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GENERAL NOTES

DESIGN CRITERIA

- DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE REINFORCED EARTH VOLUME, METHODS OF CONSTRUCTION AND QUALITY OF PREFABRICATED MATERIALS SHALL CONFORM TO THE CONTRACTING AGENCY'S TECHNICAL SPECIFICATIONS FOR REINFORCED EARTH WALLS.
- SOILS CHARACTERISTICS ASSUMED FOR DESIGN:
SELECT GRANULAR BACKFILL
 $\phi = 34$ degrees, $c = 0$ p.s.f., $\gamma = 135$ p.c.f.
RANDOM BACKFILL
 $\phi = 34$ degrees, $c = 0$ p.s.f., $\gamma = 135$ p.c.f.
FOUNDATION MATERIAL
 $\phi = 35$ degrees, $c = 0$ p.s.f.
 IF THE ACTUAL CHARACTERISTICS OF THE SOIL MATERIALS DIFFER FROM THOSE ABOVE, THE REINFORCED EARTH COMPANY SHOULD BE NOTIFIED PRIOR TO CONSTRUCTION TO EVALUATE THE NEED FOR REDESIGN OF THE WALL.
- THE MAXIMUM APPLIED BEARING PRESSURE AT THE FOUNDATION LEVEL IS AS SHOWN ON THE WALL ELEVATIONS FOR EACH DESIGN CASE. IT IS THE RESPONSIBILITY OF THE OWNER TO DETERMINE THAT THIS APPLIED BEARING PRESSURE IS ALLOWABLE FOR THAT LOCATION.
- ANY UNSUITABLE FOUNDATION MATERIAL BELOW THE REINFORCED EARTH VOLUME, AS DETERMINED BY THE ENGINEER, SHALL BE EXCAVATED AND REPLACED WITH SUITABLE MATERIAL OR OTHERWISE STABILIZED AS DIRECTED BY THE ENGINEER.
- REINFORCING STRIPS FOR REINFORCED EARTH WALLS SHALL BE 50mm WIDE AND 4mm THICK, AND SHALL CONFORM TO THE PHYSICAL AND MECHANICAL PROPERTIES OF ASTM A-572 GRADE 65. EPOXY COATED. EPOXY COATING MUST BE 18 MILS THICK IN ACCORDANCE WITH ASTM M-284.

WALL CONSTRUCTION

- STATIONS SHOWN ARE ALONG CENTERLINE OF ROADWAY.
- REINFORCED EARTH WALLS IN CURVES WILL FORM A SERIES OF SHORT CHORDS OF 4.92' EACH TO MATCH DESIRED WALL ALIGNMENT.
- FOR LOCATION AND ALIGNMENT OF REINFORCED EARTH WALLS. SEE CONTRACT DRAWINGS.
- IF MANHOLES AND DROP INLETS ARE PRESENT, THEY SHALL BE LOCATED AS SHOWN ON CONTRACT DRAWINGS.

WALL CONSTRUCTION (CONT.)

- IF PILES ARE LOCATED WITHIN THE REINFORCED EARTH VOLUME, THEY SHALL BE DRIVEN PRIOR TO CONSTRUCTION OF THE REINFORCED EARTH WALL UNLESS A METHOD TO PROTECT THE STRUCTURE, WHICH IS ACCEPTABLE TO THE ENGINEER AND THE REINFORCED EARTH COMPANY, AND IS PROPOSED AND APPROVED IN WRITING.
- BACKFILL MATERIAL SHALL BE COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS FOR REINFORCED EARTH WALLS TO A LEVEL OF 2" (\pm) ABOVE THE TIE STRIPS EMBEDDED IN THE PANELS. INSTALLATION OF REINFORCING STRIPS SHALL BE PERMITTED ONLY AFTER PLACEMENT AND COMPACTION OF THE BACKFILL MATERIAL HAS REACHED THE REQUIRED LEVEL.
- COMPACTION AND OPERATION EQUIPMENT SHALL BE KEPT A MINIMUM DISTANCE OF 3'-0" FROM THE BACK FACE OF THE REINFORCED EARTH PANELS. COMPACTION WITHIN 3'-0" OF THE REINFORCED EARTH PANELS SHALL BE ACHIEVED WITH AT LEAST THREE (3) PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, ROLLER OR VIBRATORY SYSTEM. NO DENSITY TESTS TAKEN WITHIN THE 3-FOOT ZONE.
- IF STRUCTURES IN EXCESS OF 20' IN HEIGHT OCCUR, THE FINISHED GRADE IN FRONT OF THE WALL SHALL BE PLACED AND COMPACTED BEFORE WALL CONSTRUCTION EXCEEDS A HEIGHT OF 20'. FINISHED GRADE BACKFILL SHALL BE COMPACTED TO 95% OF ASTM D-698, METHODS 'C' OR 'D', UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY GUIDERAIL POSTS BEHIND THE REINFORCED EARTH PANELS. PRIOR TO PLACEMENT OF THE TOP LAYER OF REINFORCING STRIPS, INDIVIDUAL STRIPS MAY BE SKEWED TO AVOID THE POST LOCATIONS IF AUTHORIZED BY THE REINFORCED EARTH COMPANY. ANY DAMAGE DONE TO THE REINFORCING STRIPS DUE TO THE INSTALLATION OF THE GUIDERAIL SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- IF EXISTING OR FUTURE STRUCTURES, PIPES, FOUNDATIONS OR GUIDERAIL POSTS WHICH ARE WITHIN THE REINFORCED EARTH VOLUME INTERFERE WITH THE NORMAL PLACEMENT OF REINFORCING STRIPS AND SPECIFIC DIRECTION HAS NOT BEEN PROVIDED ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE REINFORCED EARTH COMPANY TO DETERMINE WHAT COURSE OF ACTION SHOULD BE TAKEN.
- ALL DETAILING AND CHECKING OF REINFORCING STEEL FOR ANY C.I.P. CONCRETE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR.
- IF THERE IS CONCRETE COPING, TOP PANELS SHALL HAVE #4 DOWELS PROTRUDING FROM THEIR TOP EDGE.
- FOR OTHER INFORMATION PERTAINING TO WALL CONSTRUCTION PLEASE REFER TO THE REINFORCED EARTH CONSTRUCTION MANUAL.

MATERIALS NOTES

- NOMINAL STRIP LENGTHS**
 THE REINFORCING STRIP LENGTHS SHOWN ON THE PLANS, MEASURED FROM BACK FACE OF PANEL, ARE THE NOMINAL LENGTHS REQUIRED BY CALCULATION. THE ACTUAL FABRICATED STRIP LENGTHS ARE OFTEN LONGER (UP TO 6") DUE TO MANUFACTURING TOLERANCES. THE REQUIRED HORIZONTAL LIMIT OF SELECT MATERIAL IS EQUAL TO THE NOMINAL STRIP LENGTH. ADDITIONAL SELECT MATERIAL BEYOND THE NOMINAL STRIP LENGTH IS NOT REQUIRED BY CALCULATION.
 - SELECT BACKFILL QUANTITY**
 THE SELECT BACKFILL QUANTITY INDICATED BY THE REINFORCED EARTH COMPANY IS CALCULATED BY MULTIPLYING THE NOMINAL STRIP LENGTHS SHOWN ON THE PLANS (PLUS 0 FT.) BY THEIR TRIBUTARY WALL SURFACE AREA AND CONVERTING THE RESULT TO A NEATLINE CUBIC YARD QUANTITY. THIS INFORMATION IS FURNISHED FOR THE CONTRACTOR'S INFORMATION ONLY AND IS NOT INTENDED TO REPRESENT THE ACTUAL QUANTITIES REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR MUST CALCULATE HIS OWN EXCAVATION AND BACKFILL QUANTITIES BASED UPON THE SPECIFIC CONDITIONS OF THE PROJECT.
 - PANEL FINISH**
 THE PRECAST PANELS FOR THIS PROJECT SHALL HAVE A BURKE FORM LINER #302, "TRAPEZOIDAL RIE" FINISH, ON R-276 MSE WALL NO.5 ONLY. CLASS 1 FINISH SHALL BE APPLIED BY CONTRACTOR AS PER NOTE 22.
 - NOTE TO CONTRACTORS**
 ONLY THE FOLLOWING MATERIALS ARE SUPPLIED BY THE REINFORCED EARTH COMPANY:
 - PRECAST CONCRETE FACING PANELS
 - REINFORCING STRIPS
 - BOLT SETS (FOR ATTACHING PANELS TO THE REINFORCING STRIPS)
 - BEARING BLOCKS
 - RUBBER SHIMS
 - GEOTEXTILE FABRIC AND ADHESIVE (FOR PANEL JOINTS ONLY)
- ANY OTHER MATERIALS CALLED FOR IN THE CONTRACT PLANS OR SPECIFICATIONS ARE TO BE SUPPLIED BY THE CONTRACTOR. ANY JOINT MATERIALS SHOWN AT THE INTERFACE OF PRECAST PANELS AND CAST-IN-PLACE CONCRETE STRUCTURES ARE TO BE SUPPLIED BY THE ERECTION CONTRACTOR. ALL SANDBLASTING, PAINTING, SEALERS OR OTHER SPECIAL APPLIED COATINGS ARE ALSO SUPPLIED/INSTALLED BY THE CONTRACTOR IN THE FIELD FOLLOWING PANEL ERECTION.

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ESTIMATED QUANTITIES

ITEMS	UNITS	R-280 MSE	R-281 MSE	R-287 MSE	R-276 MSE	TOTALS
		WALL NO.2	WALL NO.3	WALL NO.4	WALL NO.5	
SURFACE AREA	SO.FT.	17,500	7,550	980	5,220	31,250
SELECT MATERIAL*	CU.YD.	9,670	6,250	500	3,340	19,760
CONCRETE COPING	L.FT.	935	296	—	334	1,565
LEVELING PAD	L.FT.	834	195	122	330	1,481

* DOES NOT INCLUDE STRUCTURE FILL BEHIND CONC. HEADWALLS.

R 280

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reinforced earth®

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DESIGNED BY: AO/HRT					PROJECT NAME SR-91	DATE 5/5/93
PROJECT ENGR: KT					LOCATION SR-91 BRIGHAM CITY TO MANTUA	CONTRACT NO. 4784
CHECKED BY:					OWNER UTAH DEPARTMENT OF TRANSPORTATION	DRAWING NO. 1 OF 3
ENG. MANAGER					DRAWING COVERS GENERAL NOTES ESTIMATED QUANTITIES	SCALE AS SHOWN
REV.	DATE			DESCRIPTION		