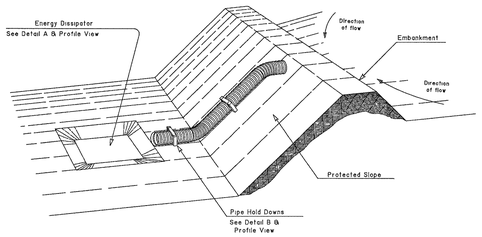
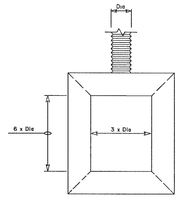
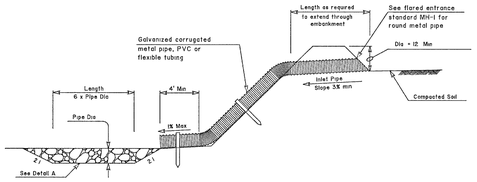


PERSPECTIVE VIEW

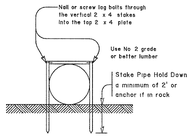


DETAIL A
(Plan View)

PIPE SLOPE DRAIN DESIGN CRITERIA		
PIPE/TUBING SIZE	DIAMETER	MAXIMUM DRAINAGE AREA
PSD 12	12"	0 5 Acre
PSD 18	18"	1 5 Acres
PSD 21	21"	2 5 Acres
PSD 24	24"	3 5 Acres
PSD 30	30"	5 0 Acres



PROFILE VIEW



DETAIL B
(Elevation View)

PIPE SLOPE DRAIN WITH ENERGY DISSIPATOR

PSD

PIPE SLOPE DRAIN USAGE GUIDELINES

A Pipe Slope Drain (PSD) should be constructed to drain concentrated surface runoff safely down slopes without causing erosion The drainage area contributing runoff to a PSD should not exceed 5 acres The PSD should be sized to drain the peak rate of runoff without overtopping at the earth dike entrance A 25 year storm frequency may be used to calculate the flow rate

PLAN SHEET LEGEND

Pipe Slope Drain — PSD

GENERAL NOTES

1 The inlet pipe shall have a slope of 3 percent or greater Pipe diameter shall be as indicated on the construction drawings

2 The top of embankment shall be at least 12 higher than the top of the inlet pipe at all points

3 The pipe shall be galvanized corrugated metal pipe, PVC, or flexible tubing with watertight connection bands

4 Pipe shall be secured with hold-down grommets spaced a maximum of 10 on centers or with pipe hold downs as shown in Detail B

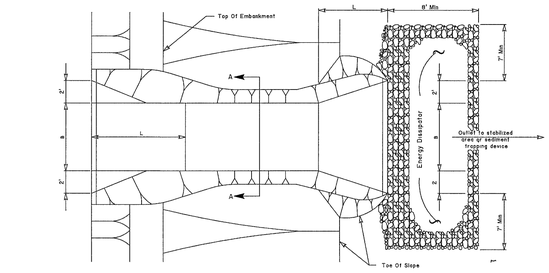
5 The sediment trap shall be constructed to the dimensions as shown and in accordance with Special Specification "Earthwork for Erosion Control As otherwise detailed on the plans the sediment trap may be stabilized using concrete or rubble riprap as per Item, Riprap"

6 A standard flared entrance section shall be used with the pipe slope drain See TxDOT standard MH-1 for details

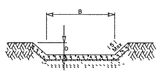
7 The guidelines shown hereon are suggestions only and may be modified by the Engineer

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

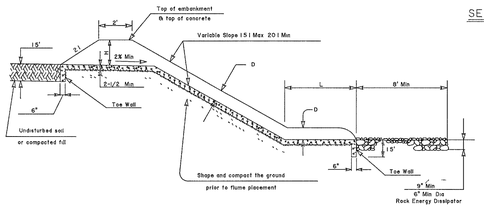
TEMPORARY PIPE SLOPE DRAINS



PLAN VIEW



SECTION A-A



PROFILE VIEW

DESIGN CRITERIA					
Group/ Size	B Bottom Width	H Min	D Min	L Min	Maximum Drainage Area
A-2	2'	1 5	8"	5	5 Acres
A-4	4'	1 5	8'	5'	8 Acres
A-6	6	1 5'	8"	5'	11 Acres
A-8	8	1 5'	8	5	14 Acres
A-10	10'	1 5	8	5'	18 Acres
B-4	4'	2'	10"	6'	14 Acres
B-6	6'	2'	10"	6'	20 Acres
B-8	8	2'	10"	6'	25 Acres
B-10	10	2'	10'	6'	31 Acres
B-12	12	2	10	6'	36 Acres

PAVED FLUME USAGE GUIDELINES

A Paved Flume should be constructed to drain concentrated surface runoff safely down slopes without causing erosion The drainage area contributing runoff to a paved flume should not exceed that given in the Design Criteria above The paved flume should be used to drain the peak rate of runoff without overtopping the embankment at the earth dike entrance A 25 year storm frequency may be used to calculate the flow rate

GENERAL NOTES

1 The group/size is a designator for the dimensions of the paved flume The group/size is designated by a letter (A or B) and the bottom (B) dimension The appropriate size shall be indicated on the construction plans

2 Per high velocity flows the aggregate of the energy dissipator should be secured with 20-gauge galvanized woven wire mesh with 1 diameter hexagonal openings The aggregate should be placed on the mesh to the dimensions specified The mesh shall be folded at the upstream side over the aggregate and tightly secured to itself on the downstream side using wire ties or hog rings

3 The guidelines shown hereon are suggestions only and may be modified by the Engineer

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

TEMPORARY PAVED FLUMES

PAVED FLUME

PF

PLANS SHEET LEGEND

Paved Flume — PF

Avoid cutting underground utility lines. It's costly.

Call before you Dig
1-800-227-2600

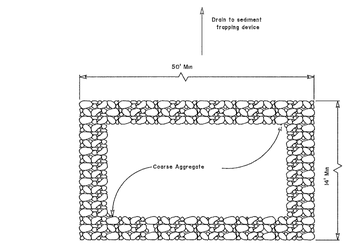
Avoid overhead power line contact. It's costly.

Call before you OVERHEAD
1-702-593-6111

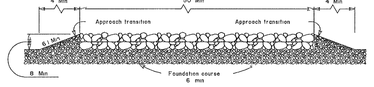
AVOID SETTING UNDERGROUND TRAFFIC SIGNAL SYSTEMS AND STREET LIGHT SYSTEM CONDUITS (SEE CHART)
CALL BEFORE YOU DO UNDERGROUND
Call before you UnderGround
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
AND
1-702-229-6611
LAS VEGAS AREA COMPUTERIZED TRAFFIC SYSTEM

86359

204128-ERO.DWG



PLAN



PROFILE

CONSTRUCTION EXIT (TYPE 1)

GENERAL NOTES

1 The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'

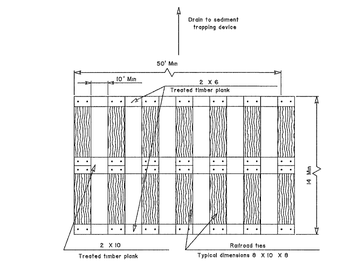
2 The coarse aggregate should be open graded with a size of 4" to 8"

3 The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer

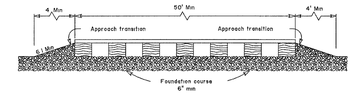
4 The construction exit foundation course shall be flexible base bituminous concrete, portland cement concrete or other material as approved by the Engineer

5 The construction exit shall be graded to allow drainage to a sediment trapping device

6 The guidelines shown hereon are suggestions only and may be modified by the Engineer



PLAN



PROFILE

CONSTRUCTION EXIT (TYPE 2)

GENERAL NOTES

1 The length of the type 2 construction exit shall be as indicated on the plans, but not less than 50

2 The treated timber planks shall be attached to the railroad ties with a 6 mm lag bolts Other fasteners may be used as approved by the Engineer

3 The treated timber planks shall be #2 grade mm and should be free from large and loose knots

4 The approach transitions shall be no steeper than 6:1 and constructed as directed by the Engineer

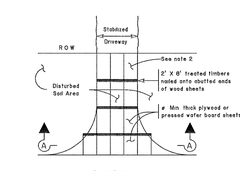
5 The construction exit foundation course shall be flexible base bituminous concrete portland cement concrete or other material as approved by the Engineer

6 The construction exit should be graded to allow drainage to a sediment trapping device

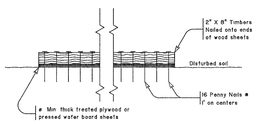
7 The guidelines shown hereon are suggestions only and may be modified by the Engineer

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

CONSTRUCTION EXITS



PLAN



SECTION A-A

CONSTRUCTION EXIT (TYPE 3)

GENERAL NOTES

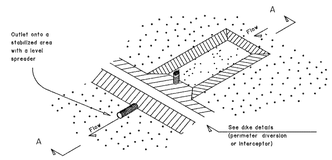
1 The length of the type 3 construction exit shall be as shown on the plans or as directed by the Engineer

2 The type 3 construction exit may be constructed from open graded crushed stone with a size of two to four inches spread a mm of 4 thick to the limits shown on the plans

3 The treated timber planks shall be #2 grade mm and should be free from large and loose knots

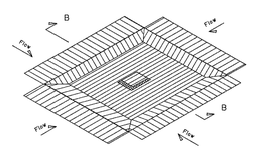
4 The guidelines shown hereon are suggestions only and may be modified by the Engineer

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES



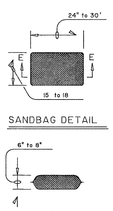
SEDIMENT BASIN AND/OR TRAP WITH PIPE OUTLET

ST/PO



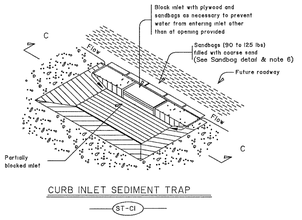
DROP INLET SEDIMENT TRAP

ST-DI



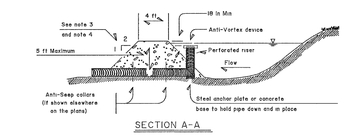
SANDBAG DETAIL

SECTION E-E

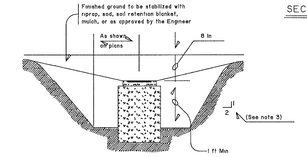


CURB INLET SEDIMENT TRAP

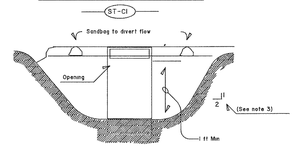
ST-CI



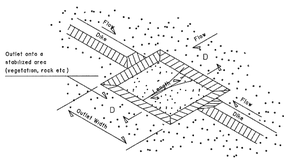
SECTION A-A



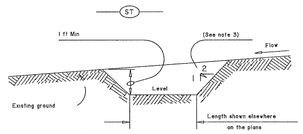
SECTION B-B



SECTION C-C



SEDIMENT TRAP WITH LEVEL STABILIZED OUTLET



SECTION D-D

PLANS SHEET LEGEND

ST/PO — Sediment Basin and/or Trap with Pipe Outlet

ST-DI — Drop Inlet Sediment Trap

ST-CI — Curb Inlet Sediment Trap

ST — Sediment Trap with Level Stabilized Outlet

SEDIMENT BASIN & TRAP USAGE GUIDELINES

A sediment basin and/or trap may be used to precipitate sediment out of runoff draining from an unstabilized area

Basins The drainage area for a sediment basin should not exceed 100 acres The basin capacity shall be at least 1800 CF/Acre of drainage area (0 5 over the drainage area) If the disturbed area draining to the basin is larger than 10 acres the basin capacity should be 3600 CF/Acre (1 0' over the drainage area)

The basin should have a 40 hour draw-down time with an emergency spillway The spillway may be designed to pass the peak rate of runoff from a 25 year frequency storm The 100 year storm should be investigated to consider possible flooding impacts

The entrance into the basin should be protected from erosion The basin should be cleaned when the capacity has been reduced by 1/3

Traps The drainage area for a sediment trap should not exceed 5 acres The trap capacity should be 1800 CF/Acre (0 5 over the drainage area)

Sediment traps should be placed in the following locations
1 Within drainage ditches spaced # 500 on center s
2 Immediately preceding ditch inlets
3 Just before the drainage enters a water course
4 Just before the drainage leaves the right of way

The trap outlet may either be through a perforated riser and pipe assembly designed to achieve a 40 hour draw-down time or over a level stabilized area (vegetation, rock etc)

The trap should be cleaned when the capacity has been reduced by a or the sediment has accumulated to a depth of 1', whichever is less

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

SEDIMENT BASINS AND TRAPS (EARTHWORK FOR EROSION CONTROL)

BASIS OF BEARING

THE BASIS OF BEARING IS A LINE BETWEEN THE N1/4 COR. OF SEC. 20, T. 19 S., R. 60 E., M.D.M., AND THE E1/16 COR. OF SAID SEC. 20, AS SHOWN ON EXHIBIT B OF DOC. 200301.31:03151, WHICH IS THE DEDICATION OF ELKHORN ROAD, WHICH BEARS S 89°42'15" E.

CLV BENCHMARK #BLV90–20N6
RIVET & PLATE IN CONCRETE CYLINDER NE CORNER OF EL CAPITAN & DORRELL
ELEVATION: 788.9015 METERS, 2588.25 FEET

REV:	DESCRIPTION:	DATE:	BY:

CLIENT
UHS OF DELAWARE, INC
367 SOUTH GULPH ROAD
KING OF PRUSSIA, PA 19406
610-768-3300

ARCHITECT
HKS INC. OF NEVADA
1919 McKINNEY AVE.
DALLAS, TX 75201
214.969.5599

STRUCTURAL ENGINEER
HKS STRUCTURES
1919 McKINNEY AVE.
DALLAS, TX 75201

MEP ENGINEER
CCRD PARTNERS
3625 N. HALL ST., SUITE 1300 LB 139
DALLAS, TX 75219

INTERIORS CONSULTANT
DESIGN STUDIO, INC.
161 LEVERINGTON AVE.
PHILADELPHIA, PA 19127

CIVIL ENGINEER
LOPEZGARCIA GROUP
1825 MARKET CENTER, SUITE 500
DALLAS, TX 75207

FOOD SERVICE CONSULTANT
SDI, INC.
5200 DTC PARKWAY, SUITE 500
GREENWOOD VILLAGE, CO 80111

LANDSCAPE ARCHITECT
JW ZUNINO AND ASSOCIATES
3191 S. JONES BLVD.
LAS VEGAS, TN 89146

HKS

Centennial Hills Hospital Medical Cent

Centennial Hills Hospital

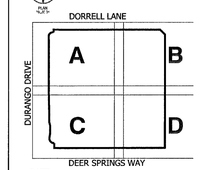
Las Vegas, NV

PROFESSIONAL ENGINEER STATE OF NEVADA RICHARD J. CARSON, JR. EXP: 12-31-06 CIVIL No. 14870

DATE: 10/31/05

HKS JOB NO.
8849

KEY PLAN



DATE
20 Jun 05

BID/PERMIT ISSUE
20 JUN 05

CITY OF LAS VEGAS - CIVIL REVIEW
15 SEPT 05
FINAL SUBMITTAL
31 OCT 05

SHEET TITLE
SWPPP DETAILS

SHEET NO.
C7.3
SHEET NO. 43 OF 4

107V4516