

TECHNICAL MEMORANDUM

February 22, 2023

TO: County of Hawaii
Department of Environmental Management
Solid Waste Division
345 Kekuanaoa St., Suite 41
Hilo, HI 96720

FROM: Wesley R. Segawa & Associates
736 South Street, Suite 203
Honolulu, HI 96813

SUBJECT: Analysis of Access of Vehicle with Trailer to Transfer Stations on the Island of Hawaii

Dear Mr. Gene Quiamas:

Wesley R. Segawa & Associates (WRSA) hereby submits this Technical Memorandum in accordance with our contract dated November 9, 2022.

Background

Prior to 2022, the use of trailers was not allowed in any of the County of Hawaii's solid waste transfer stations. The Rules and Procedures of the Department of Environmental Management was updated in March 2022. Specifically related to vehicles, Rule 9-17 was updated to as follows:

9-17. Vehicles are limited to sedans, SUVs, pickup trucks, or vans. Dump bed trucks are prohibited at the transfer stations. Trailers are prohibited at transfer stations, except as provided below:

- (a) After a review of site designs, safety reports, and SWD recommendations, and having determined that a transfer station allows the safe maneuvering, the Director will publish locations, dates, and times trailers will be allowed. The Director may suspend this authorization at any time.
- (b) Trailers shall not exceed 6 feet by 9 feet.
- (c) All trailers shall have a current County of Hawai'i vehicle registration and safety inspection. Transfer station users shall follow all other rules for solid waste disposal and all directions from SWD personnel.
- (d) Transfer station users shall pull trailers beside a chute and minimize reversing their trailers when possible.
- (e) The Director will notify the public of schedule changes regarding trailers at transfer stations.

In order to meet the requirements of 9-17(a), the Solid Waste Division commissioned this trailer movement study to check the conditions of the transfer stations to determine if trailer movement is feasible. The following table summarizes what was found at each transfer station:

Station	Trailer can maneuver (Yes or No)	If Yes, does it impede traffic outside facility?	Does it impede traffic within facility?	If Yes, are there mitigation(s)?	Mitigation(s)	General Recommendation
Glenwood	Yes, but only with Note 3	No	Yes, see Note 4	Yes	Note 2	Notes 2, 3 and 4
Hawi	Yes	Yes	Yes	No		Note 1
Hilo	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Honokaa	Yes	No	Yes, see Note 4	Yes	Note 2	Notes 2 and 3
Honomu	Yes	No	Yes	No		Note 1
Kalapana	Yes	No	Yes	No		Note 1
Keaau	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Kealakehe	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Keauhou	Yes	No	Yes	No		Note 1
Keel	Yes	No	Yes	No		Note 1
Laupahoehoe	Yes	No	Yes	No		Note 1
Ocean View	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Paauilo	Yes	No	Yes	No		Note 1
Pahala	Yes	No	Yes	No		Note 1
Pahoa	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Papaikou	Yes	No	Yes	No		Note 1
Puako	Yes	No	Yes	No		Note 1
Volcano	Yes, but only with Note 3	No	Yes	Yes	Note 2	Notes 2 and 3
Waiea	Yes	Yes	No	No		Note 1
Waimea	Yes	No	Yes	Yes	Note 2	Notes 2 and 3
Waiohinu	Yes	No	Yes	No		Note 5

Note 1: Lifting ban not recommended.

Note 2: Fulltime traffic control personnel.

Note 3: NO reversing of trailer allowed. Trailer must pull in parallel with the chute/bin/container.

Note 4: Next User will need to wait for vehicle with trailer to finish offloading before being able to move forward.

Note 5: Lifting ban not recommended for the current configuration. Once the transfer station improvements are complete, use of trailers can be reconsidered.

Methodology

The trailer turning radius analysis was performed using AutoTURN software using a full-size pick-up truck, such as a Ford F-150 or equal. The trailer used was the “Big Tex” 70-TV-12 Landscaper Hitch (see Figure 2 – Vehicle Dimensions). The County provided site plans in pdf format for all the transfer stations, and AutoCAD files for the following sites: Hawi, Hilo, Honokaa, Honomu, Kalapana, Keaau, Kealakehe, Keauhou, Keesi, Laupahoehoe, Paauilo, Pahoa, Papaikou, Puako, Volcano, and Waimea. Due to some discrepancies between the site plan, the AutoCAD file, and Google Maps/Earth, site visits were undertaken to the following sites: Glenwood, Hilo, Honomu, Keauhou, Keesi, Ocean View, Paauilo, Pahala, Puako, Volcano, Waiea, and Waiohinu. See Figure 1 – Transfer Station Locations for the locations of all the transfer stations.

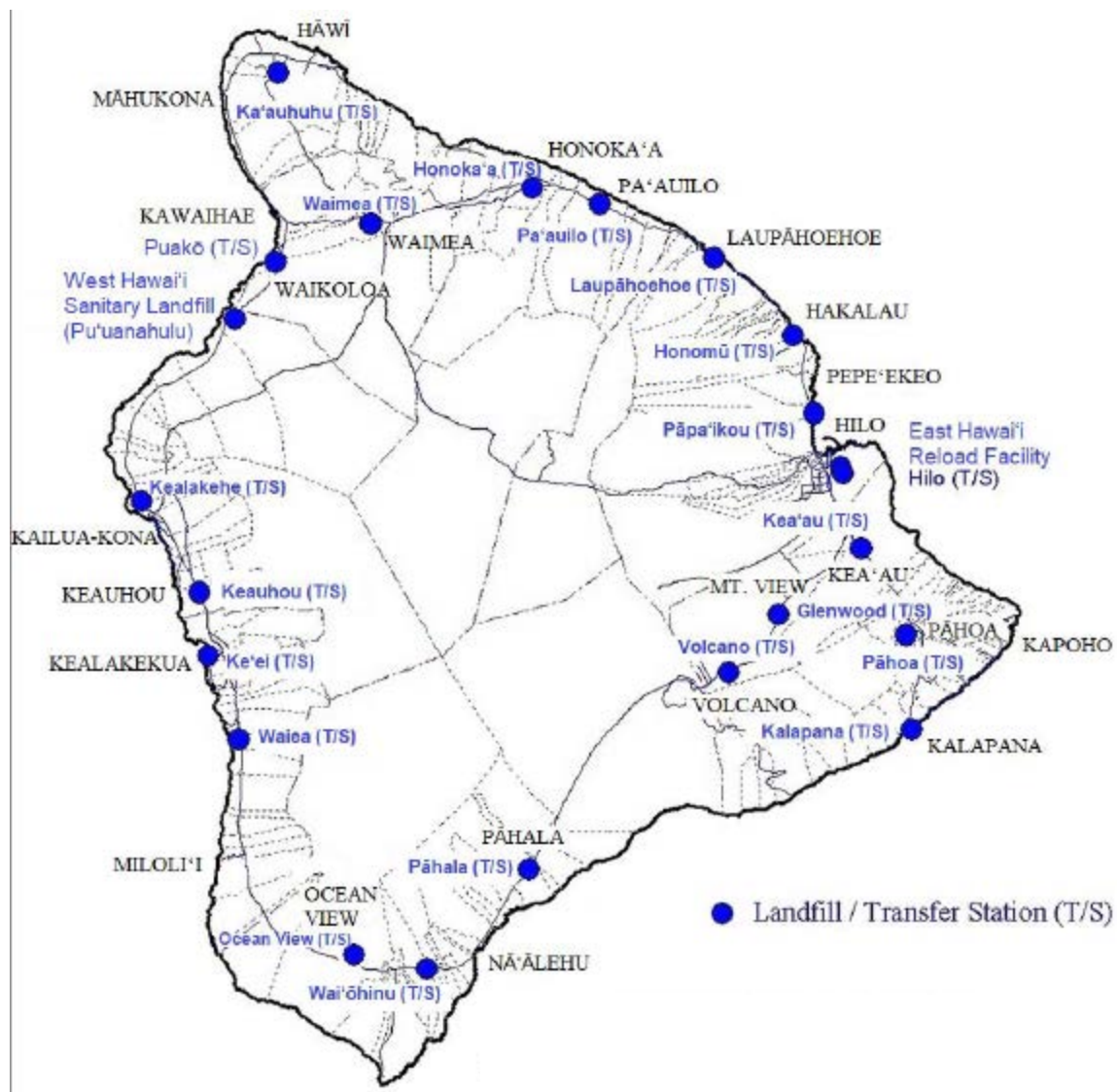
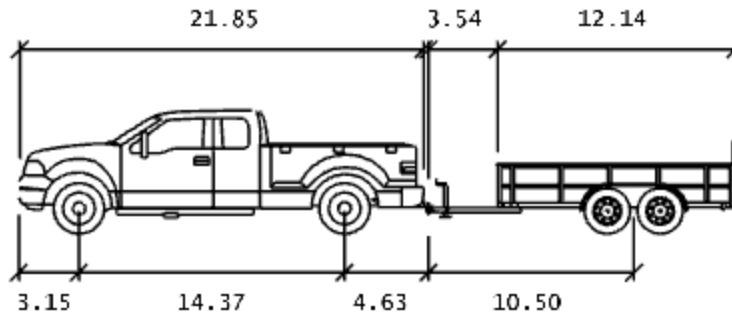


Figure 1 – Transfer Station Locations



Big Tex 70TV-12 Landscaper Hitch

	Feet
Car Width	: 6.66
Trailer Width	: 6.92
Car Track	: 7.91
Trailer Track	: 6.92
Lock to Lock Time	: 6.0 s
Steering Angle	: 34.2 deg
Articulating Angle	: 70.0 deg

Figure 2 – Vehicle Dimensions (approximately 7 feet by 22 feet for the truck and 7 feet by 16 feet for the trailer including drawbar)

Note: While Admin Rule specified the trailer dimension (6 feet by 9 feet), AutoTURN does not have the size, so the next larger size was used in the analysis.

The Solid Waste Division provided criteria for what is considered safe or unsafe conditions:

- Trailer must be able to turn around within the facility without having to reverse.
- Trailer cannot stop and use on the roadway outside the facility to maneuver into the facility.
- There must be enough room for vehicles to get around a vehicle with trailer when offloading at a chute/bin/container.
- Any reversing within the facility is considered unsafe.

CONCLUSION

Based on result of trailer turning movement analysis, we recommend that the County consider allowing the use of trailers at the following transfer stations provided certain conditions are implemented:

Glenwood, Hilo, Honokaa, Keaau, Kealakehe, Ocean View, Pahoa, Volcano, Waimea, and possibly Waiohinu (when improvements are completed).

The conditions are: No reversing of trailers – only parallel will be allowed, and fulltime personnel for traffic control must be employed.

Sincerely,
WESLEY R. SEGAWA & ASSOCIATES, INC.



Neal Fukumoto, P.E.

Attachments

ATTACHMENTS

Glenwood Transfer Station - Analysis of Access of Pickup with Trailer

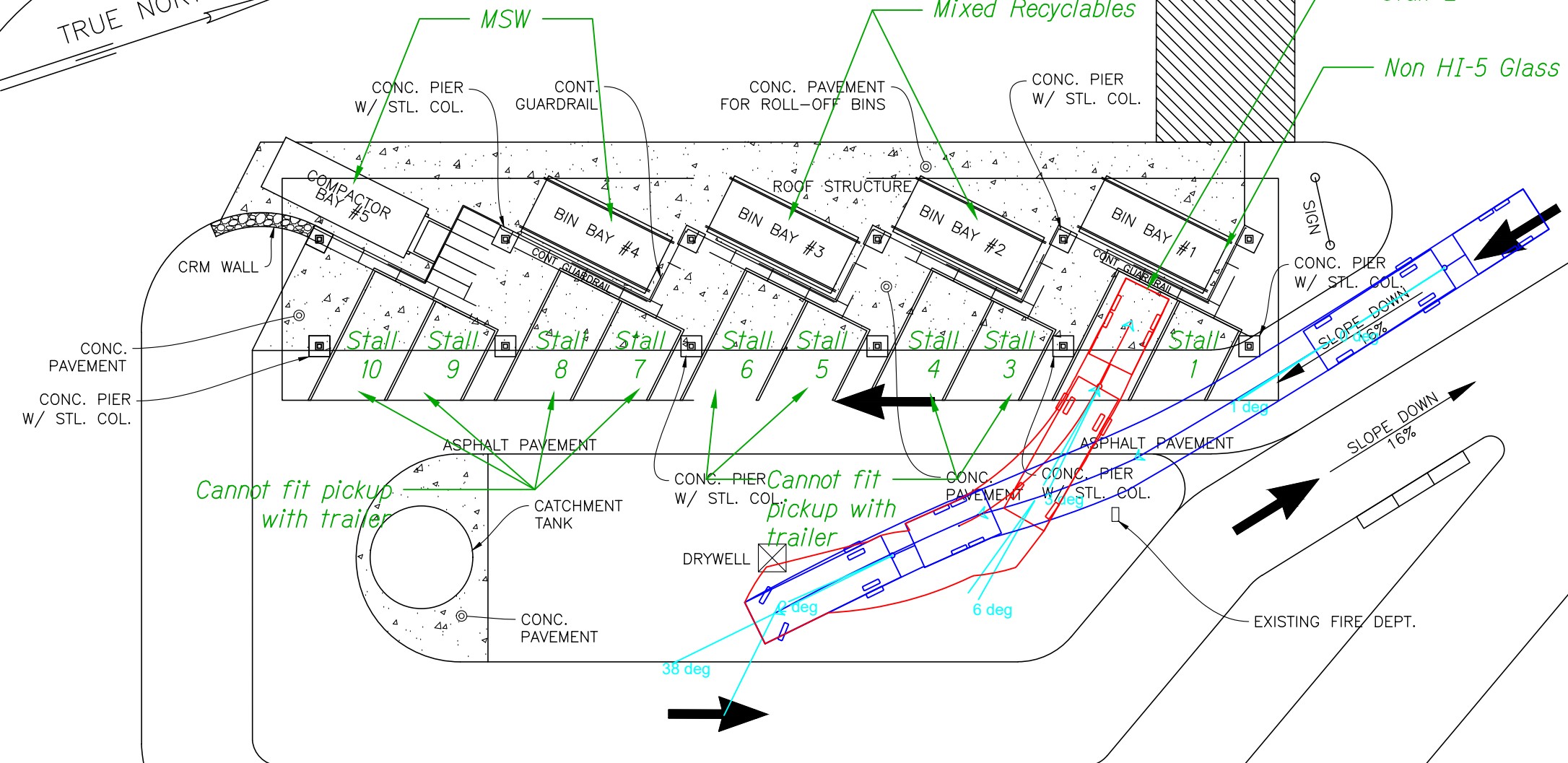
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Non Hi-5 Glass	All	Yes, but only with Note 3	NA	Yes, see Note 4	See Sketch 1 and 2.
Mixed Recyclables	All	Yes, but only with Note 3	NA	Yes, see Note 4	See Sketch 1 and 2.
MSW	All	Yes, but only with Note 3	NA	Yes, see Note 4	See Sketch 1 and 2.

Note 3: NO reversing allowed. Trailer must pull parallel with the chute/bin/container.

Note 4: Next User will need to wait for vehicle with trailer to finish before being able to move forward.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.

TRUE NORTH

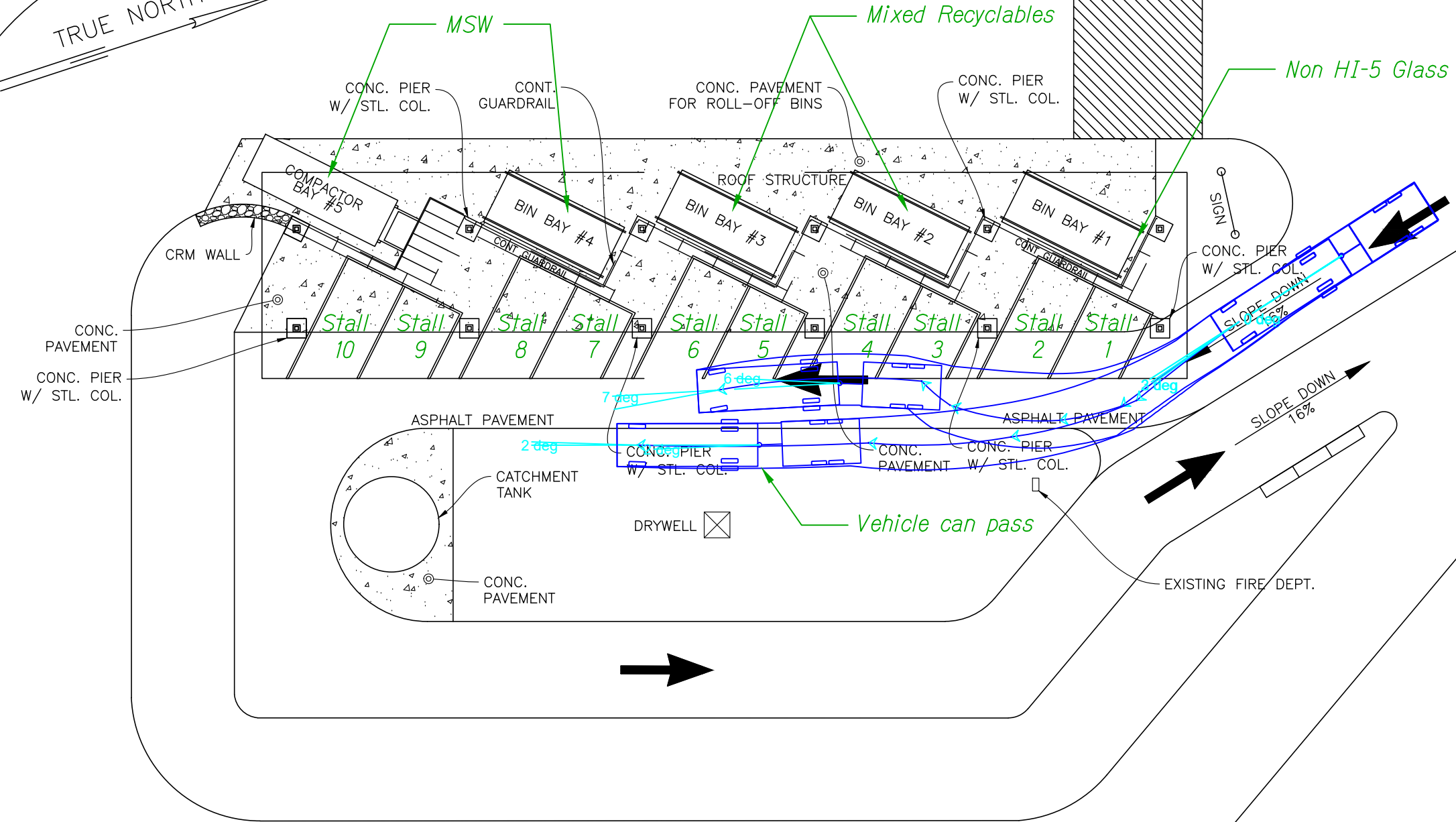


ASPHALT PAVEMENT

NON HI-5 GLASS, MIXED RECYCLABLES, & MSW

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
GLENWOOD NON HI-5 GLASS, MIXED RECYCLABLES, & MSW					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

TRUE NORTH



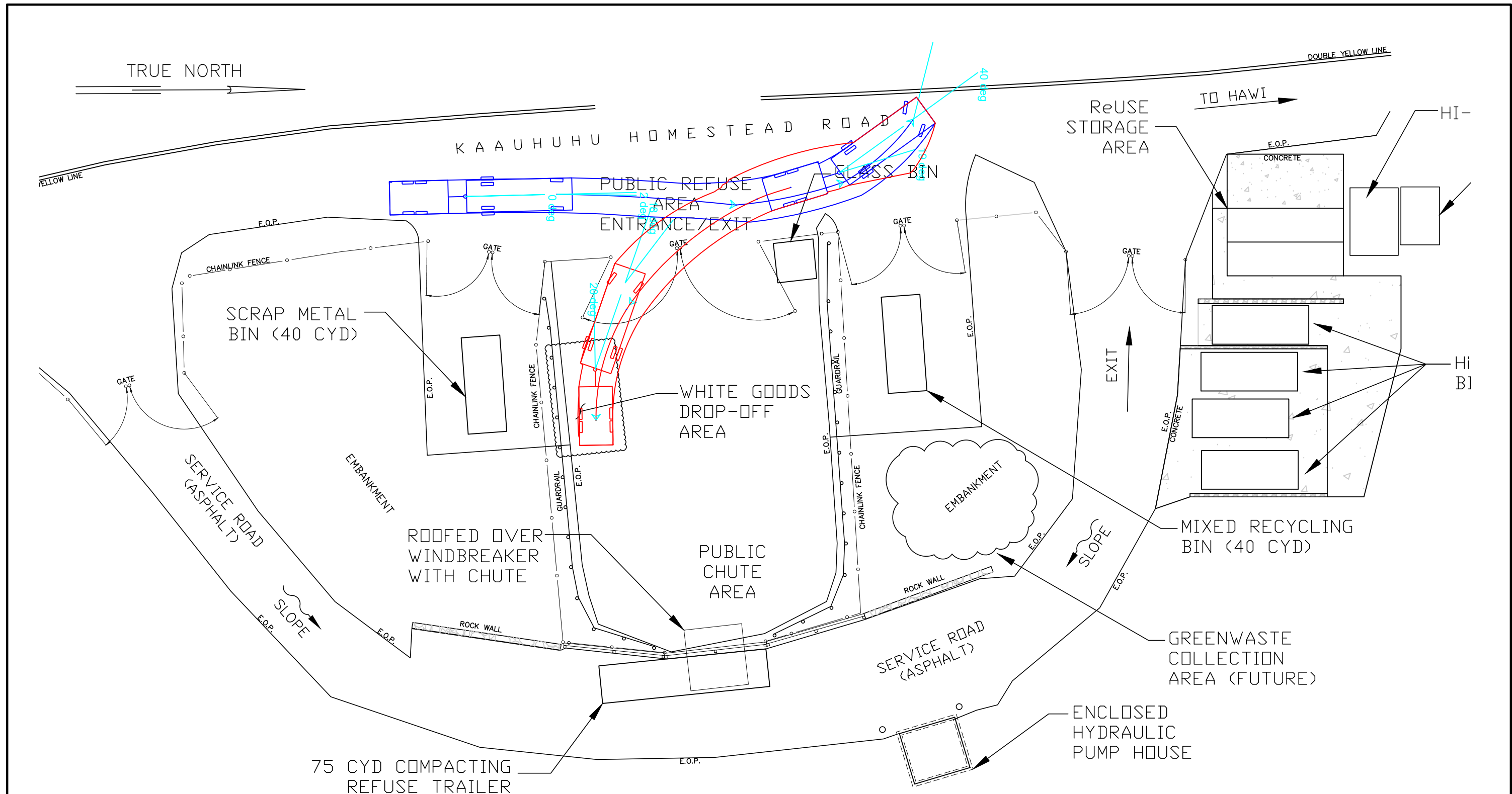
NON HI-5 GLASS, MIXED RECYCLABLES, & MSW
PARALLEL PARKED

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
GLENWOOD NON HI-5 GLASS, MIXED RECYCLABLES, & MSW PARALLEL PARKED					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

Hawi Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Scrap Metal Bin & White Goods Drop Off Area	1	Yes	Yes	Yes	See Sketch 1.
Refuse Trailer	1	Yes	Yes	Yes	See Sketch 2.
Mixed Recycling Bin & Glass Bin	1	Yes	Yes	Yes	See Sketch 3.
Green Waste Collection Area (Future)	1	Yes	Yes	Yes	See Sketch 4 and 5.

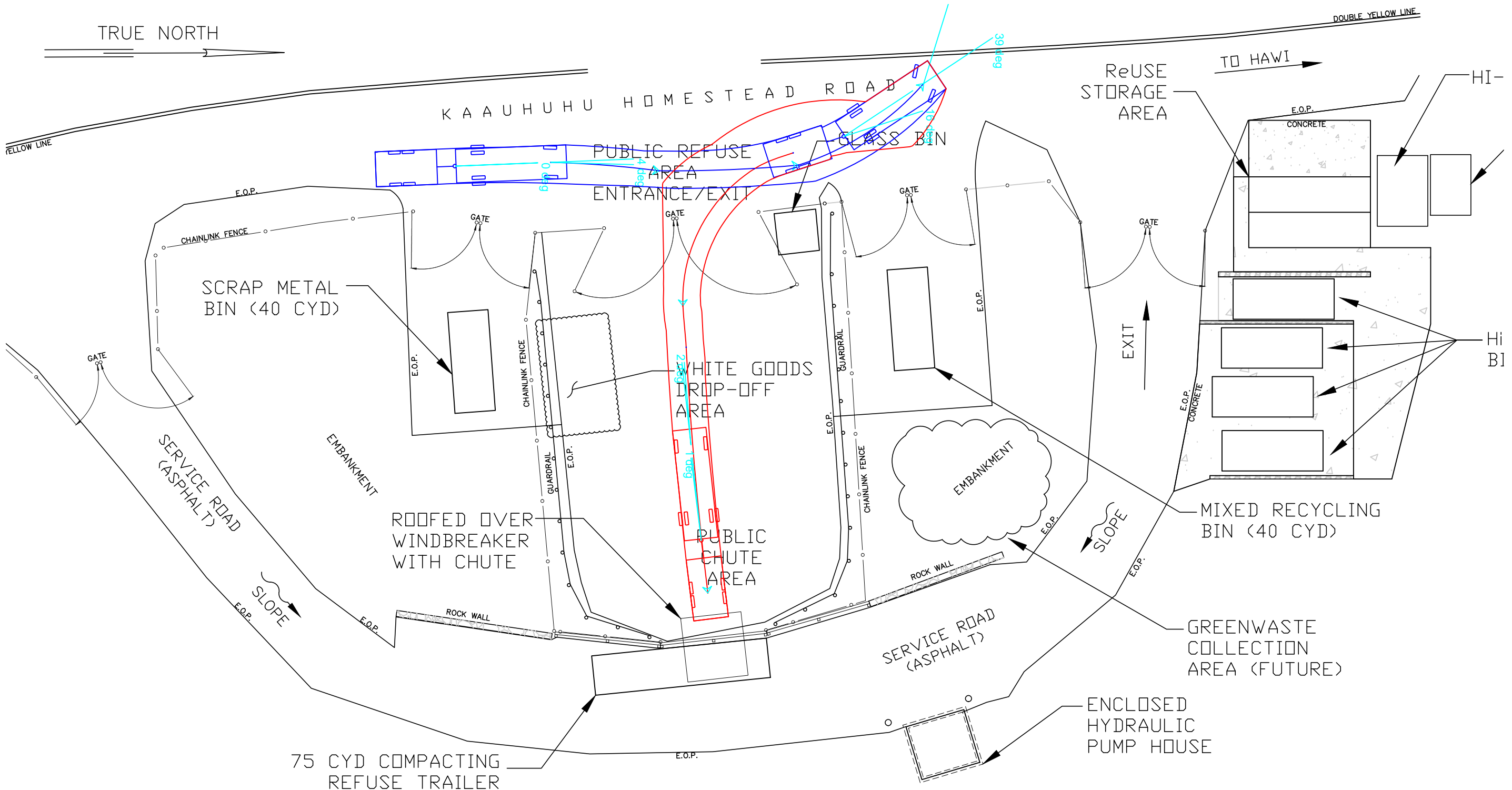
Recommend trailers not be allowed at this transfer station because accessing the facility would require backing in from Kaauhuhu Homestead Road.



SCRAP METAL BIN & WHITE GOODS DROP OFF AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HAWI SCRAP METAL BIN & WHITE GOODS DROP OFF AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-1		

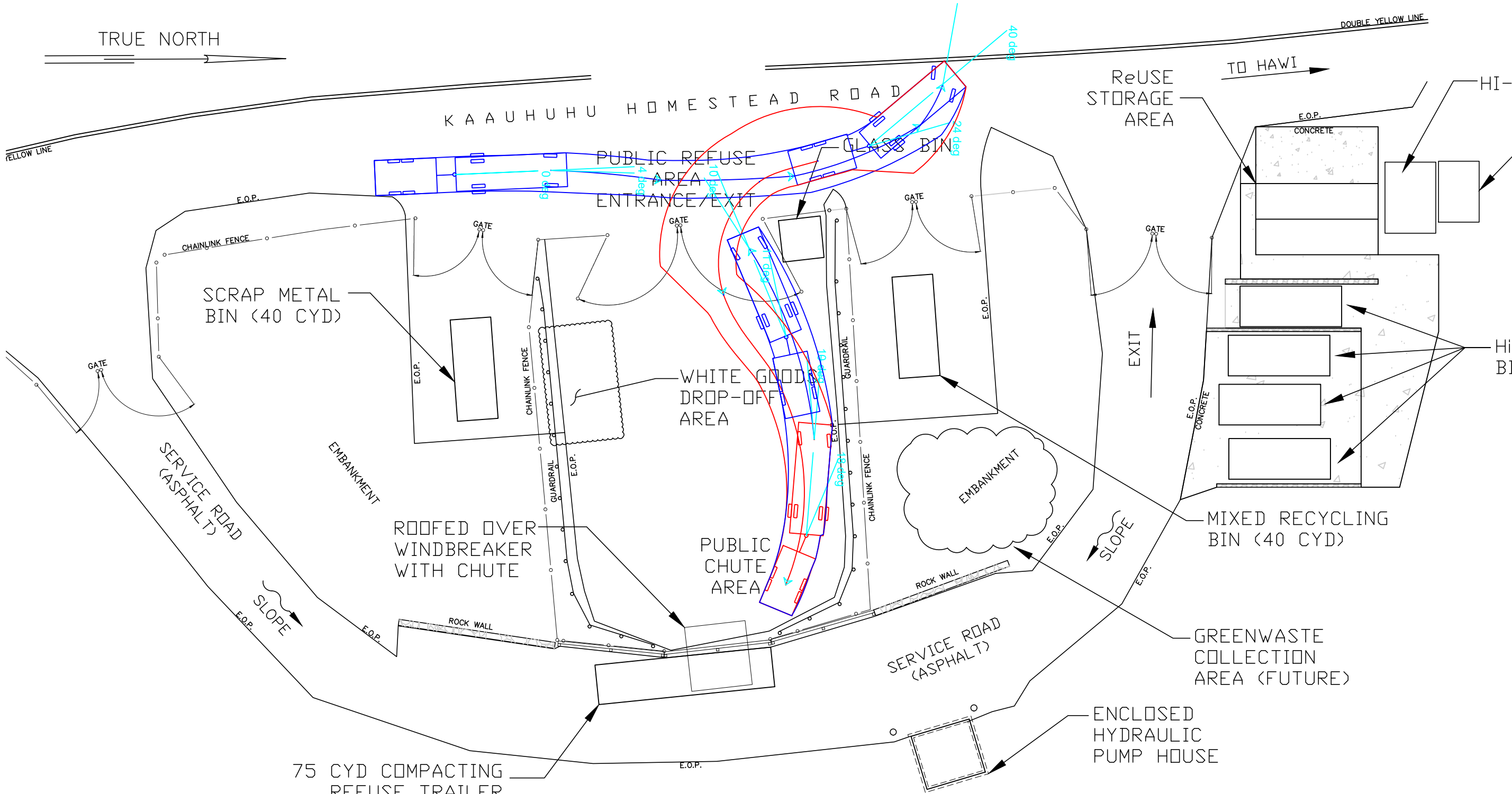
TRUE NORTH



REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HAWI REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

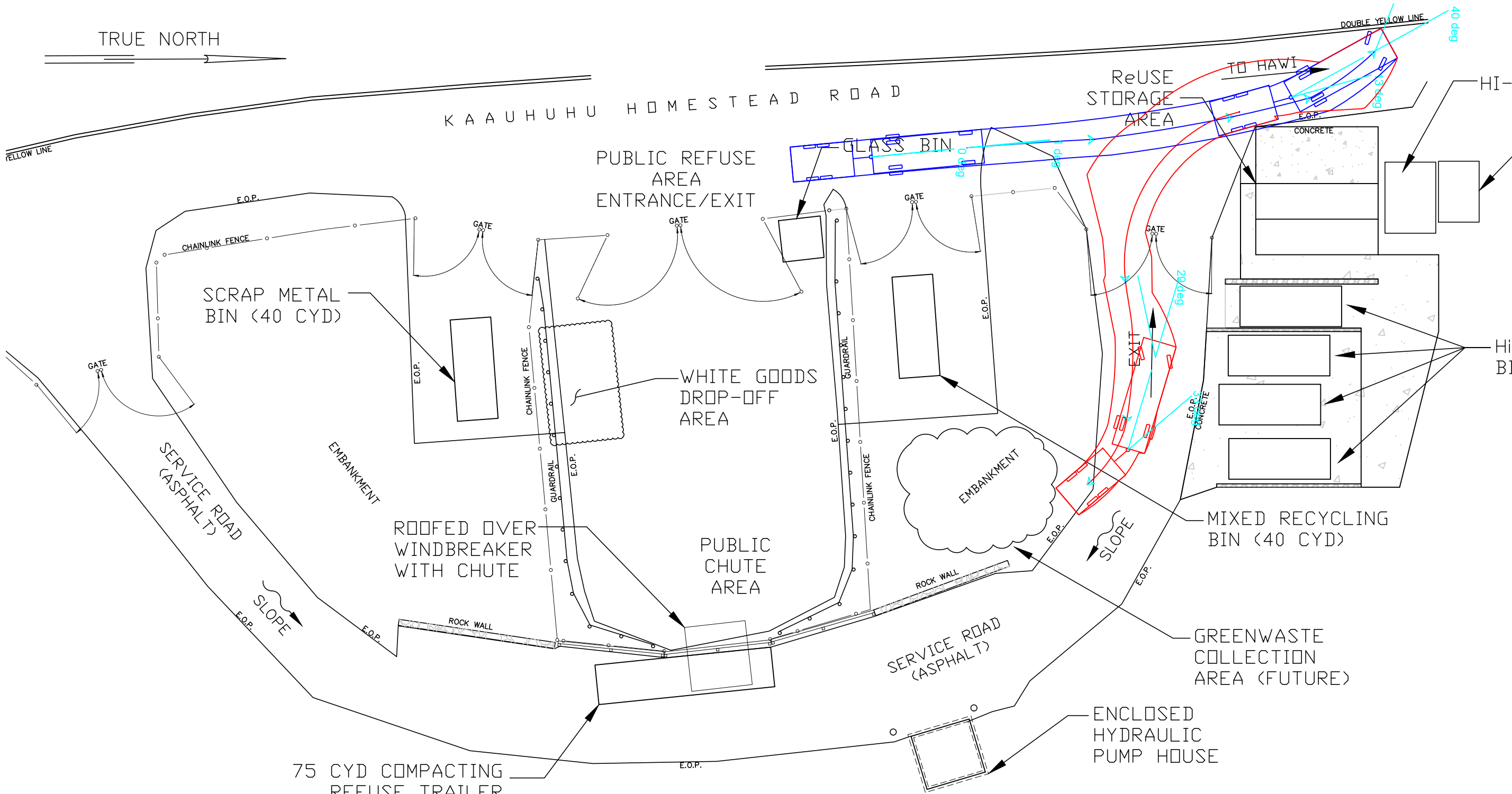
TRUE NORTH



MIXED RECYCLING BIN & GLASS BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HAWI MIXED RECYCLING BIN & GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-3		

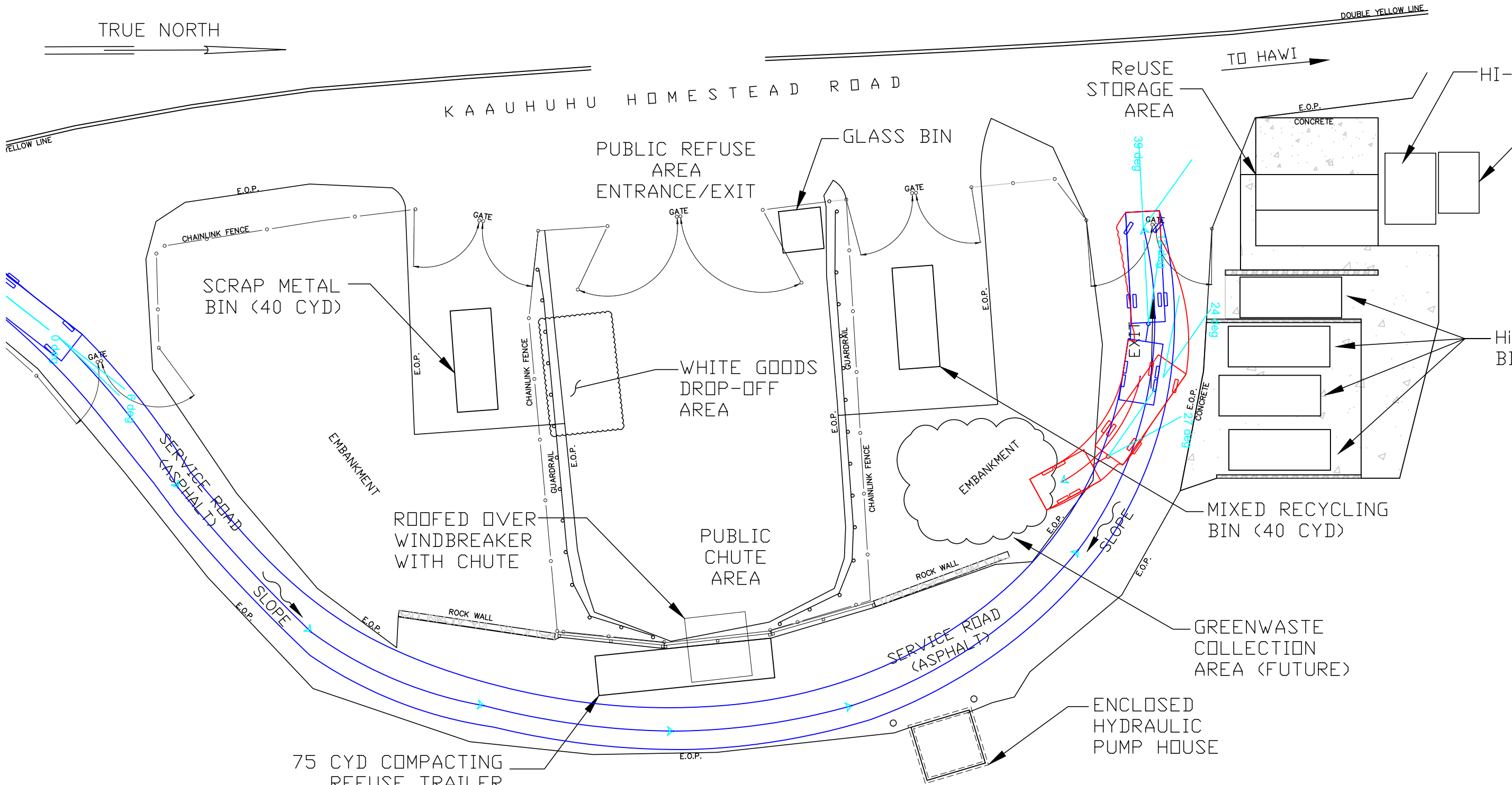
TRUE NORTH



GREENWASTE COLLECTION AREA (FUTURE)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HAWI GREENWASTE COLLECTION AREA (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4

TRUE NORTH



GREENWASTE COLLECTION AREA (FUTURE)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HAWI GREENWASTE COLLECTION AREA (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5

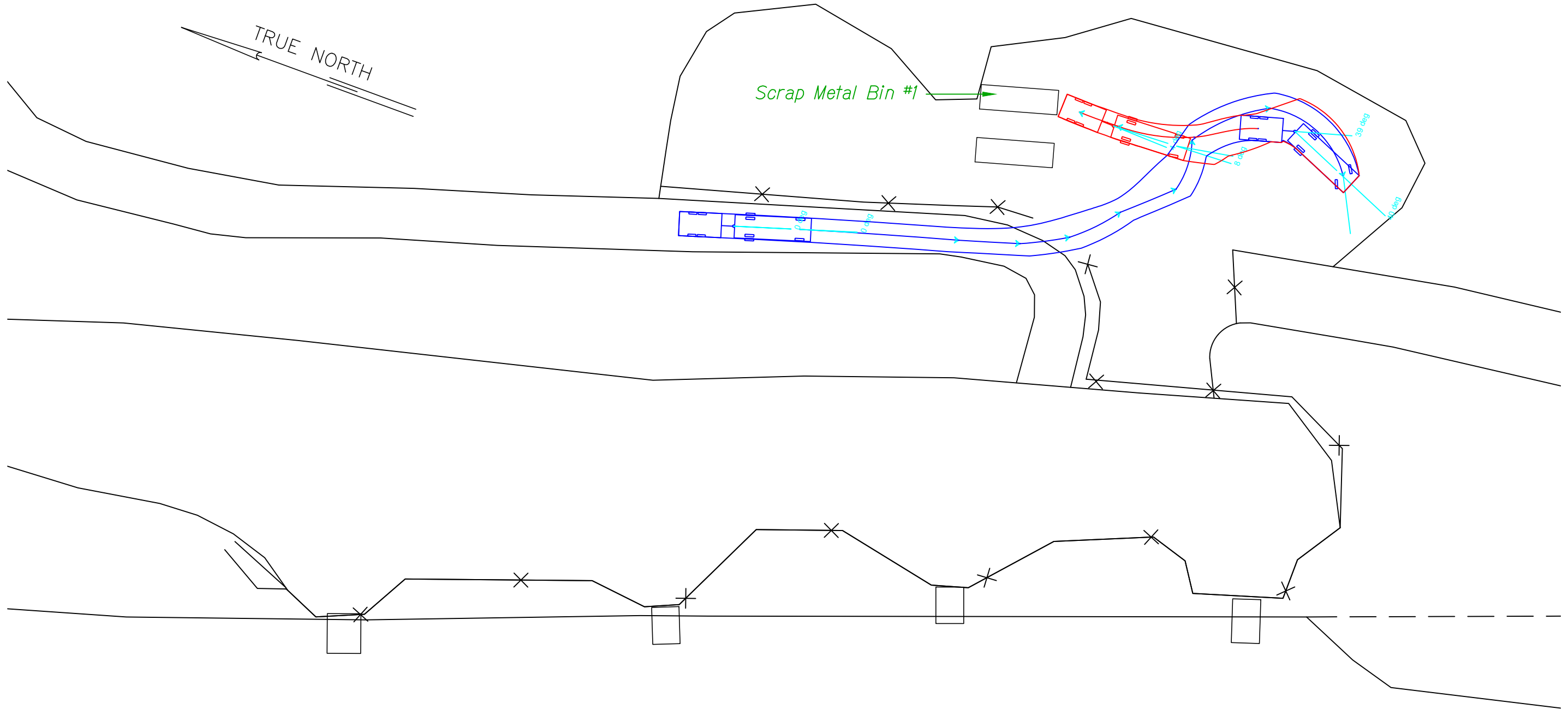
Hilo Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Scrap Metal Bin	1	Yes	No	No	See Sketch 1.
	2	Yes	No	No	See Sketch 2.
Public Refuse Chute	1	Yes	No	Yes	See Sketch 3.
	2	Yes	No	Yes	See Sketch 4.
	3	Yes	No	Yes	See Sketch 5.
	4	Yes	No	Yes	See Sketch 6.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.

TRUE NORTH

Scrap Metal Bin #1

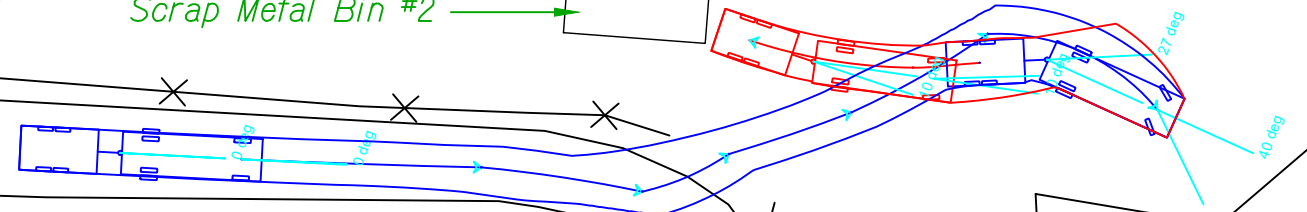


SCRAP METAL BIN #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION			
		HILO SCRAP METAL BIN #1			
		DESIGNED:	SUBMITTED:		
		DRAWN:	DATE:		
		CHECKED:	SCALE:		
		APPROVED:			DRAWING NO.
		CHIEF ENGINEER	DATE	SK-1	

TRUE NORTH

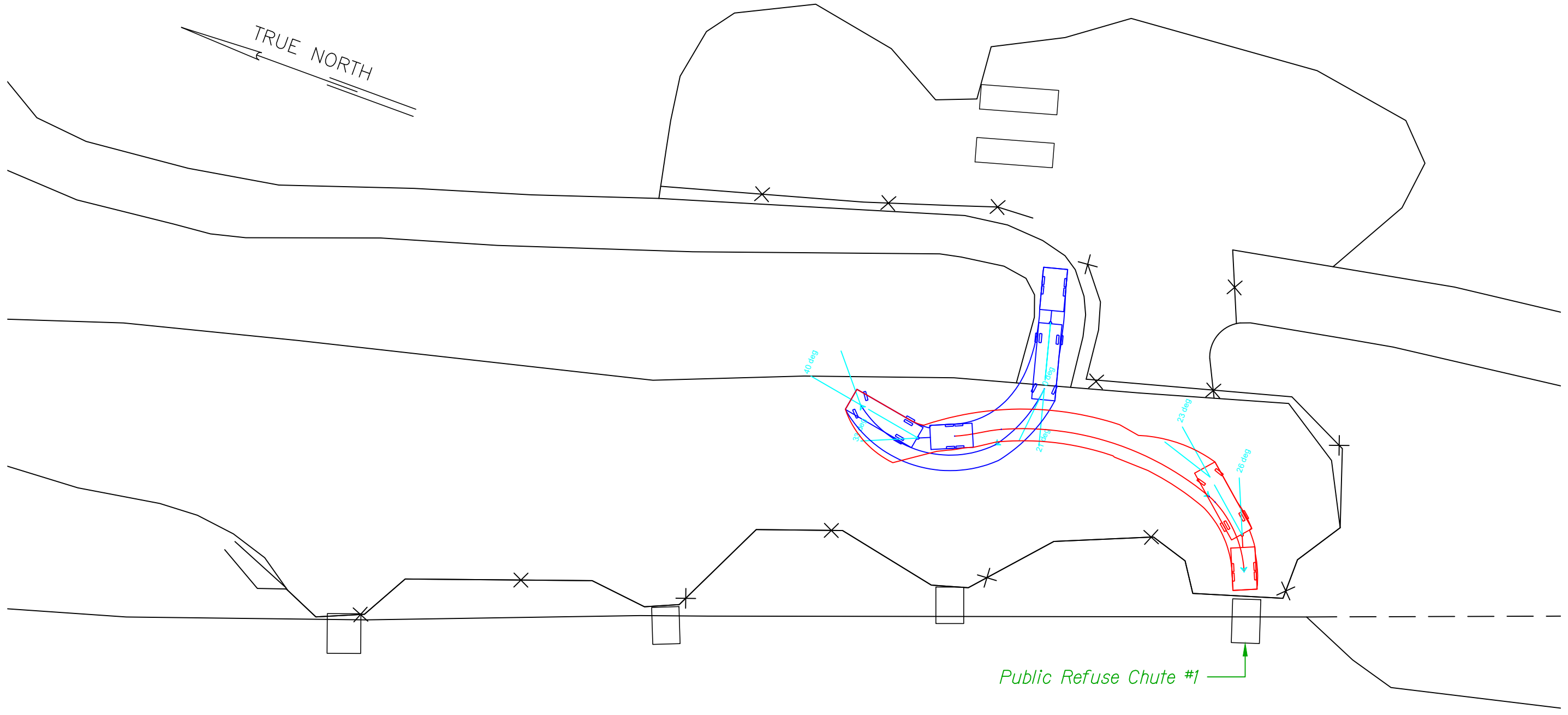
Scrap Metal Bin #2



SCRAP METAL BIN #2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION			
		HILO SCRAP METAL BIN #2			
		DESIGNED:	SUBMITTED:		
		DRAWN:	DATE:		
		CHECKED:	SCALE:		
		APPROVED:	DRAWING NO.		SK-2
		CHIEF ENGINEER	DATE		

TRUE NORTH

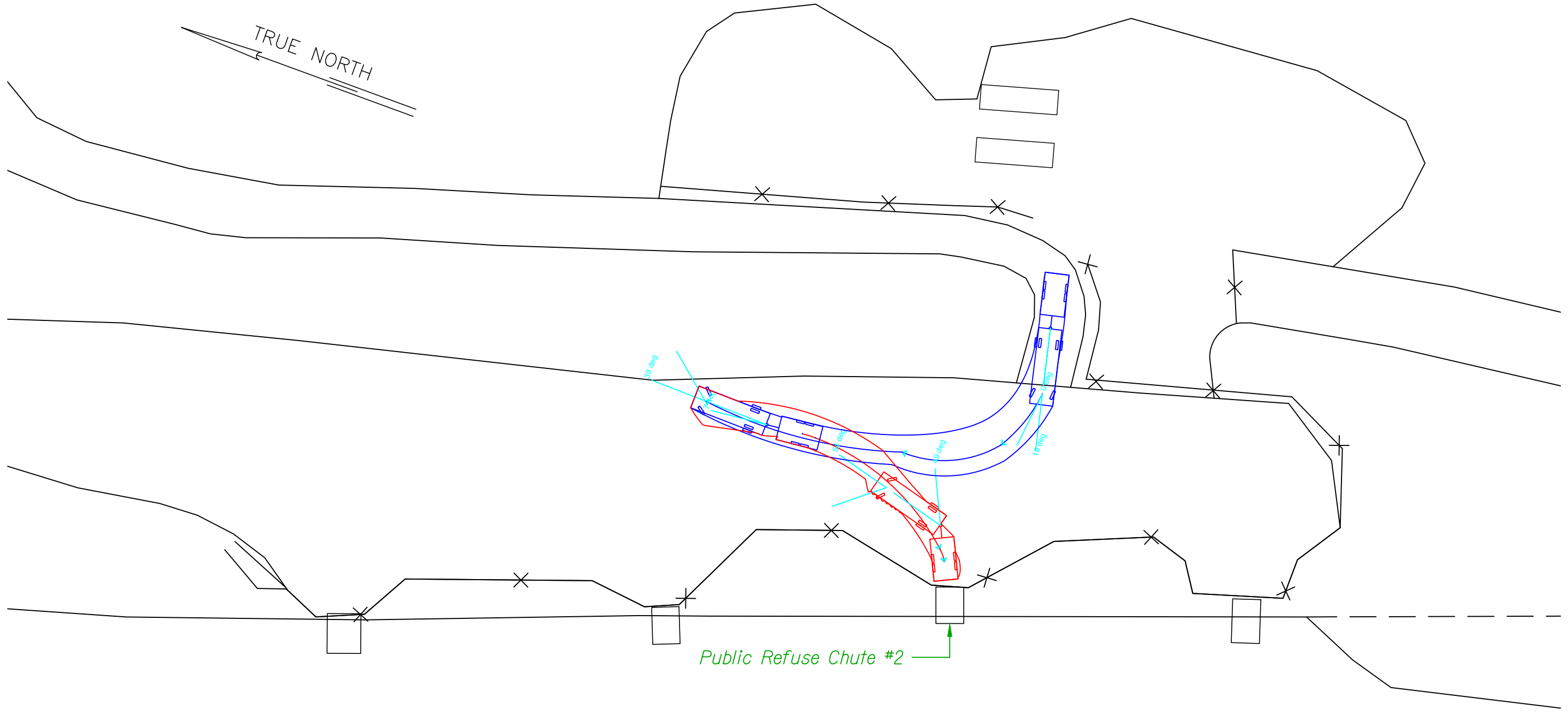


PUBLIC REFUSE CHUTE #1

Public Refuse Chute #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HILO PUBLIC REFUSE CHUTE #1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		SK-3
CHIEF ENGINEER			DATE		

TRUE NORTH

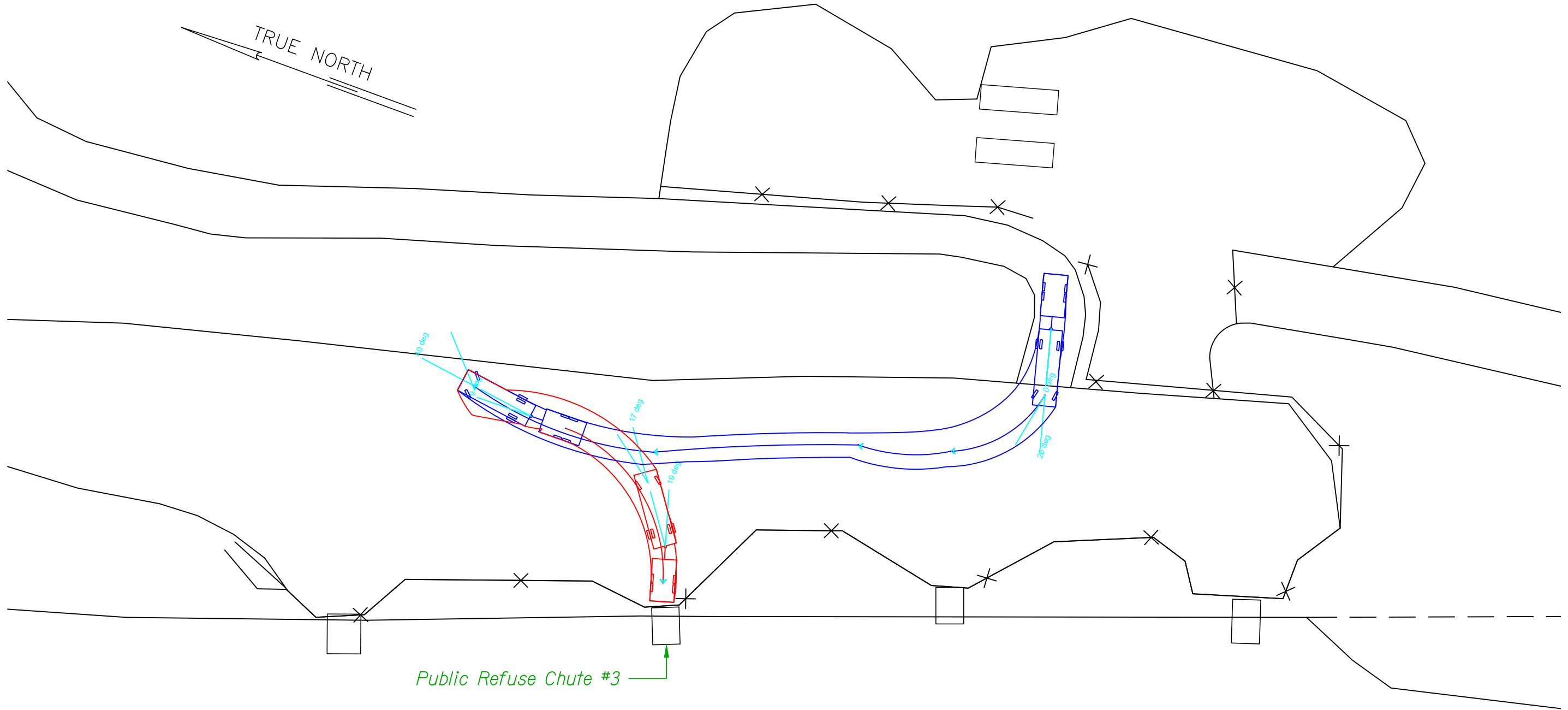


Public Refuse Chute #2

PUBLIC REFUSE CHUTE #2

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HILO PUBLIC REFUSE CHUTE #2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		SK-4
CHIEF ENGINEER			DATE		

TRUE NORTH

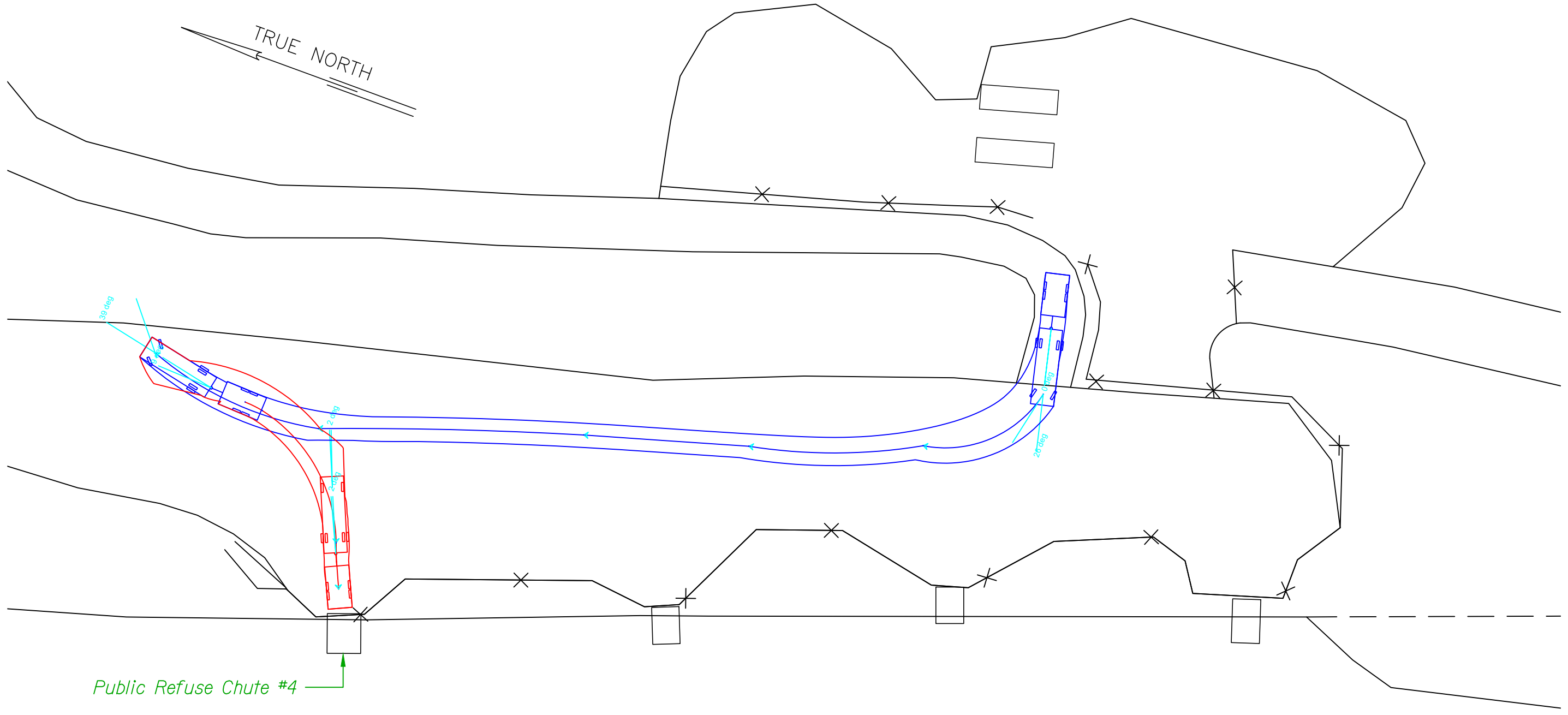


Public Refuse Chute #3

PUBLIC REFUSE CHUTE #3

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
		COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION			
		HILO PUBLIC REFUSE CHUTE #3			
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		SK-5
CHIEF ENGINEER			DATE		

TRUE NORTH



Public Refuse Chute #4

PUBLIC REFUSE CHUTE #4

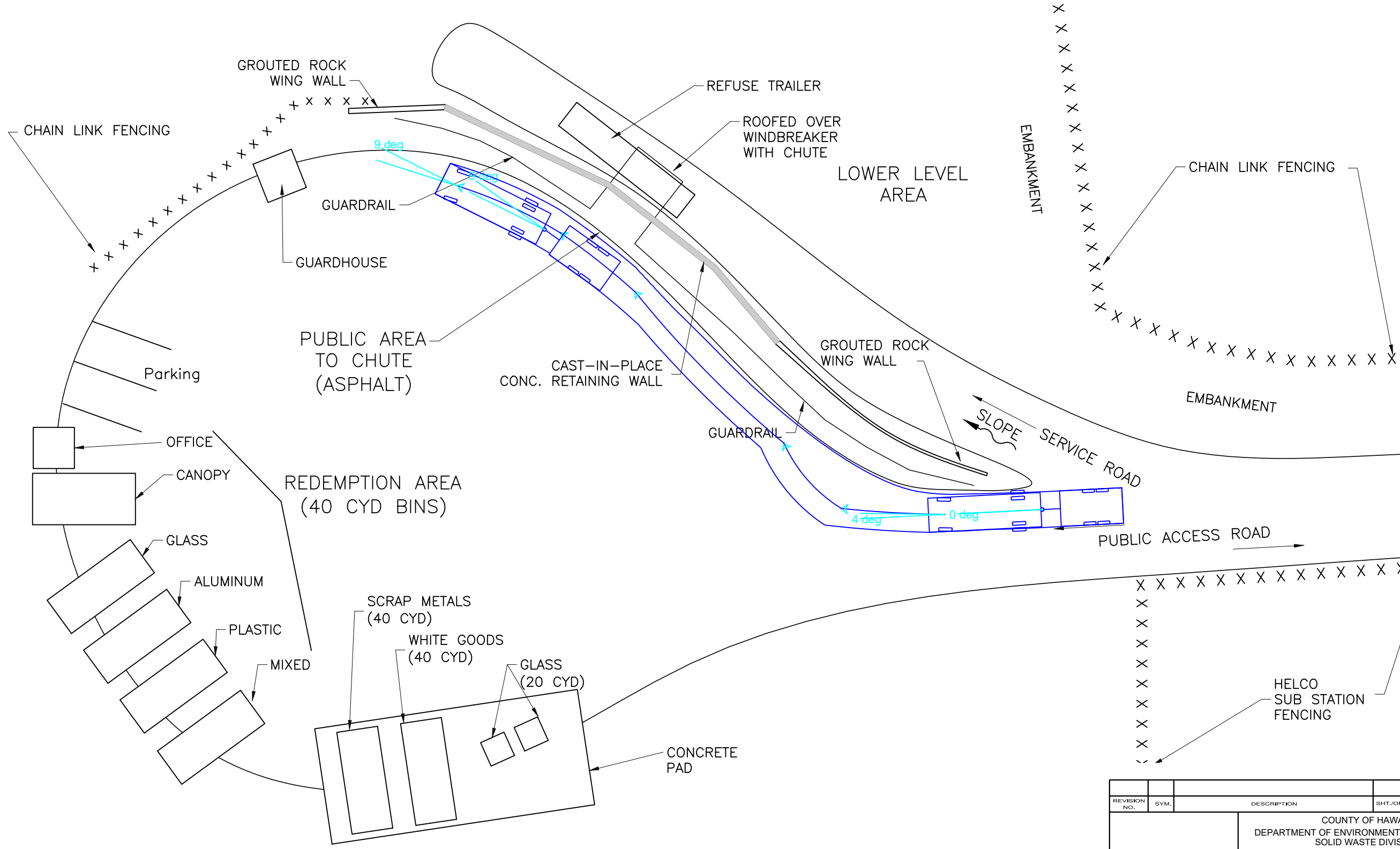
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		COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION			
		HILO PUBLIC REFUSE CHUTE #4			
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:					DRAWING NO.
CHIEF ENGINEER			DATE		SK-6

Honokaa Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	No	See Sketch 1 and 2.
Scrap Metals Bin	1	Yes	No	Yes, see Note 4	See Sketch 3.
White Goods Bin	1	Yes	No	Yes, see Note 4	See Sketch 4.
Glass Bins	All	Yes	No	Yes, see Note 4	See Sketch 5 and 6.

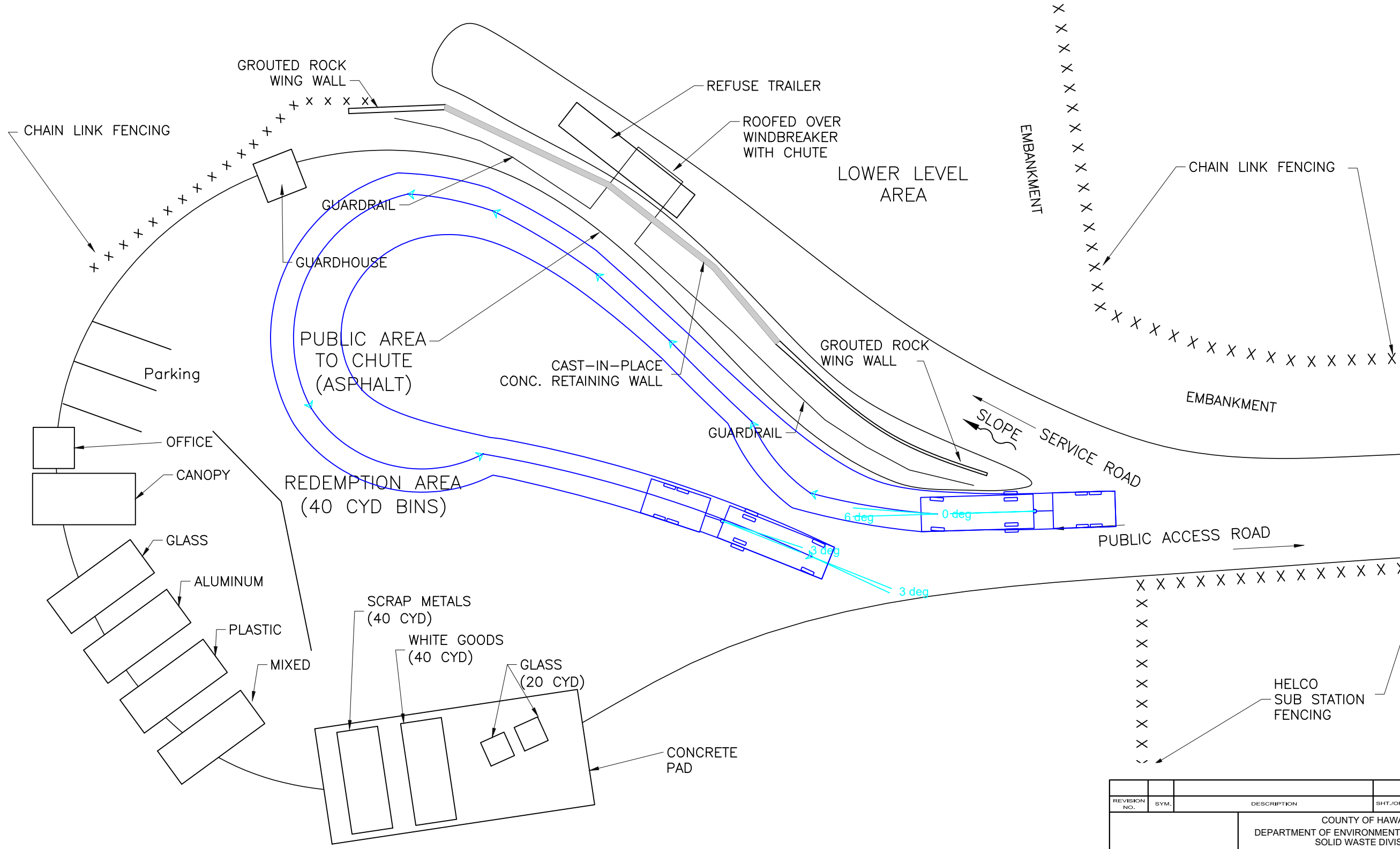
Note 4: Next User will need to wait for vehicle with trailer to finish before being able to move forward.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.

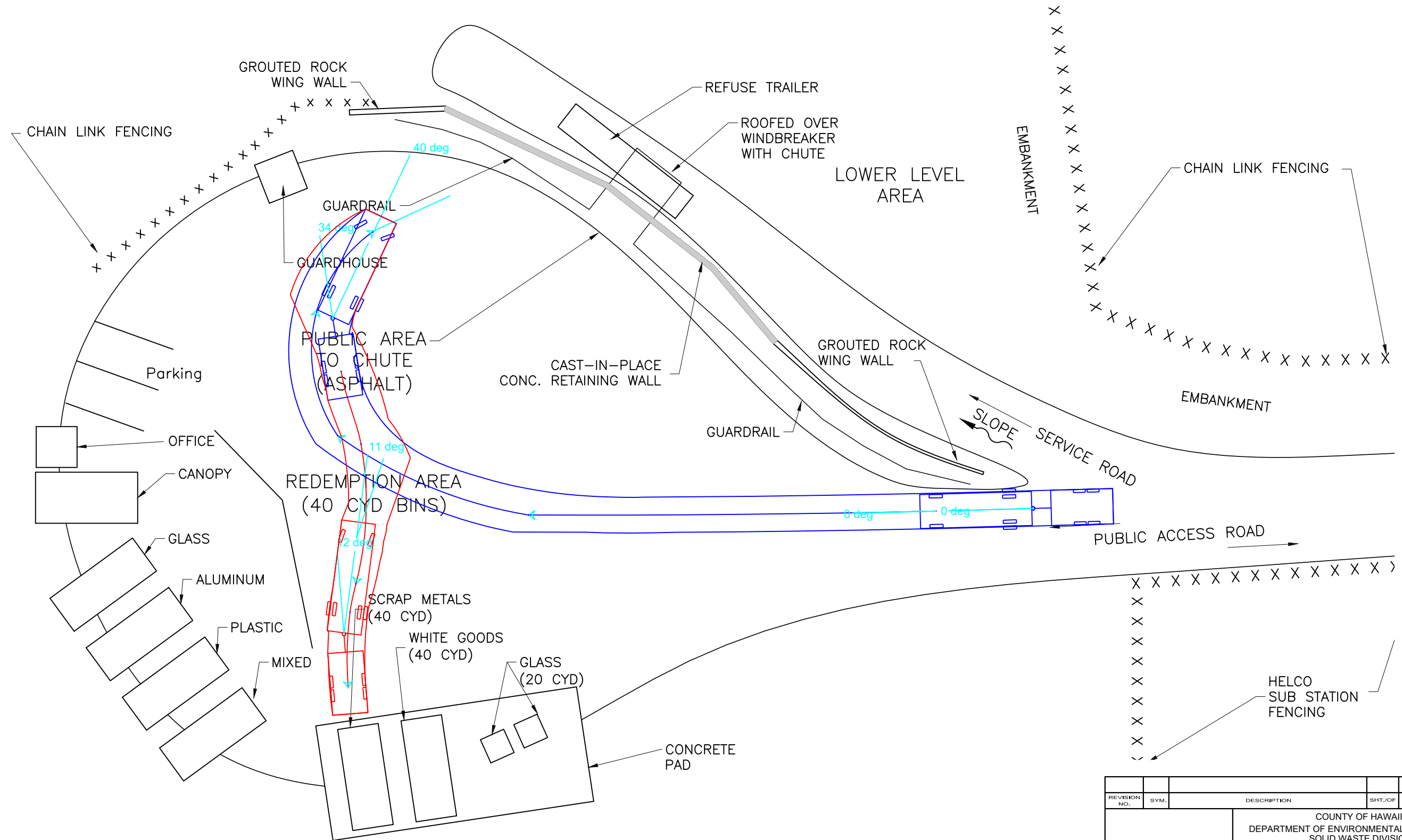


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION HONOKAA REFUSE AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
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APPROVED:				DRAWING NO.	
CHIEF ENGINEER				DATE	
				SK-1	

REFUSE AREA

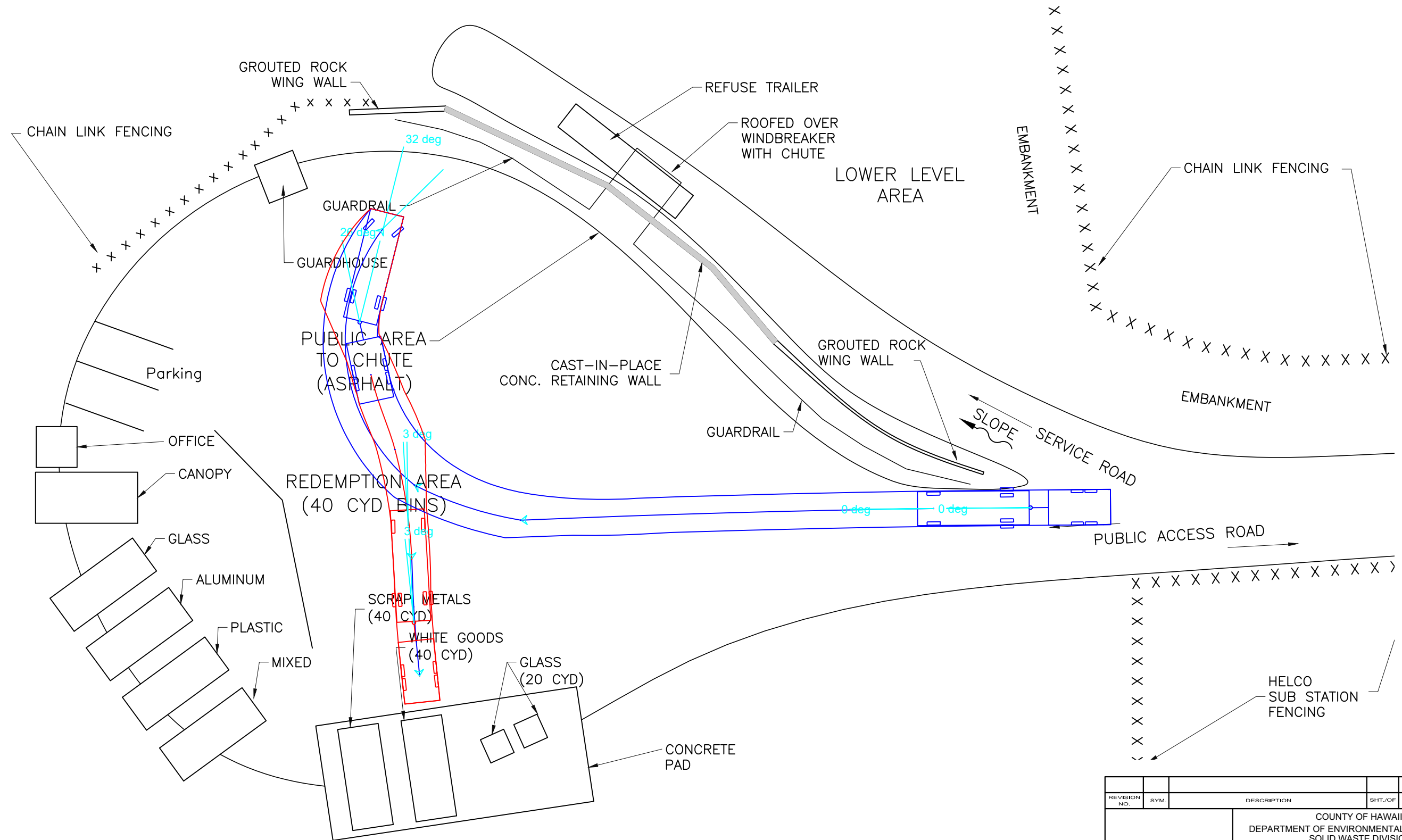


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION HONOKAA REFUSE AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



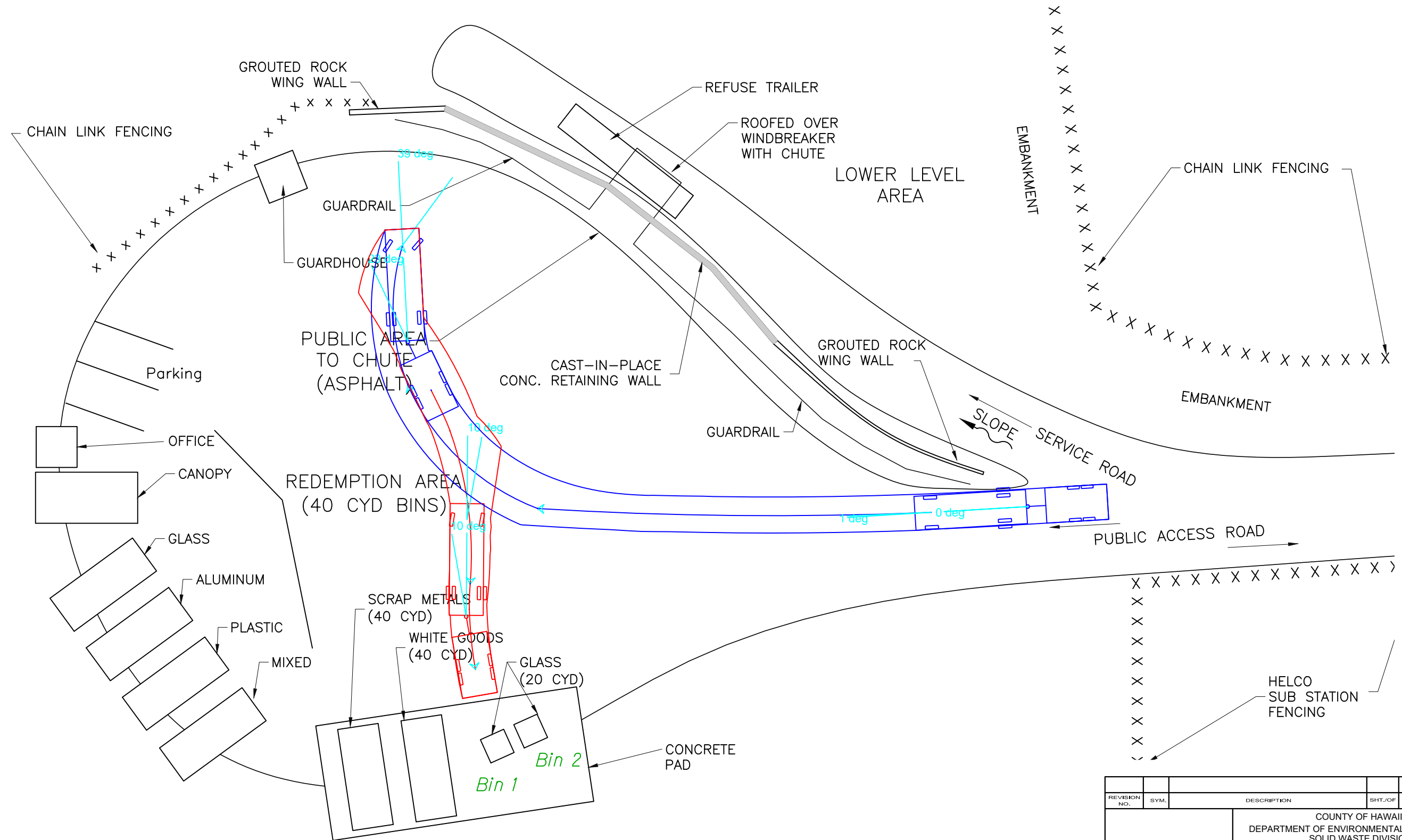
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOKAA SCRAP METALS AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
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APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3

SCRAP METALS AREA

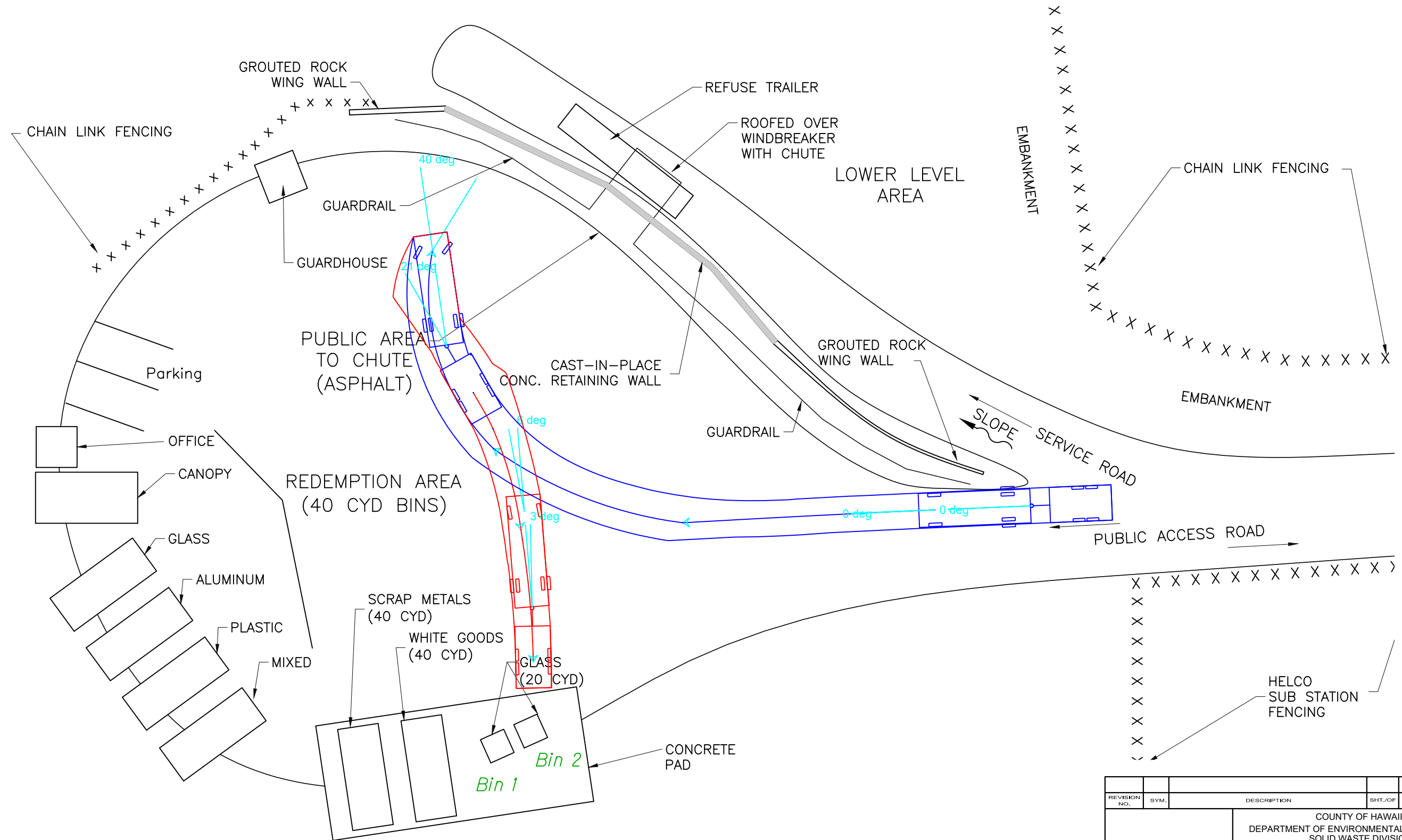


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOKAA WHITE GOODS AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4

WHITE GOODS AREA



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOKAA GLASS AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



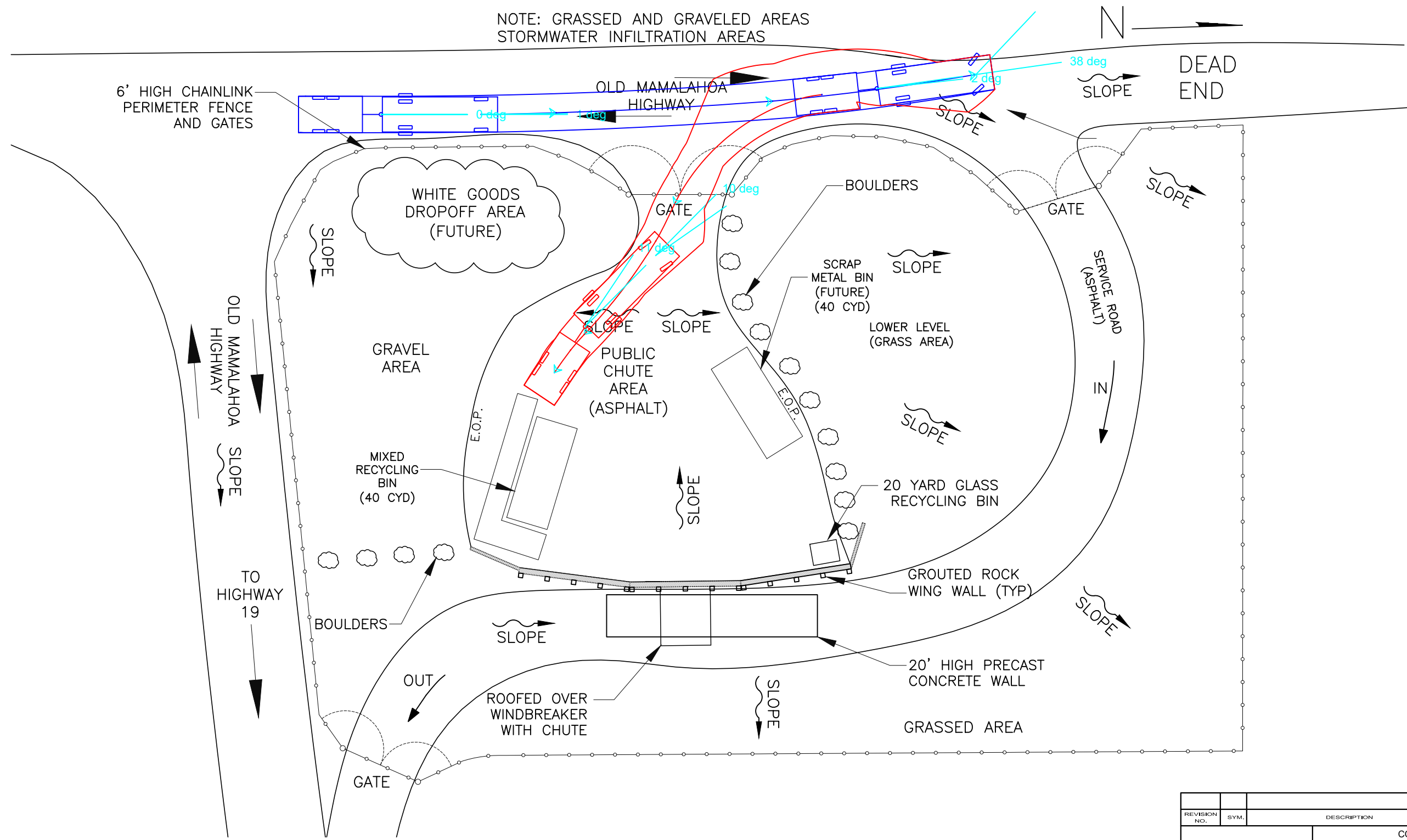
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOKAA GLASS AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

Honoumu Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Mixed Recycling Bin	1	Yes	No	Yes	See Sketch 1 and 2.
Public Chute Area	1	Yes	No	Yes	See Sketch 3.
Glass Recycling Bin	1	Yes	No	Yes	See Sketch 4.
Scrap Metal Bin (Future)	1	Yes	No	Yes	See Sketch 5.
White Goods Dropoff Area (Future)	1	Yes	No	Yes	See Sketch 6.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.

NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS

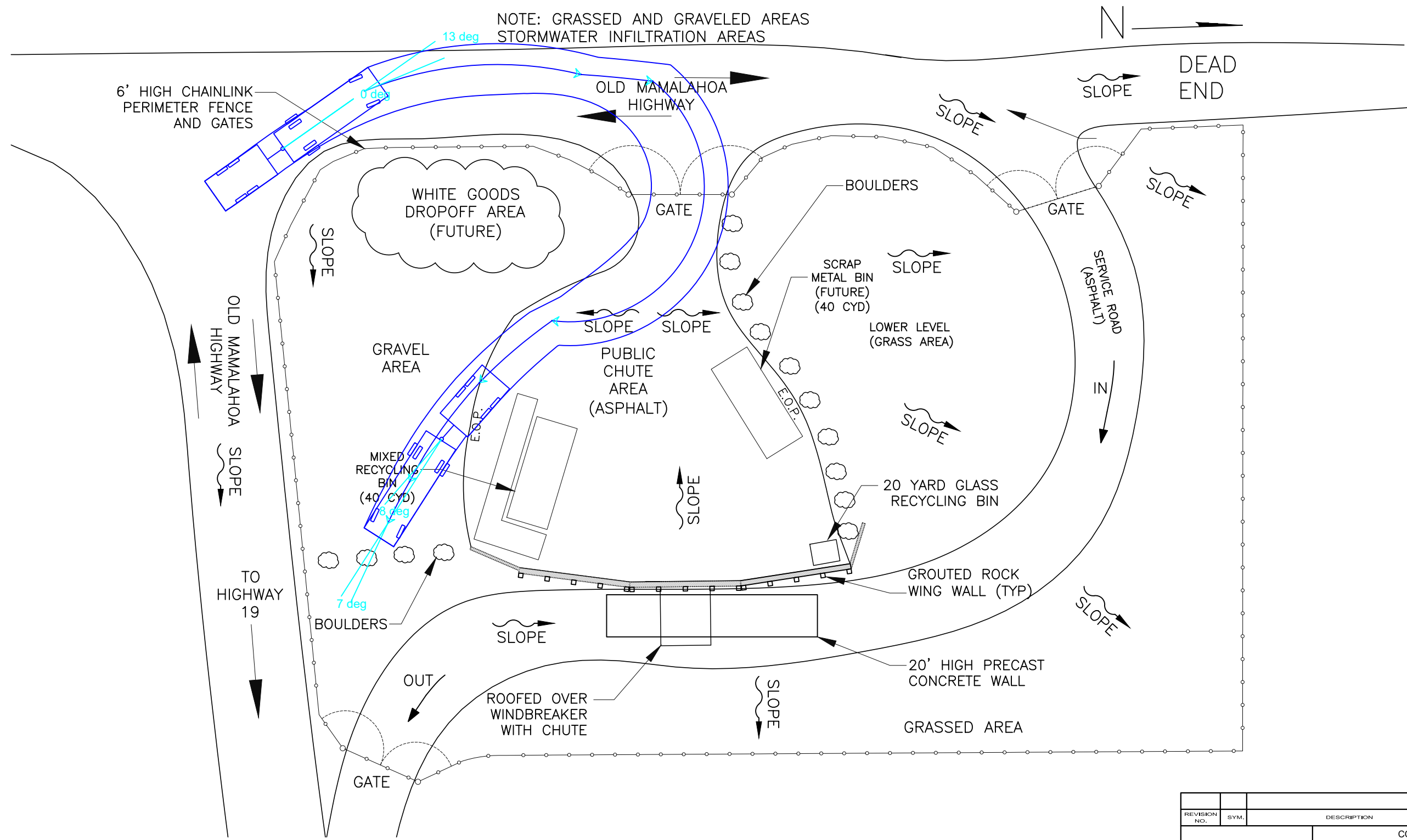


OLD MAMALAHOA HIGHWAY

TO HIGHWAY 19

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-1		

MIXED RECYCLING BIN



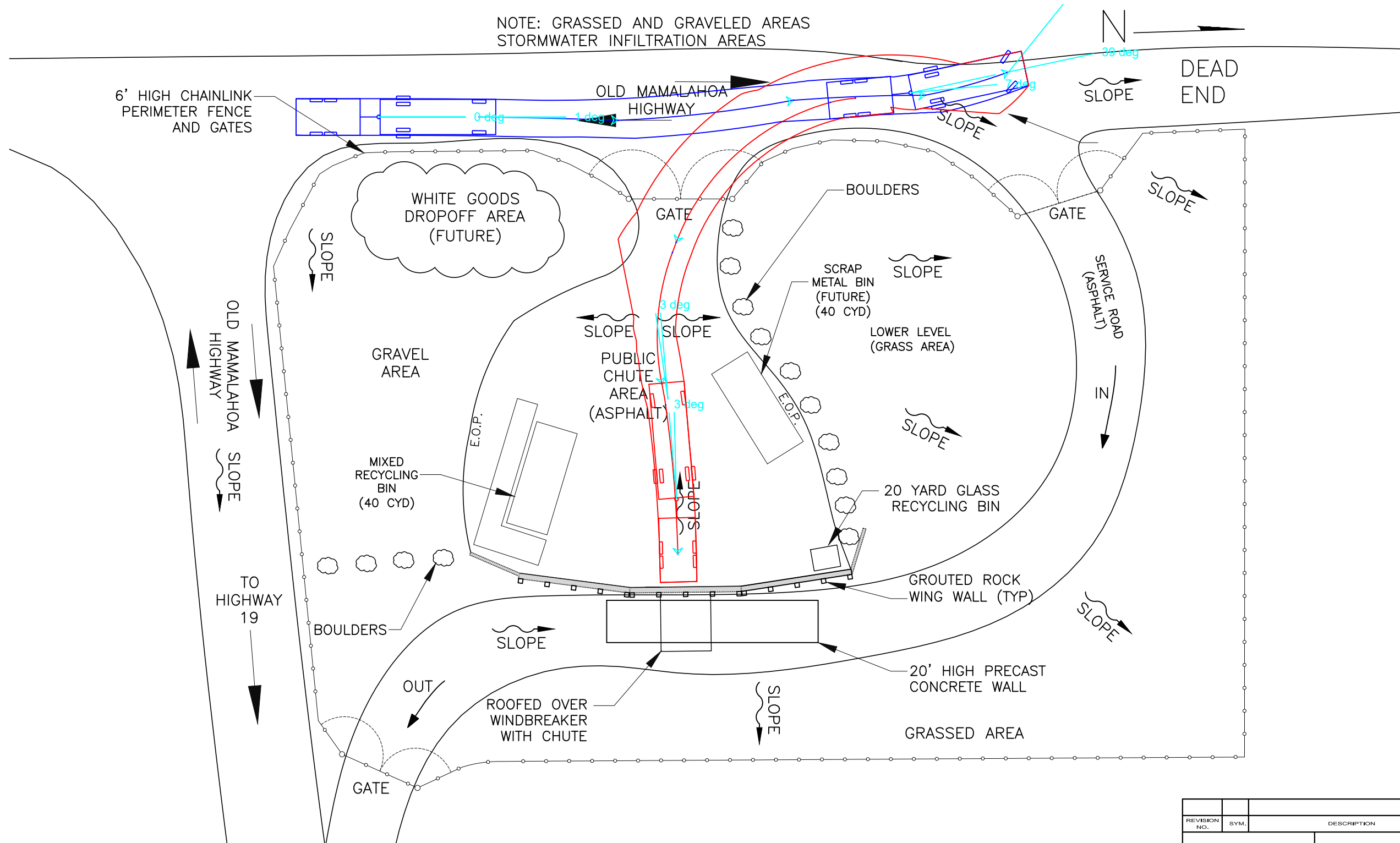
NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS



MIXED RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

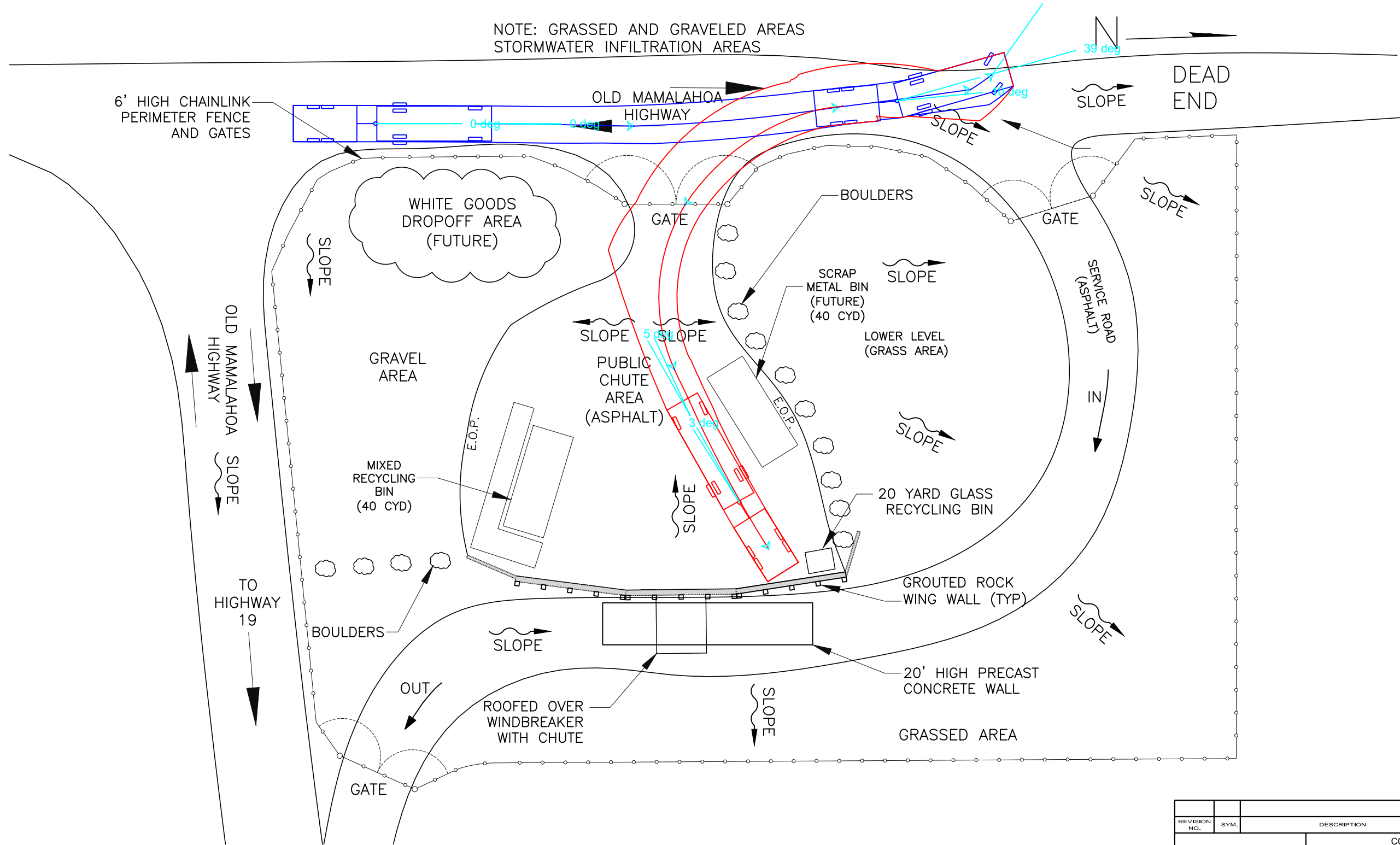
NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS



PUBLIC CHUTE AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU PUBLIC CHUTE AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3

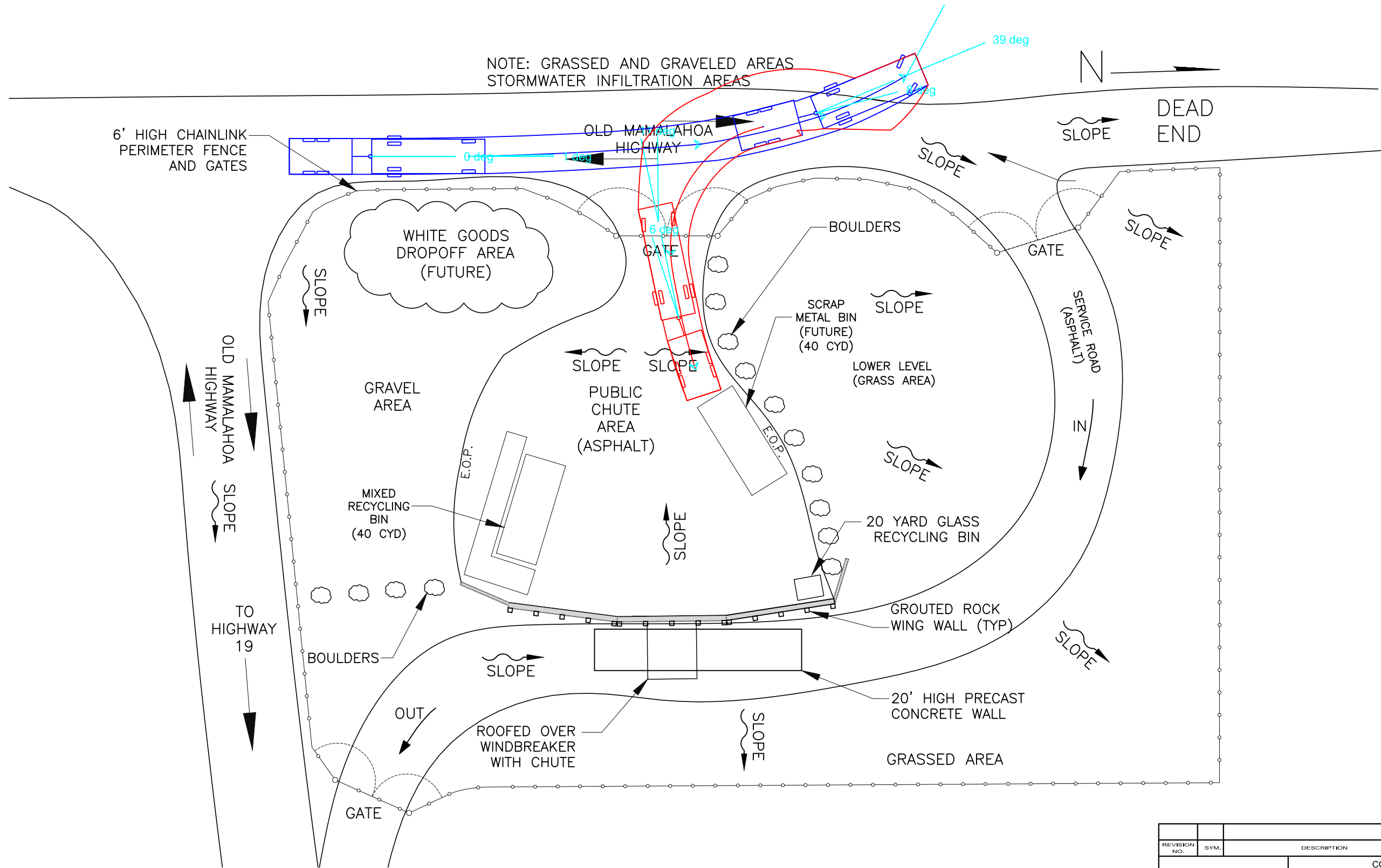
NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS



GLASS RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4

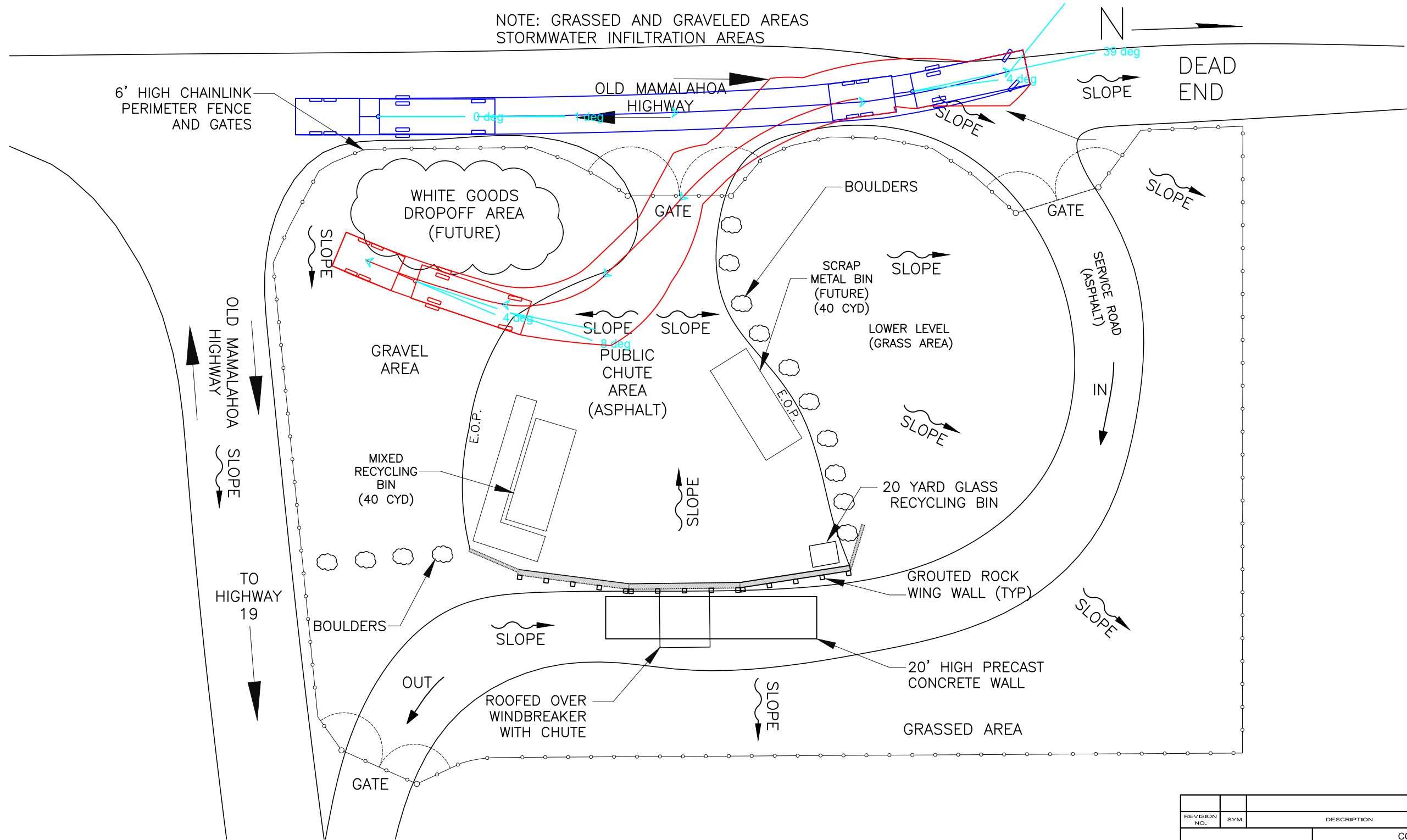
NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS



SCRAP METAL BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5

NOTE: GRASSED AND GRAVELED AREAS
STORMWATER INFILTRATION AREAS



OLD MAMALAHOA
HIGHWAY

TO
HIGHWAY
19

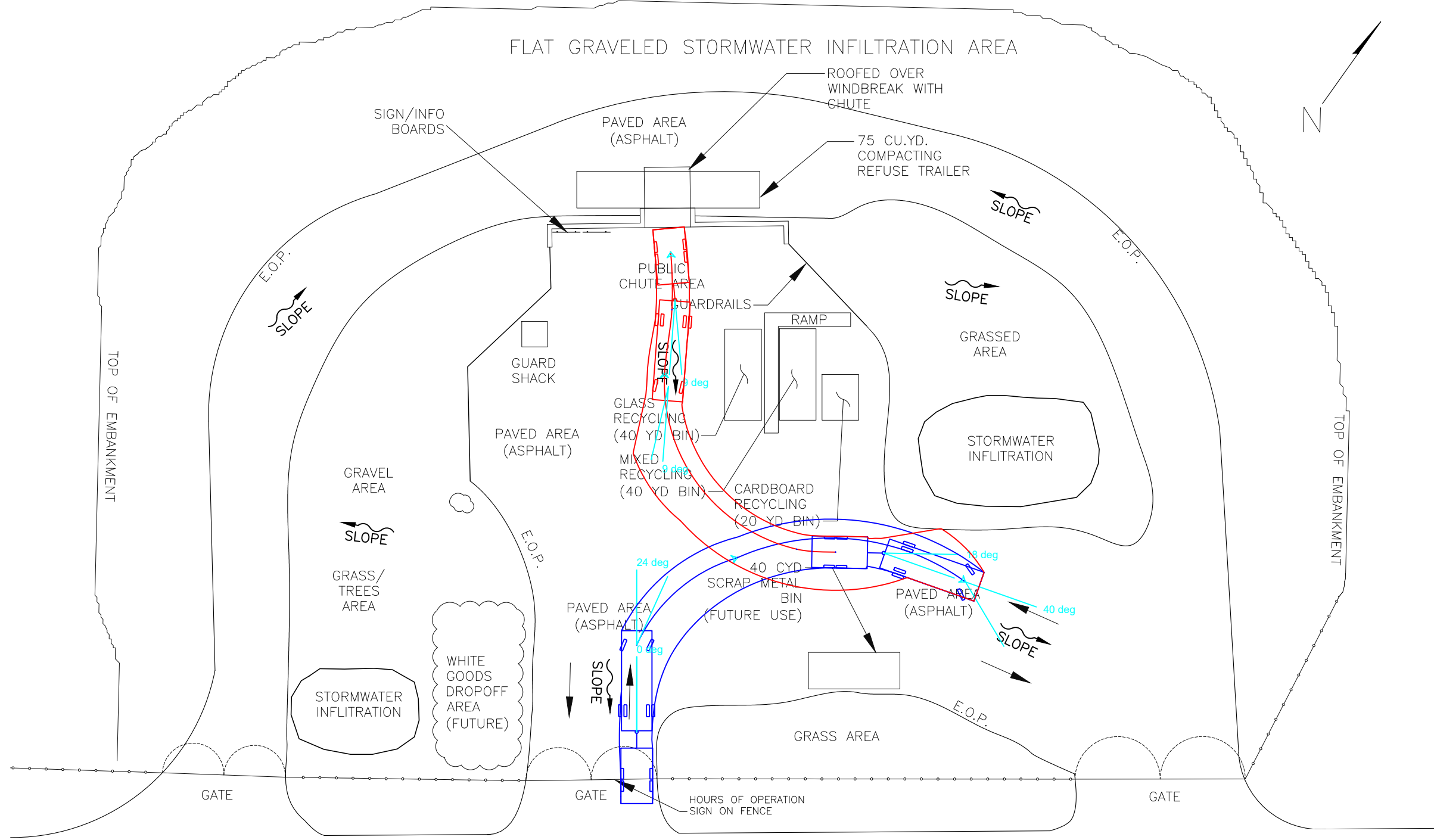
WHITE GOODS DROPOFF AREA (FUTURE)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
HONOMU WHITE GOODS DROPOFF AREA (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

Kalapana Transfer Station - Analysis of Access of Pickup with Trailer

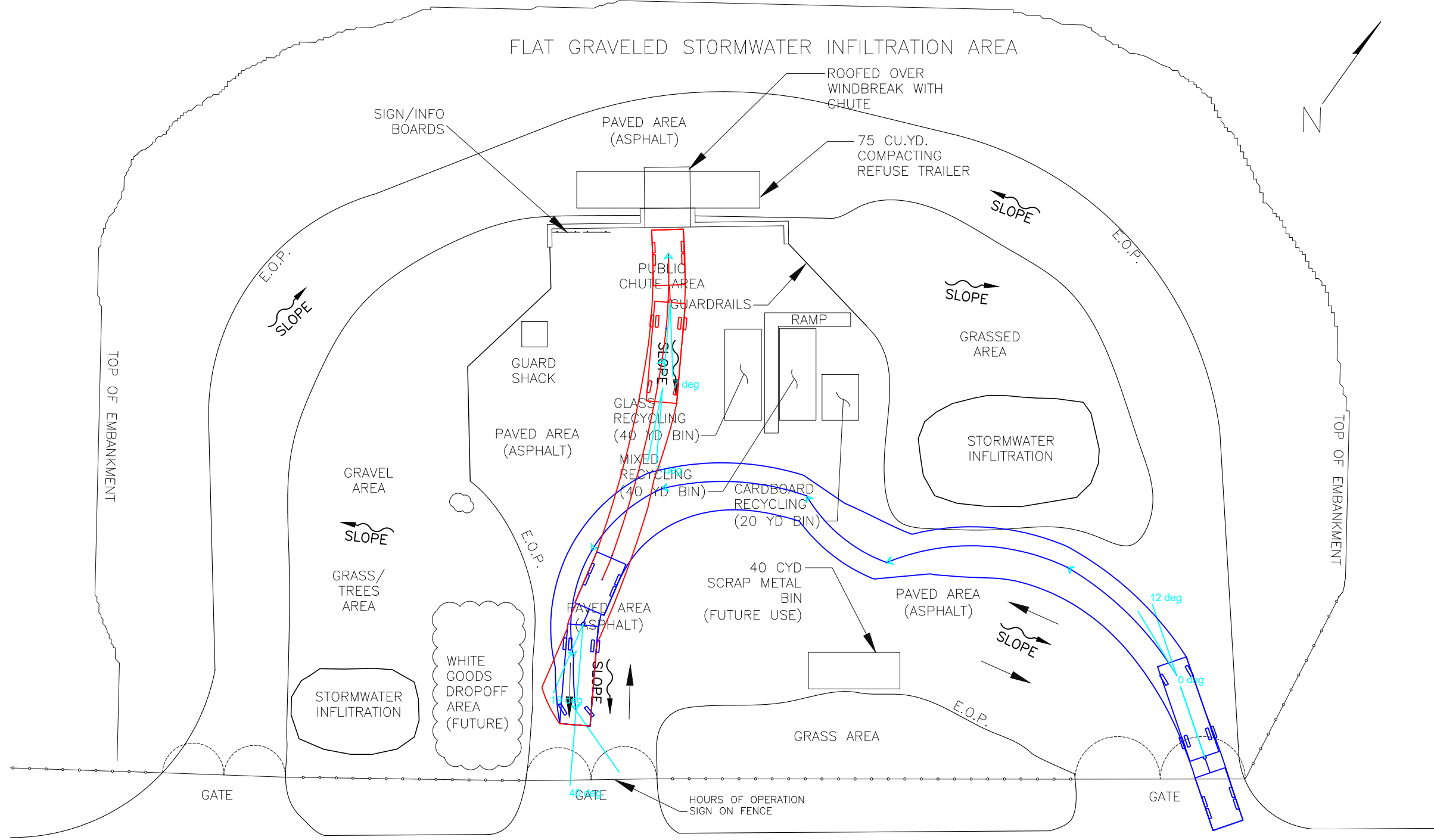
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1 and 2.
Glass Recycling Bin	1	Yes	No	Yes	See Sketch 3 and 4.
Glass, Mixed Recycling, & Cardboard Recycling Bins	1	Yes	No	Yes	See Sketch 5 and 6.
White Goods Dropoff Area (Future)	1	Yes	No	Yes	See Sketch 7 and 8.
Scrap Metals Bin (Future)	1	Yes	No	Yes	See Sketch 9 and 10.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.

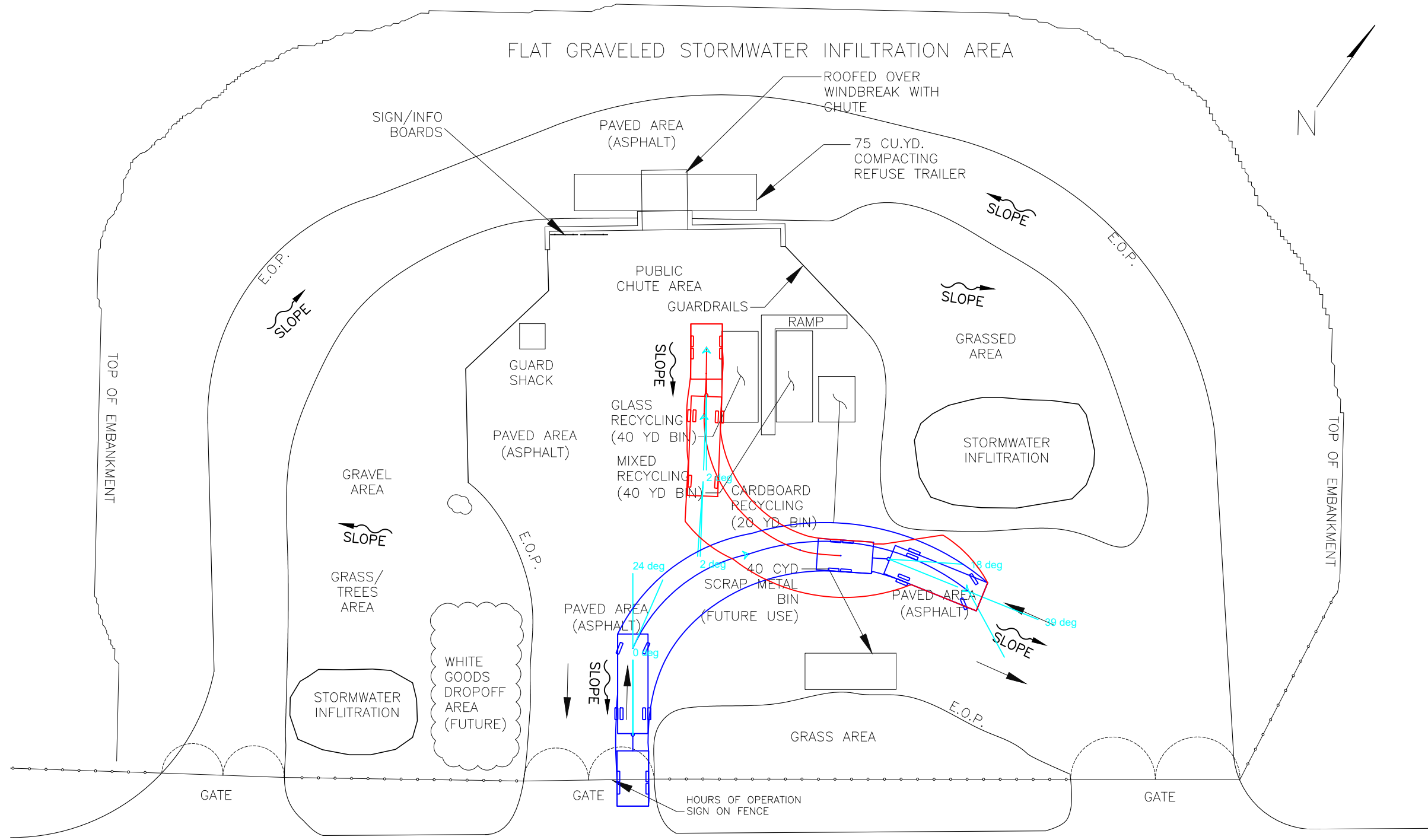


REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

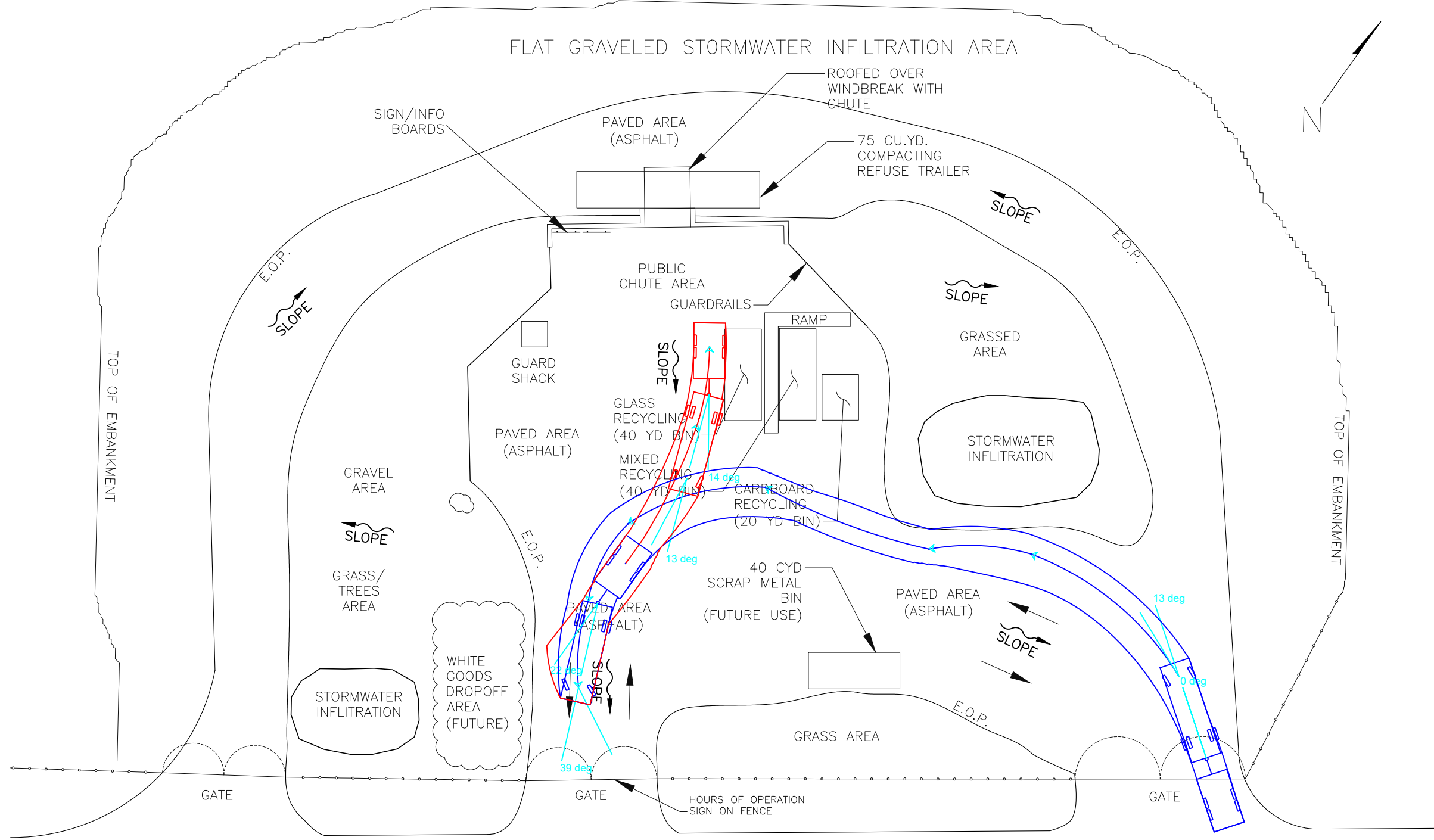


REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



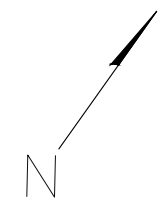
GLASS RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-3		

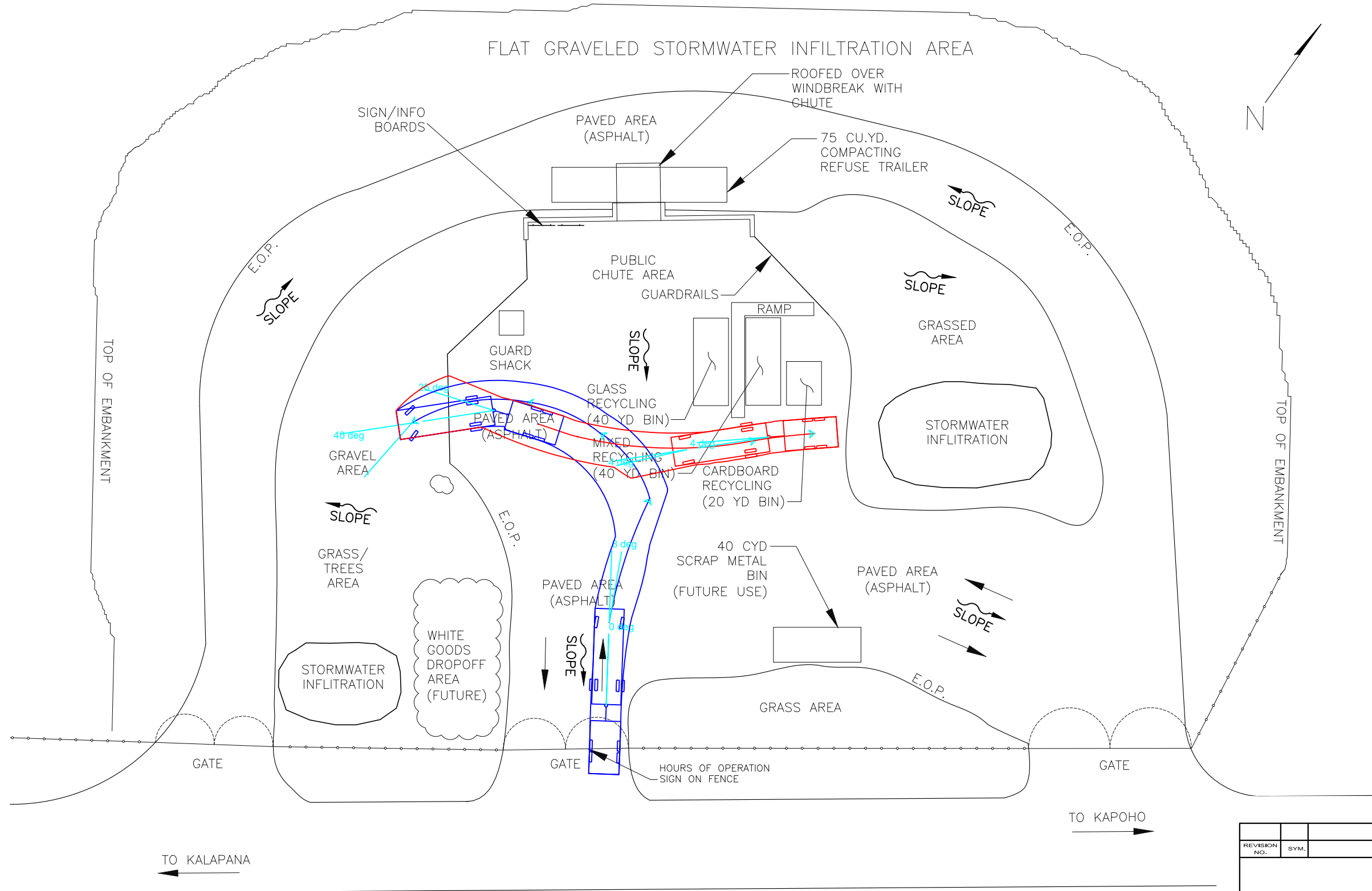


FLAT GRAVELED STORMWATER INFILTRATION AREA

GLASS RECYCLING BIN

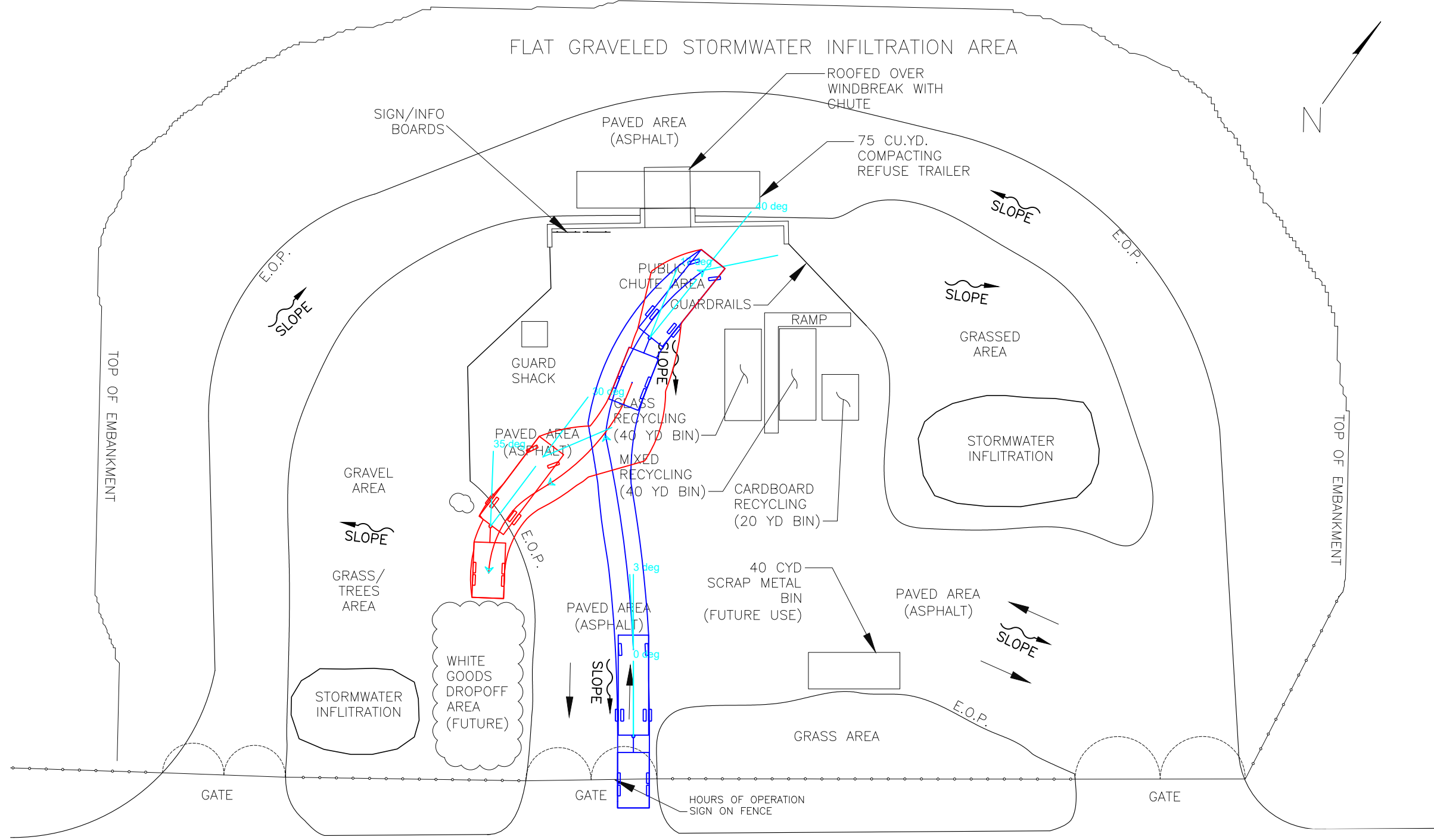


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



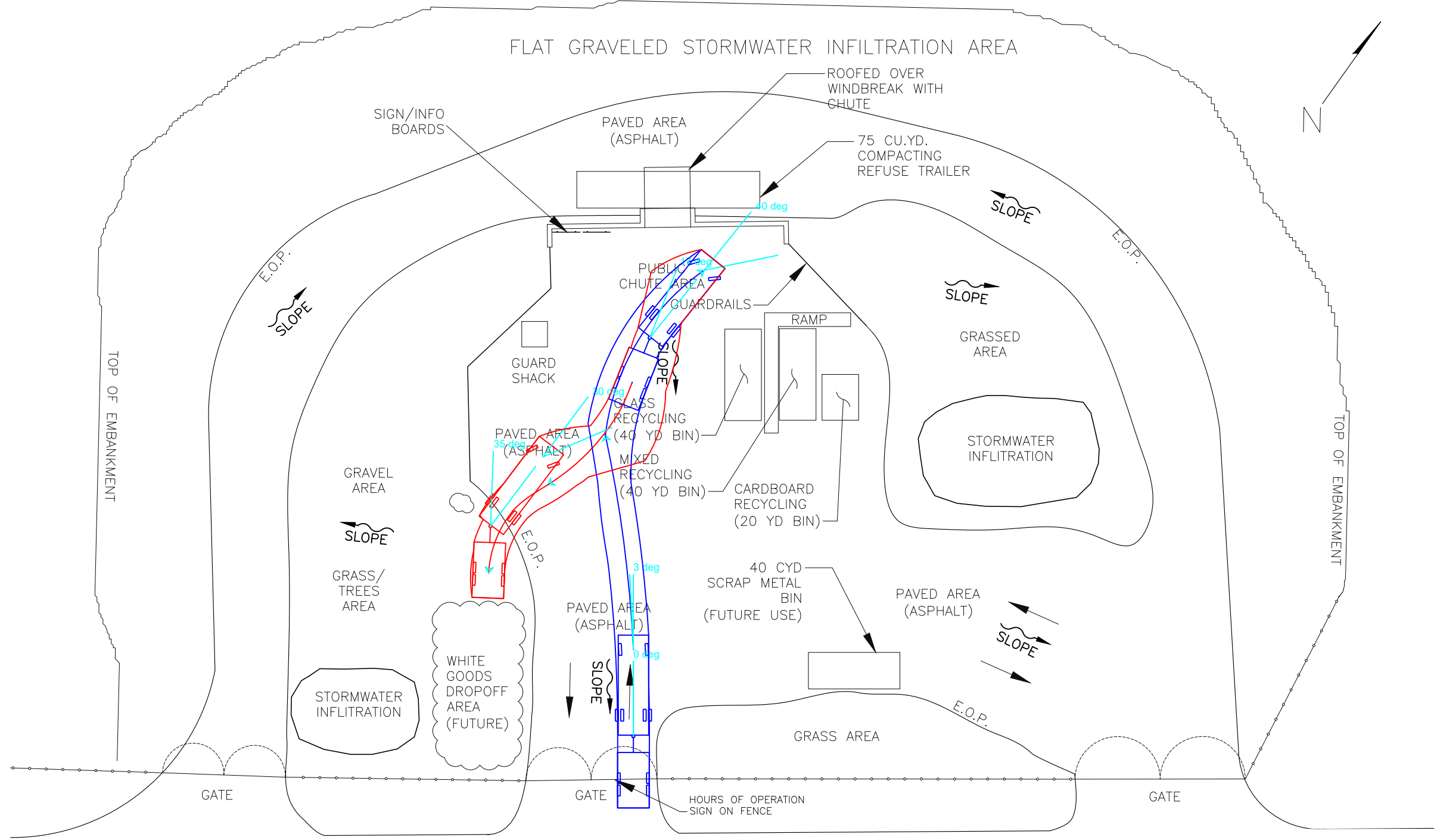
GLASS, MIXED RECYCLING, & CARDBOARD RECYCLING BINS

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA GLASS, MIXED RECYCLING, & CARDBOARD RECYCLING BINS					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



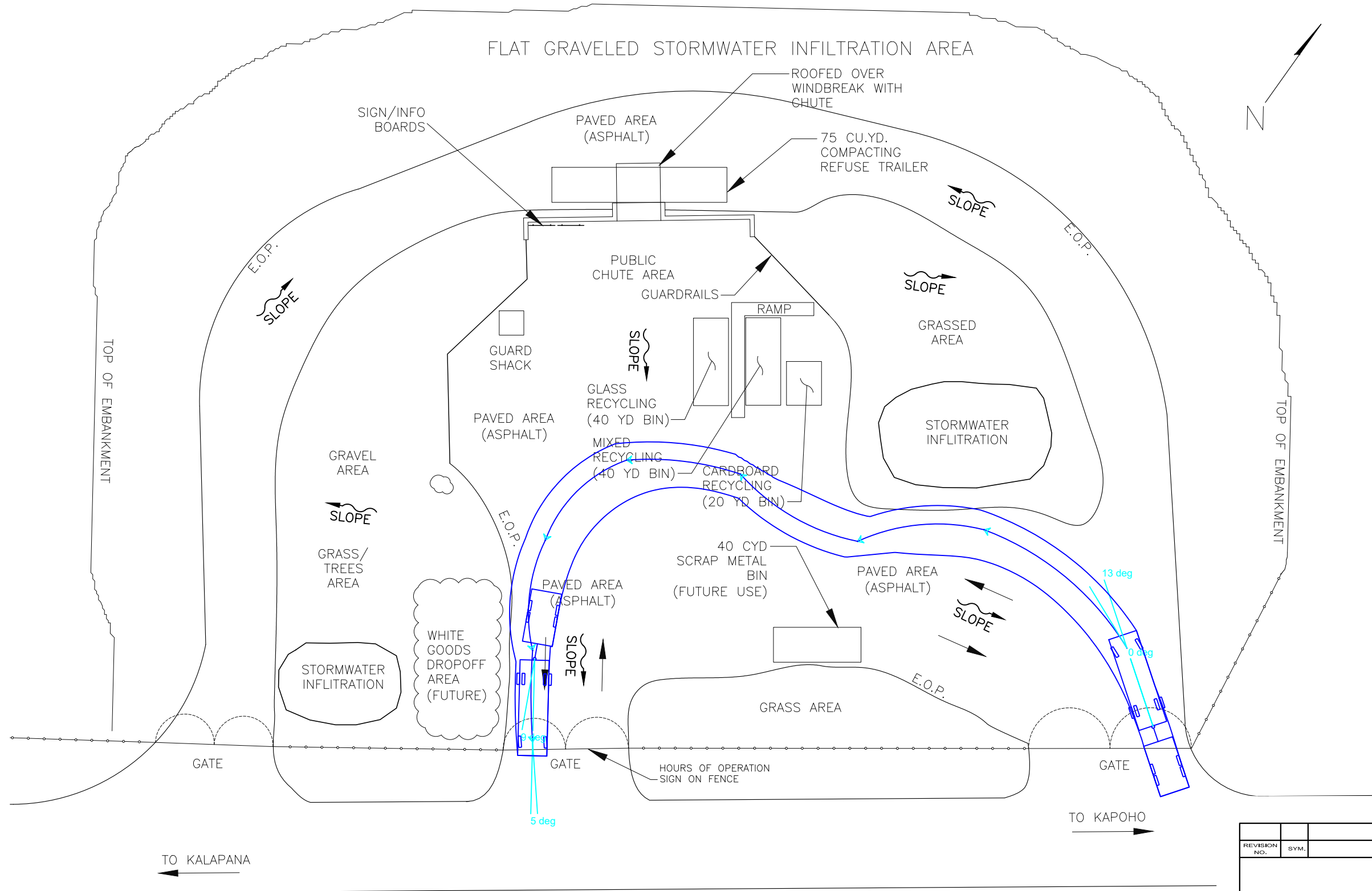
GLASS, MIXED RECYCLING, & CARDBOARD RECYCLING BINS

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA GLASS, MIXED RECYCLING, & CARDBOARD RECYCLING BINS					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6



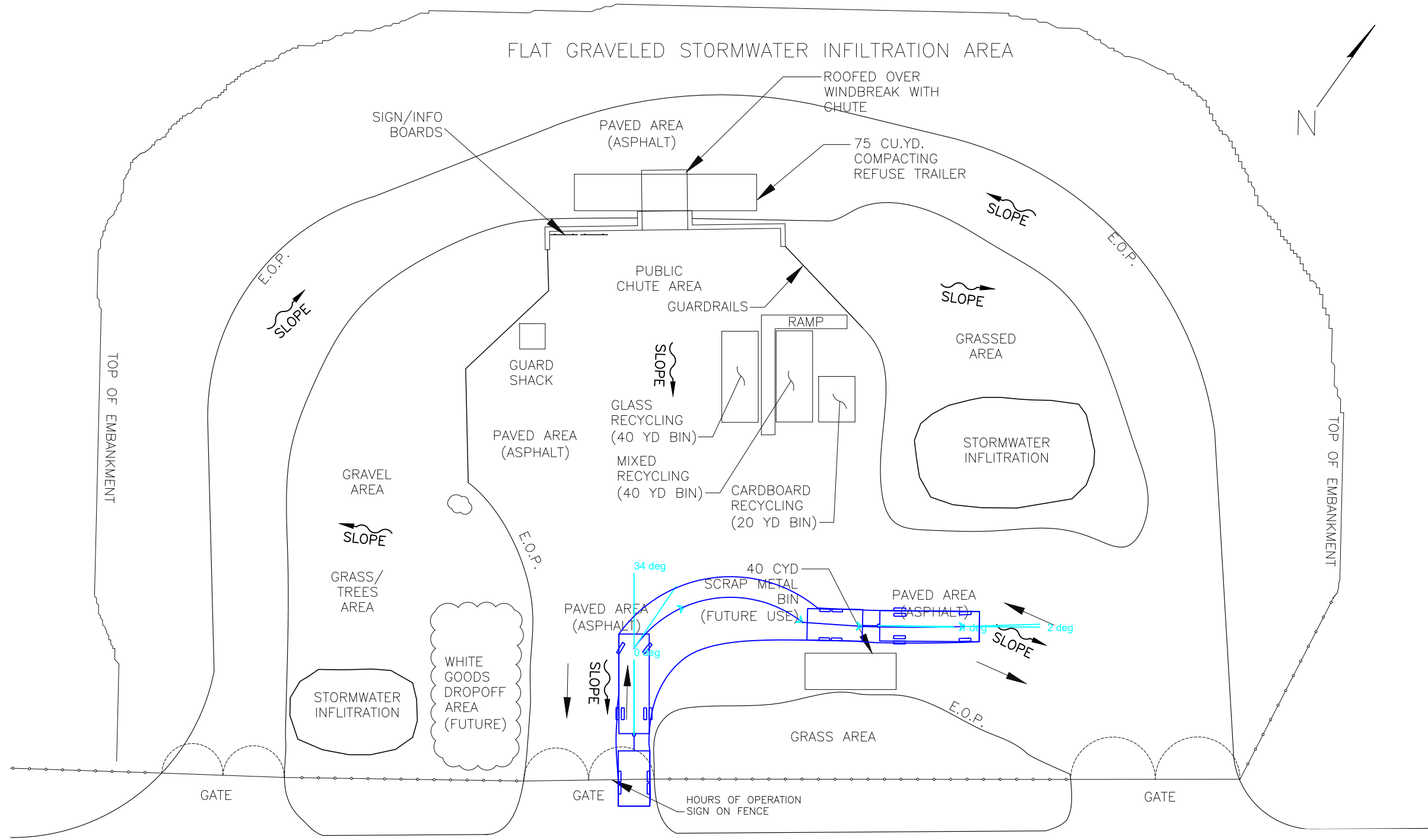
WHITE GOODS DROPOFF AREA (FUTURE)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA WHITE GOODS DROPOFF AREA (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7



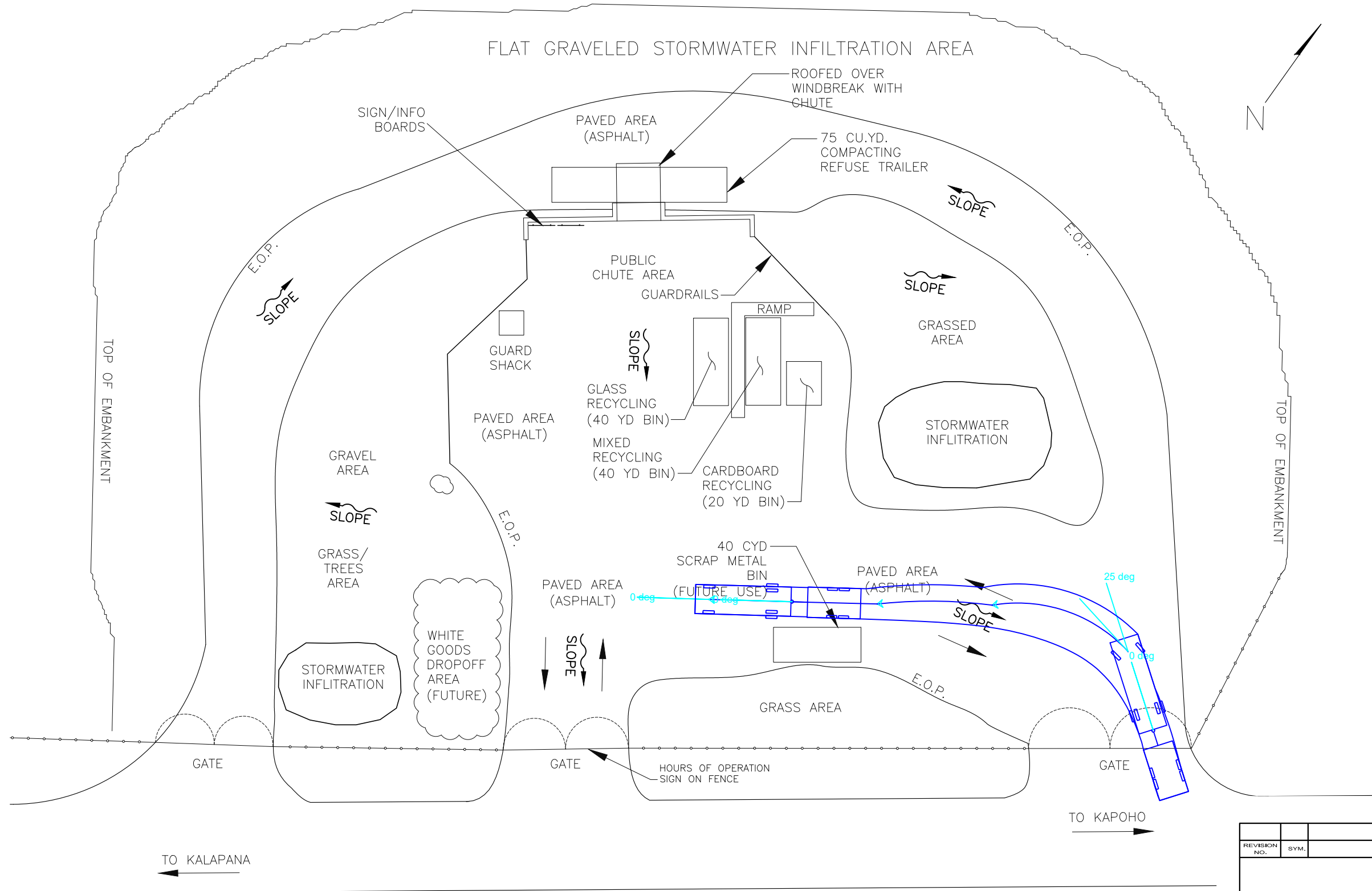
WHITE GOODS DROPOFF AREA (FUTURE)

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA WHITE GOODS DROPOFF AREA (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-8



SCRAP METAL BIN (FUTURE USE)

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA SCRAP METAL BIN (FUTURE USE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-9		



SCRAP METAL BIN (FUTURE USE)

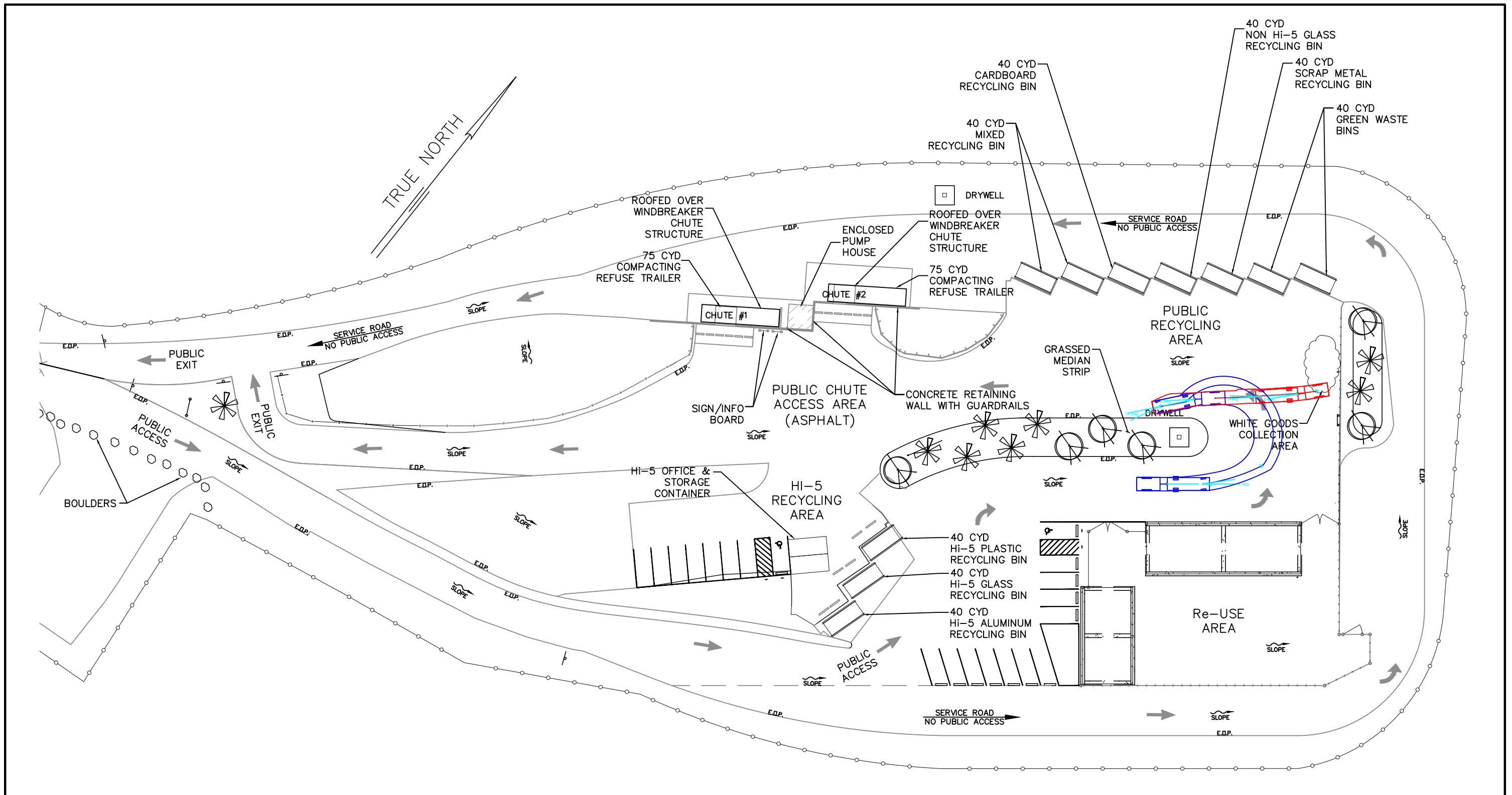
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KALAPANA SCRAP METAL BIN (FUTURE USE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-10

Keaau Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
White Goods Collection Area	1	Yes	No	Yes, see Note 4	See Sketch 1.
Public Recycling Area	All	Yes	No	Yes, see Note 4	See Sketch 2 and 3.
Public Chute #2	1	Yes	No	Yes, see Note 4	See Sketch 4 and 5.
Public Chute #1	1	Yes	No	Yes, see Note 4	See Sketch 6 and 7.

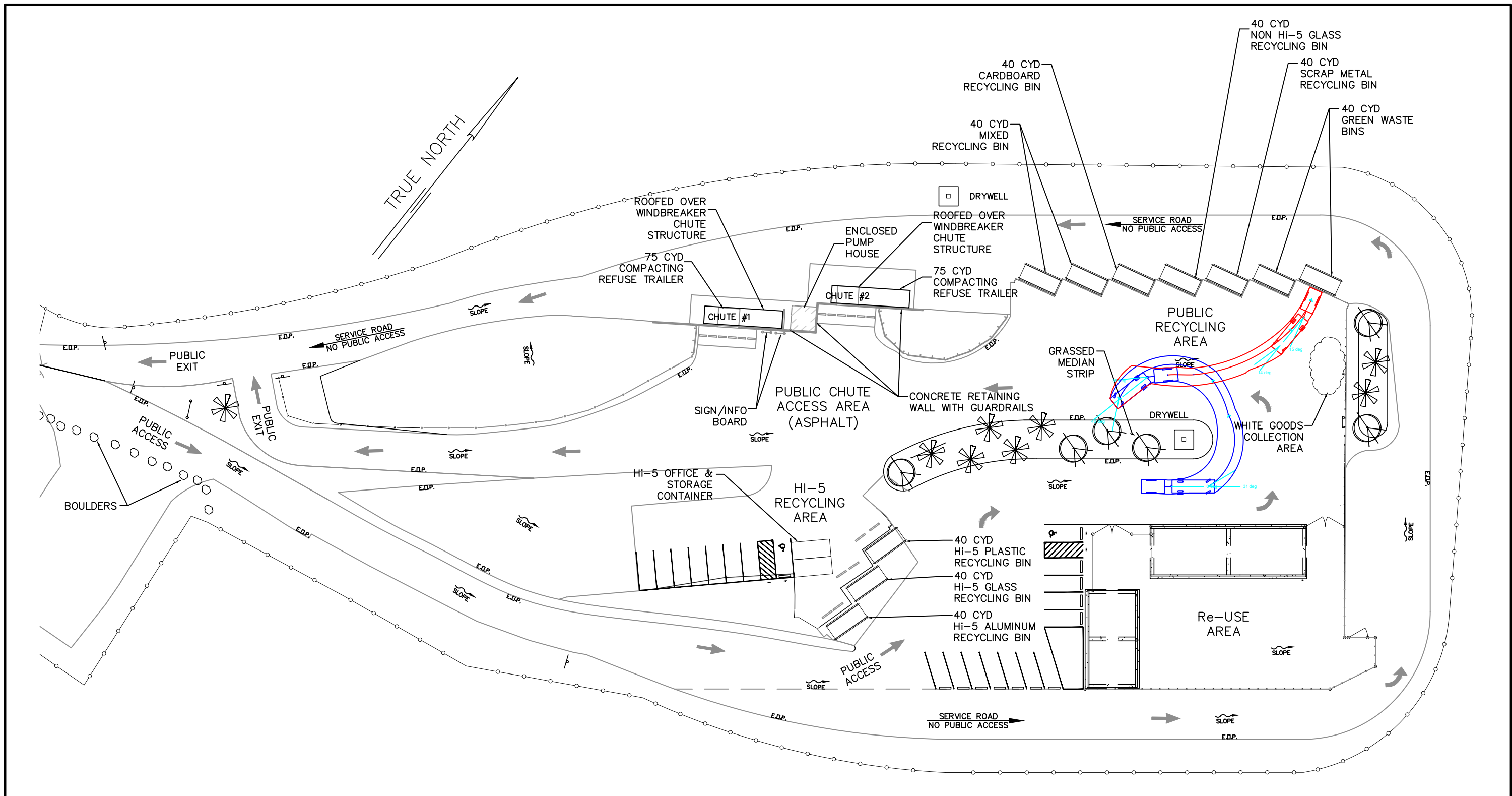
Note 4: Depending on how a vehicle with trailer accessed a bin, the next user may need to wait for vehicle with trailer to reverse to bin before being able to move forward.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.



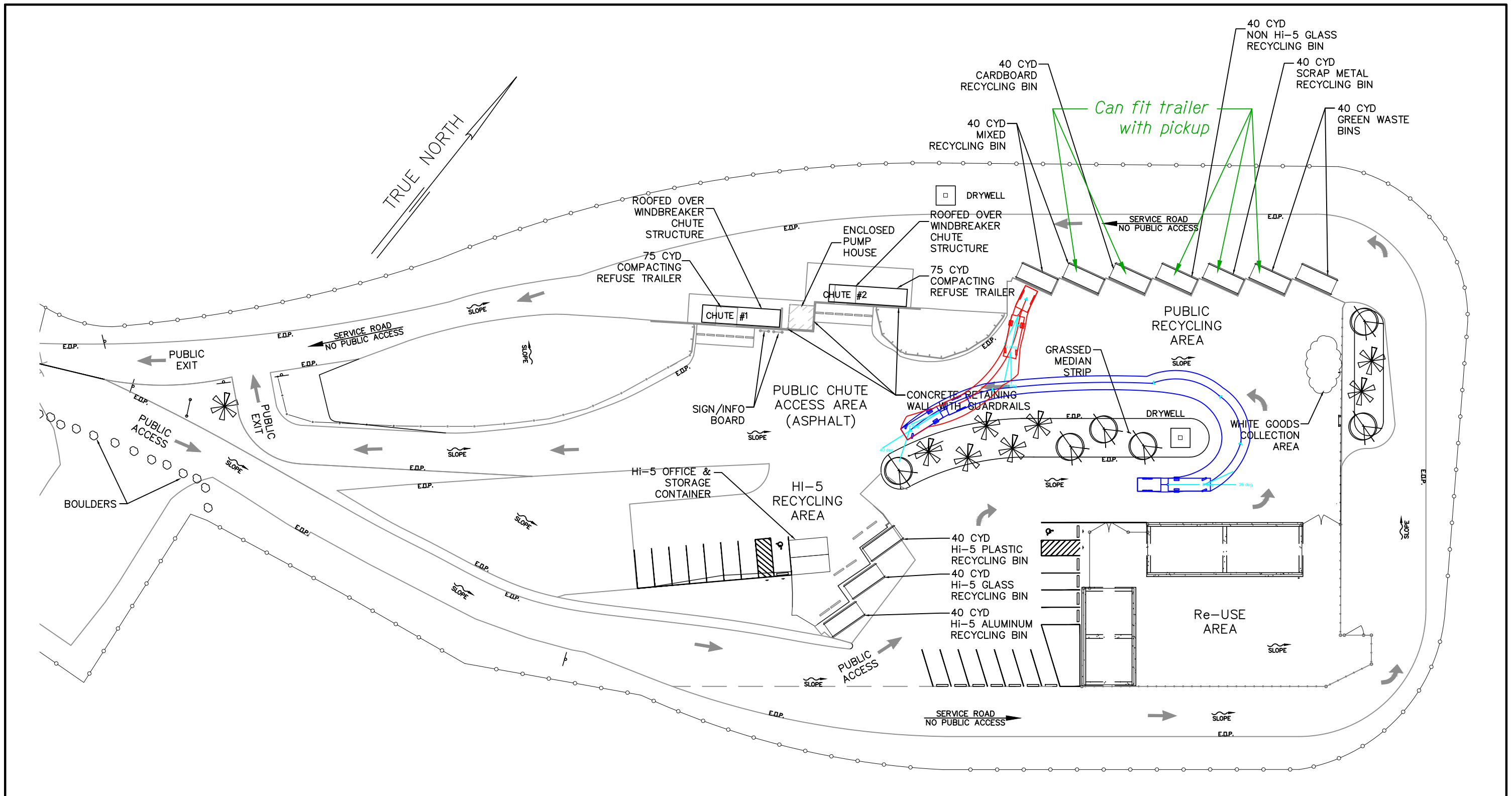
WHITE GOODS COLLECTION AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU WHITE GOODS COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



PUBLIC RECYCLING AREA

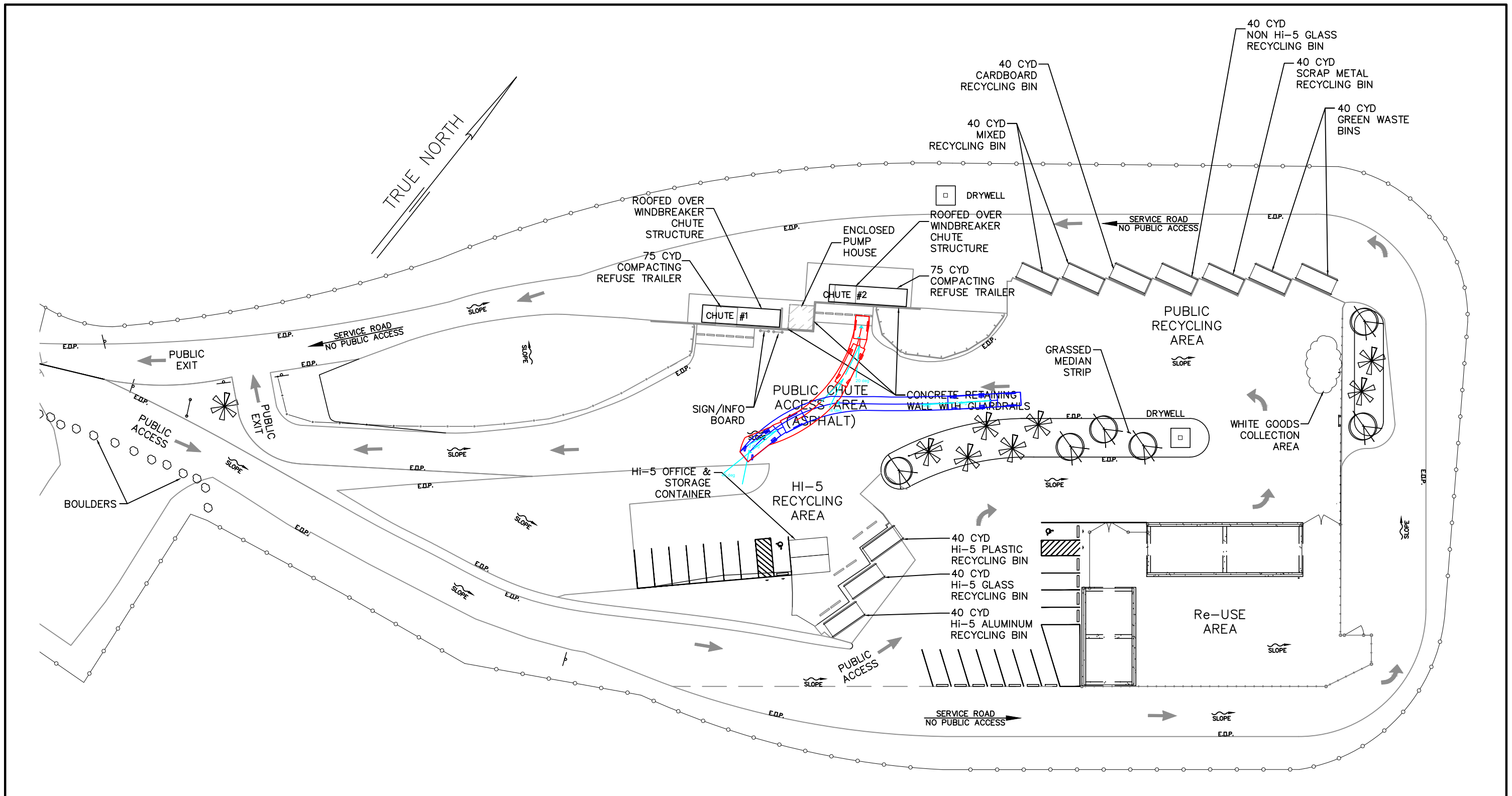
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC RECYCLING AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-2		



Can fit trailer with pickup

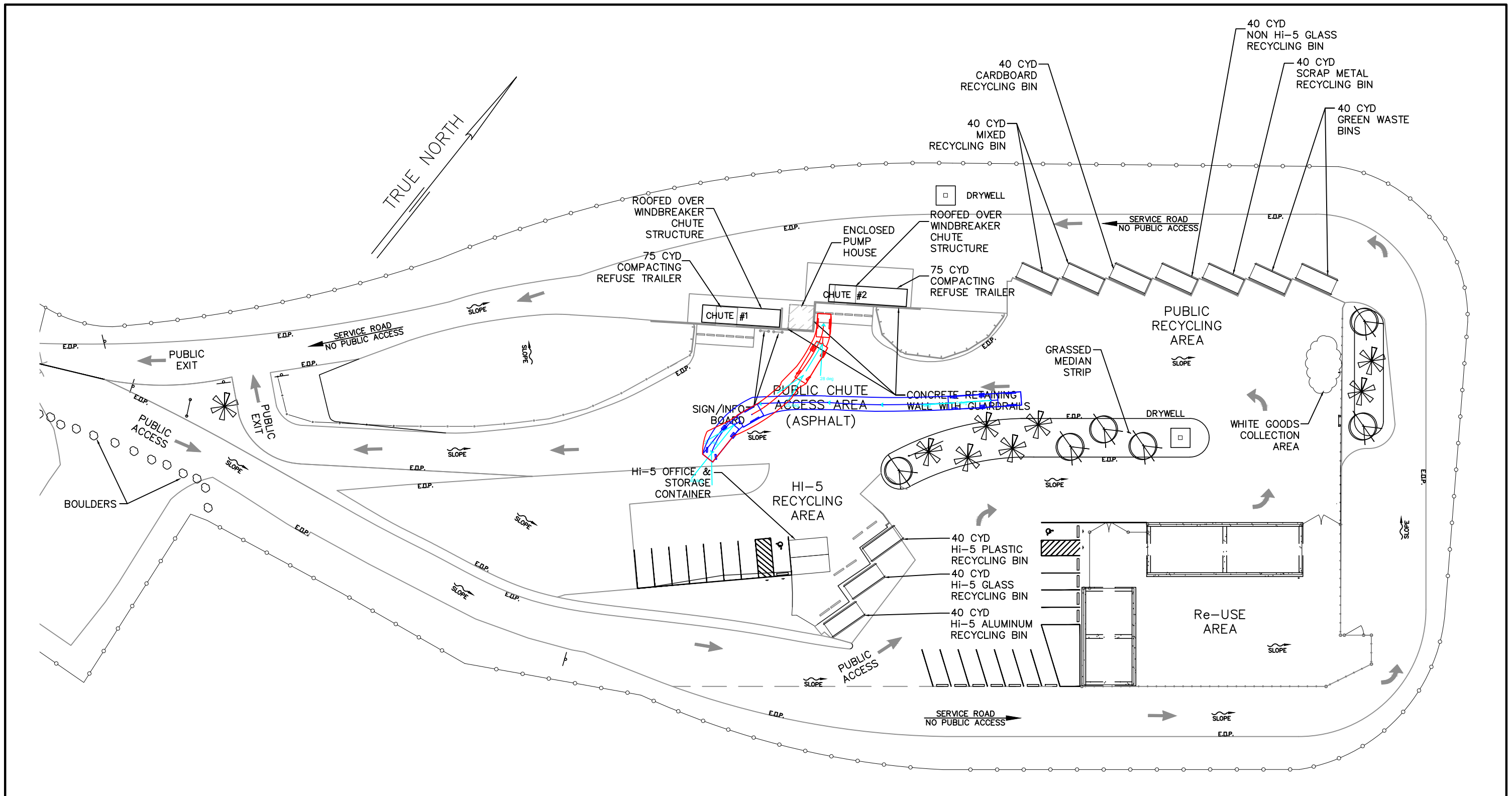
PUBLIC RECYCLING AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC RECYCLING AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



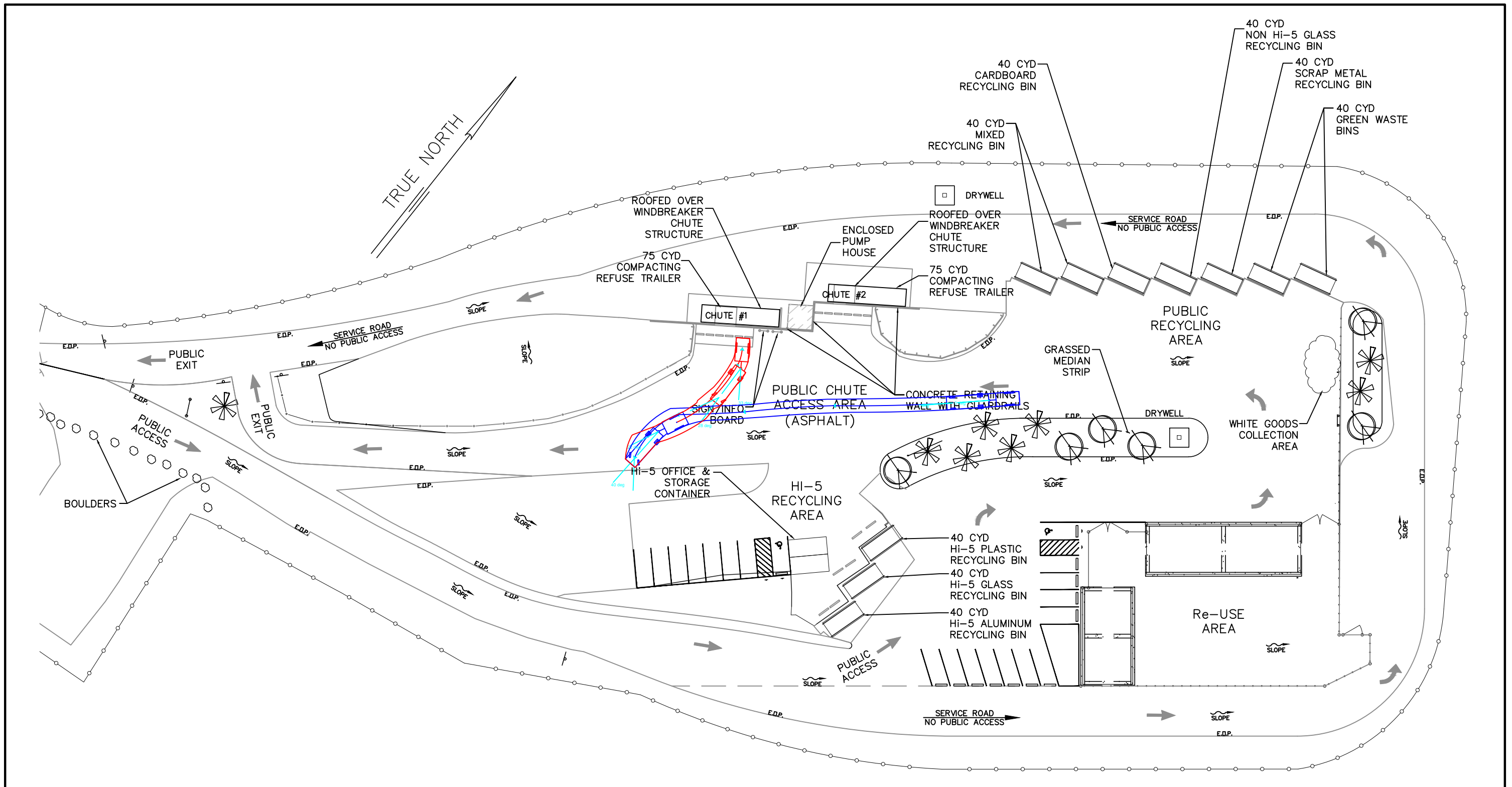
PUBLIC CHUTE #2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC CHUTE #2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



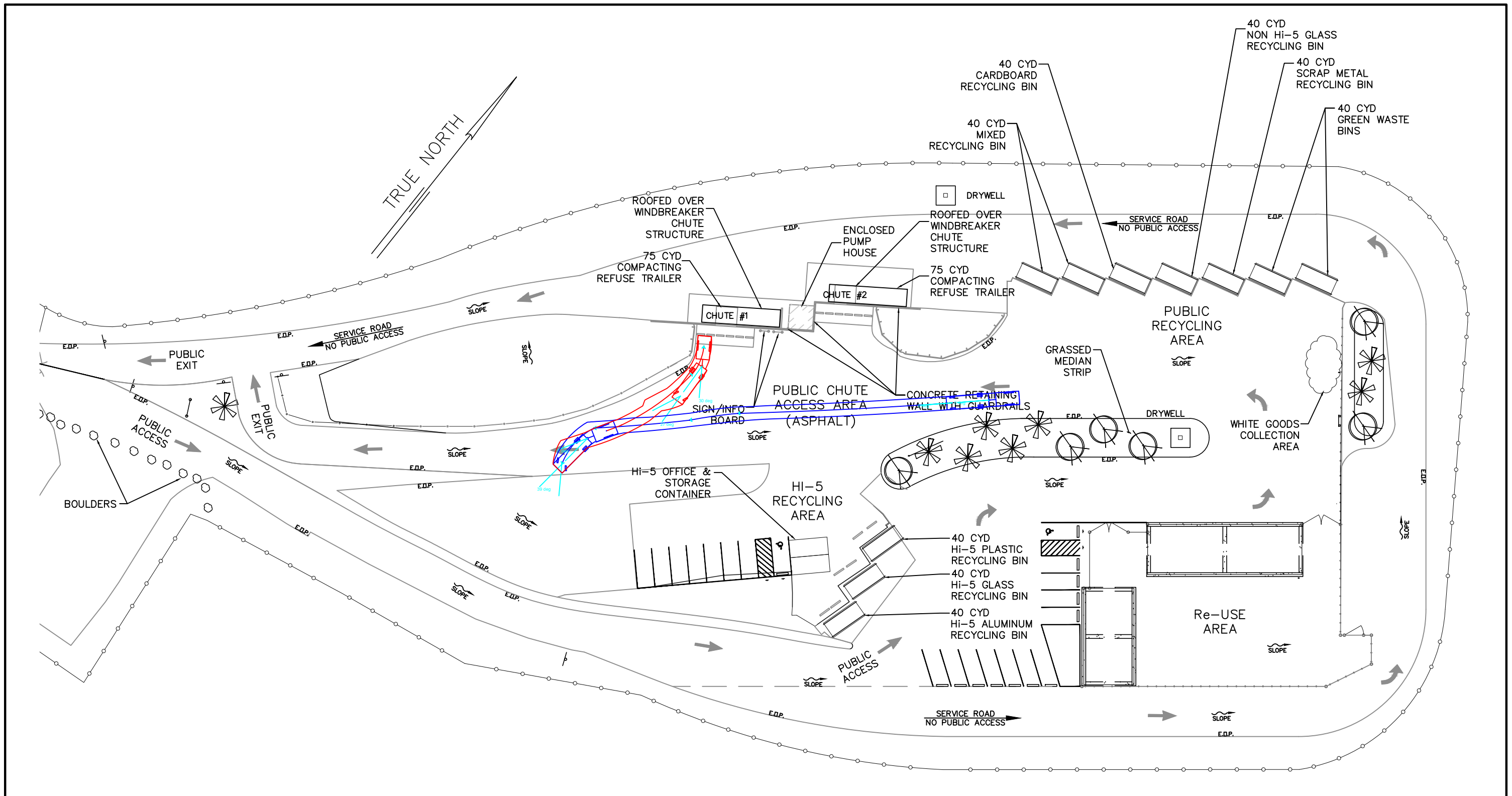
PUBLIC CHUTE #2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC CHUTE #2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



PUBLIC CHUTE #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC CHUTE #1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6



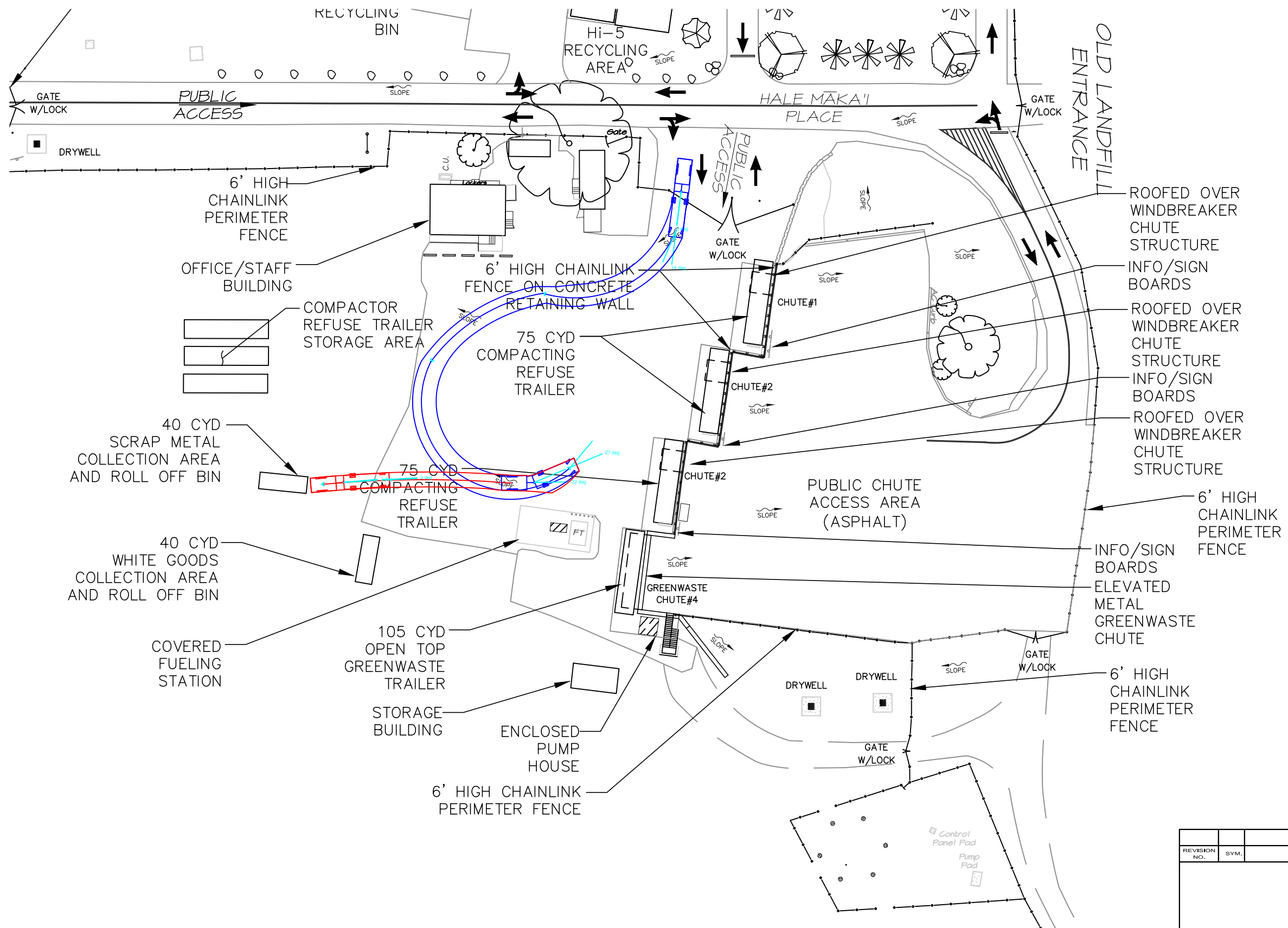
PUBLIC CHUTE #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAAU PUBLIC CHUTE #1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7

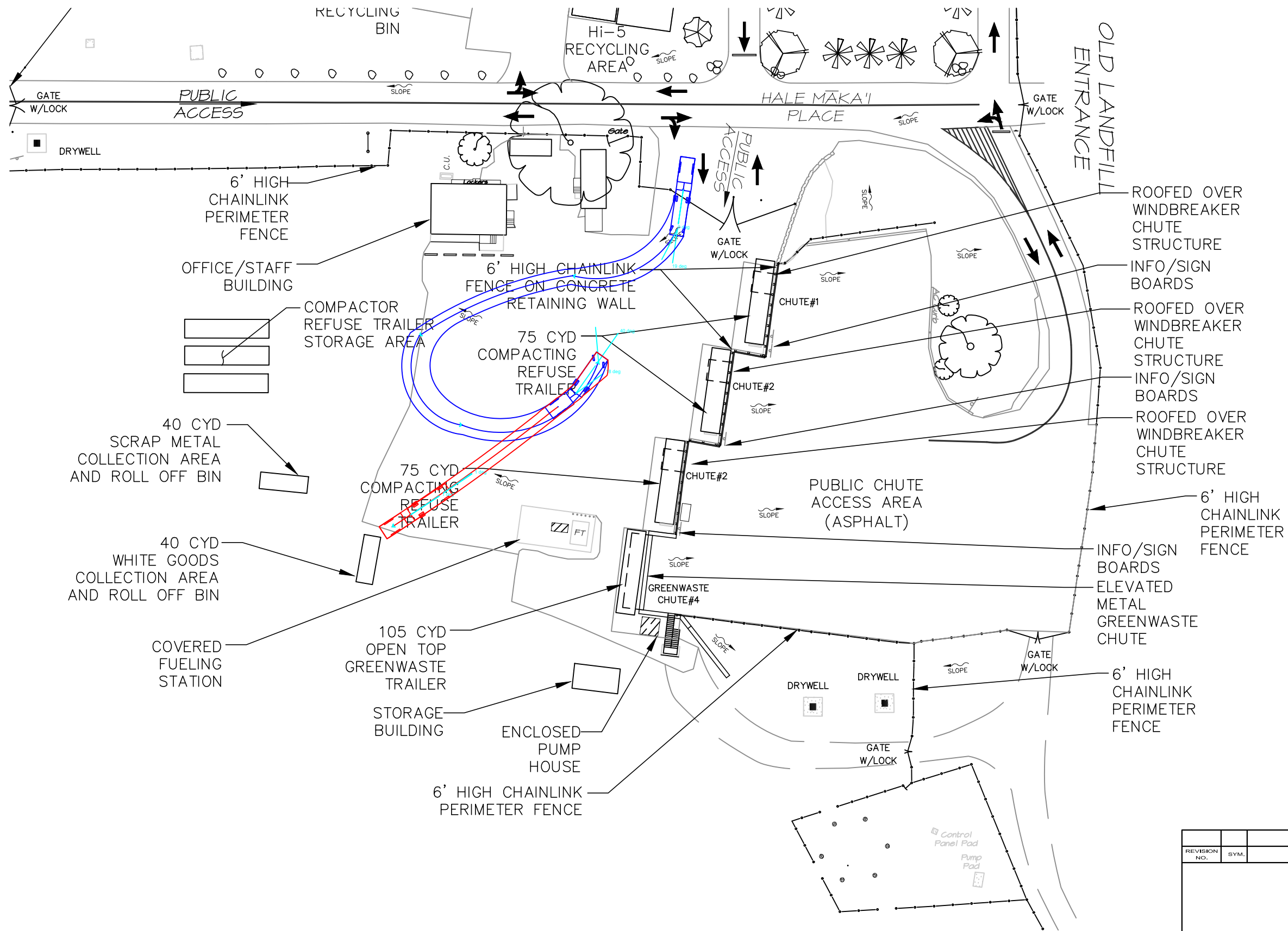
Kealakehe Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Scrap Metal Collection Area	1	Yes	No	Yes	See Sketch 1.
White Goods Collection Area	1	Yes	No	Yes	See Sketch 2.
Compacting Refuse Trailer	1	Yes	No	Yes	See Sketch 3.
	2	Yes	No	Yes	See Sketch 4.
	3	Yes	No	Yes	See Sketch 5.
Greenwaste Trailer	All	Yes	No	Yes	See Sketch 6 and 7.
Non Hi-5 Glass Recycling Bin	All	Yes	No	Yes	See Sketch 8.
Mixed Recycling Bin	1	Yes	No	Yes	See Sketch 9.
	2	Yes	No	Yes	See Sketch 10.
Cardboard Recycling Bin with Compactor	1	Yes	No	Yes	See Sketch 11.
Cardboard Recycling Bin Parking Area	All	Yes	No	No	See Sketch 12 and 13.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.

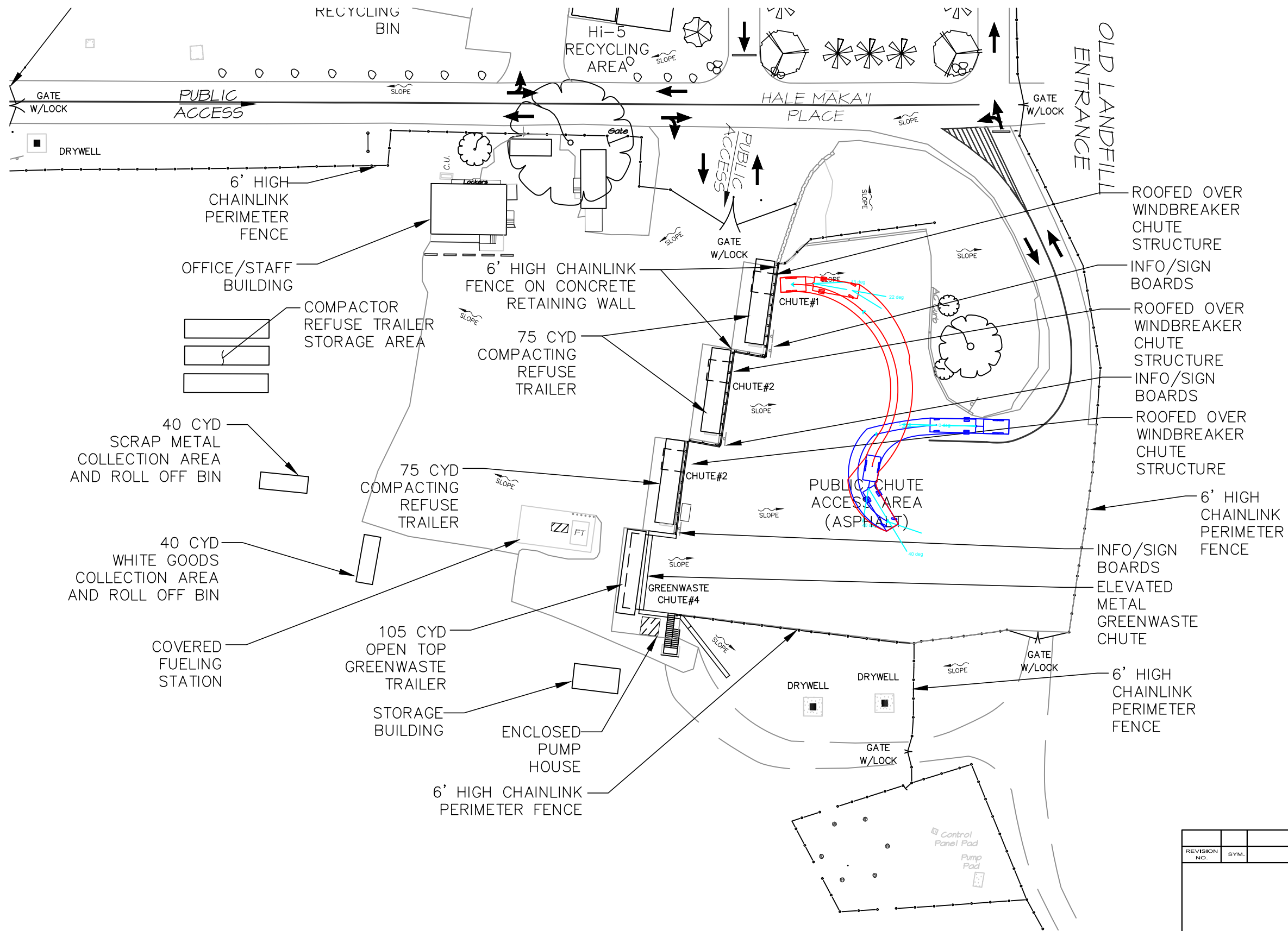


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE SCRAP METAL COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



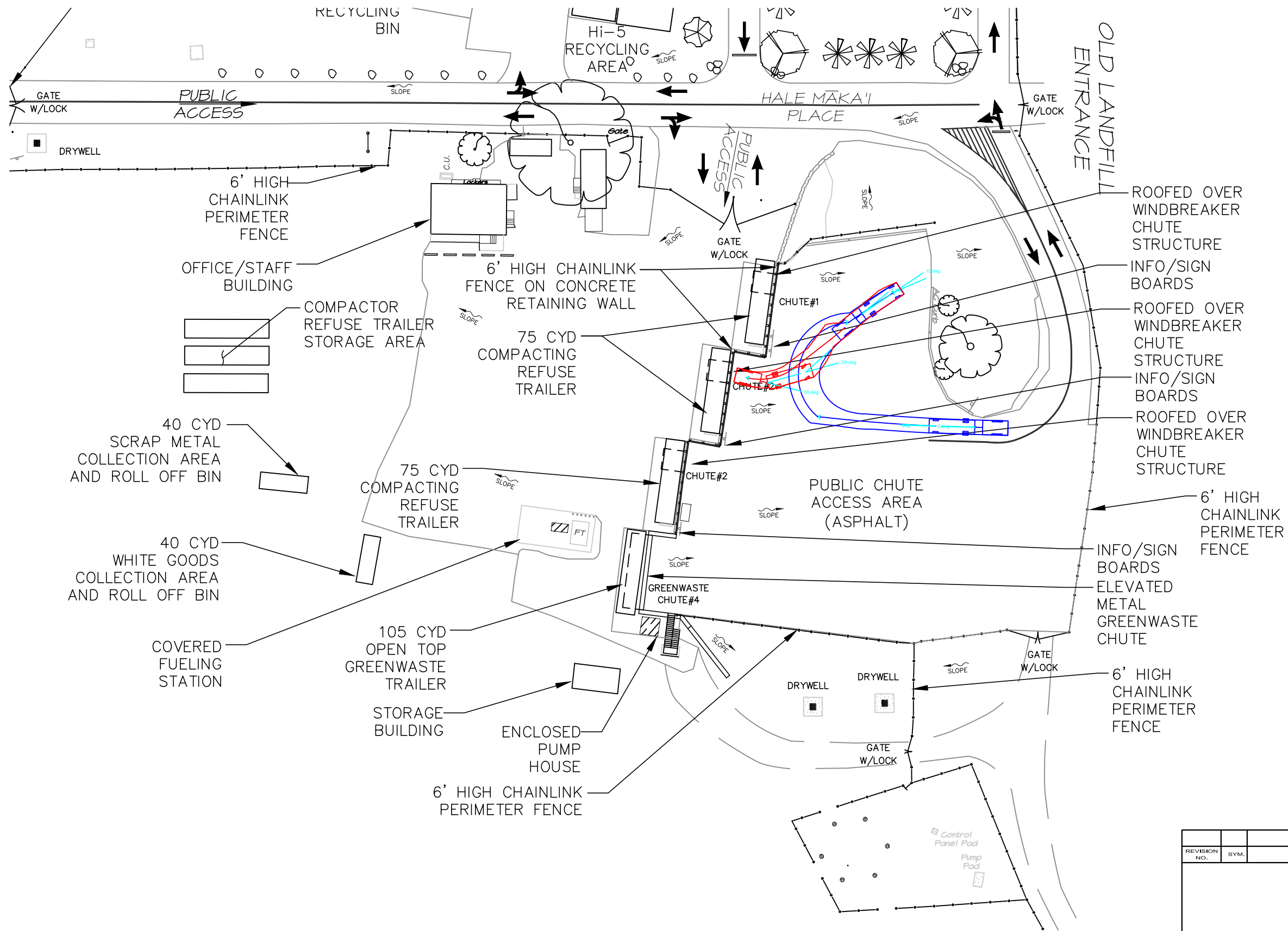
WHITE GOODS COLLECTION AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE WHITE GOODS COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



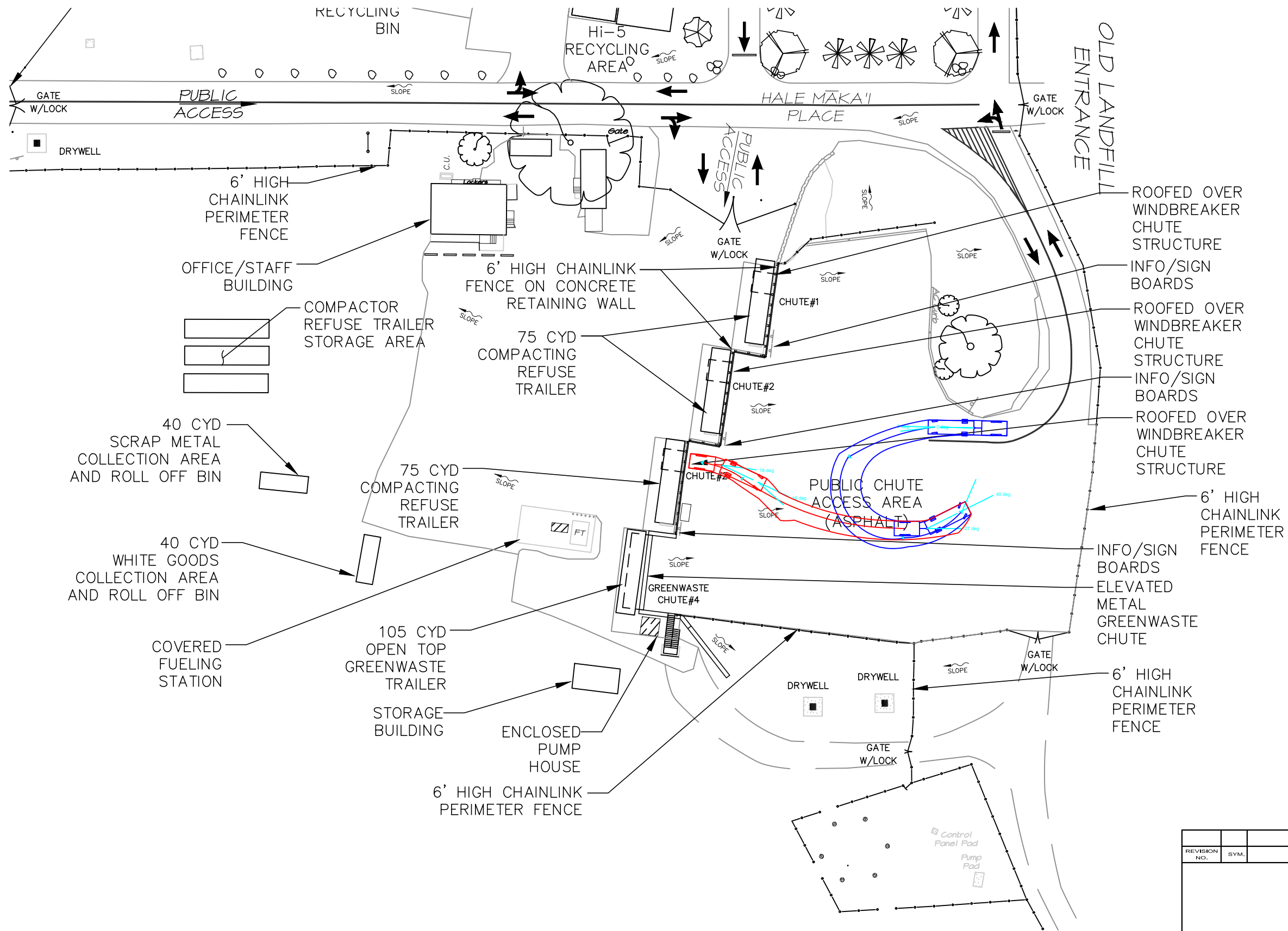
REFUSE TRAILER 1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE REFUSE TRAILER 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



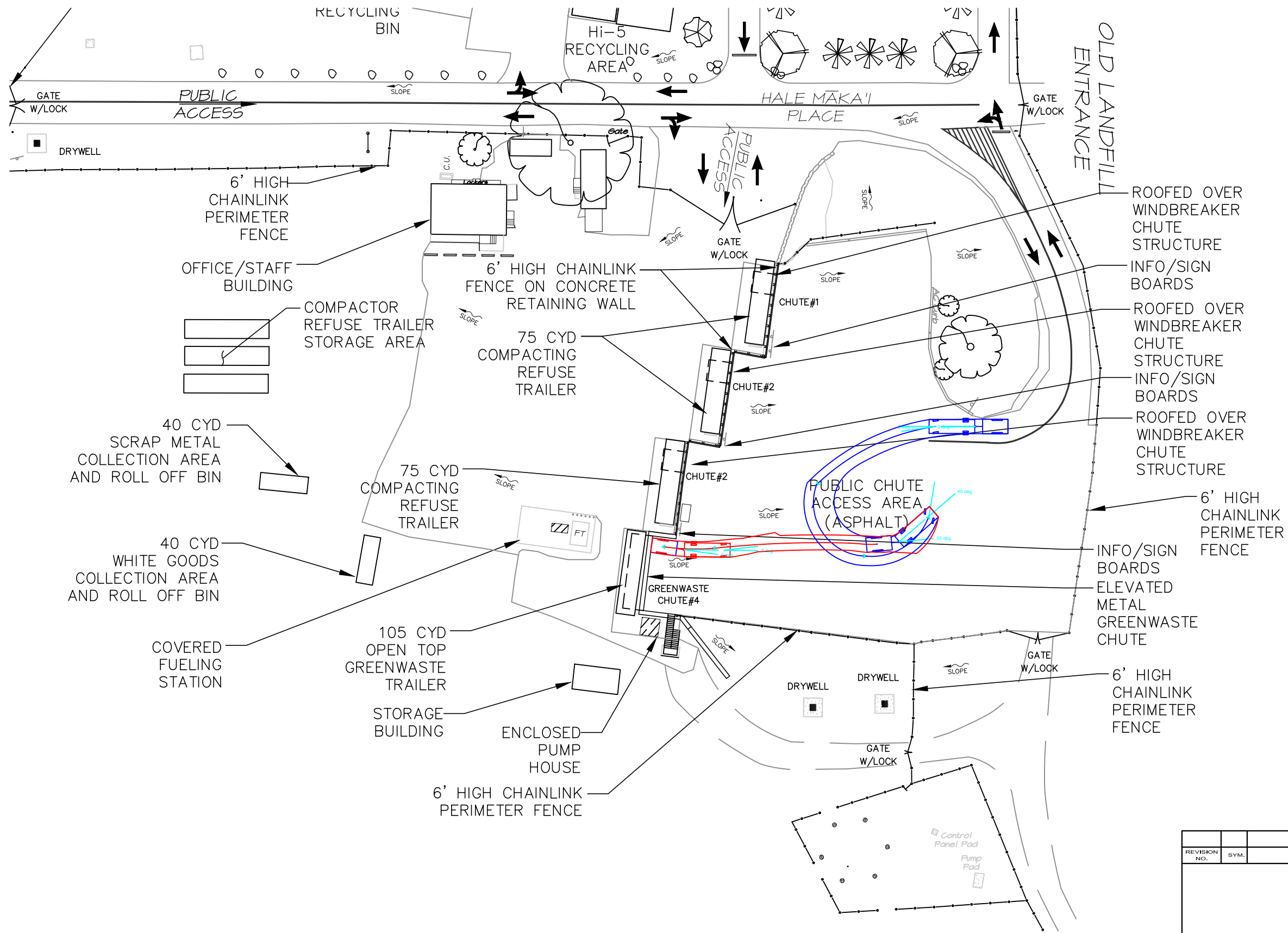
REFUSE TRAILER 2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE REFUSE TRAILER 2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-4		



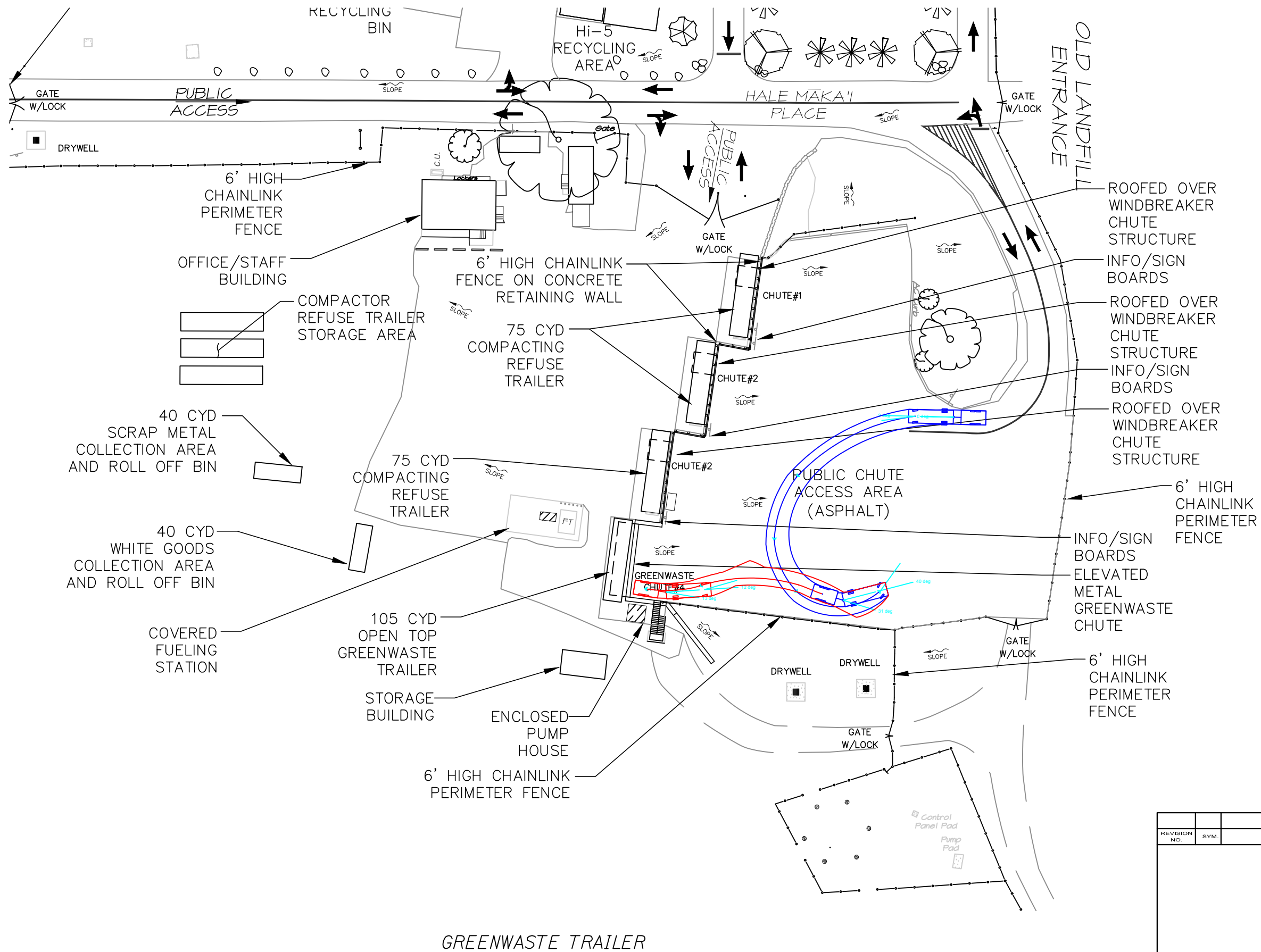
REFUSE TRAILER 3

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE REFUSE TRAILER 3					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



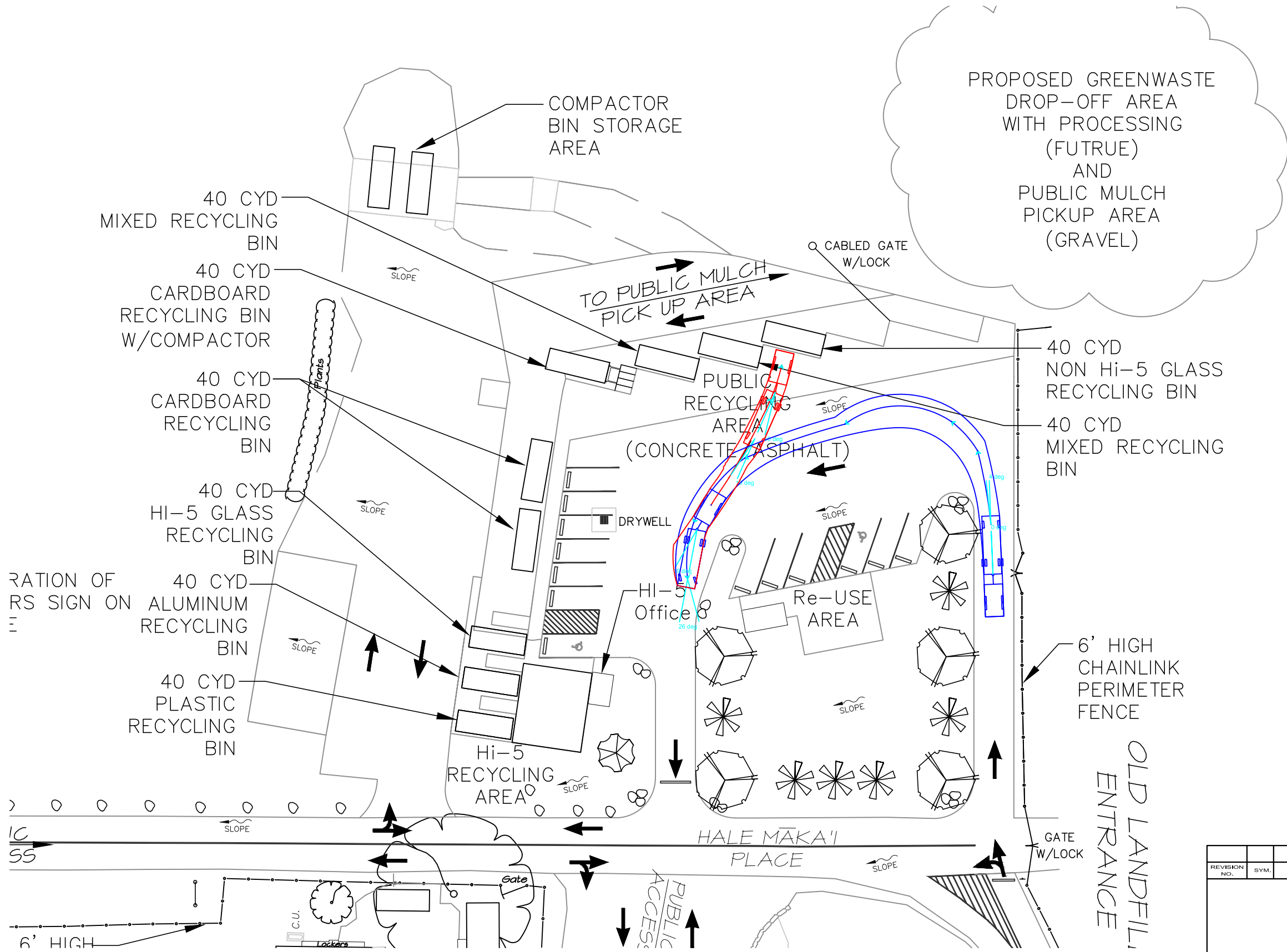
GREENWASTE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE GREENWASTE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6



GREENWASTE TRAILER

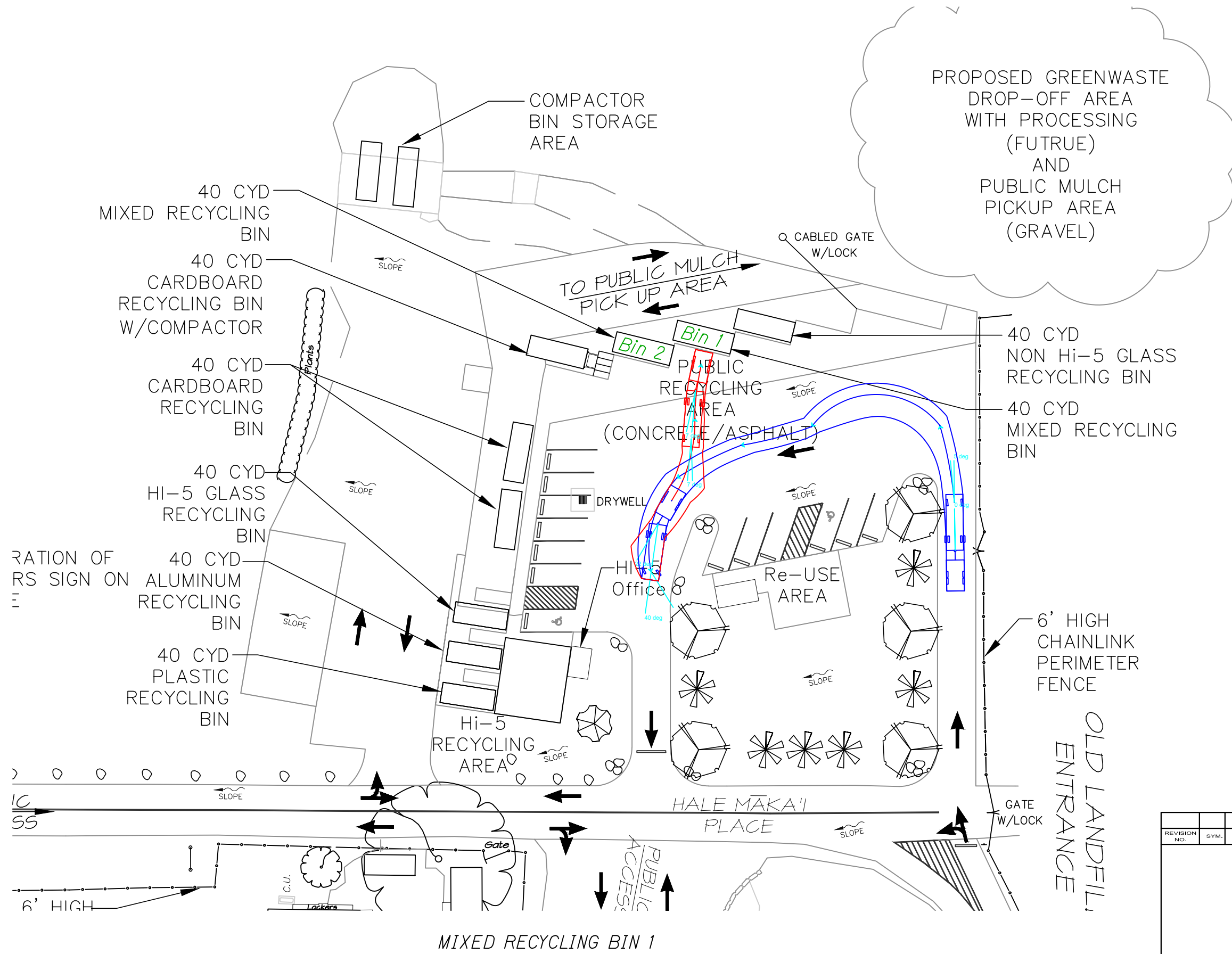
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE GREENWASTE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7



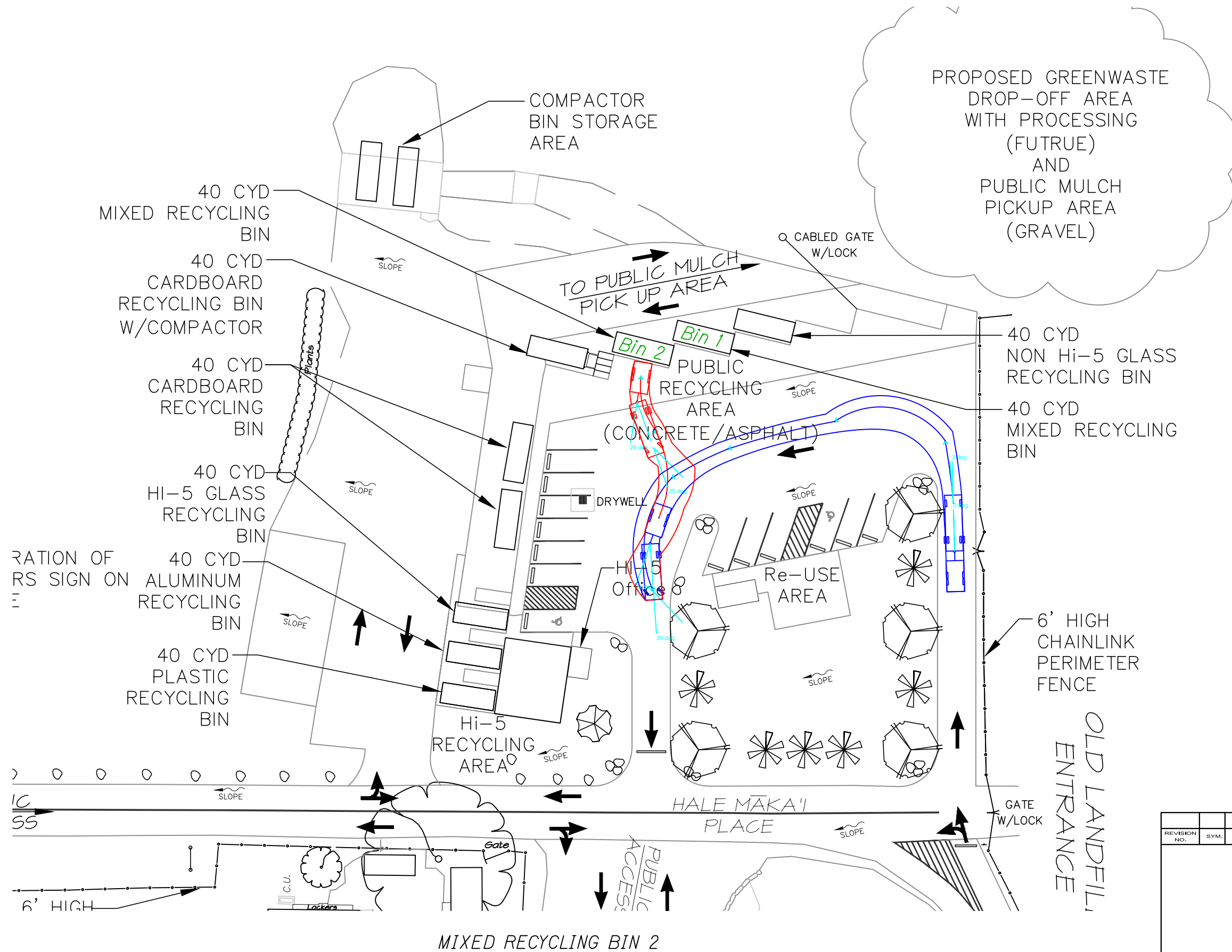
RATION OF
RS SIGN ON

NON HI-5 GLASS RECYCLING BIN

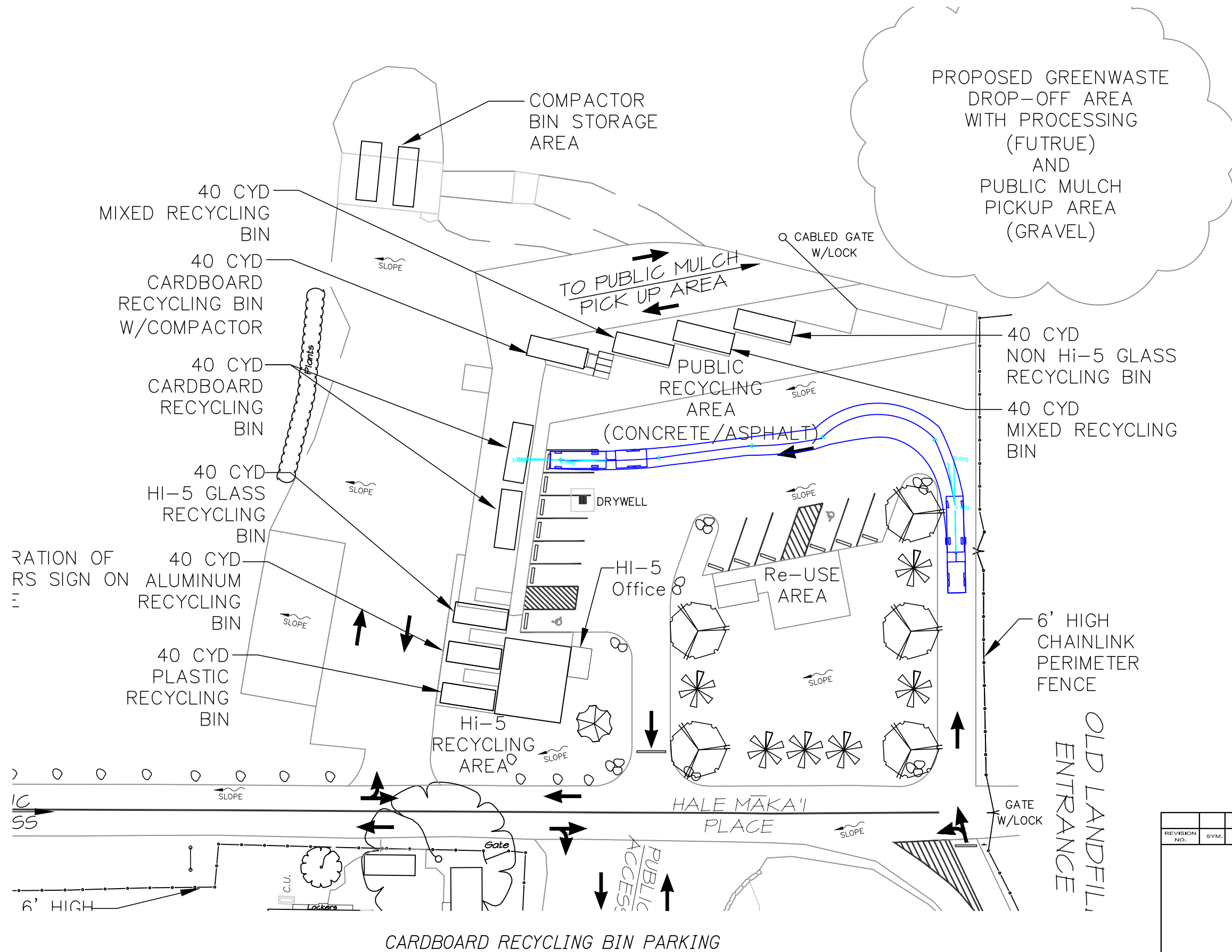
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE NON HI-5 GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-8



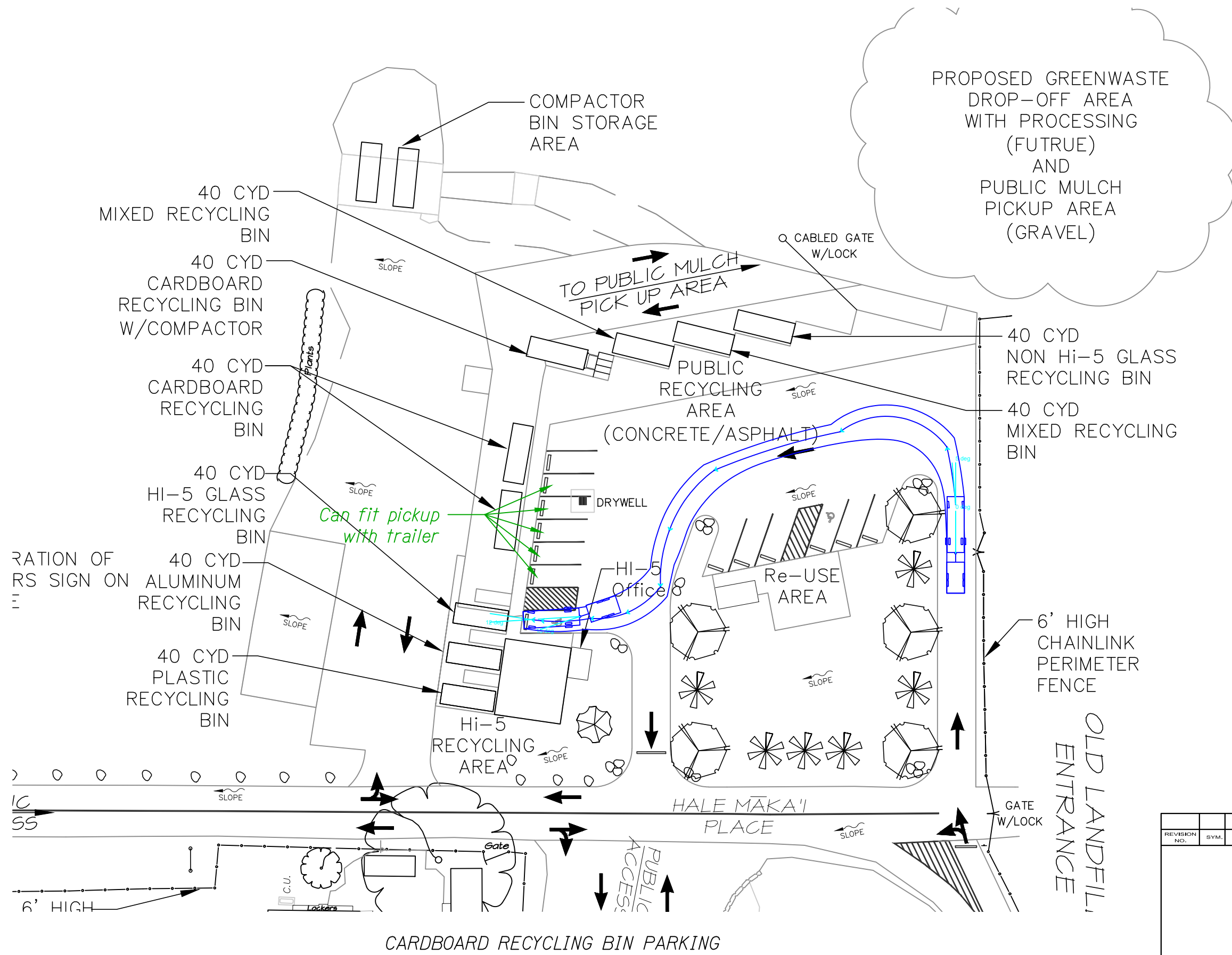
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE MIXED RECYCLING BIN 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-9



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE MIXED RECYCLING BIN 2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-10



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE CARDBOARD RECYCLING BIN PARKING					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-12

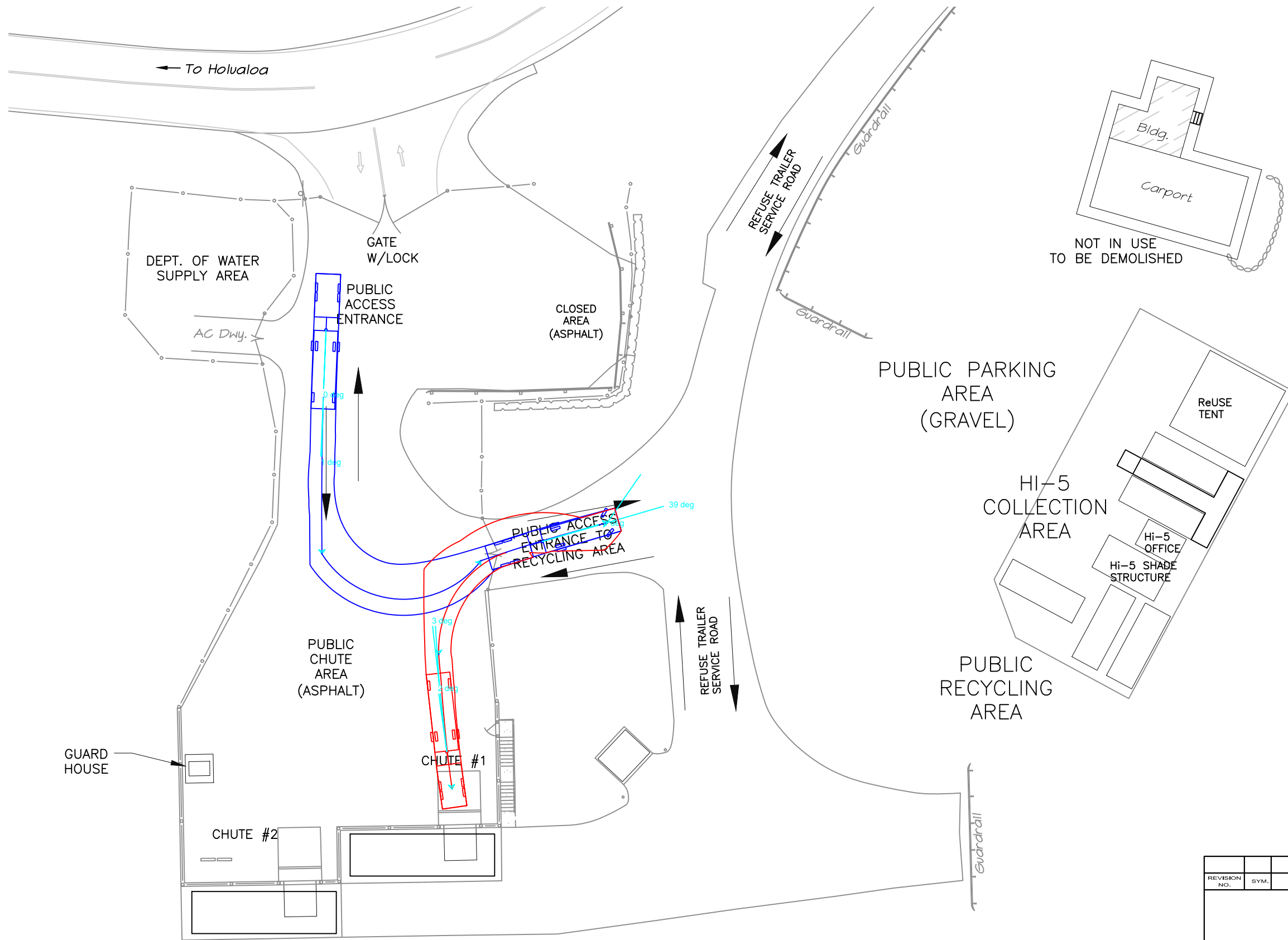


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEALAKEHE CARDBOARD RECYCLING BIN PARKING					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-13

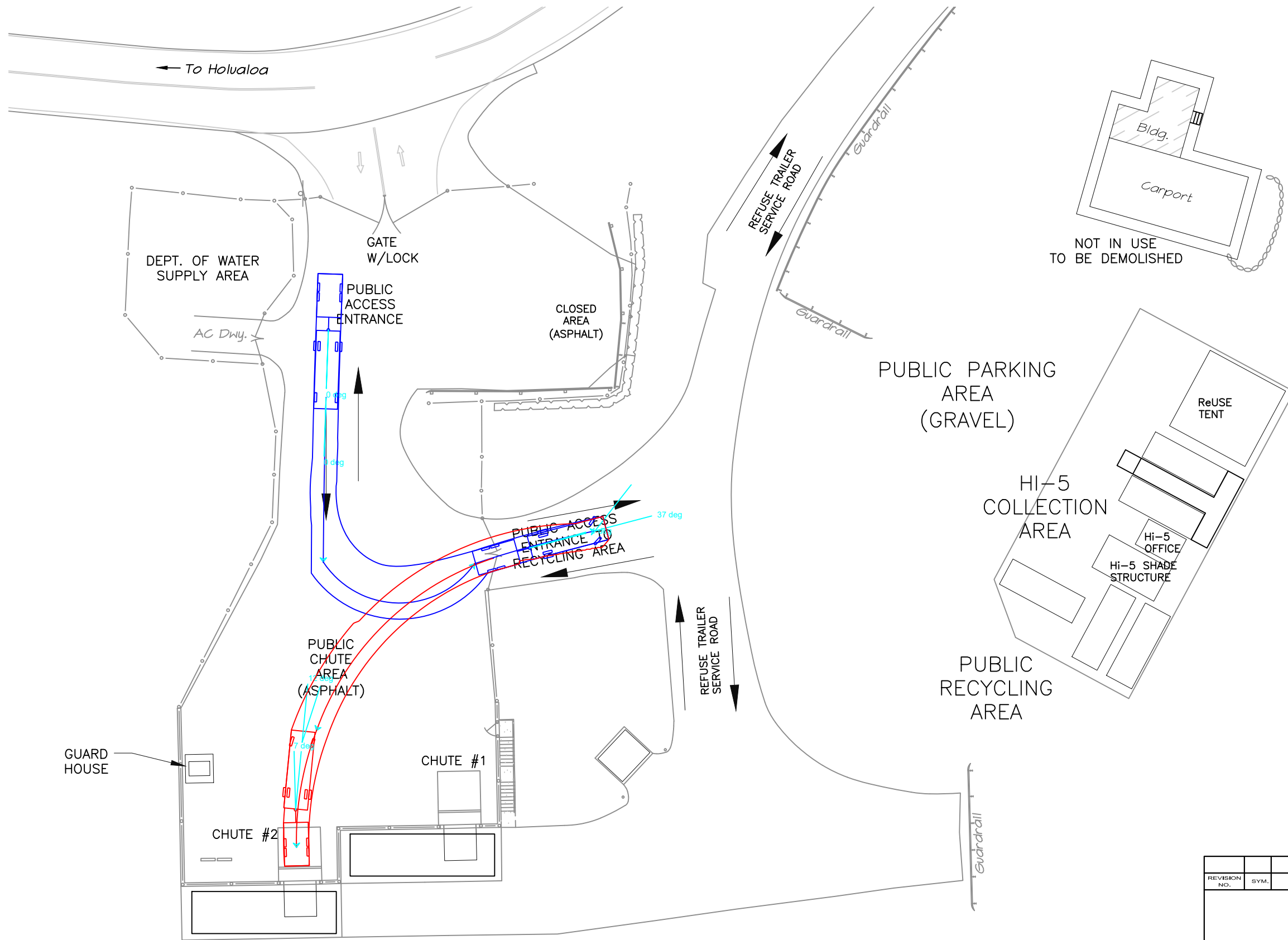
Keauhou Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1.
	2	Yes	No	Yes	See Sketch 2.
Public Recycling Area	All	Yes	No	Yes	See Sketch 3-5.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.

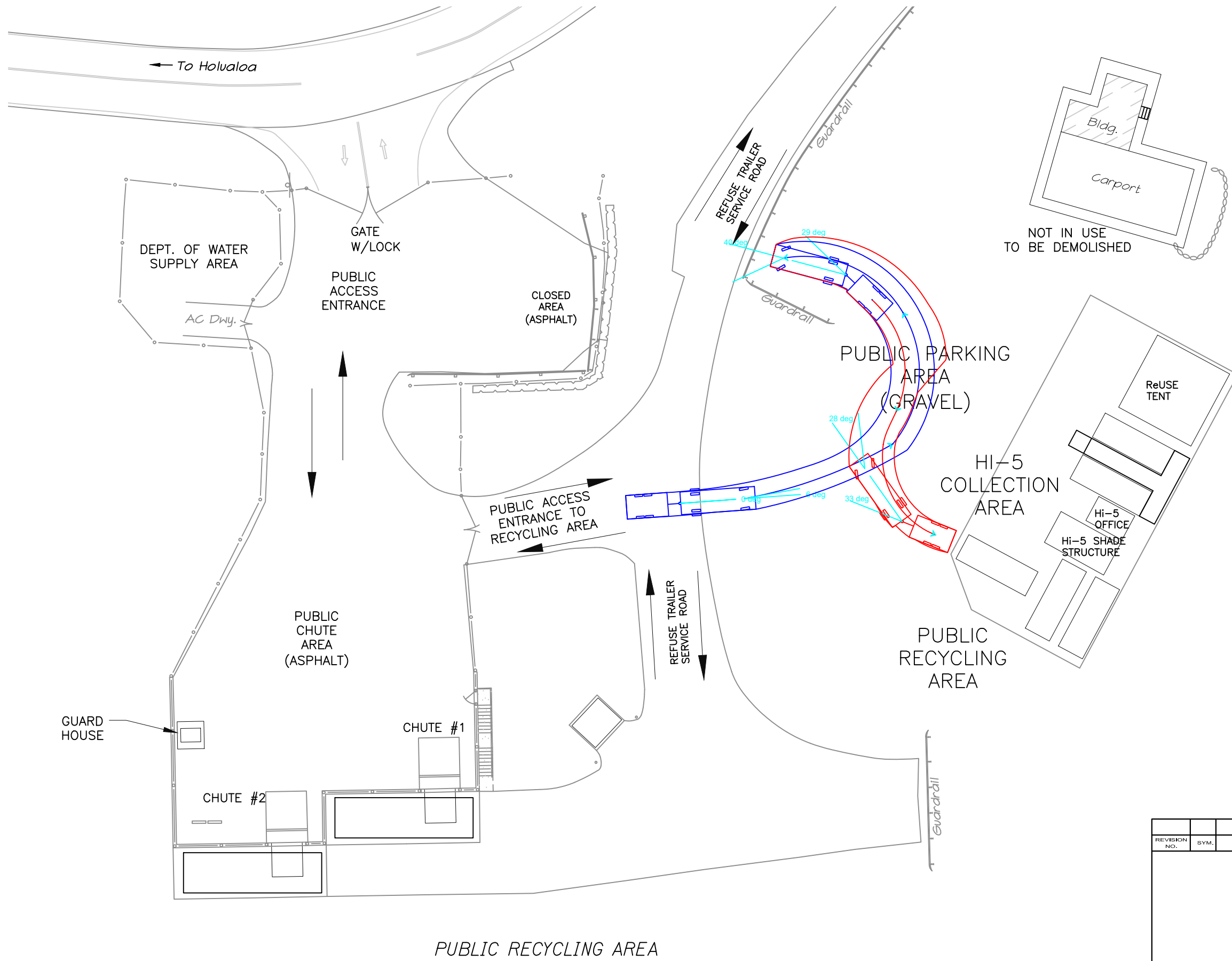


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAUHOU PUBLIC CHUTE 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

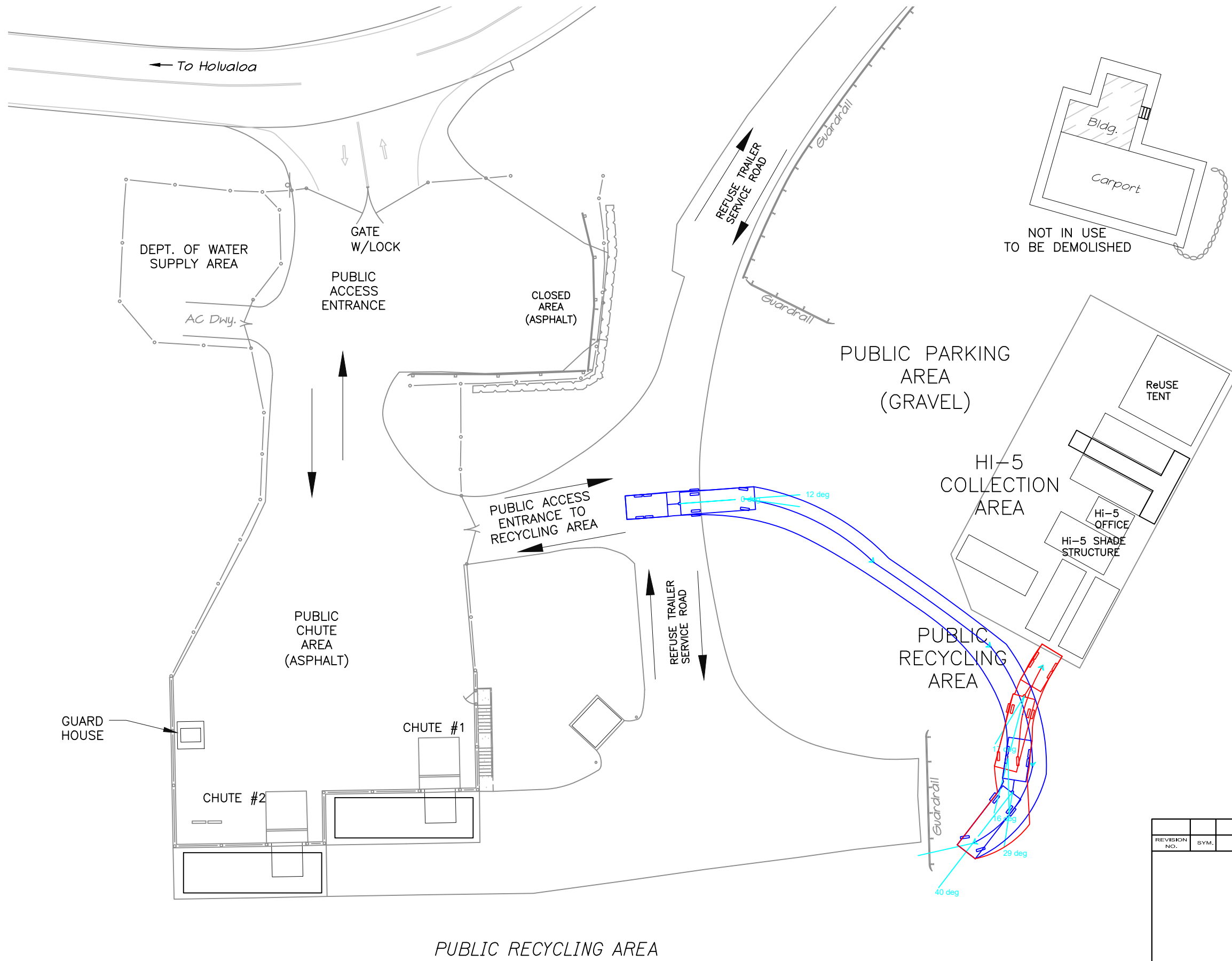


PUBLIC CHUTE 2

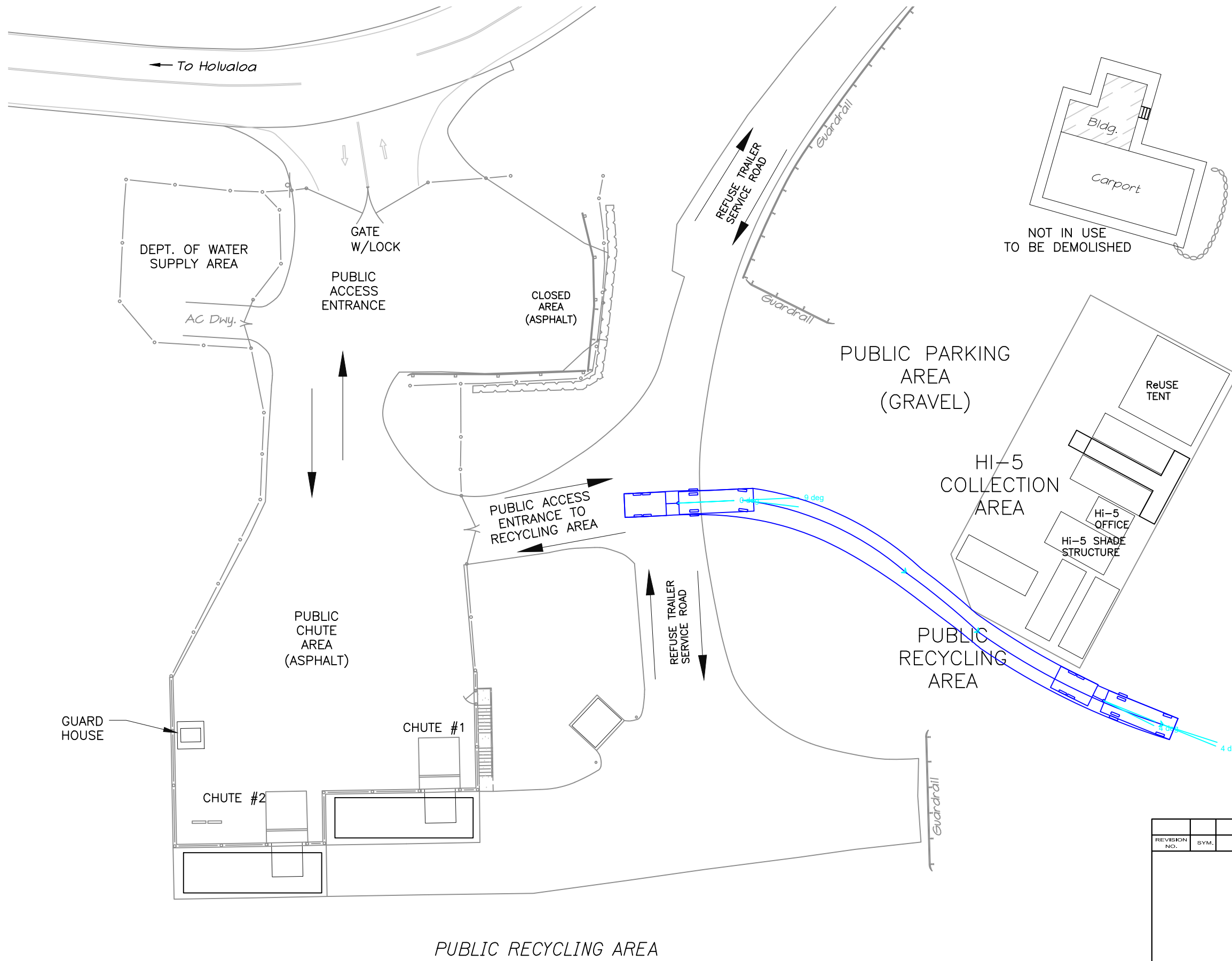
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAUHOU PUBLIC CHUTE 2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAUHOU PUBLIC RECYCLING AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAUHOU PUBLIC RECYCLING AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4

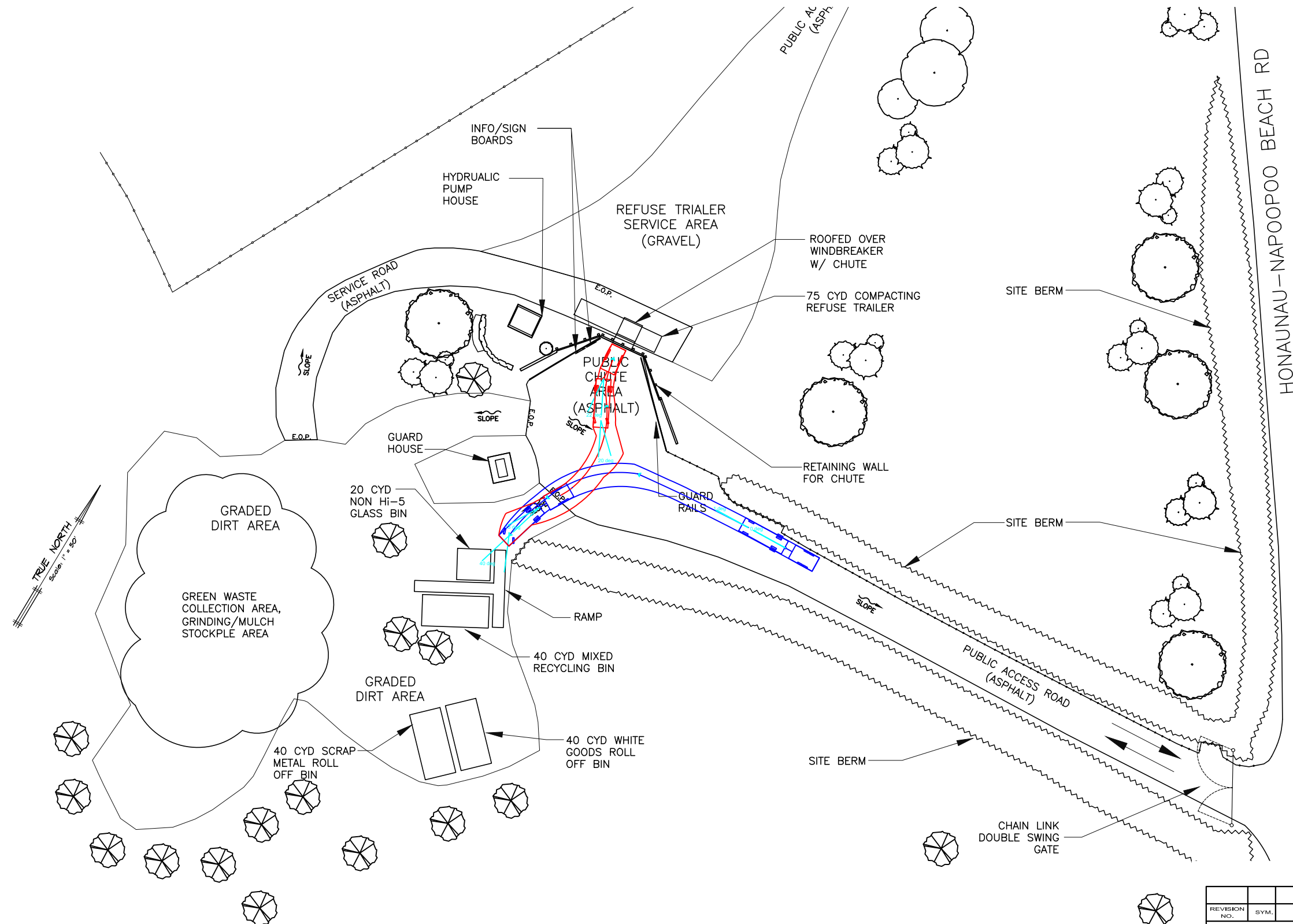


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEAUHOU PUBLIC RECYCLING AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:				DRAWING NO.	
CHIEF ENGINEER				DATE	
				SK-5	

Keel Transfer Station - Analysis of Access of Pickup with Trailer

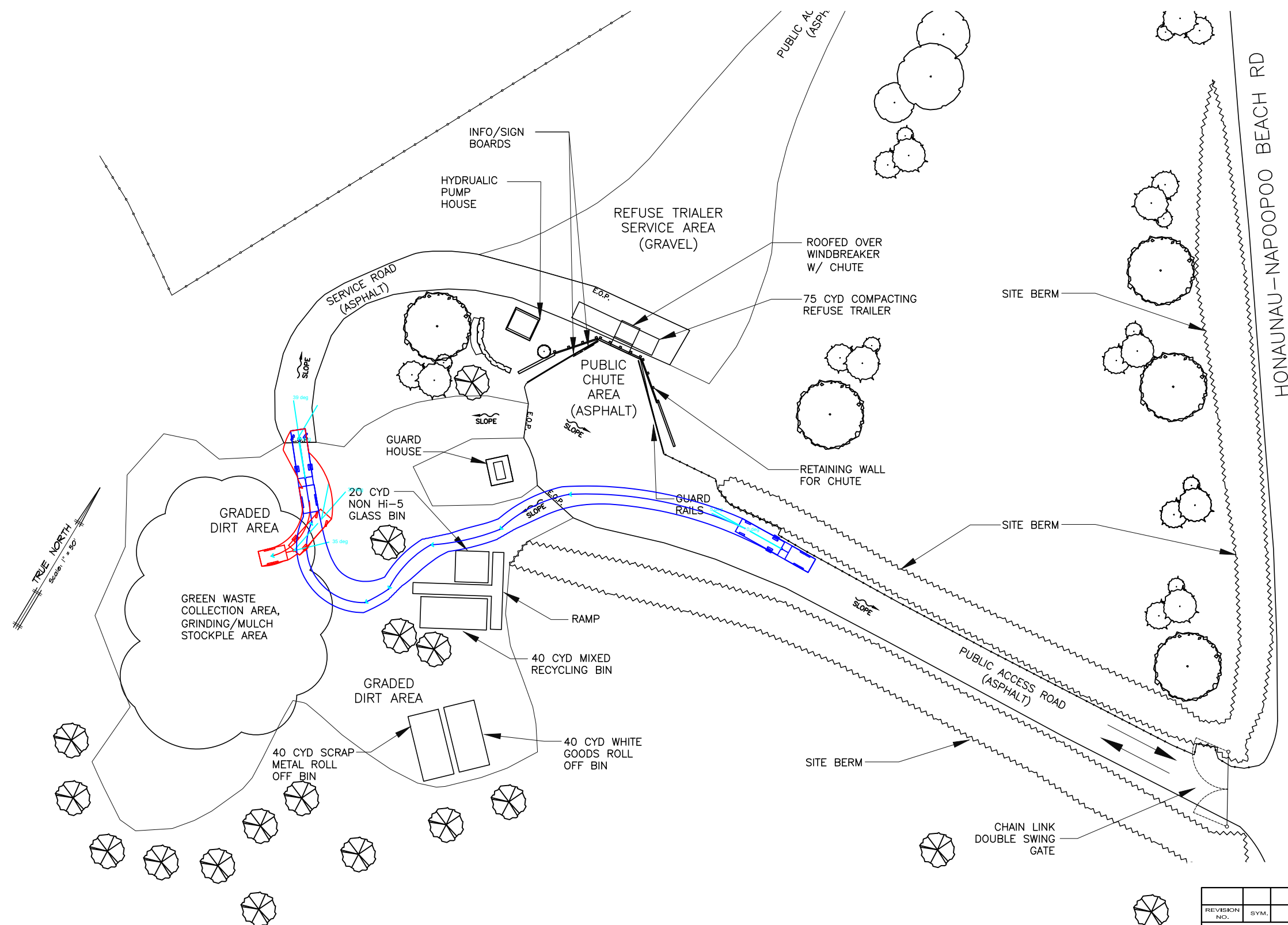
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1.
Green Waste Collection Area & Grinding/ Mulch Stockpile Area	1	Yes	No	Yes	See Sketch 2.
Non Hi-5 Glass Bin & Mixed Recycling Bin	1	Yes	No	Yes	See Sketch 3.
Scrap Metal Bin	1	Yes	No	Yes	See Sketch 4.
White Goods Bin	1	Yes	No	Yes	See Sketch 5.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.



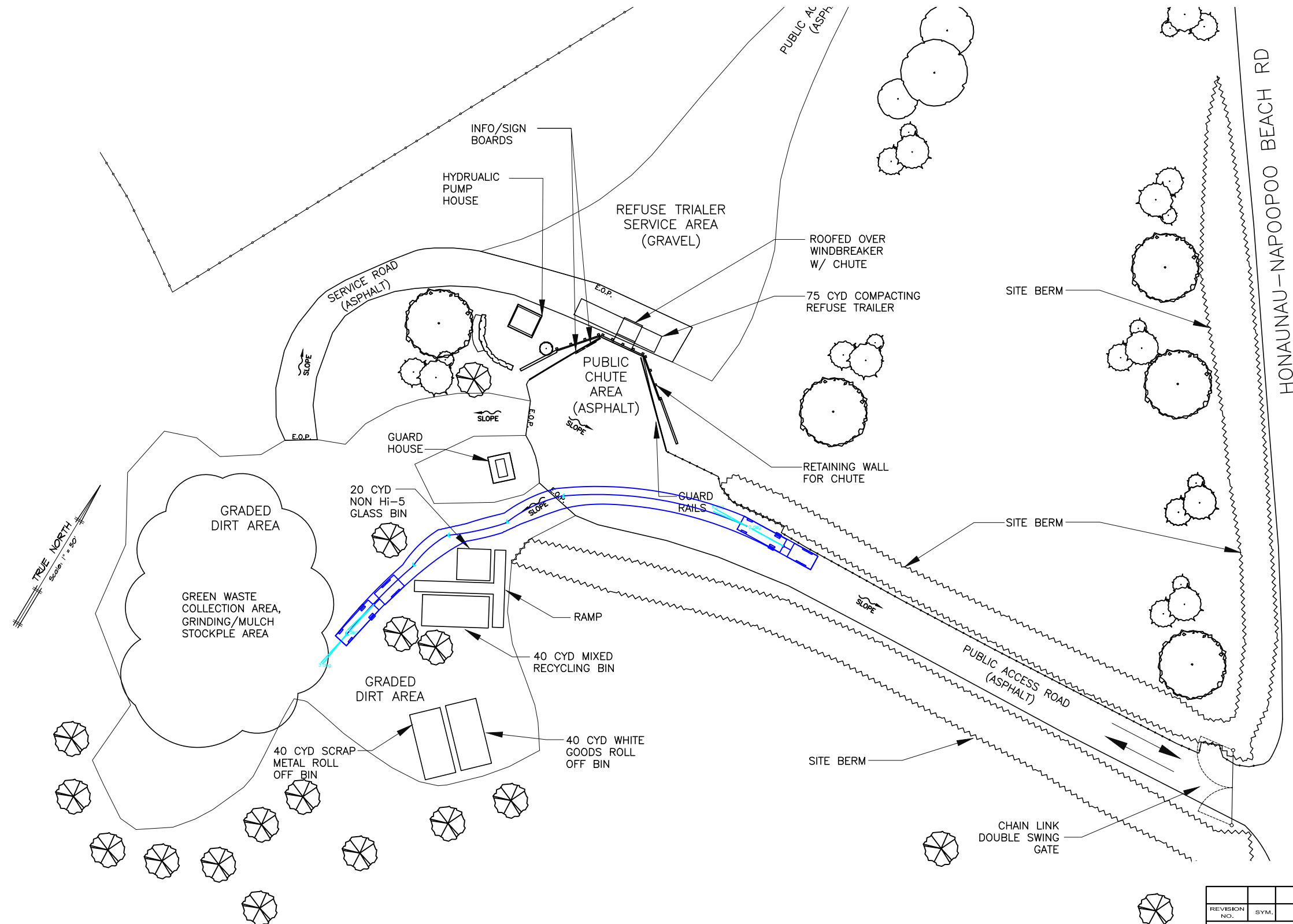
REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEEI REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-1		



GREEN WASTE COLLECTION AREA & GRINDING/MULCH STOCKPILE AREA

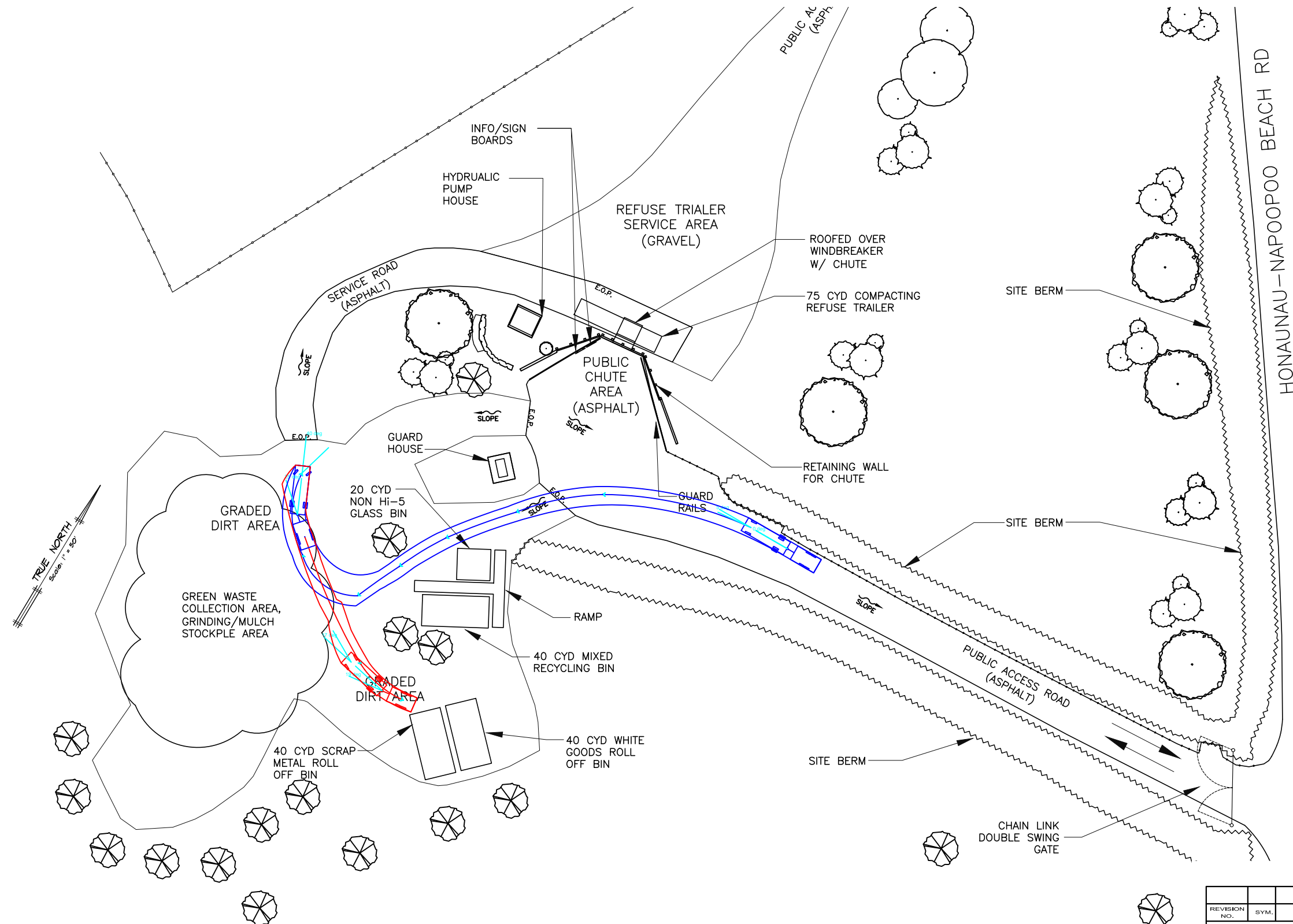
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEEI GREEN WASTE COLLECTION AREA & GRINDING/MULCH STOCKPILE AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-2		



HONAUNAU - NAPOOPOO BEACH RD

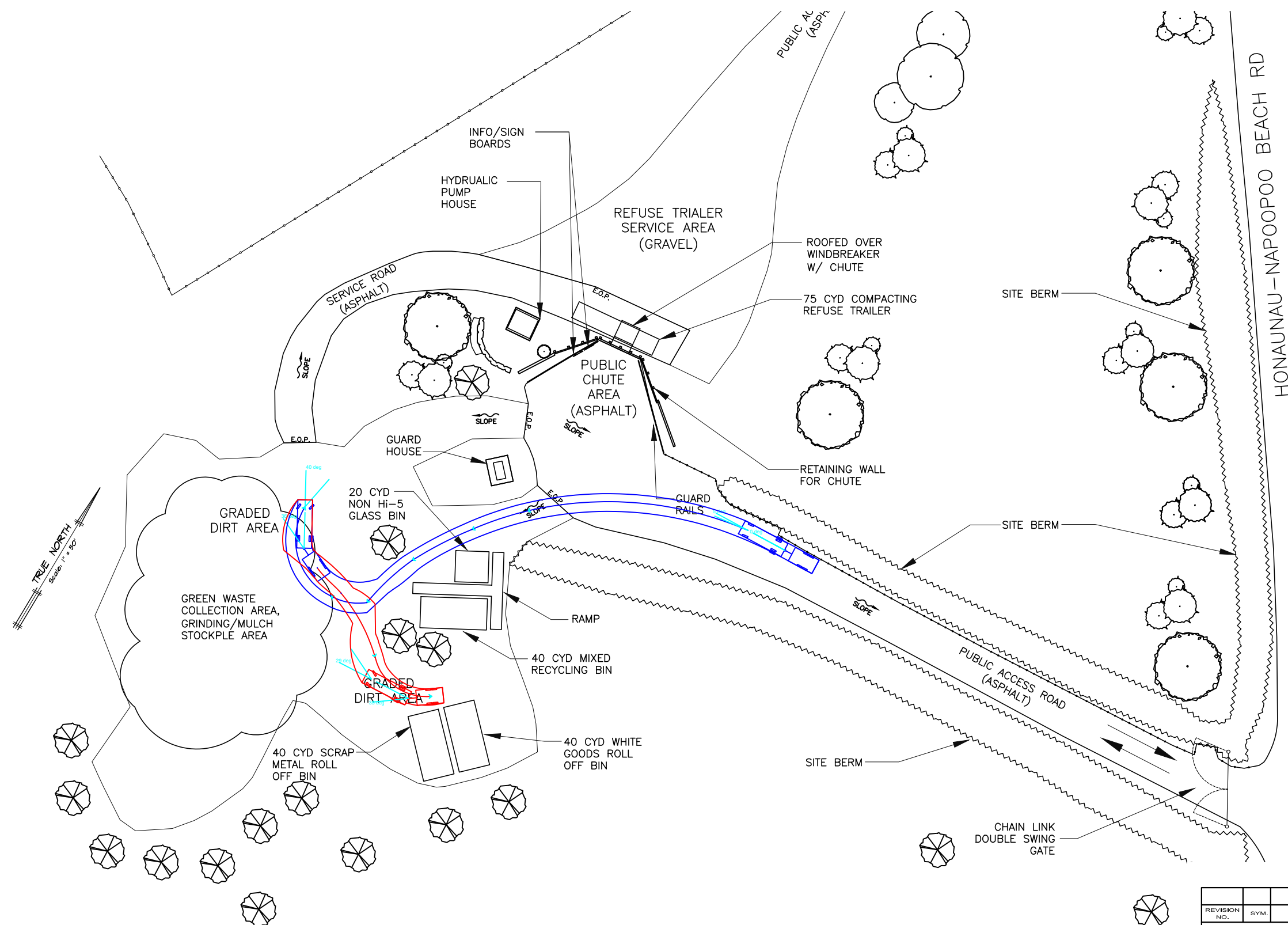
NON HI-5 GLASS BIN & MIXED RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEEI NON HI-5 GLASS BIN & MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-3		



SCRAP METAL BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEEI SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-4		



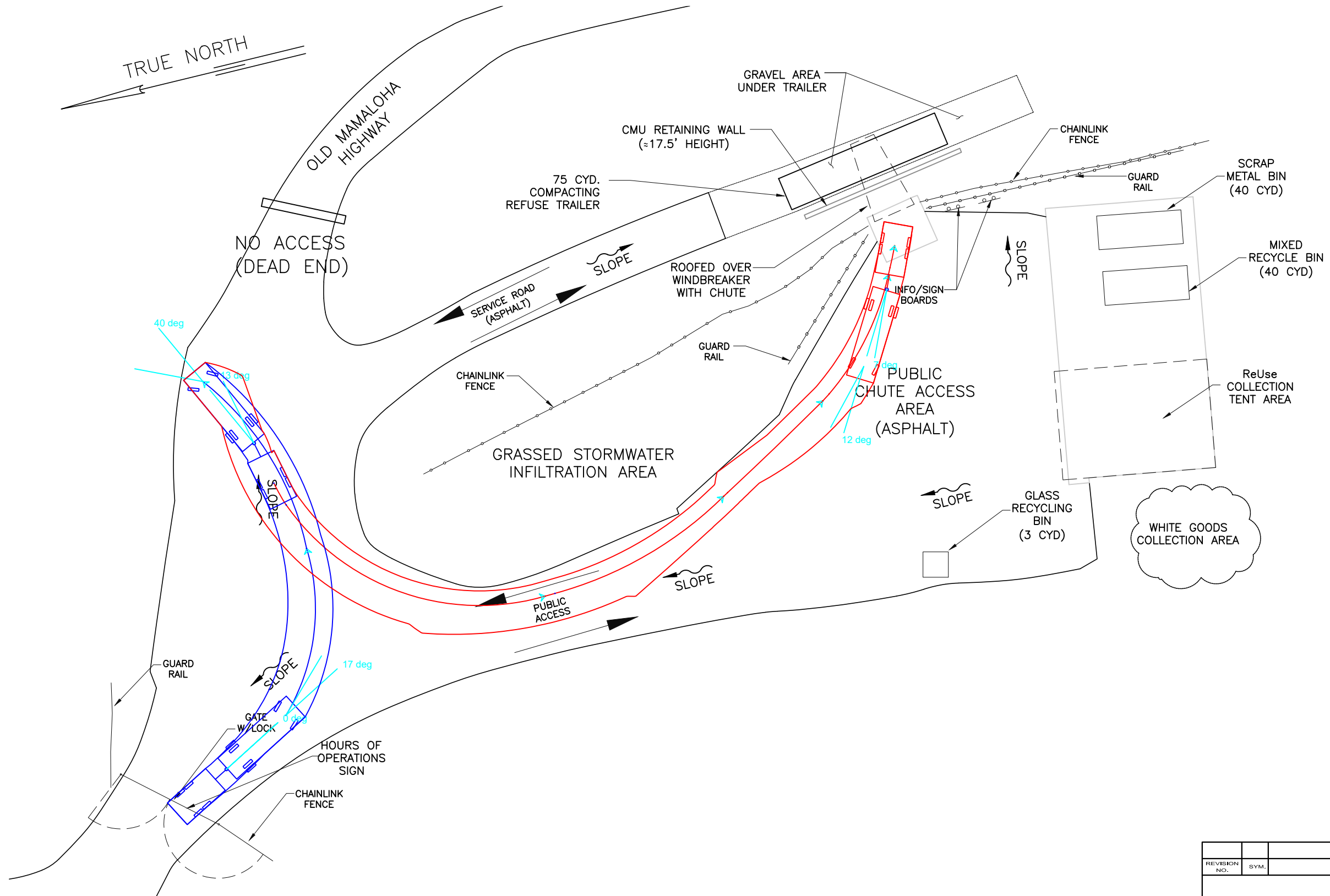
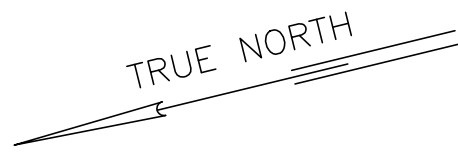
WHITE GOODS BIN

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
KEEI WHITE GOODS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-5		

Laupahoehoe Transfer Station - Analysis of Access of Pickup with Trailer

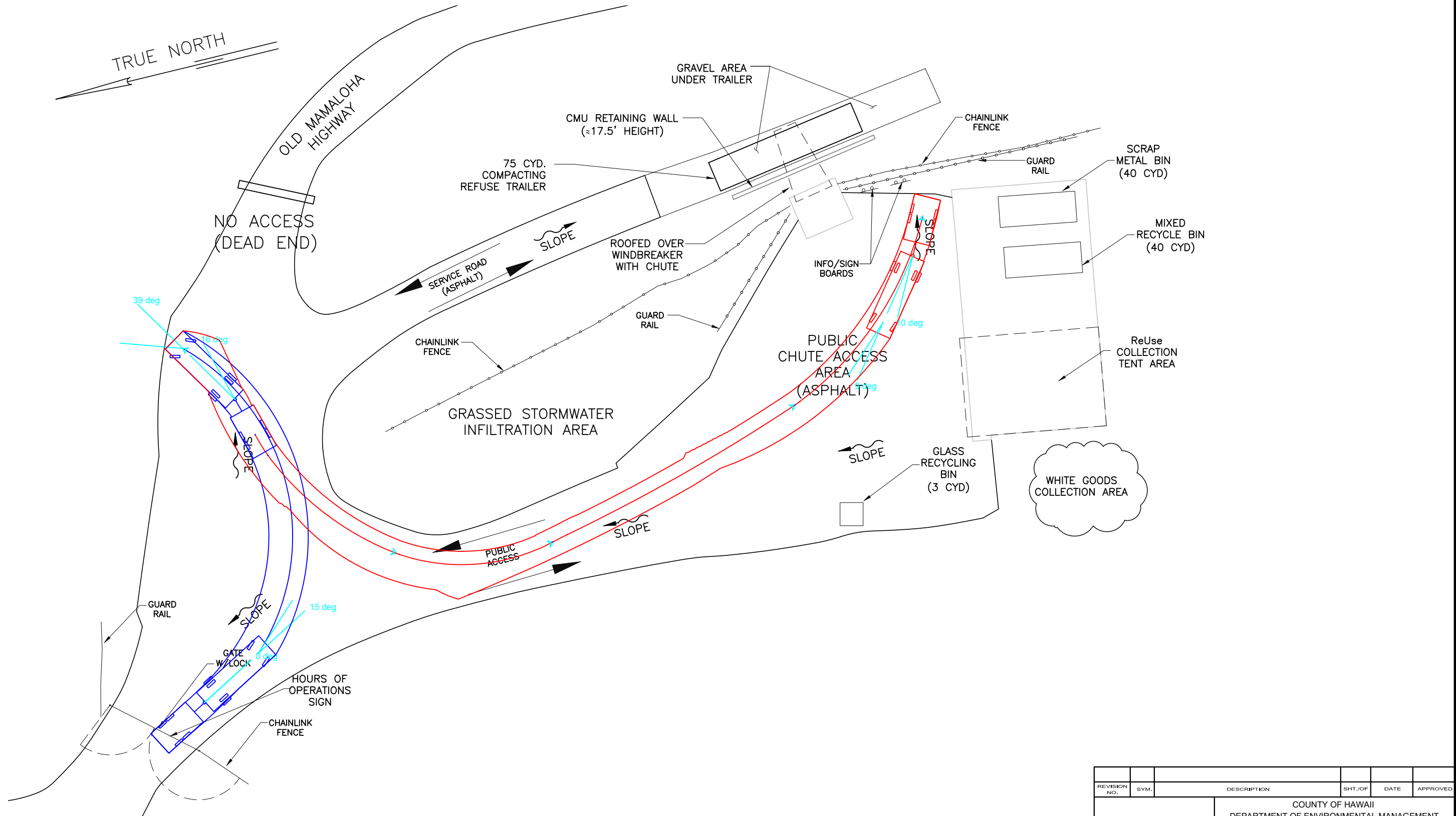
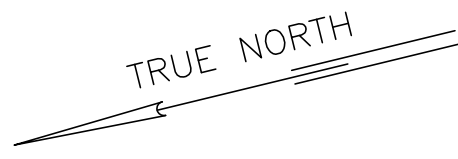
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1.
Scrap Metal Bin	1	Yes	No	Yes	See Sketch 2.
Mixed Recycle Bin	1	Yes	No	Yes	See Sketch 3.
White Goods Collection Area	1	Yes	No	Yes	See Sketch 4.
Glass Recycling Bin	1	Yes	No	Yes	See Sketch 5.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.



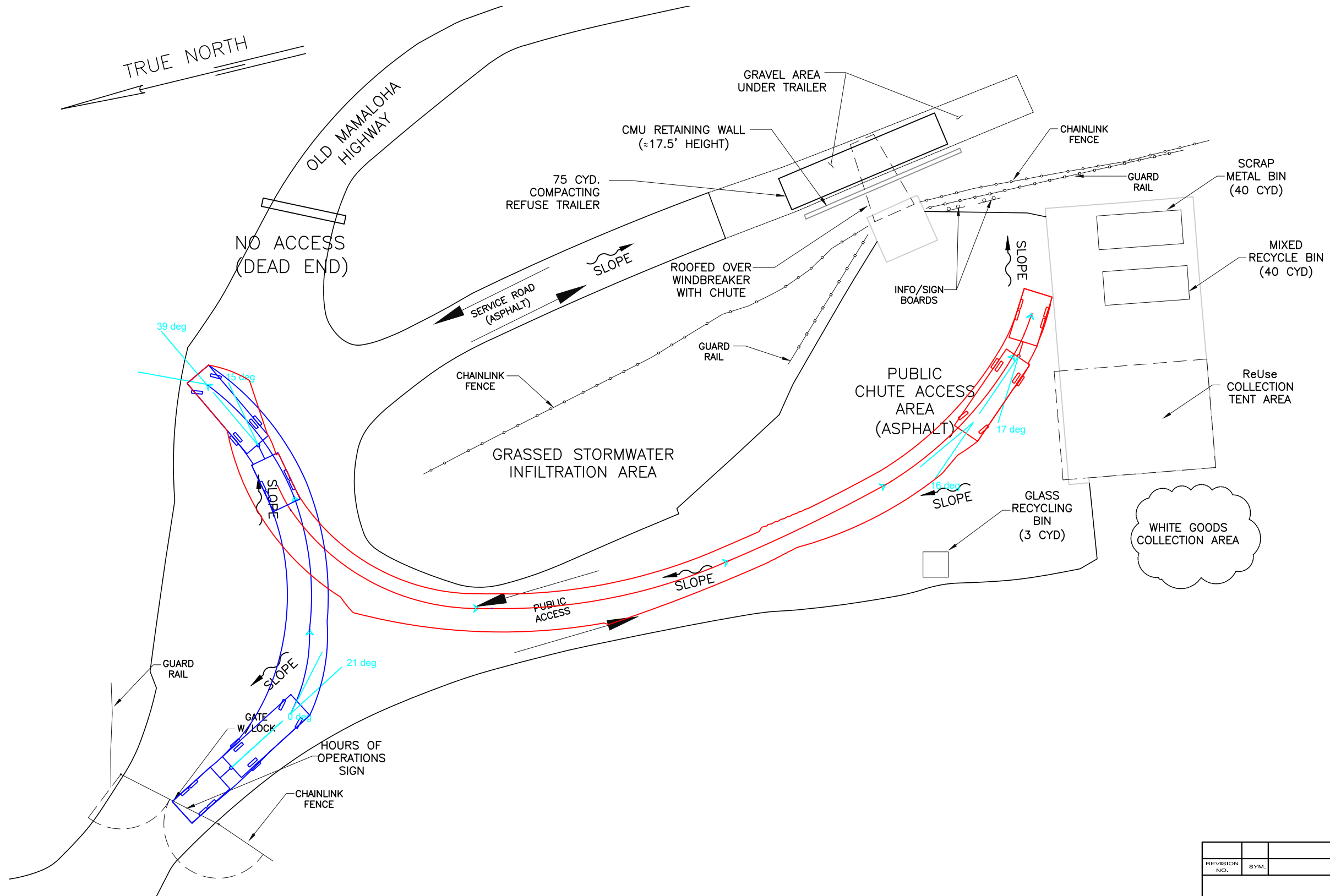
REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
LAUPAHOEHOE REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



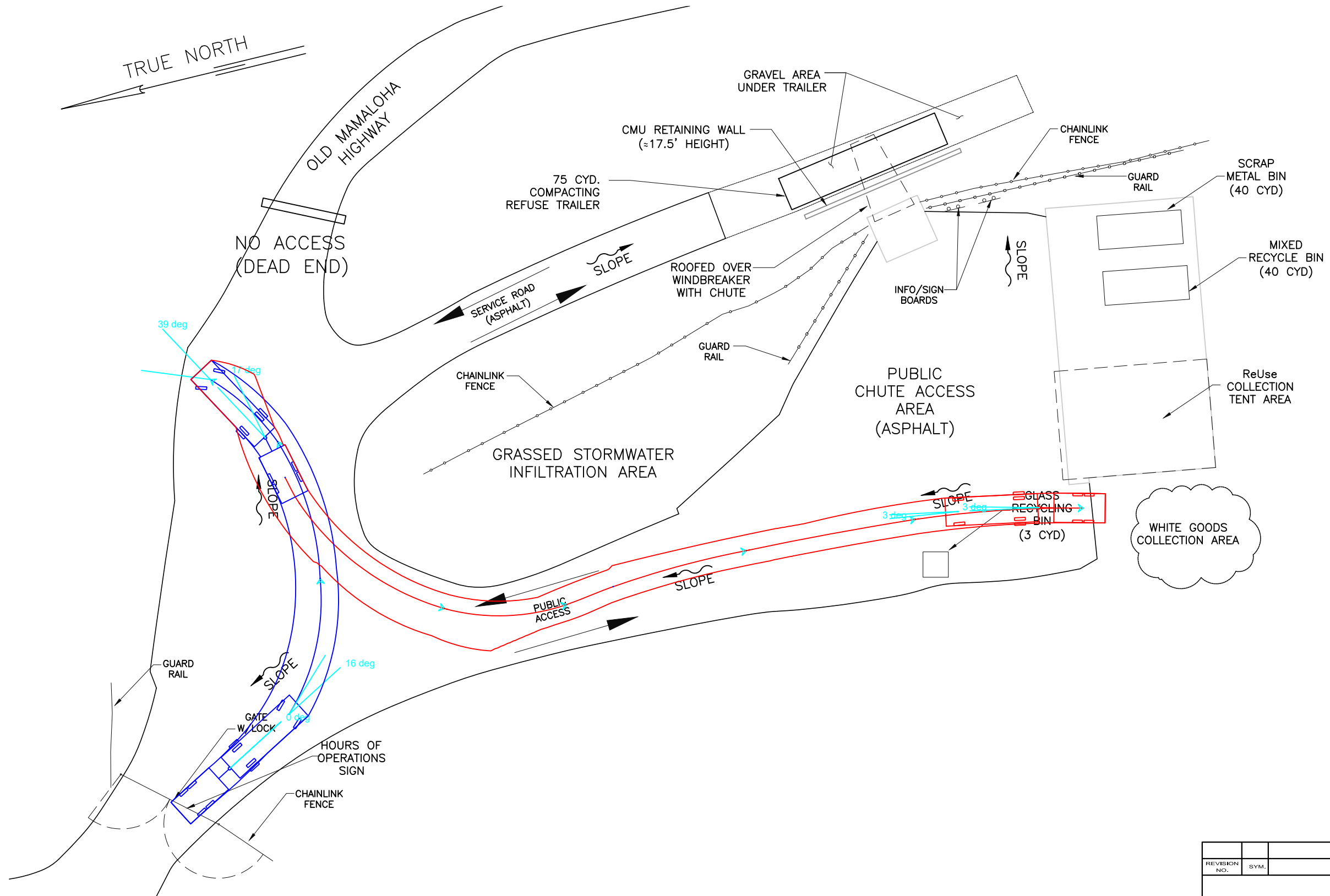
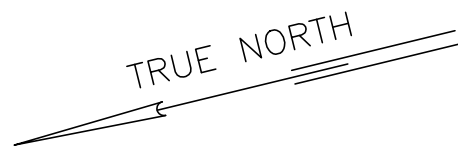
SCRAP METAL BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
LAUPAHOEHOE SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-2		



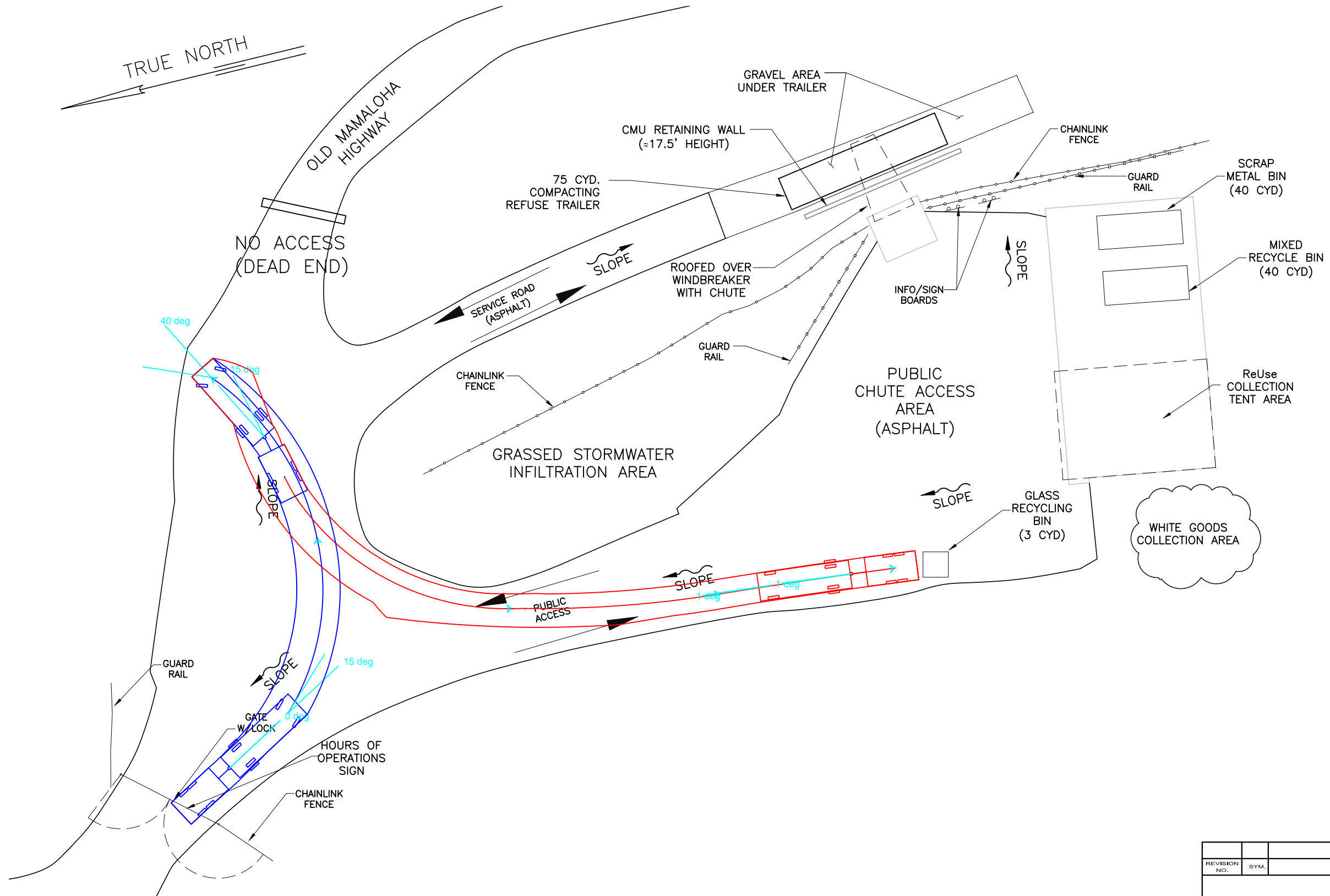
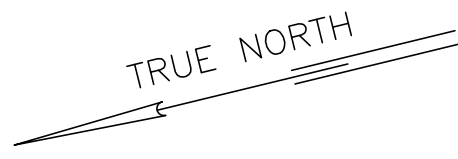
MIXED RECYCLE BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
LAUPAHOEHOE MIXED RECYCLE BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-3		



WHITE GOODS COLLECTION AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
LAUPAHOEHOE WHITE GOODS COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



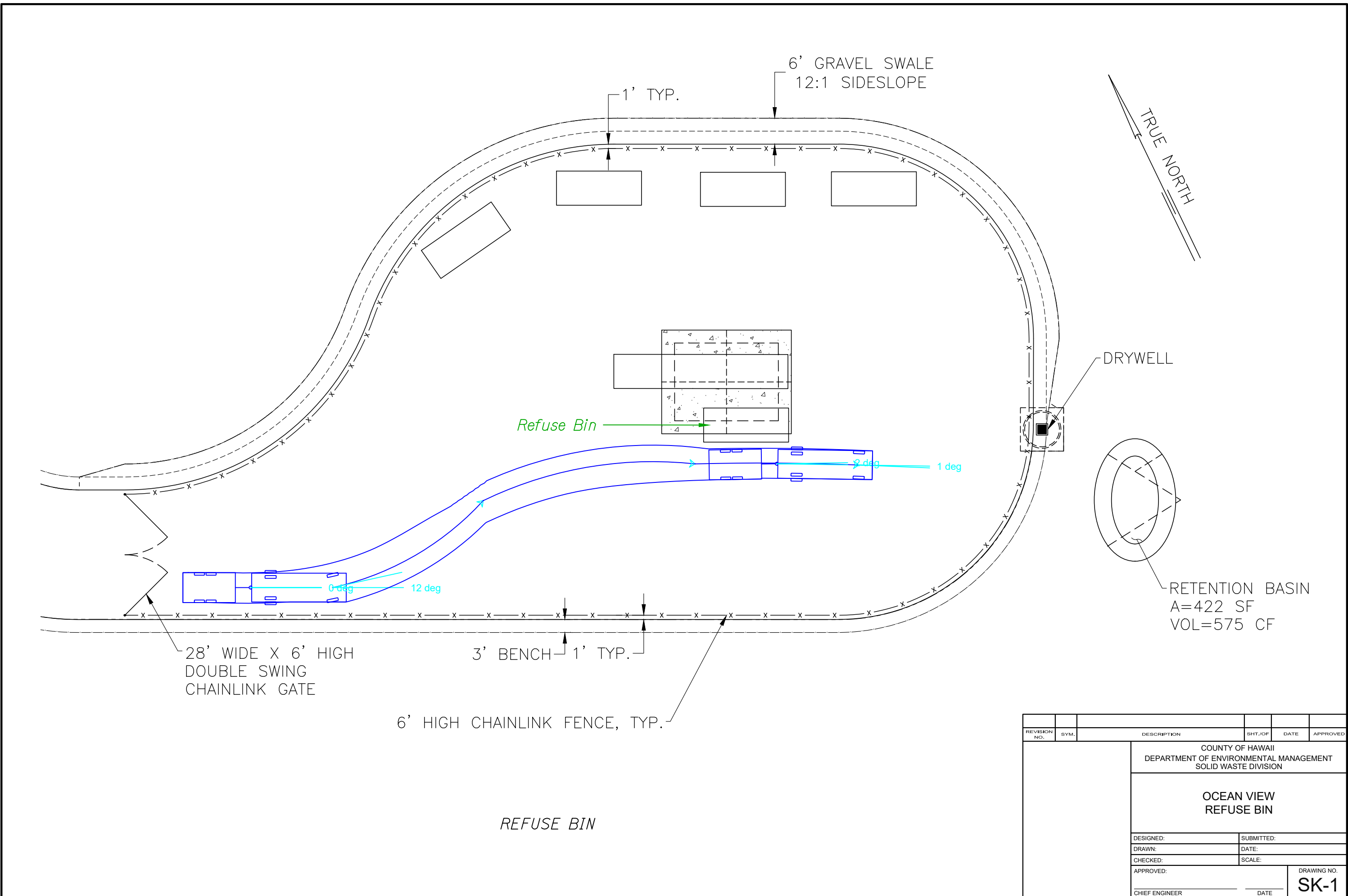
GLASS RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
LAUPAHOEHOE GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-5		

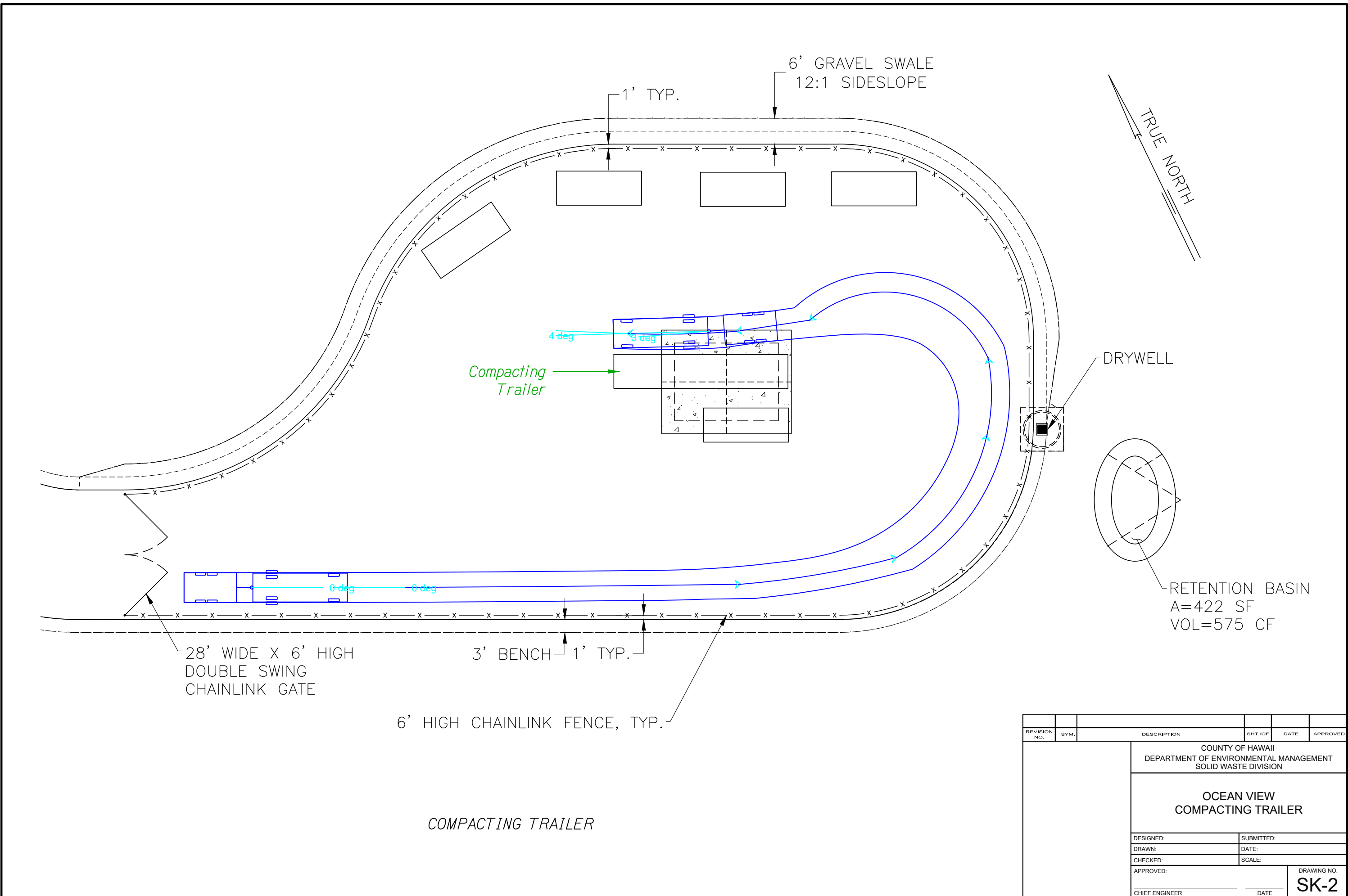
Ocean View Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Bin	1	Yes	No	No	See Sketch 1.
Compacting Trailer	1	Yes	No	No	See Sketch 2.
Scrap Metal Bin	1	Yes	No	No	See Sketch 3.
White Goods Bin	1	Yes	No	Yes	See Sketch 4.
Cardboard Bin	1	Yes	No	Yes	See Sketch 5.
Non Hi-5 Glass Bin	1	Yes	No	Yes	See Sketch 6.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW REFUSE BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



28' WIDE X 6' HIGH
DOUBLE SWING
CHAINLINK GATE

3' BENCH 1' TYP.

6' HIGH CHAINLINK FENCE, TYP.

COMPACTING TRAILER

6' GRAVEL SWALE
12:1 SIDESLOPE

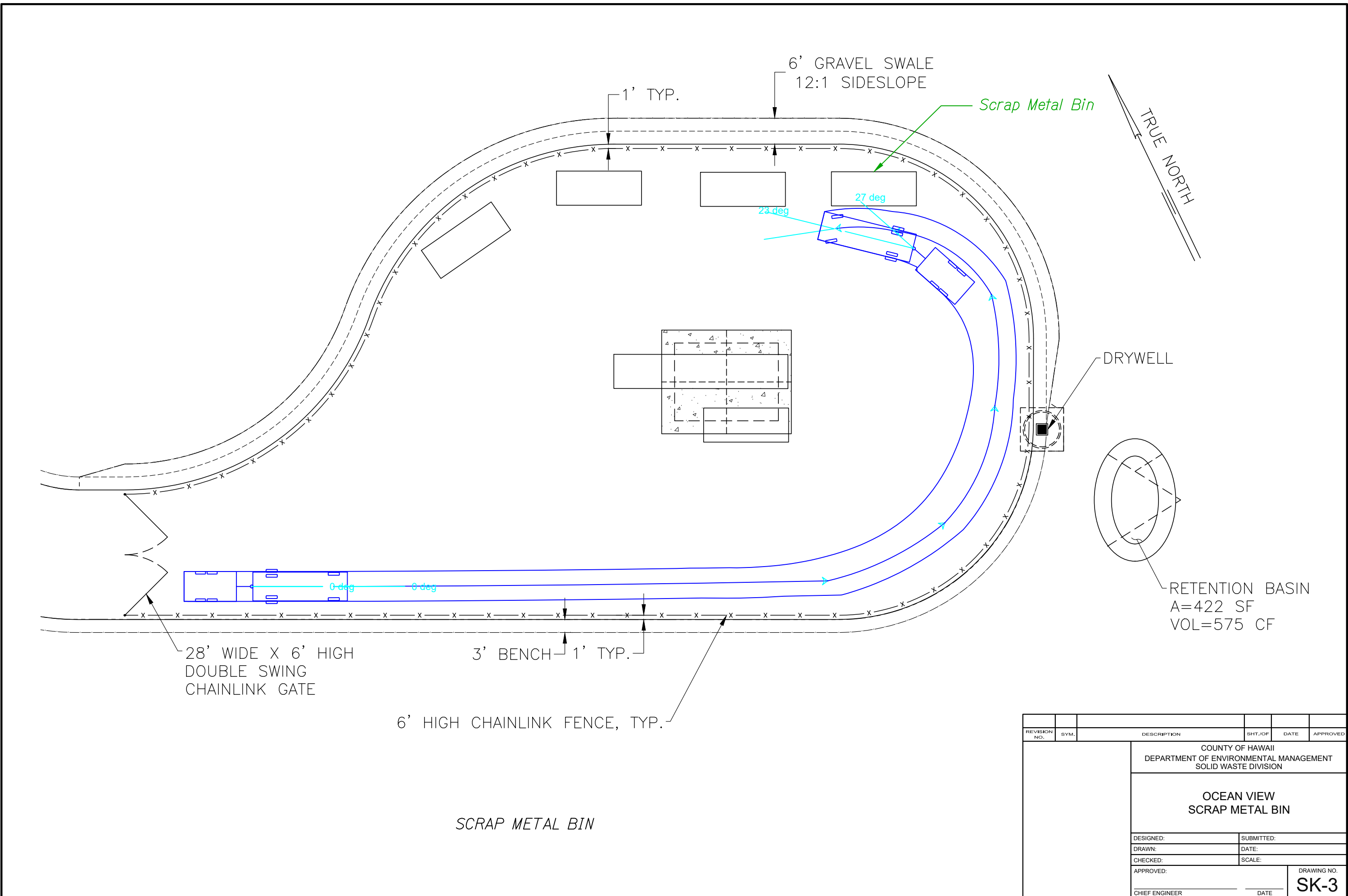
1' TYP.

TRUE NORTH

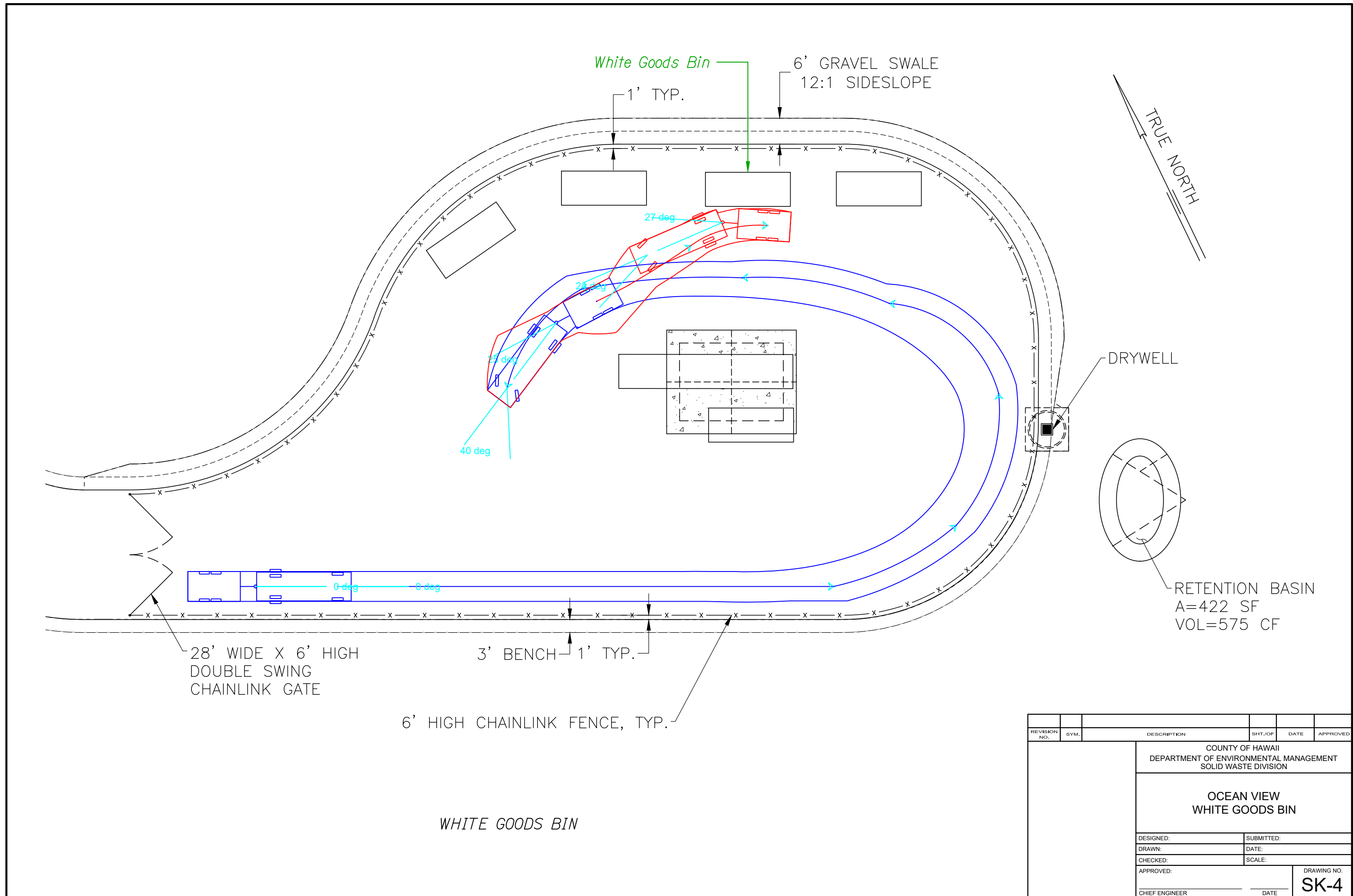
DRYWELL

RETENTION BASIN
A=422 SF
VOL=575 CF

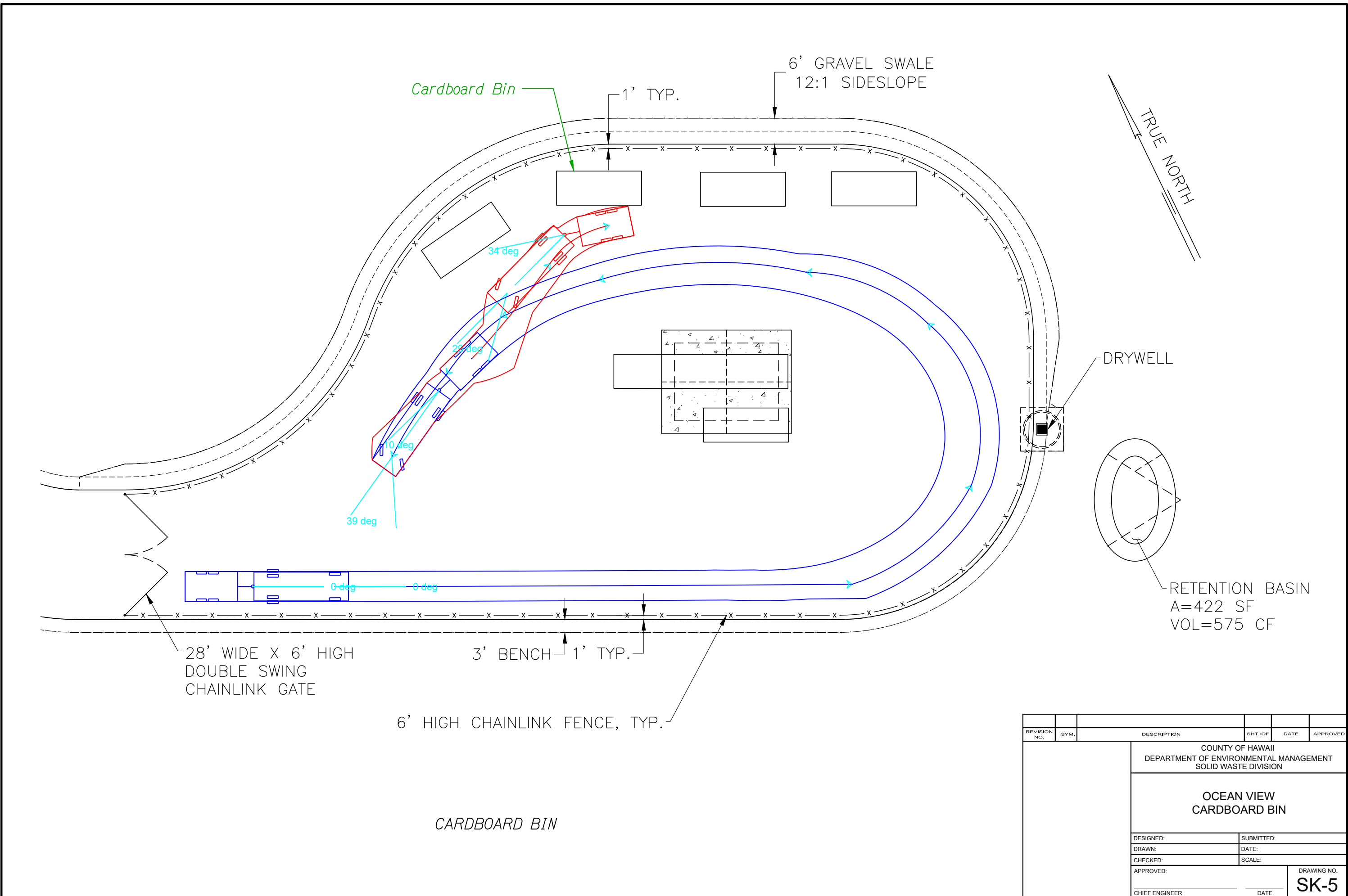
REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW COMPACTING TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW WHITE GOODS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



28' WIDE X 6' HIGH
DOUBLE SWING
CHAINLINK GATE

6' HIGH CHAINLINK FENCE, TYP.

CARDBOARD BIN

3' BENCH 1' TYP.

6' GRAVEL SWALE
12:1 SIDESLOPE

1' TYP.

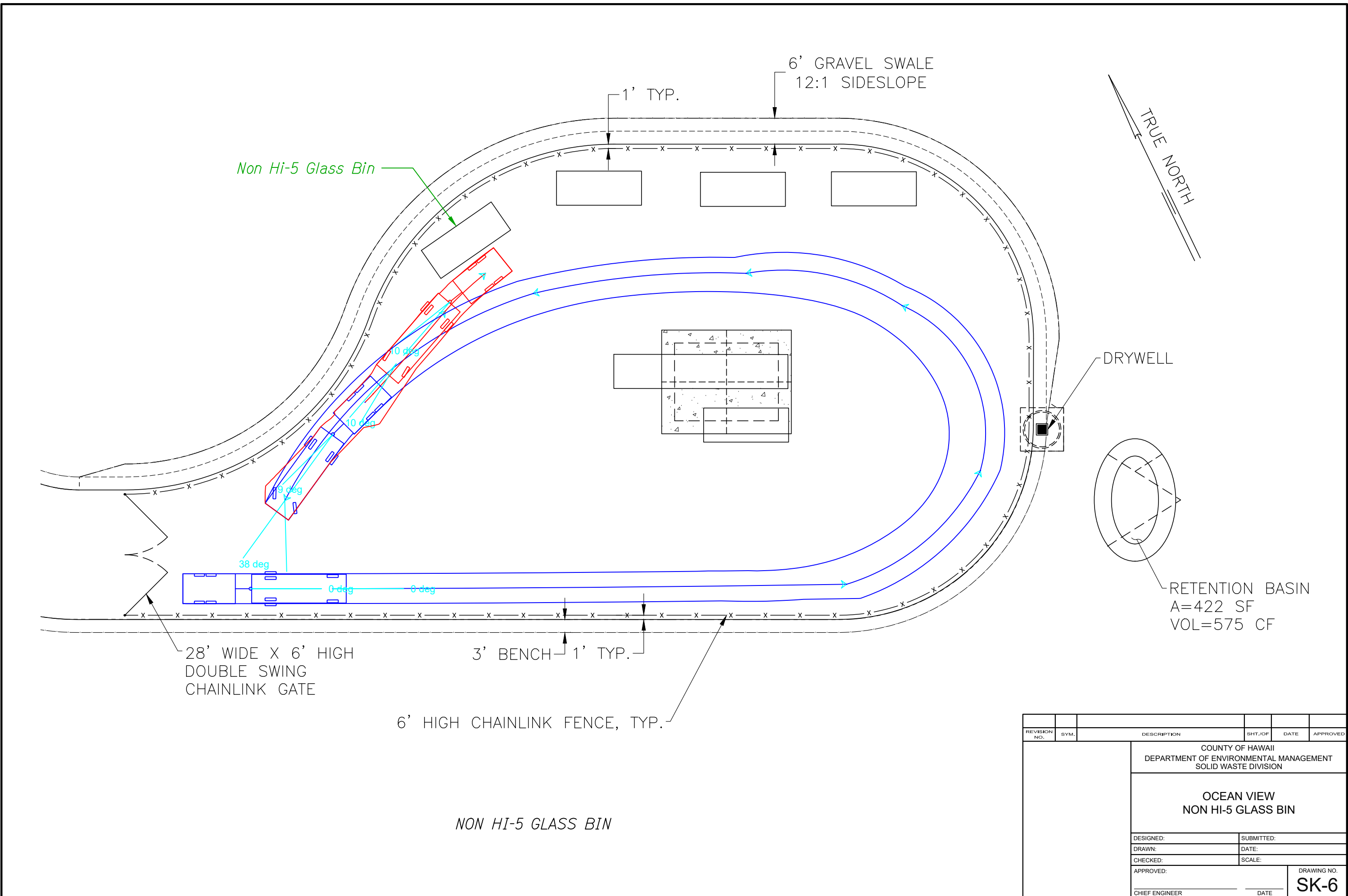
Cardboard Bin

DRYWELL

TRUE NORTH

RETENTION BASIN
A=422 SF
VOL=575 CF

REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW CARDBOARD BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5

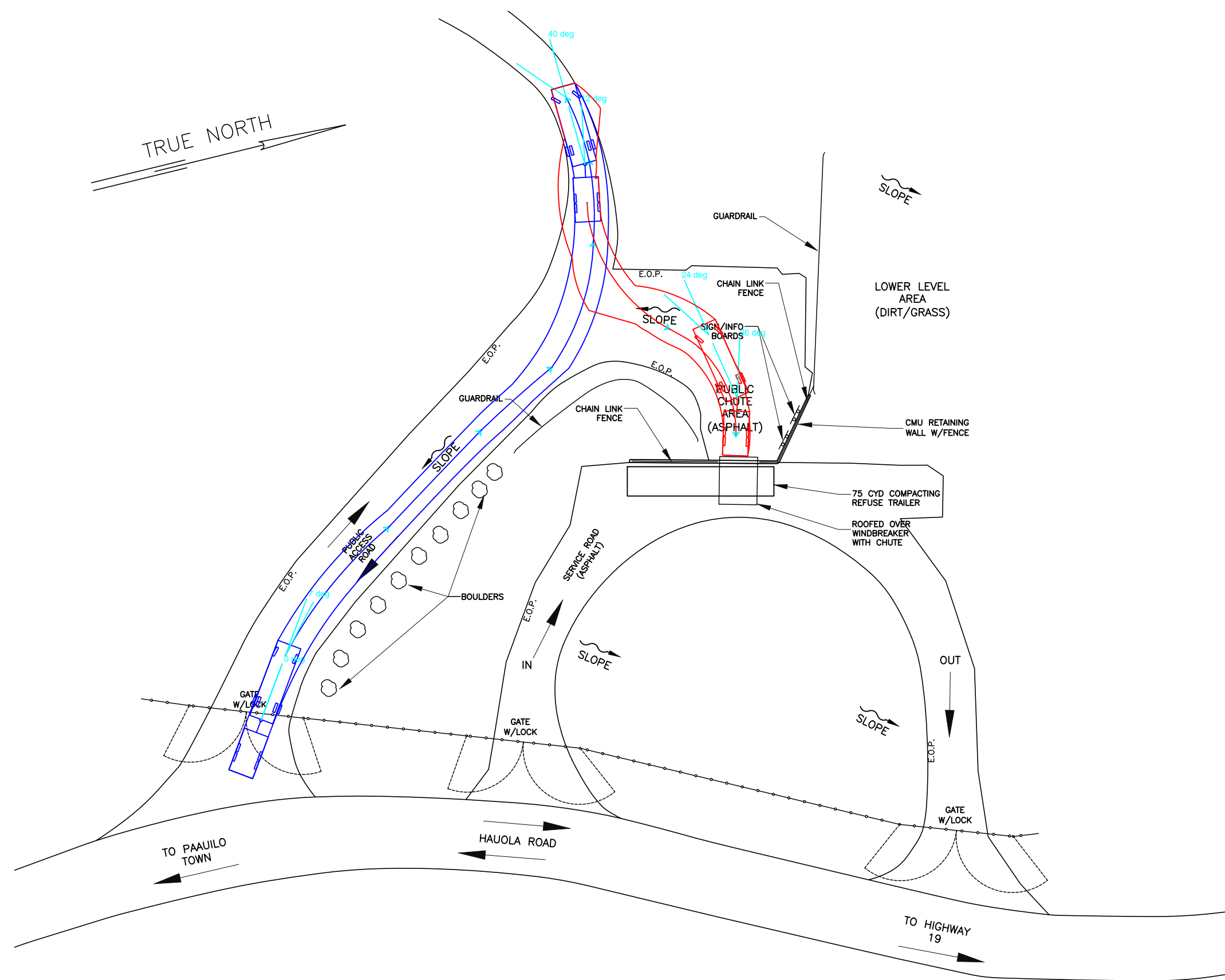


REVISION NO.	SYM.	DESCRIPTION	SHT. OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
OCEAN VIEW NON HI-5 GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

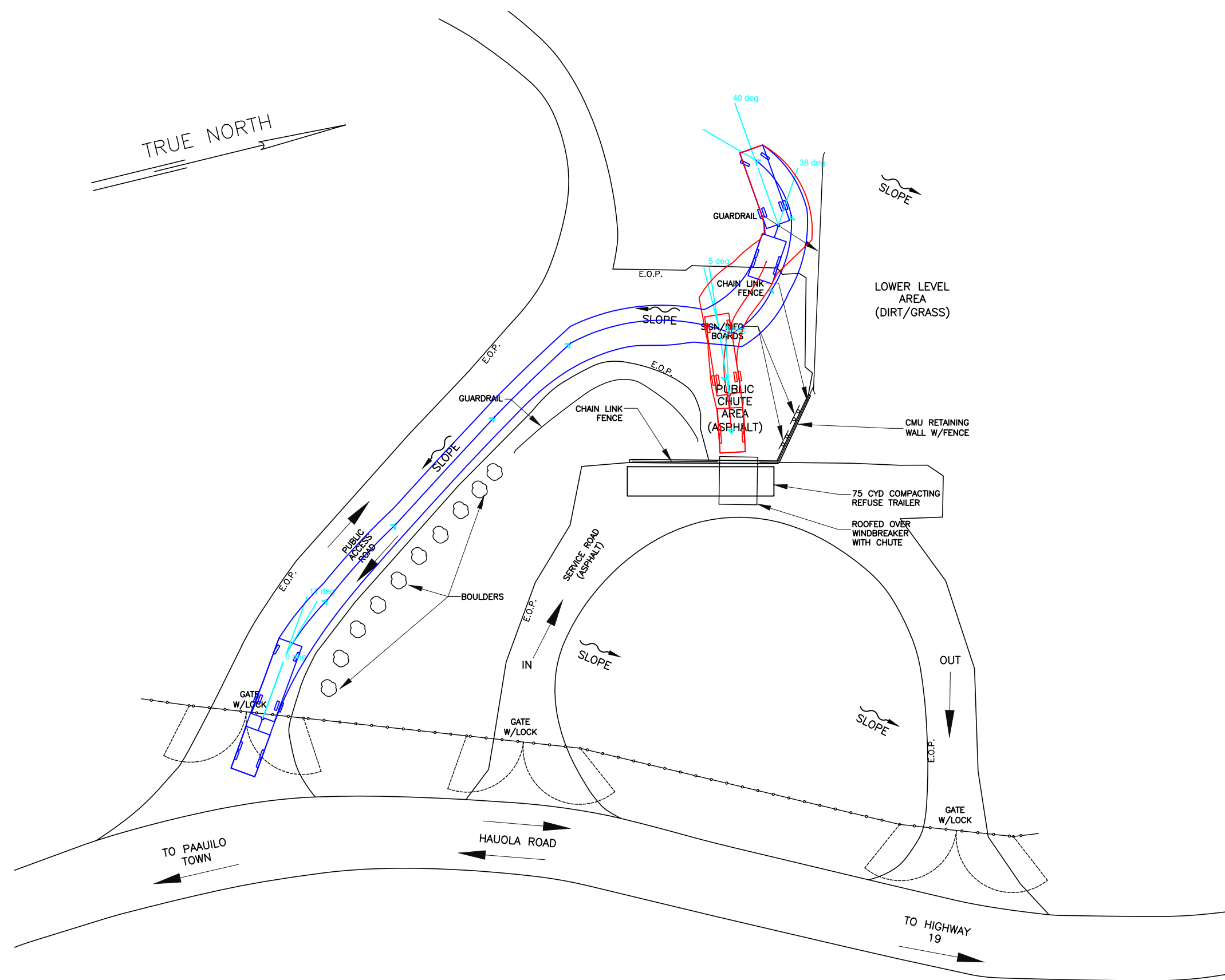
Paauilo Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1 and 2.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAAUILO REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

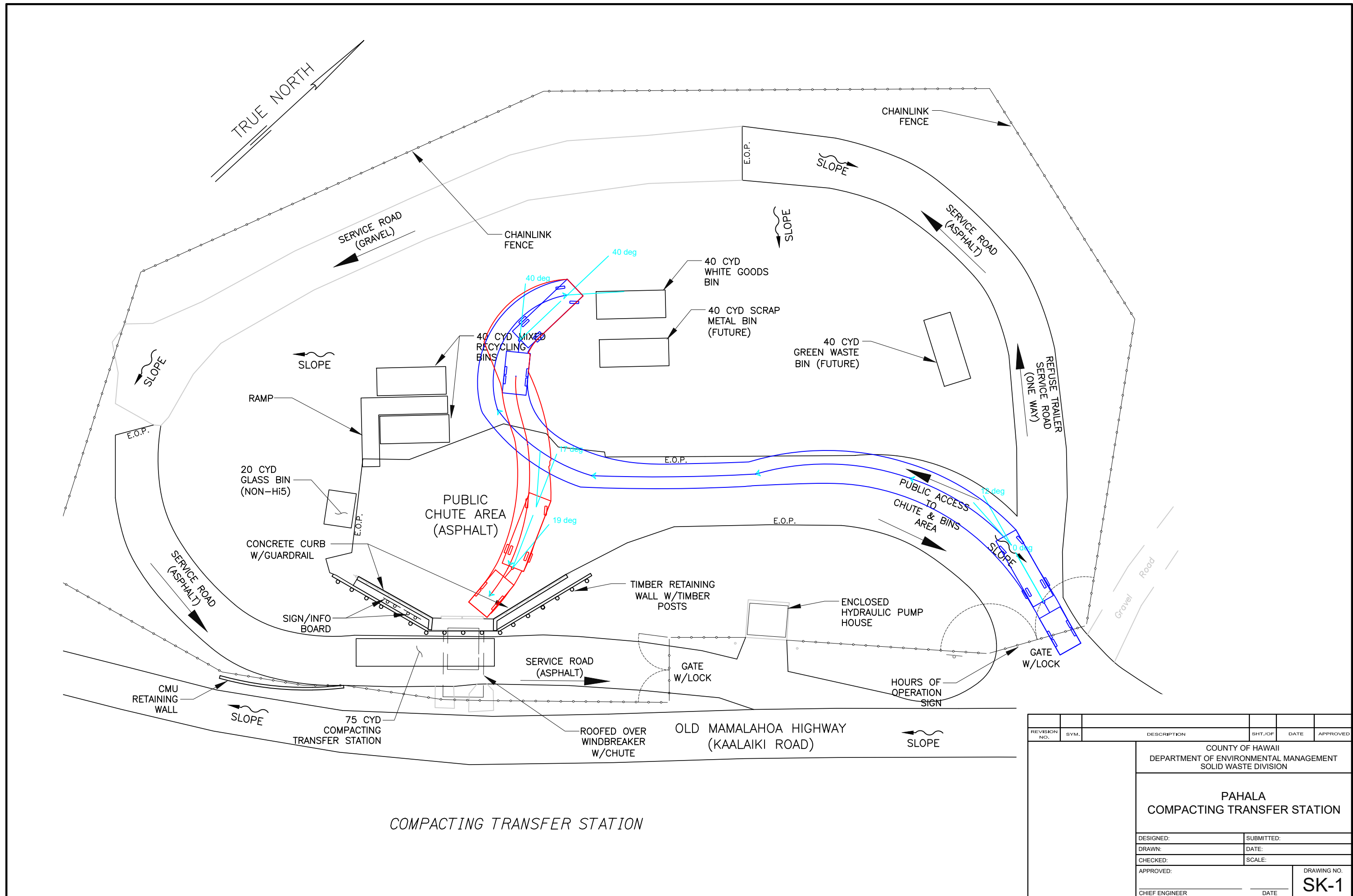


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAAUILO REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-2		

Pahala Transfer Station - Analysis of Access of Pickup with Trailer

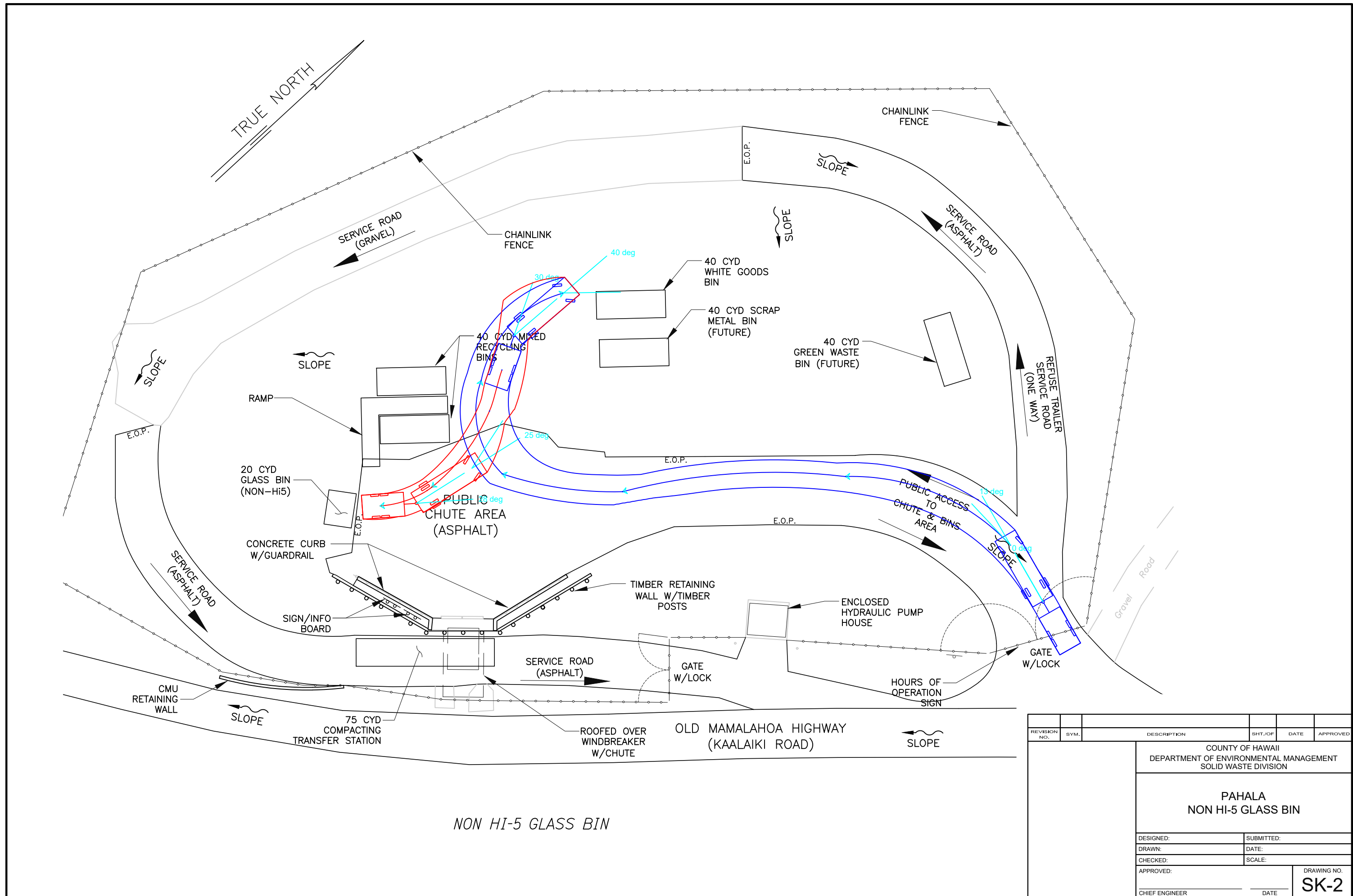
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Compacting Transfer Station	1	Yes	No	Yes	See Sketch 1.
Non Hi-5 Glass Bin	1	Yes	No	Yes	See Sketch 2.
Mixed Recycling Bins	1	Yes	No	Yes	See Sketch 3.
White Goods Bin	1	Yes	No	Yes	See Sketch 4.
Scrap Metal Bin (Future)	1	Yes	No	Yes	See Sketch 5.
Green Waste Bin (Future)	1	Yes	No	Yes	See Sketch 6.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.



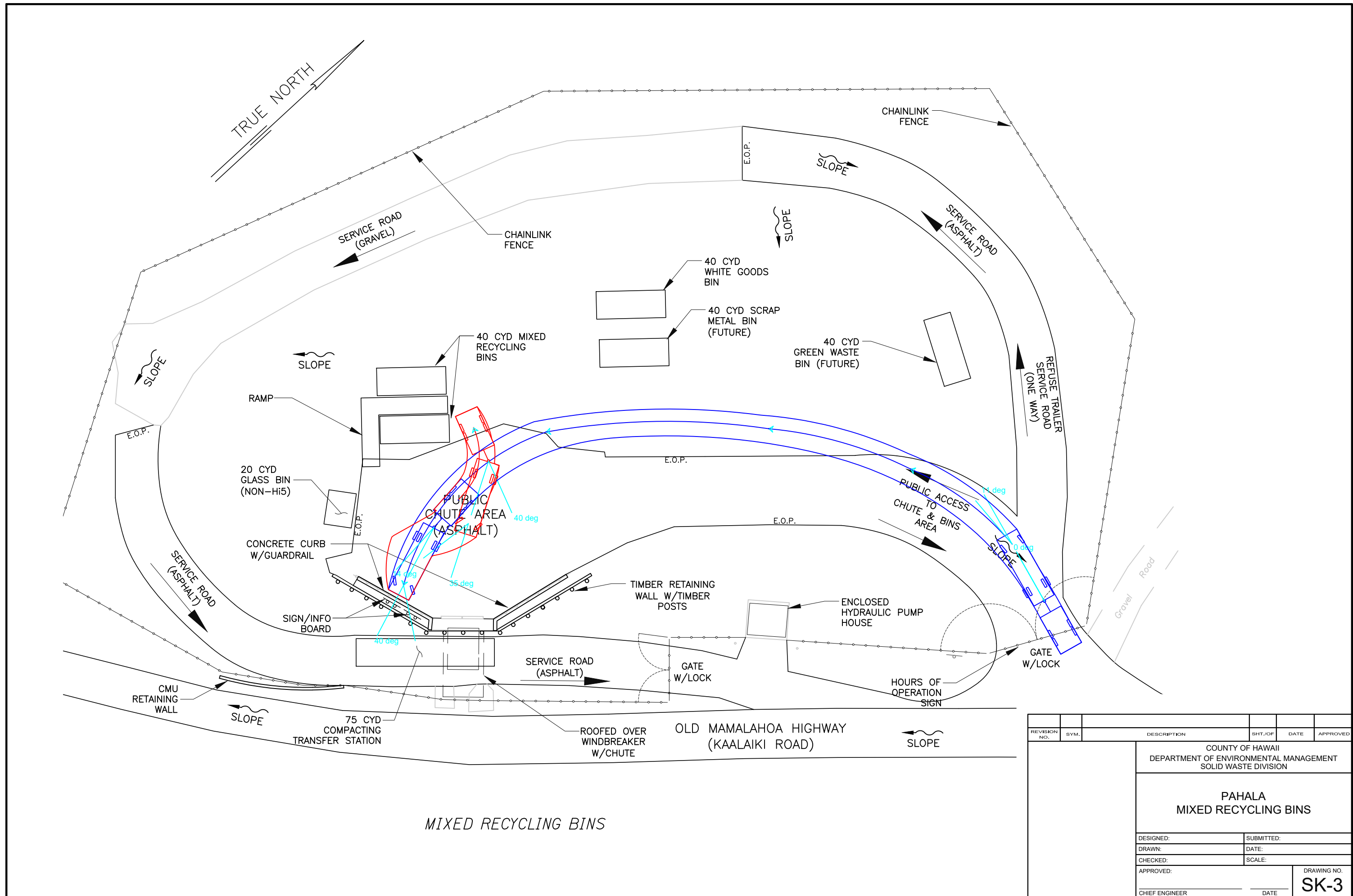
COMPACTING TRANSFER STATION

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA COMPACTING TRANSFER STATION					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

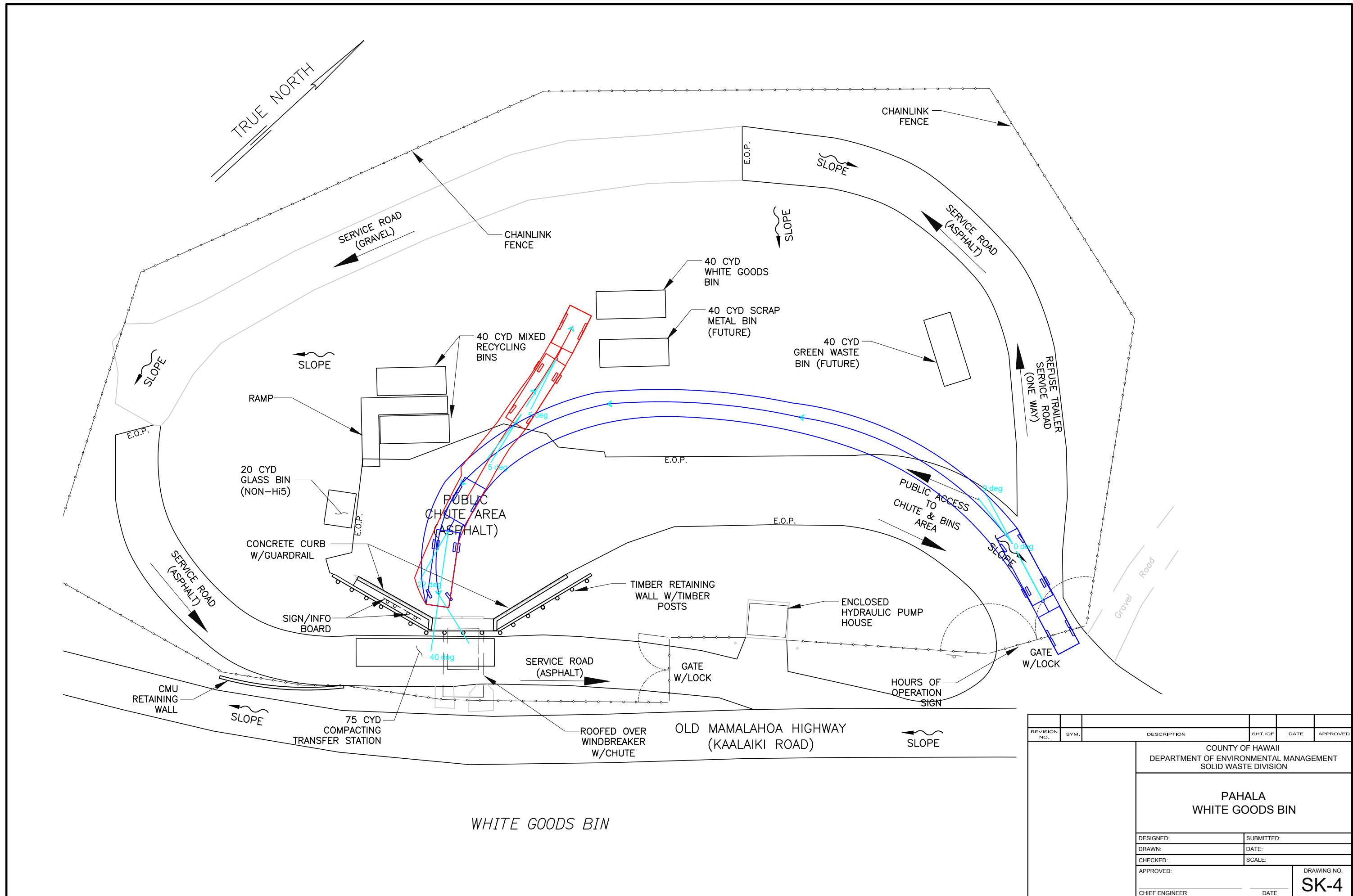


NON HI-5 GLASS BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA NON HI-5 GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

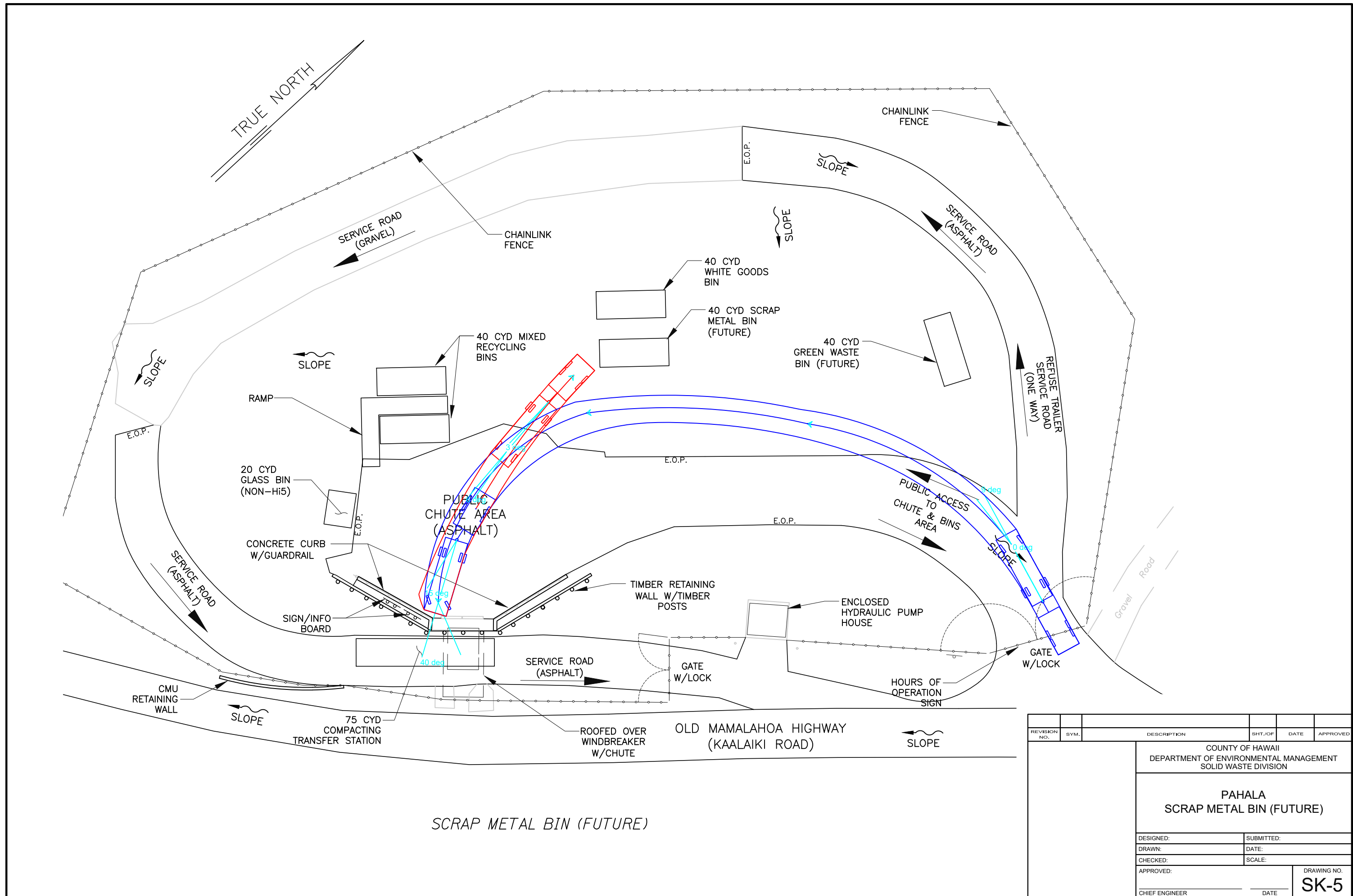


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA MIXED RECYCLING BINS					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3

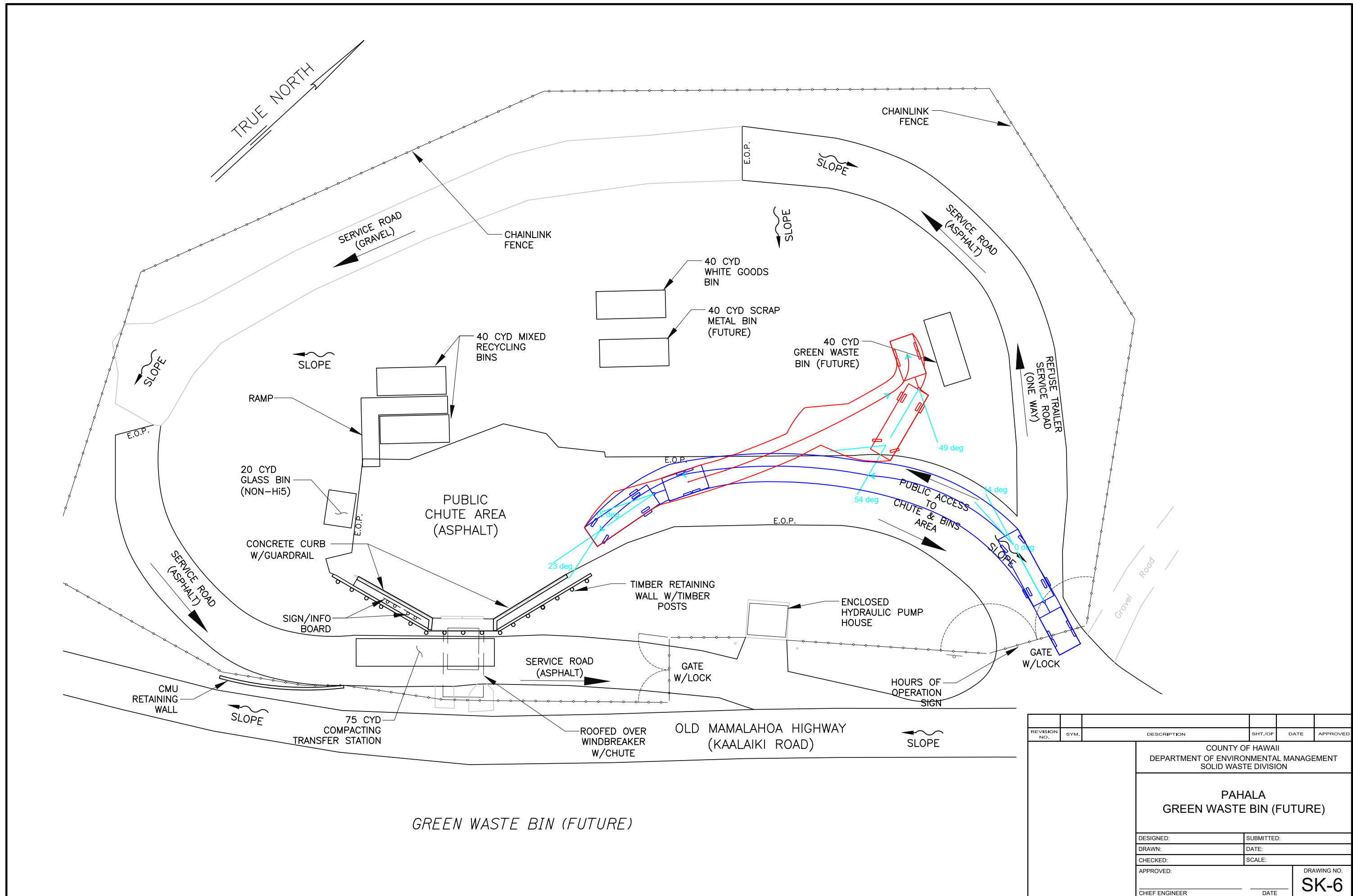


WHITE GOODS BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA WHITE GOODS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA SCRAP METAL BIN (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-5		

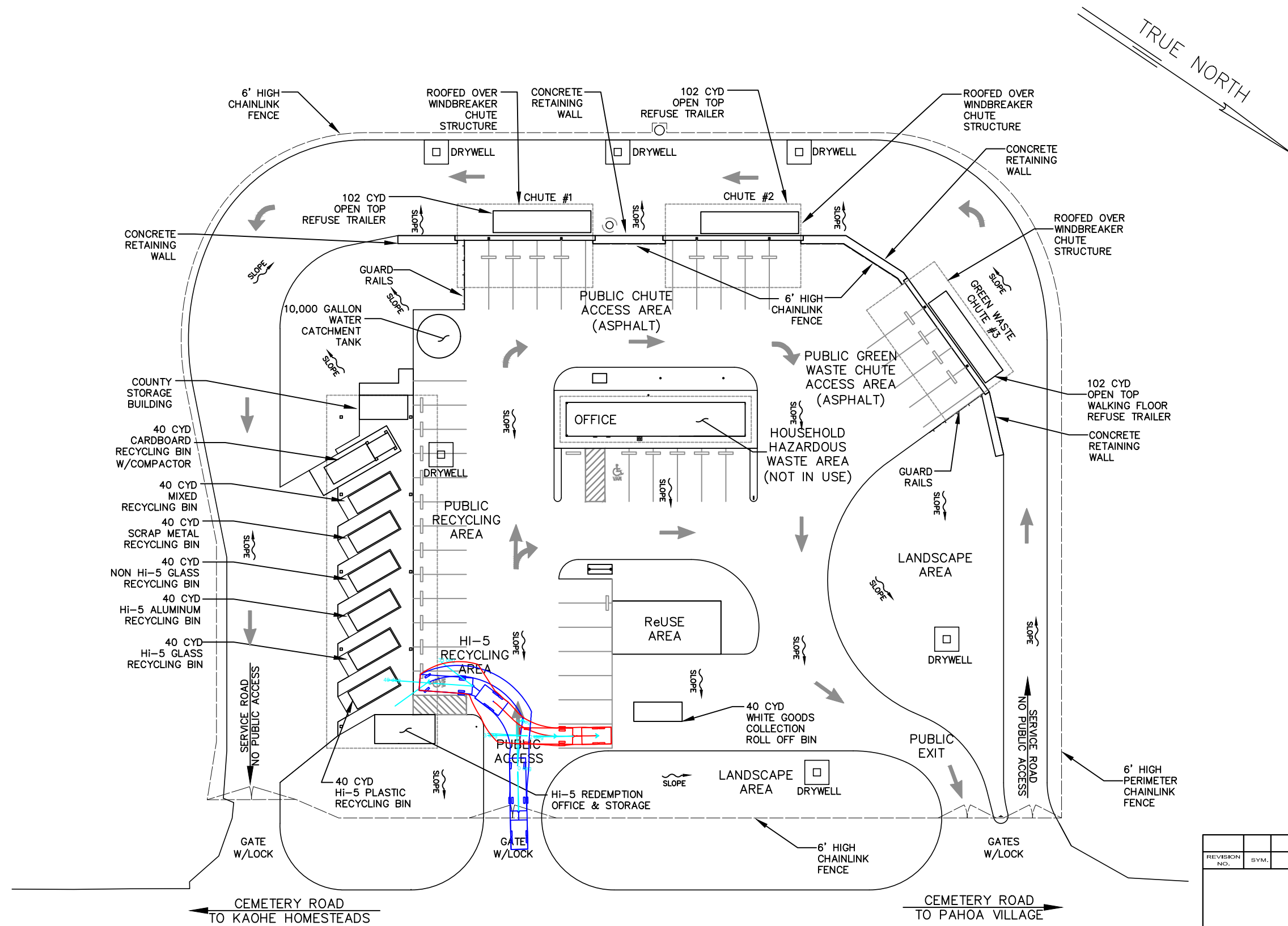


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHALA GREEN WASTE BIN (FUTURE)					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

Pahoa Transfer Station - Analysis of Access of Pickup with Trailer

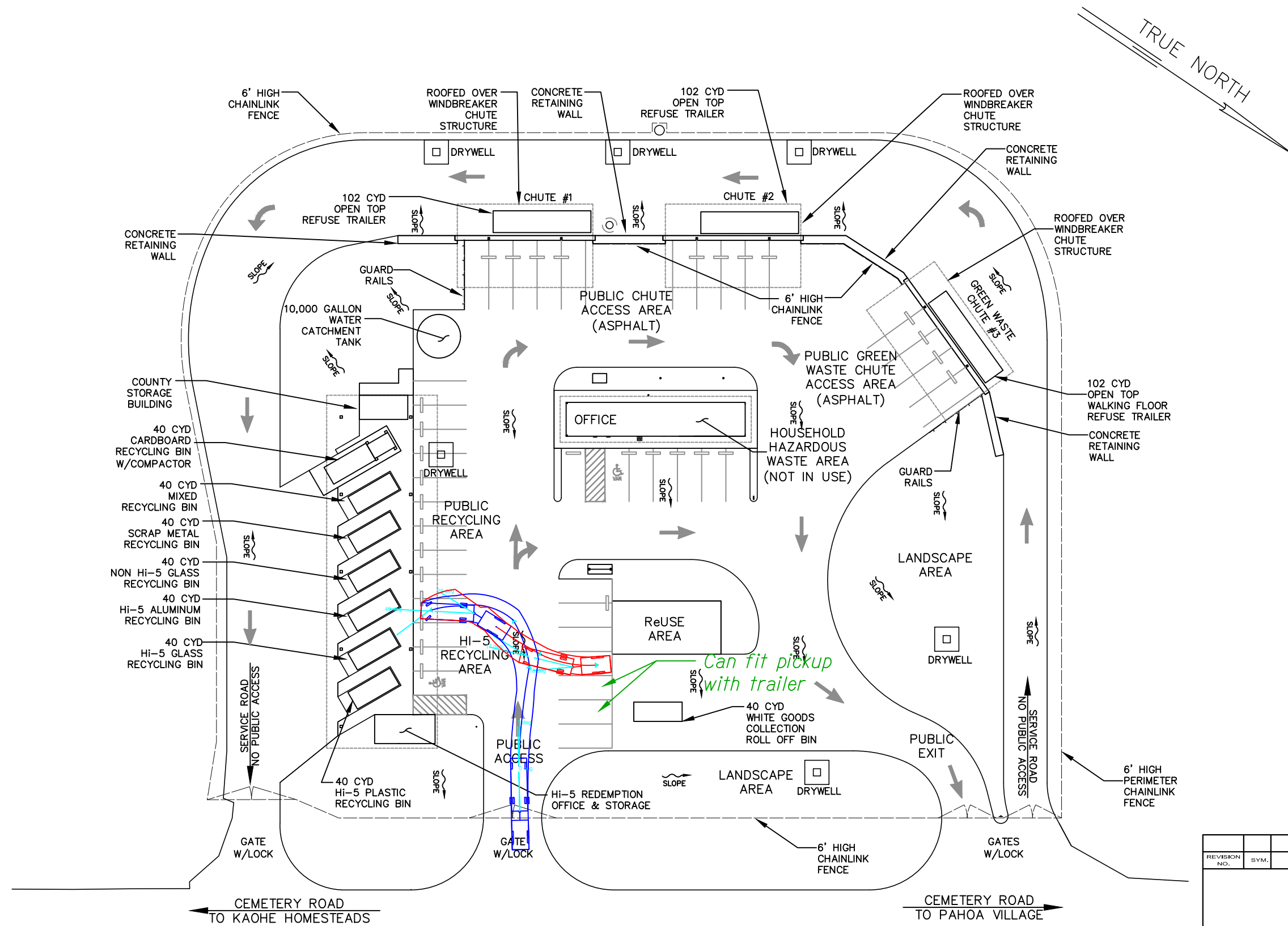
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
White Goods Collection Area	All	Some	No	Yes	See Sketch 1 and 2.
Public Recycling Parking Area	All	Some	No	Yes	See Sketch 3 and 4.
Office Parking	All	Some	No	Yes	See Sketch 5 and 6.
Rubbish Chute #1	All	Some	No	Yes	See Sketch 7 and 8.
Rubbish Chute #2	All	Some	No	Yes	See Sketch 9.
Green Waste Chute #3	All	Yes	No	Yes	See Sketch 10 and 11.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.



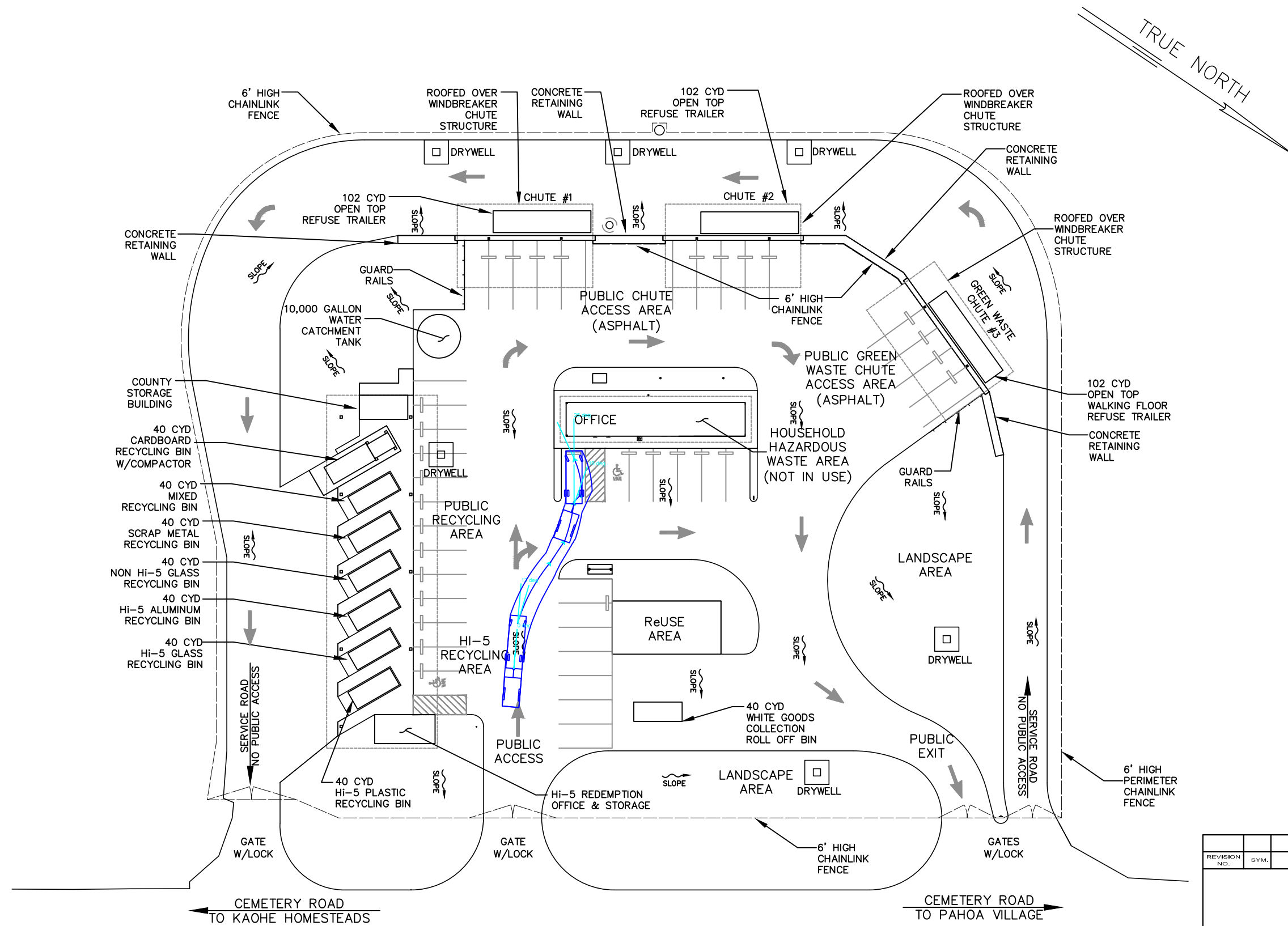
WHITE GOODS COLLECTION AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA WHITE GOODS COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

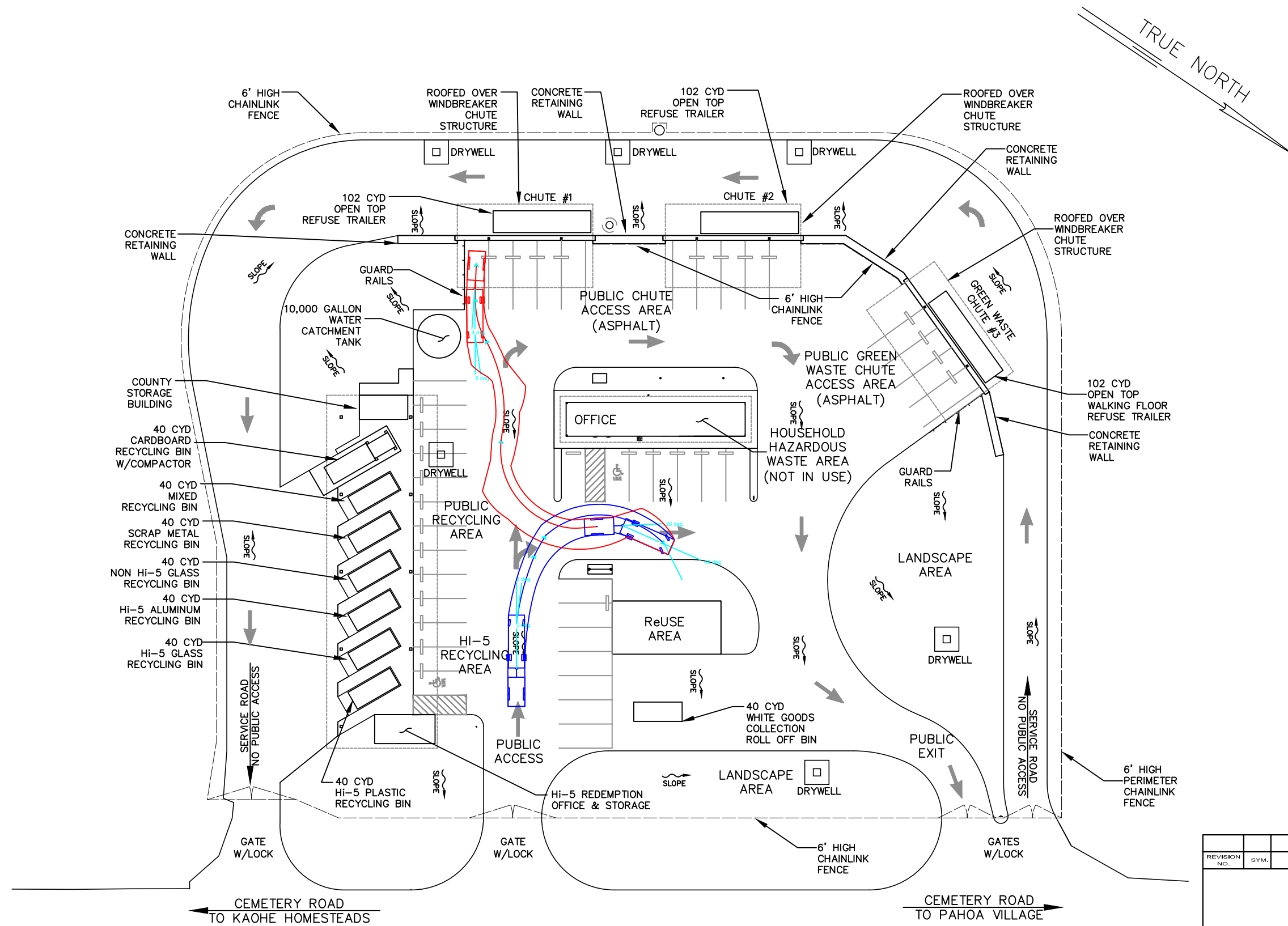


WHITE GOODS COLLECTION AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA WHITE GOODS COLLECTION AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

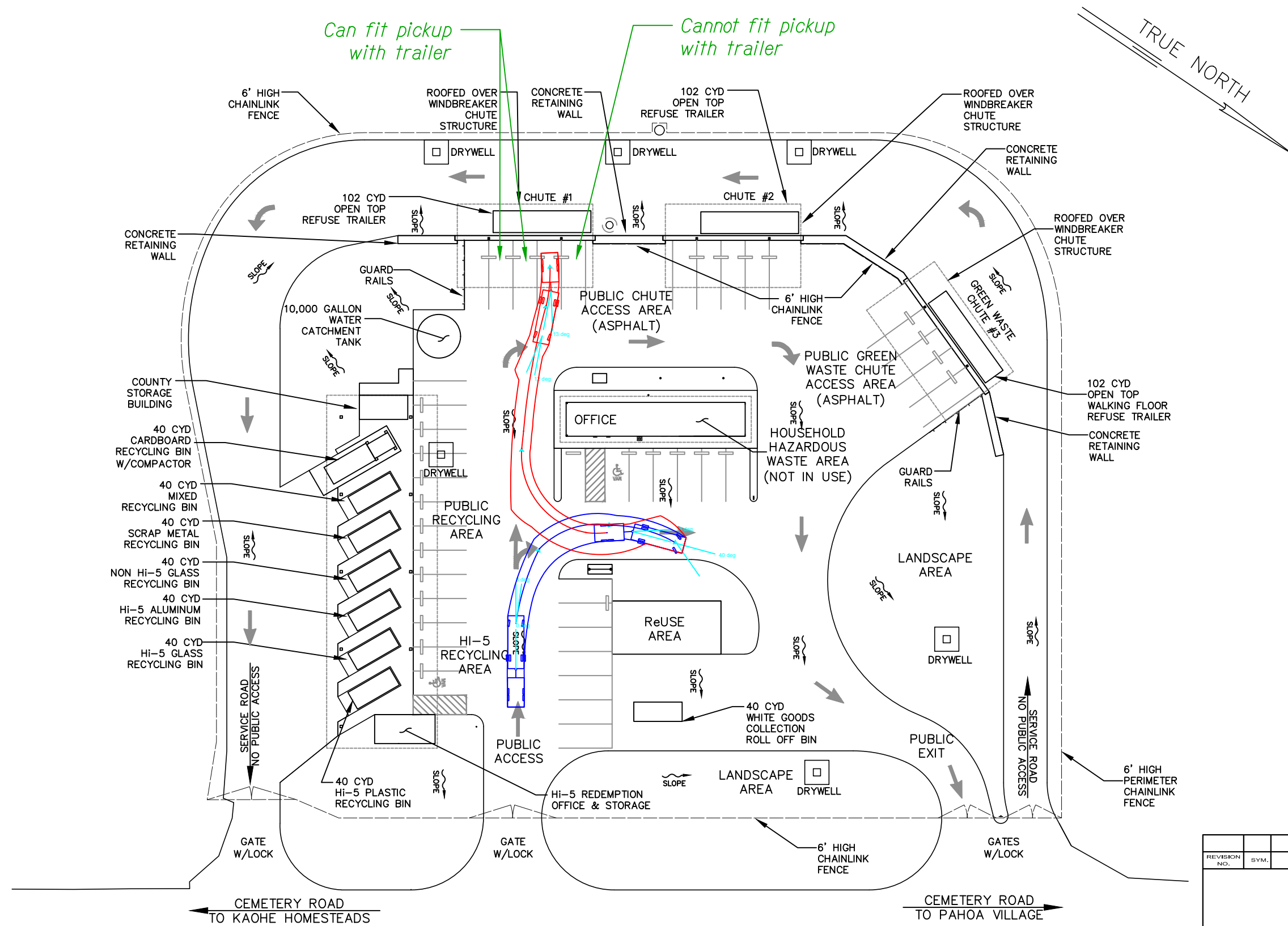


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA OFFICE PARKING					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



REFUSE TRAILER CHUTE #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA REFUSE TRAILER CHUTE #1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7



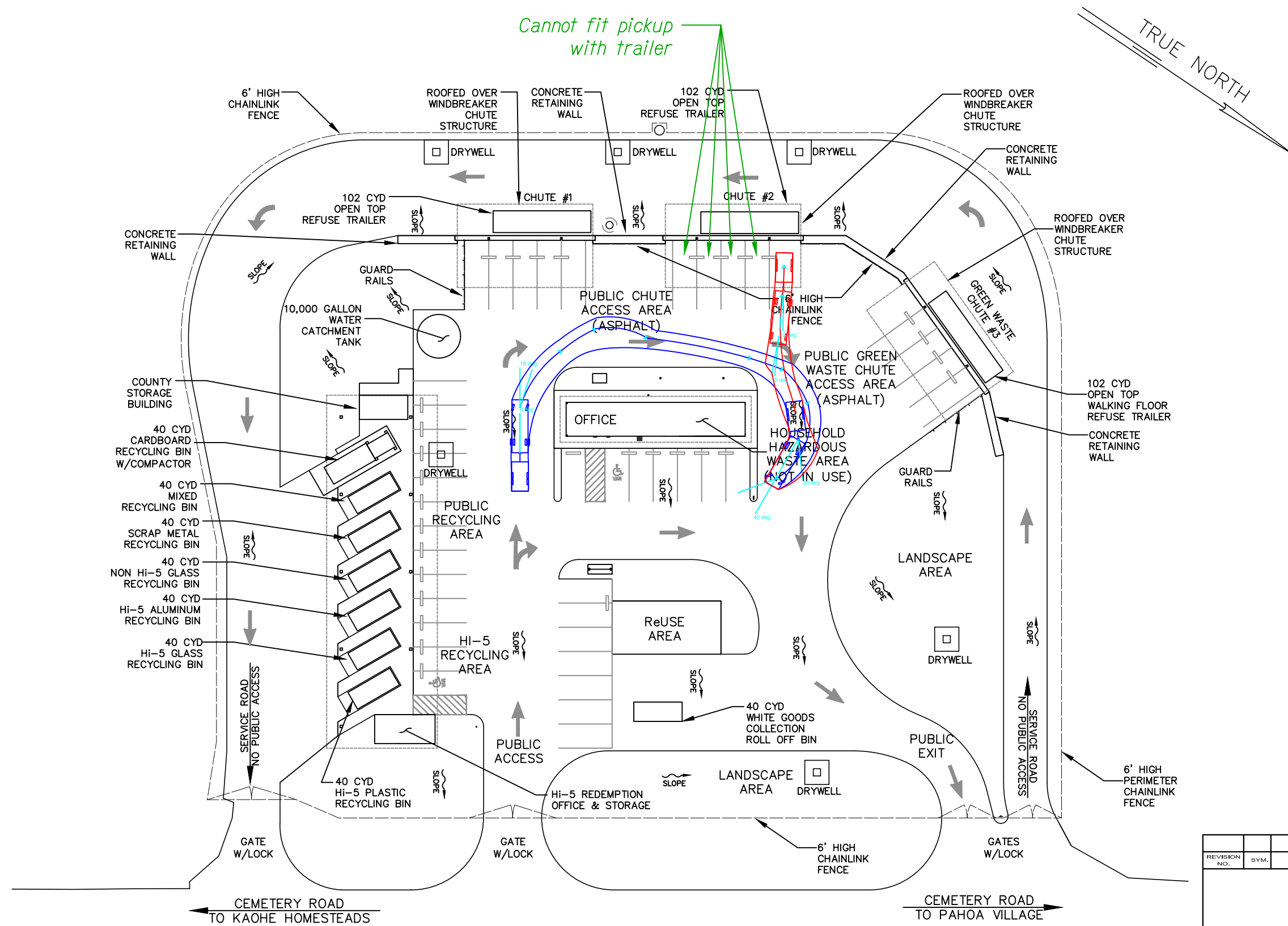
Can fit pickup with trailer

Cannot fit pickup with trailer

TRUE NORTH

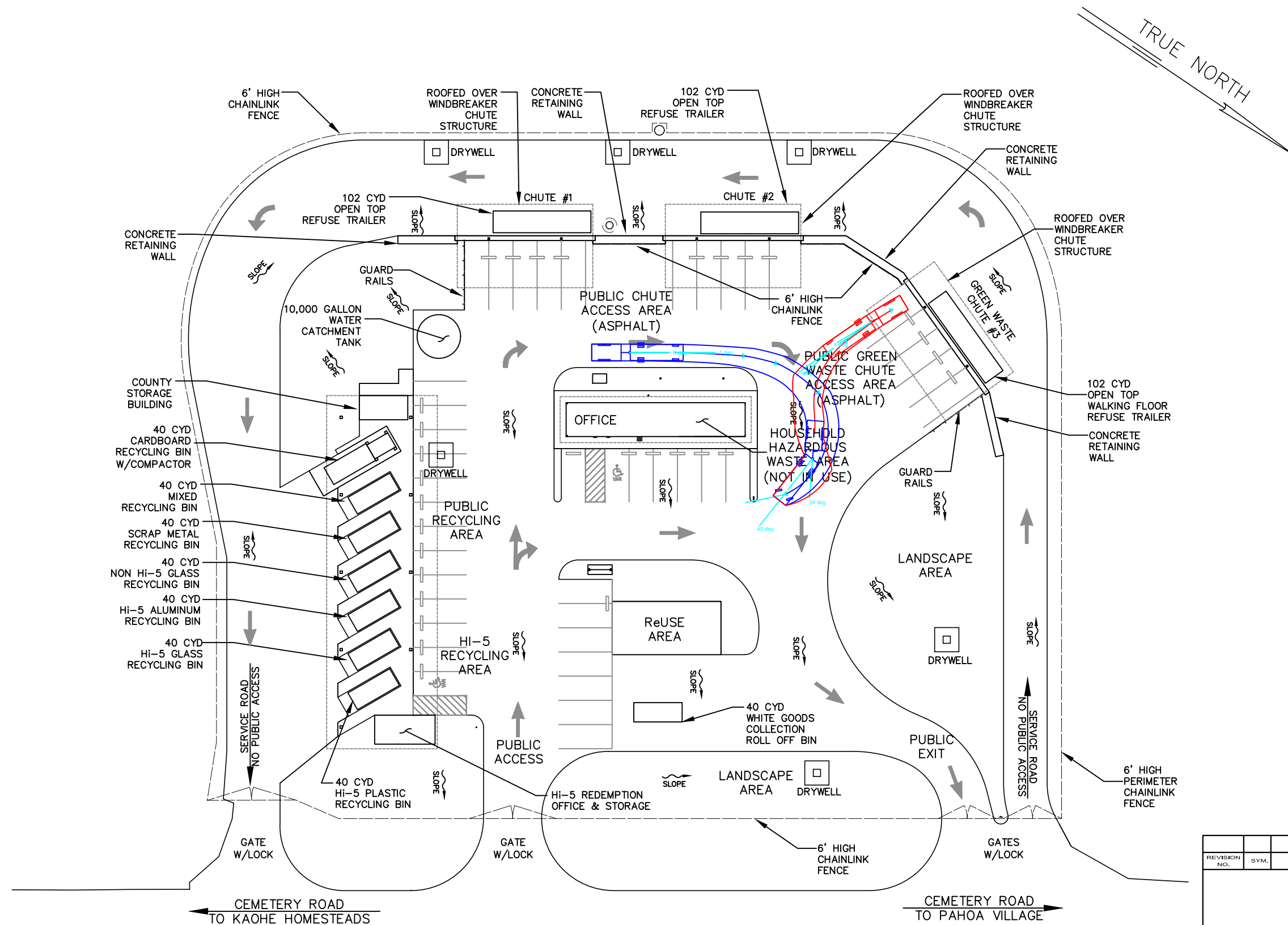
REFUSE TRAILER CHUTE #1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA REFUSE TRAILER CHUTE #1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-8		



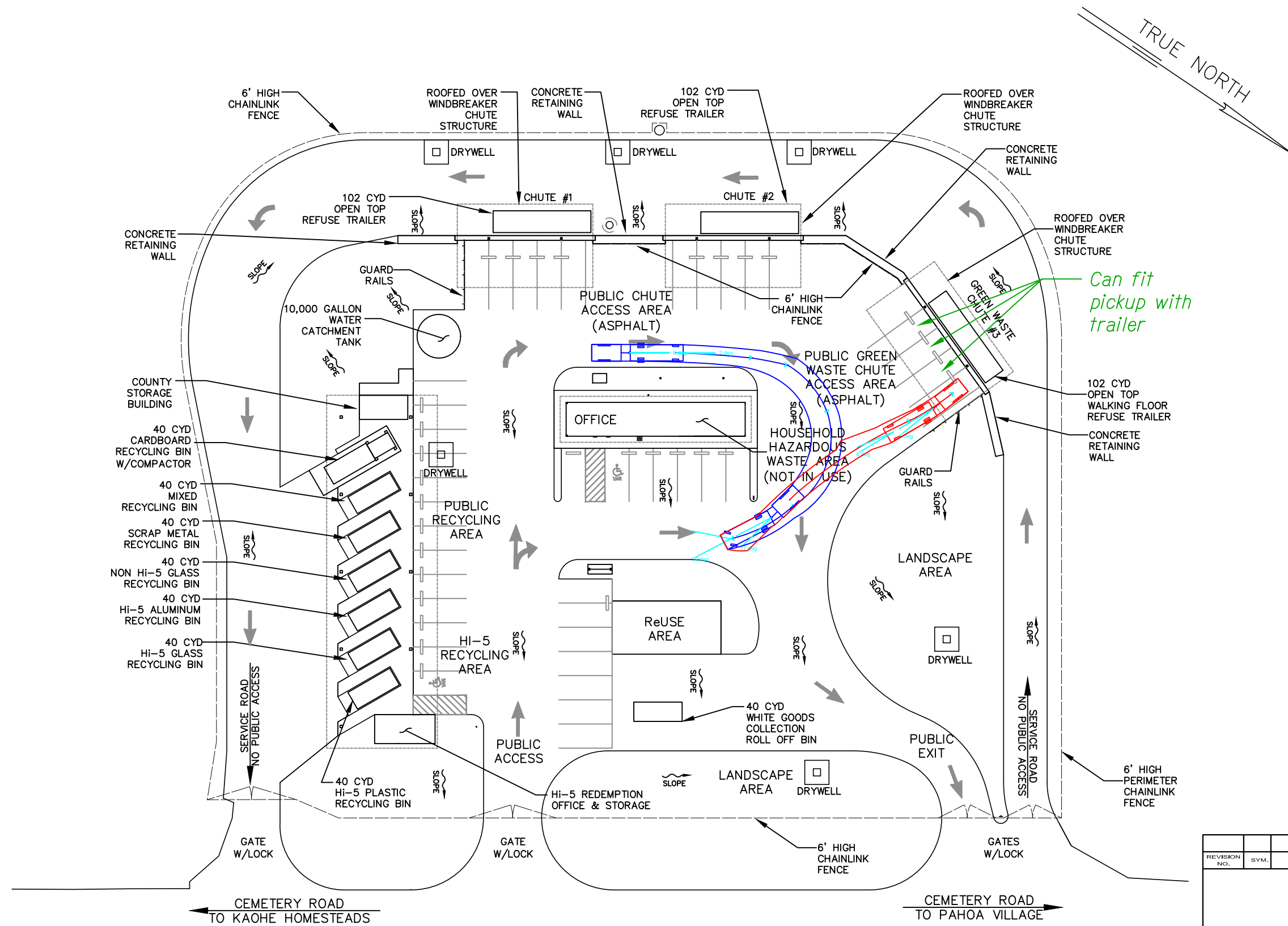
REFUSE TRAILER CHUTE #2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA REFUSE TRAILER CHUTE #2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-9



REFUSE TRAILER CHUTE #3

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA REFUSE TRAILER CHUTE #3					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-10



TRUE NORTH

Can fit pickup with trailer

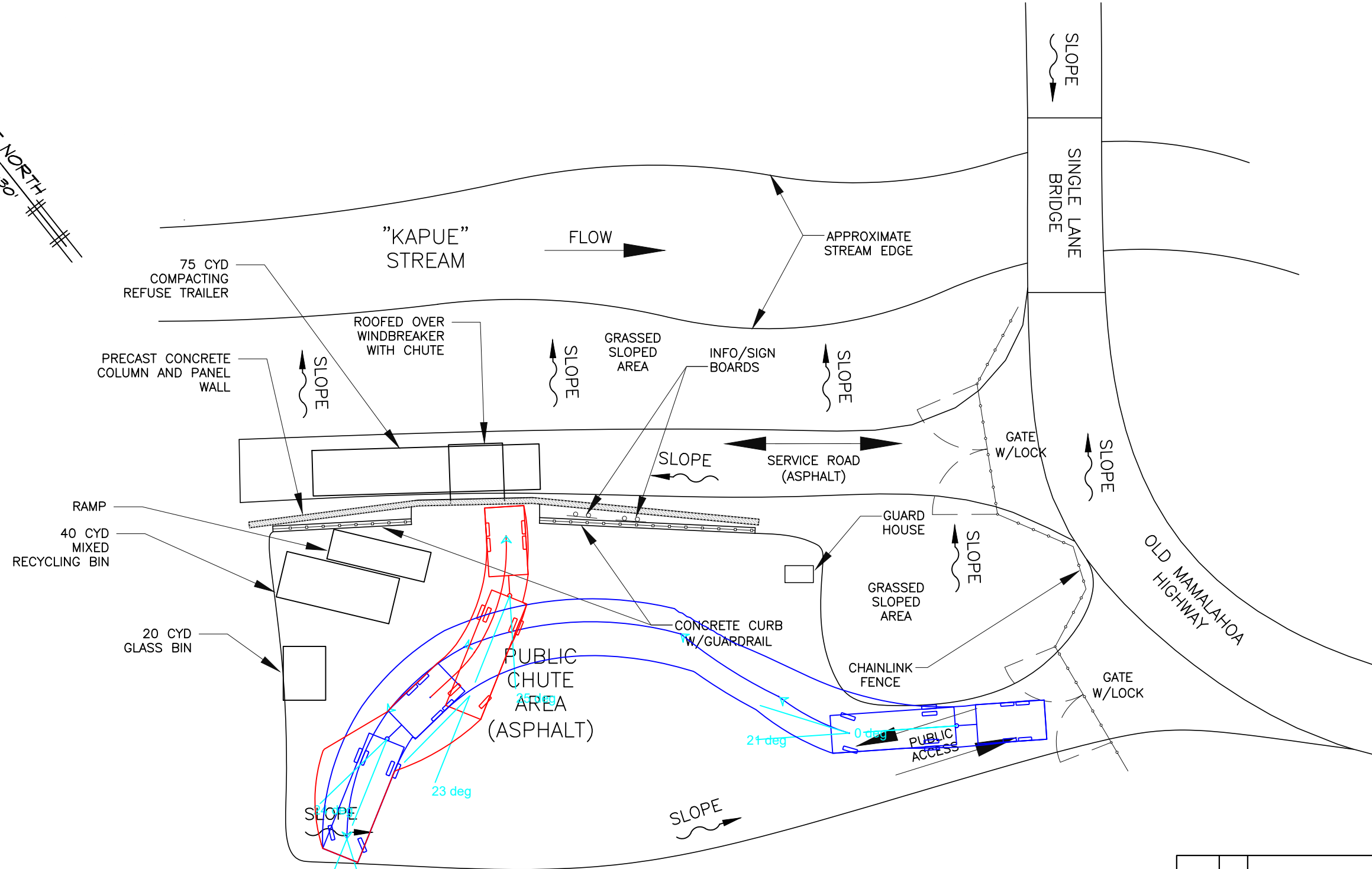
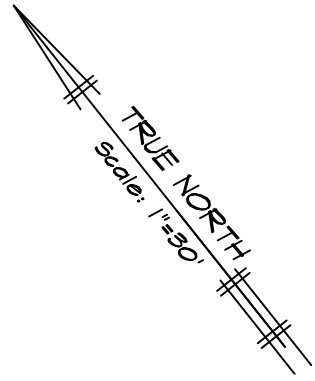
REFUSE TRAILER CHUTE #3

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAHOA REFUSE TRAILER CHUTE #3					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-11

Papaikou Transfer Station - Analysis of Access of Pickup with Trailer

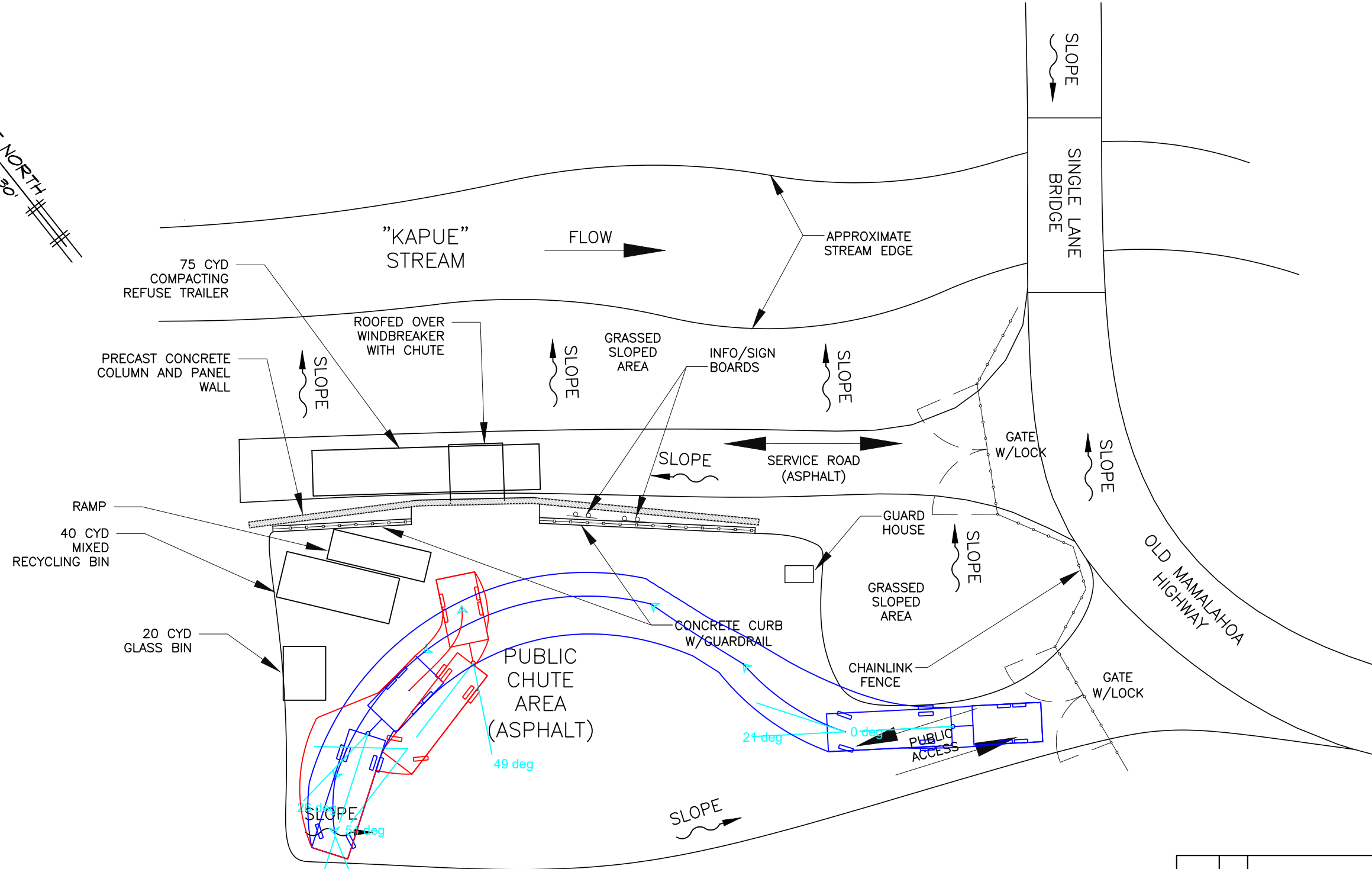
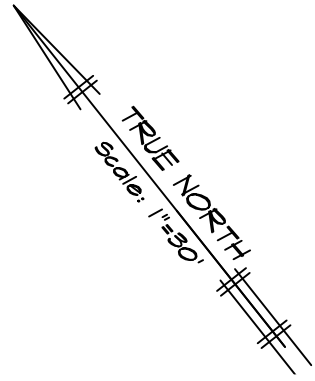
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1.
Mixed Recycling Bin	1	Yes	No	Yes	See Sketch 2.
Glass Bin	1	Yes	No	Yes	See Sketch 3.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility, and Old Mamalahoa Highway.



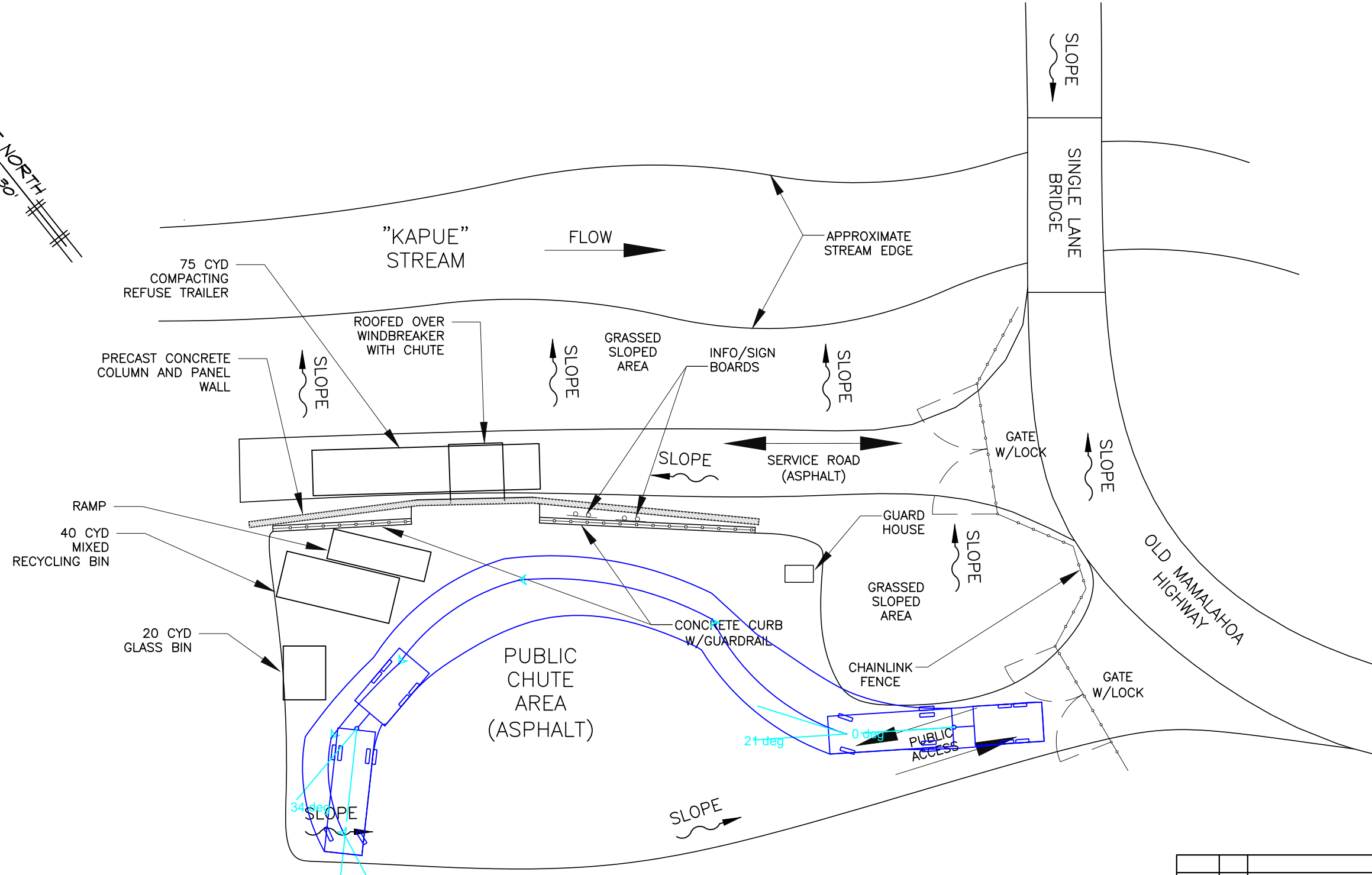
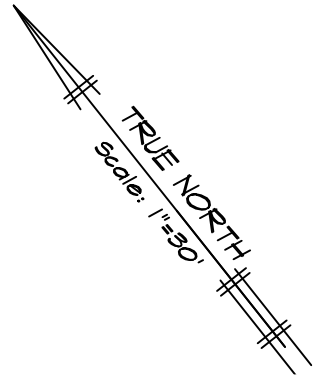
REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAPAIKOU REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



MIXED RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAPAIKOU MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



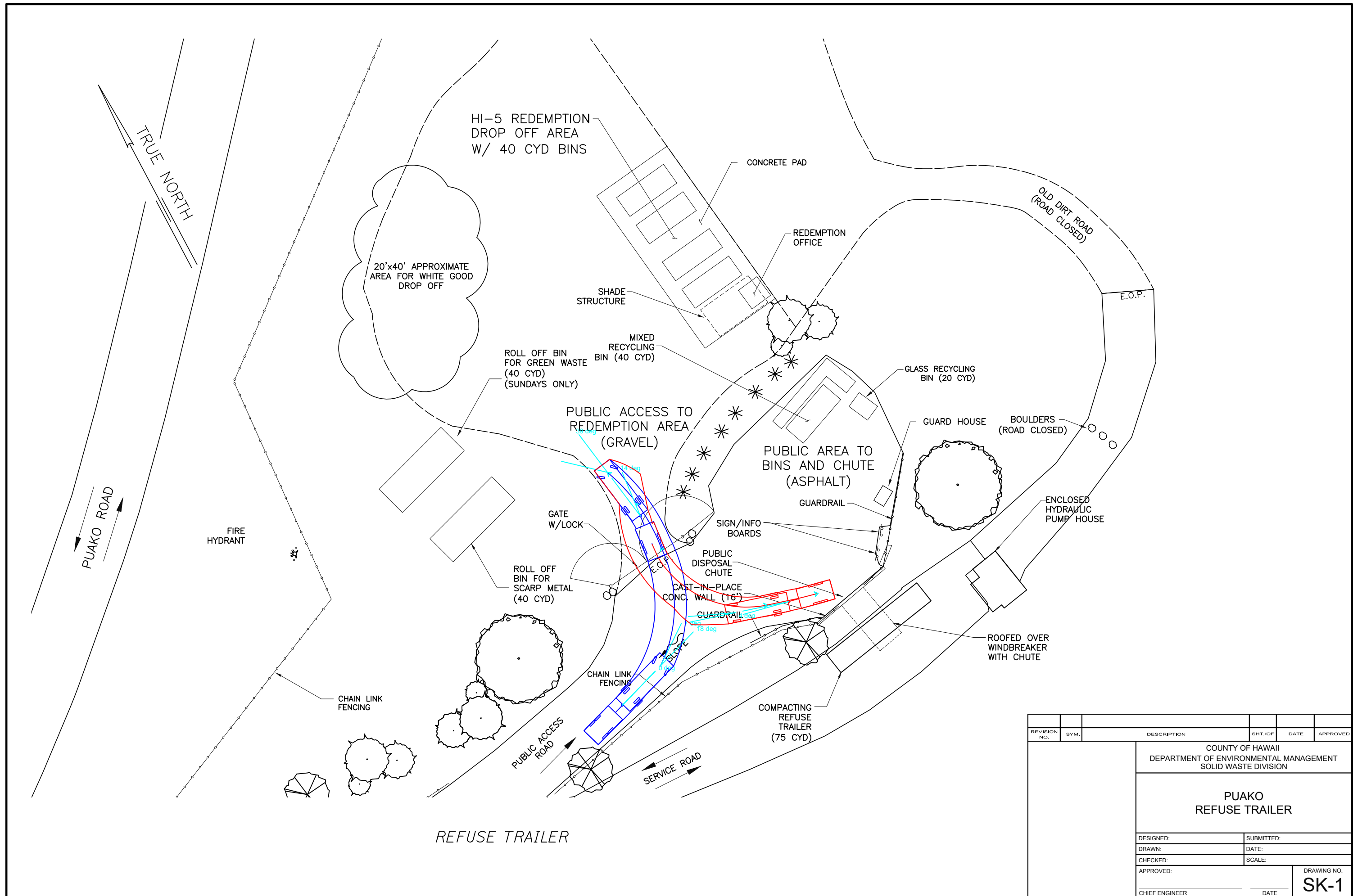
GLASS BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PAPAIKOU GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3

Puako Transfer Station - Analysis of Access of Pickup with Trailer

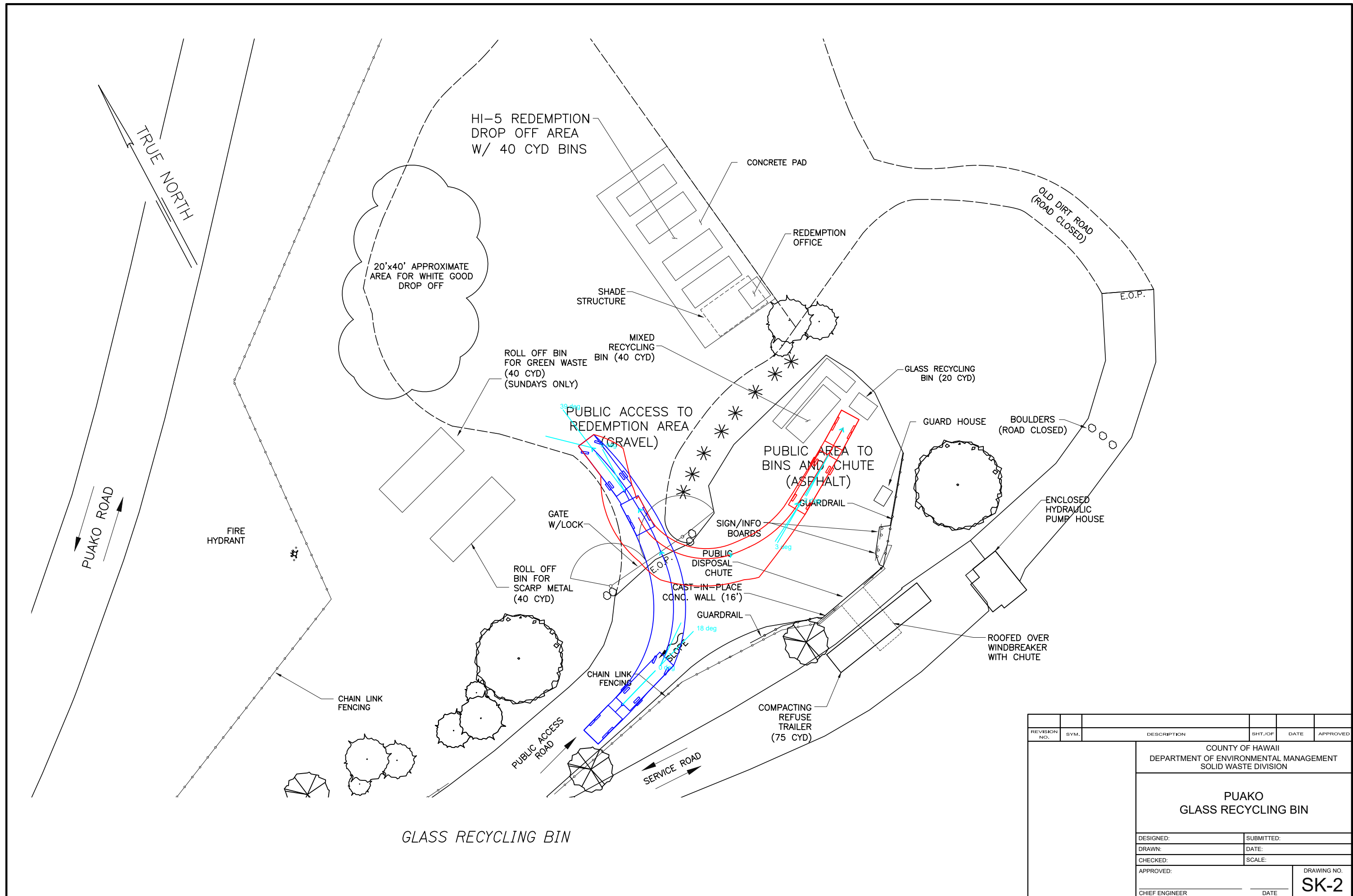
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1.
Glass Recycling Bin	1	Yes	No	Yes	See Sketch 2.
Mixed Recycling Bin	1	Yes	No	Yes	See Sketch 3.
Scrap Metal Bin	1	Yes	No	Yes	See Sketch 4.
Green Waste Bin	1	Yes	No	Yes	See Sketch 5.
White Goods Drop Off Area	1	Yes	No	No	See Sketch 6.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility.



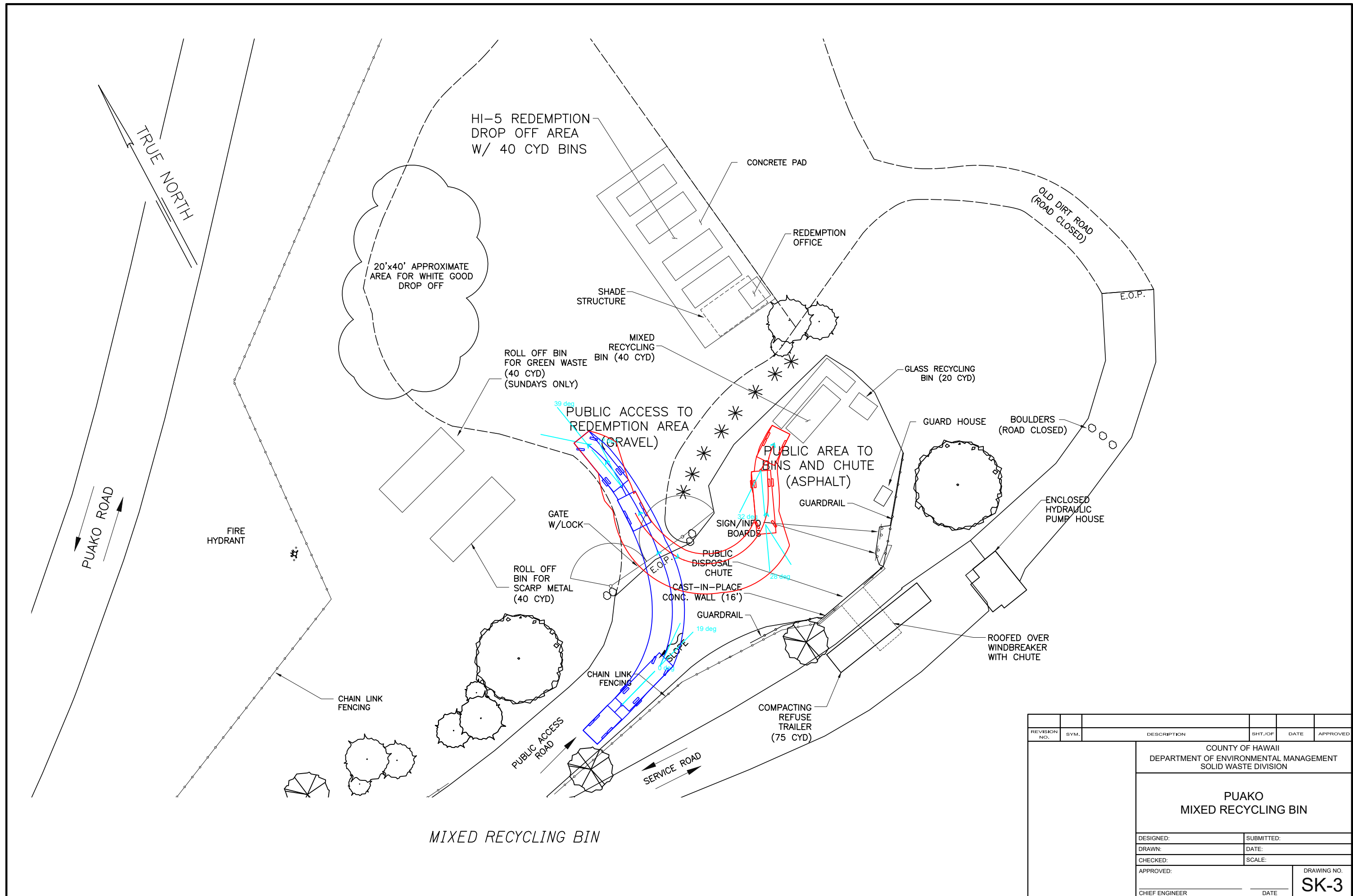
REFUSE TRAILER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



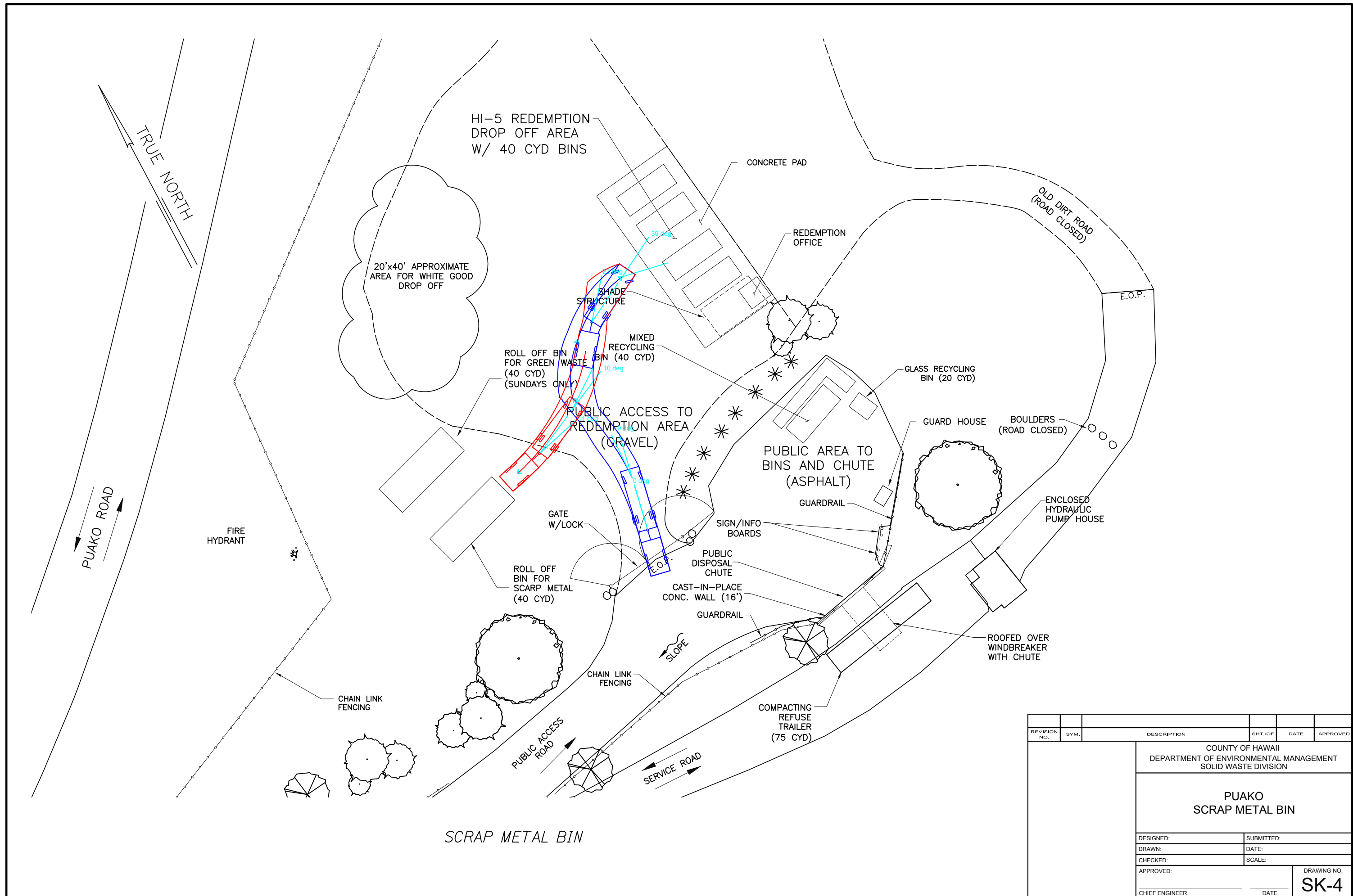
GLASS RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO GLASS RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



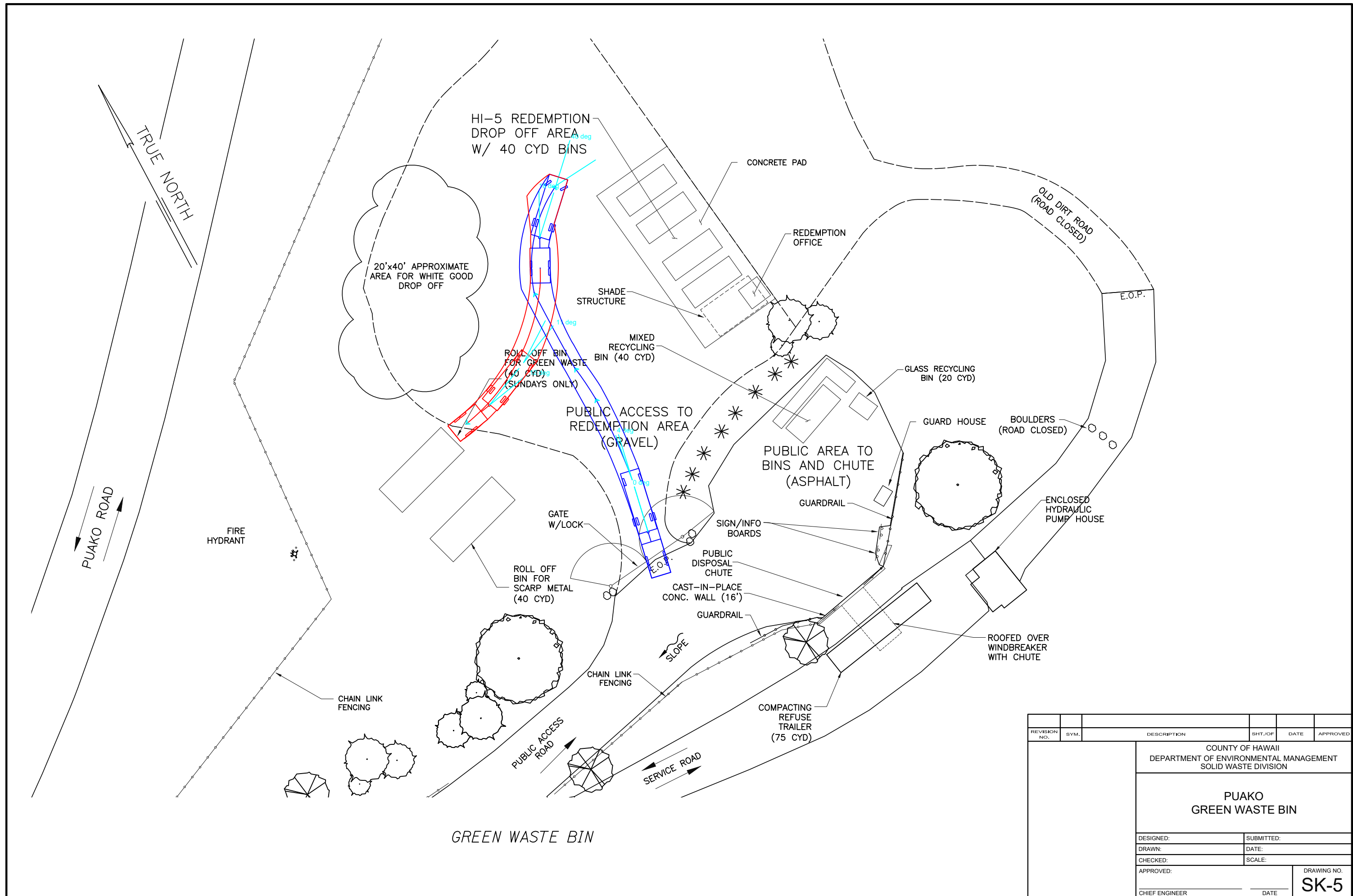
MIXED RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3

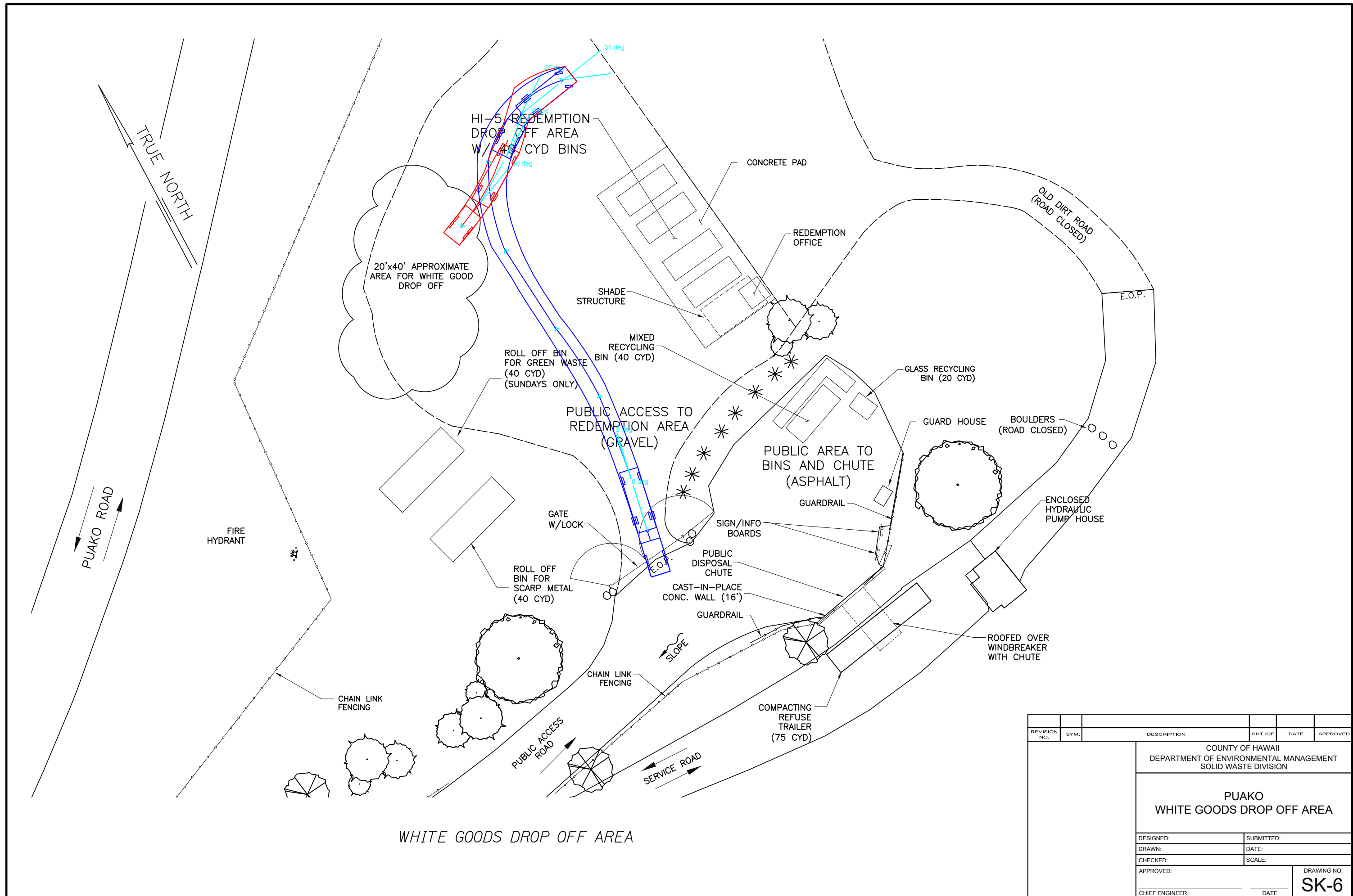


SCRAP METAL BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO GREEN WASTE BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



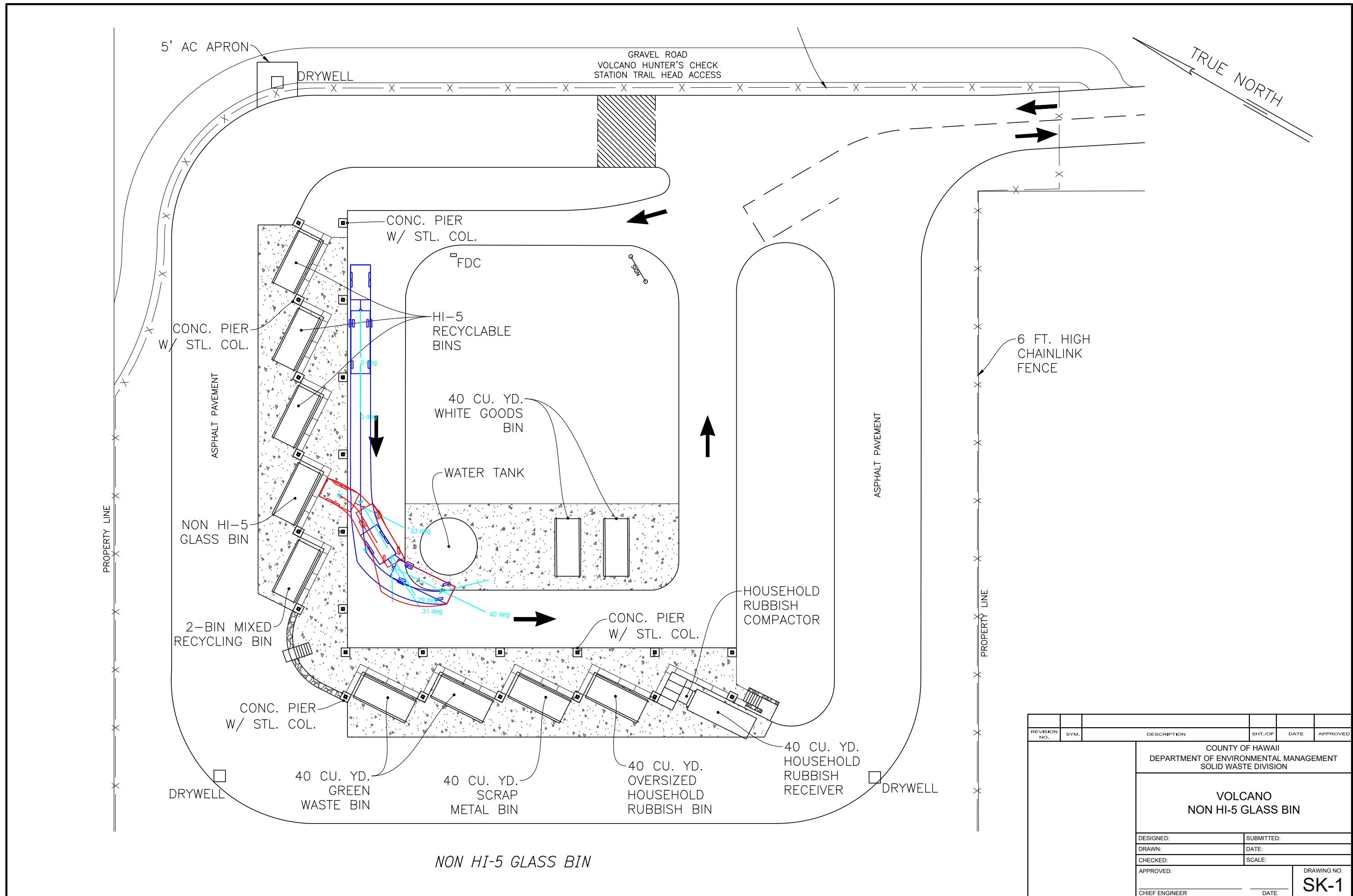
WHITE GOODS DROP OFF AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
PUAKO WHITE GOODS DROP OFF AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

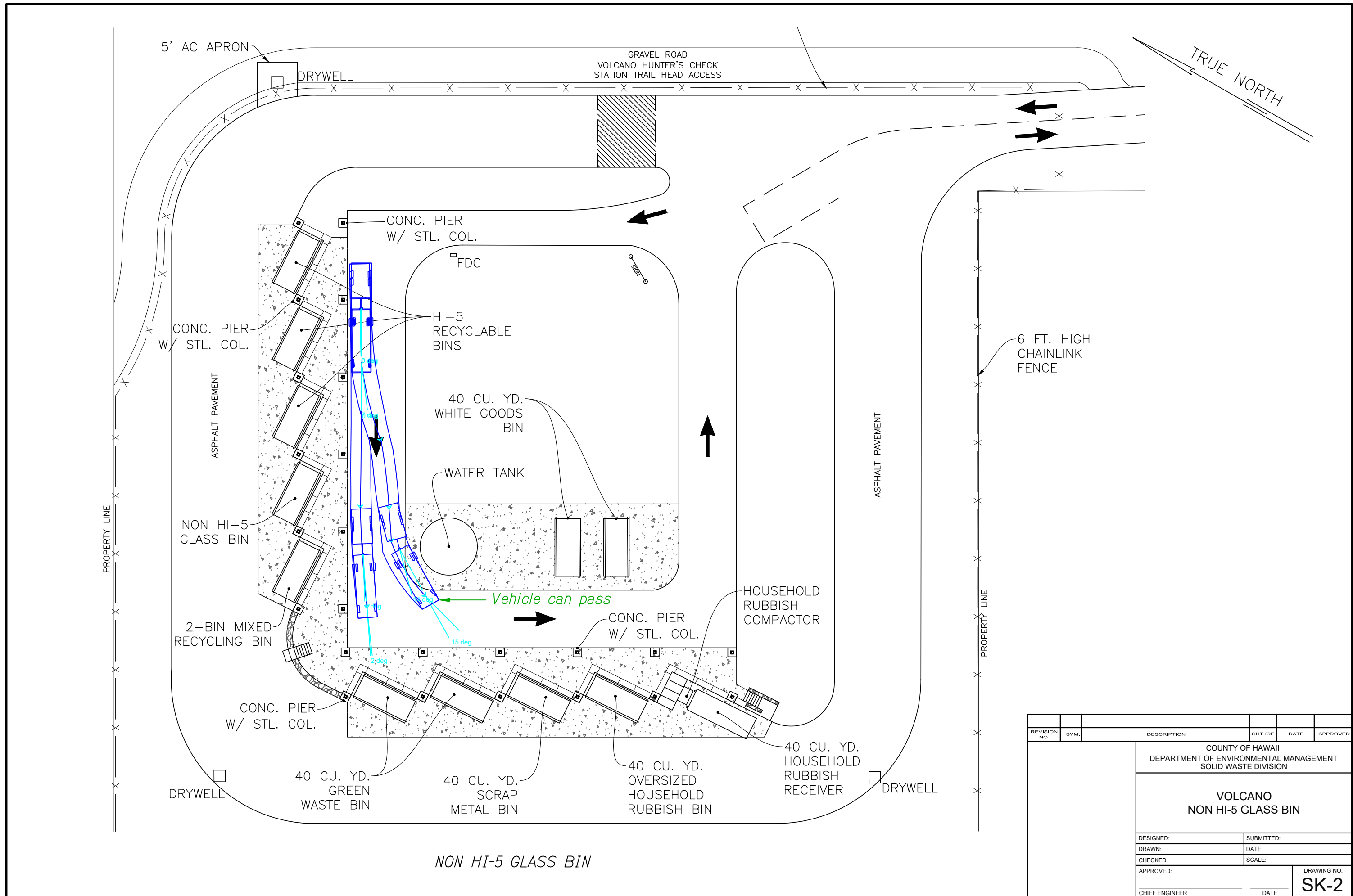
Volcano Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Non Hi-5 Glass Bin	1	Yes, but only with Note 3	NA	Yes	See Sketch 1 and 2.
Mixed Recycling Bin	1	Yes, but only with Note 3	NA	Yes	See Sketch 3.
Green Waste Bin, Scrap Metal Bin, Oversized Household Rubbish Bin, & Household Rubbish Receiver	All	Yes, but only with Note 3	NA	Yes	See Sketch 4, 5, and 6.
White Goods Bin	1	Yes	NA	No	See Sketch 7 and 8.
	2	Yes	NA	No	See Sketch 9.

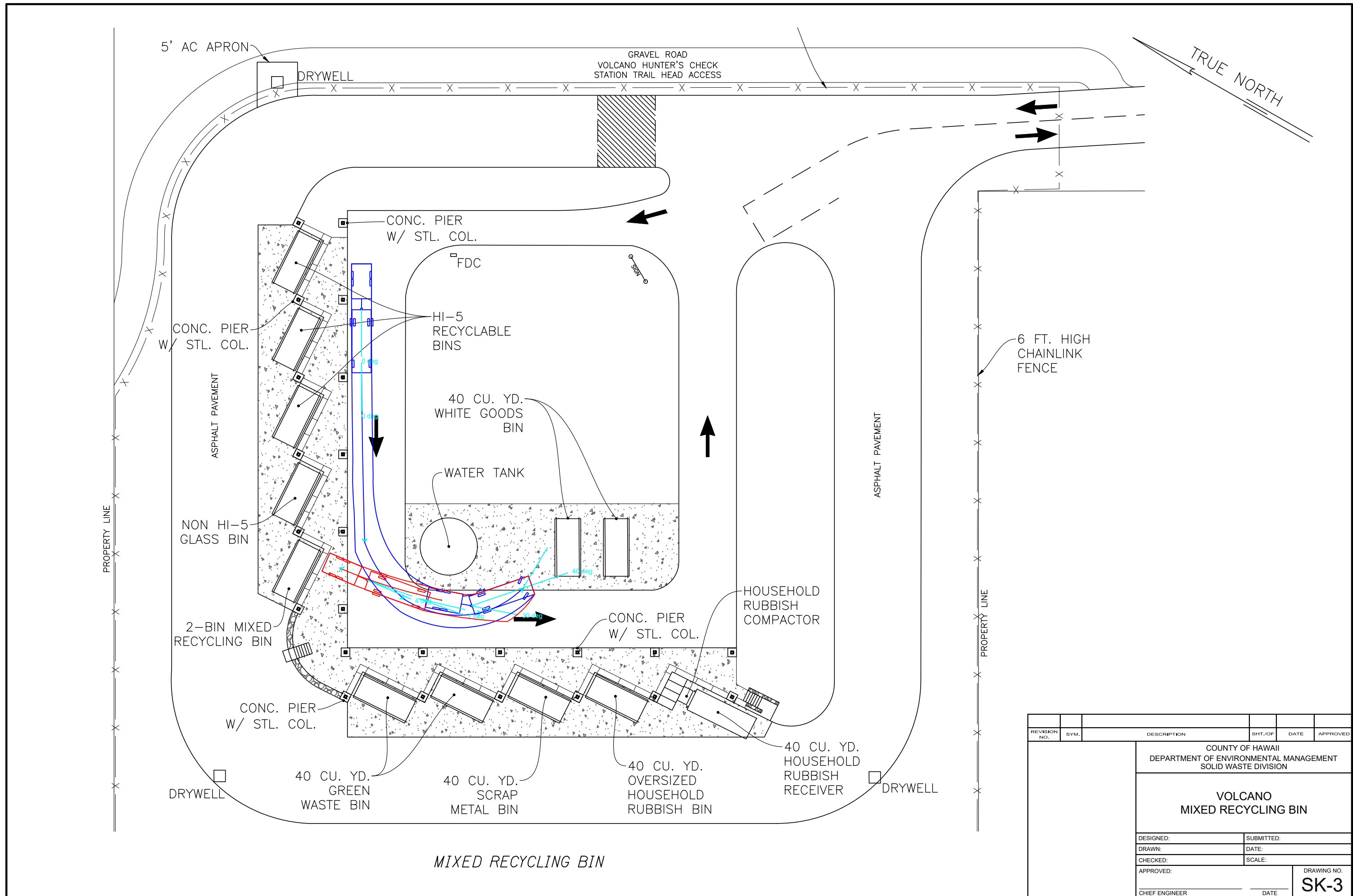
Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.



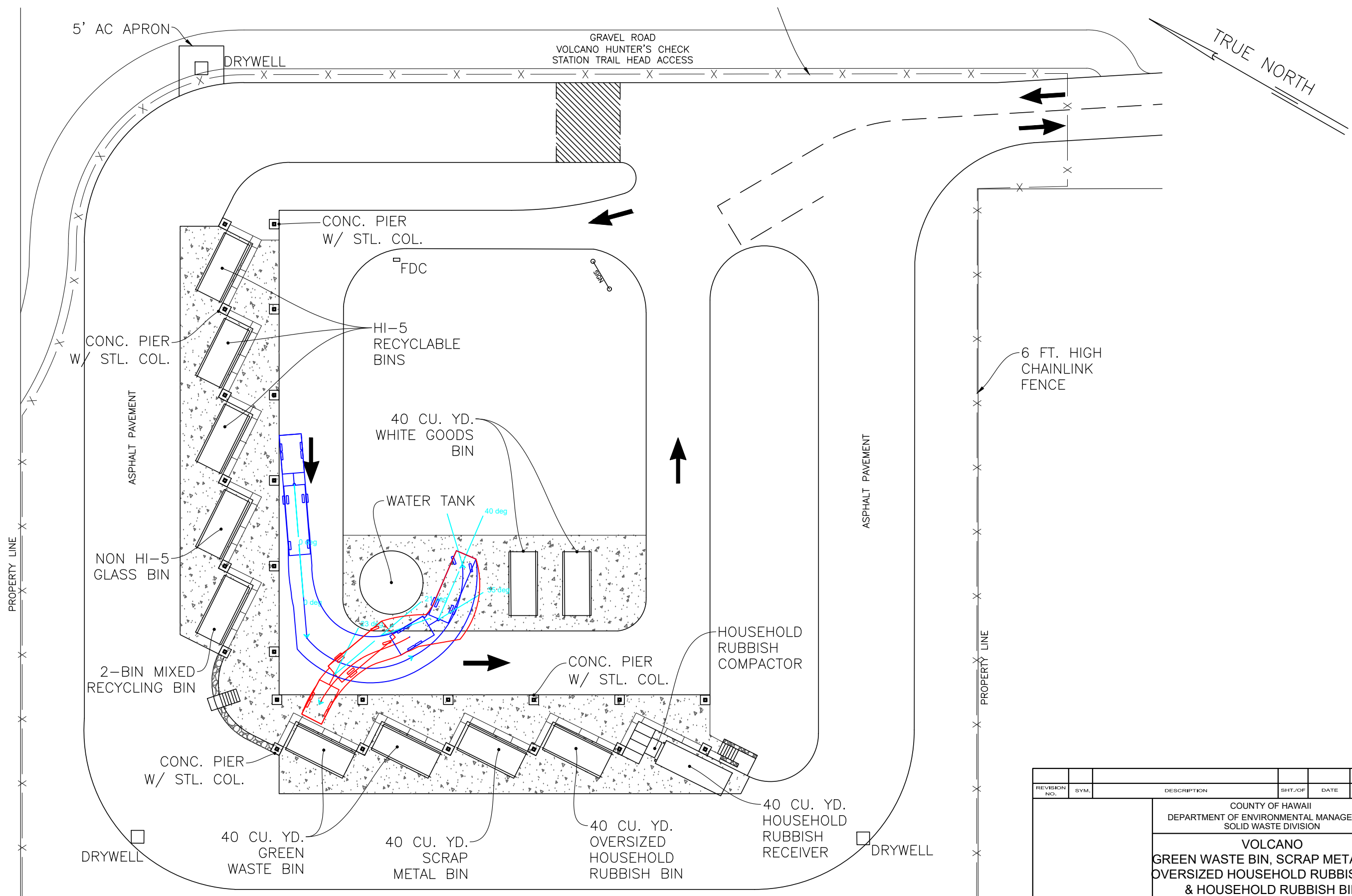
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO NON HI-5 GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-1		



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO NON HI-5 GLASS BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-2		

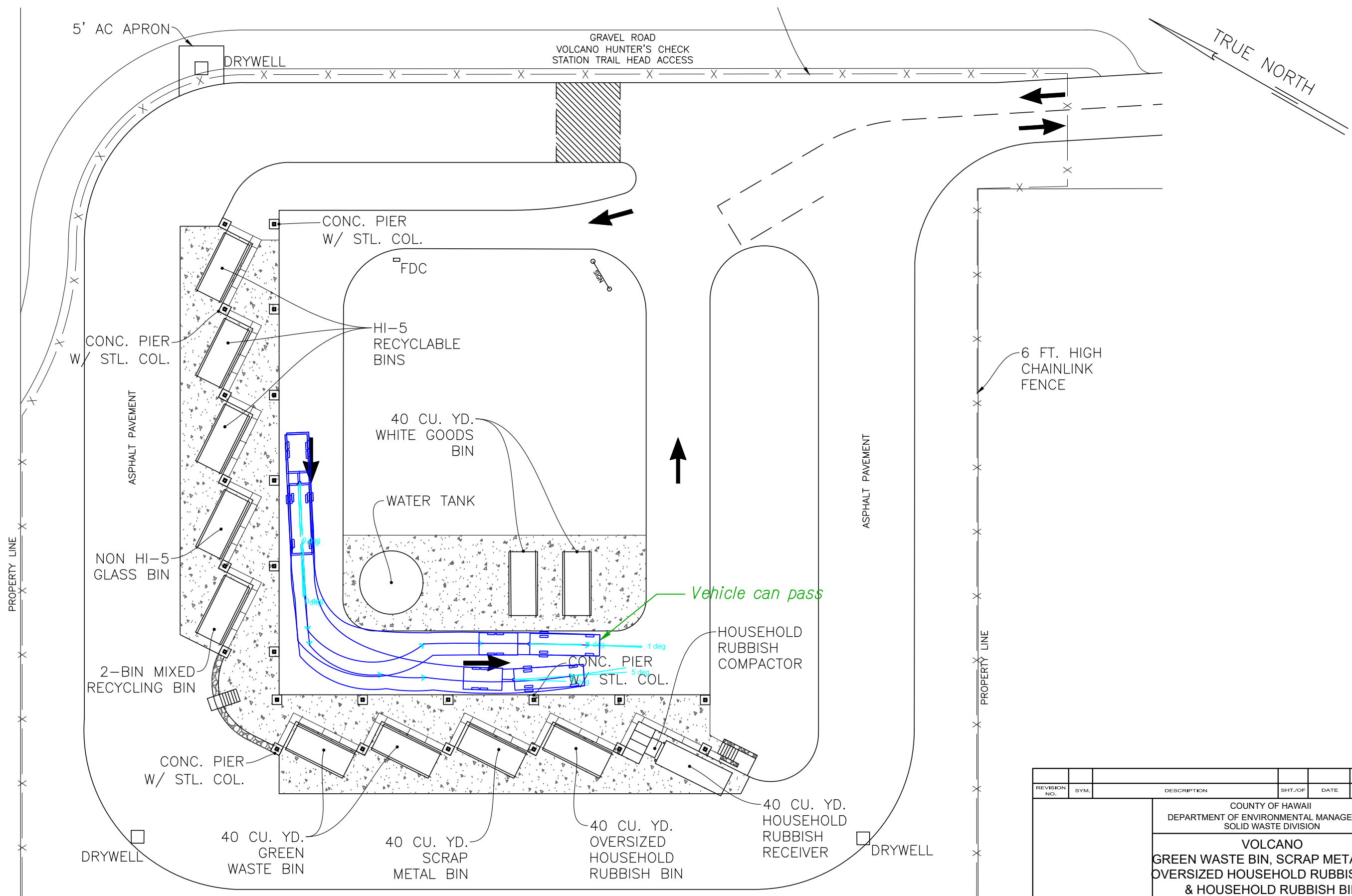


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



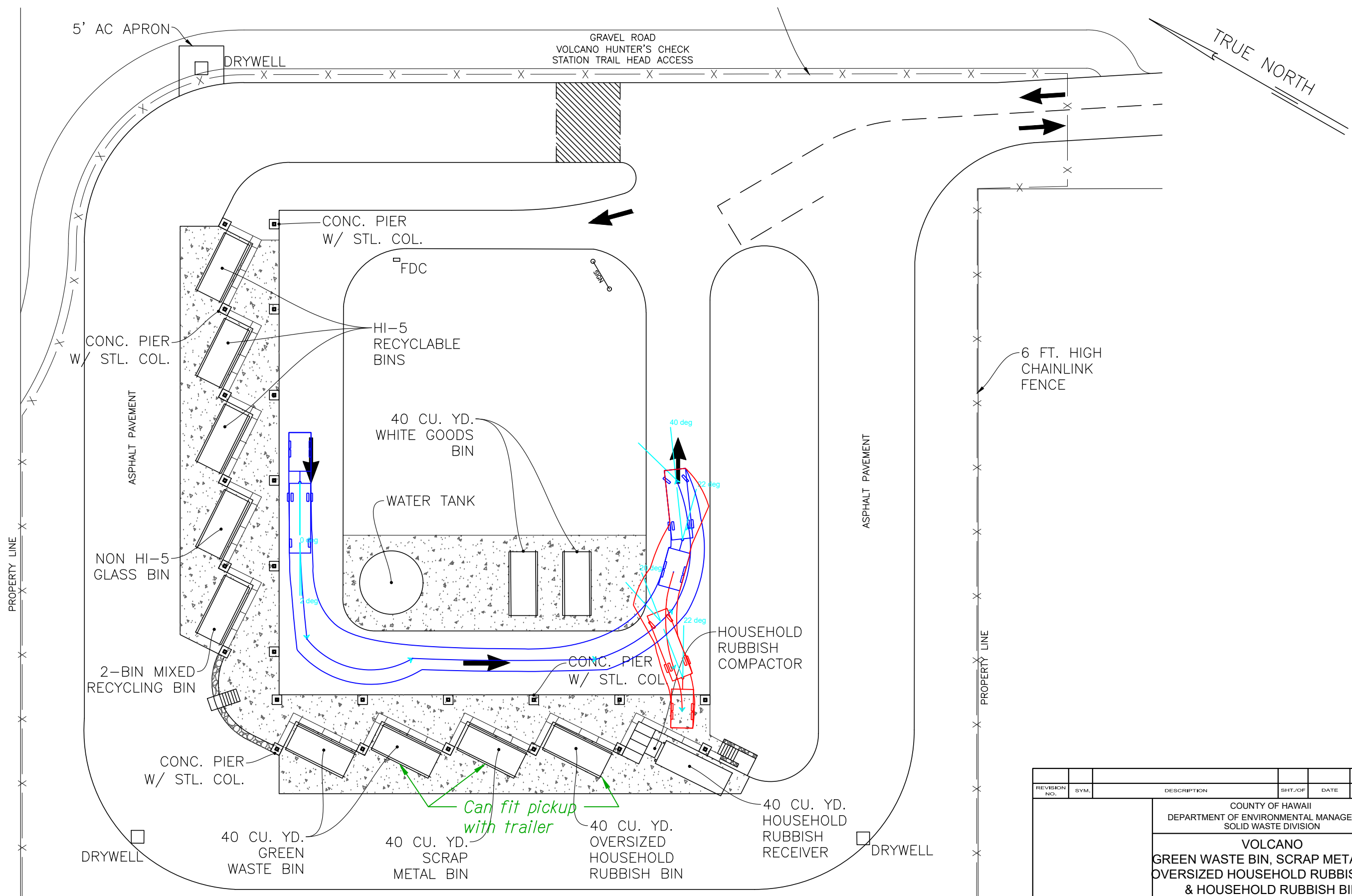
GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN, & HOUSEHOLD RUBBISH RECEIVER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN & HOUSEHOLD RUBBISH BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



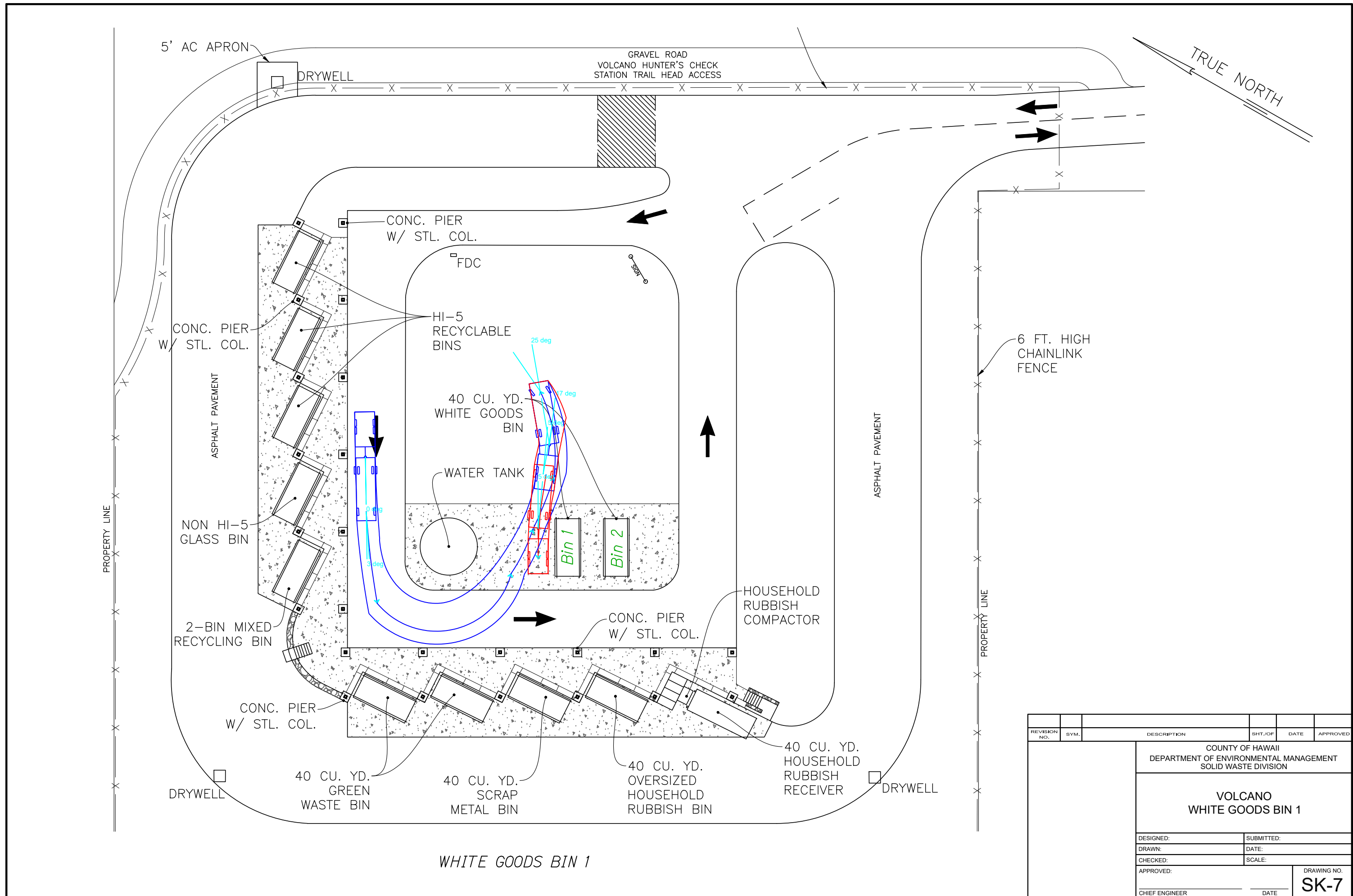
GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN, & HOUSEHOLD RUBBISH RECEIVER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN & HOUSEHOLD RUBBISH BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



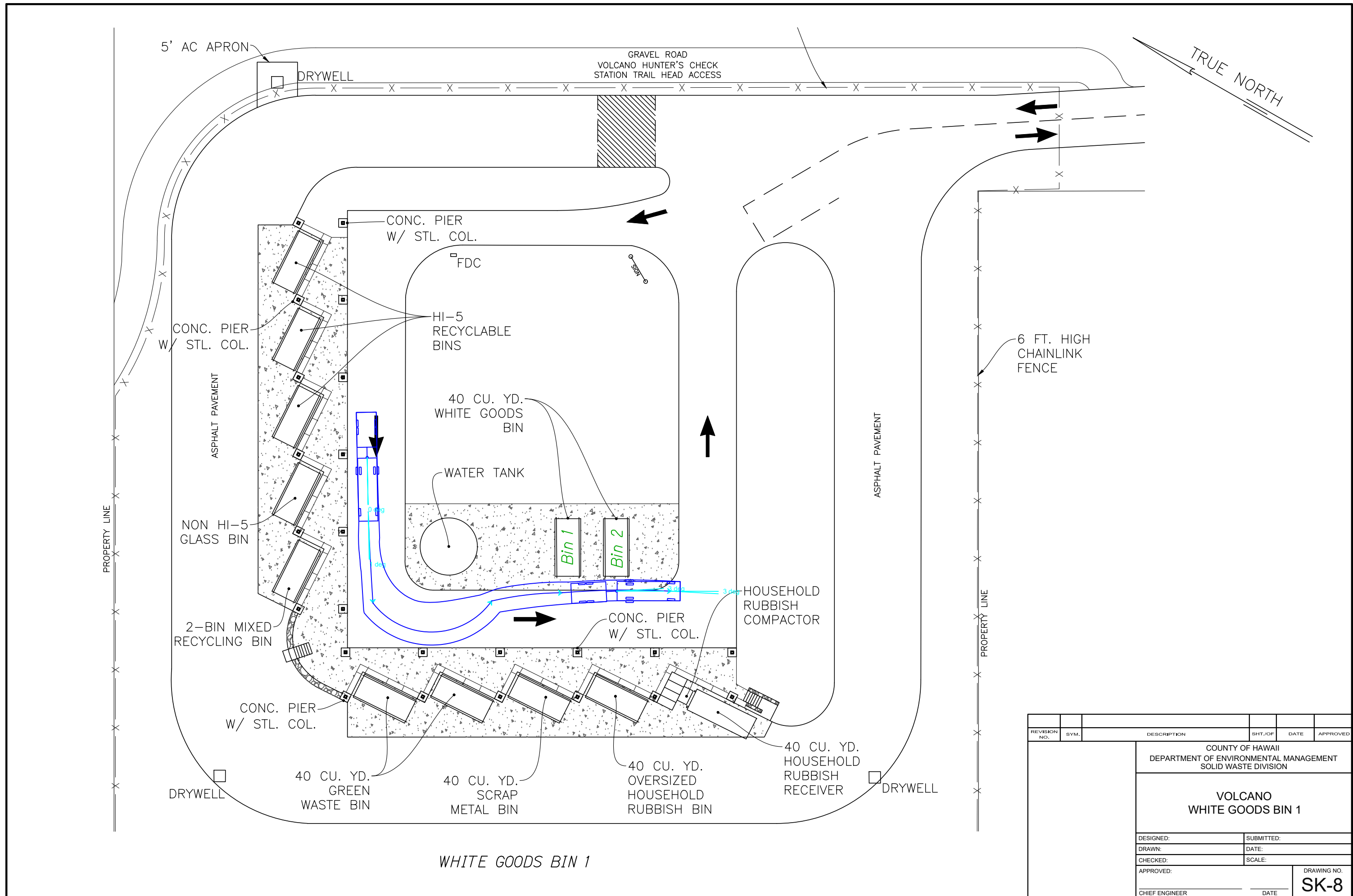
GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN, & HOUSEHOLD RUBBISH RECEIVER

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO GREEN WASTE BIN, SCRAP METAL BIN, OVERSIZED HOUSEHOLD RUBBISH BIN & HOUSEHOLD RUBBISH BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6



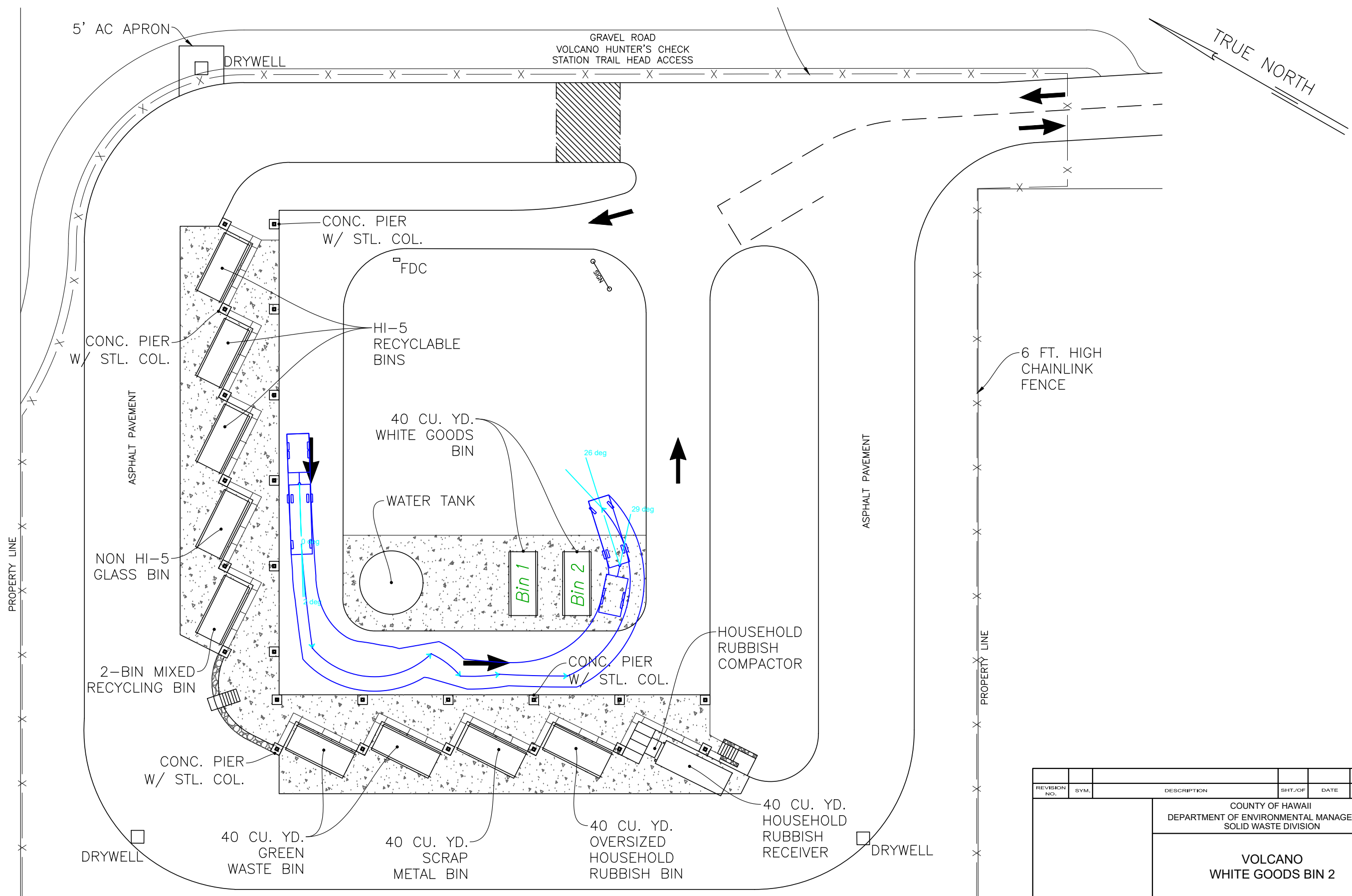
WHITE GOODS BIN 1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO WHITE GOODS BIN 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7



WHITE GOODS BIN 1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO WHITE GOODS BIN 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-8



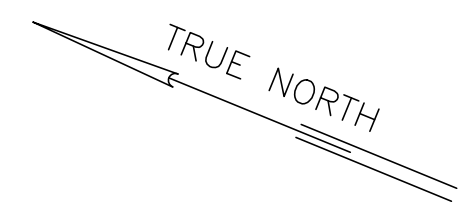
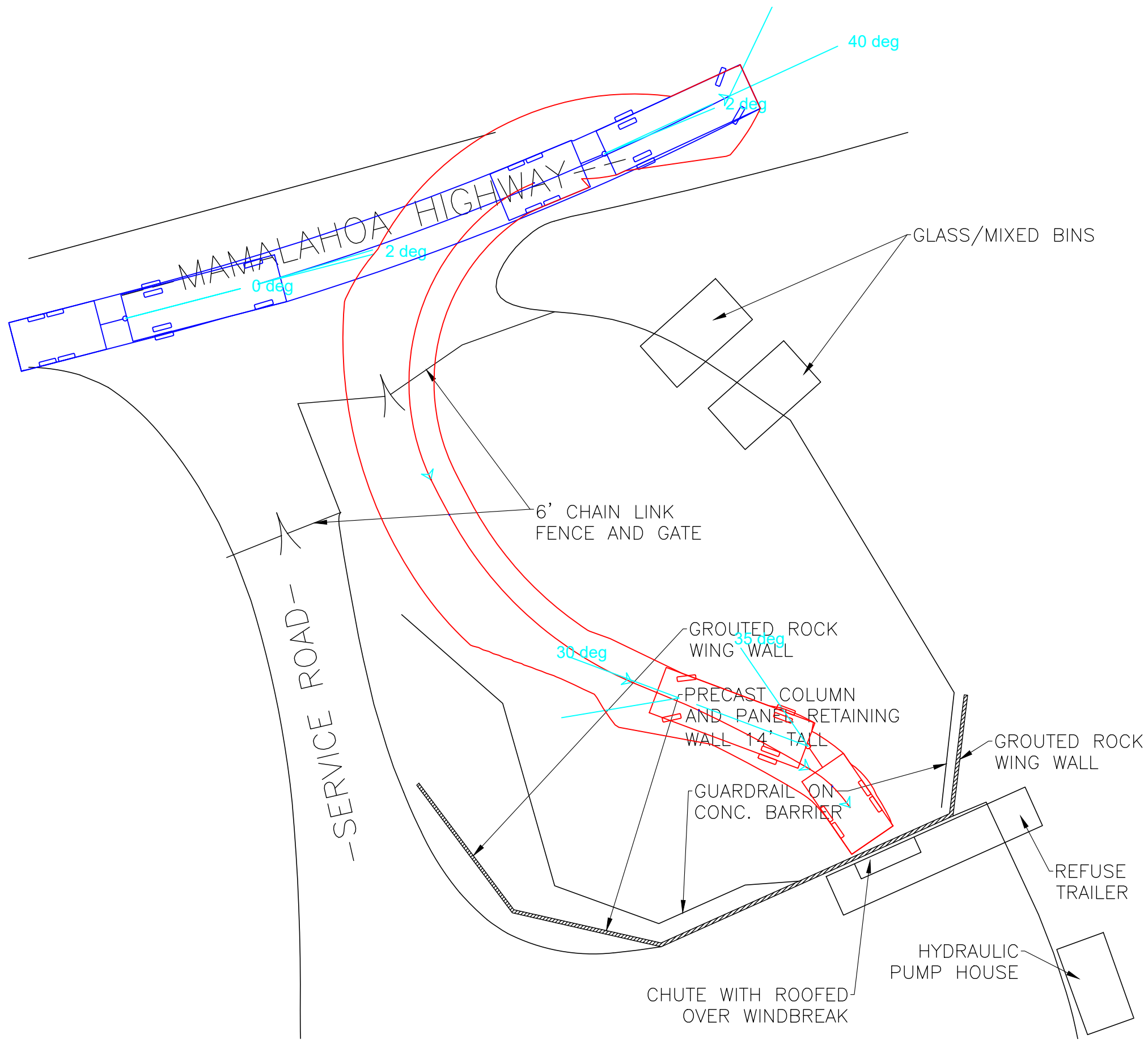
WHITE GOODS BIN 2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
VOLCANO WHITE GOODS BIN 2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-9

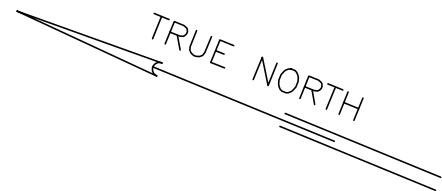
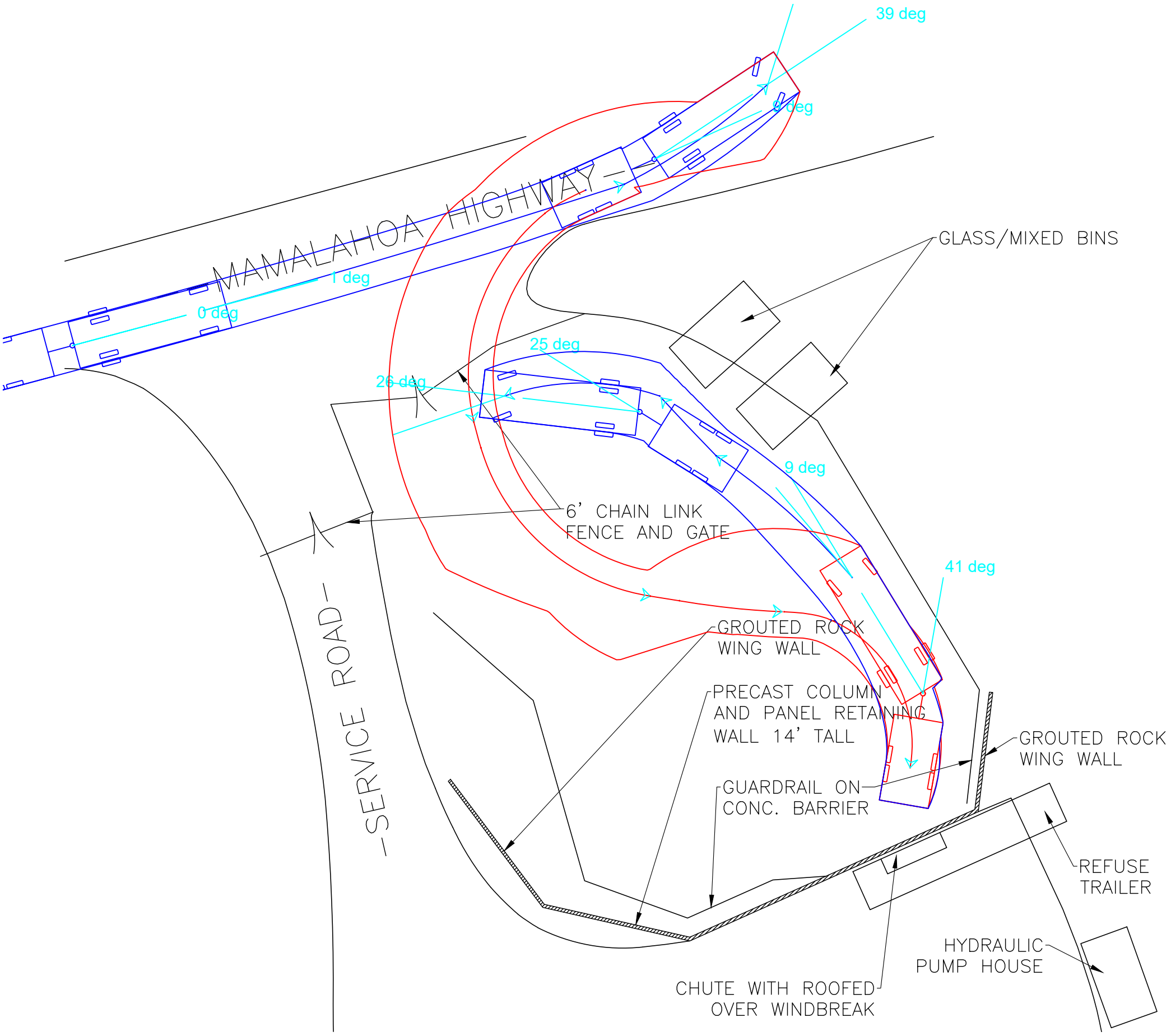
Waiea Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	Yes	No	See Sketch 1.
Glass/Mixed Bins	1	Yes	Yes	Yes	See Sketch 2.

Recommend trailers not be allowed at this transfer station because it would affect the flow of traffic within the facility, and Highway 11.



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIEA REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

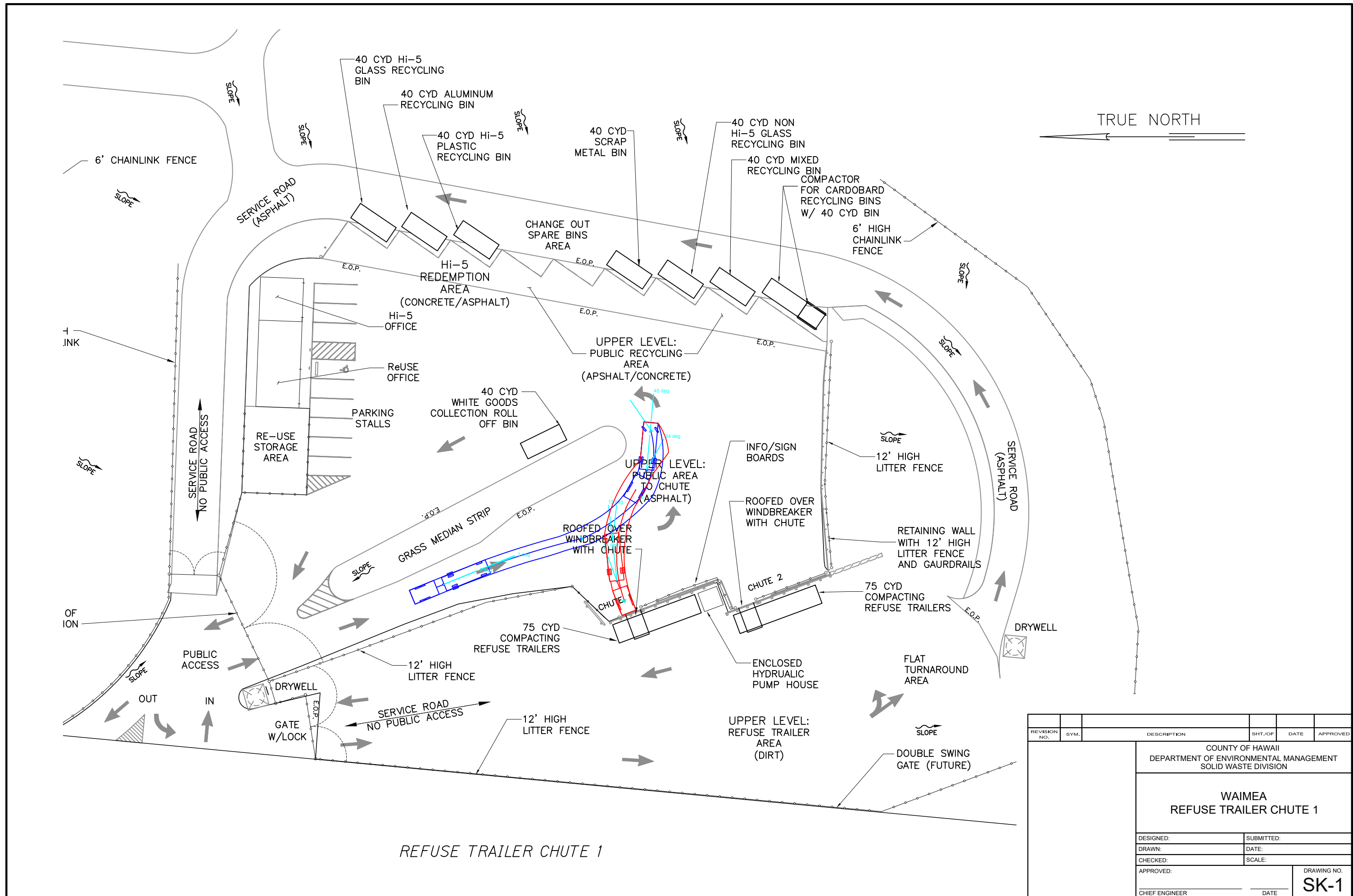


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIEA GLASS/MIXED BINS					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2

Waimea Transfer Station - Analysis of Access of Pickup with Trailer

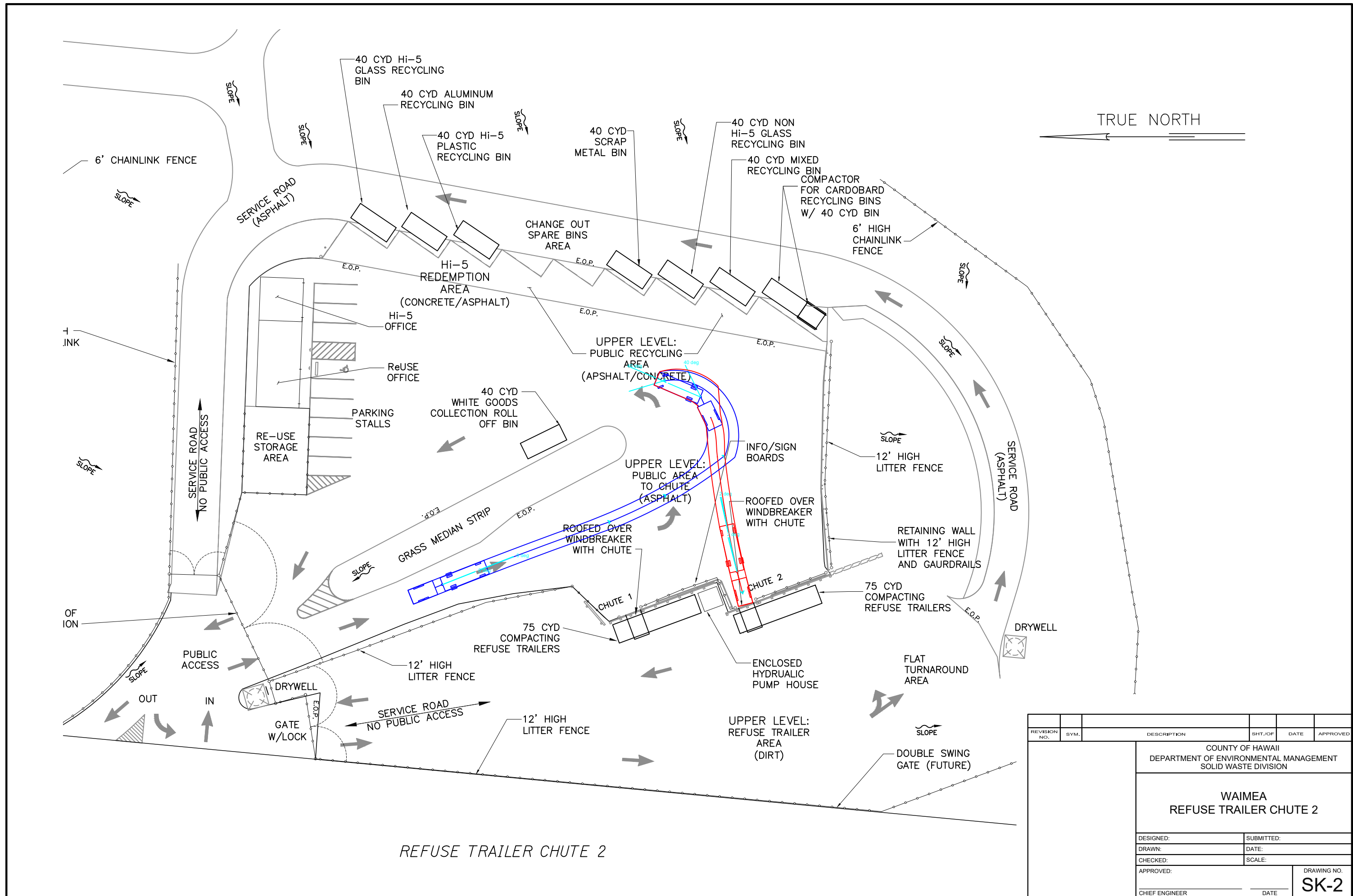
Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer Chute	1	Yes	No	Yes, see Note 4	See Sketch 1.
	2	Yes	No	Yes, see Note 4	See Sketch 2.
Cardboard Recycling Bin	1	Yes	No	Yes, see Note 4	See Sketch 3.
Mixed Recycling Bin	1	Yes	No	Yes, see Note 4	See Sketch 4.
Non Hi-5 Recycling Bin	1	Yes	No	Yes, see Note 4	See Sketch 5.
Scrap Metal Bin	1	Yes	No	Yes, see Note 4	See Sketch 6.
White Goods Collection Bin	1	Yes	No	Yes, see Note 4	See Sketch 7.

Recommend trailers be allowed at this transfer station only if there are fulltime personnel for traffic control, and NO reversing of the trailer is allowed. Trailer must pull parallel to the bin/chute/container.



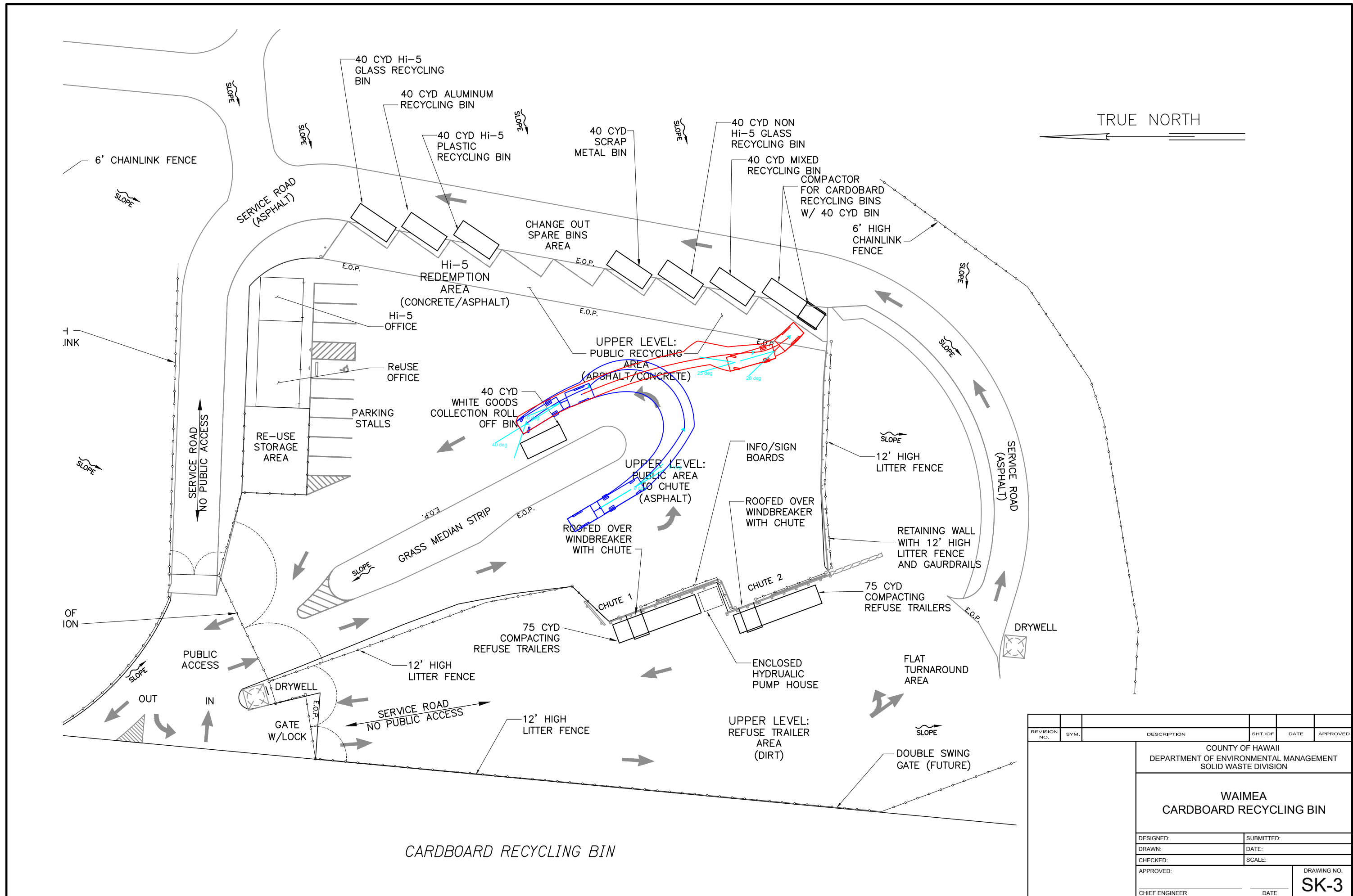
REFUSE TRAILER CHUTE 1

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA REFUSE TRAILER CHUTE 1					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1



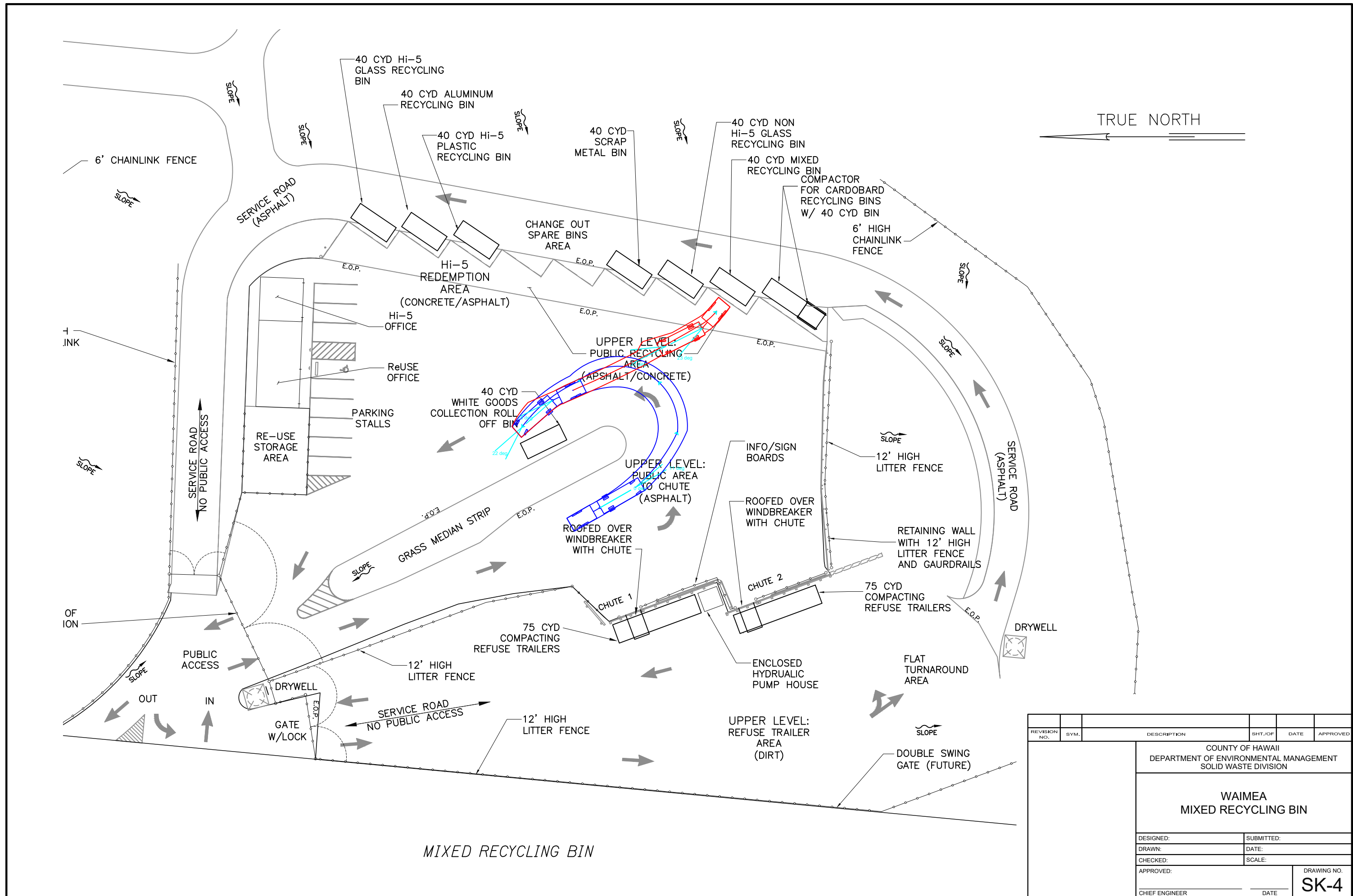
REFUSE TRAILER CHUTE 2

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA REFUSE TRAILER CHUTE 2					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



CARDBOARD RECYCLING BIN

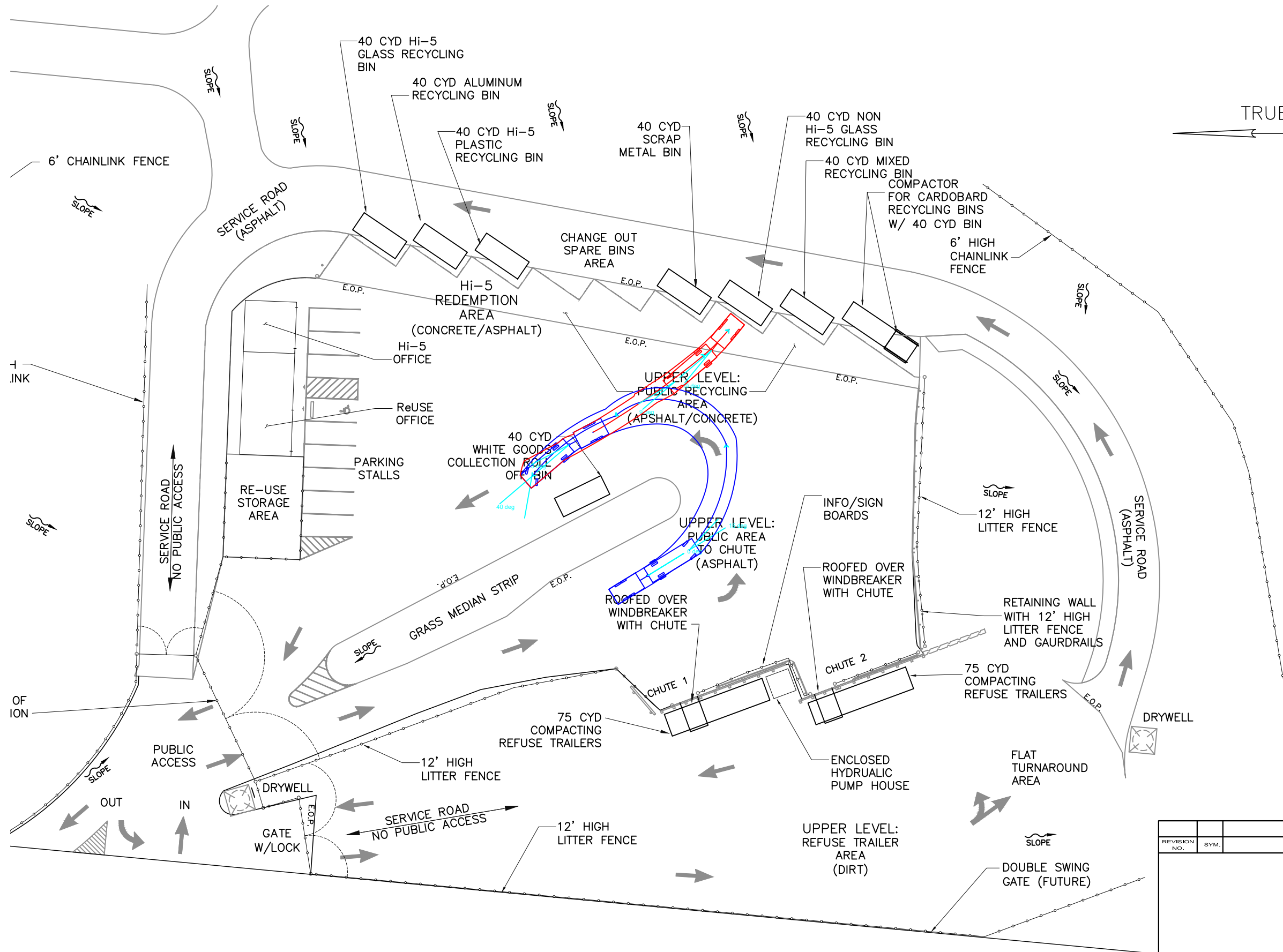
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA CARDBOARD RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-3



TRUE NORTH

MIXED RECYCLING BIN

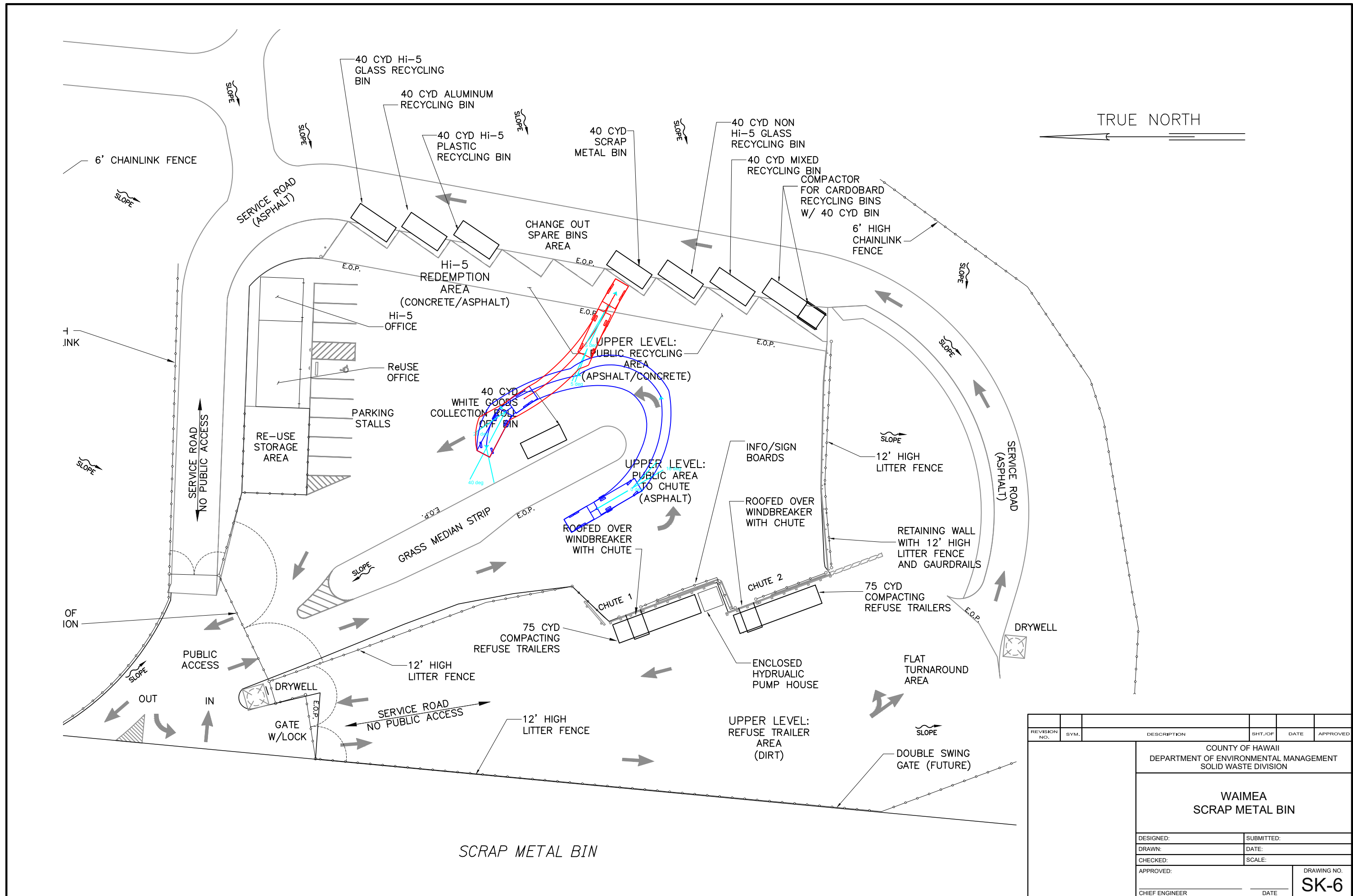
REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA MIXED RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-4		



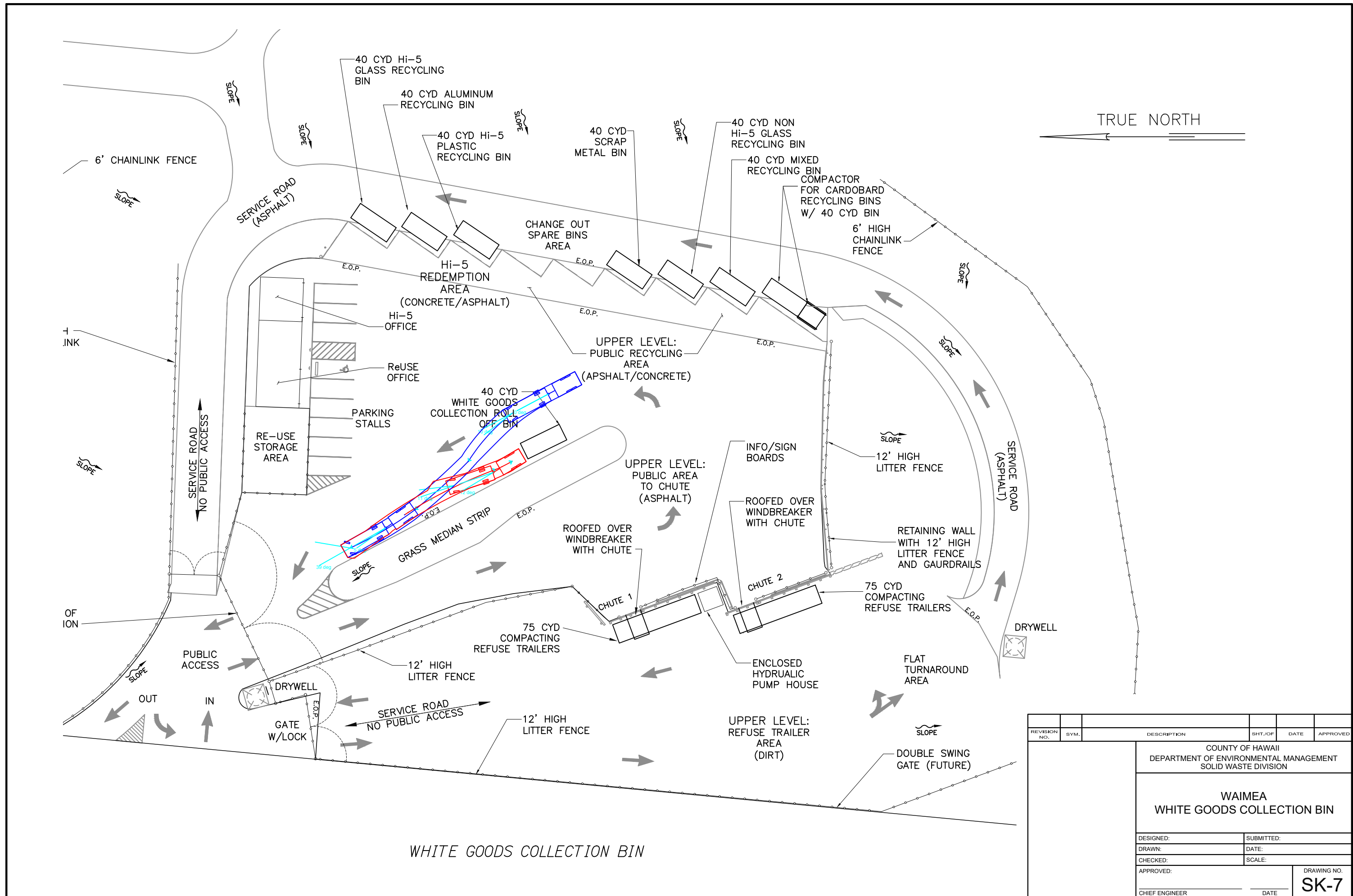
TRUE NORTH

NON HI-5 RECYCLING BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA NON HI-5 RECYCLING BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6



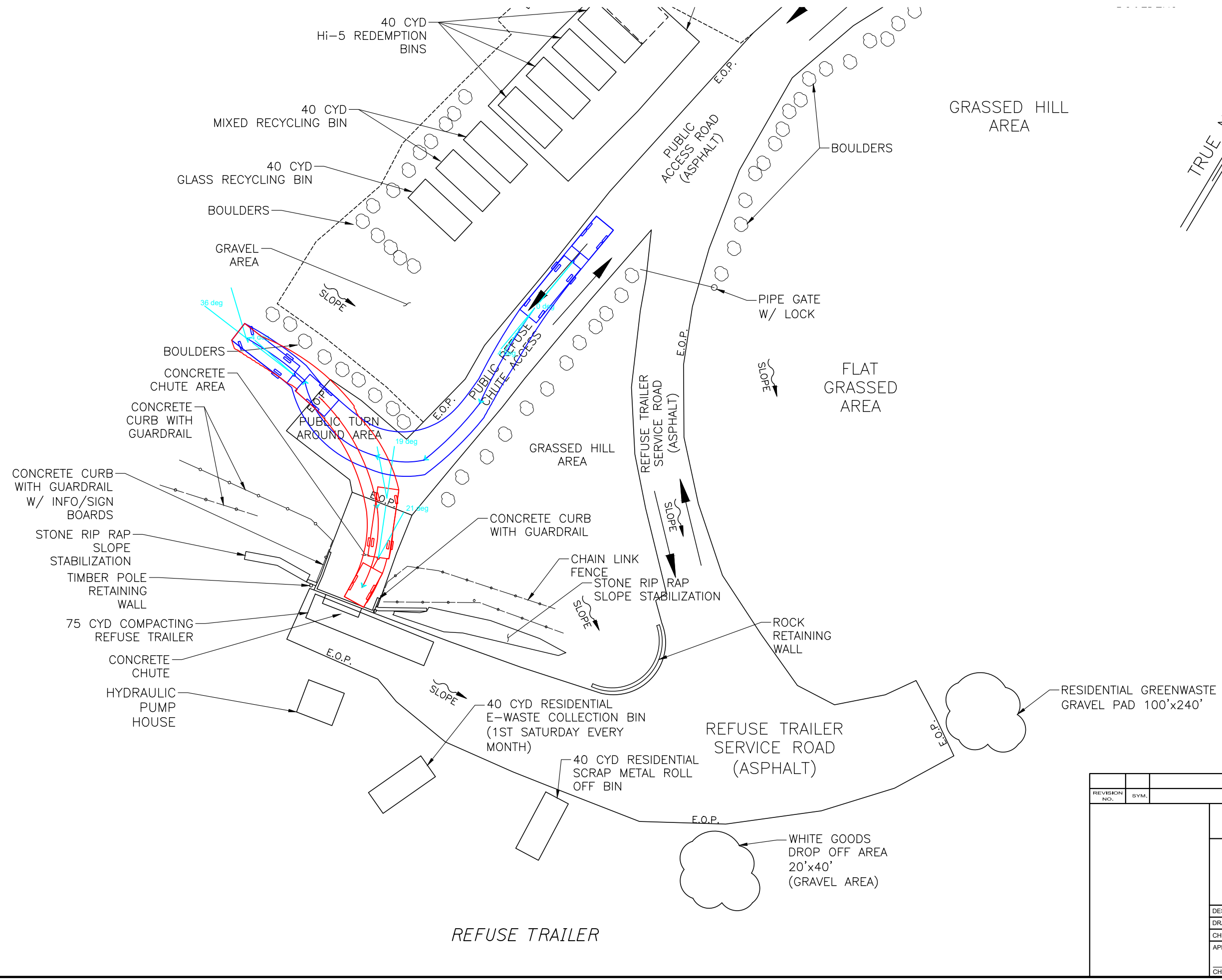
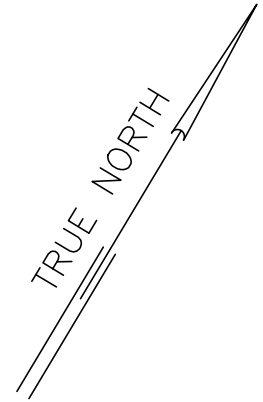
WHITE GOODS COLLECTION BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIMEA WHITE GOODS COLLECTION BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-7

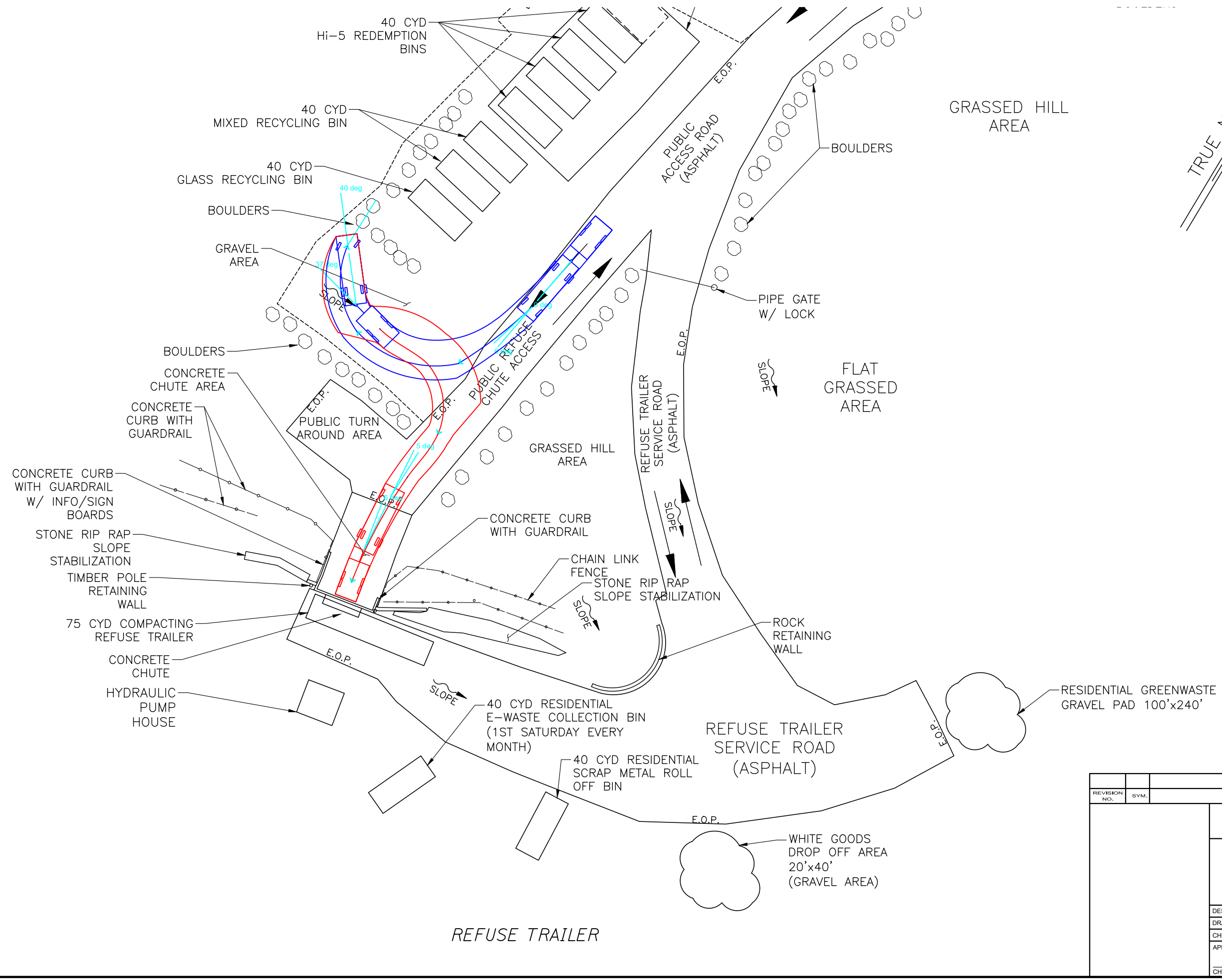
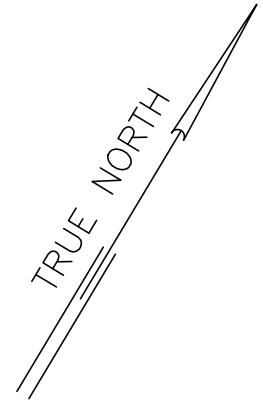
Waiohinu Transfer Station - Analysis of Access of Pickup with Trailer

Section	Stall	Can vehicle with trailer access stall?	If so, does it impede traffic outside of the facility?	Does it impede traffic within the facility?	Notes
Refuse Trailer	1	Yes	No	Yes	See Sketch 1 and 2.
Residential E-Waste Collection Bin	1	Yes	No	Yes	See Sketch 3.
Residential Scrap Metal Bin	1	Yes	No	Yes	See Sketch 4.
White Goods Drop Off Area	1	Yes	No	Yes	See Sketch 5.
Residential Greenwaste Area	1	Yes	No	Yes	See Sketch 6.

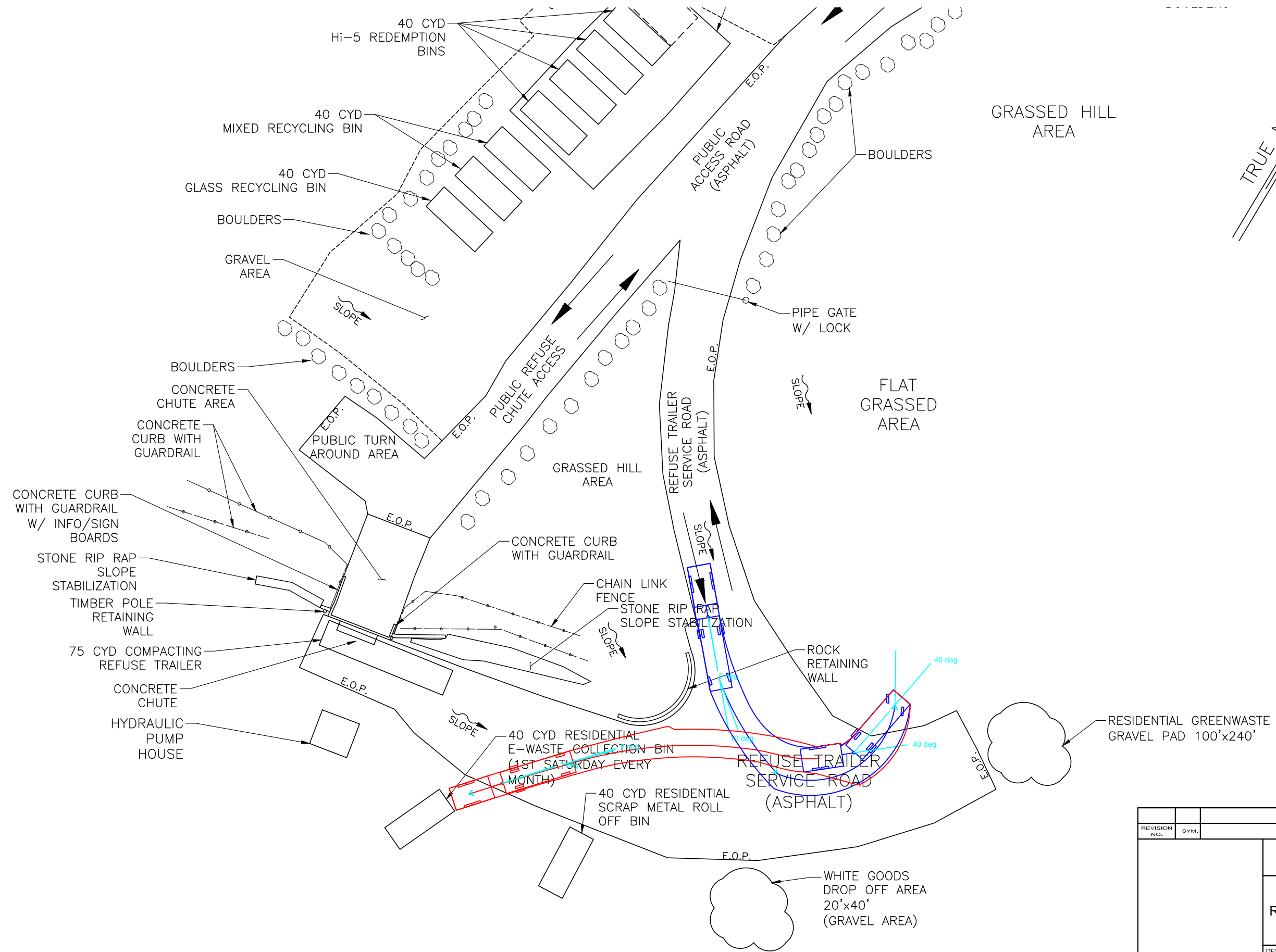
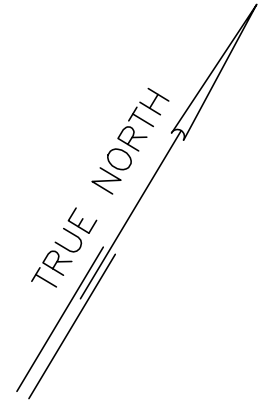
Recommend trailers not be allowed at this transfer station because of the current configuration. Once the transfer station improvements are completed, the trailer use can be reconsidered.



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-1

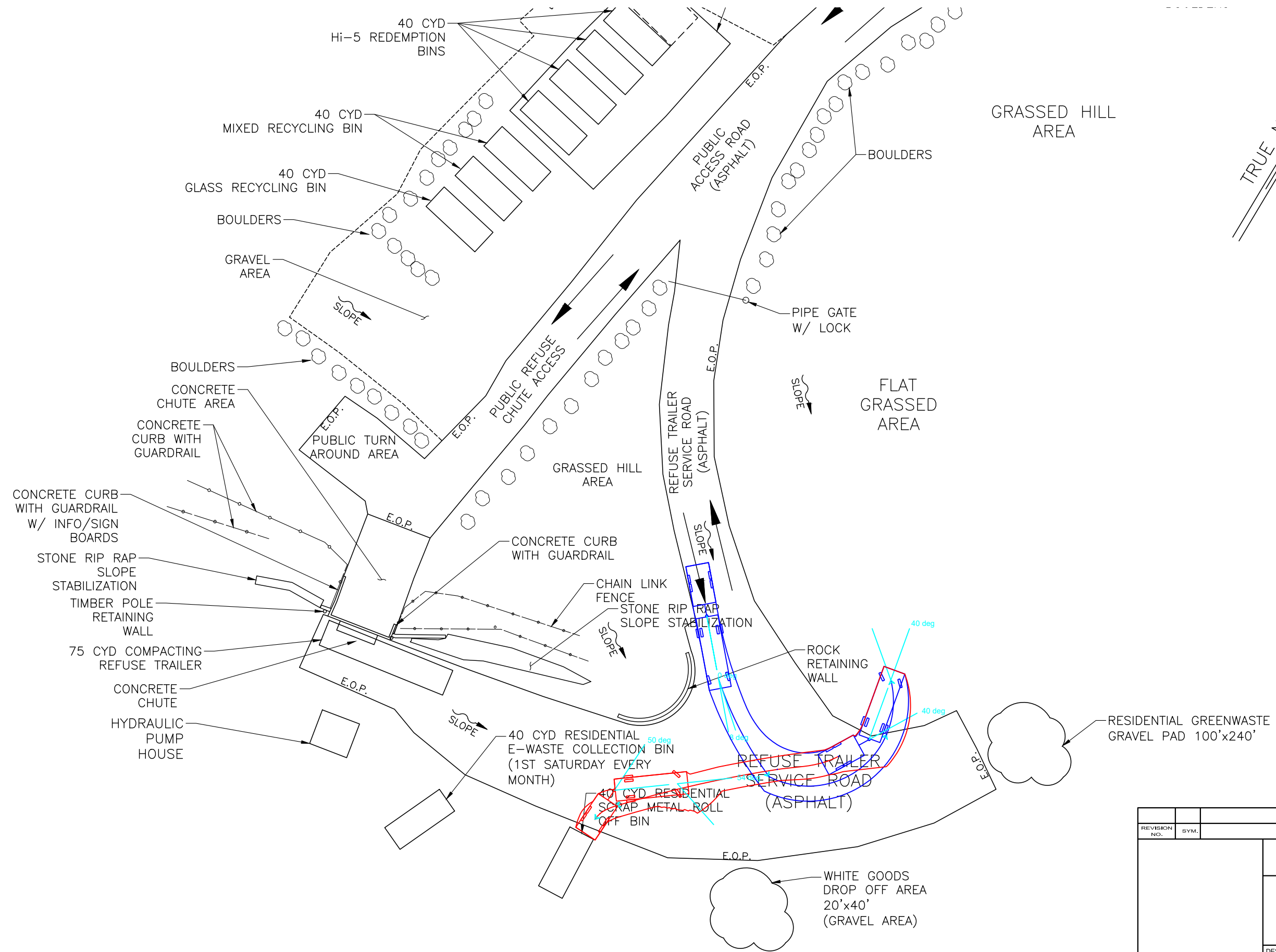
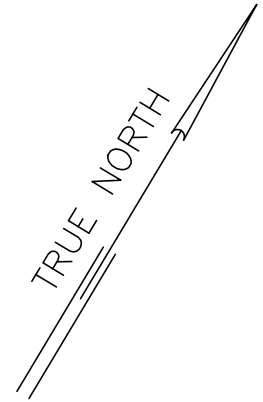


REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU REFUSE TRAILER					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-2



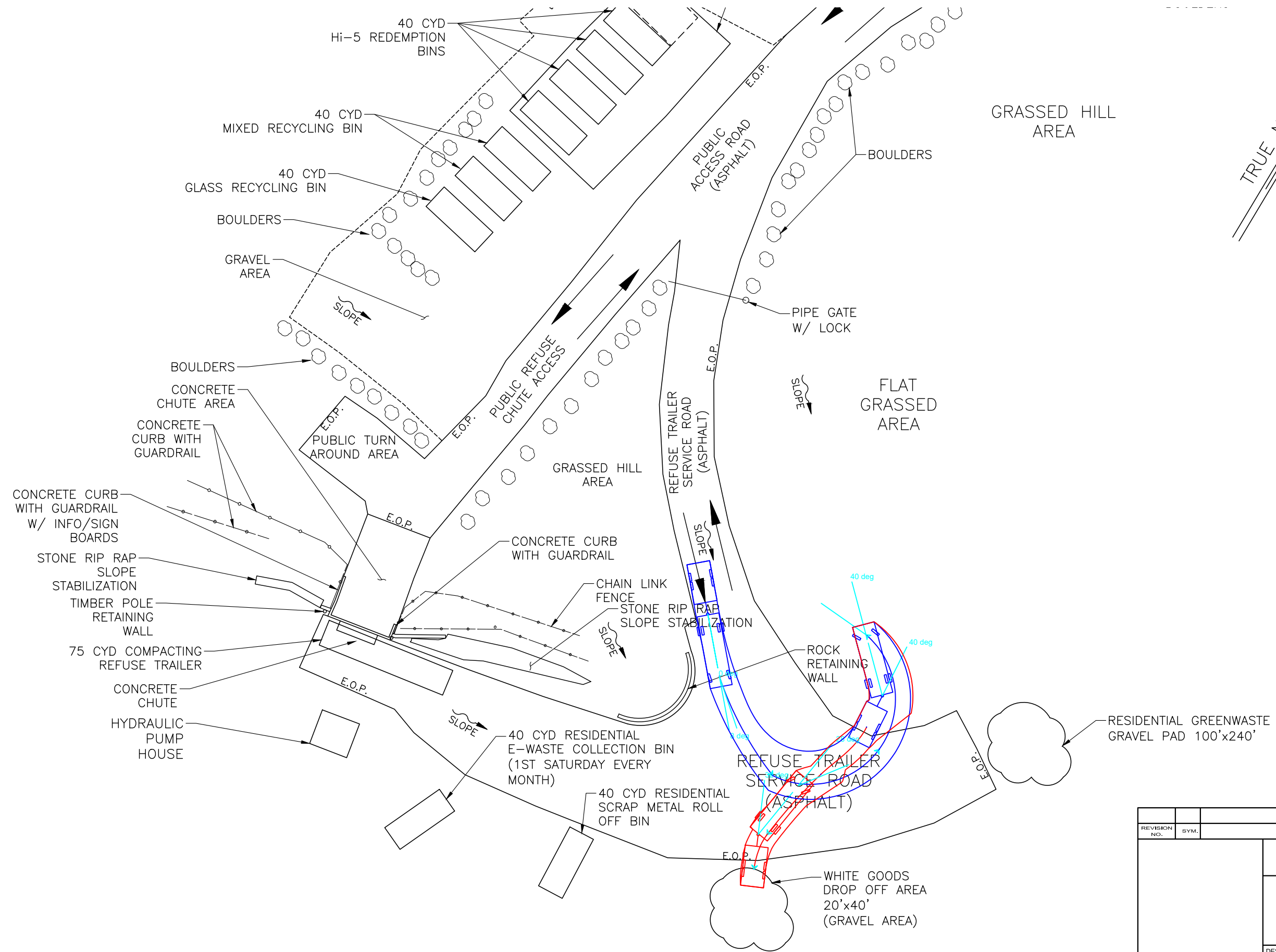
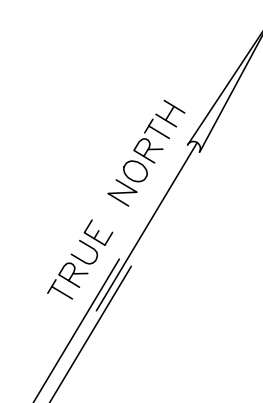
RESIDENTIAL E-WASTE COLLECTION BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU RESIDENTIAL E-WASTE COLLECTION BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
			SK-3		



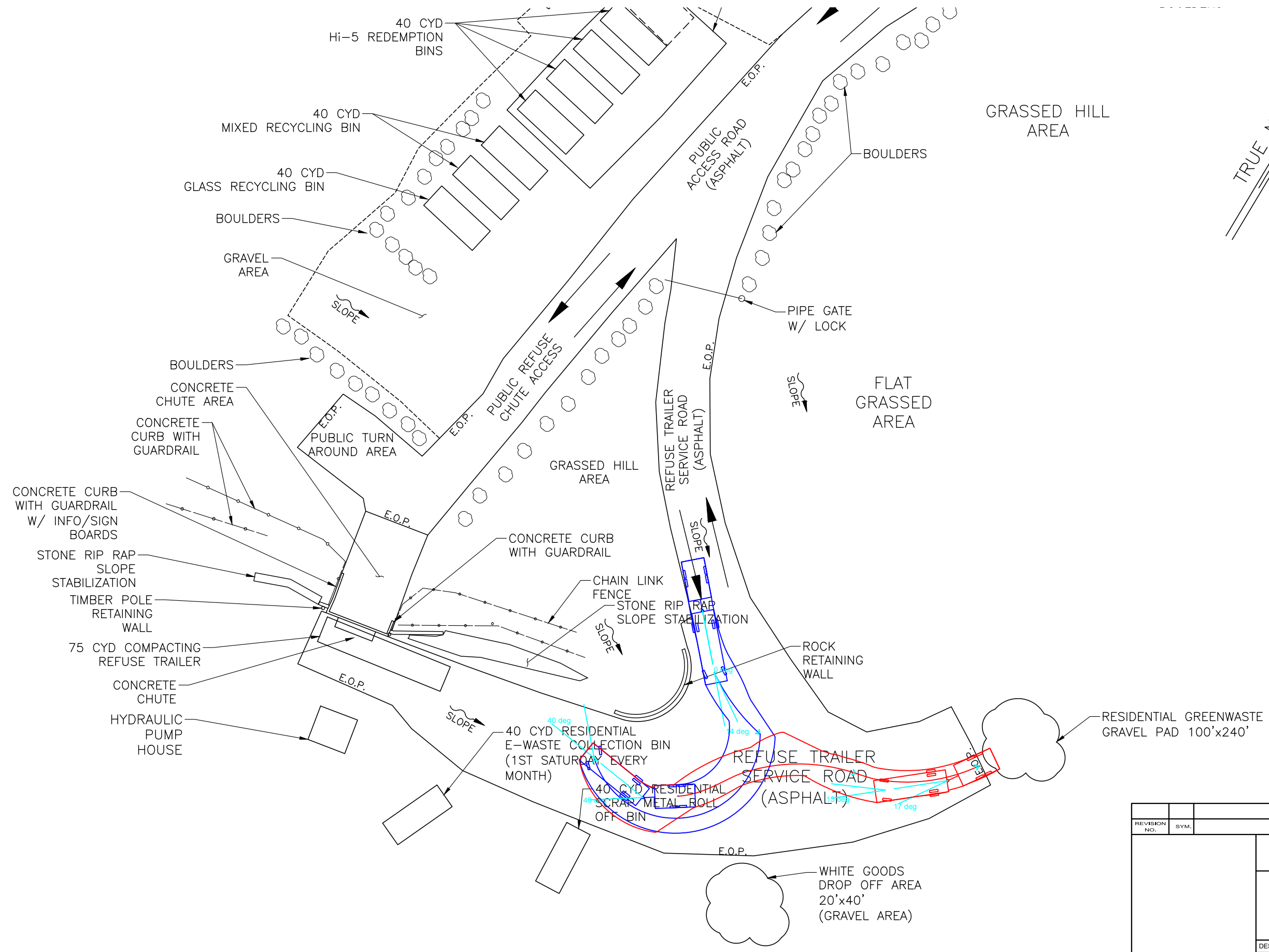
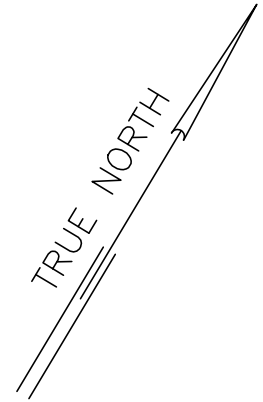
RESIDENTIAL SCRAP METAL BIN

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU RESIDENTIAL SCRAP METAL BIN					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-4



WHITE GOODS DROP OFF AREA

REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU WHITE GOODS DROP OFF AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-5



REVISION NO.	SYM.	DESCRIPTION	SHT./OF	DATE	APPROVED
COUNTY OF HAWAII DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SOLID WASTE DIVISION					
WAIOHINU RESIDENTIAL GREENWASTE AREA					
DESIGNED:			SUBMITTED:		
DRAWN:			DATE:		
CHECKED:			SCALE:		
APPROVED:			DRAWING NO.		
CHIEF ENGINEER			DATE		
					SK-6

RESIDENTIAL GREENWASTE AREA