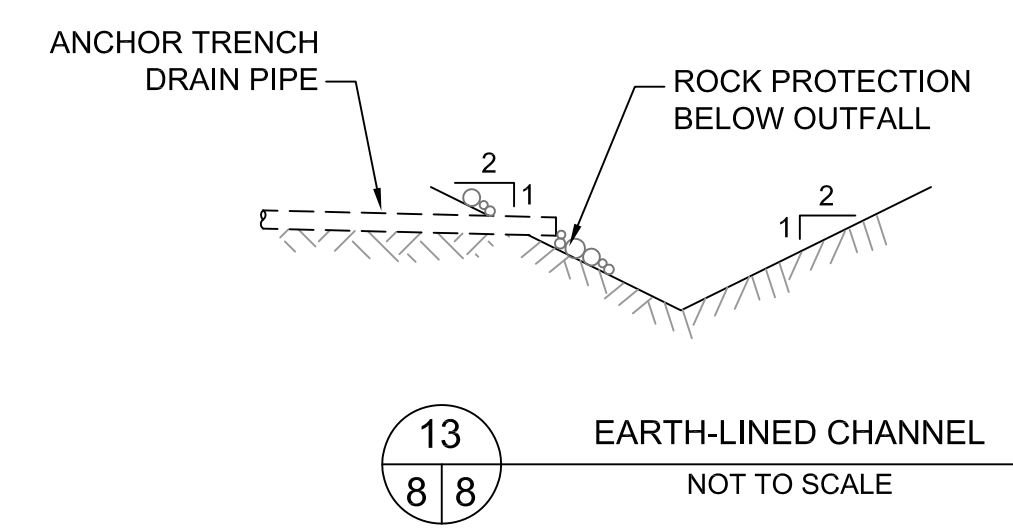
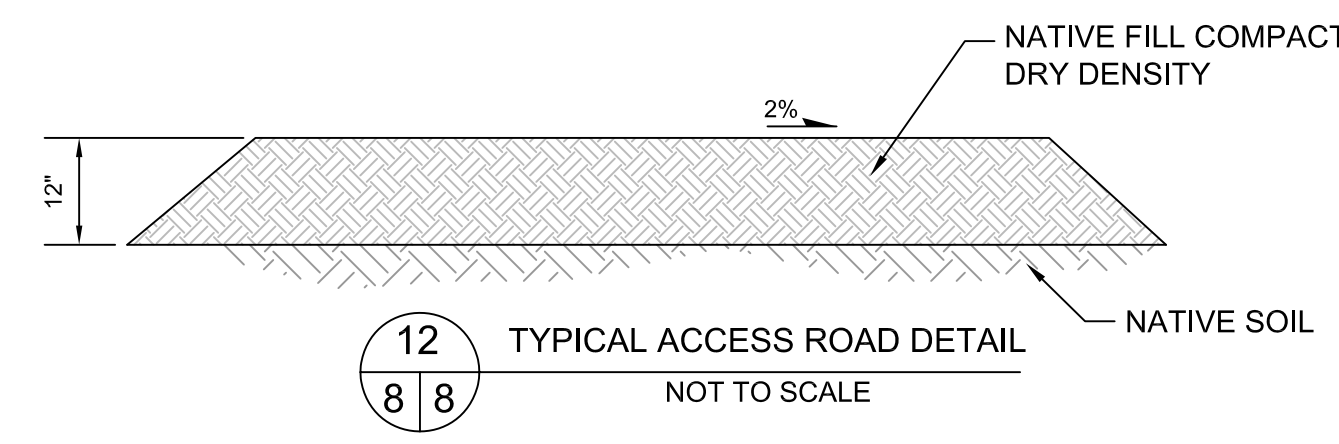
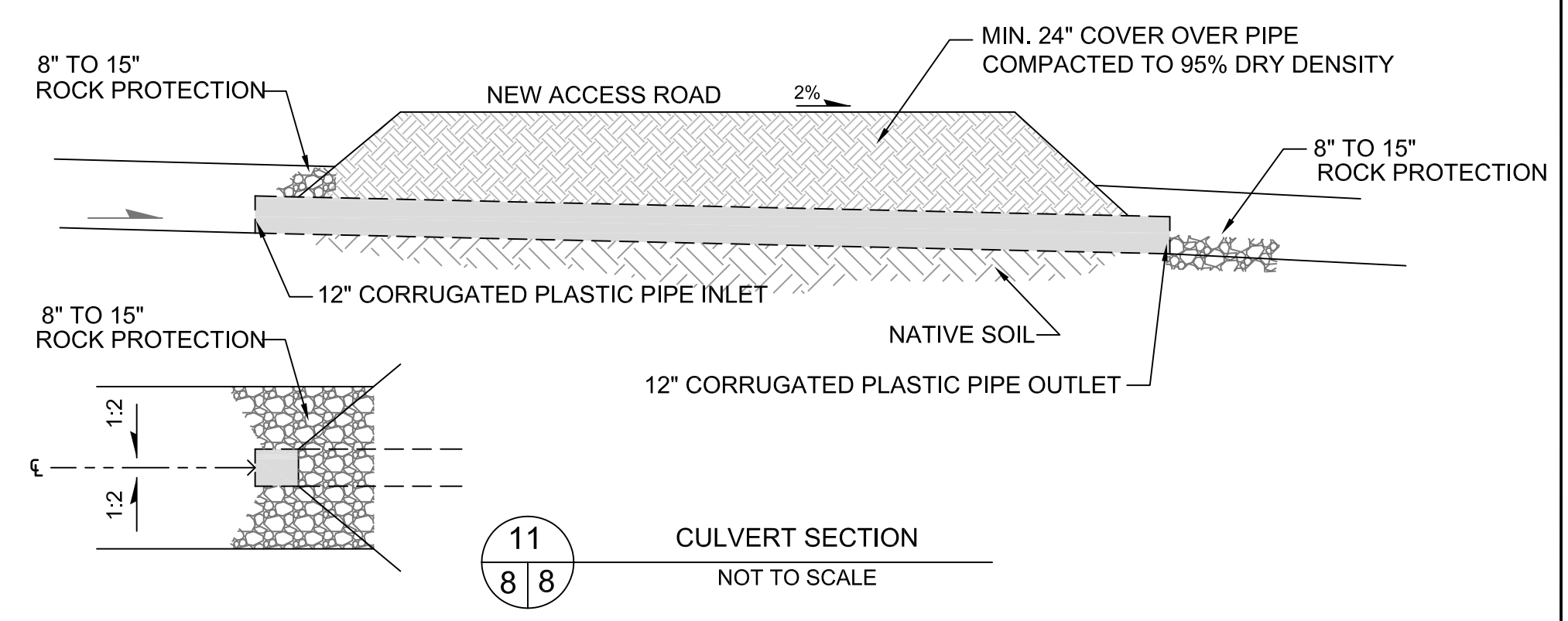
SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

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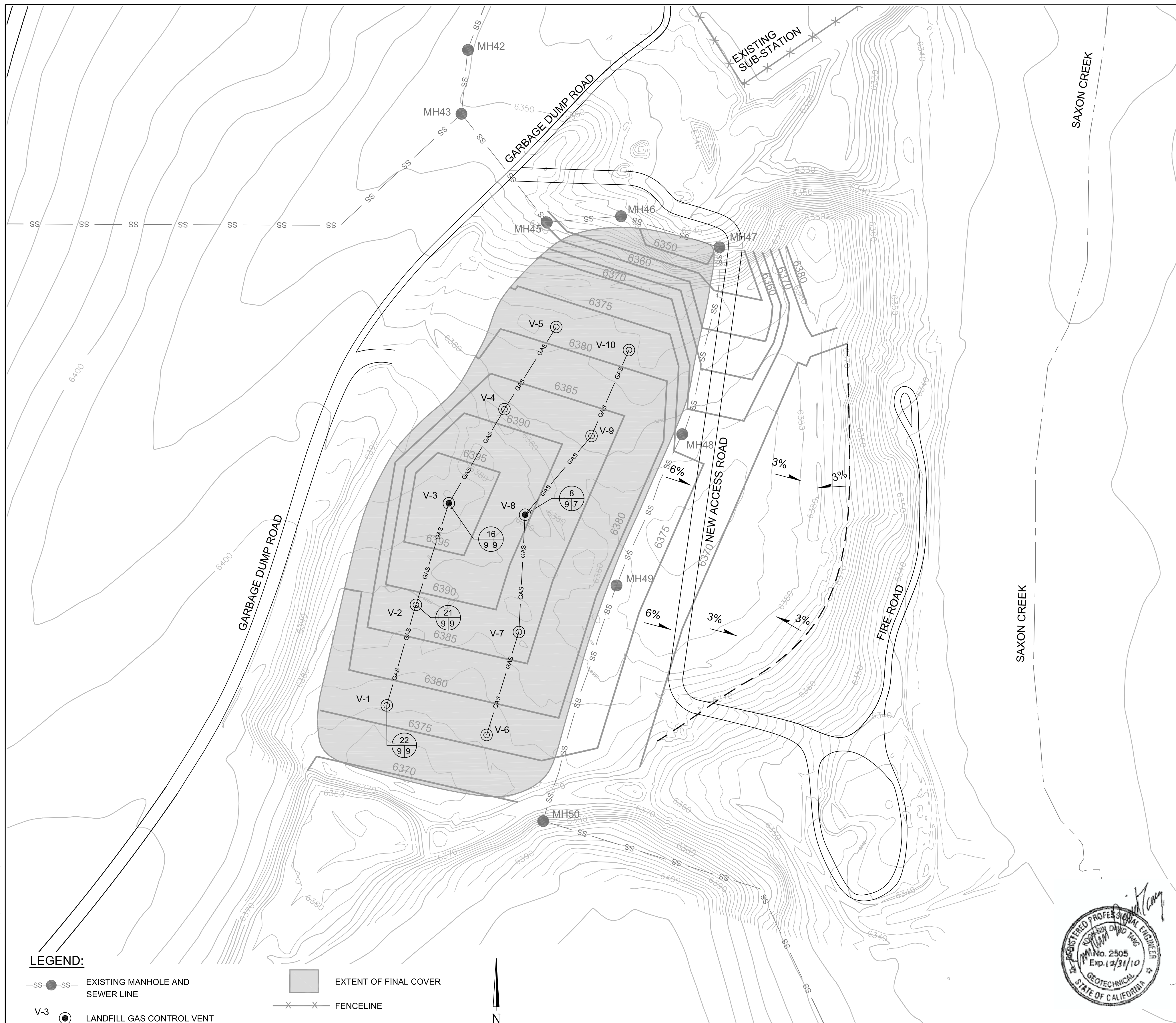
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LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 11/24/08
	P.E./P.G.: DKT 11/25/08

SURFACE WATER CONTROL SYSTEM PLAN AND DETAILS				
ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 8



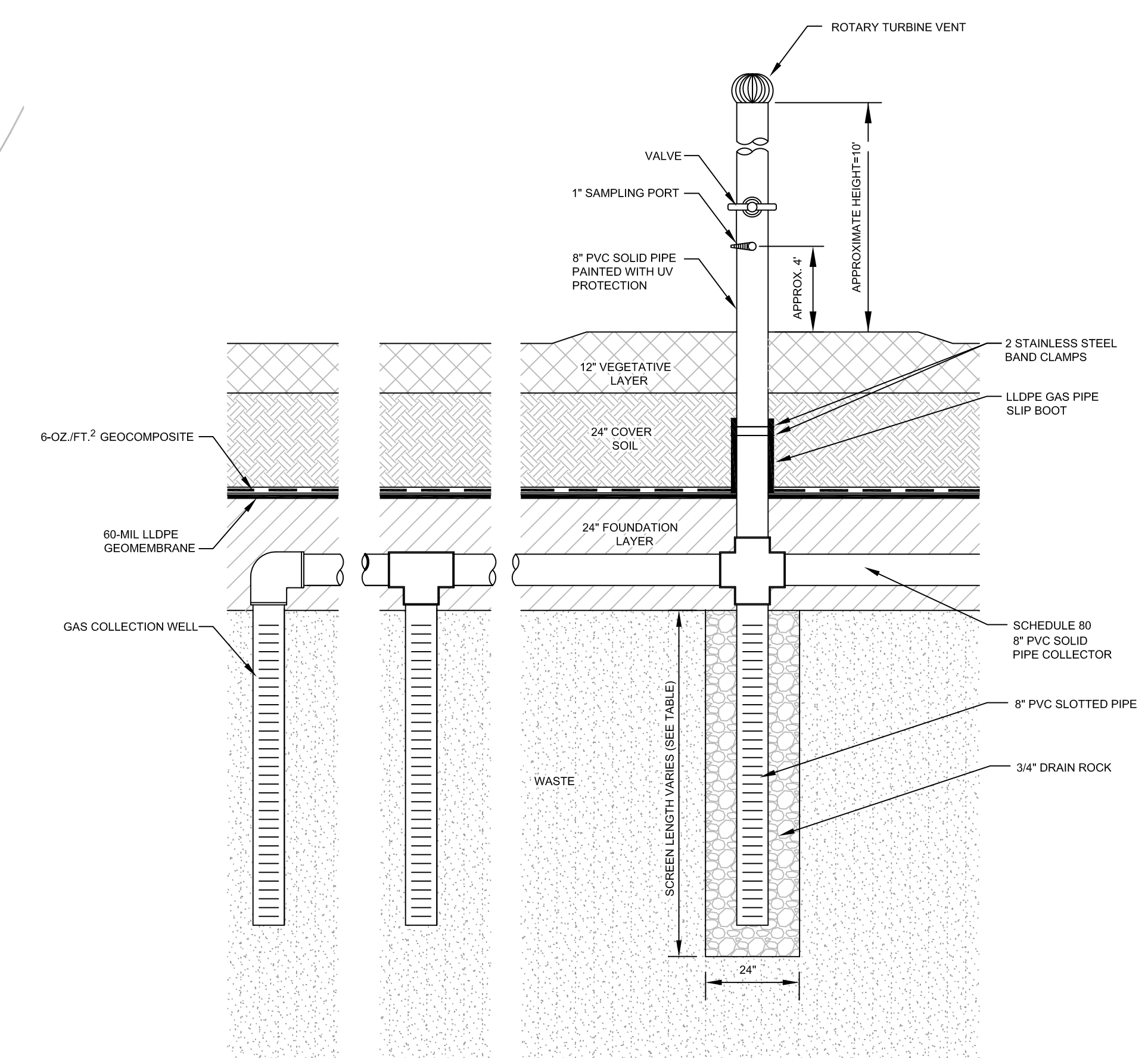
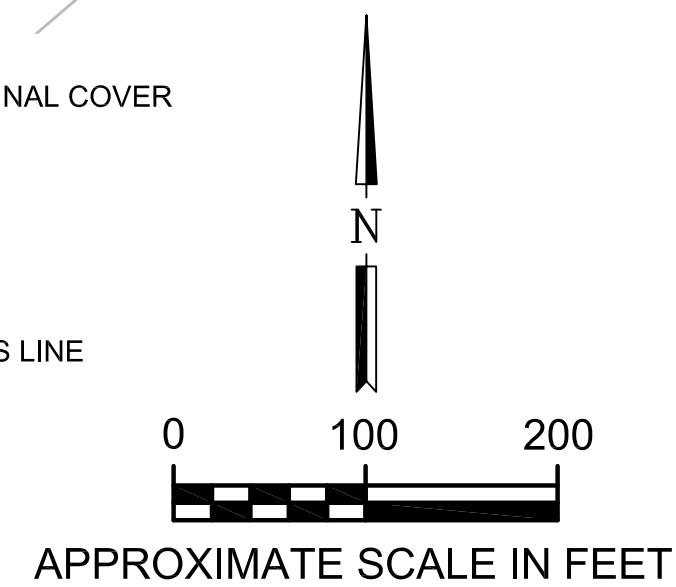
- NOTES:**
- DRAINAGE CHANNELS STEEPER THAN 10% WILL BE ROCK-LINED OR CONCRETE-LINED.
 - CHECK DAMS WILL BE CONSTRUCTED FROM 8" OR LARGER ROCK OR ROCK-FILLED GABION BOXES.

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LEGEND:

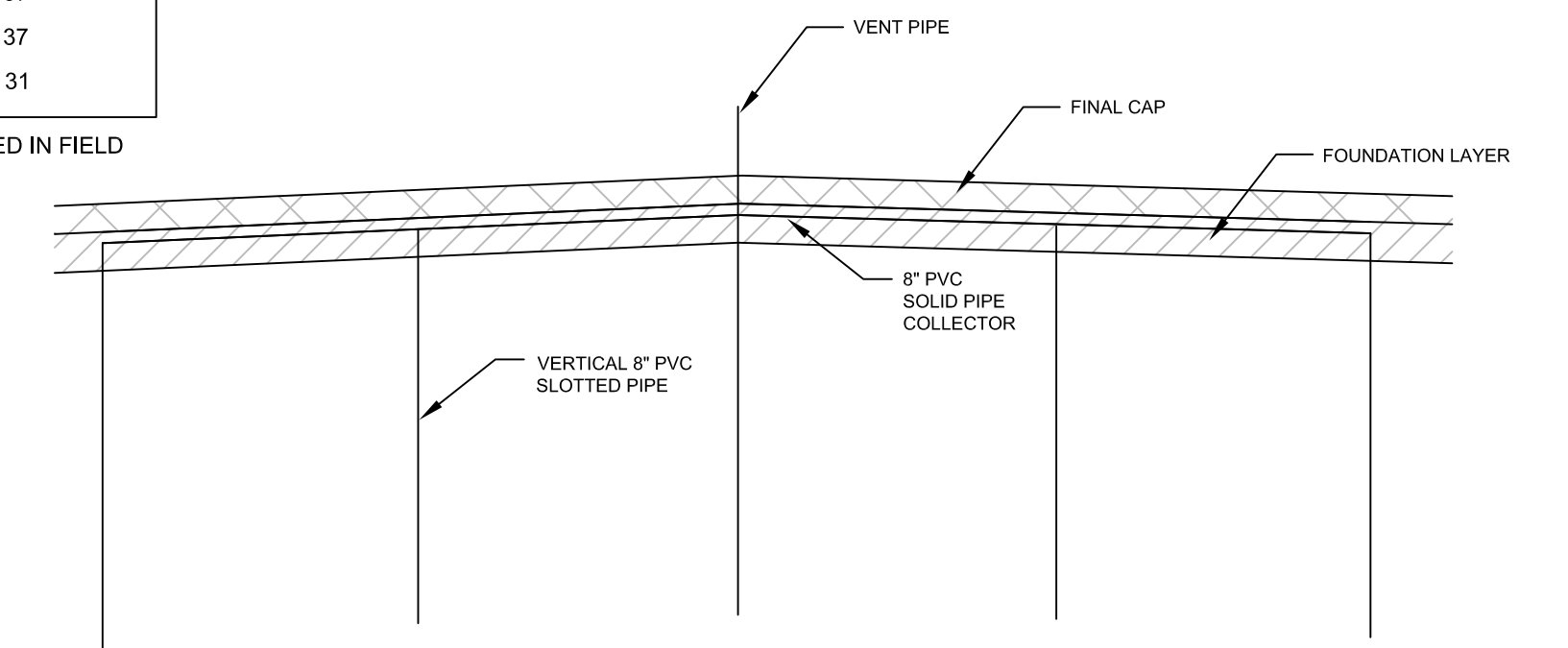
- SS—SS— EXISTING MANHOLE AND SEWER LINE
- V-3 ● LANDFILL GAS CONTROL VENT
- V-1 ⊙ LANDFILL GAS WELL
- 6375 PROPOSED TOPOGRAPHIC CONTOUR LINE
- LIMIT OF BORROW AREA
- EXTENT OF FINAL COVER
- X—X— FENCELINE
- CREEK
- GAS — LANDFILL GAS LINE



TYPICAL GAS VENT CONSTRUCTION DETAIL
NOT TO SCALE

VENT	SCREEN LENGTH *
V-1	32
V-2	22
V-3	31
V-4	26
V-5	19
V-6	12
V-7	22
V-8	37
V-9	37
V-10	31

* TO BE VERIFIED IN FIELD



LANDFILL GAS CONTROL SYSTEM SCHEMATIC
NOT TO SCALE



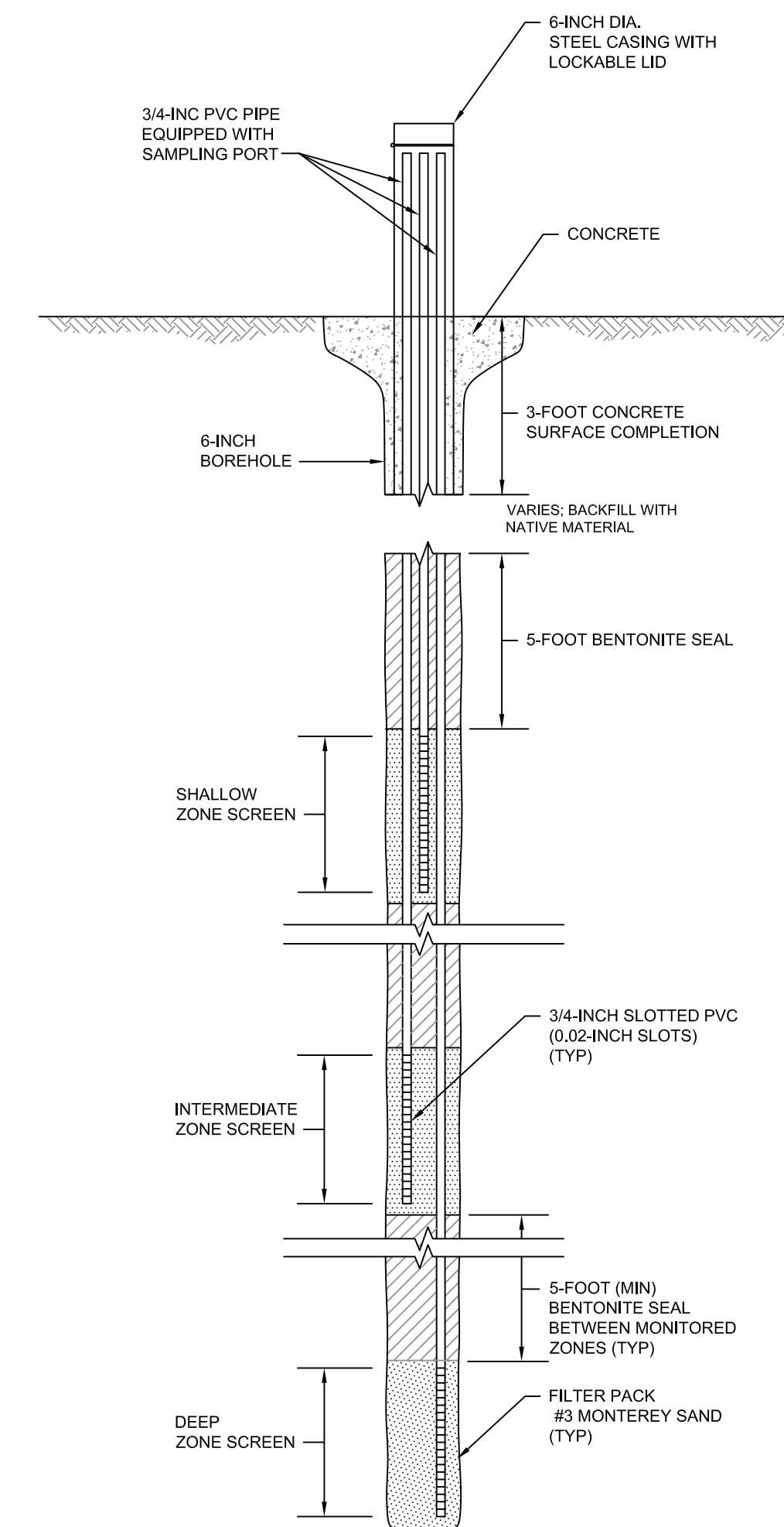
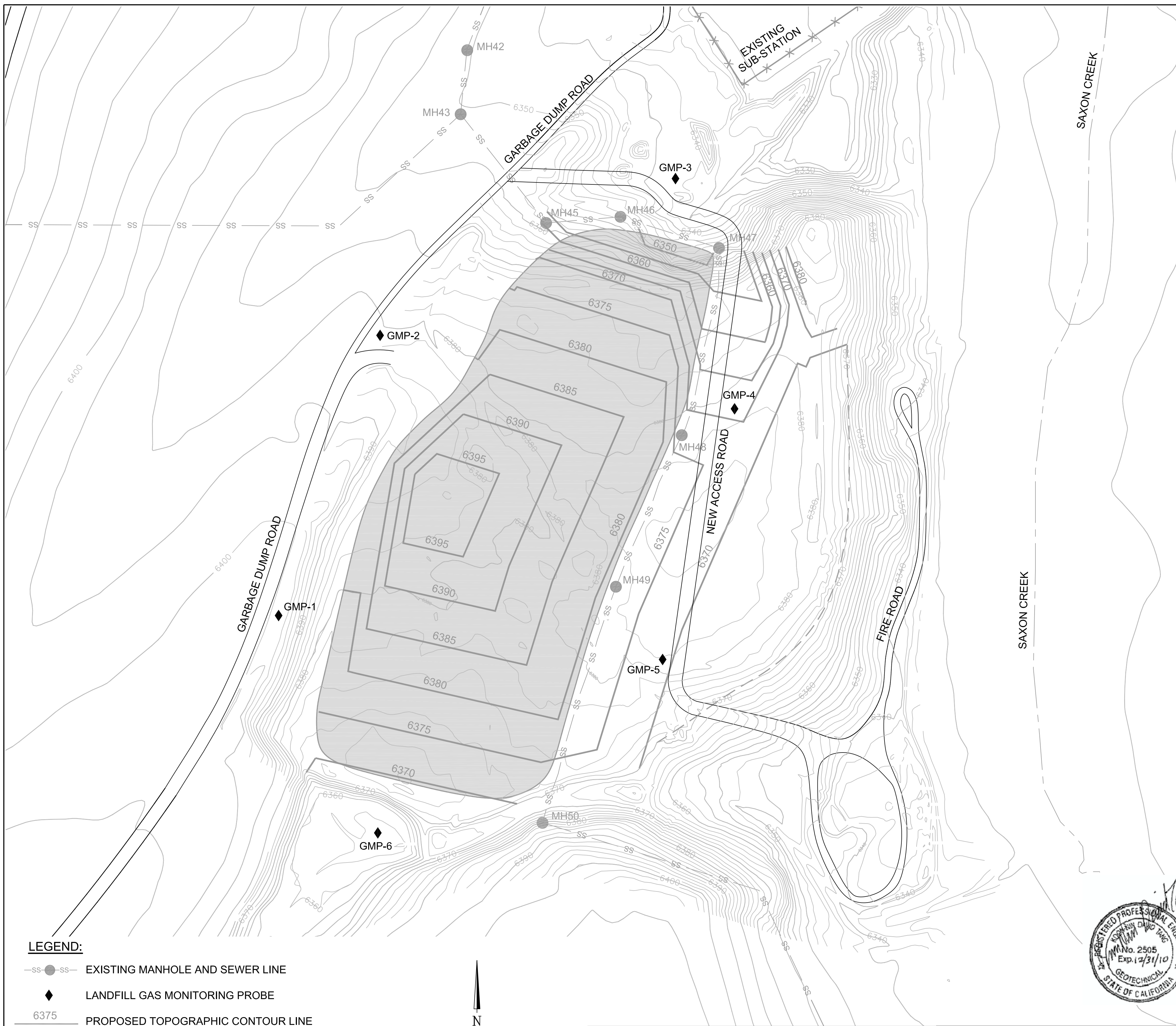
SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

NO.	DATE	REVISIONS	APP'D	DATE

ERRG Engineering/Remediation Resources Group, Inc.
115 Sansome Street, Suite 200
San Francisco, California 94104
(415) 395-9974

CLIENT: FOREST SERVICE	DESIGNED BY: VZC 11/26/08	LANDFILL GAS CONTROL SYSTEM PLAN AND DETAILS				
LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: JS 12/1/08					
P.E./P.G.: DKT 12/1/08	ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 9	

P:\2008_P\Projects\28-072 USFS Meyers Landfill\Maps_Drawings\100% Design\Perimeter Gas Monitoring Probe Network Plan and Details.Dwg



**TYPICAL GAS MONITORING PROBE
CONSTRUCTION DETAIL**
(NOT TO SCALE)

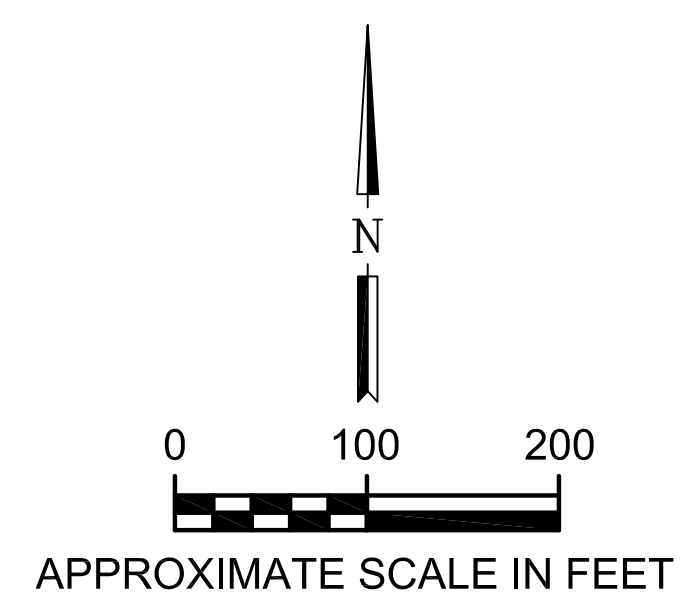
Perimeter Gas Monitoring Probe ⁽¹⁾	Depth Range ⁽²⁾	Screen Length (feet)	Screen Interval (feet MSL) ⁽³⁾
GMP-1-S	Shallow	5	6,390 - 6,395
GMP-1-I	Intermediate	10	6,355 - 6,365
GMP-1-D	Deep	10	6,330 - 6,340
GMP-2-S	Shallow	5	6,371 - 6,376
GMP-2-I	Intermediate	10	6,355 - 6,365
GMP-2-D	Deep	10	6,330 - 6,340
GMP-3-D	Deep	5	6,328 - 6,334
GMP-4-I	Intermediate	5	6,354 - 6,359
GMP-4-D	Deep	10	6,329 - 6,339
GMP-5-S	Shallow	5	6,362 - 6,367
GMP-5-I	Intermediate	5	6,350 - 6,355
GMP-5-D	Deep	10	6,330 - 6,340
GMP-6-I	Intermediate	5	6,350 - 6,355
GMP-6-D	Deep	10	6,330 - 6,340

Notes:
 (1) GMP clusters for the same location (e.g. GMP-1-S, GMP-1-I, and GMP-1-D) are to be installed in a single borehole.
 (2) Screened intervals (i.e. monitored zones) must be vertically isolated from each other and the ground surface by at least 5 feet of bentonite.
 (3) Screened intervals are estimated based on geophysical data in the remedial investigation/feasibility study; may be modified during installation.

GMP = gas monitoring probe
 MSL = feet above mean sea level
 Shallow = installed within 5 to 10 feet below ground surface
 Intermediate = installed at or near half the depth of waste
 Deep = installed at or near the depth of waste



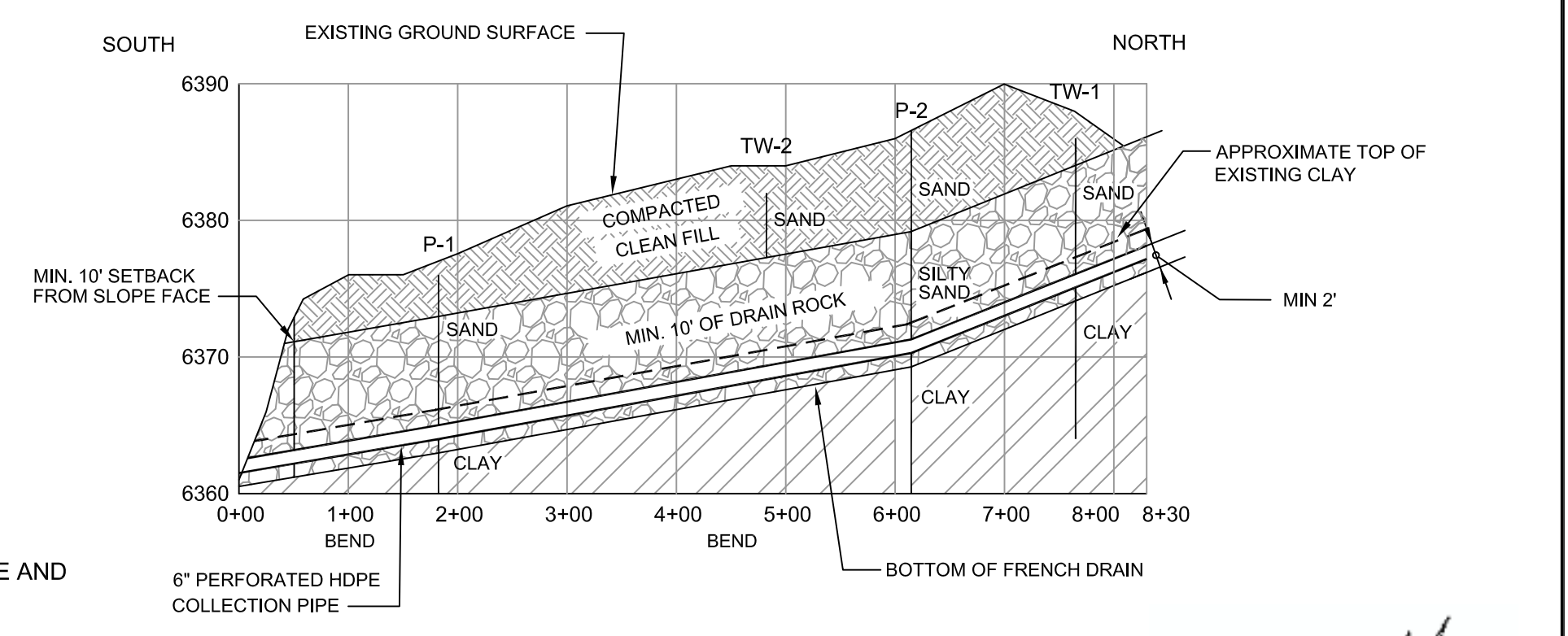
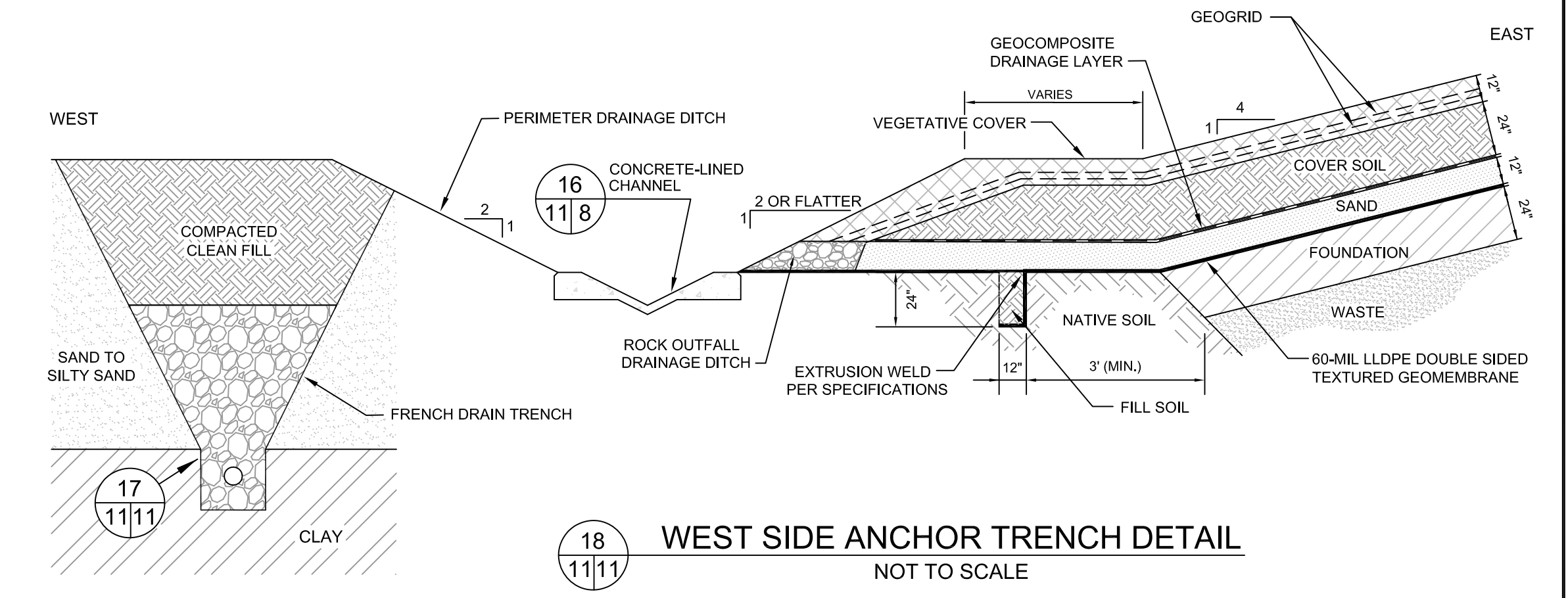
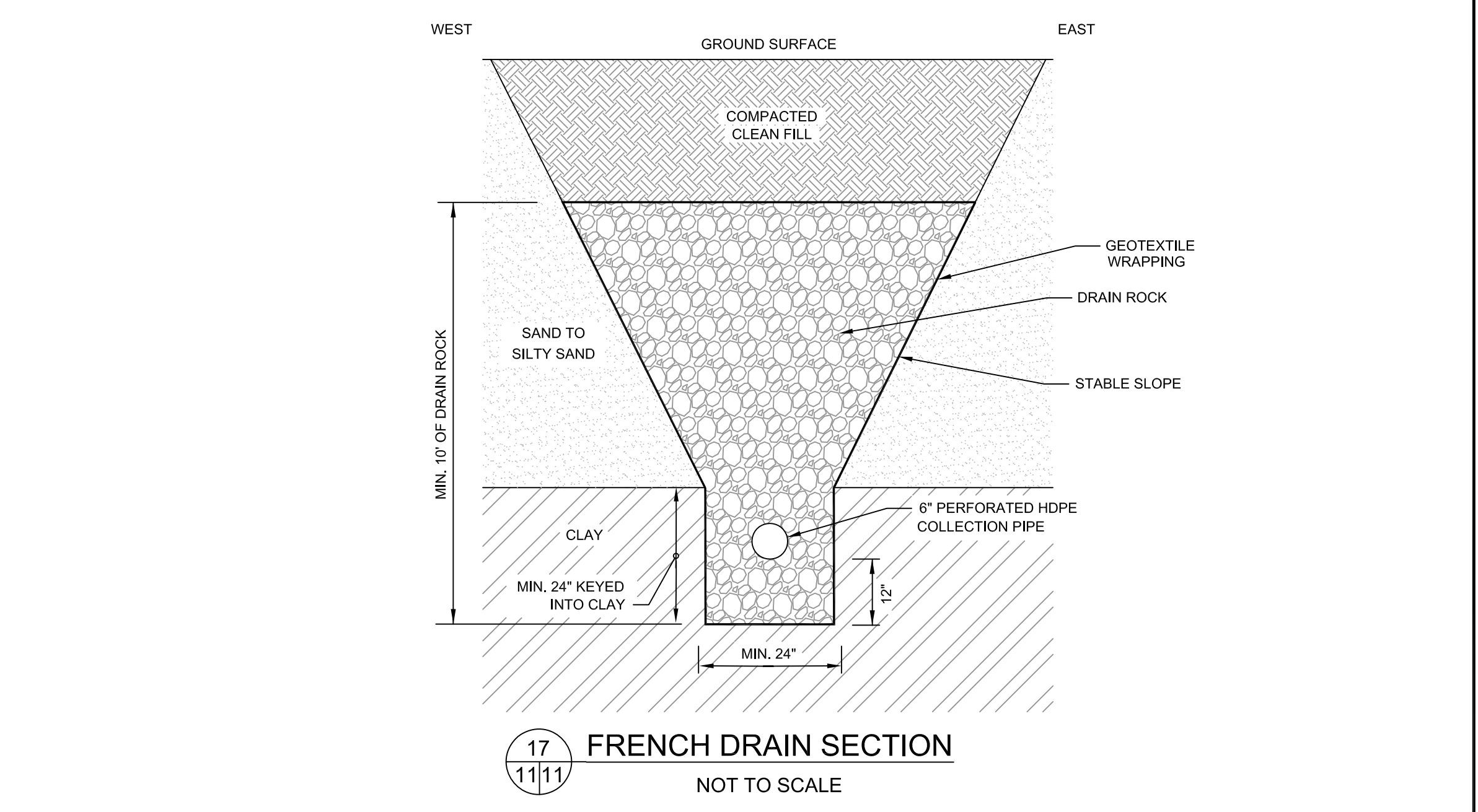
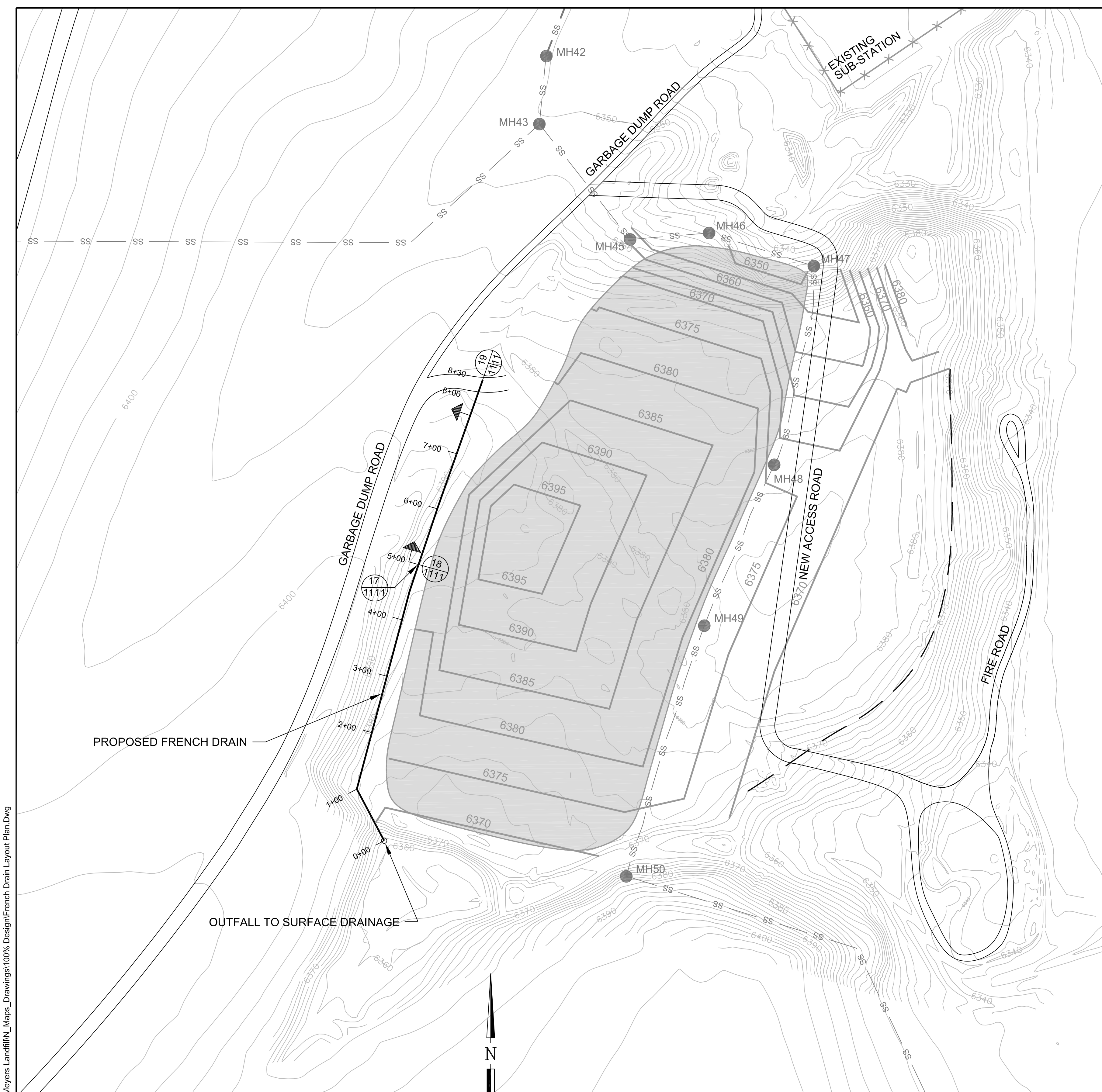
- LEGEND:**
- EXISTING MANHOLE AND SEWER LINE
 - ◆ LANDFILL GAS MONITORING PROBE
 - 6375 PROPOSED TOPOGRAPHIC CONTOUR LINE
 - - - - - LIMIT OF BORROW AREA
 - EXTENT OF FINAL COVER
 - - - - - CREEK
 - × × × FENCELINE



NO.	DATE	REVISIONS	APP'D	DATE

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CLIENT: FOREST SERVICE	DESIGNED BY: VZC 10/25/08	PERIMETER GAS MONITORING NETWORK PLAN AND DETAILS			
LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: JS 10/25/08				
P.E./P.G.: DKT 10/28/08	ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 10



- LEGEND:**
- EXISTING MANHOLE AND SEWER LINE
 - X—X— FENCELINE
 - 6375 PROPOSED FINAL CONTOUR LINE
 - EXTENT OF FINAL COVER
 - FRENCH DRAIN
 - - - LIMIT OF BORROW AREA



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SOURCE:
TOPOGRAPHIC INFORMATION PROVIDED BY FOREST SERVICE;
SURVEY CONDUCTED IN 2006.

APPROXIMATE SCALE IN FEET

NO.	DATE	REVISIONS	APP'D	DATE

ERRG Engineering/Remediation Resources Group, Inc.
115 Sansome Street, Suite 200
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(415) 395-9974

CLIENT: FOREST SERVICE	DESIGNED BY: RDB 1/22/09	FRENCH DRAIN PLAN AND DETAILS			
LOCATION: MEYERS LANDFILL EL DORADO COUNTY, CA	CHECKED BY: PDL 1/22/09				
P.E./P.G.: DKT 1/22/09	ERRG PROJECT NO. 28-072	REVISION NO. 0	SHEET 1	OF 1	DRAWING NO. 11