



Life After Landfill Closure



Van Smith, PE

07/16/2024



**Thank you
for joining!**



Van Smith, PE
Solid Waste Project Manager



Agenda

01 What, Why, How?

02 Puente Hills Landfill Park

03 Mt. Trashmore

04 FL Examples

01

What, Why, How?



Landfills Are an Asset

Centrally Located

Good Access and Control

Environmental Attributes

Adjacent Operations

Communities Have Encroached on them
and Residents Seeking Beneficial Uses



It Can Be Done

40 CFR § 258.61(c)

Though Shall Not Disturb

But...Demonstrate No Further Risk to
Human Health and the Environment

Considerations

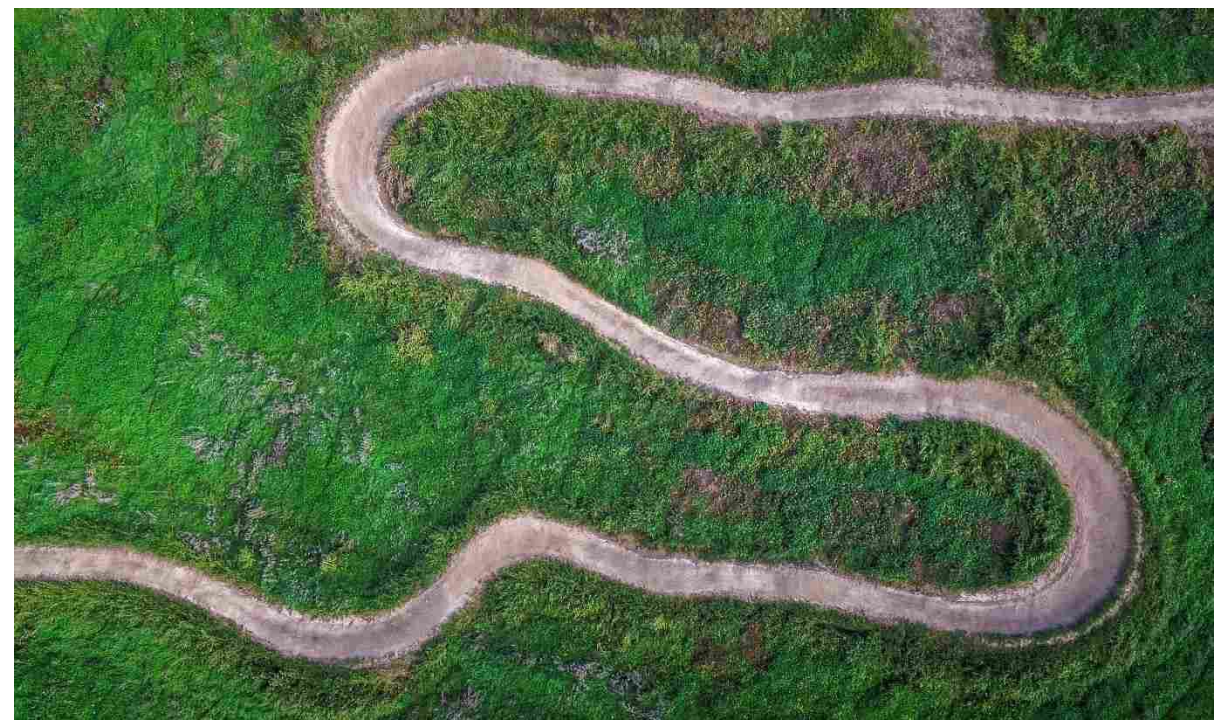
- Cover System Modifications

- Protection of Critical Infrastructure

- Landfill Gas Protections

- Settlement Impacts

- Utility Extensions



Coordination

Administration

Parks Department

Regulators

Community





Protections

Thickened Cover Soil

Penetrations

Increased Monitoring

Maintenance

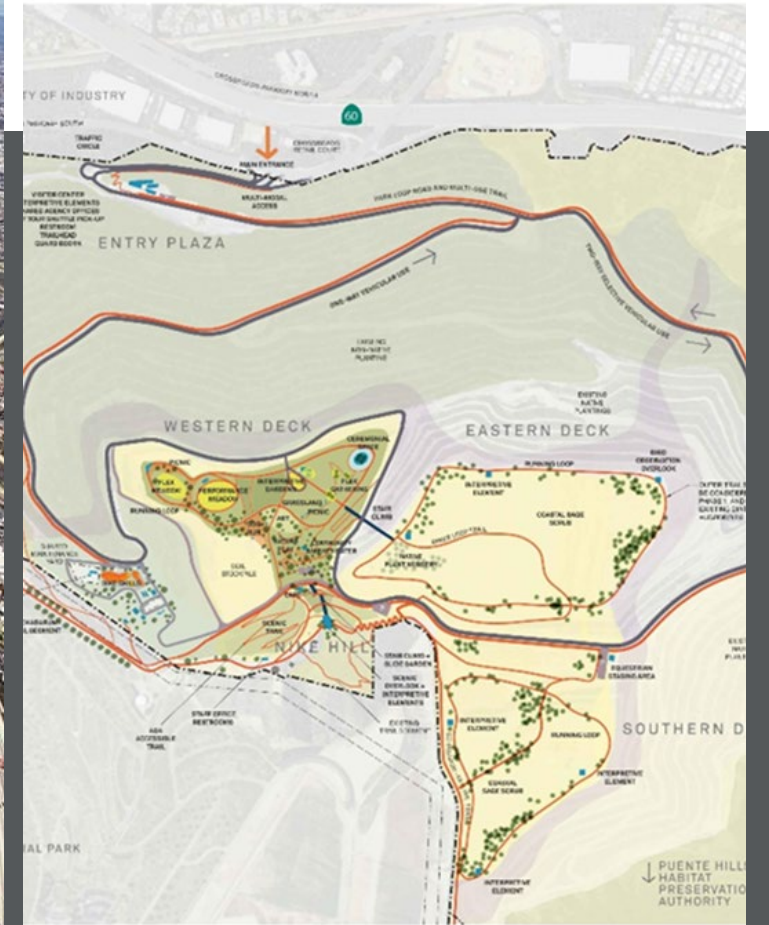
Operation Constraints

Stormwater/Erosion

02

Puente Hills Landfill Park

Puente Hills Landfill – Los Angeles County





Constraints

Existing ET Soil Final Cover

Select Fill for Accessibility and Plantings

Existing LFG Infrastructure Access

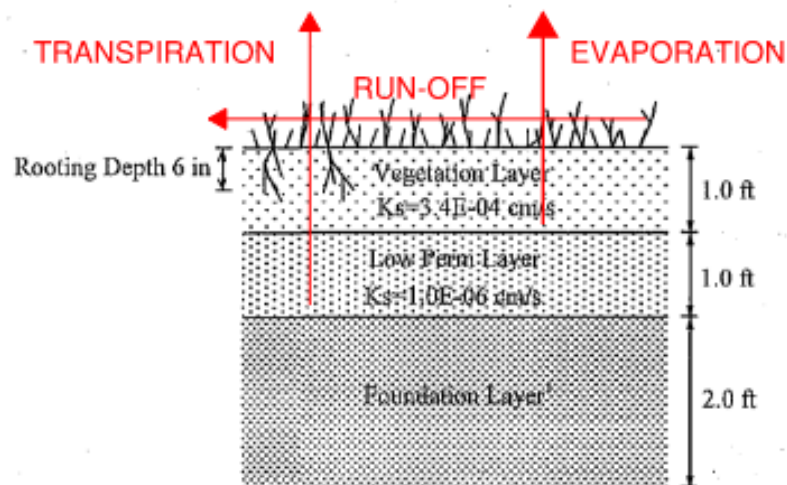
LFG Migration Protection

Increased Maintenance

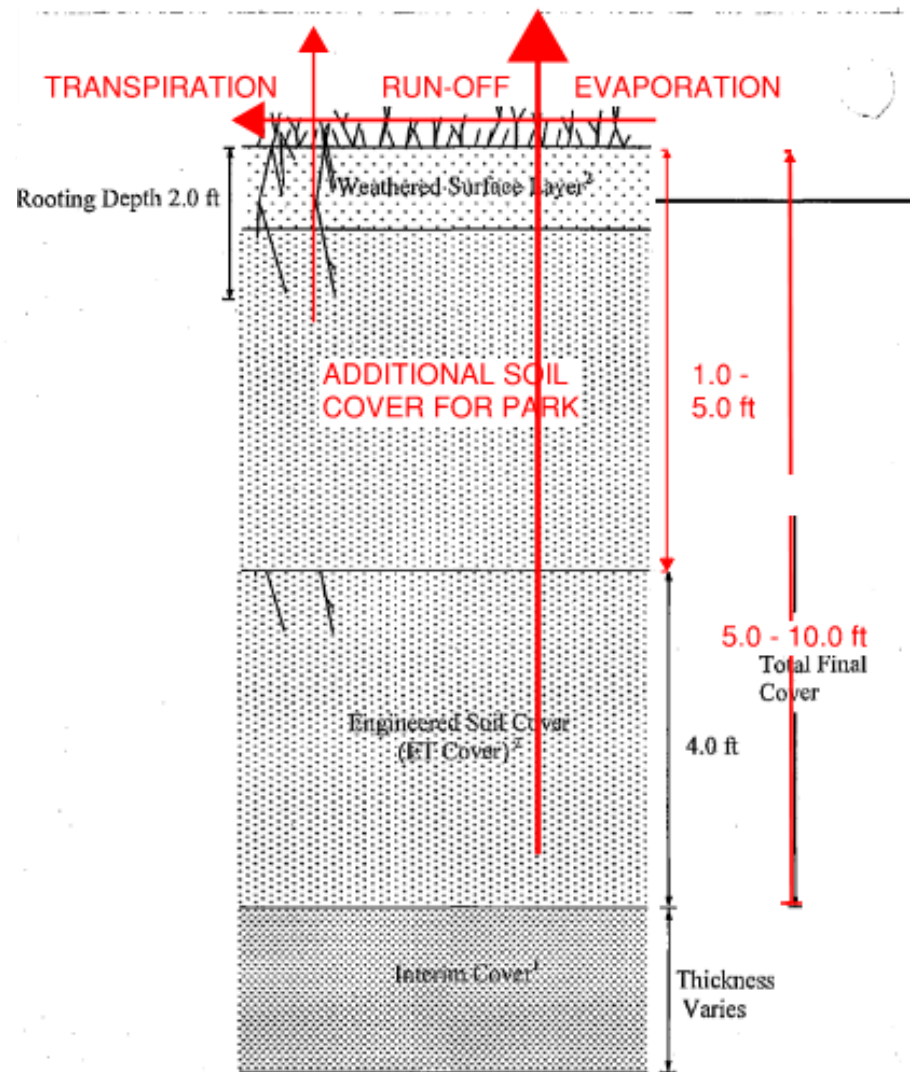
Settlement Considerations

Stormwater/Erosion

ET Cap Function To Be Maintained



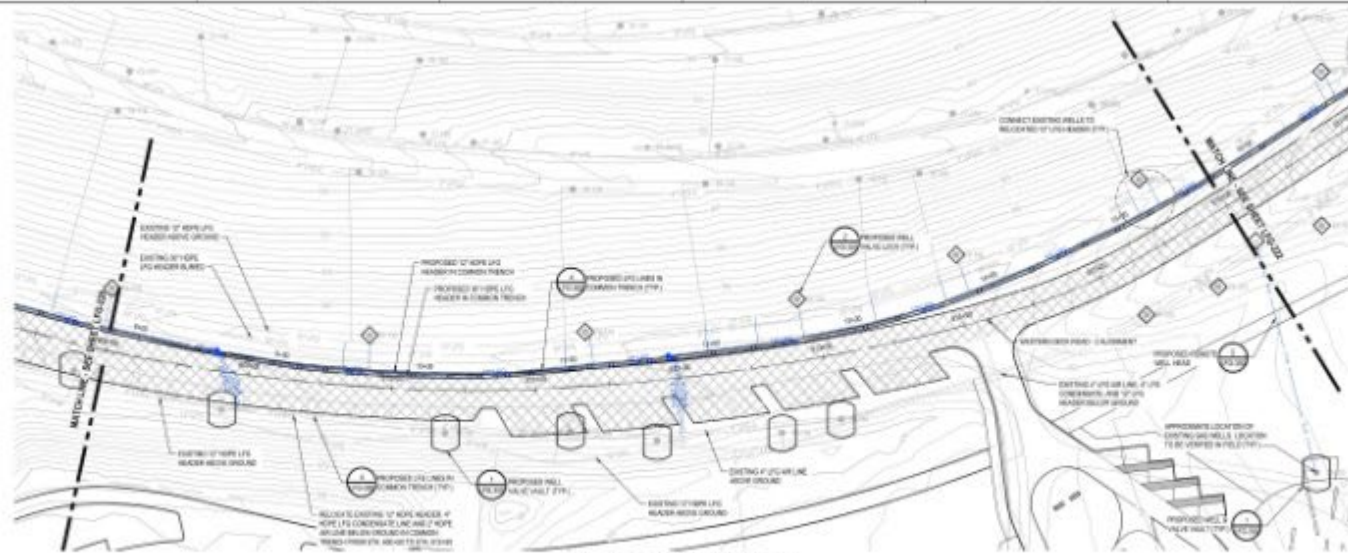
Title 27 Prescriptive Cover



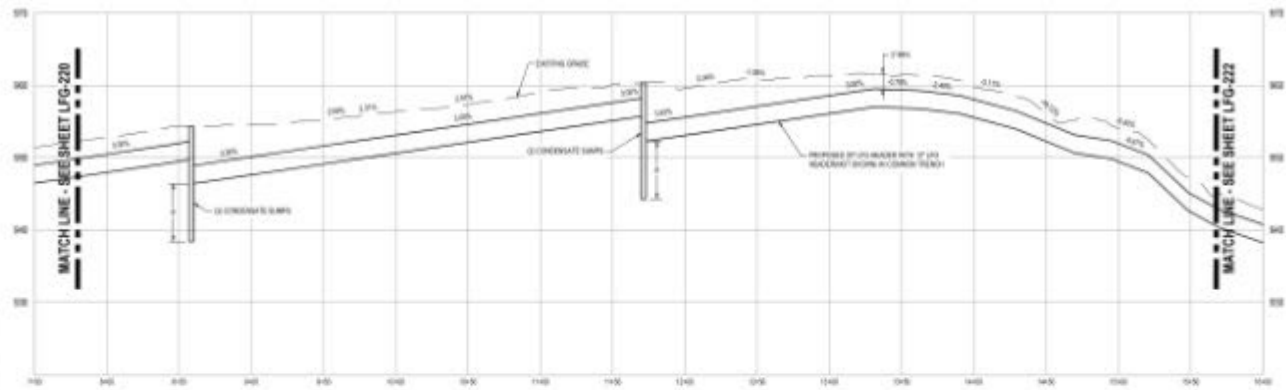
Evapotranspirative (ET) Cover

Additional Soil Cover

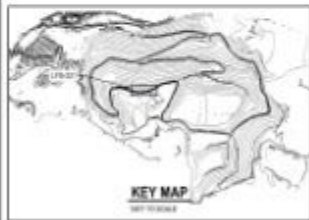
- Compacted Clay $k < 4 \times 10^{-5}$ cm/sec
- Higher Permeability would Develop Head and Increase Infiltration Rate
- Potential for 12" Clay Loam to Support Vegetation



PROPOSED BURIED 30" LFG HEADER



PROPOSED BURIED 30" LFG HEADER PROFILE



KEY MAP



NO.	DATE	DESCRIPTION

PROJECT MANAGER: K. S. SPICER, P.E.	PROJECT NUMBER: 1500001-01
CIVIL DESIGNER: A. FOX	PROJECT NUMBER: 1500001-01

**PUEBLO HILLS LANDFILL PARK
LANDFILL GAS COLLECTION
SYSTEM MODIFICATIONS
SCHEMATIC DESIGN**

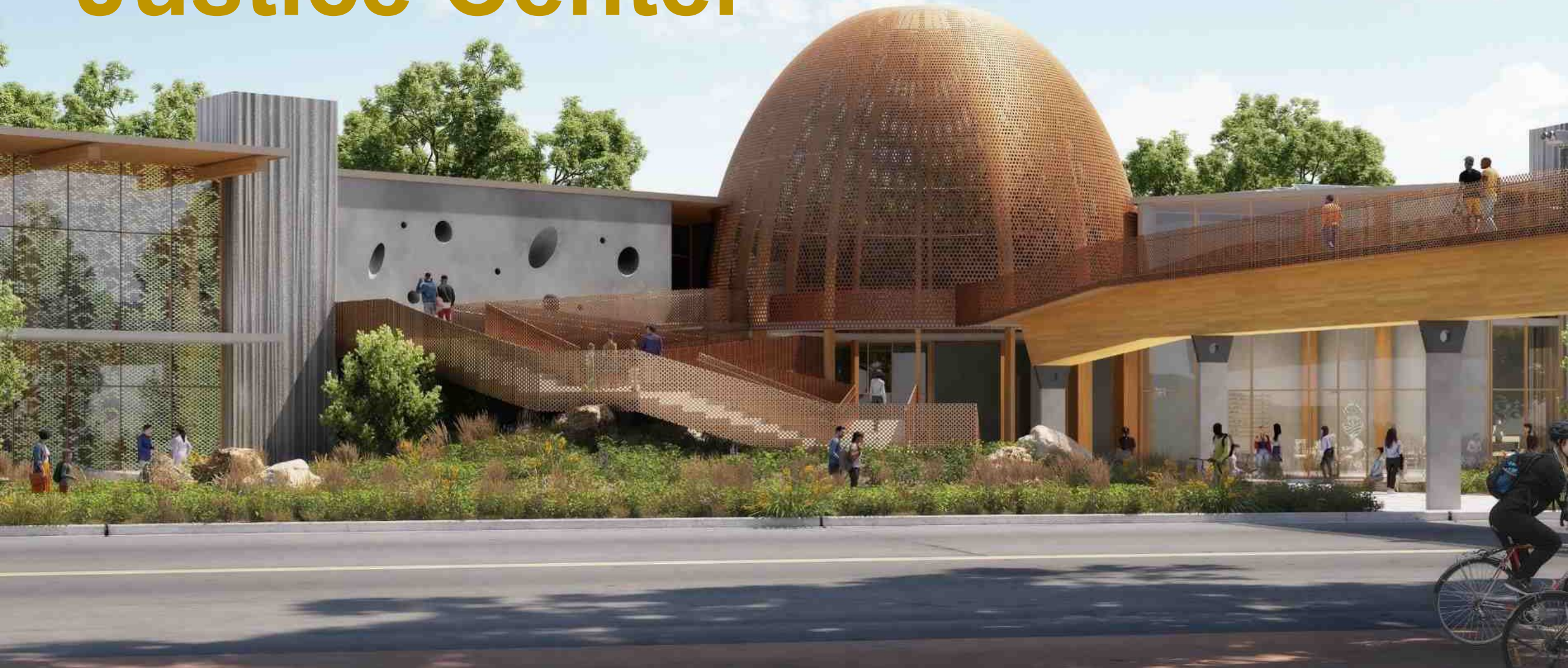
**WESTERN DECK ROAD - 2
AND BURIED LFG PROFILE**



FILENAME: LFG-208-202-P02
SCALE: AS SHOWN

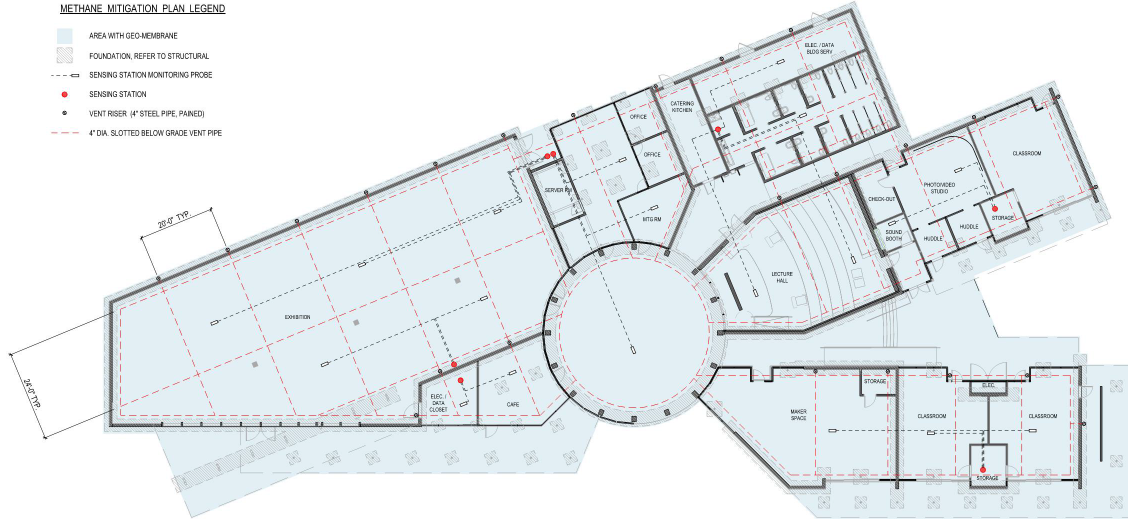
SHEET
LFG-221

Puente Hill Environmental Justice Center

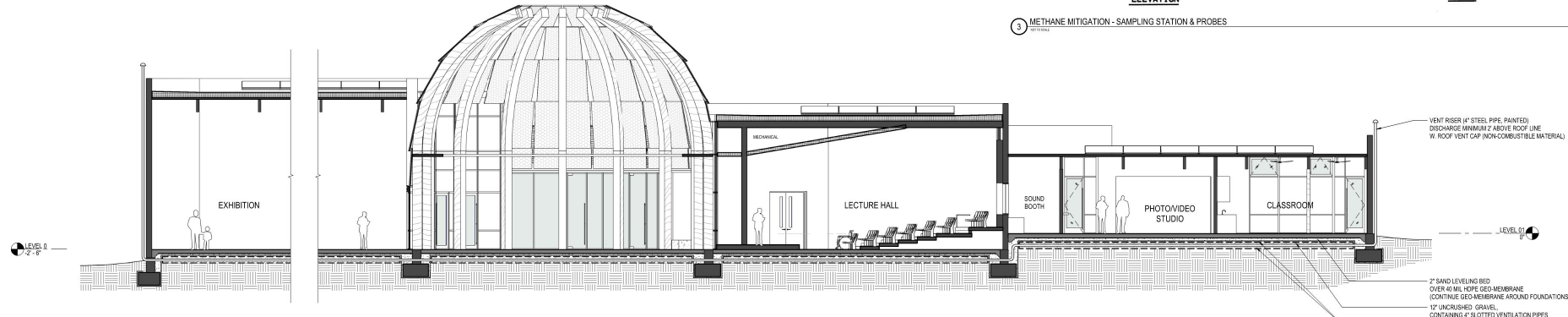


METHANE MITIGATION PLAN LEGEND

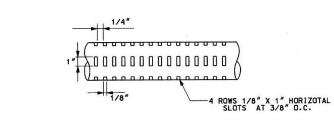
- AREA WITH GEOMEMBRANE
- ▬ FOUNDATION, REFER TO STRUCTURAL
- - - SENSING STATION MONITORING PROBE
- SENSING STATION
- VENT RISER (4" STEEL PIPE, PAINTED)
- - - 4" DIA. SLOTTED BELOW GRADE VENT PIPE



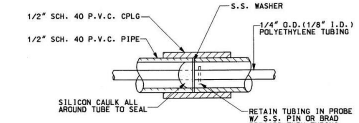
2 EJC METHAN MITIGATION FLOOR PLAN
G-020 116' x 117'



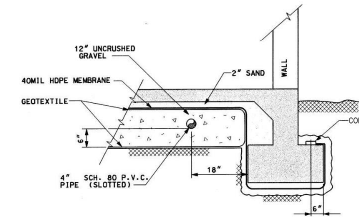
1 EJC METHAN MITIGATION DIAGRAMATIC BUILDING SECTION
G-020 18" x 1'-0"



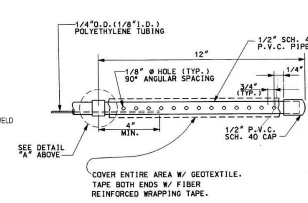
6 METHANE MITIGATION - VENT PIPE SLOTTING



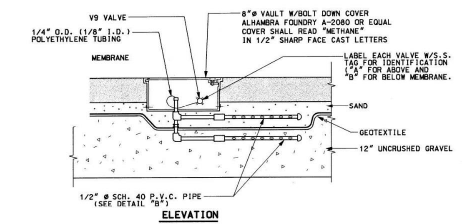
7 METHANE MITIGATION - PROBE DETAIL A



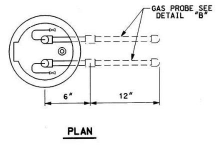
4 METHANE MITIGATION - TYPICAL SECTION



5 METHAN MITIGATION - PROBE DETAIL B



3 METHANE MITIGATION - SAMPLING STATION & PROBES



PLAN

NOTE: GAS PROBES ARE TYPICALLY REMOTE FROM SAMPLING STATION. SHOWN BELOW SAMPLING STATION IN THIS DETAIL TO ILLUSTRATE COMPONENTS

DRAWN BY
Author

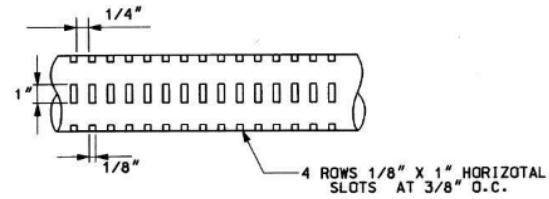


DATE	MARK	DESCRIPTION
REVISIONS		

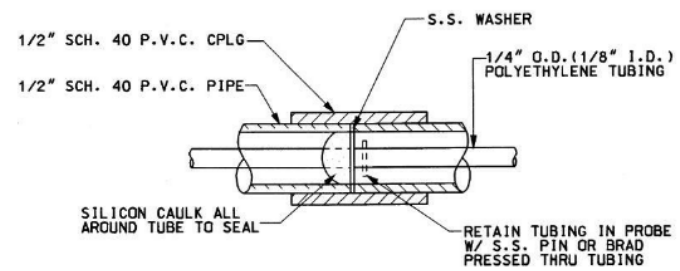
Puente Hills Landfill Park
ENVIRONMENTAL JUSTICE CENTER
ARCHITECTURE
PROJECT ID NO 10372257
EJC METHAN MITIGATION PLAN

G-020
SHEET NUMBER

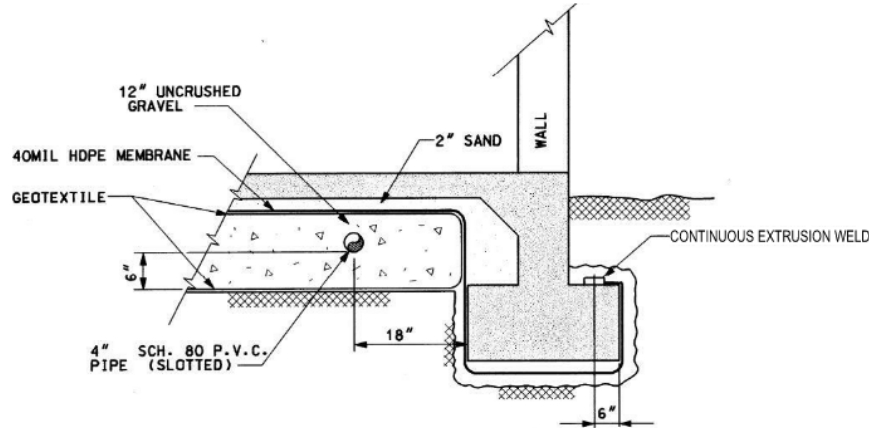
DWG PD SHEET OF



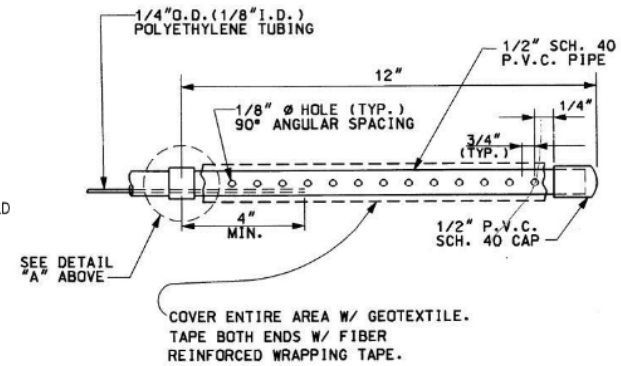
6 METHANE MITIGATION - VENT PIPE SLOTTING
NOT TO SCALE



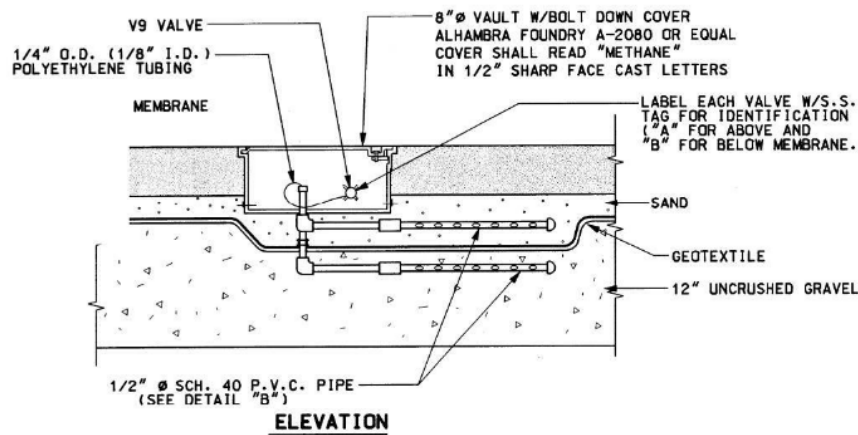
7 METHANE MITIGATION - PROBE DETAIL A
NOT TO SCALE



4 METHANE MITIGATION - TYPICAL SECTION
NOT TO SCALE

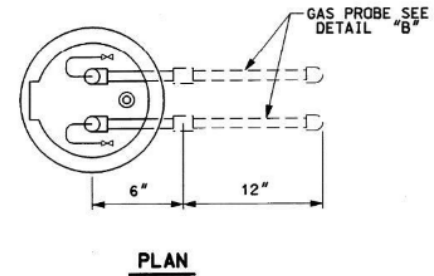


5 METHANE MITIGATION - PROBE DETAIL B
NOT TO SCALE

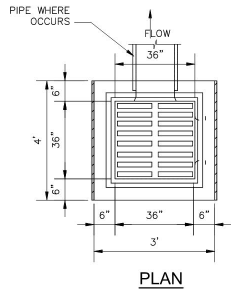


3 METHANE MITIGATION - SAMPLING STATION & PROBES
NOT TO SCALE

NOTE: GAS PROBES ARE TYPICALLY REMOTE FROM SAMPLING STATION. SHOWN BELOW SAMPLING STATION IN THIS DETAIL TO ILLUSTRATE COMPONENTS

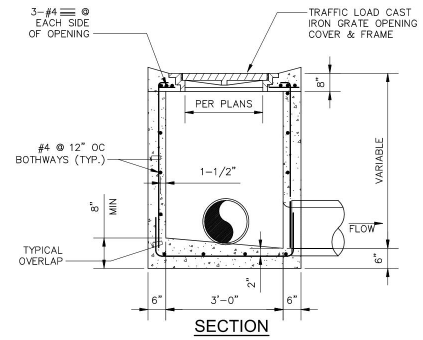


PLAN

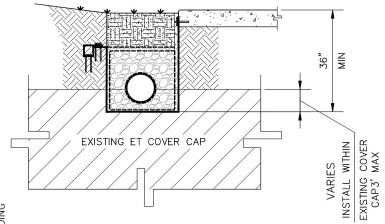
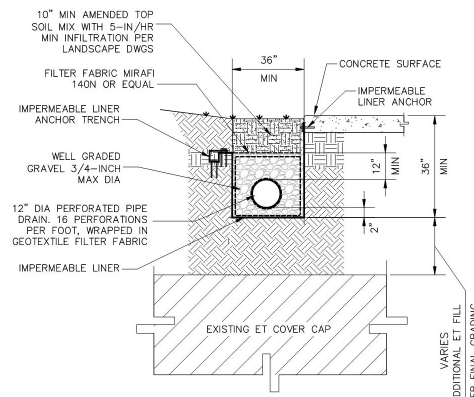


NOTES:

1. USE 3/4" DIA. PIPE BAR SPACERS ASSEMBLED ON (2) 1/2" DIA RODS WITH THREADS AND NUTS AT BOTH ENDS.
2. ALL METAL PARTS SHALL BE GALVANIZED AFTER FABRICATION AND WELDING, AND BEFORE ASSEMBLY.
3. FRAME AND GRATE SHALL BE SIMILAR TO ALHAMBRA FOUNDRY CO., LTD. SERIES OR BROOKS PRODUCTS, INC. OR APPROVED EQUAL.
4. GRATES SHALL BE OF VANDAL-RESISTANT CONSTRUCTION.



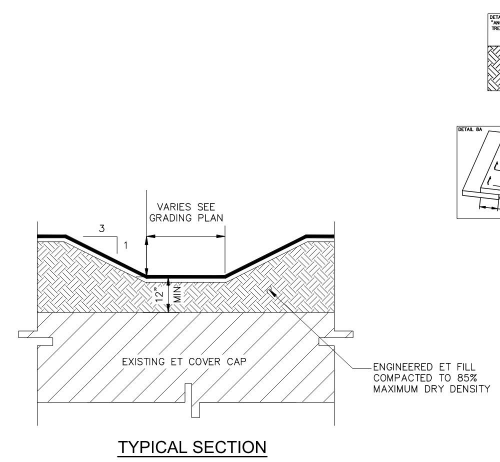
1 CATCH BASIN DETAIL
NOT TO SCALE



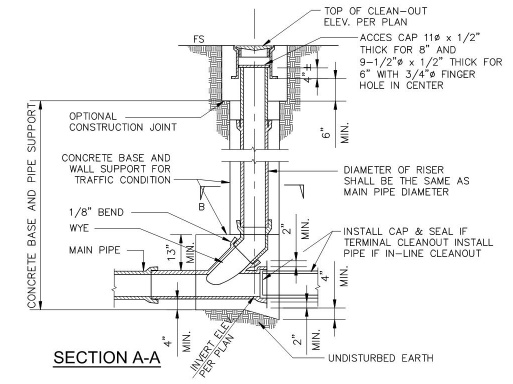
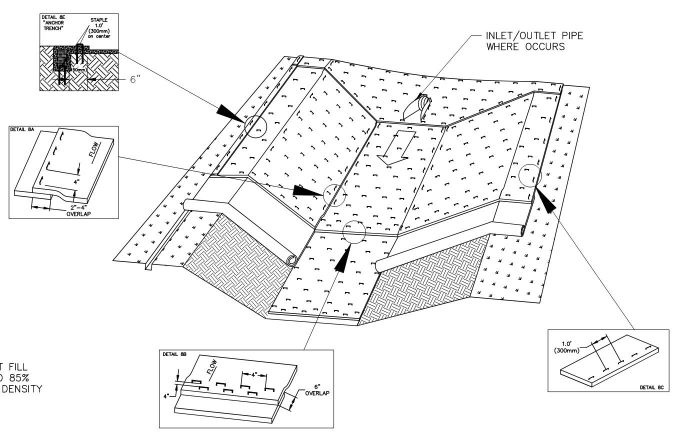
CONDITION - 1
FRENCH DRAIN ABOVE EXISTING COVER CAP

CONDITION - 2
FRENCH DRAIN WITHIN EXISTING COVER CAP

2 FRENCH DRAIN WITH IMPERMEABLE LINER
NOT TO SCALE



TYPICAL SECTION



SECTION A-A

4 STORM DRAIN CLEANOUT DETAIL
NOT TO SCALE

3 TURF REINFORCED MAT (TRM) SWALE DETAIL
NOT TO SCALE

NOT FOR CONSTRUCTION

APPROVED MARK PESTRELLA, DIRECTOR OF PUBLIC WORKS	NO.	REVISIONS	REVISED BY	APPROVED BY	DATE
BY: ASSISTANT DEPUTY DIRECTOR DATE: _____					
RECOMMENDED LAND DEVELOPMENT DIVISION					
BY: ASSISTANT DIVISION ENGINEER DATE: _____					
REVIEWED					
BY: ROAD AND GRADING SECTION DATE: _____					



PUEBLO HILLS LANDFILL PARK - SCHEMATIC PHASE 1
13130 CROSSROADS PKWY S. CITY OF INDUSTRY, CA 91746

MISCELLANEOUS DETAILS

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS



CSDD-200

03

Cedar Rapids / Linn County

Mt. Trashmore

Mt. Trashmore

Cedar Rapids/Linn County, Iowa

Closed LF 2012

Great Views of Cedar River

Adjacent to Cedar River Trail

Existing Compost Operations Adjacent

Community Support



MOUNT TRASHMORE

ELEVATION 948'

Hawthorne Dr SW








C St SW

22nd Ave SW

Cedar River



LEGEND

- 1** TRASHMORE TRAIL DOWNHILL BIKING DISTANCE: 4,000'  
- 2** STUMPTOWN TRAIL WALKING DISTANCE: 5,000' 
- 3** OVERLOOK TRAIL WALKING & BIKING DISTANCE: 3,400'   
- 4** CEDAR RAPIDS SCENIC OVERLOOK 

- TRAIL FEATURES CAN CHANGE DUE TO WEATHER
- CLOSED DURING MUDDY OR WET CONDITIONS
- OBSERVE ALL DIRECTIONS ON EACH TRAIL
- FEATURES MAY BE ENCOUNTERED ON FLOW TRAILS
- HELMETS AND PROTECTIVE GEAR RECOMMENDED
- USE AT YOUR OWN RISK
- NO SMOKING, NO ALCOHOL, STAY ON TRAILS

Least Difficult  Less Difficult  Difficult  More Difficult  Most Difficult 





WELCOME TO

MOUNT TRASHMORE

ELEVATION 948'

Trail access limited. Obey trail closures. Check website
for current status: www.solidwasteagency.org

When gate is closed,
Mount Trashmore is closed - NO ACCESS!



Mount Trashmore Rules and Responsibilities

Mount Trashmore Trails are built on a closed and capped landfill. The area is not a public park, but continues to be a regulated and permitted site. Our goal is to provide access to a great view, but with safety as our first priority.

- Stay on trails! Off-trail use is prohibited.
- All trail users (bikers & walkers) MUST CHECK-IN at kiosks in recreation building.
- Bike helmet use is strongly recommended!
- There are stairs on the Stumptown Trail; strollers can only be used on the Overlook Trail.
- When the building is closed, the trails are closed.
- Use trails at your own risk. Agency is not responsible for injury or damaged equipment.

Watch for truck traffic! Trails are adjacent to an operational compost facility with a shared entrance and roads.



- No driving to the top of Mount Trashmore (Visitors with a handicap placard are allowed to drive to the top, stop at recreation building for staff assistance)
- No smoking & no alcohol.
- Due to time constraints, walkers will need to be on trails 30 minutes before closing time.
- 2 inch or wider tires are recommended for Trashmore Trail. Mountain bikes or fat tire bikes are recommended



04

FL Examples

FL Regulations

62-701.610

- Department retains regulatory control over any activities that may affect the integrity of the environmental protection measures.
- Consultation with the Department is required.

Guidance for Use of Waste Disposal Areas, April 2019

- Preferred re-use of landfill includes recreational facilities.
- Construction plans and a detailed description of the project reviewed by to the DEP's District office.
- In most cases a permit not required, except for ERP for surface water.



Apalachee Regional Park

- Leon County, Florida
- Multi-Use Recreational Park
- Hiking / Biking
- Cross Country Course
- Remote Control Airfield
- Disc Golf (planned future use)



Mountain Biking & Hiking Trails

- ACCESS FROM EXISTING INTERNAL VEHICULAR CIRCULATION OR CONNECTIVITY WITH PROPOSED SIGNAGE, TRAIL SYSTEMS NETWORK, PEDESTRIAN-WAYFINDING AND TRAIL-HEAD SIGNAGE ENHANCEMENTS

Open Meadow / Event Parking / Warm-Up Area

- MAINTAIN EXISTING AREA TO SERVE AS EVENT DAY OVERFLOW PARKING WITH CAPACITY FOR APPROX. 4,000 VEHICLE SPACES

Existing Cross Country Course

- MAINTAIN EXISTING COURSE CONFIGURATION, CONNECTIVITY TO ADJACENT WARM-UP, COOL TRAIL, AND SPECTATOR VIEWING AREAS

Proposed Cross Country Facilities

- MAINTAIN EXISTING ACCESS FOR SPECIAL CROSS COUNTRY EVENTS AND ENHANCE WITH PROPOSED EVENT DAY PARTICIPANT DROP OFF AREA
- PROVIDED SUPPORT AREAS AND FACILITIES INCLUDE:
 - COMBINED RESTROOM AND CONCESSIONS BUILDING
 - EVENT OPERATORS / STAFF BUILDING
 - AWARDS / EVENT STAGE
 - EQUIPMENT STORAGE BUILDING
 - COVERED PAVILION
 - ELEVATED CONC. VIEWING PLATFORM
 - EVENT DAY VENDOR STAGING AREAS, NATURAL LAWN AMPHITHEATER
 - NATURE BASED PLAYGROUND WITH BIKING STATIONS, COMPREHENSIVE SITE FURNISHINGS, AND PROPOSED VEHICULAR / WAYFINDING SIGNAGE

Future Active Recreation Facilities

- PROPOSED FUTURE RELOCATION OF EXISTING RURAL WASTE SERVICES TO AREA (A) AND HOUSEHOLD HAZARDOUS WASTE SERVICES TO AN OFF-SITE LOCATION

Conservation / Passive Use

- WILDFLOWER COVERAGE FOR AESTHETIC ENHANCEMENT

Enhanced Vehicular Circulation

- PROPOSED EAST-WEST CONNECTION NORTH OF RECREATION FACILITIES AREA TO PROVIDE VEHICULAR CONNECTION FROM EVENT DAY ACCESS TO FUTURE ACTIVE RECREATION AND PROPOSED VISITOR PARKING AREAS

Proposed Dog Park

- APPROX. 2.5 - 3 ACRE ENCLOSED DOG PARK AREA (D) ENCLOSURES TOTAL WITH FENCING, SHADE STRUCTURES, WAYFINDING SIGNAGE, AND CONNECTION OPPORTUNITIES TO VISITOR PARKING, ENHANCED RECREATION FACILITIES, AND ADJACENT PARK CONSERVATION AREA

Existing Recreation Facilities

- (A) LIGHTED MULTI-PURPOSE FIELDS AND RESTROOM / CONCESSION BUILDING

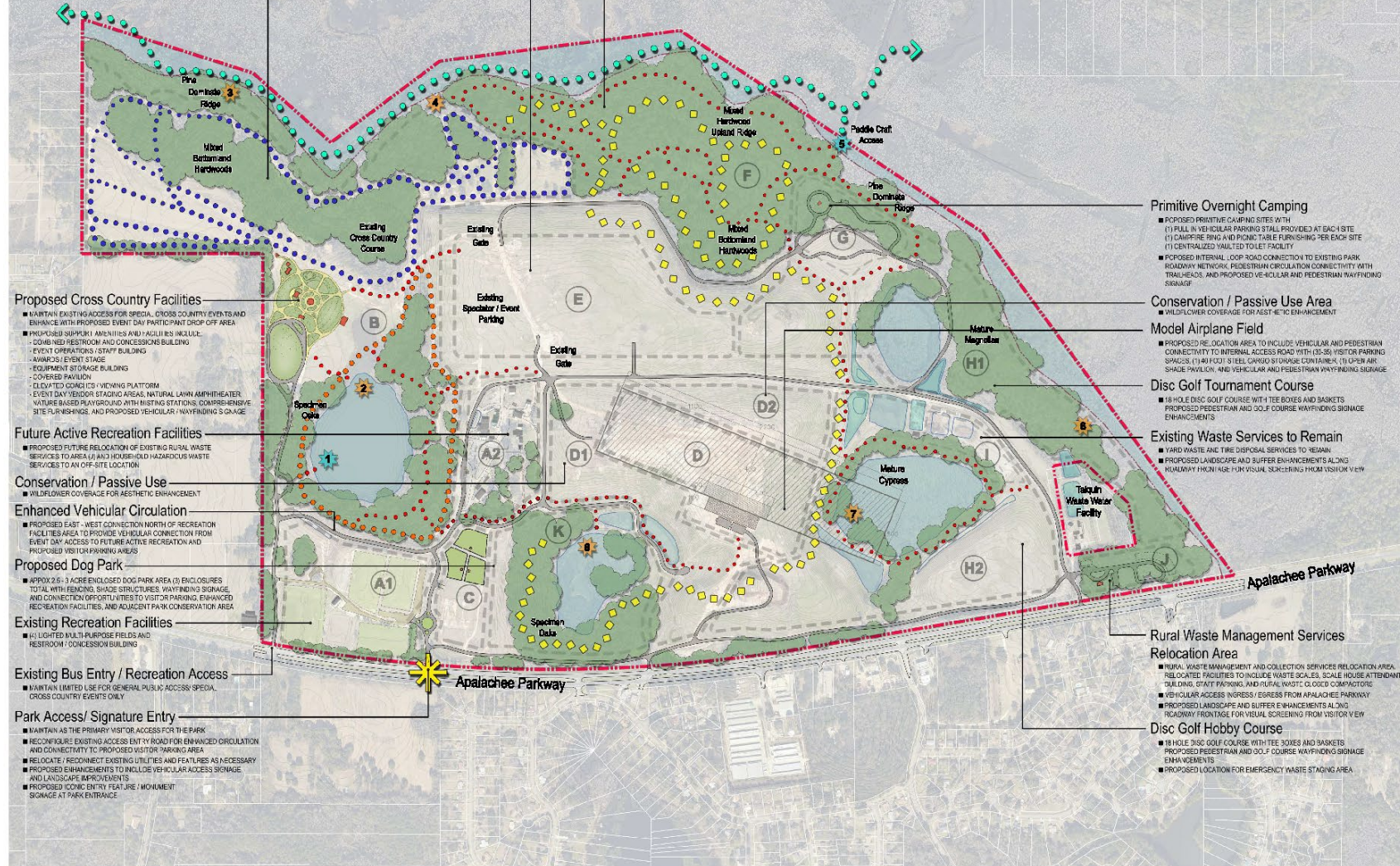
Existing Bus Entry / Recreation Access

- MAINTAIN LIMITED USE FOR GENERAL PUBLIC ACCESS, SPECIAL, CROSS COUNTRY EVENTS ONLY

Park Access / Signature Entry

- MAINTAIN AS THE PRIMARY VISITOR ACCESS FOR THE PARK
- RECONFIGURE EXISTING ACCESS ENTRY ROAD FOR ENHANCED CIRCULATION AND CONNECTIVITY TO PROPOSED VISITOR PARKING AREA
- RELOCATE / RECONNECT EXISTING UTILITIES AND FEATURES AS NECESSARY
- PROPOSED ENHANCEMENTS TO INCLUDE VEHICULAR ACCESS SIGNAGE AND LANDSCAPE IMPROVEMENTS
- PROPOSED ICONIC ENTRY FEATURE / MONUMENT SIGNAGE AT PARK ENTRANCE

LOWER LAKE LAFAYETTE



USE AREA SUMMARIES

A-1	Existing Recreation Facilities	(+/- 22.5 AC)
A-2	Future Active Recreation Facilities	(+/- 12.0 AC)
B	Cross Country Course Facilities	(+/- 130.0 AC)
C	Dog Park Recreation	(+/- 3.0 AC)
D	Model Airplane Field	(+/- 21.0 AC)
D-1 / D-2	Conservation / Passive Use	(+/- 31.0 AC)
E	Open Meadow / Event Parking / Warm-up Space	(+/- 34.5 AC)
F	Mountain Biking / Hiking Trails	
G	Primitive Overnight Camping	(+/- 9.5 AC)
H-1 / H-2	Disc Golf Course(s) / Emergency Waste Staging Area	(+/- 112.5 AC)
I	Existing Grinding Operation(s) to Remain	(+/- 4.0 AC)
J	Rural Waste Management Services - Relocation Area	(+/- 4.5 AC)
K	Conservation Area - Mountain Biking Trail Opportunity	



Apalachee Regional Park
Master Plan
 January 2018

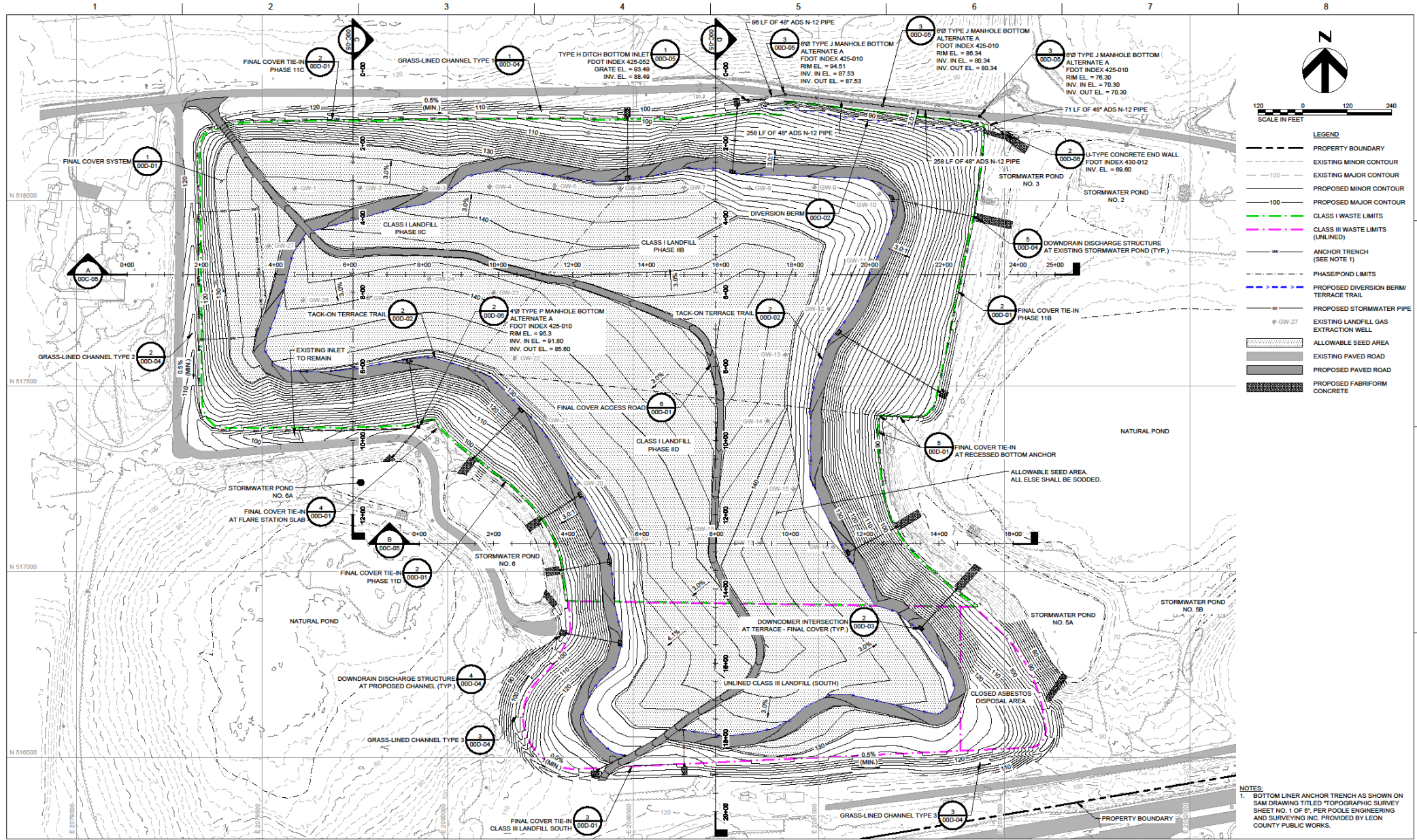
LEGEND

- Lafayette Passage Paddle Trail
- Existing Cross Country Course
- Existing Cross Country Warm-Up Loop / Nature Trail Opportunity
- Park Access / Signature Entry
- Mountain Biking Trails / Agility Course (+/- 6.90 MILES)
- Hiking / Nature Trails (+/- 6.70 MILES)
- Program Use / Amenity Areas (See Summary)
- Proposed Wildlife / Nature Viewing Opportunity
- Proposed Water Access Opportunity

0 200 400 800 1,200 1,600 Feet **NORTH**

pros consulting DRMP ENGINEERS SURVEYORS PLANNERS SCIENTISTS

Wood+Partners Inc. Landscape Architects Land Planners WPI LEON LEON CONSULTANTS



NOTES:
 1. BOTTOM LINER ANCHOR TRENCH AS SHOWN ON SAM DRAWING TITLED "TOPOGRAPHIC SURVEY SHEET NO. 1 OF 9", PER POOLE ENGINEERING AND SURVEYING INC. PROVIDED BY LEON COUNTY PUBLIC WORKS.



ISSUE	DATE	DESCRIPTION
A	11/15/2023	60% CONSTRUCTION DRAWINGS FOR CLIENT REVIEW

PROJECT MANAGER: M. ROBERTS, P.E.
 DESIGNED BY: K. PERERA, P.E.
 DRAWN BY: J. RAYMOND
 PROJECT NUMBER: 10372836

LEON COUNTY SOLID WASTE MANAGEMENT FACILITY
 LANDFILL CLOSURE CONSTRUCTION DRAWINGS
 LEON COUNTY, FLORIDA



FINAL COVER GRADING PLAN

SCALE: 1" = 120'
 FILENAME: 00C-02.dwg
 SCALE: 1" = 120'

SHEET
 00C-02

Other FL Parks on Closed Sites

-Rothenbach Park (Sarasota County)

-Vista View Park (Broward County)

-Dyer Park and Park Ridge Golf Course (Palm Beach County)



Questions?

