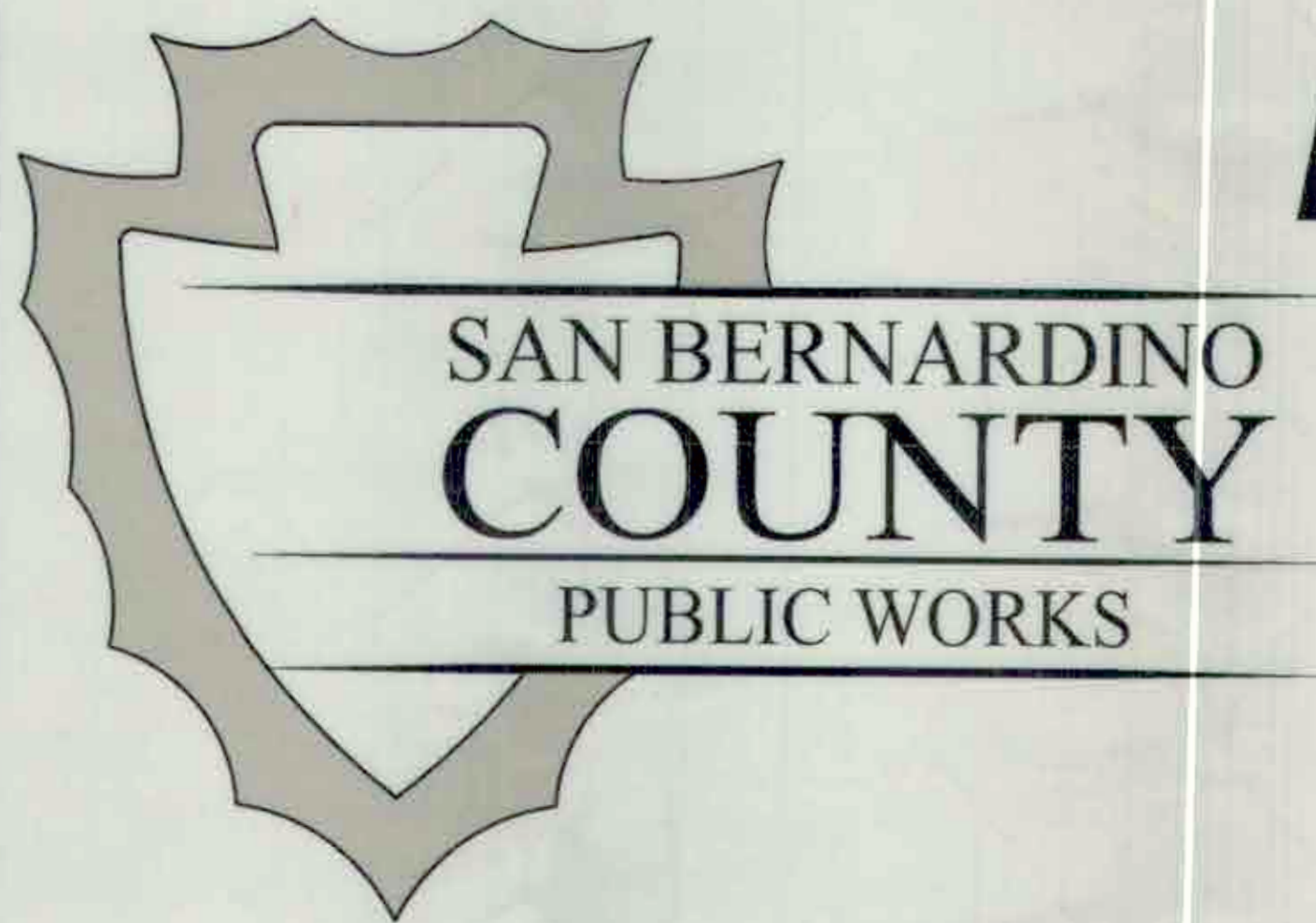


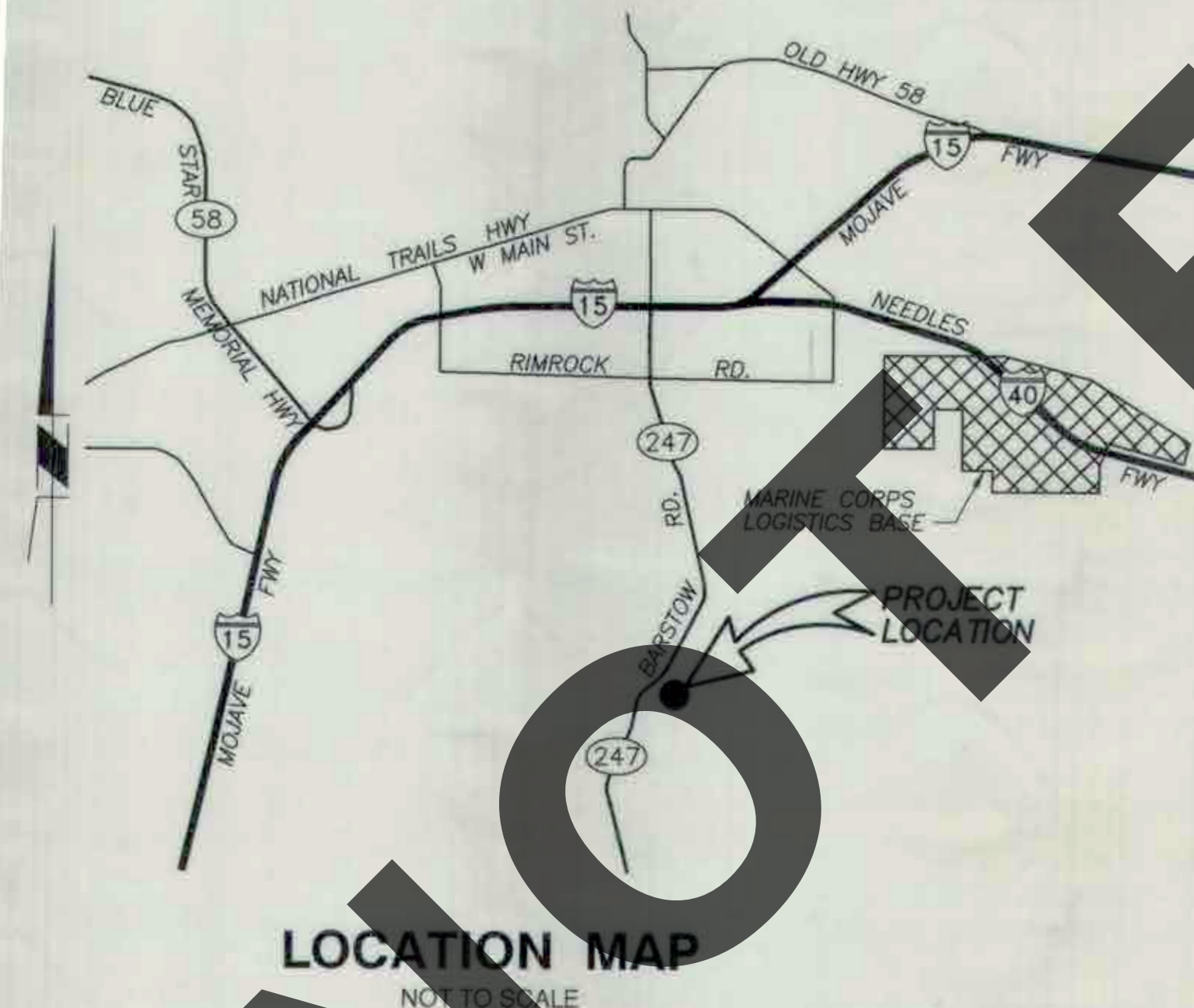
WARNING: ALL INDIVIDUALS INTERESTED IN BIDDING ON THIS PROJECT MUST OBTAIN THE FINAL PLANS AND SPECIFICATIONS FROM THE DEPARTMENT MANAGING THE PROJECT OR AS OTHERWISE STATED IN THE ADVERTISEMENT FOR BIDS FOR THE PROJECT. DO NOT USE THE PLANS AND SPECIFICATIONS POSTED ON THE CLERK OF THE BOARD'S WEBSITE FOR BIDDING ON THIS PROJECT.



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS SOLID WASTE MANAGEMENT DIVISION BARSTOW SANITARY LANDFILL PHASE 1B LINER CONSTRUCTION PROJECT

NOTICE TO CONTRACTOR

1. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN THE FIELD BY THE CONTRACTOR SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE EXACT DETERMINATION AS THE LOCATION OF ALL EXISTING UTILITIES. FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 1-800-422-4133 AND SHALL PROVIDE THE CONSTRUCTION MANAGER WITH VERIFICATION NUMBERS ISSUED.
3. THE FACT THAT ANY UTILITY FACILITY IS SHOWN OR NOT SHOWN UPON THE PLANS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY UNDER SECTION 8-1.10 "UTILITY AND NON-HIGHWAY FACILITIES," OF THE STATE STANDARD SPECIFICATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY, PURSUANT THERETO, TO ASCERTAIN THE LOCATION OF ANY UTILITY FACILITY WHICH MAY BE SUBJECT TO DAMAGE BY REASON OF THE CONTRACTOR'S OPERATIONS.
4. REGARDING SIGNED DRAWING VERSUS ELECTRONIC COPY: SHOULD THE CONTRACTOR OR CONTRACTOR'S SURVEYOR FIND A CONTOUR LABEL OR ELEVATION DISCREPANCY BETWEEN THE SIGNED DRAWING AND THE ELECTRONIC VERSION (WHICH HAVE BEEN PROVIDED AS A COURTESY FOR EASE OF CONSTRUCTION STAKING), THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE DISCREPANCY SO THAT THE DISCREPANCY MAY BE RESOLVED, PRIOR TO CONSTRUCTION. THE SIGNED DRAWING SUPERSEDES THE ELECTRONIC VERSION.
5. THIS PROJECT REQUIRES A CLASS "A" CONTRACTORS LICENSE.



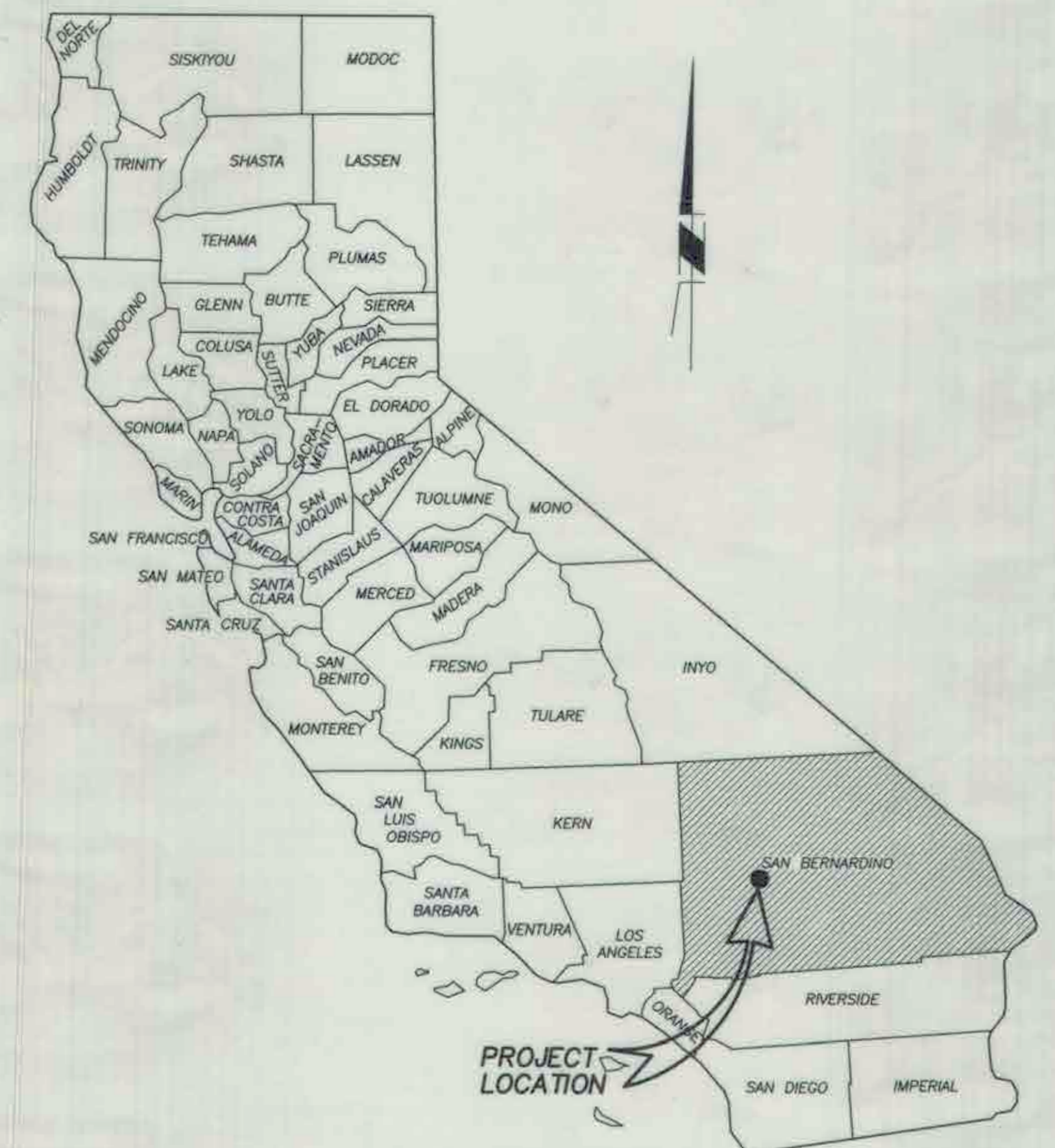
LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS PHASE 1B - LINER CONSTRUCTION PROJECT

DWG NO.	SHT NO.	
I1	1	TITLE SHEET
I2	2	INDEX MAP
I3	3	NOTES AND LEGEND
G1	4	SUBGRADE PLAN
L1	5	LINER PLAN
SP1	6	SOUTH STOCKPILE PLAN
SP2	7	NORTH STOCKPILE PLAN
EC1	8	EROSION CONTROL PLAN SOUTH
EC2	9	EROSION CONTROL PLAN NORTH
CS1	10	CROSS SECTIONS
D1	11	DETAIL SHEET D1
D2	12	DETAIL SHEET D2
D3	13	DETAIL SHEET D3
D4	14	DETAIL SHEET D4
D5	15	DETAIL SHEET D5

SAN BERNARDINO COUNTY

APPROVED BY: Brendon Biggs 9-16-21
BRENDON BIGGS, P.E. CS7127, DIRECTOR OF PUBLIC WORKS DATE



VICINITY MAP
NOT TO SCALE



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:
SWT Engineering Civil & Environmental
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

PREPARED UNDER THE SUPERVISION OF



SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED DATE
SUBMITTED BY Johnny Gayman 8/25/21		CHIEF ENGINEER	APPROVED BY DATE
PROJECT MANAGER		DEPUTY DIRECTOR	

BARSTOW SANITARY LANDFILL PHASE 1B LINER CONSTRUCTION PROJECT TITLE SHEET				
DATE 08-21	DWG NO. I1	SCALE AS SHOWN	SHT. NO. 1	TOT. SHT'S. 15



MARK	REVISIONS	DATE

MARK	REVISIONS	DATE

COORDINATE CONTROL POINTS

PT NO	NORTHING	EASTING	ELEVATION
1	2127040.74	6854515.58	2874.43
2	2127035.45	6857137.99	2894.83
12	2130014.34	6857119.92	2797.54
16	2125922.88	6855897.58	2868.43
25	2130043.32	6854473.12	2913.46
40	2129009.79	6855871.72	2833.36

- NOTES:
1. SEE DRAWING CS1 (SHEET 10) FOR SECTIONS A AND B ABOVE.
 2. SEE SHEET 3 FOR LEGEND.

MARK	CHANGES	RESIDENT ENGINEER	DATE

FIELD CHANGES

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

PREPARED UNDER THE SUPERVISION OF

Michael A. Cullinan
REGISTERED PROFESSIONAL ENGINEER
No. 4198
CIVIL
STATE OF CALIFORNIA

08/20/21

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED / APPROVED BY DATE 8/25/21
SUBMITTED BY DATE 8/25/21		CHIEF ENGINEER	DEPUTY DIRECTOR
PROJECT MANAGER		DATE	DATE

BARSTOW SANITARY LANDFILL
PHASE 1B LINER
CONSTRUCTION PROJECT

INDEX MAP

DATE	DWG NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	12	AS SHOWN	2	15

- 1 CLEAR AND GRUB
- 2 PROTECT IN PLACE
- 3 EXCAVATE TO CONTOURS PER PLAN
- 4 PLACE UNCLASSIFIED FILL PER PLAN
- 5 CONSTRUCT LCRS SUBGRADE SWALE (1 D1)
- 6 CONSTRUCT ACCESS ROAD/BENCH SUBGRADE SECTION (2 D1)
- 7 CONSTRUCT EARTHEN PERIMETER CHANNEL/BERM SUBGRADE SECTION (3 D1)
- 8 CONSTRUCT LCRS BENCH CROSSING SUBGRADE SWALE (5 D2)
- 9 CONSTRUCT SUBGRADE LFG MIGRATION COLLECTOR (1 D3)
- 10 CONSTRUCT BASE LINER (4 D1)
- 11 CONSTRUCT SLOPE LINER (5 D1)
- 12 CONSTRUCT SLOPE TO BASE LINER TRANSITION (6 D1)
- 13 CONSTRUCT LINER JOIN AT PHASE 1A SOUTH BENCH (6 D2)
- 14 REMOVE INTERFERING PORTIONS OF CMB ACCESS ROAD AND SOIL BERM TRANSITION TO ACCOMMODATE EARTHEN PERIMETER CHANNEL/BERM JOIN
- 15 CONSTRUCT SLOPE LINER JOIN (9 D1)
- 16 CONSTRUCT ANCHOR TRENCH AT BERM (12 D1)
- 17 CONSTRUCT LCRS HEADER (1 D2)
- 18 CONSTRUCT LCRS LATERAL (2 D2)
- 19 CONSTRUCT LCRS PIPE JUNCTION (7 D4)
- 20 CONSTRUCT 6" SOLID HDPE LCRS RISER PIPE (3 D3)
- 21 CONSTRUCT LCRS ROADWAY/BENCH COLLECTOR (7 D1)
- 22 CONSTRUCT LINER JOIN AT LCRS BENCH CROSSING (5 D2)
- 23 CONSTRUCT SOUTH ROADWAY SUBGRADE SECTION (2 D4)
- 24 REMOVE EXISTING FENCE (LIMITS PER PLAN)
- 25 CONSTRUCT SUBGRADE EXCAVATION FOR WEST PERIMETER ROAD ANCHOR TRENCH (1 4)
- 26 CONSTRUCT EARTHEN PERIMETER CHANNEL/BERM SECTION (2 D3)
- 27 CONSTRUCT SLOPE LINER TERMINATION (10 D1)
- 28 CONSTRUCT 6" CMB OVER 12 OZ/SY GEOTEXTILE BERM ROAD (2 D3)
- 29 CONSTRUCT LFG, TEST PORT, AND LCRS RISER TERMINATION SUPPORT (1 D4)
- 30 CONSTRUCT SCRIM AND WIND DEFENDER HDPE GEOTEXTILE PROTECTIVE LINER COVER (3 D4) (4 D4) (5 D4)
- 31 CONSTRUCT 4" SLOTTED HDPE LCRS GRAVEL LFG EVACUATION PIPE (FUSION WELDED) (9 D4)
- 32 CONSTRUCT 4" SOLID HDPE LFG COLLECTION PIPE
- 33 CONSTRUCT LFG/LCRS RISER SUPPORT (1 D4) (8 D4)
- 34 INSTALL CLASS I FLEXIBLE POST DELINEATOR (SOIL MOUNT) PER CAL TRANS STD PLAN A-73C; STENCIL PURPOSE OF PIPE RISER ON DELINEATOR
- 35 CONSTRUCT LFG/LCRS RISER ACCESS ROAD CROSSING (6 D3)
- 36 CONSTRUCT ANCHOR TRENCH AT SOUTH ROADWAY (11 D1)
- 37 INSTALL LFG PIPE ROAD CROSSING (2 D3)
- 38 CONSTRUCT HORIZONTAL ANCHOR-EXISTING REFUSE LIMIT AT ACCESS ROAD (7 D2)
- 39 CONSTRUCT 12" THICK ROCK DRIVING SURFACE (1" PLUS TO 3" MINUS MATERIAL SIZE) (8 D1)
- 40 CONSTRUCT EMBANKMENT PROTECTION (4 D3)
- 41 CONSTRUCT ACCESS ROAD AND BENCH LINER (8 D1)
- 42 CONSTRUCT ANCHOR TRENCH AT WEST PERIMETER ROAD (3 D4)
- 43 CONSTRUCT RIP RAP DRAINAGE OUTLET (13 D1)
- 44 CONSTRUCT DOWNDRAIN EMBANKMENT PROTECTION AT EXISTING CONTOUR LOW POINTS (1 6)
- 45 CONSTRUCT TORTOISE FENCE PER (5 D5)
- 46 CONSTRUCT WRAPPED GRAVEL (3 D2)
- 47 CAP END OF PIPE

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN IN THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND ANY APPLICABLE CONTRACT SPECIFICATIONS.
2. CONTRACTOR SHALL PROVIDE ALL UTILITIES (WATER, ELECTRICAL, AND TELEPHONE SERVICE) REQUIRED TO SUCCESSFULLY COMPLETE ANY AND ALL CONSTRUCTION ACTIVITIES.
3. ALL EXISTING FENCES, MONITORING WELLS, PIPELINES, GAS LINES, AND PROBES, SHALL BE PROTECTED FROM DAMAGE. ANY DAMAGE DONE BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE OWNER'S SATISFACTION, AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
4. ALL EXISTING AND PROPOSED DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING WORK.
5. AERIAL TOPOGRAPHY WAS DEVELOPED BY DIGITAL PHOTOGRAMMETRIC METHODS (01/07/2020). GRID TICKS ARE BASED ON NORTH AMERICAN DATUM OF 1983 (NAD 83). CALIFORNIA COORDINATE SYSTEM ZONE V NGVD-29 IS TO BE USED FOR ALL SURVEY WORK. HORIZONTAL AND VERTICAL CONTROL POINTS ARE SHOWN ON DWG 12.
6. ALL ELEVATIONS ARE IN FEET AND DECIMAL THEREOF, BASED ON USC AND GS DATUM.
7. ALL ELEVATIONS ARE REFERENCED TO THE HORIZONTAL/VERTICAL CONTROL (HVC) POINTS SHOWN ON THE EXISTING SITE PLAN. COPIES OF HORIZONTAL VERTICAL CONTROL INFORMATION MAY BE OBTAINED FROM SAN BERNARDINO COUNTY SOLID WASTE MANAGEMENT DIVISION.
8. CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITIES WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ANY DAMAGE DONE BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE OWNER'S SATISFACTION, AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
9. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY AS REQUIRED BY THE CONTRACT DOCUMENTS.
10. ALL GRADING SHALL BE DONE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS, THE PHASE 1B LINER CONSTRUCTION QUALITY ASSURANCE (CQA) MANUAL, AND THE REFUSE PRISM SLOPE STABILITY ANALYSIS (GEOLOGIC ASSOCIATES, 2020).
11. THE CONTRACTOR SHALL KEEP A COPY OF HIS HEALTH AND SAFETY PLAN ONSITE. ALL CONTRACTOR PERSONNEL AND SUBCONTRACTORS ARE REQUIRED TO READ AND ADHERE TO THE PROVISIONS AS SET FORTH IN THE HEALTH AND SAFETY PLAN AT ALL TIMES.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE EXACT DETERMINATION AS TO THE LOCATION OF ALL EXISTING UTILITIES. FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 1-800-422-4133 AND SHALL PROVIDE THE CONSTRUCTION MANAGER WITH VERIFICATION NUMBERS ISSUED.
13. FINAL COMPACTION REPORTS WILL BE REQUIRED FOR ALL FILLS GREATER THAN ONE FOOT.
14. ALL CONSTRUCTION TO BE IN CONFORMANCE WITH THE REGULATIONS OF CAL-OSHA.
15. ELEVATIONS OF UTILITIES ARE APPROXIMATE UNLESS OTHERWISE NOTED.
16. PROTECT ALL UTILITIES. POLES, SIGNS, AND EXISTING IMPROVEMENTS IN PLACE UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR NOTED ON THESE PLANS. WHERE RELOCATION OF THESE UTILITIES ARE REQUIRED, THE CONTRACTOR SHALL COORDINATE CONSTRUCTION AS NECESSARY AND AS APPROVED BY THE ENGINEER.
17. LIMITS OF REFUSE FOR EAST SIDE OF EXISTING REFUSE MOUND WITHIN PHASE 1A AREA CONSTRUCTION WERE VERIFIED BY POTHOLING (GLA, 2010). CONTRACTOR SHALL VERIFY ALL OTHER LIMITS OF REFUSE PER PROJECT SPECIFICATION.
18. CONTRACTOR SHALL SECURE, PURCHASE, TRANSPORT AND DISTRIBUTE ALL CONSTRUCTION WATER FOR THIS PROJECT. THERE IS NO WATER SUPPLY ON THE SITE. THE CLOSEST WATER SOURCE IS APPROXIMATELY 1 MILE FROM THIS SITE. ALL COSTS FOR CONSTRUCTION WATER SHALL BE CONSIDERED AS INCLUDED IN THE VARIOUS EARTHWORK ITEMS AND NO ADDITIONAL COMPENSATION WILL BE MADE.
19. CONTRACTOR SHALL SUBMIT A PLAN FOR HAUL ROUTES AND STAGING AREAS INSIDE THE LIMITS OF WORK SHOWN TO SWMD FOR APPROVAL.
20. ANY AREA THE CONTRACTOR DISTURBS AS PART OF CONSTRUCTION BUT NOT WITHIN THE WORK AREA SHALL BE RESTORED TO ITS ORIGINAL CONDITION UPON COMPLETION OF WORK.
21. THE CONTRACTOR SHALL NOT INTERFERE WITH DAILY WASTE DISPOSAL OPERATIONS.

MARK	REVISIONS	APPR.	DATE

MARK	CHANGES NO CHANGES	RESIDENT ENGINEER _____ DATE ____/____/____
FIELD CHANGES		

DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	13	AS SHOWN	3	15



- ### LEGEND

- | | |
|---------|---|
| | BOUNDARY |
| | APPROXIMATE
LIMIT OF REFUSE |
| | EXISTING FENCE |
| | PROPOSED INDEX CONTOUR |
| | PROPOSED INTERMEDIATE CONTOUR |
| | EXISTING/SUBGRADE INDEX CONTOUR |
| | EXISTING/SUBGRADE INTERMEDIATE
CONTOUR |
| | TOP OR TOE OF SLOPE |
| | CUT/FILL TRANSITION |
| | EXISTING ANCHOR TRENCH |
| | EXISTING LCRS HEADER/LATERAL |
| | EXISTING LFG PIPE |
| | LFG MIGRATION COLLECTOR |
| | LCRS SWALE |
| | BENCH CROSSING |
| | DIRECTION AND RATE
OF SLOPE |
| | DETAIL NUMBER |
| | SHEET SHOWN ON |
| HVC-2 | |
| | |
| 2894.83 | |
| | HORIZONTAL/VERTICAL
CONTROL (HVC) |

MARK	REVISIONS	APPR.	DATE

DATE OF TOPOGRAPHY: JANUARY 7, 2020

[illegible]

PREPARED BY:

SWT Civil & Environmental
Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

PREPARED UNDER THE SUPERVISION OF



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED <i>[Signature]</i>	APPROVED BY <i>[Signature]</i>
SUBMITTED BY <i>[Signature]</i> 8/25/21			CHIEF ENGINEER	DATE 8/25/21
PROJECT MANAGER			DEPUTY DIRECTOR	DATE

BARSTOW SANITARY LANDFILL

PHASE 1B LINER
CONSTRUCTION PROJECT

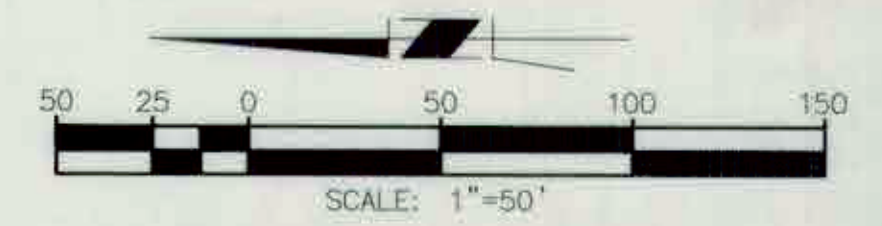
SUBGRADE PLAN

DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S
08-21	G1	AS SHOWN	4	15

LEGEND⁽¹⁾

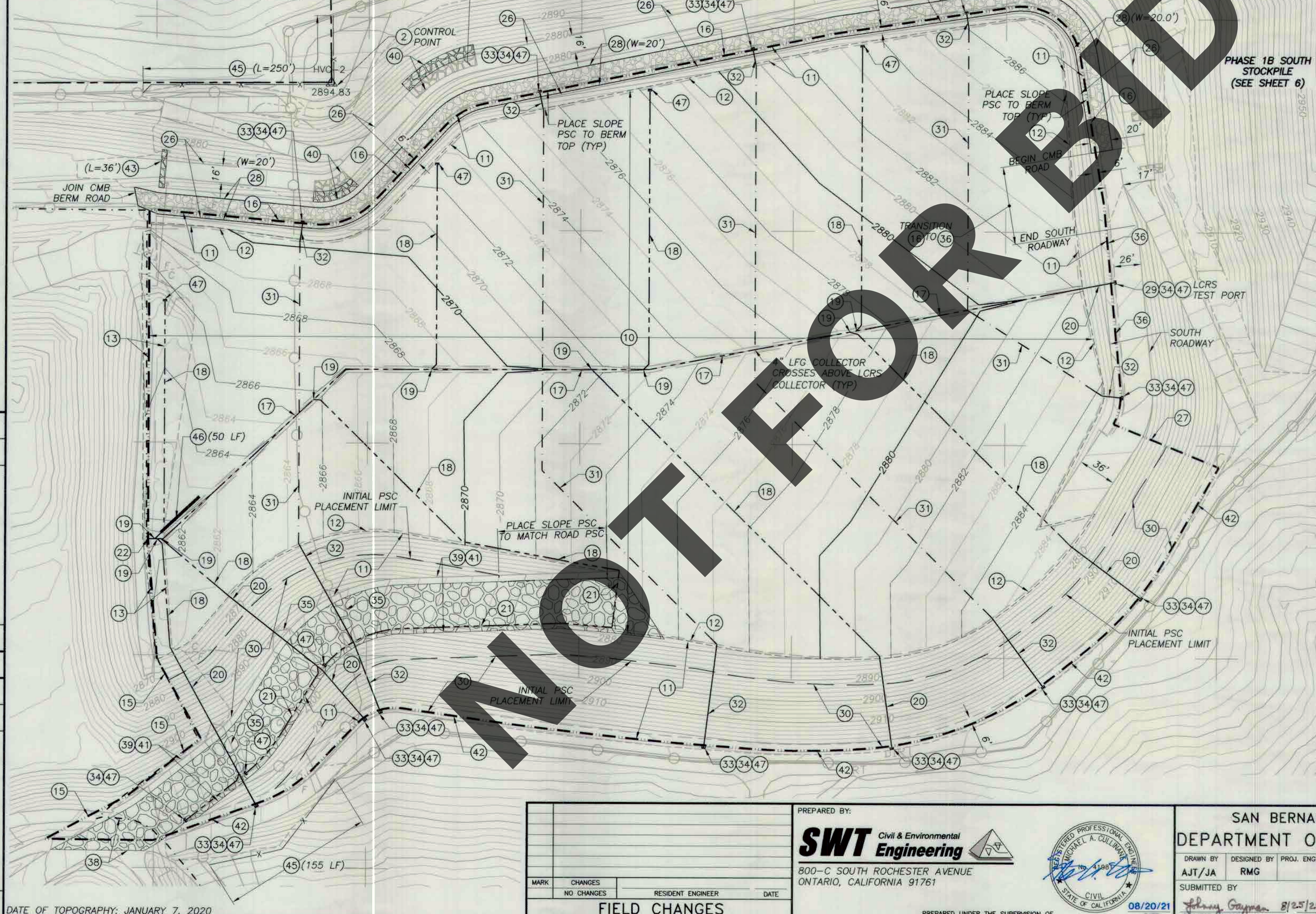
- APPROXIMATE PROPERTY BOUNDARY
- APPROXIMATE LIMIT OF REFUSE
- PROPOSED FENCE
- EXISTING ANCHOR TRENCH
- ANCHOR TRENCH
- LCRS HEADER/LATERAL
- LCRS SLOPE RISER PIPE
- PROTECTIVE SOIL COVER LIMIT
- LFG EVACUATION PIPE
- 6" CMB OVER 12 OZ/SY GEOTEXTILE BERM ROAD
- RIP RAP SLOPE PROTECTION
- 3" MINUS ROCK DRIVING SURFACE

NOTE:
1. SEE SHEET 3 FOR ADDITIONAL LEGEND FEATURES.



CONSTRUCTION NOTES

- CONSTRUCT BASE LINER
- CONSTRUCT SLOPE LINER
- CONSTRUCT SLOPE TO BASE LINER TRANSITION
- CONSTRUCT LINER JOIN AT PHASE 1A SOUTH BENCH
- CONSTRUCT SLOPE LINER JOIN
- CONSTRUCT ANCHOR TRENCH AT BERM
- CONSTRUCT LCRS HEADER
- CONSTRUCT LCRS LATERAL
- CONSTRUCT LCRS PIPE JUNCTION
- CONSTRUCT 6" SOLID HDPE LCRS RISER PIPE
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- CONSTRUCT LINER JOIN AT LCRS BENCH CROSSING
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- CONSTRUCT LFG/LCRS RISER SUPPORT
- INSTALL CLASS I FLEXIBLE POST DELINEATOR (SOIL MOUNT) PER CAL TRANS STD PLAN A-73C; STENCIL PURPOSE OF PIPE RISER ON DELINEATOR
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- CONSTRUCT ACCESS ROAD AND BENCH LINER
- CONSTRUCT ANCHOR TRENCH AT WEST PERIMETER ROAD
- CONSTRUCT RIP RAP DRAINAGE OUTLET
- CONSTRUCT DOWNDRAIN EMBANKMENT PROTECTION AT EXISTING CONTOUR LOW POINTS
- CONSTRUCT TORTOISE FENCE PER
- CONSTRUCT WRAPPED GRAVEL
- CAP END OF PIPE
- CONSTRUCT GRADED EARTHEN SWALE; DRAIN TO LOW POINT AT DOWNDRAIN



DATE OF TOPOGRAPHY: JANUARY 7, 2020

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761



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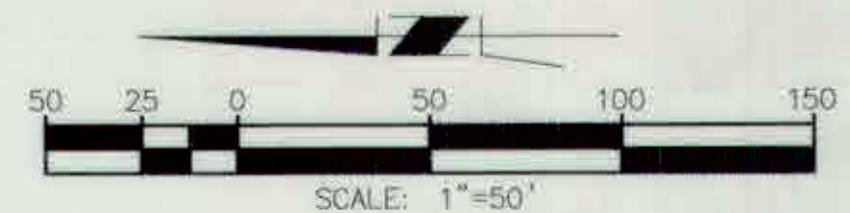
SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED / APPROVED BY DATE
SUBMITTED BY Johnny Gayman	8/25/21	DATE	8/20/21
PROJECT MANAGER	DATE	DEPUTY DIRECTOR	DATE

BARSTOW SANITARY LANDFILL
PHASE 1B LINER
CONSTRUCTION PROJECT
LINER PLAN

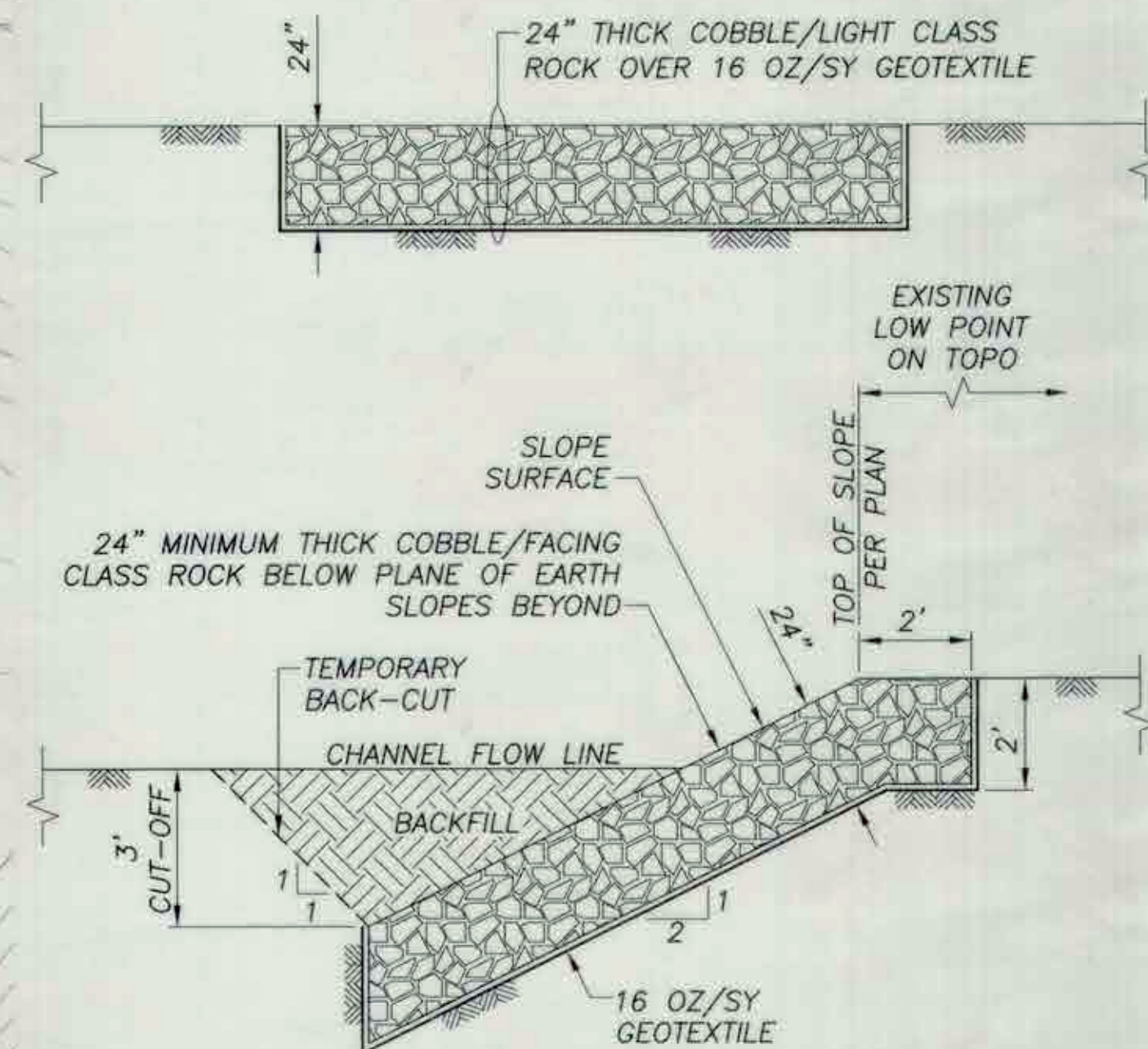
DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	L1	AS SHOWN	5	15

Z:\PROJECTS\SAN BERNARDINO SWMP\BARSTOW\PHASE 1B LINER\ACAD\SET\05 - LINER PLAN



CONSTRUCTION NOTES

- (2) PROTECT IN PLACE
- (4) PLACE UNCLASSIFIED FILL PER PLAN
- (44) CONSTRUCT DOWNDRAIN EMBANKMENT PROTECTION AT EXISTING CONTOUR LOW POINTS
- (48) CONSTRUCT GRADED EARTHEN SWALE; DRAIN TO LOW POINT AT DOWN DRAIN

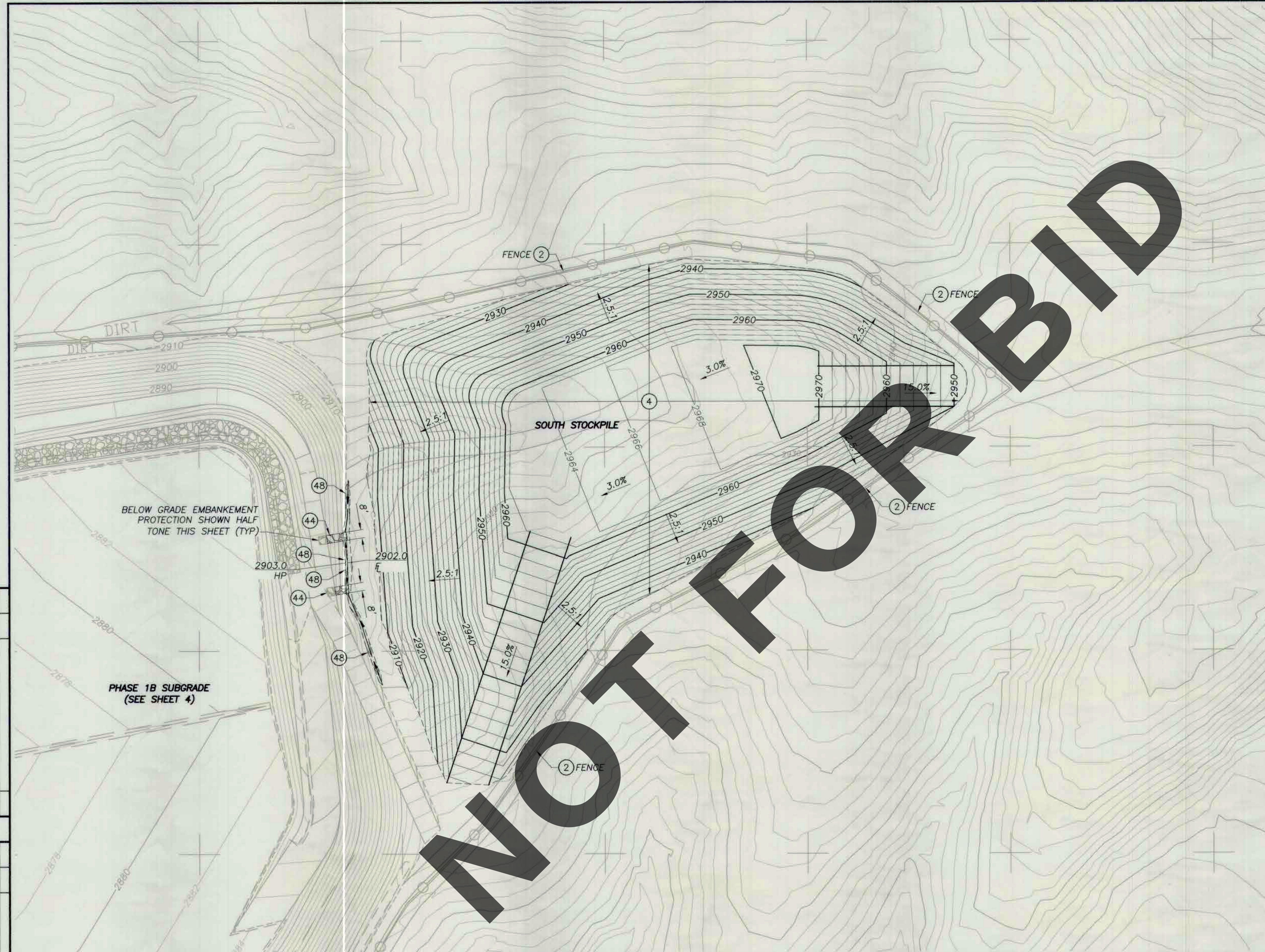


NOTE:
1. BELOW GRADE EMBANKMENT PROTECTION IS SHOWN HALF TONE THIS SHEET.

DOWNDRAIN EMBANKMENT PROTECTION
NTS

STOCKPILE VOLUME

FILL: 160,000 CY



MARK	REVISIONS	DATE

MARK	REVISIONS	DATE

DATE OF TOPOGRAPHY: JANUARY 7, 2020

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:
SWT Civil & Environmental Engineering
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761



PREPARED UNDER THE SUPERVISION OF

08/20/21
DATE

SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED / APPROVED BY
SUBMITTED BY Sherry Gayman		DATE 8/25/21	DATE 8/20/21
PROJECT MANAGER		DEPUTY DIRECTOR	CHIEF ENGINEER

BARSTOW SANITARY LANDFILL PHASE 1B LINER CONSTRUCTION PROJECT SOUTH STOCKPILE PLAN				
DATE	DWG NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	SP1	AS SHOWN	6	15

Z:\PROJECTS\SAN BERNARDINO\SWM\BARSTOW\PHASE 1B LINER\ACAD\SHEET SET\06 - SOUTH STOCKPILE PLAN



PHASE 1B
LINER CONSTRUCTION AREA

SOUTH STOCKPILE

EROSION CONTROL NOTES

- 1 INSTALL GRAVEL BAG CHEVRON (1 D5)
- 2 INSTALL FIBER ROLLS (2 D5, 3 D5)

LEGEND

- GRAVEL-BAG CHEVRON
- FIBER ROLL

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

FIELD CHANGES

PREPARED BY:
SWT Civil & Environmental Engineering
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761



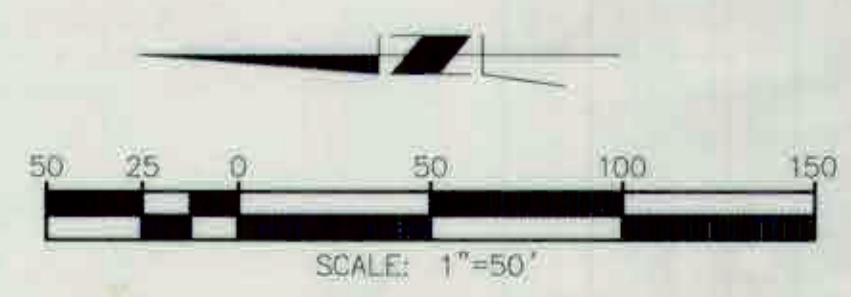
SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS			
DRAWN BY AJT/JA	DESIGNED BY RMG	PROJ. ENGR.	RECOMMENDED / APPROVED BY
SUBMITTED BY Johnny Gayman 8/25/21		DATE 8/25/21	DATE 8/25/21
PROJECT MANAGER		DEPUTY DIRECTOR	DATE 8/25/21

BARSTOW SANITARY LANDFILL			
PHASE 1B LINER CONSTRUCTION PROJECT			
EROSION CONTROL PLAN SOUTH			
DATE 08-21	DWG NO. EC1	SCALE AS SHOWN	SHT. NO. 8 TOT. SHT'S. 15

Z:\PROJECTS\SAN BERNARDINO\SWM\BARSTOW\PHASE 1B LINER\ACAD\SET\08 - SOUTH STOCKPILE EROSION CONTROL PLAN

MARK	REVISIONS	DATE

MARK	REVISIONS	DATE



EROSION CONTROL NOTES

- 1 INSTALL GRAVEL BAG CHEVRON (1 D5)
- 2 INSTALL FIBER ROLLS (2 D5, 3 D5)

LEGEND

- GRAVEL-BAG CHEVRON
- FR FIBER ROLL

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:

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ONTARIO, CALIFORNIA 91761

REGISTERED PROFESSIONAL ENGINEER
MICHAEL A. CULLINAN
CIVIL
STATE OF CALIFORNIA
08/20/21

PREPARED UNDER THE SUPERVISION OF

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: AJT/JA
DESIGNED BY: RMG
PROJ. ENGR.
SUBMITTED BY: Johnny Gayman
PROJECT MANAGER

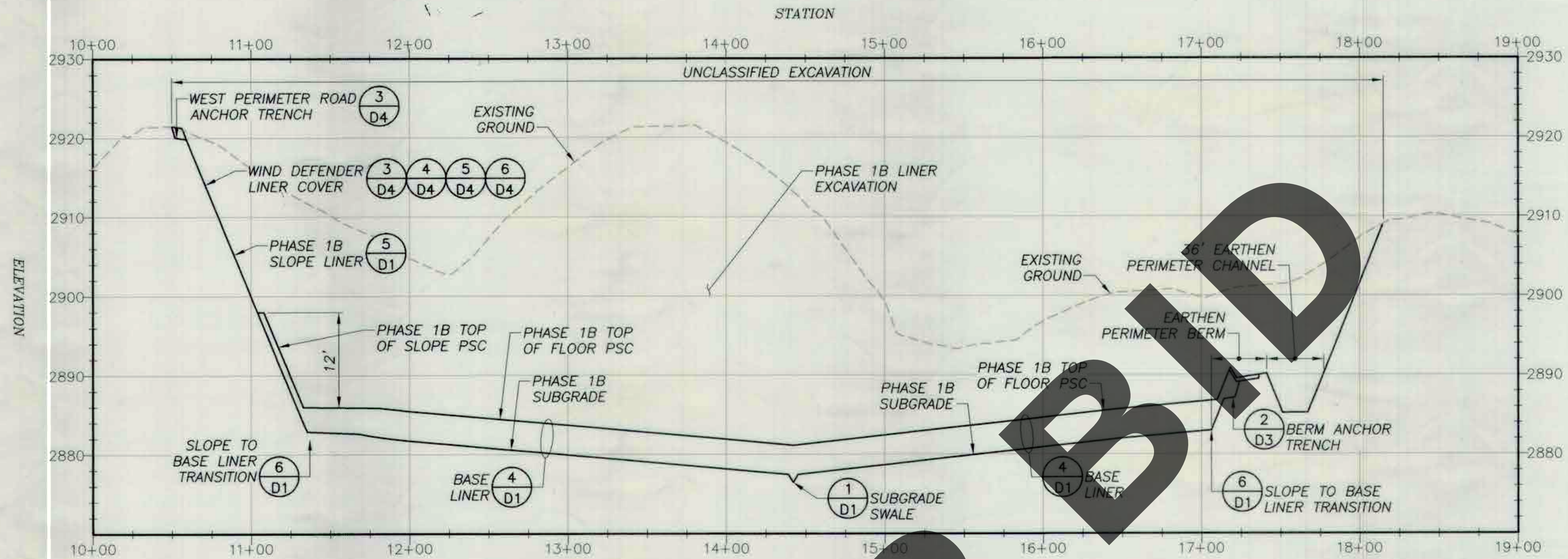
RECOMMENDED BY: [Signature]
CHIEF ENGINEER
APPROVED BY: [Signature]
DEPUTY DIRECTOR

DATE: 8/25/21
DATE: 8/25/21

BARSTOW SANITARY LANDFILL				
PHASE 1B LINER CONSTRUCTION PROJECT				
EROSION CONTROL PLAN NORTH				
DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	EC2	AS SHOWN	9	15

DATE OF TOPOGRAPHY: JUNE 22, 2021

Z:\PROJECTS\SAN_BERNARDINO\SWM\BARSTOW\PHASE 1B LINER\ACAD\SET\09 - NORTH STOCKPILE EROSION CONTROL PLAN



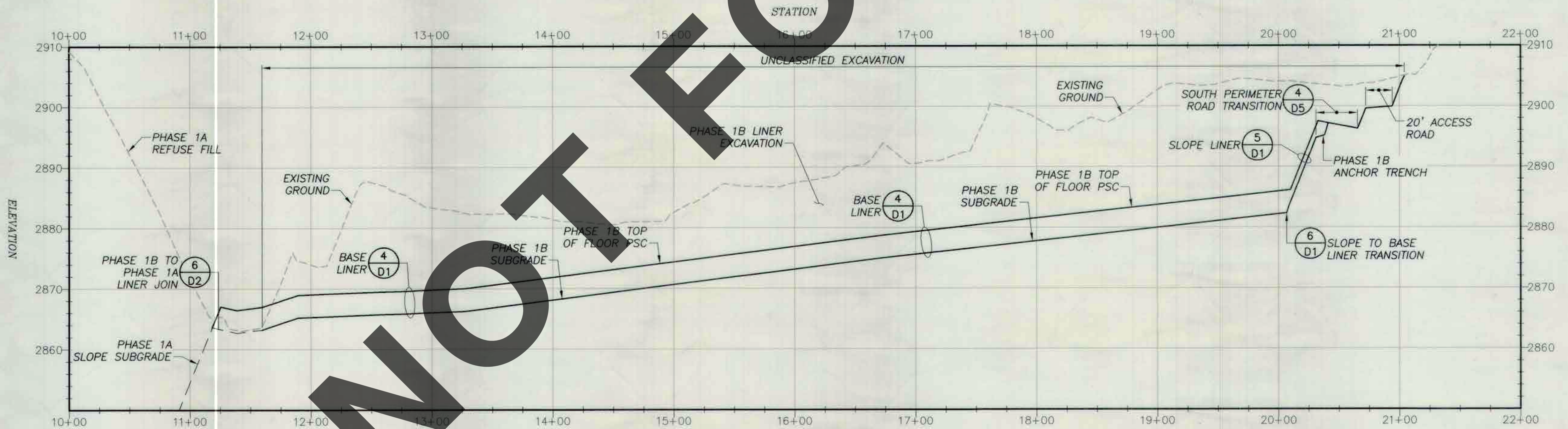
NOTE:
1. SEE SHEET 2 FOR CROSS SECTIONS LOCATIONS.

SECTION A

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

A

10



NOTE:
1. SEE SHEET 2 FOR CROSS SECTIONS LOCATIONS.

SECTION B

HORIZONTAL SCALE: 1"=50'
VERTICAL SCALE: 1"=10'

B

10

DATE OF TOPOGRAPHY: JANUARY 7, 2020

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:

SWT Civil & Environmental Engineering

800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

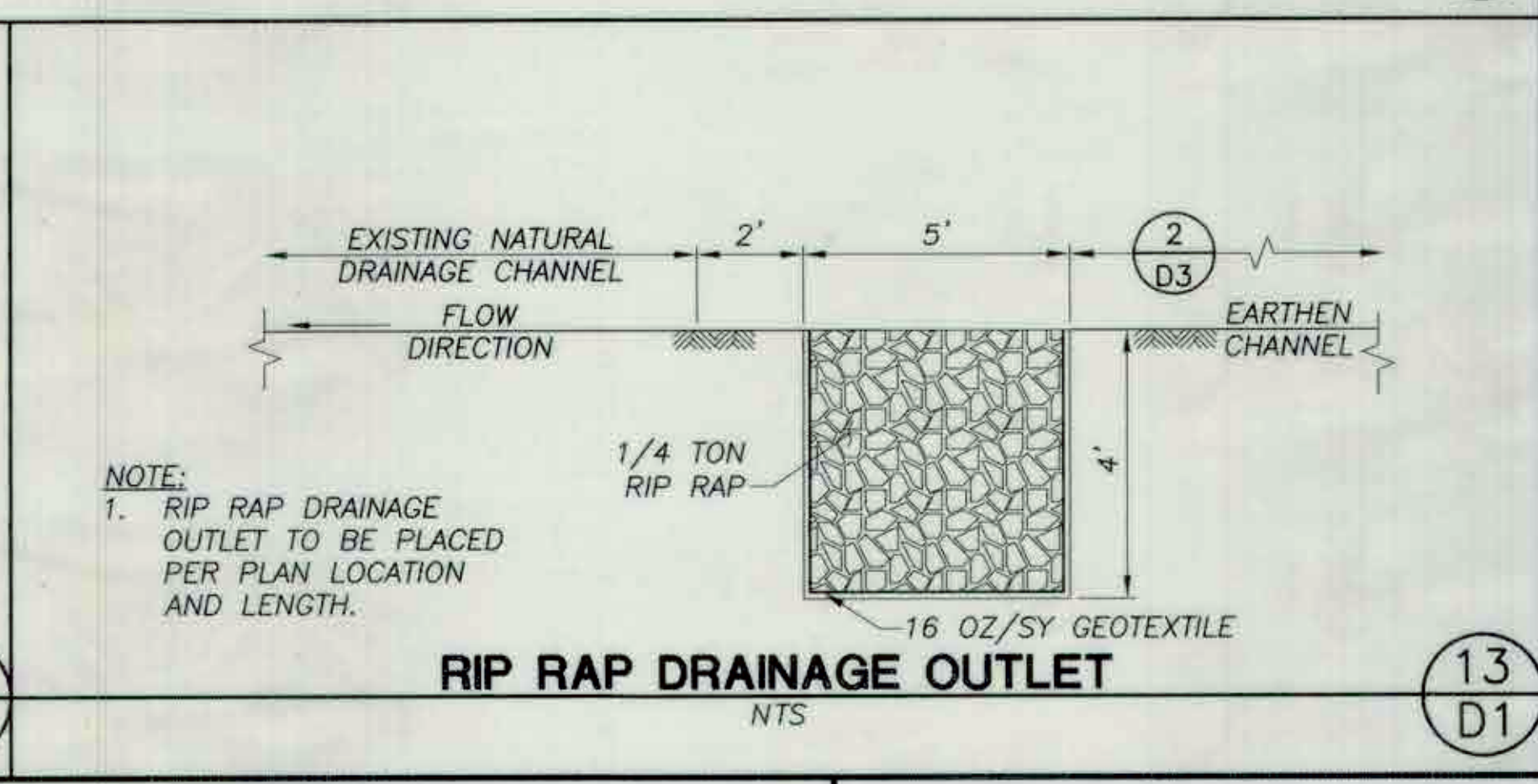
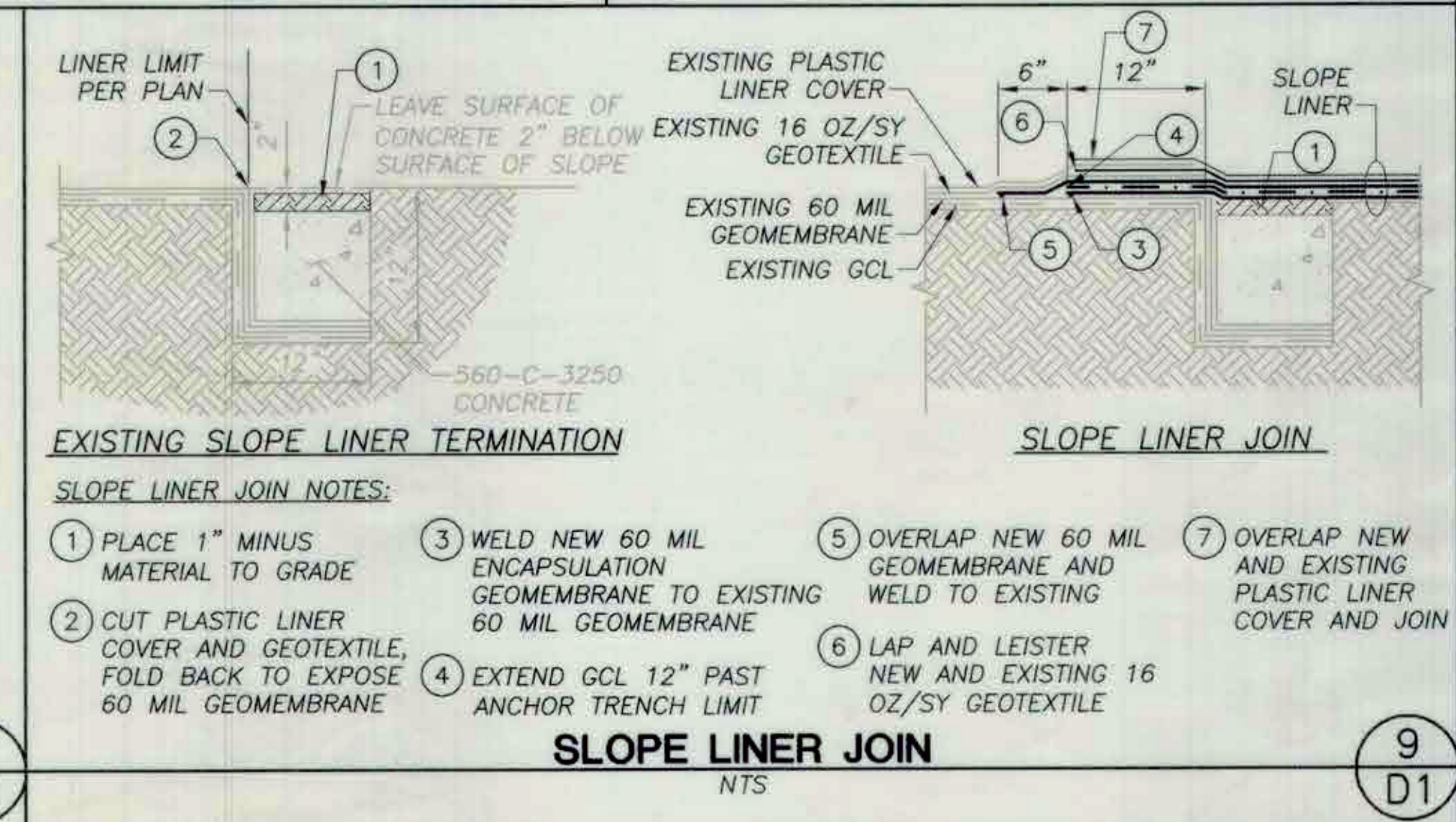
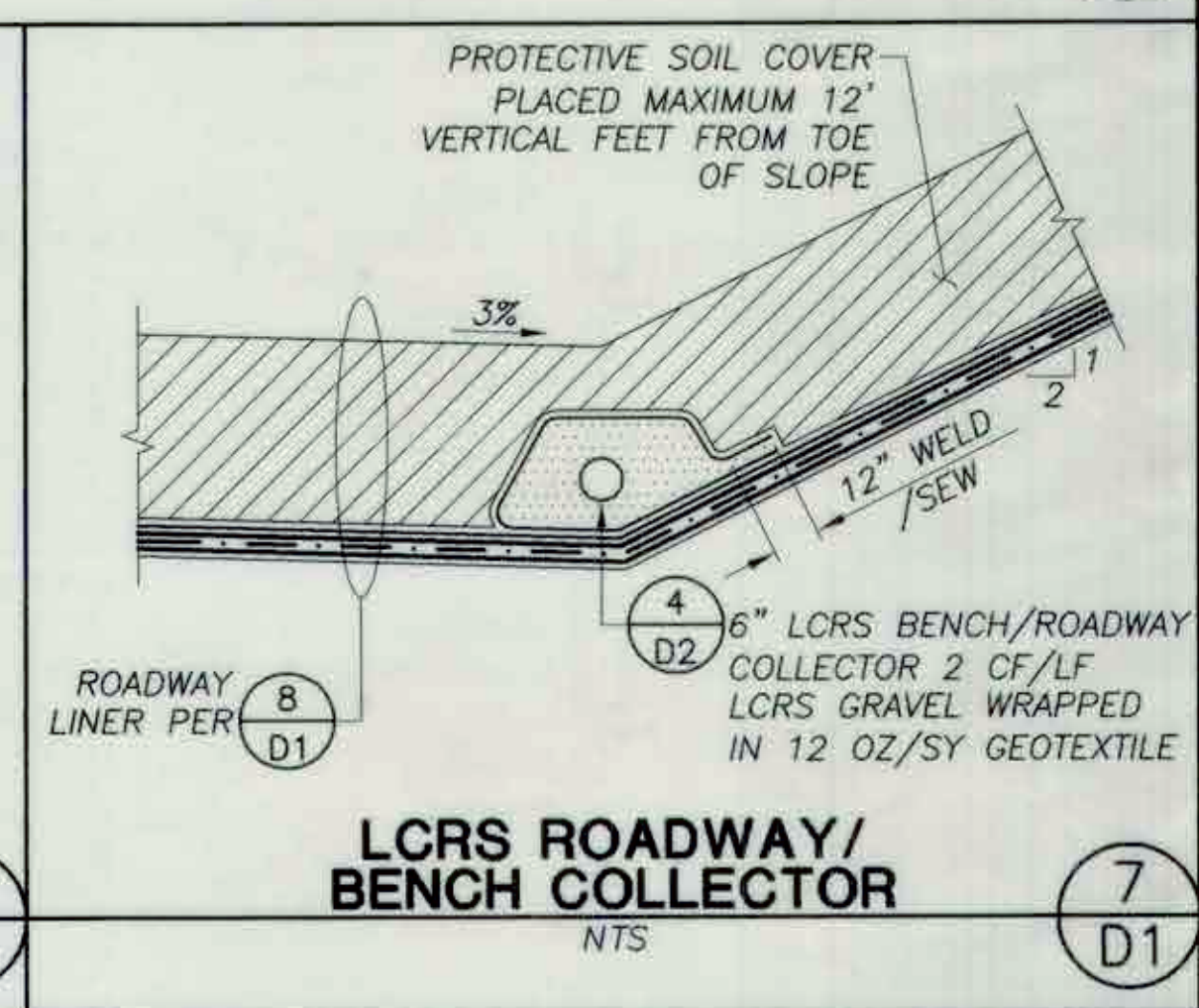
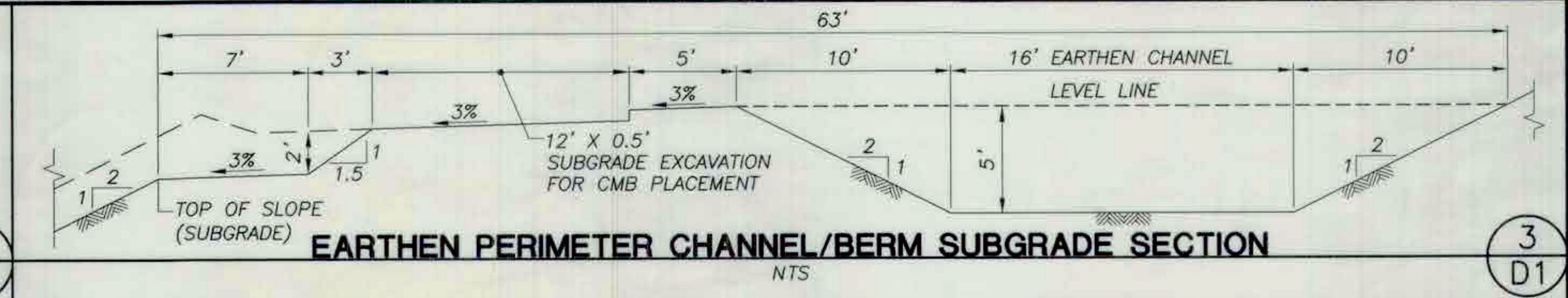


PREPARED UNDER THE SUPERVISION OF

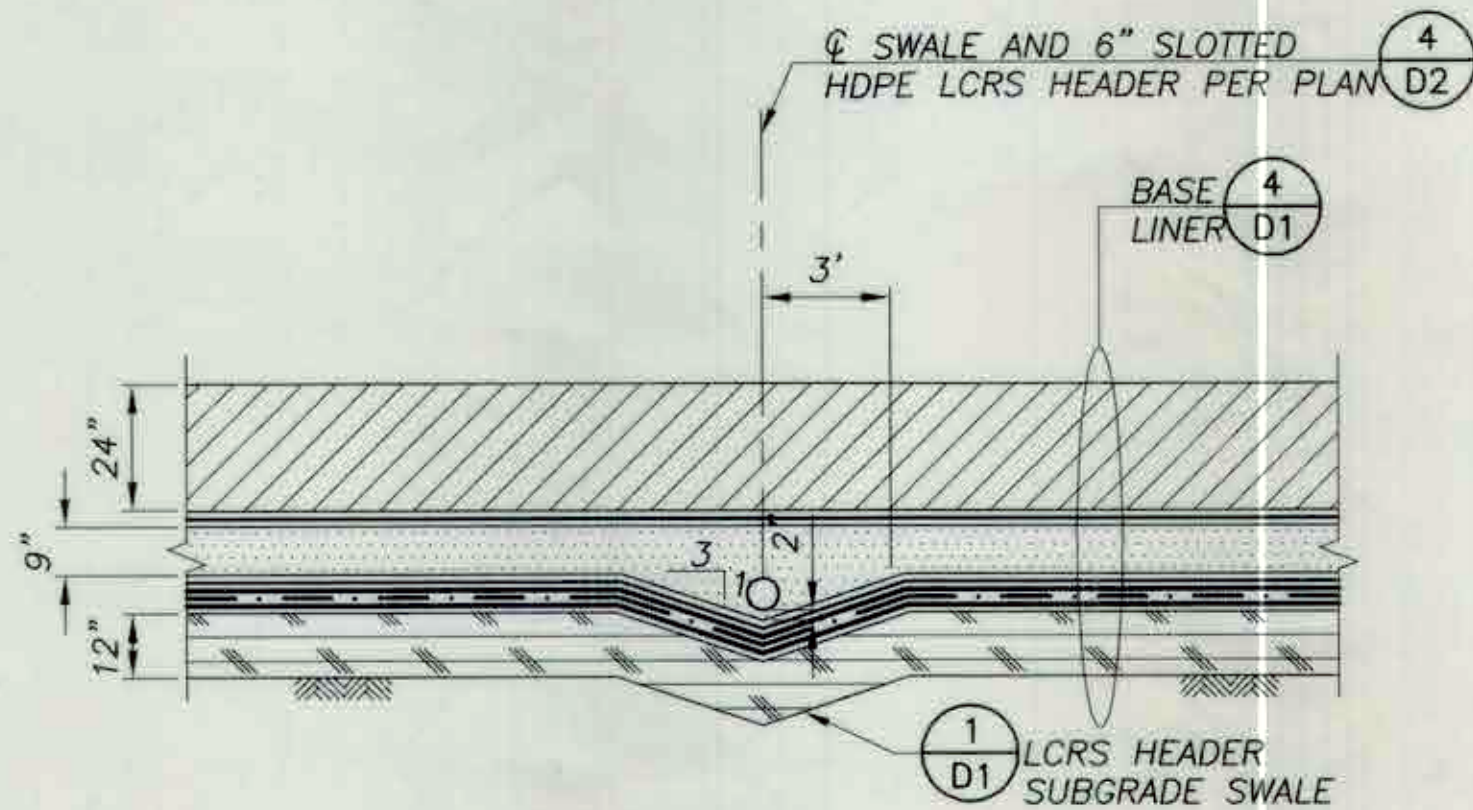
SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: AJT/JA
DESIGNED BY: RMG
PROJ. ENGR.
RECOMMENDED / APPROVED BY: [Signature]
CHIEF ENGINEER
SUBMITTED BY: [Signature]
PROJECT MANAGER
DATE: 8/20/21

BARSTOW SANITARY LANDFILL PHASE 1B LINER CONSTRUCTION PROJECT CROSS SECTIONS				
DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	CS1	AS SHOWN	10	15

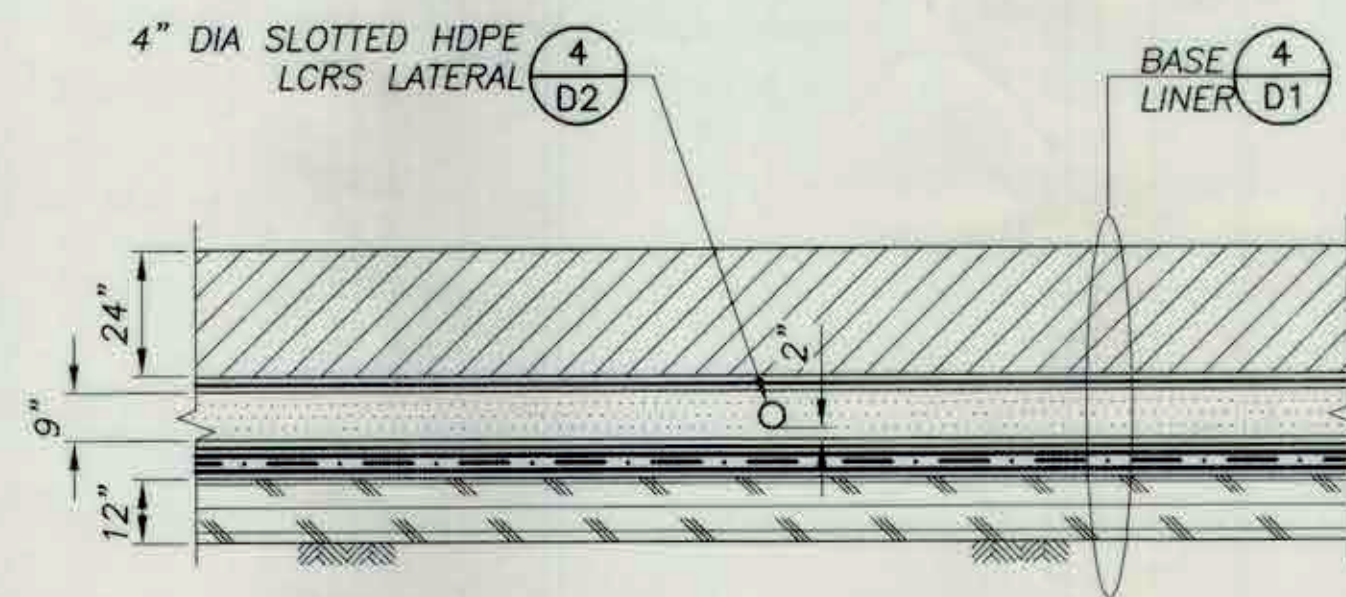


BARSTOW SANITARY LANDFILL				
PHASE 1B LINER CONSTRUCTION PROJECT				
DETAIL SHEET D1				
DATE	DWG. NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	D1	AS SHOWN	11	15



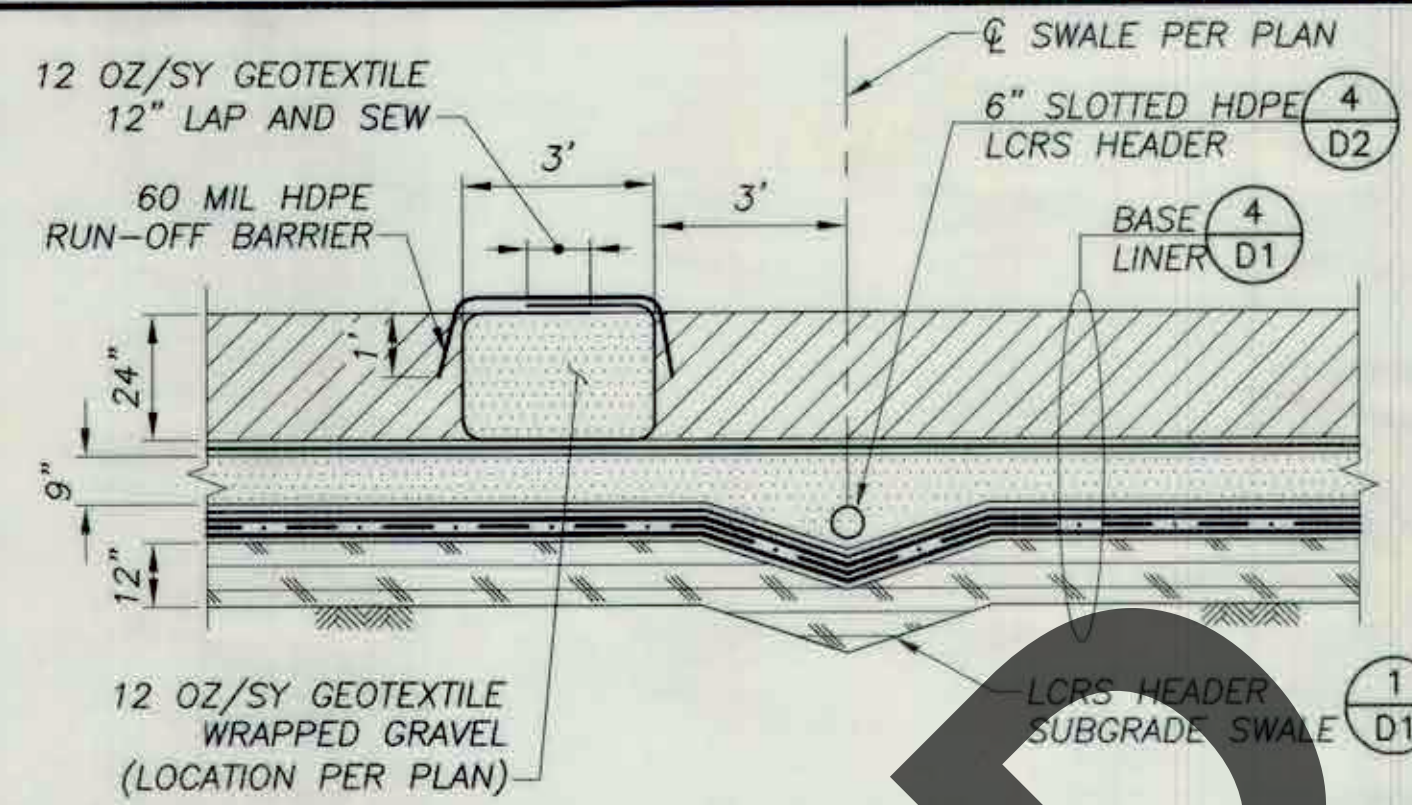
LCRS HEADER
NTS

1
D2



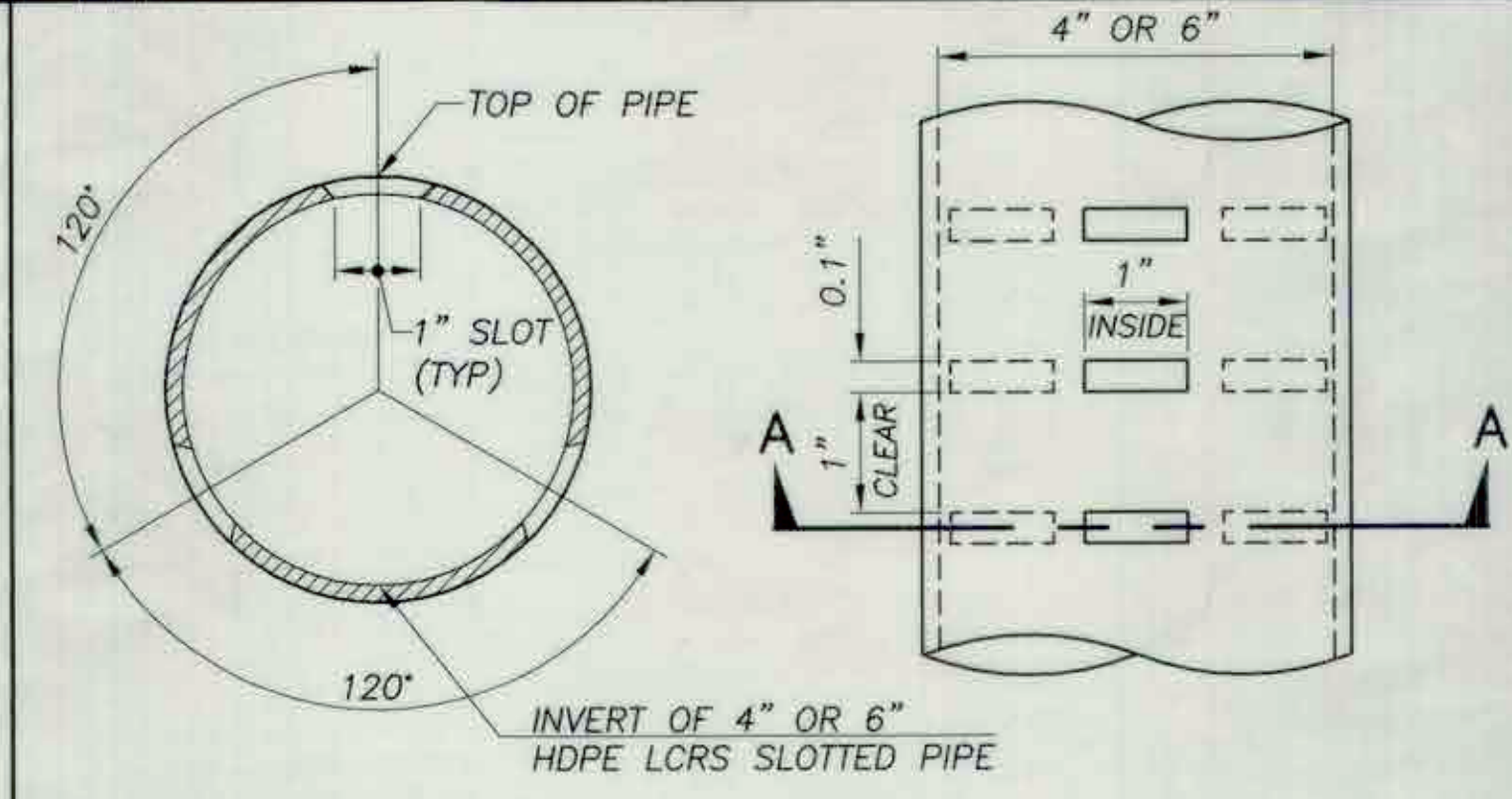
LCRS LATERAL
NTS

2
D2



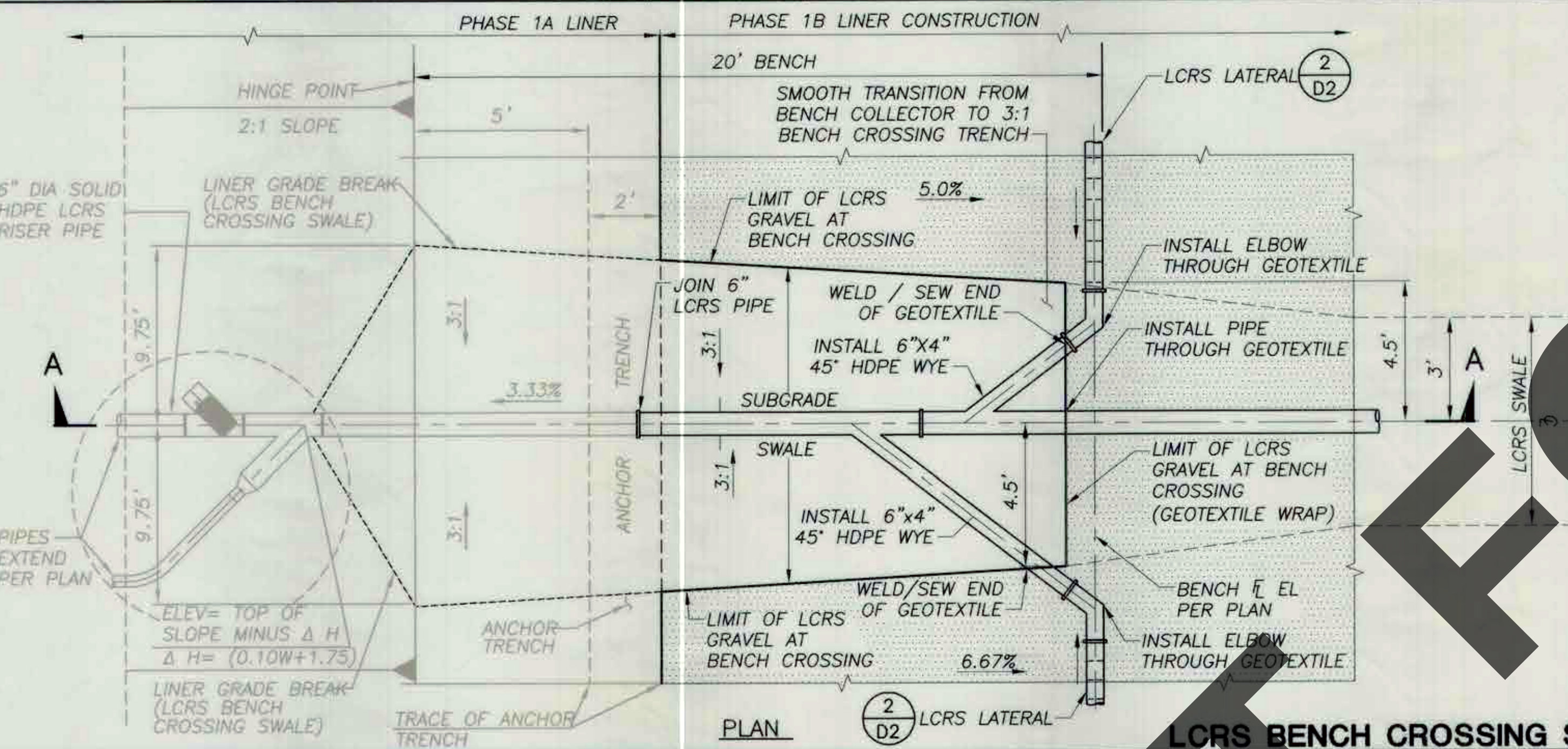
WRAPPED GRAVEL
NTS

3
D2



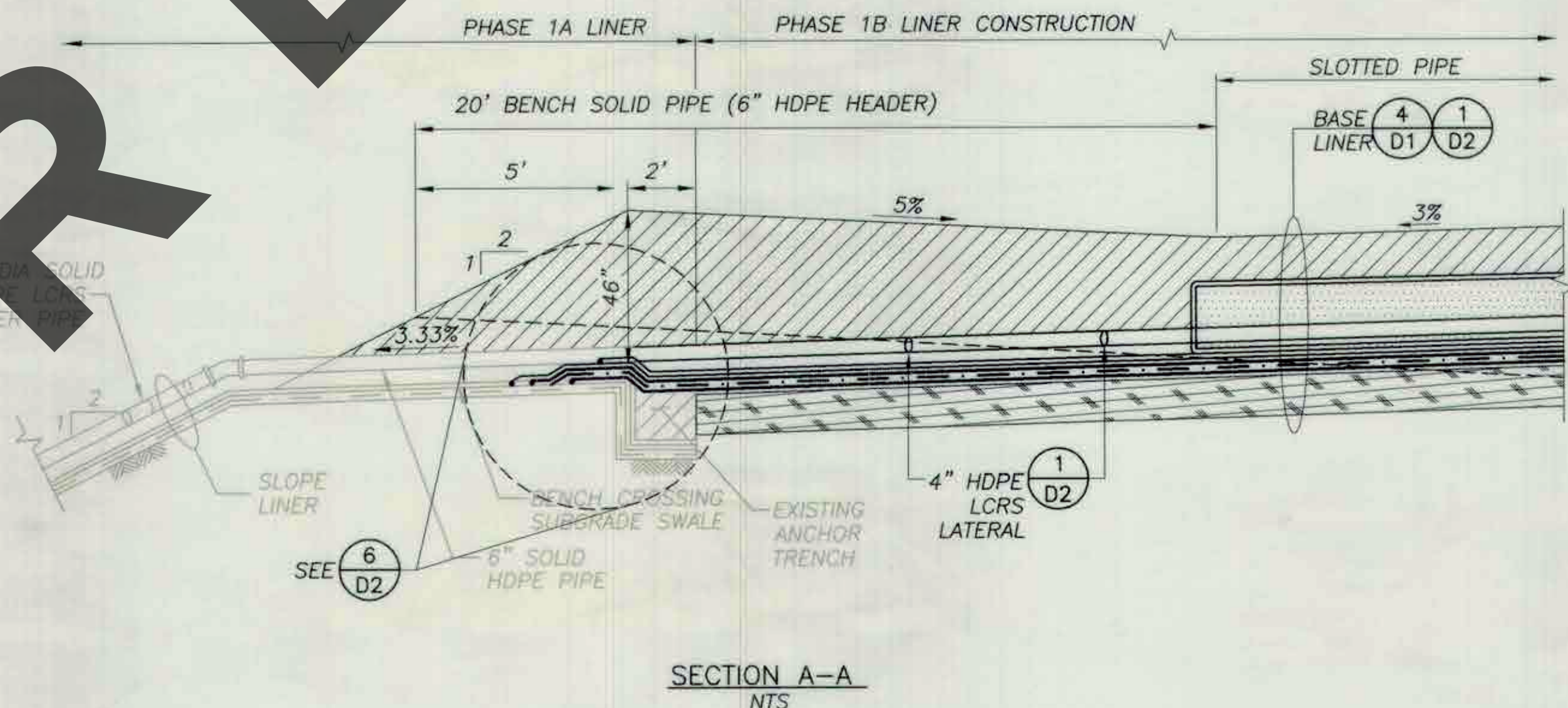
SLOTTED HDPE LCRS HEADER/
LATERAL/ACCESS ROAD COLLECTOR PIPE
NTS

4
D2



LCRS BENCH CROSSING SUBGRADE SWALE AND LINER JOIN
NTS

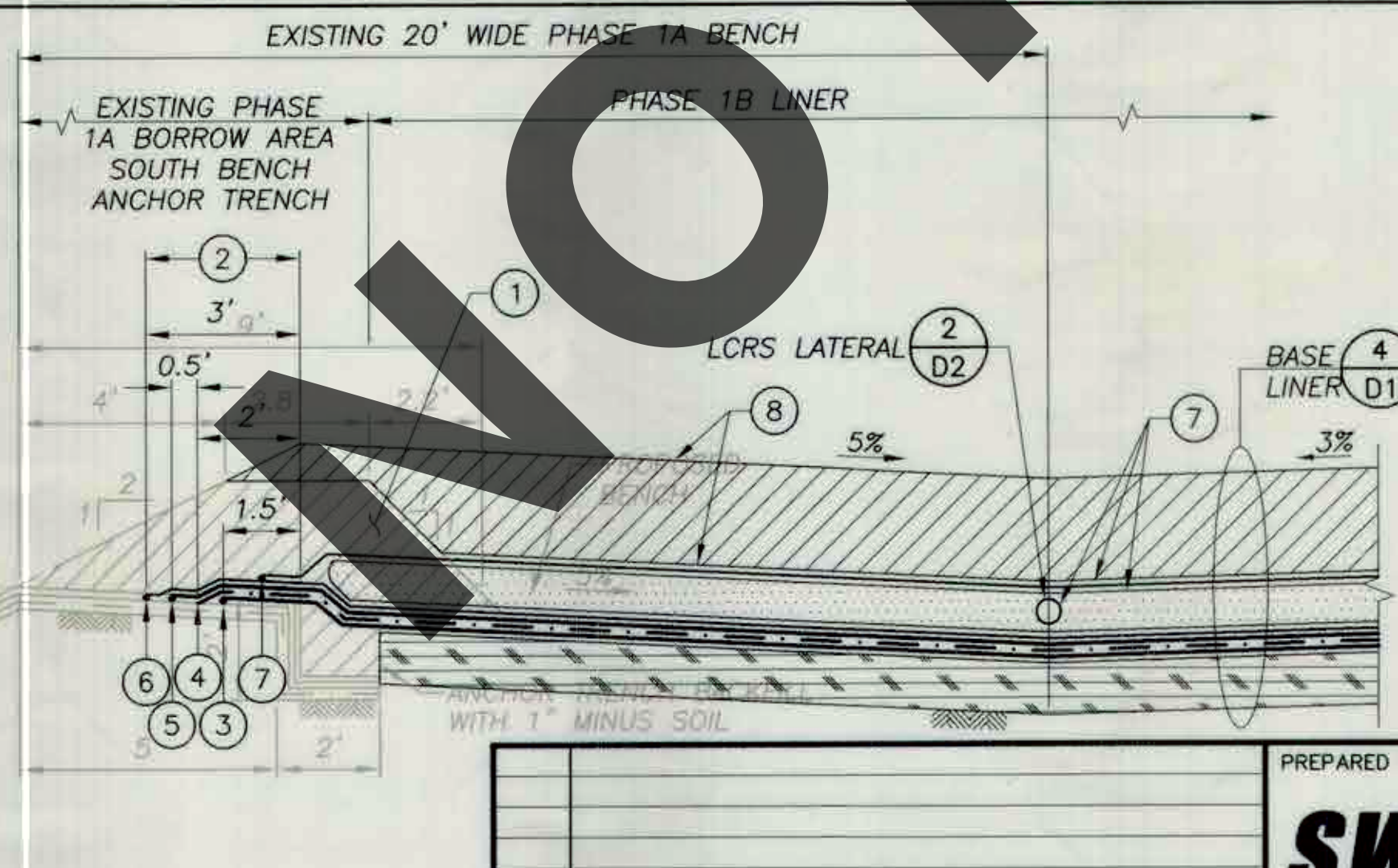
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D2



SECTION A-A
NTS

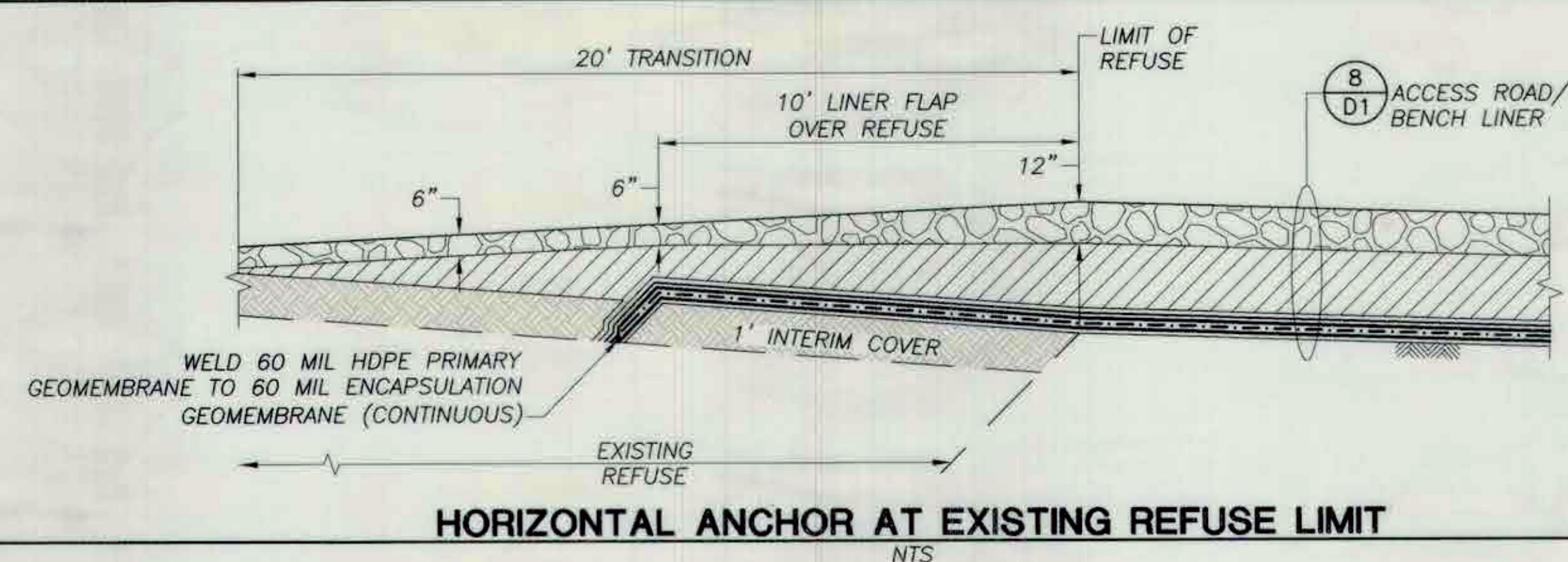
6
D2

- NOTES:
- 1 REMOVE EXISTING PSC BERM AT SOUTH BENCH ANCHOR TRENCH
 - 2 FOLD BACK EXISTING 16 OZ/SY GEOTEXTILE 3-FOOT MINIMUM
 - 3 PLACE ENCAPSULATION GEOMEMBRANE AND WELD 1.5' OVERLAP
 - 4 PLACE AND OVERLAP GCL BY 2.0'
 - 5 PLACE PHASE 1B PRIMARY GEOMEMBRANE - OVERLAP 2.5' AND WELD
 - 6 PLACE 12 OZ/SY GEOTEXTILE - OVERLAP 3.0' LAP 16 OZ/SY GEOTEXTILE AND LEISTER
 - 7 PLACE 9" LCRS GRAVEL, LCRS LATERAL AND 8 OZ/SY SEPARATOR GEOTEXTILE; LAP ONTO 12 OZ/SY GEOTEXTILE AND LEISTER
 - 8 PLACE 24" PSC



LINER JOIN AT PHASE 1A SOUTH BENCH
NTS

6
D2



HORIZONTAL ANCHOR AT EXISTING REFUSE LIMIT
NTS

7
D2

MARK	CHANGES	RESIDENT ENGINEER	DATE
NO CHANGES			

FIELD CHANGES

PREPARED BY:

SWT Civil & Environmental Engineering
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761



PREPARED UNDER THE SUPERVISION OF

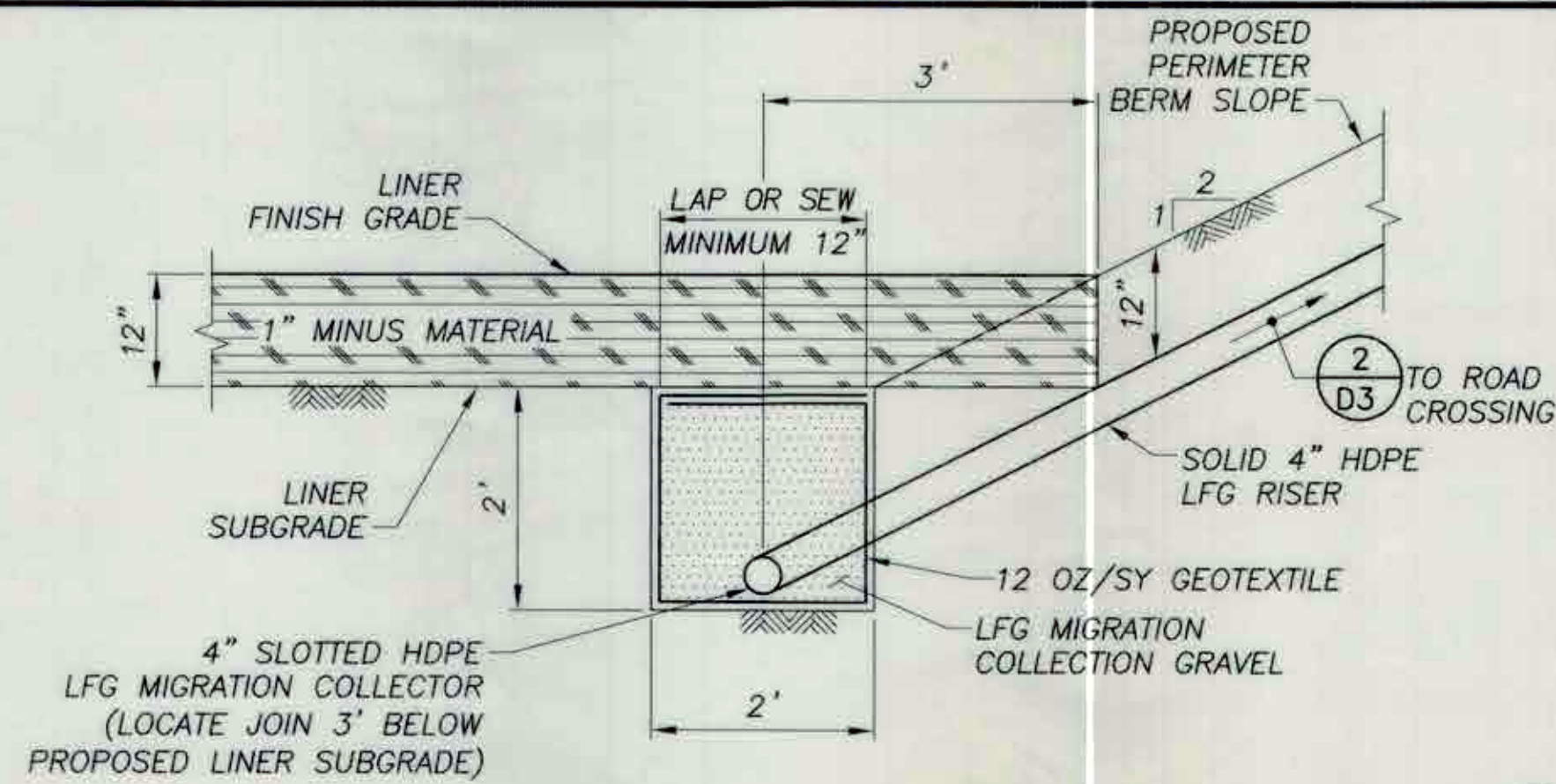
08/20/21

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: AJT/JA
DESIGNED BY: RMG
PROJ. ENGR.:
RECOMMENDED / APPROVED BY: *Manoj K. Reddy*
CHIEF ENGINEER
SUBMITTED BY: *Johnny Gorman*
PROJECT MANAGER
DATE: 8/25/21

BARSTOW SANITARY LANDFILL
PHASE 1B LINER
CONSTRUCTION PROJECT
DETAIL SHEET D2

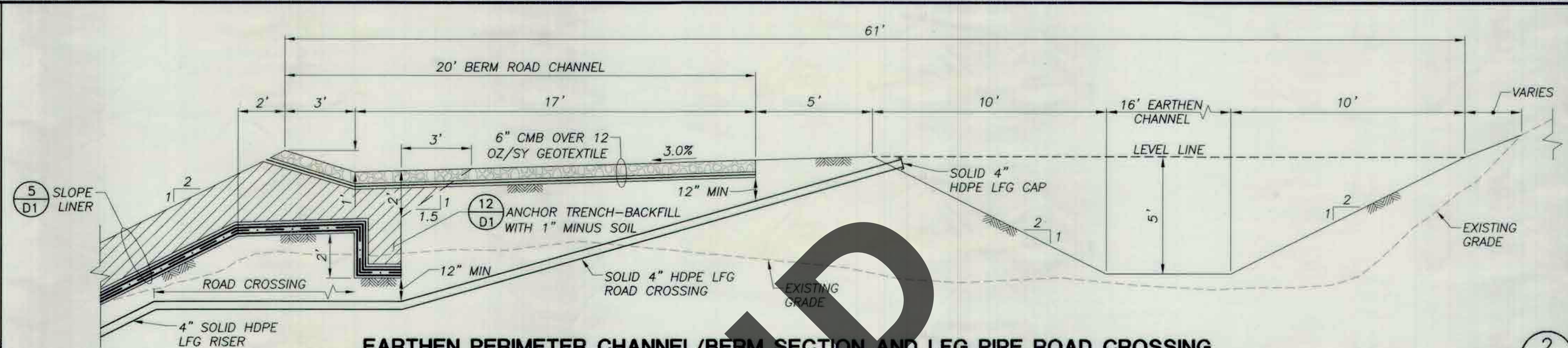
DATE: 08-21
DWG. NO.: D2
SCALE: AS SHOWN
SHT. NO.: 12
TOT. SHT'S.: 15



SUBGRADE LFG MIGRATION COLLECTOR

NTS

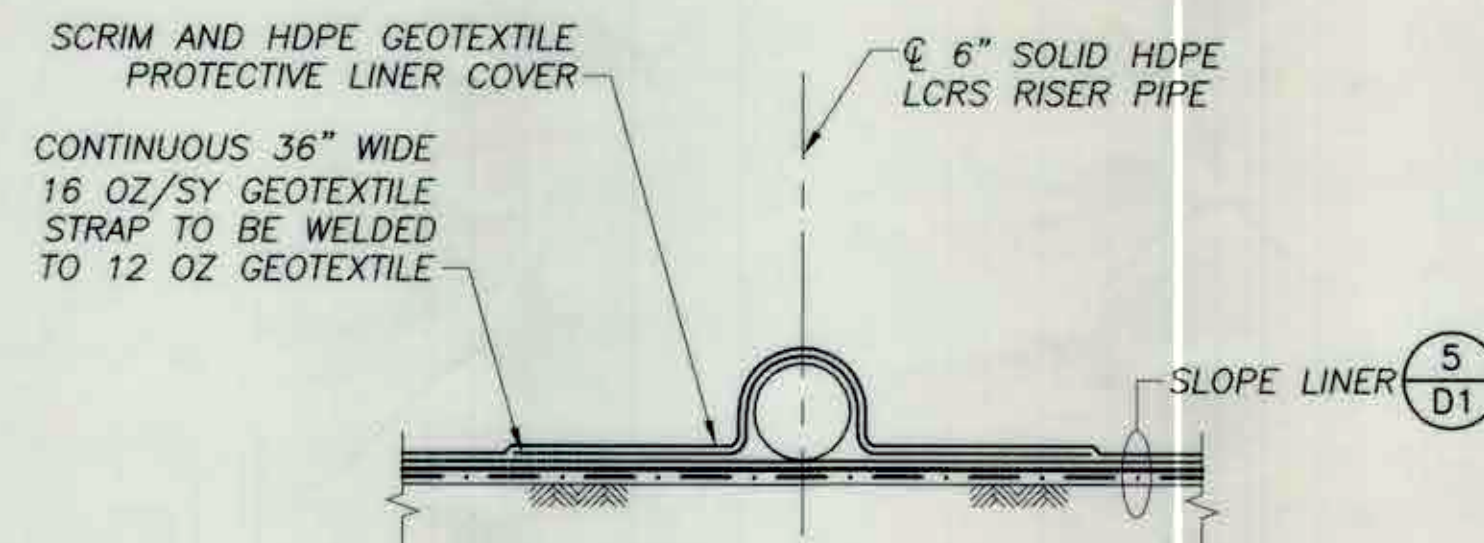
1
D3



EARTHEN PERIMETER CHANNEL/BERM SECTION AND LFG PIPE ROAD CROSSING

NTS

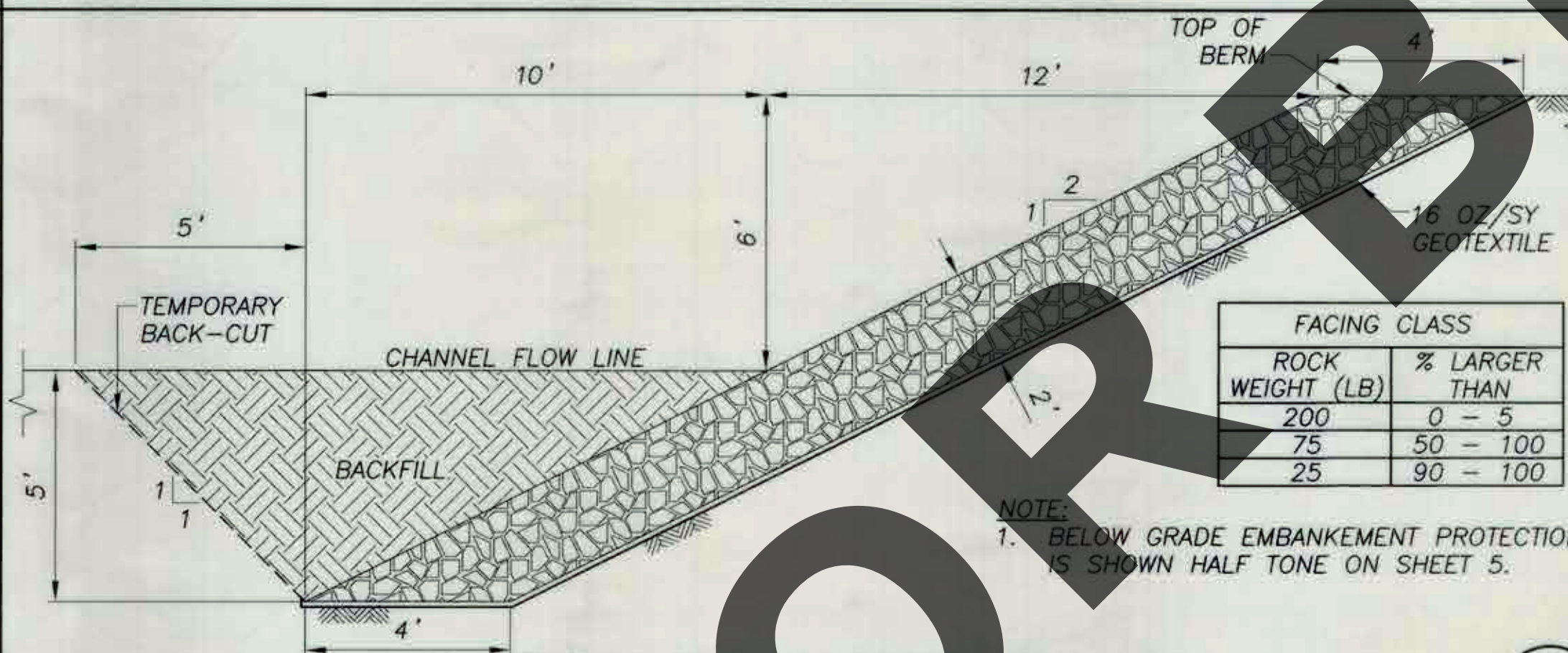
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D3



6" SOLID HDPE LCRS RISER PIPE

NTS

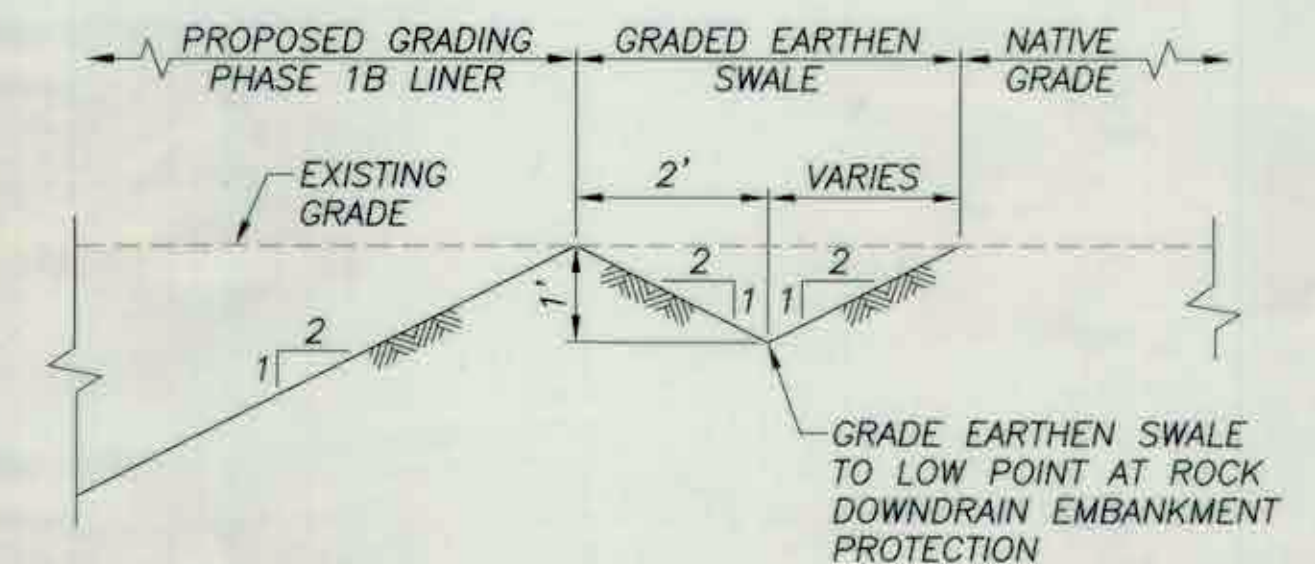
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D3



EMBANKMENT PROTECTION

NTS

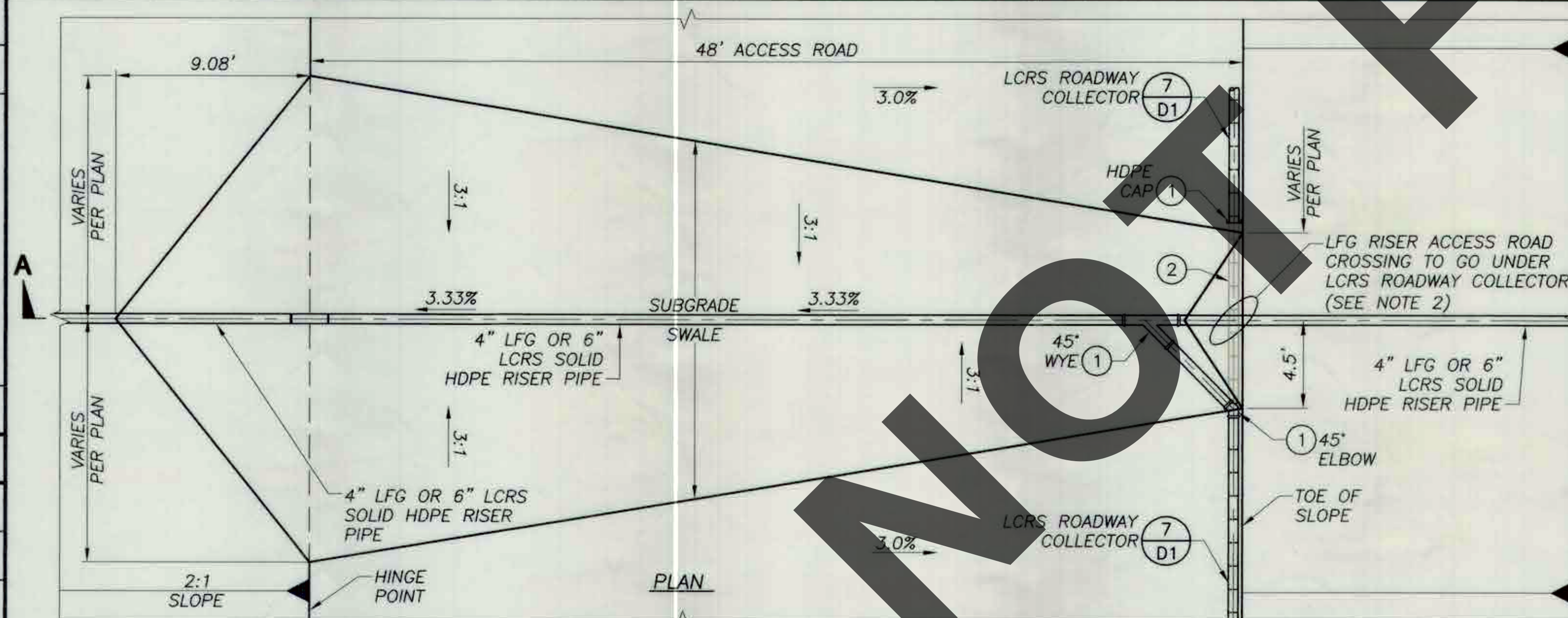
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D3



GRADED EARTHEN SWALE

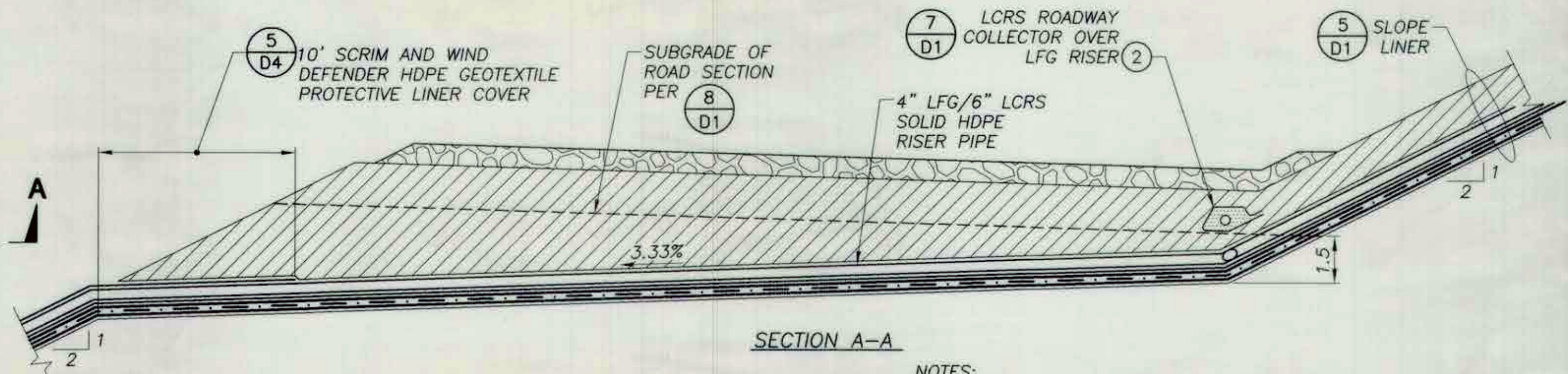
NTS

5
D3



LFG/LCRS RISER ACCESS ROAD CROSSING

NTS



NOTES:

- FOR LCRS RISER ACCESS ROAD CROSSING, OMIT 10.0 LF OF LCRS ROAD COLLECTOR; CAP LOWER REACH OF LCRS ROAD COLLECTOR WHERE SHOWN; USE A 45° WYE AND A 45° ELBOW TO CONNECT UPPER REACH OF LCRS ROAD COLLECTOR TO LCRS RISER
- FOR LFG CROSSING, DIRECT LCRS ROADWAY COLLECTOR AWAY FROM TOE OF SLOPE TO ALLOW LFG RISER TO PASS UNDER LCRS ROADWAY COLLECTOR; CONTINUE ROADWAY COLLECTOR DOWNSTREAM

6
D3

DATE OF TOPOGRAPHY: JANUARY 7, 2020

MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		
FIELD CHANGES			

PREPARED BY:

SWT Civil & Environmental Engineering
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761



PREPARED UNDER THE SUPERVISION OF

08/20/21

SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: AJT/JA
DESIGNED BY: RMG
PROJ. ENGR.
RECOMMENDED / APPROVED BY: *Manuel Rodriguez*
SUBMITTED BY: *Johannes Gayman*
PROJECT MANAGER

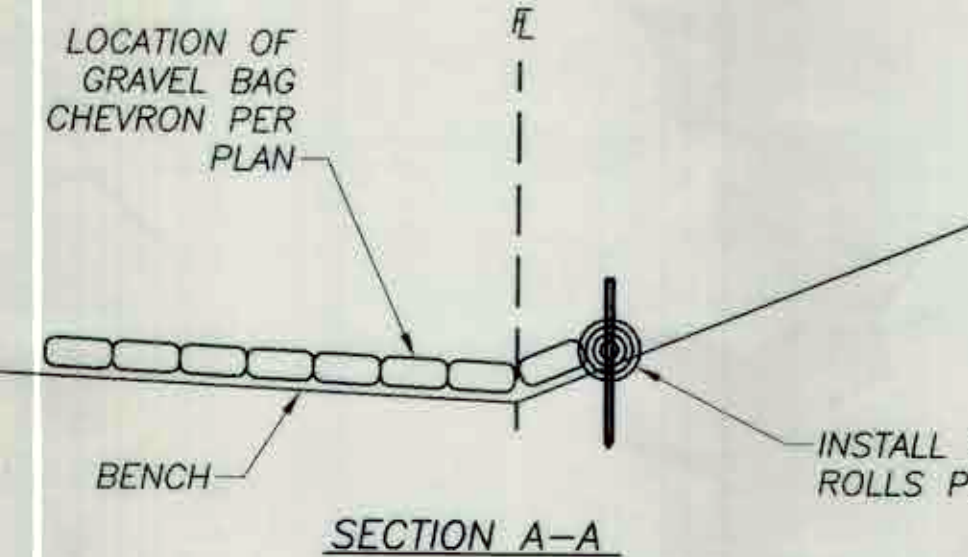
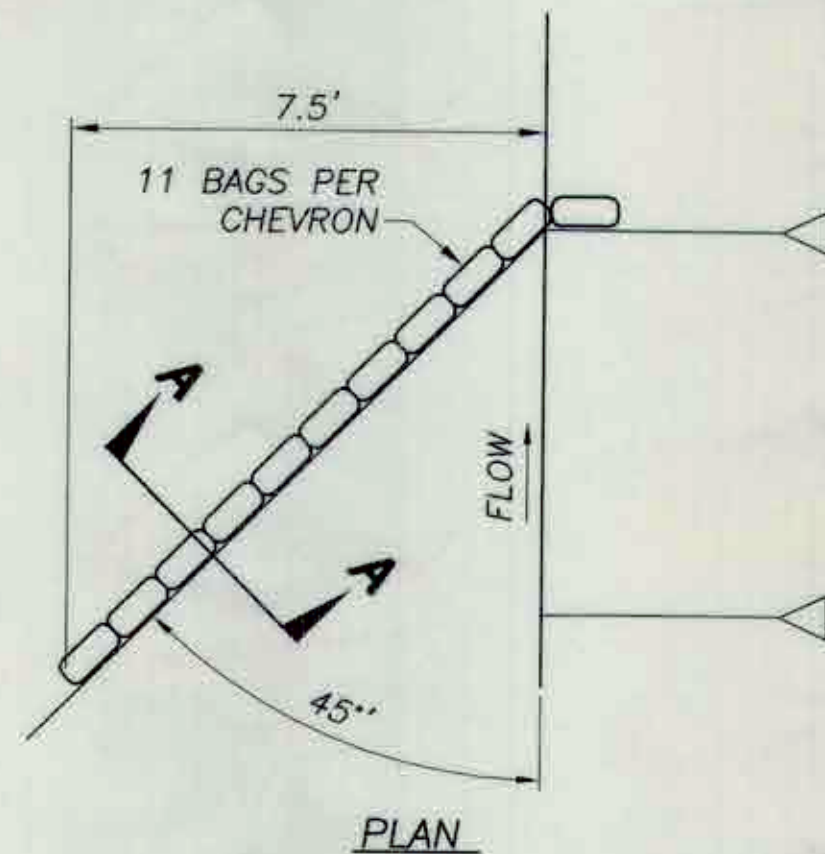
DATE: 8/20/21
DATE: 8/20/21
DATE: 8/20/21

CHIEF ENGINEER
DEPUTY DIRECTOR

BARSTOW SANITARY LANDFILL
PHASE 1B LINER
CONSTRUCTION PROJECT
DETAIL SHEET D3

DATE	DWG NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	D3	AS SHOWN	13	15

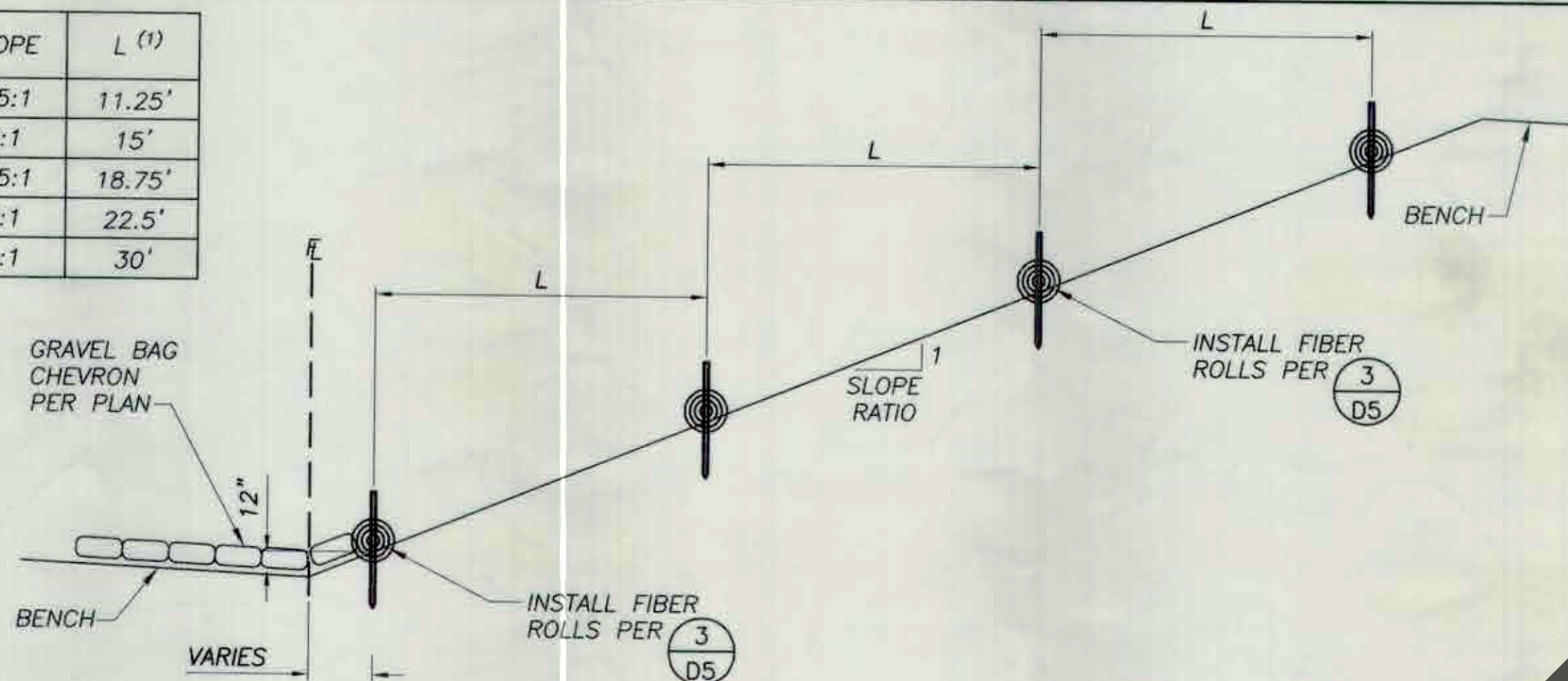
Z:\PROJECTS\SAN_BERNARDINO_SWMD\BARSTOW\PHASE 1B LINER\ACAD\SHEET SET\15 - DETAIL SHEET D3



GRADIENT	UNPAVED SURFACE	PAVED SURFACE
1%-2.9%	200	250
3%-4.9%	150	200
5%-6.9%	100	150
7%-8.9%	50	100
9%+	25	50

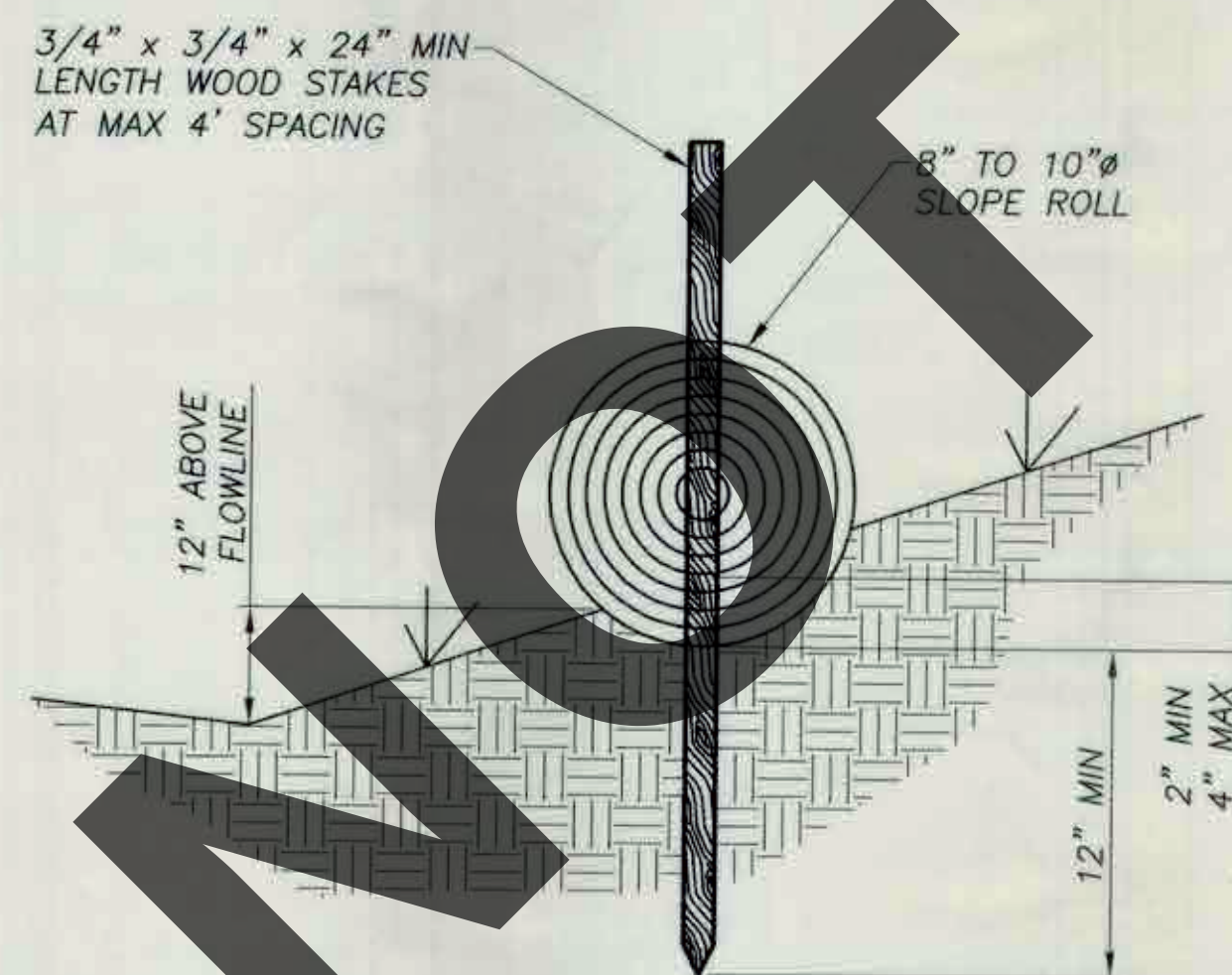
GRAVEL BAG CHEVRON
NTS

SLOPE	L (')
1.5:1	11.25'
2:1	15'
2.5:1	18.75'
3:1	22.5'
4:1	30'

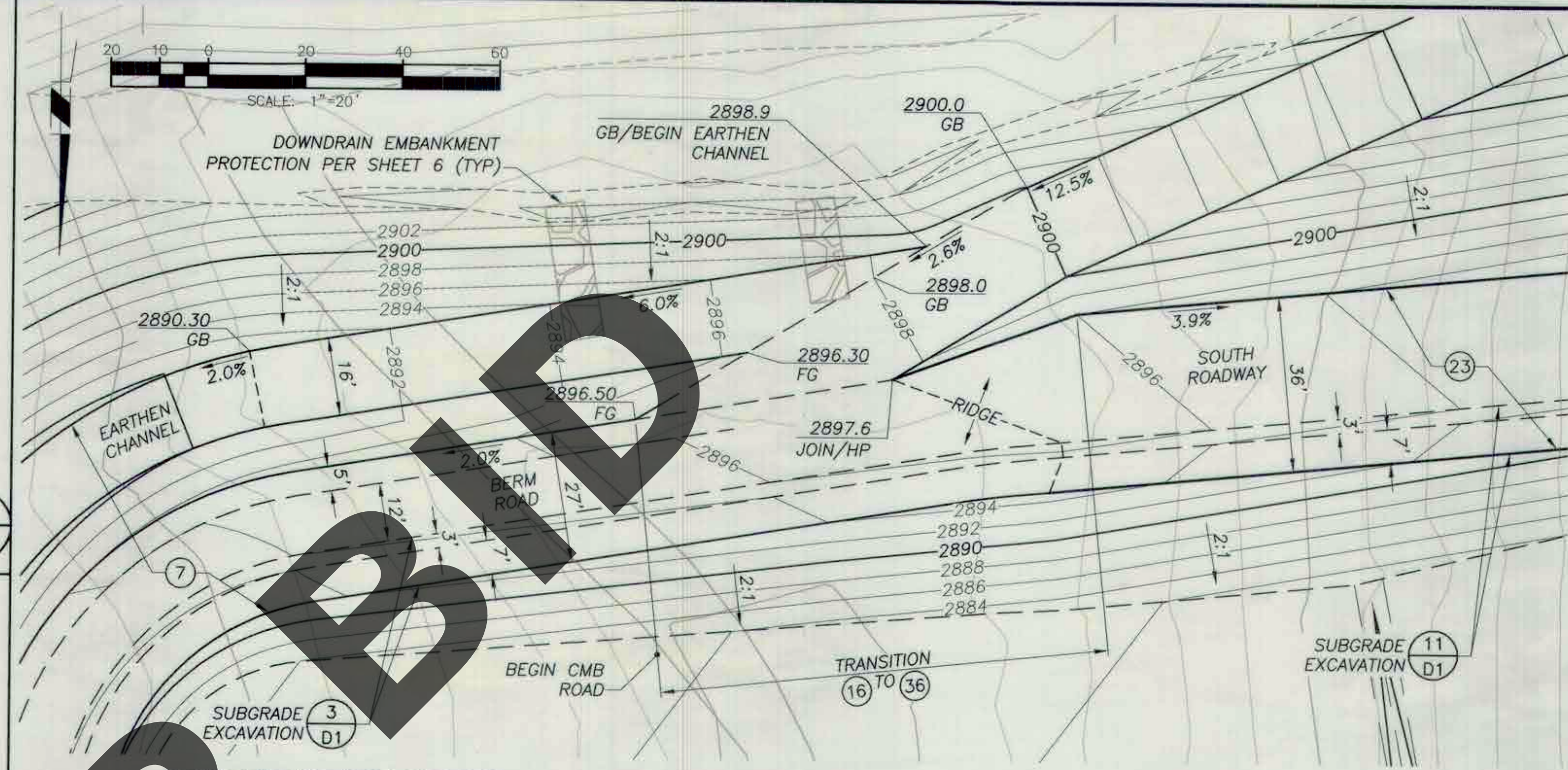


FIBER ROLL SPACING
NTS

- NOTES:**
1. FIBER ROLL INSTALLATION AT BENCH SHALL BE A MINIMUM OF 12" ABOVE BENCH FLOWLINE ON CONTOUR.
 2. A 3" DEEP TRENCH, THE WIDTH OF THE ROLL, DUG PER PLAN LOCATION SHALL "NEST" THE STRAW ROLL SO AS NOT TO ALLOW RUNOFF TO FLOW UNDER OR AROUND ROLL.
 3. FIBER ROLLS SHALL BE PLACED ON SLOPES AT 7.5-FOOT VERTICAL INTERVALS STARTING FROM THE TOE OF RESPECTIVE SLOPE.
 4. INSTALL FIBER ROLLS ALONG A LEVEL CONTOUR.
 5. INSTALL FIBER ROLLS UP GRADIENT AND NEAR TRANSITION OF SLOPES.
 6. INSTALL NUMEROUS ROLLS IN A ROW BY OVERLAPPING, NOT ABUTTING.
 7. TURN ENDS OF ROLLS UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
 8. SEDIMENT IS TO BE REMOVED WHEN ACCUMULATION REACHES ONE HALF THE DISTANCE BETWEEN THE TOP OF THE ROLL AND ADJACENT GROUND SURFACE.



FIBER ROLLS
NTS



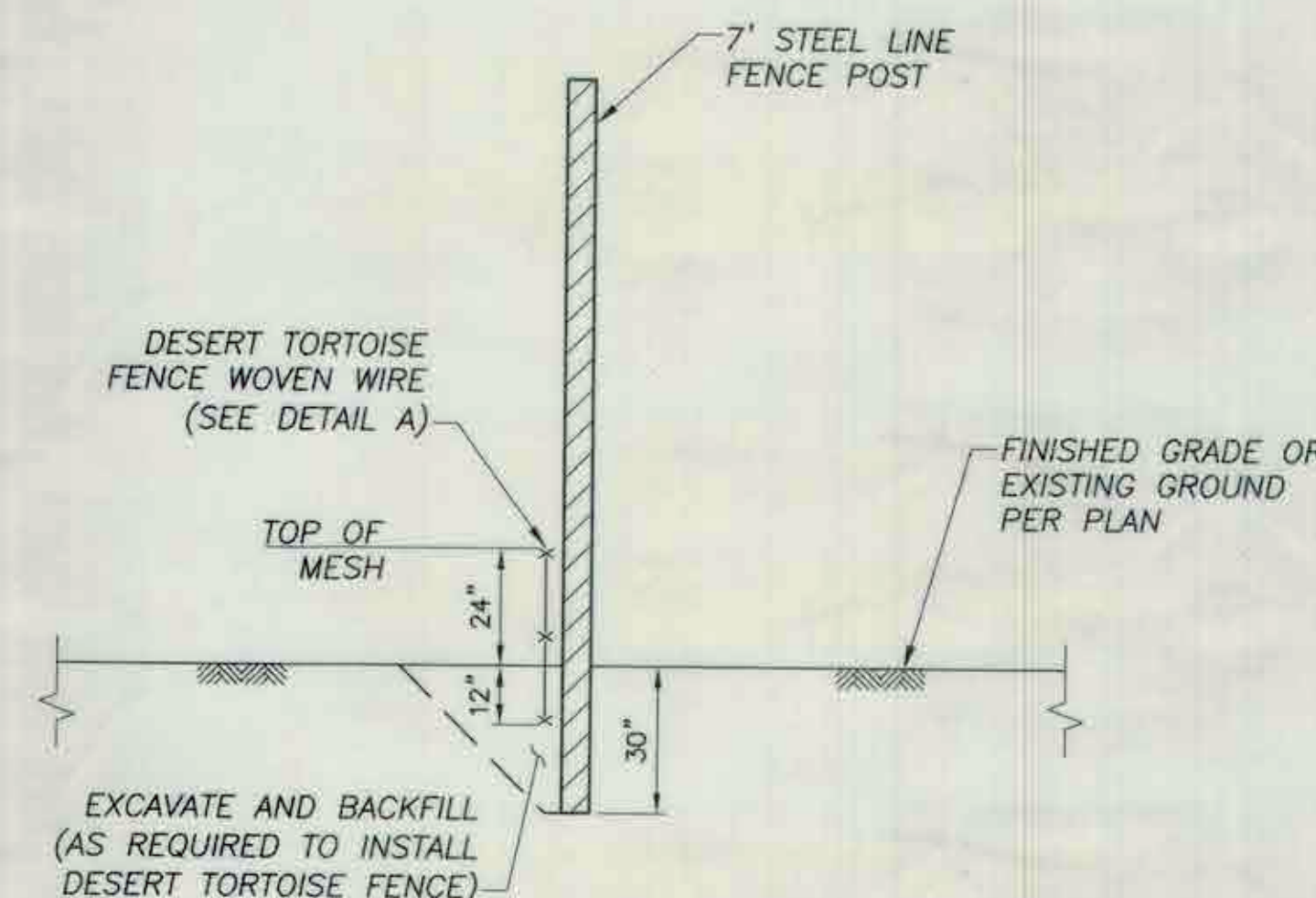
CONSTRUCTION NOTES

7. CONSTRUCT EARTHEN PERIMETER CHANNEL/BERM SUBGRADE SECTION (3 D1)
16. CONSTRUCT ANCHOR TRENCH AT BERM (12 D1)
23. CONSTRUCT SOUTH ROADWAY SUBGRADE SECTION (2 D4)
36. CONSTRUCT ANCHOR TRENCH AT SOUTH ROADWAY (11 D1)

LEGEND

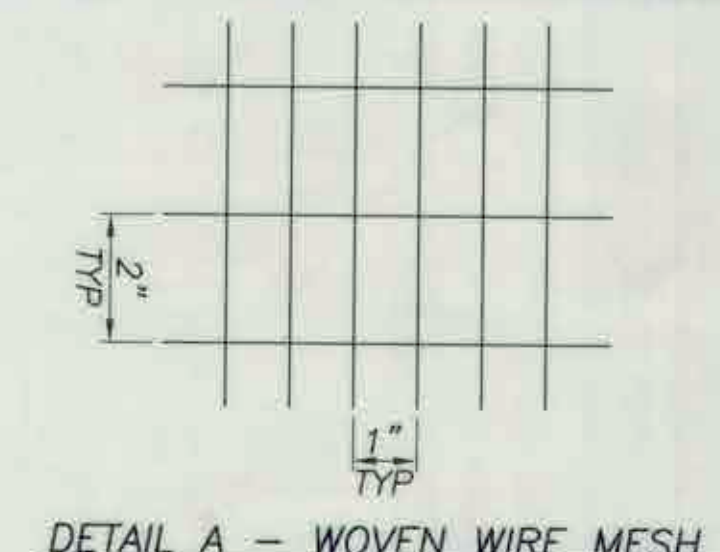
- 2900 PROPOSED INDEX CONTOUR
- 2904 PROPOSED INTERMEDIATE CONTOUR
- 2900 EXISTING/SUBGRADE INDEX CONTOUR
- 2904 EXISTING/SUBGRADE INTERMEDIATE CONTOUR
- TOP OR TOE OF SLOPE
- 3.0% DIRECTION AND RATE OF SLOPE
- 1 D1 DETAIL NUMBER
- 11 D1 SHEET SHOWN ON

EARTHEN PERIMETER CHANNEL CONNECTION
SCALE: 1"=20'



DESERT TORTOISE FENCE
NTS

- NOTES:**
1. INSTALL WIRE MESH FENCE PER CALTRANS STD DWG A-86.
 2. TORTOISE FENCE CONSTRUCTED OF GALVANIZED WOVEN WIRE MESH (1" WIDE BY 2" HIGH). INSTALL 24" ABOVE GROUND SURFACE AND 12" BELOW GROUND SURFACE. ATTACH TO WIRE MESH FENCE AT TOP, MIDDLE, AND BOTTOM WIRES WITH HOG RINGS AT 12 TO 18-INCH INTERVALS.
 3. ADD SMOOTH WIRE STRANDS TO SUPPORT TORTOISE MESH AS NEEDED.



MARK	CHANGES	RESIDENT ENGINEER	DATE
	NO CHANGES		

PREPARED BY:

SWT Civil & Environmental Engineering
800-C SOUTH ROCHESTER AVENUE
ONTARIO, CALIFORNIA 91761

PREPARED UNDER THE SUPERVISION OF



SAN BERNARDINO COUNTY
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: AJT/JA
DESIGNED BY: RMG
PROJ. ENGR.:
RECOMMENDED / APPROVED BY:
SUBMITTED BY: Johnny Gayman
PROJECT MANAGER: 8/25/21
DATE: 8/25/21

BARSTOW SANITARY LANDFILL

PHASE 1B LINER
CONSTRUCTION PROJECT

DETAIL SHEET D5

DATE	DWG NO.	SCALE	SHT. NO.	TOT. SHT'S.
08-21	D5	AS SHOWN	15	15