

Backfill - East Stands

Bid Item #:	<i>X</i>
Description:	<i>Backfill - East Stands</i>
Unit of Measurement:	<i>CY</i>
Scope of Work:	<i>Import Backfill</i>
Payment Terms:	<i>CY</i>
Item Inclusions:	<i>Structure backfill needed for east stands</i>

Estimator's Narrative

Describe your approach to the work. . .

After evaluating whether or not we would reuse material for the structure backfill, we resulted in taking the decision to import the material.

This way we avoid any possible risks that we could be taking if the scenarios of the material on site not meeting the requirements.

Also, by purchasing premium structure backfill we can ensure the best quality for a long-lasting project.

Bid Item #	X					
Description:	Backfill - East Stands					
				Material	Weight LB/CF	TN Per CY
Take-Off Quantity:	41,726	CY		Prem Backfill	132	1.5
ESTIMATE SUMMARY						
Activity #	Description	QTY	Unit	Unit Cost	Cost	
LABOR & EQUIPMENT						
X	Backfill crew	41,726	CY	\$ 60.97	\$ 2,544,034.22	
MATERIAL						
X	Backfill - Bridge	62,589	TN	\$ 20.12	\$ 1,259,290.68	
				TOTAL COST	\$ 3,803,324.90	
				QUANTITY	41,726	
				UNIT COST	\$ 91.15	

QUANTITY TAKE-OFF

FILL					
	Section Area (sq. ft.)	Distance (ft.)	Avg. Area	Volume (CF)	Volume (CY)
Gridline 42	2700				
		69 ft.	2665	183,885	6811
Gridline 44	2630				
		157 ft.	2377	373,189	13822
Gridline 48	2123				
		160 ft.	2377	380,320	14086
Gridline 52	2630				
		71 ft.	2665	189,215	7008
Gridline 54	2700				
				SUM	SUM
				1,126,609	41726

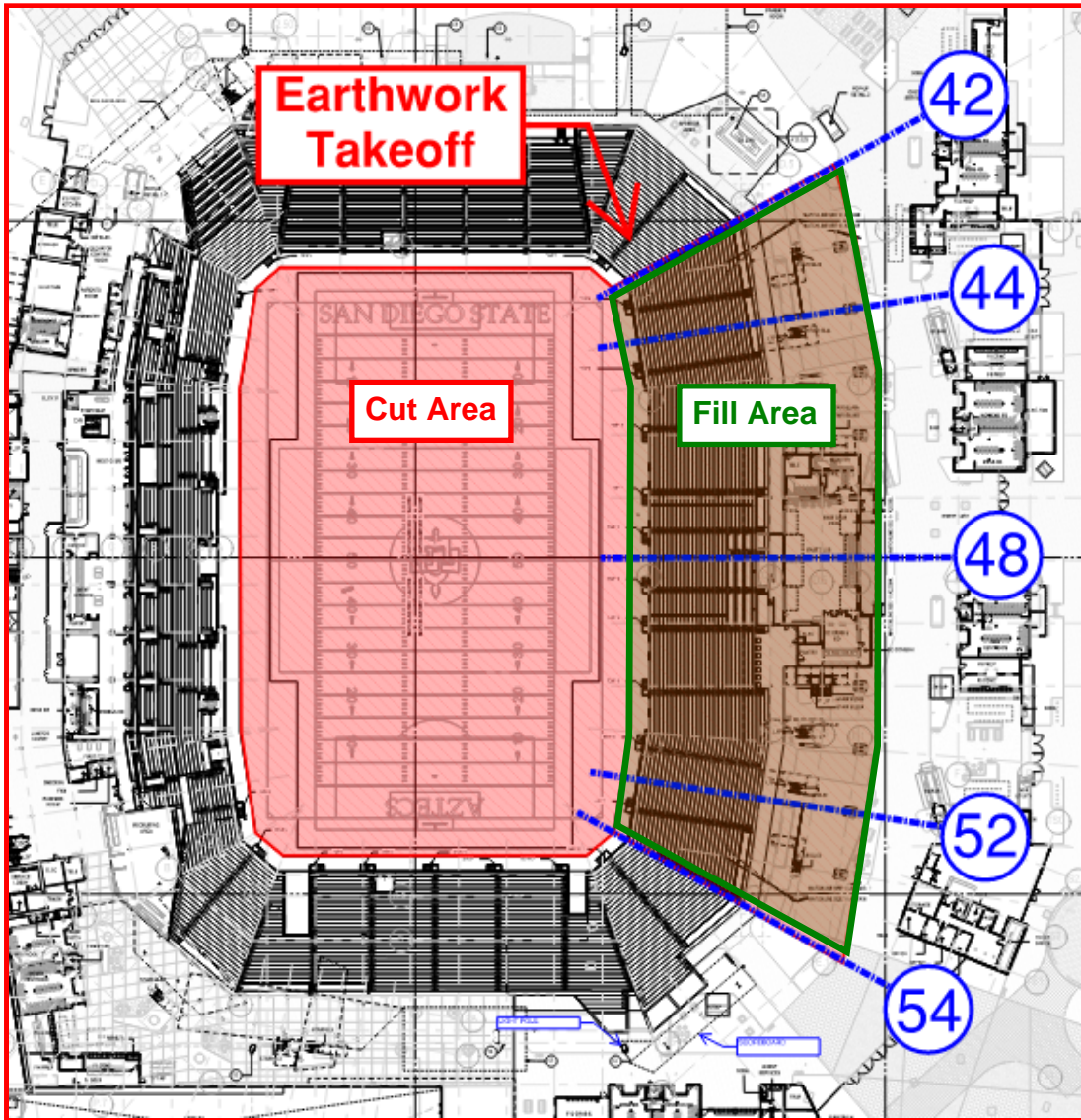
Estimate

Bid Item:	X				
Description:	Backfill - East Stands				
	Takeoff Quantity	41,726	CY		
<u>ACTIVITY CODE</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>Unit</u>		
24-005	Structure Backfill - Bridge	41,726	CY		
	<u>PRODUCTION ANALYSIS:</u>				
	Work Hrs/Day	8			
	Assuming a 55min. Work Hr, a CAT 966 can backfill 3.5 CY in a 6 min cycle duration.				
	Cat 950 F.E.L.	3.5 YD/BUCKET			
	55 MIN/HR	55	Min		
	1 CYCLE	6	Min		
	CYCLES PER HOUR	9.1666667			
	x3	36	cy /hr		
	CALCULATED PRODUCTION	36	UNITS/HR		
	CALCULATED DURATION	1159.06	HRS	29	weeks
	USE	1160	HRS	7.25	mos
Equipment/Labor	QTY	Hours	Cost/HR	Total Cost	
<i>Equipment</i>					
54" Towed Vib Compact	4.00	1160	\$ 40.50	\$	187,920.00
Cat D6 Dozer	4.00	1160	\$ 101.29	\$	469,985.60
Cat 950 F.E.L. 3.5 cy	4.00	1160	\$ 66.58	\$	308,931.20
Hand Wacker	4.00	1160	\$ 7.57	\$	35,124.80
3/4 Ton Crew Pickup Truck	4.00	1160	\$ 11.00	\$	51,040.00
2000 Gal WT Op & Maint	2.00	1160	\$ 80.00	\$	185,600.00
<i>Labor</i>		1160			
Laborer, General Grp II	4.00	1160	\$ 54.63	\$	253,483.20
Laborer, Wacker Opr Grp IV	4.00	1160	\$ 55.99	\$	259,793.60
Foreman, Operating Engineer	1.00	1160	\$ 81.05	\$	94,018.00
Operator, Gr X	8.00	1160	\$ 75.22	\$	698,041.60
				=====	
			TOTAL COST	\$	2,543,938.00
			UNIT COST	\$	60.97

Material Analysis

		Backfill		
MATERIAL PURCHASE				
MATERIAL PRICE	\$	15.00	/TON	
TAX RATE		8.75%		
TOTAL TAX	\$	1.31		
MATERIAL PRICE WITH TAX	\$	16.31	/TON	
MATERIAL HAUL				
DISTANCE TO JOB		12	MILES	
AVERAGE SPEED		45	MPH	
LOAD MATERIAL		5	MIN	
TRAVEL TO JOB		16	MIN	
DUMP MATERIAL		5	MIN	
RETURN TO PLANT		16	MIN	
TOTAL TIME PER ROUND		42	MIN	42 min / 10 min
		0.70	HR	5 trucks needed
TRUCK TYPE		Super 10		
TONS PER LOAD		18	TONS/LOAD	
TRUCK PRICE	\$	98.00	/HR	
TRUCKING PRICE PER TON	\$	3.81	/TON	
TOTAL MATERIAL PRICE DELIVERED TO JOB	\$	20.12	/TON	

East Stands Earthwork



Fill Area

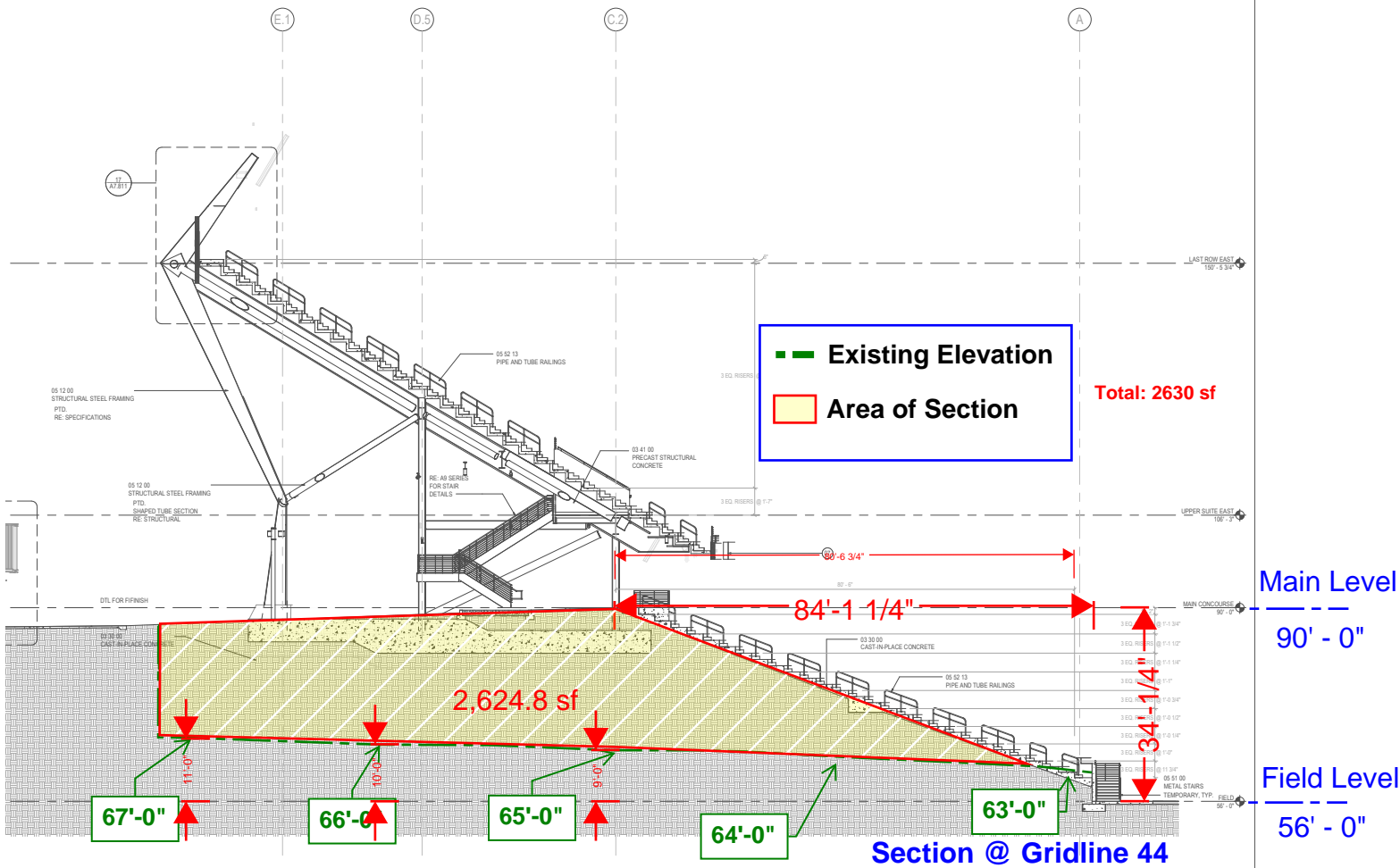
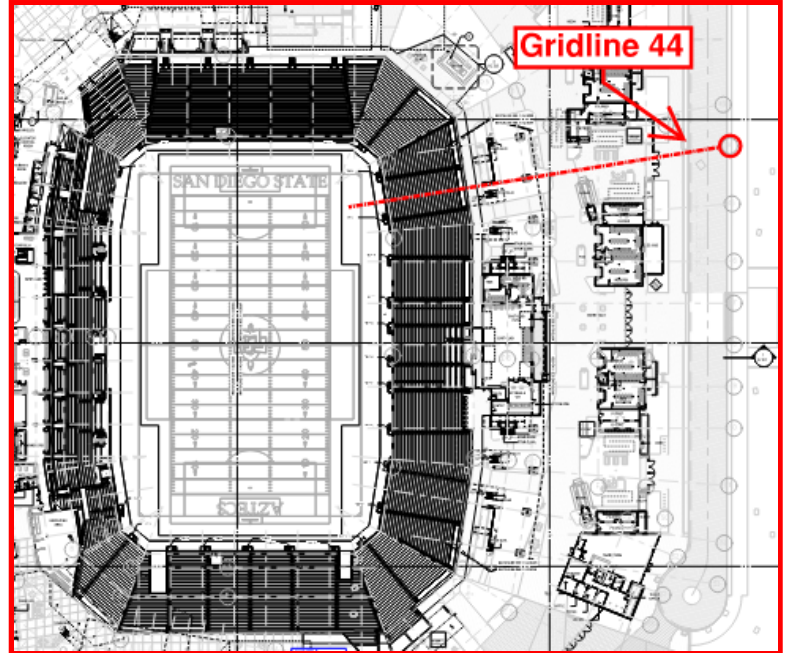
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East Stands Earthwork (including Football field)

Section @ Gridline 44

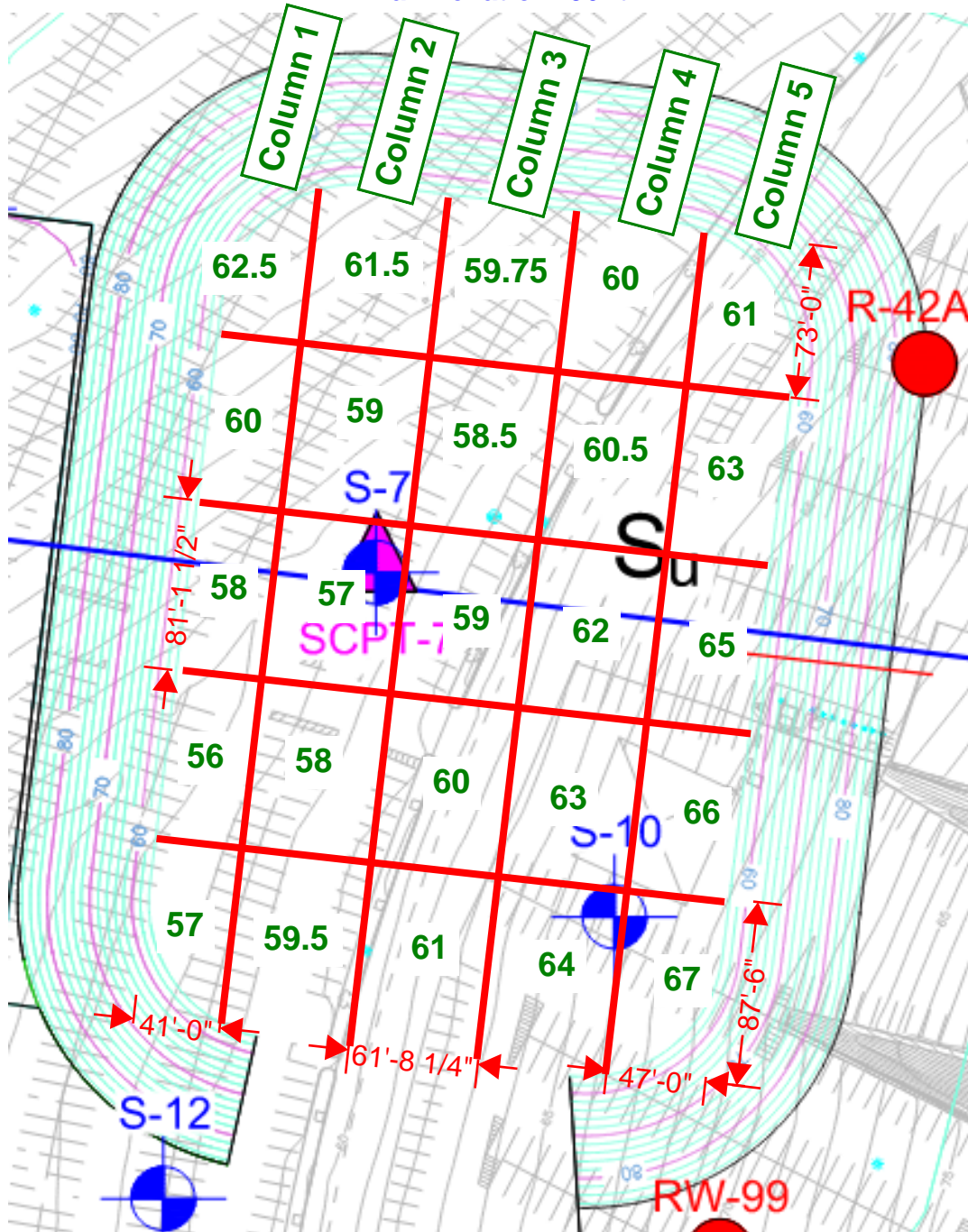
Summary:

- 2630 sf needed for FILL material.
- Foundation included in total area because of need for concrete.
- Existing elevations are approximated from topography map.



Football Field Quantity Takeoff

Total CUT amount in CY
Final Elevation: 56 ft.



	Section Area (sq. ft.)	Cut Depth (ft.)	Volume (CF)	Volume (CY)
Football Field				
Column 1	13260	2.7	35802	1326
Column 2	24816	3	74448	2757
Column 3	24816	3.65	90578	3355
Column 4	24816	5.9	146414	5423
Column 5	15192	8.4	127613	4726
(Total Cut Quantity)			SUM	SUM
			474856	17587