



GENNERAL TUNNEL NOTES:

1. SITE PLAN FOR AQUEDUCT SECTION FROM BETHANY RESERVOIR PUMPING PLANT TO THE BETHANY RESERVOIR NOT SHOWN. SEE BETHANY RESERVOIR AQUEDUCT DRAWINGS FOR DETAILS.
2. ALL ELEVATIONS ARE FROM THE USGS NATIONAL ELEVATION DATASET (NED) AND ARE SUBJECT TO CHANGE BASED ON PROJECT SPECIFIC SURVEYS AND DATUM SELECTION.

PLAN
1"=7000'

TUNNELS AND SHAFTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0' 1"

CER-G-0010TN_W8X97000.dgn

DESIGNED	M ELLIS	APPROVAL RECOMMENDED	
DRAWN	A O'DONNELL	APPROVAL BY	A MURDOCK
CHECKED	S DUBNEWYCH		
REV	DATE	DESCRIPTION	SUB. APPD
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION

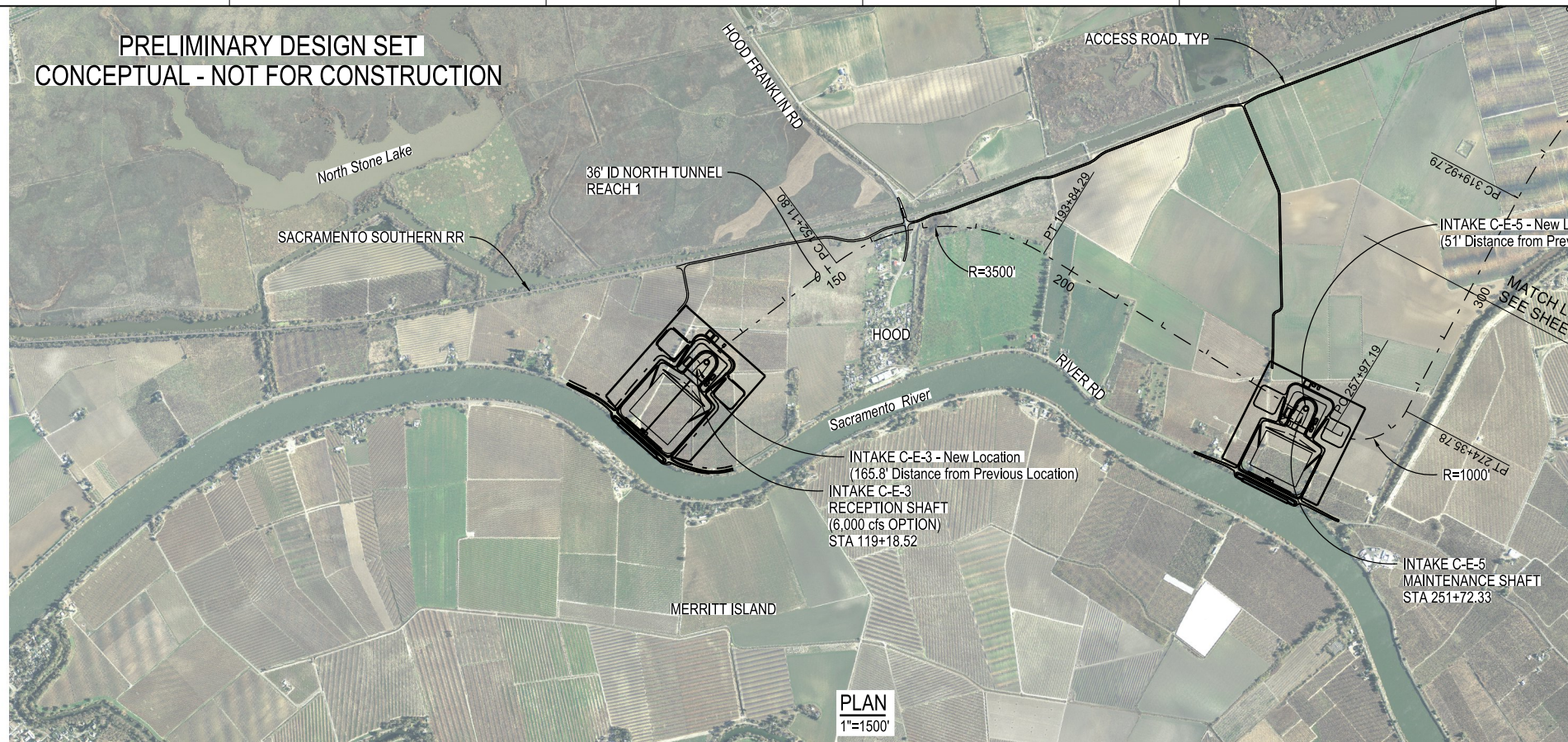


DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

OVERALL SITE MAP

PROJECT NO.	W8X97000
SHEET NO.	CER-G-0010TN
REV	SEQUENCE NO.
	49

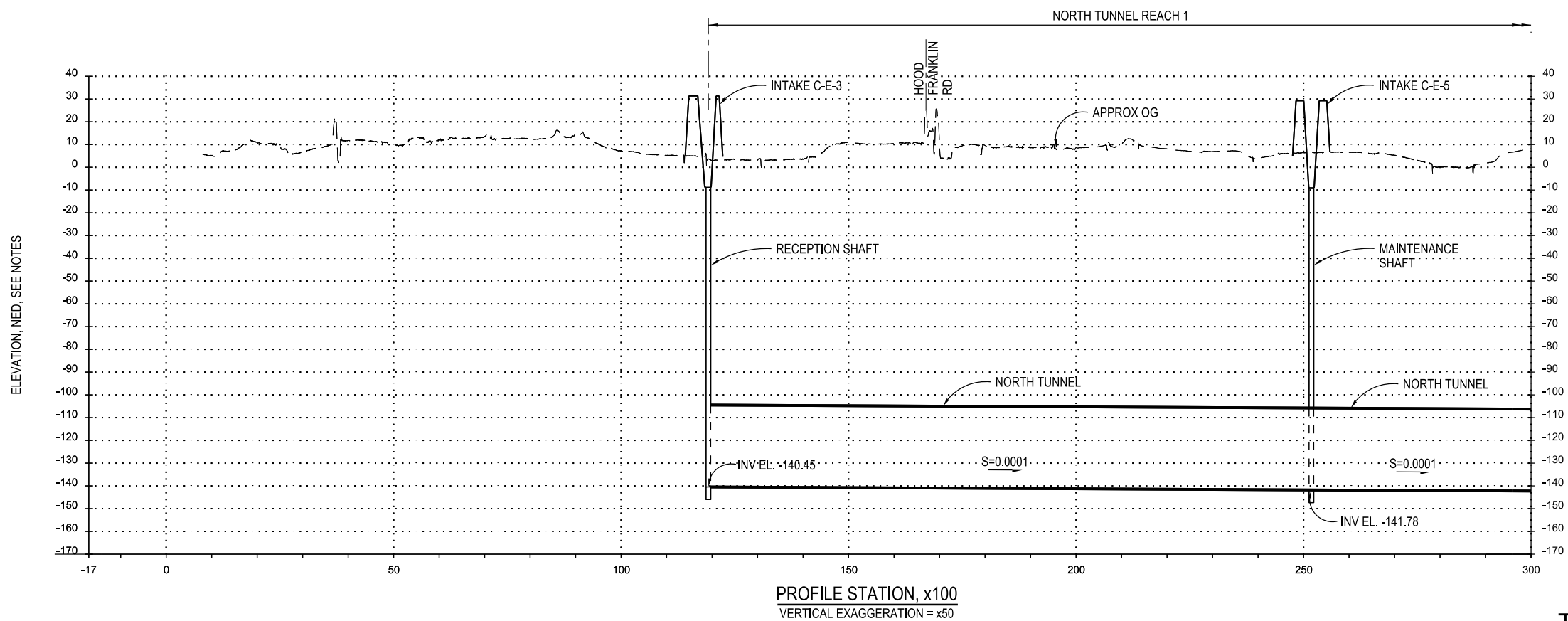
PRELIMINARY DESIGN SET
CONCEPTUAL - NOT FOR CONSTRUCTION



PLAN
1"=1500'

NOTES:

1. ALT 36" ID TUNNEL SHOWN FOR 6,000 cfs.
2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.



PROFILE STATION, x100
VERTICAL EXAGGERATION = x50

TUNNELS AND SHAFTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

REV	DATE	DESCRIPTION	SUB.	APPD
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION

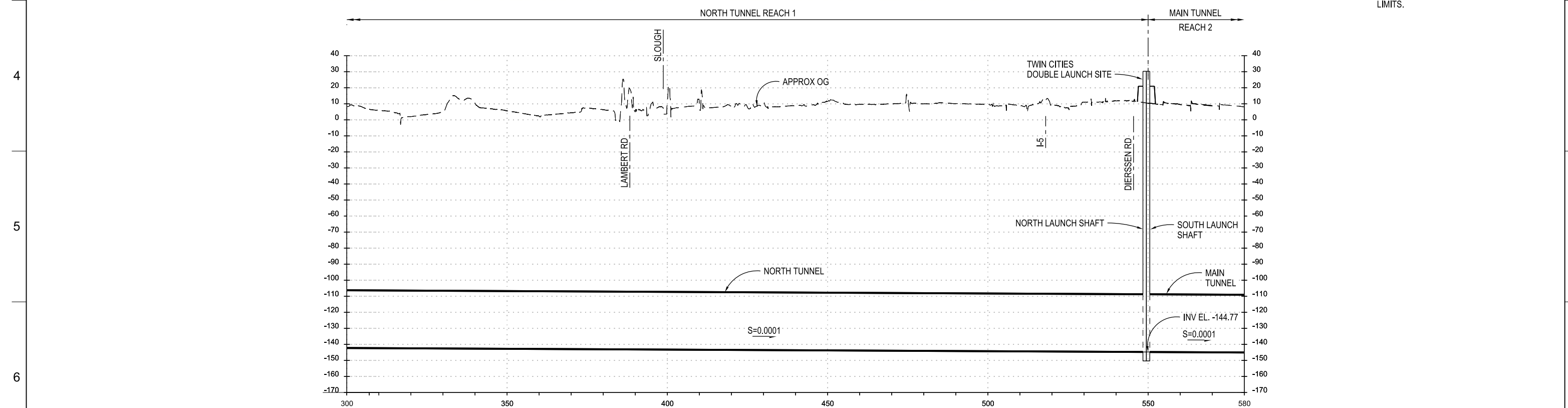
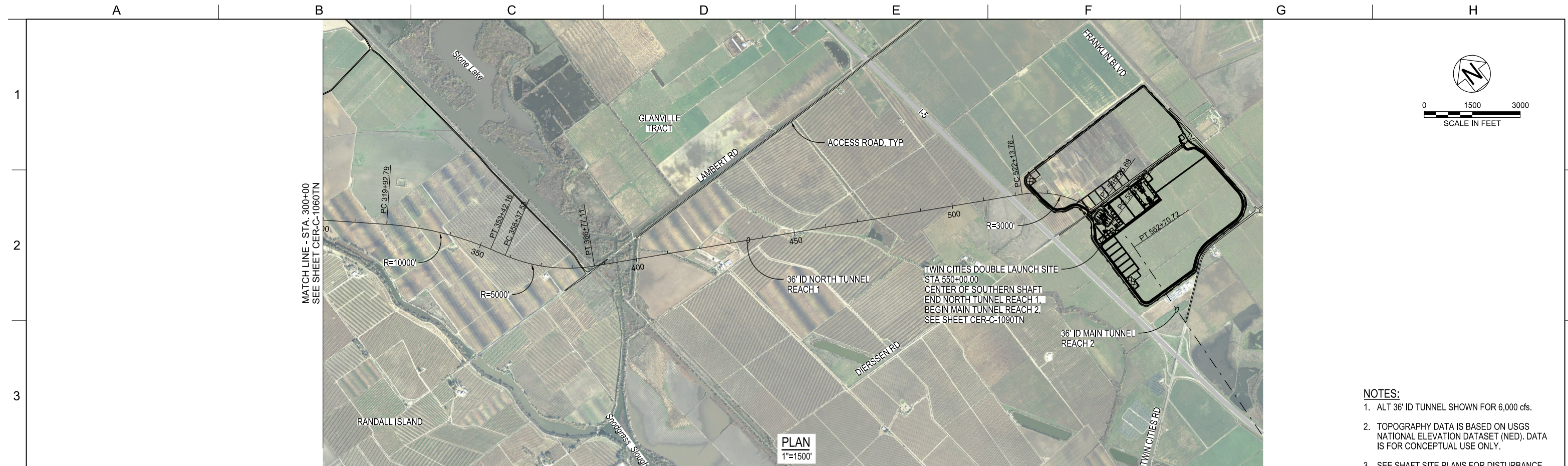


DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

NORTH TUNNEL
PLAN AND PROFILE - SHEET 1 OF 2

PROJECT NO. W8X97000
SHEET NO. CER-C-1060TN
REV SEQUENCE NO. 50

CER-C-1060TN_W8X97000.dgn



- NOTES:**
1. ALT 36' ID TUNNEL SHOWN FOR 6,000 cfs.
 2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
 3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.

CER-C-1070TN_W8X97000.dgn

REV	DATE	DESCRIPTION	SUB.	APPD
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

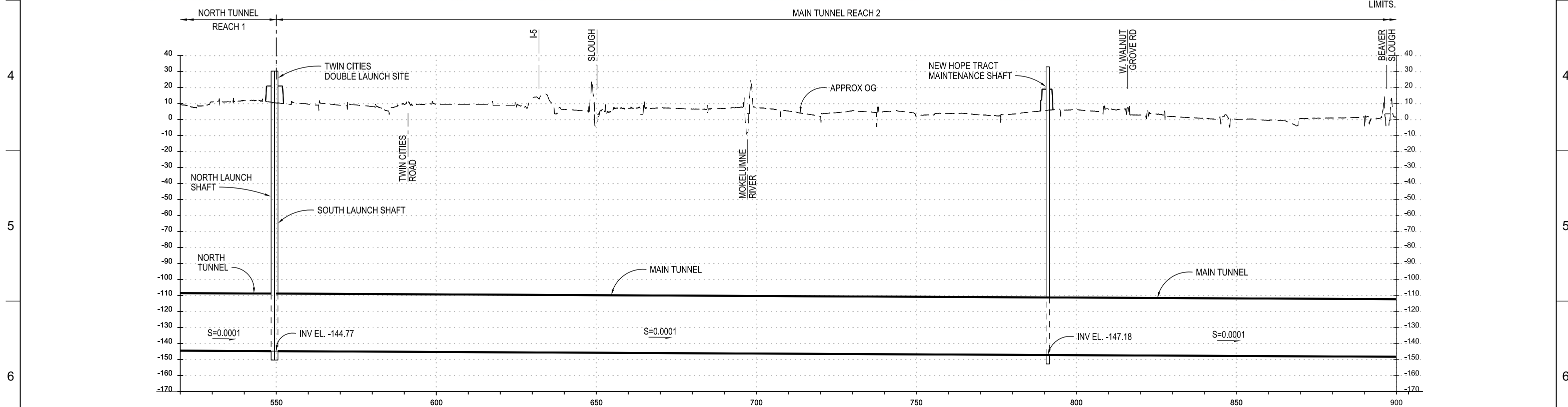
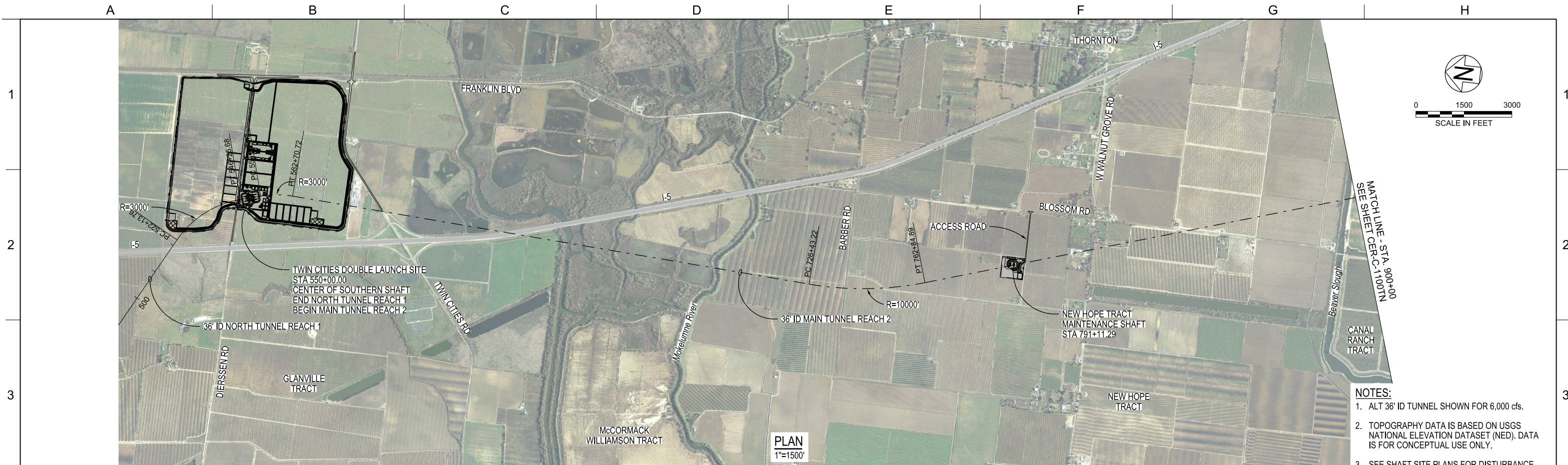
NOT FOR
CONSTRUCTION



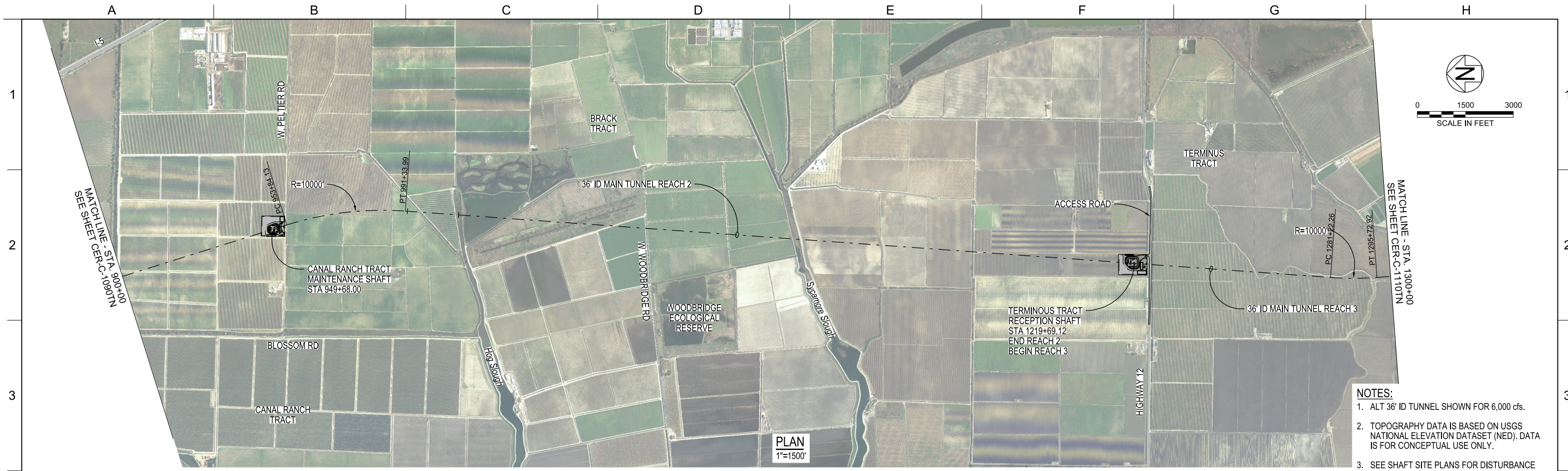
DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

NORTH TUNNEL
PLAN AND PROFILE - SHEET 2 OF 2

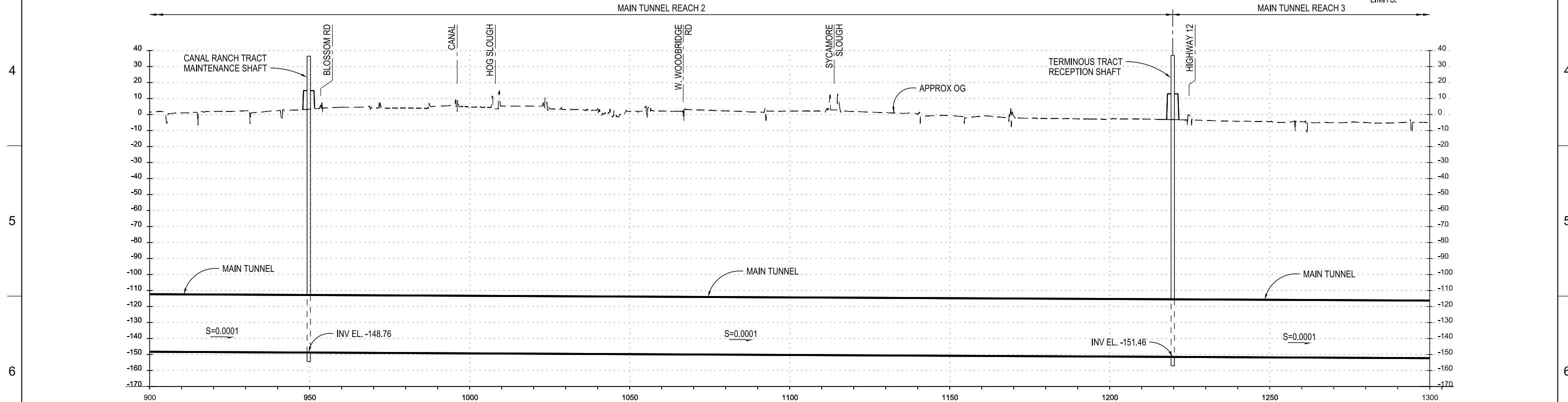
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1" 1"	
PROJECT NO. W8X97000	
SHEET NO. CER-C-1070TN	
REV	SEQUENCE NO. 51



VERIFIED SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0' 1"		TUNNELS AND SHAFTS		PROJECT NO. W8X97000	
DESIGNED M ELLIS		APPROVAL RECOMMENDED		SHEET NO. CER-C-1090TN	
DRAWN R WYNN		APPROVAL BY A MURDOCK		REV SEQUENCE NO. 52	
CHECKED S DUBNEWYCH		CONCEPT PLANNING DOCUMENT NOT FOR CONSTRUCTION		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT MAIN TUNNEL PLAN AND PROFILE SHEET 1 OF 5	
SEP 2024 DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		DESIGNED M ELLIS DRAWN R WYNN CHECKED S DUBNEWYCH		PROJECT NO. W8X97000 SHEET NO. CER-C-1090TN REV SEQUENCE NO. 52	



- NOTES:**
1. ALT 36" ID TUNNEL SHOWN FOR 6,000 cfs.
 2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
 3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.



PROFILE STATION, x100
VERTICAL EXAGGERATION = x50

TUNNELS AND SHAFTS

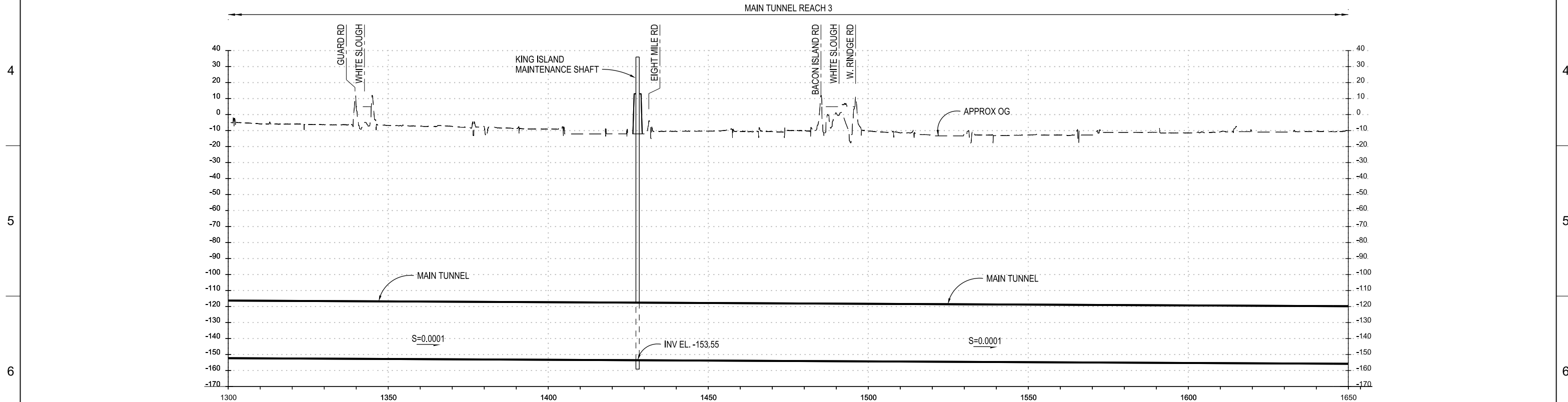
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1" 1"

DESIGNED M ELLIS		APPROVAL RECOMMENDED		CONCEPT PLANNING DOCUMENT		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT		PROJECT NO. W8X97000	
DRAWN R WYNN		APPROVAL BY A MURDOCK				NOT FOR CONSTRUCTION	MAIN TUNNEL PLAN AND PROFILE SHEET 2 OF 5		SHEET NO. CER-C-1100TN
CHECKED S DUBNEWYCH									REV
SEP 2024	DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS								



MATCH LINE - STA. 1300+00
SEE SHEET CER-C-1100TN

- NOTES:**
1. ALT 36" ID TUNNEL SHOWN FOR 6,000 cfs.
 2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
 3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.



CER-C-1110TN_W8X97000.dgn

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED	M ELLIS	APPROVAL RECOMMENDED
DRAWN	R WYNN	APPROVAL BY
CHECKED	STEVE DUBNEWYCH	A MURDOCK

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION

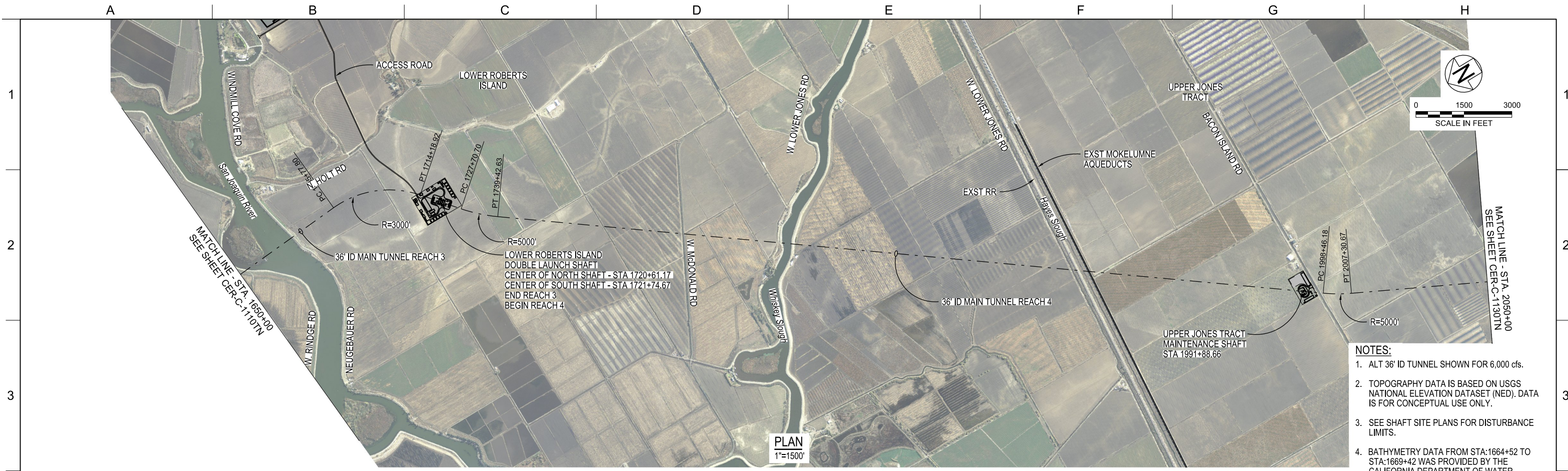


TUNNELS AND SHAFTS

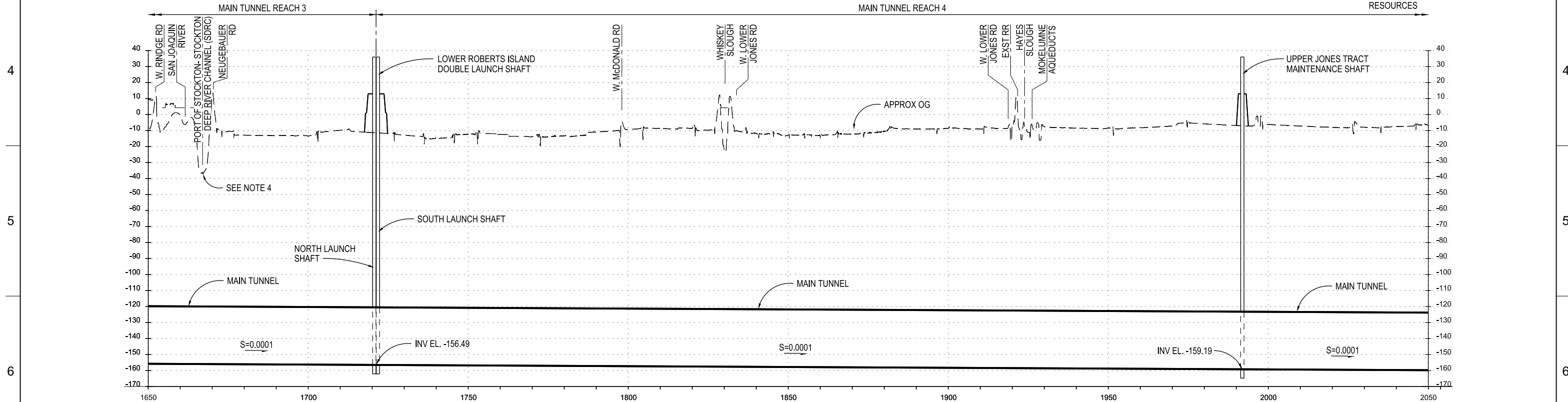
DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

MAIN TUNNEL PLAN AND PROFILE
SHEET 3 OF 5

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1110TN
REV	SEQUENCE NO.
	54



- NOTES:**
1. ALT 36" ID TUNNEL SHOWN FOR 6,000 cfs.
 2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
 3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.
 4. BATHYMETRY DATA FROM STA:1664+52 TO STA:1669+42 WAS PROVIDED BY THE CALIFORNIA DEPARTMENT OF WATER RESOURCES



PROFILE STATION, x100
VERTICAL EXAGGERATION = x50

TUNNELS AND SHAFTS

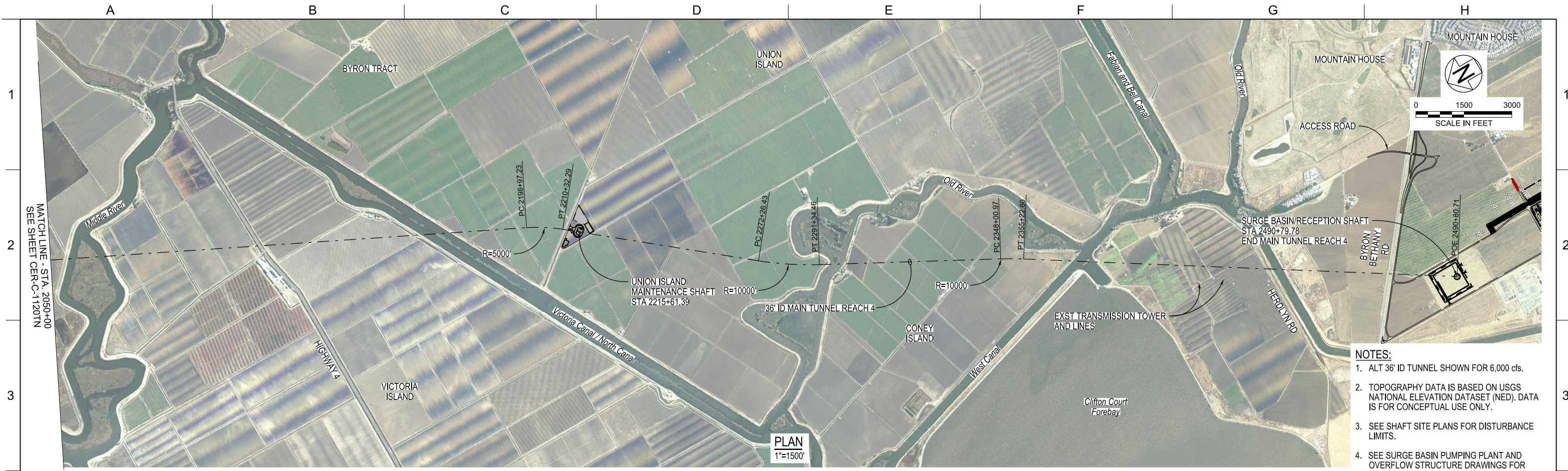
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1500 3000	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1120TN
REV	SEQUENCE NO.
	55

DESIGNED	M ELLIS	APPROVAL RECOMMENDED	
DRAWN	R WYNN	APPROVAL BY	A MURDOCK
CHECKED	STEVE DUBNEWYCH		

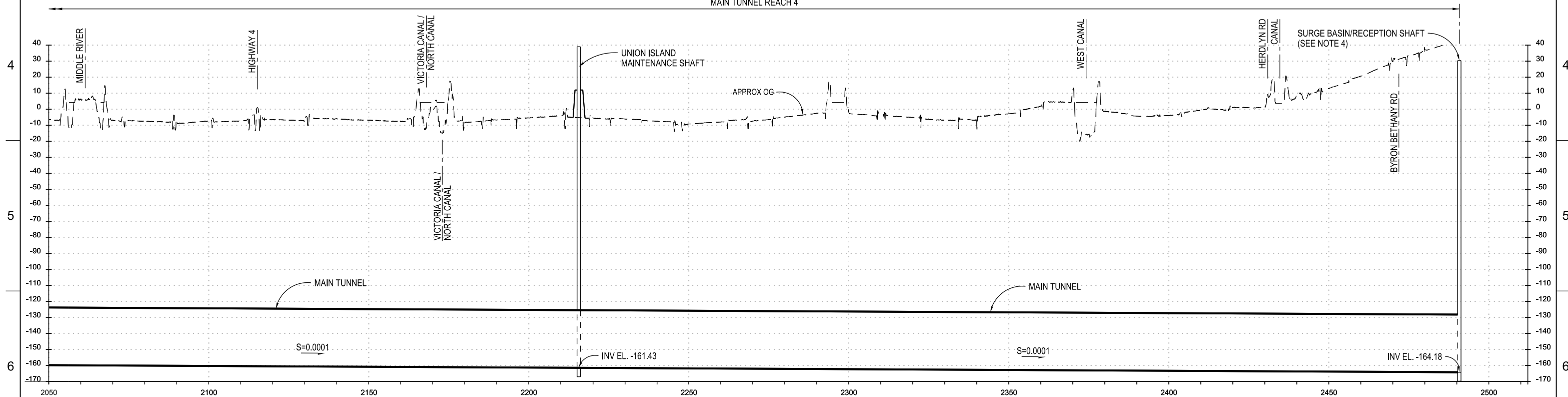
CONCEPT PLANNING DOCUMENT
NOT FOR CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT
MAIN TUNNEL PLAN AND PROFILE
SHEET 4 OF 5



- NOTES:**
1. ALT 36' ID TUNNEL SHOWN FOR 6,000 cfs.
 2. TOPOGRAPHY DATA IS BASED ON USGS NATIONAL ELEVATION DATASET (NED). DATA IS FOR CONCEPTUAL USE ONLY.
 3. SEE SHAFT SITE PLANS FOR DISTURBANCE LIMITS.
 4. SEE SURGE BASIN PUMPING PLANT AND OVERFLOW STRUCTURE DRAWINGS FOR RECEIVING SHAFT DETAILS.



PROFILE STATION, x100
VERTICAL EXAGGERATION = x50

TUNNELS AND SHAFTS

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED STEVE DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

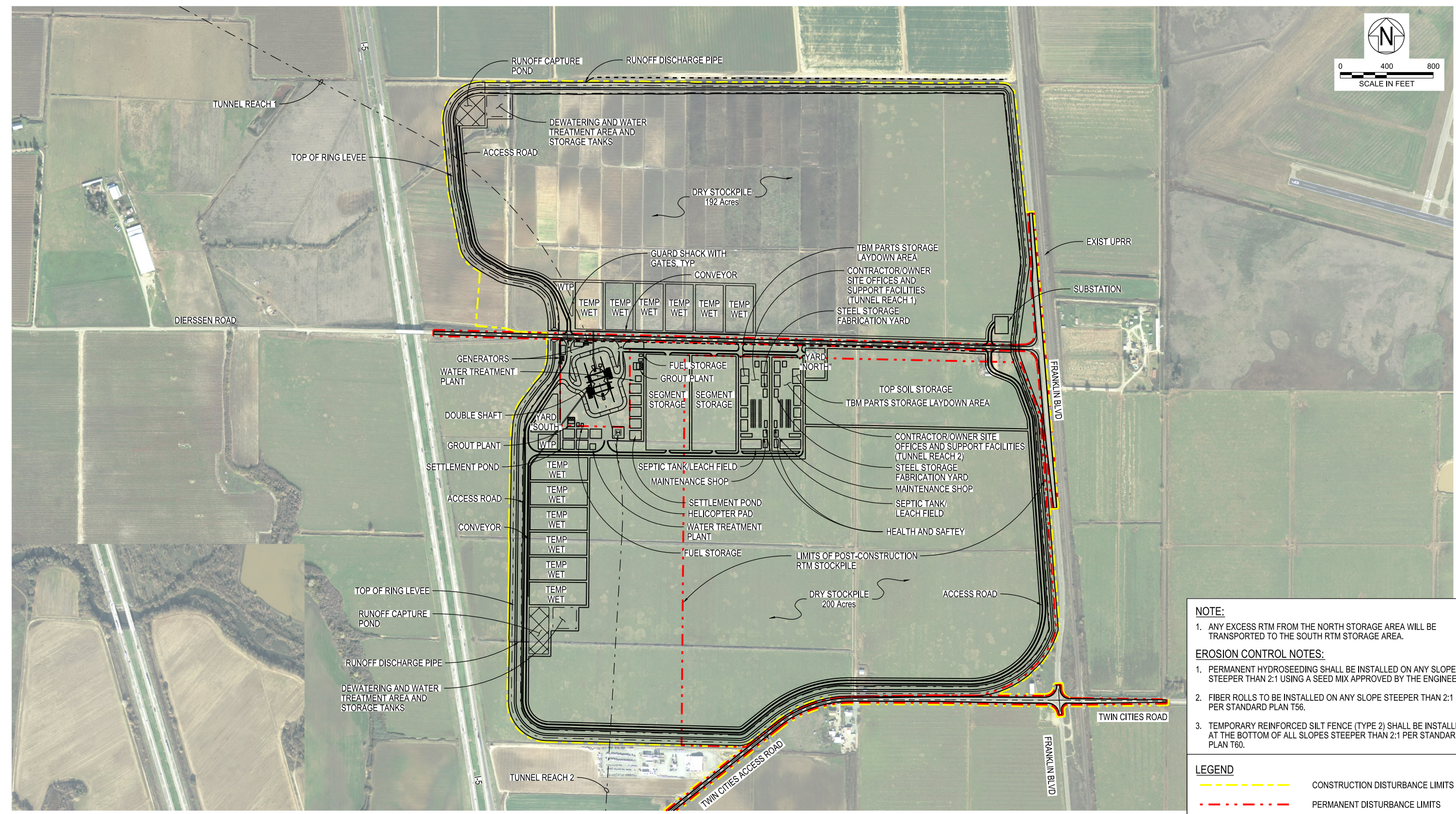
MAIN TUNNEL PLAN AND PROFILE
SHEET 5 OF 5

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
PROJECT NO. W8X97000
SHEET NO. CER-C-1130TN
REV SEQUENCE NO. 55

CER-C-1130TN_W8X97000.dgn

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NOTE:

- ANY EXCESS RTM FROM THE NORTH STORAGE AREA WILL BE TRANSPORTED TO THE SOUTH RTM STORAGE AREA.

EROSION CONTROL NOTES:

- PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
- FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
- TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

- CONSTRUCTION DISTURBANCE LIMITS
- PERMANENT DISTURBANCE LIMITS

PLAN
1"=400'

TUNNELS AND SHAFTS

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

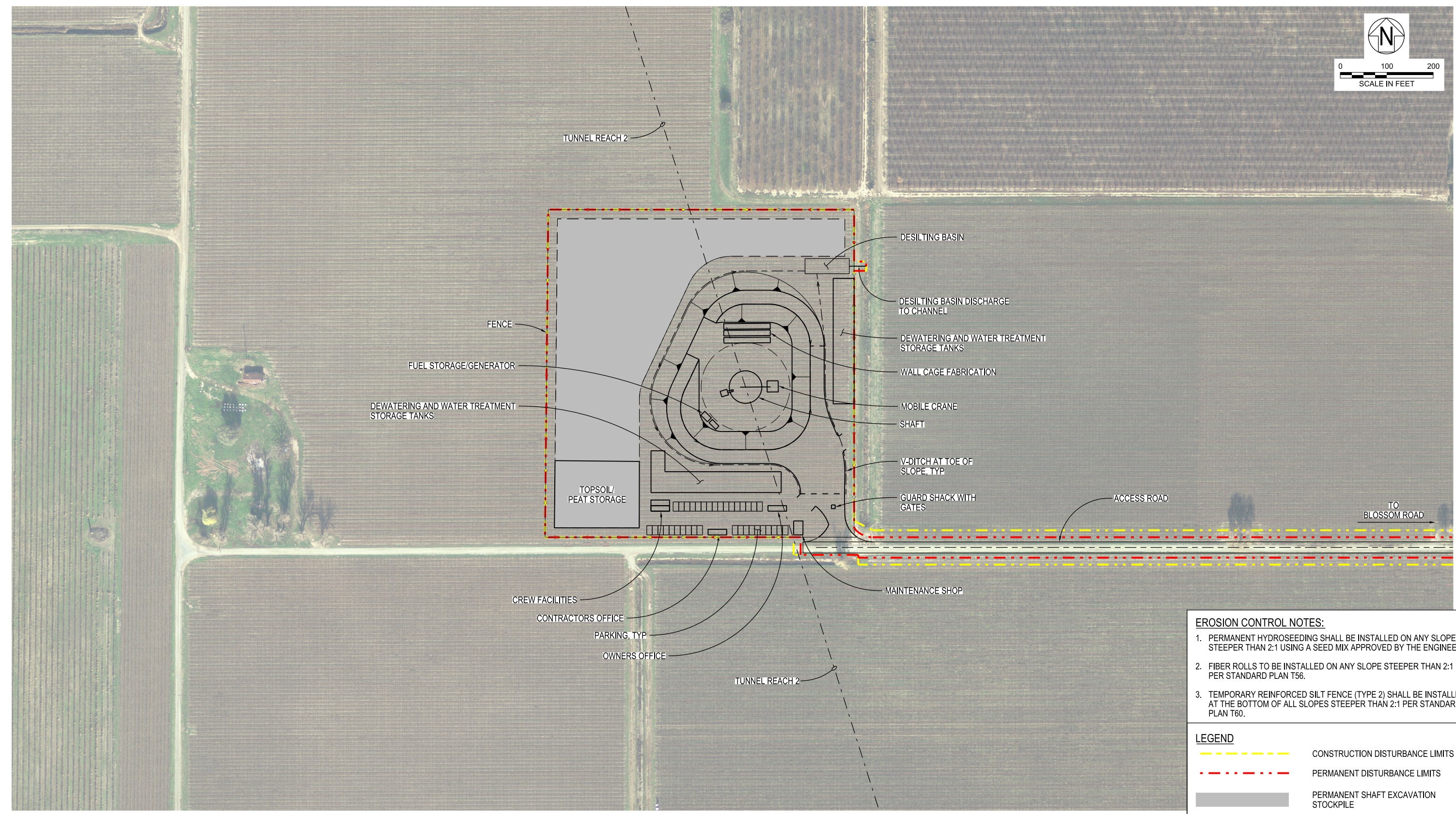
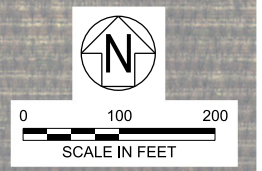
**TWIN CITIES DBL LAUNCH SHAFT SITE PLAN
DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 400 800	
PROJECT NO. W8X97000	
SHEET NO. CER-C-1170TN	
REV	SEQUENCE NO. 57

CER-C-1170TN_W8X97000.dgn

A B C D E F G H

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- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

**NEW HOPE TRACT MAINTENANCE SHAFT SITE PLAN
DISTURBANCE LIMITS**

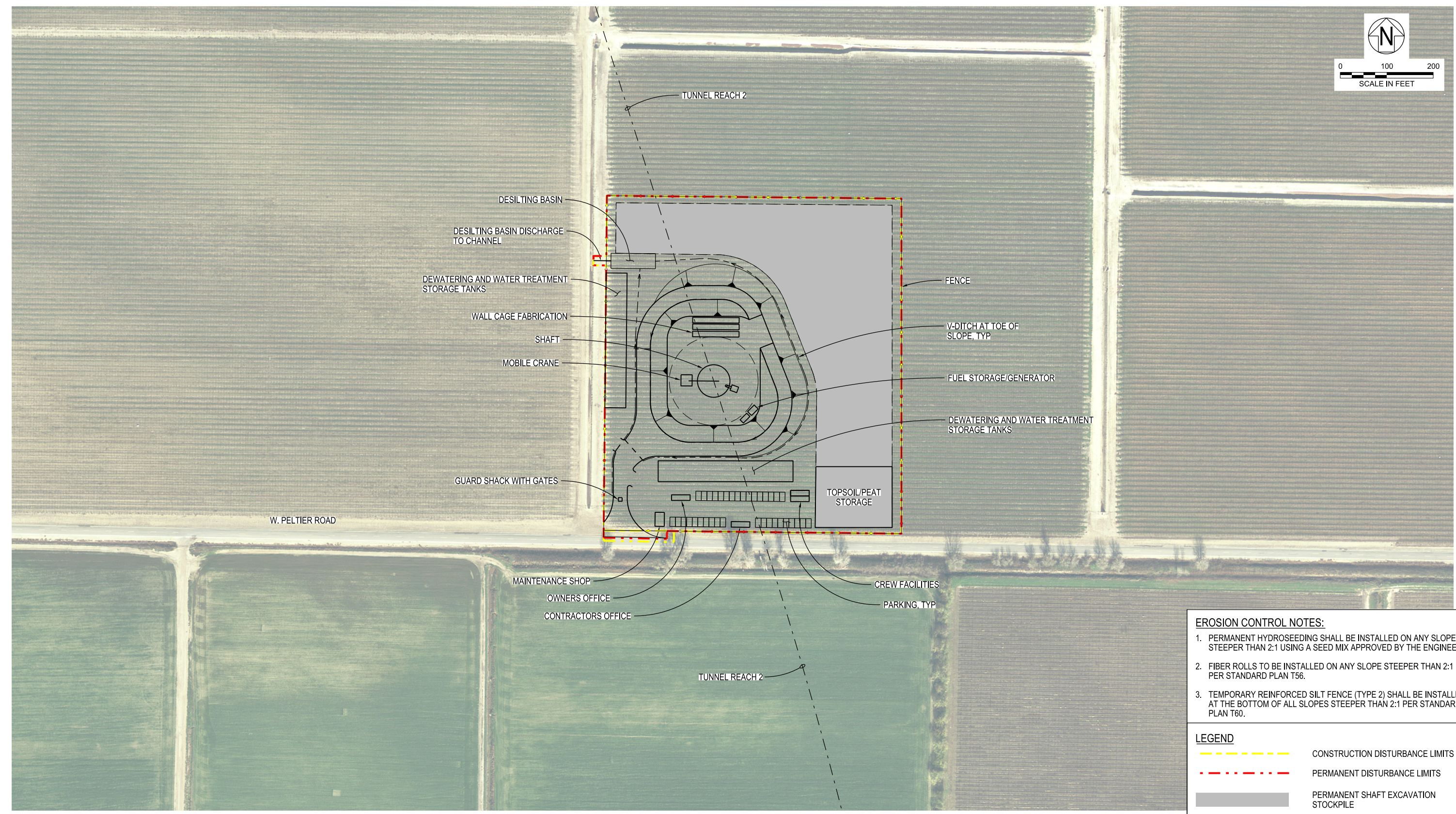
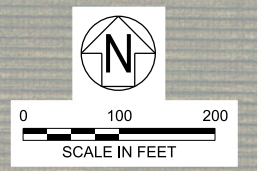
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0' 1"	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1180TN
REV	SEQUENCE NO.
	58

CER-C-1180TN_W8X97000.dgn

A B C D E F G H

A B C D E F G H

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DESILTING BASIN
 DESILTING BASIN DISCHARGE TO CHANNEL
 DEWATERING AND WATER TREATMENT STORAGE TANKS
 WALL CAGE FABRICATION
 SHAFT
 MOBILE CRANE
 GUARD SHACK WITH GATES
 MAINTENANCE SHOP
 OWNERS OFFICE
 CONTRACTORS OFFICE
 TUNNEL REACH 2
 FENCE
 V-DITCH AT TOE OF SLOPE, TYP
 FUEL STORAGE/GENERATOR
 DEWATERING AND WATER TREATMENT STORAGE TANKS
 TOPSOIL/PEAT STORAGE
 CREW FACILITIES
 PARKING, TYP

W. PELTIER ROAD

- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT PLANNING DOCUMENT
NOT FOR CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT
**CANAL RANCH TRACT MAINTENANCE SHAFT
SITE PLAN DISTURBANCE LIMITS**

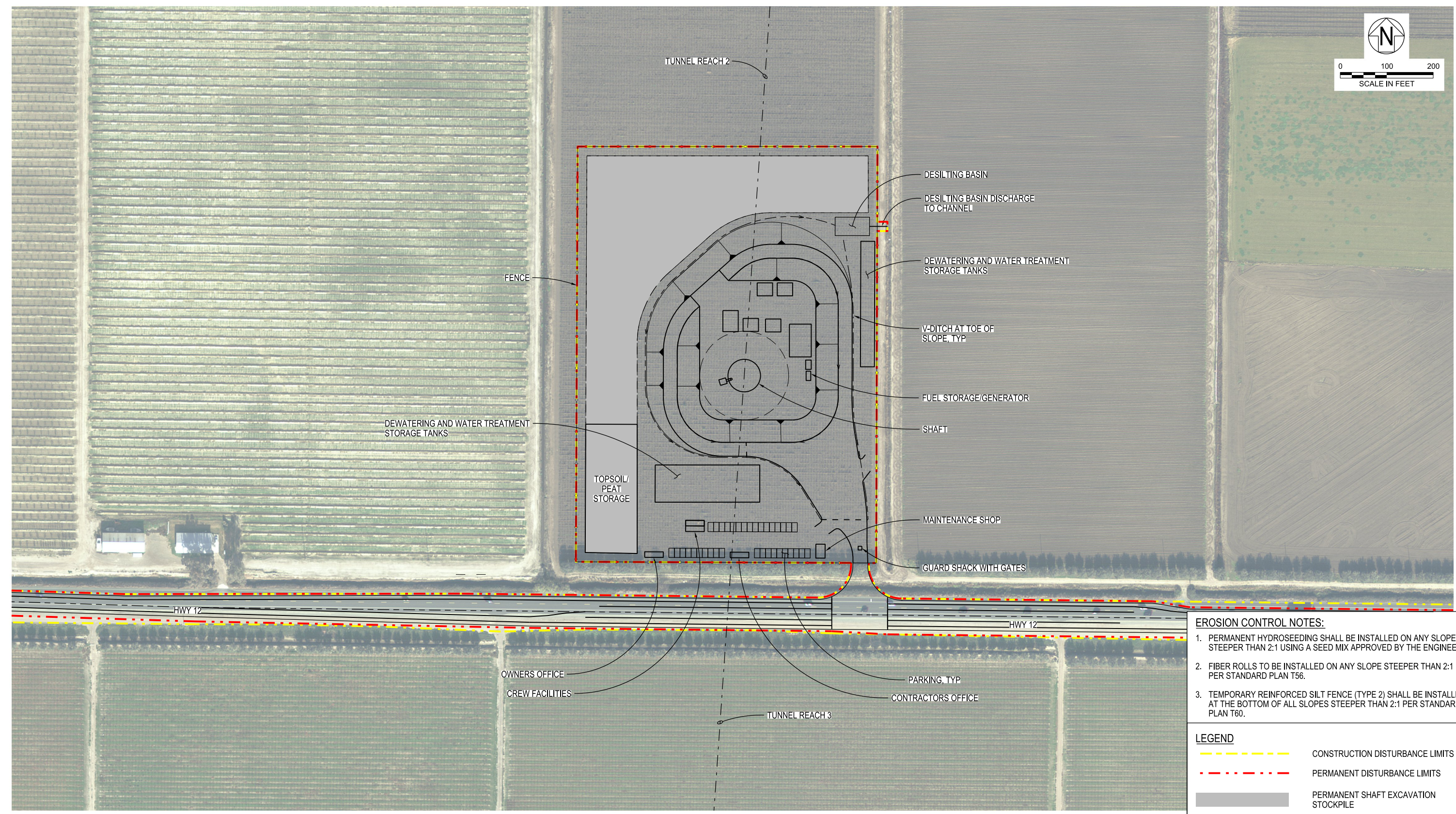
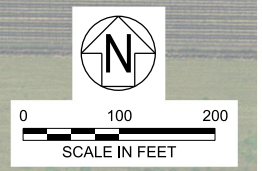
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PROJECT NO.	W8X97000
SHEET NO.	CER-C-1190TN
REV	SEQUENCE NO.
	59

CER-C-1190TN_W8X97000.dgn

A B C D E F G H

A B C D E F G H

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- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



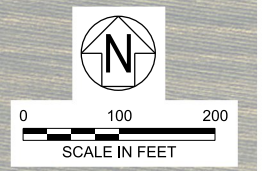
DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

**TERMINOUS TRACT RECEPTION SHAFT SITE PLAN
DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
PROJECT NO. W8X97000	
SHEET NO. CER-C-1200TN	
REV	SEQUENCE NO. 60

CER-C-1200TN_W8X97000.dgn

A B C D E F G H



- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

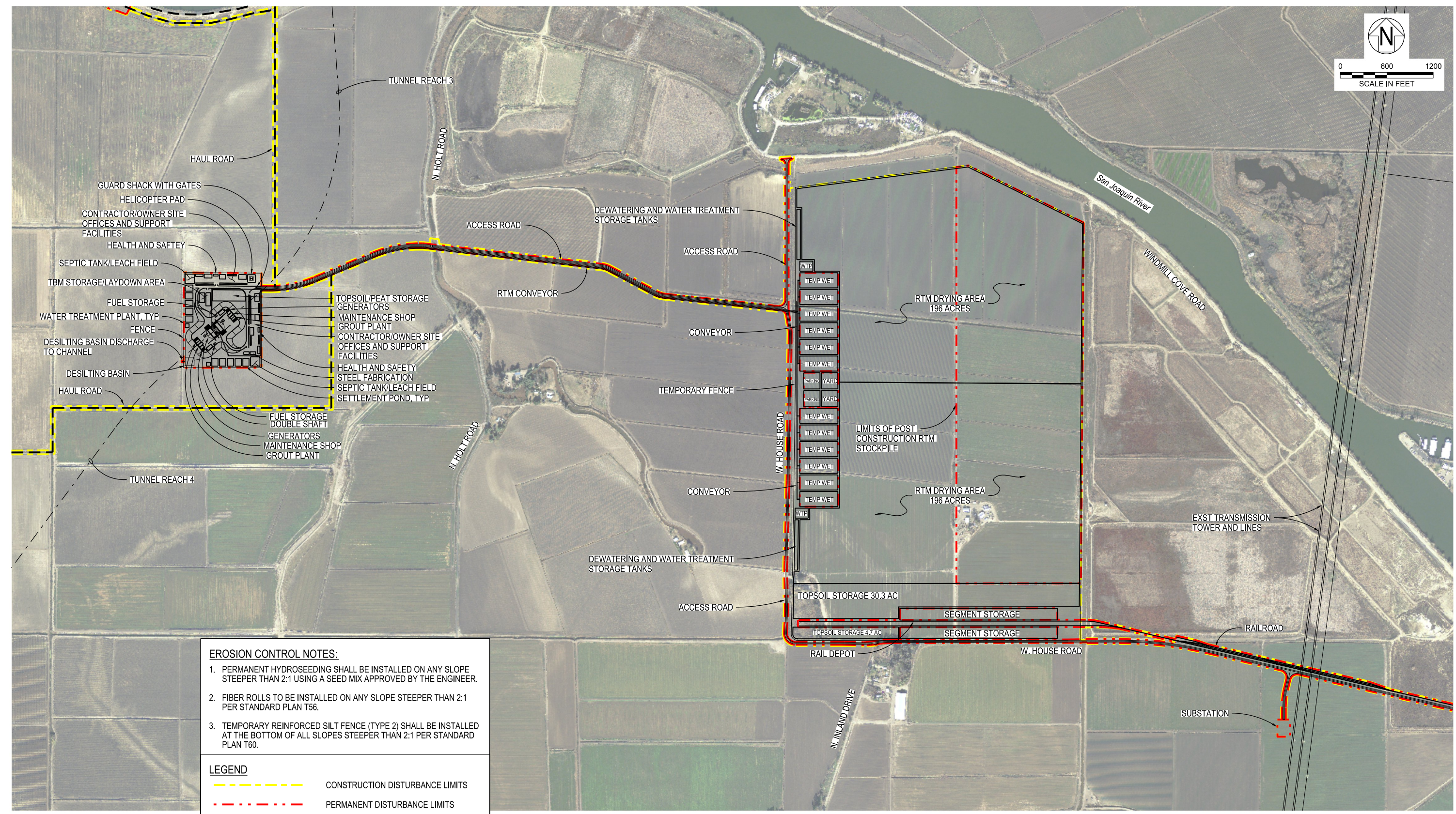
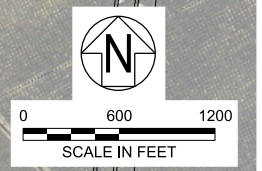
**KING ISLAND MAINTENANCE SHAFT SITE PLAN
DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0' 1"	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1210TN
REV	SEQUENCE NO.
	61

CER-C-1210TN_W8X97000.dgn

A B C D E F G H

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EROSION CONTROL NOTES:

- PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
- FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
- TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

- CONSTRUCTION DISTURBANCE LIMITS
- PERMANENT DISTURBANCE LIMITS

PLAN
1"=600'

TUNNELS AND SHAFTS

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT PLANNING DOCUMENT
NOT FOR CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

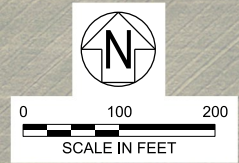
**LOWER ROBERTS IS. DOUBLE LAUNCH SITE PLAN
DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 600 1200	
PROJECT NO. W8X97000	
SHEET NO. CER-C-1220TN	
REV	SEQUENCE NO. 62

CER-C-1220TN_W8X97000.dgn

PLOT DATE:10/7/2024 PLOT TIME:2:59:30 PM

A B C D E F G H



- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024	DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS			

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

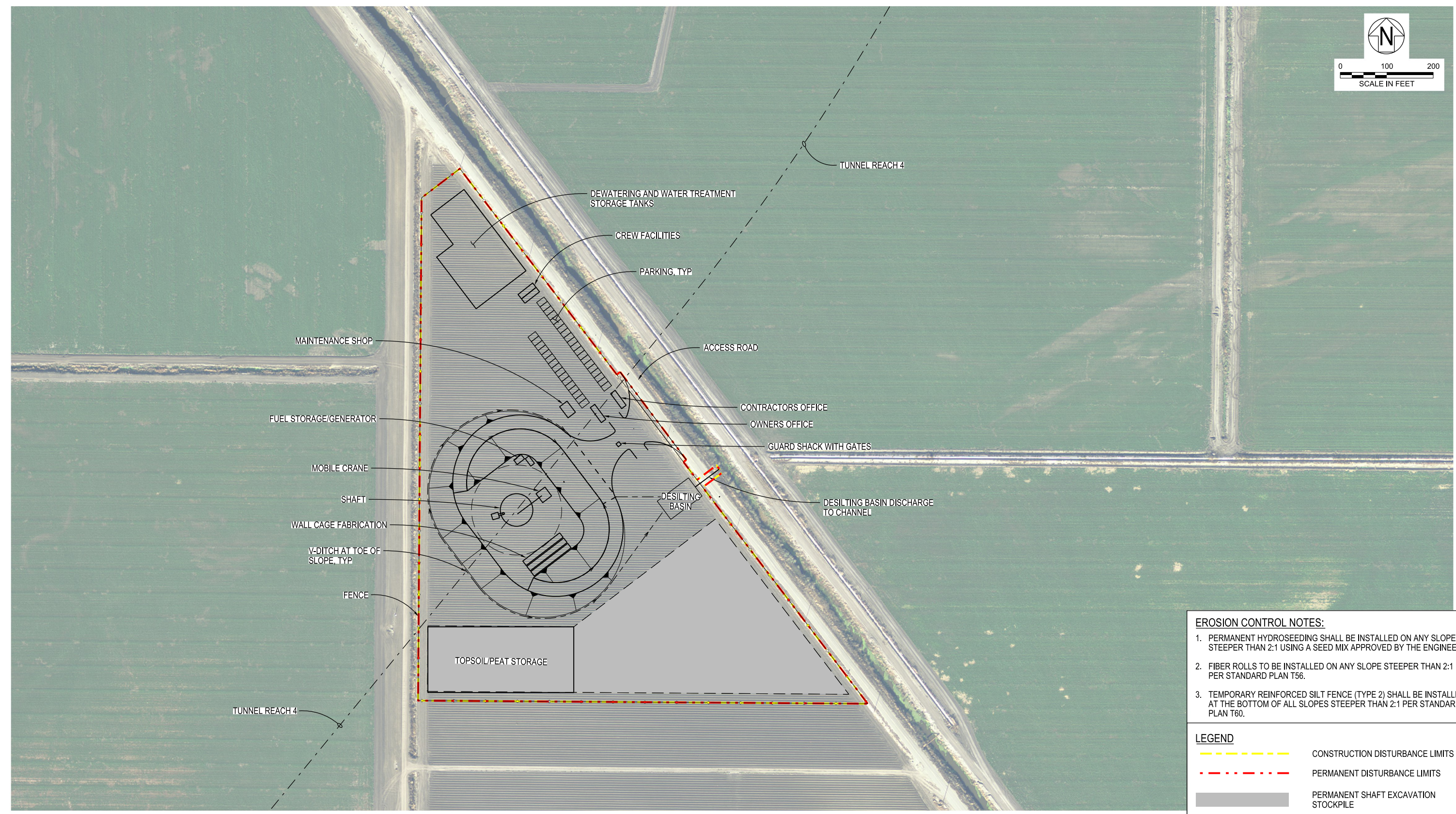
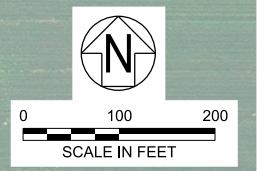
**UPPER JONES TRACT MAINTENANCE SHAFT
SITE PLAN DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1 2	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1230TN
REV	SEQUENCE NO.
	63

CER-C-1230TN_W8X97000.dgn

A B C D E F G H

1
2
3
4
5
6



- EROSION CONTROL NOTES:**
1. PERMANENT HYDROSEEDING SHALL BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 USING A SEED MIX APPROVED BY THE ENGINEER.
 2. FIBER ROLLS TO BE INSTALLED ON ANY SLOPE STEEPER THAN 2:1 PER STANDARD PLAN T56.
 3. TEMPORARY REINFORCED SILT FENCE (TYPE 2) SHALL BE INSTALLED AT THE BOTTOM OF ALL SLOPES STEEPER THAN 2:1 PER STANDARD PLAN T60.

LEGEND

	CONSTRUCTION DISTURBANCE LIMITS
	PERMANENT DISTURBANCE LIMITS
	PERMANENT SHAFT EXCAVATION STOCKPILE

PLAN
1"=100'

TUNNELS AND SHAFTS

REV	DATE	DESCRIPTION	SUB.	APPD
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R WYNN	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT
PLANNING
DOCUMENT

NOT FOR
CONSTRUCTION



DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

**UNION ISLAND MAINTENANCE SHAFT SITE PLAN
DISTURBANCE LIMITS**

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"	
PROJECT NO.	W8X97000
SHEET NO.	CER-C-1240TN
REV	SEQUENCE NO.
	64

CER-C-1240TN_W8X97000.dgn

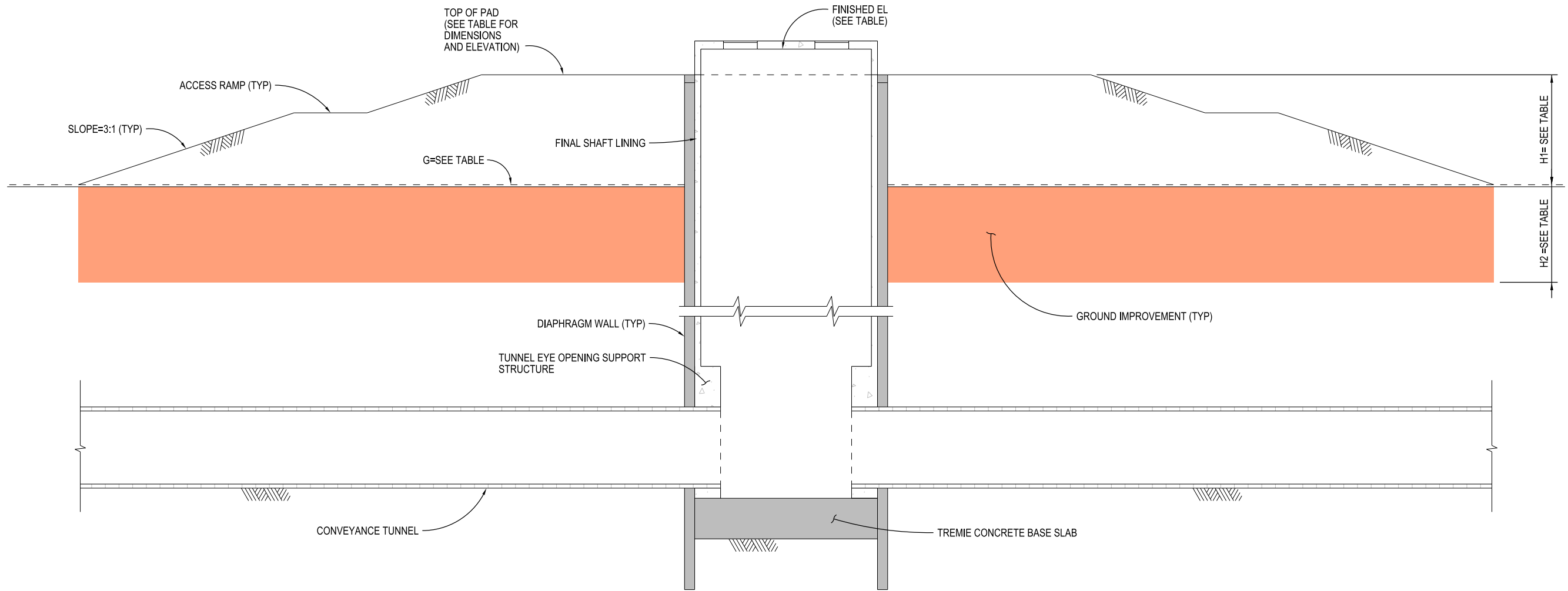
A B C D E F G H

NOTES:

- CROSS SECTION SHOWN IS A GENERAL CONCEPT AND DOES NOT REFLECT DIMENSIONS SHOWN FOR EACH SHAFT LOCATION DRAWING.
- SECTION SHOULD NOT BE USED TO CALCULATE VOLUMES.
- AREA OF GROUND TREATMENT WOULD BE THE SAME AS THE PAD LEVEL AREA.
- FOR SHAFT PAD DETAILS AT INTAKES STRUCTURES, SURGE BASIN PUMPING PLANT AND DISCHARGE STRUCTURE, REFER TO RELEVANT FACILITY DRAWINGS.

SHAFT LOCATION	EXISTING GROUND LEVEL (EL)	PAD LEVEL TOP OF D'WALL (EL)	PAD HEIGHT (ABOVE GL) (FT)	DEPTH OF GROUND IMPROVEMENT* (FT)	PAD SITE WIDTH (FT)	PAD SITE LENGTH (FT)	FINISHED ELEVATION (FT)
	G	X	H1	H2	W	L	EL
TWIN CITIES (2)	10	21	11	0	300	500	30.30
NEW HOPE TRACT SHAFT	6	19	13	40	200	235	33.00
CANAL RANCH RD SHAFT	3	15	12	20	200	235	36.50
TERMINOUS TRACT SHAFT	-3	13	16	20	250	300	37.00
KING ISLAND SHAFT	-12	13	25	15	200	235	36.00
LOWER ROBERTS ISLAND SHAFT (2)	-11	13	24	30	300	650	36.00
UPPER JONES TRACT SHAFT	-7	13	20	15	200	235	37.00
UNION ISLAND	-6	12	18	30	200	235	39.00
SURGE BASIN/RECEPTION SHAFT	40	40	0	0	-	-	7.0

* GROUND IMPROVEMENT DEPTHS ARE PRELIMINARY PENDING FUTURE GEOTECHNICAL EXPLORATION AND TESTING.



SHAFT PAD SECTION - WET EXCAVATION WITH DIAPHRAGM WALLS (SINGLE SHAFT SECTION SHOWN)

NOT TO SCALE

TUNNELS AND SHAFTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

REV	DATE	DESCRIPTION	SUB.	APPD.
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R TORADO	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT PLANNING DOCUMENT
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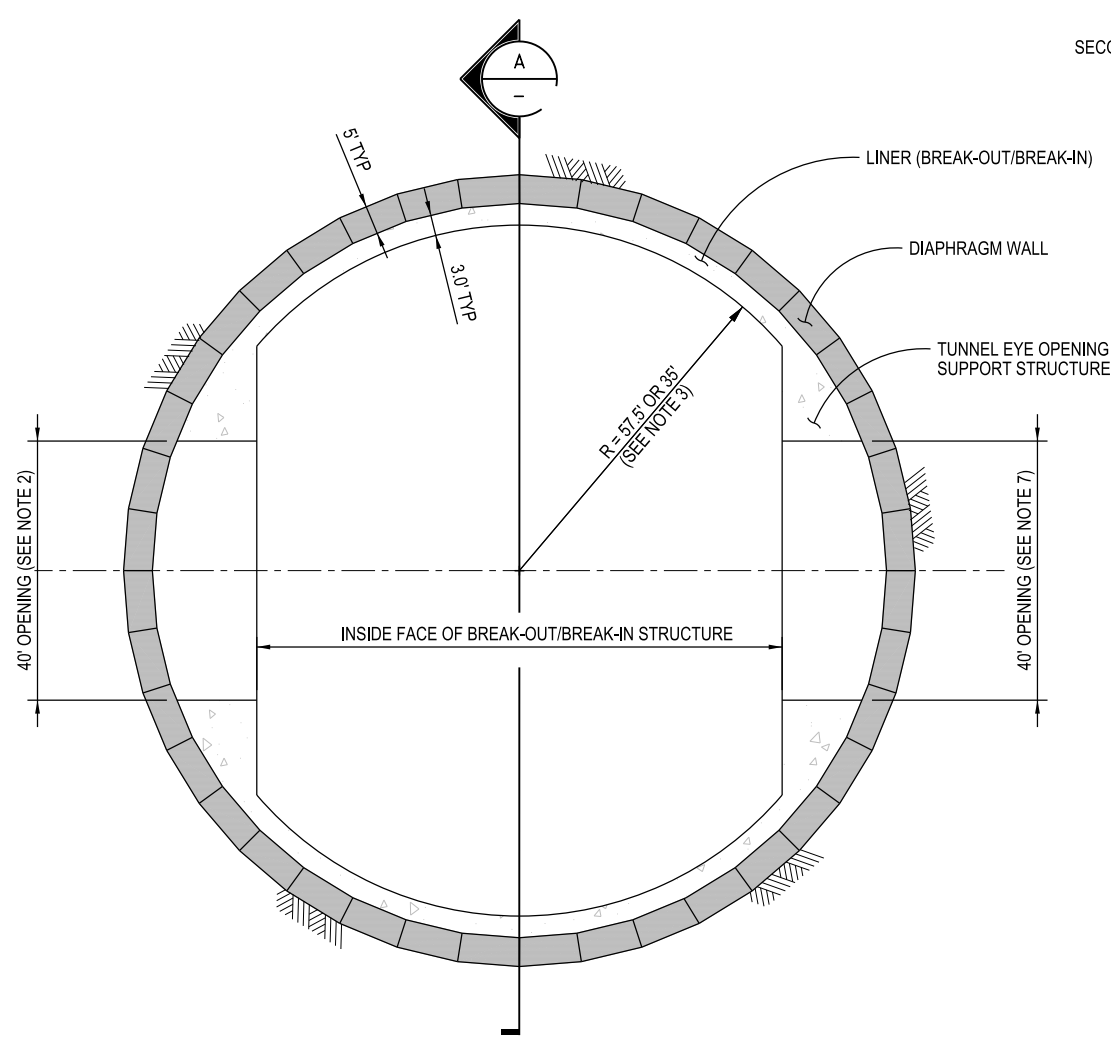


DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

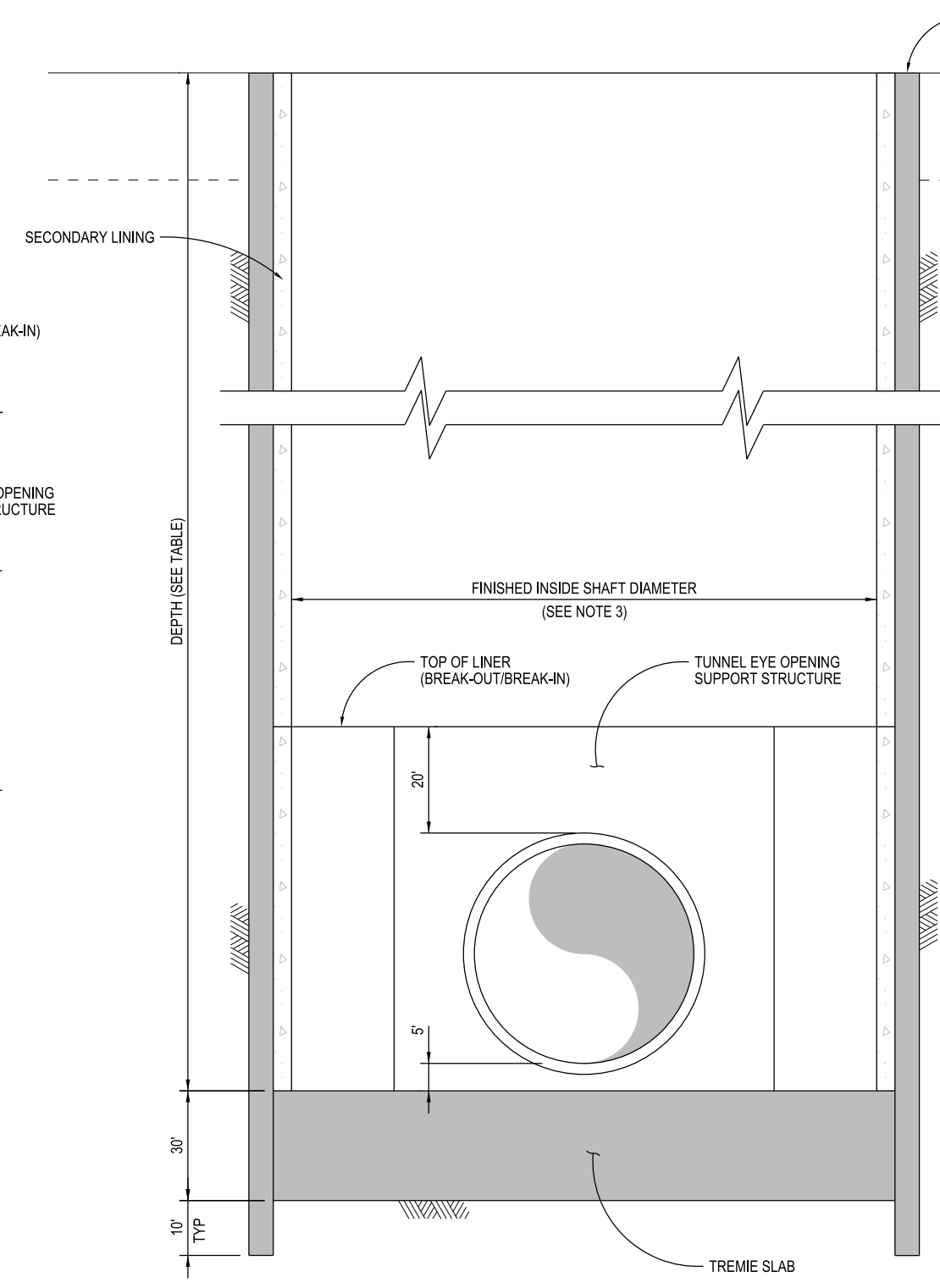
**SHAFT PAD SECTION
WET EXCAVATION WITH D-WALL**

PROJECT NO. W8X97000
SHEET NO. CER-S-5160TN
REV SEQUENCE NO. 65

CER-S-5160TN_W8X97000.dgn



1 **SHAFT PLAN**
NOT TO SCALE



A **SECTION**
NOT TO SCALE

NOTES:

1. THE CONFIGURATION SHOWN HEREON FOR THE LAUNCH AND RECEPTION SHAFTS IS APPLICABLE FOR THE MAIN TUNNELS.
2. THE DIMENSIONS SHOWN HEREON ARE APPLICABLE FOR THE SINGLE DRIVE LAUNCH AND RECEPTION/MAINTENANCE SHAFTS WITH AN INSIDE DIAMETER OF 115 FEET AND 70 FEET RESPECTIVELY. ADJUSTMENTS TO THESE DIMENSIONS SHOULD BE MADE FOR SMALLER INSIDE DIAMETERS.
3. THE INSIDE DIAMETER OF THE SHAFTS IS MEASURED FROM THE INSIDE FACE OF THE LINER. THE ANTICIPATED INSIDE DIAMETERS OF THE VARIOUS SHAFT TYPES ARE PROVIDED IN TABLE.
4. SHAFT PAD/COVER NOT SHOWN FOR CLARITY. FINISHED GRADE LEVELS SHOWN ON DRAWING CER-S-5160TN.
5. SEE INTAKE DRAWINGS FOR SHAFT DETAILS AT INTAKES 3 AND 5.
6. FINISHED INSIDE DIAMETERS SHOWN BASED ON 6,000 CFS OPTION.
7. TUNNEL EYE OPENING SIZE WOULD MATCH EXTERNAL SIZE OF TBM PLUS GAGE CUTTER AND CLEARANCE REQUIREMENTS.
8. SEE SHEET NO. CER-S-5180TN FOR DOUBLE SHAFT DIMENSIONS.

SHAFT LOCATION	SHAFT TYPE	FINISHED INSIDE DIA. (FEET)	DEPTH* (FEET)
TWIN CITIES	DOUBLE LAUNCH	SEE NOTE 8	SEE NOTE 8
NEW HOPE TRACT	MAINTENANCE	70	171
CANAL RANCH TRACT	MAINTENANCE	70	169
TERMINOUS TRACT	RECEIVING	70	169
KING ISLAND	MAINTENANCE	70	172
LOWER ROBERTS ISLAND	DOUBLE LAUNCH	SEE NOTE 8	SEE NOTE 8
UPPER JONES TRACT	MAINTENANCE	70	177
UNION ISLAND	MAINTENANCE	70	178
SURGE BASIN**	RECEIVING	120	209***

*SHAFT DEPTH DOES NOT INCLUDE COLLAR HEIGHT ABOVE CONSTRUCTION PAD.
 **SEE SURGE BASIN PUMPING PLANT AND OVERFLOW STRUCTURE DRAWINGS FOR RECEIVING SHAFT DETAILS
 ***DEPTH FROM GROUND SURFACE PRIOR TO BEING MODIFIED

TUNNELS AND SHAFTS

DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT

**RECEPTION AND
MAINTENANCE SHAFTS - PLAN AND SECTION**

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1'

PROJECT NO.	W8X97000
SHEET NO.	CER-S-5170TN
REV	SEQUENCE NO.
	66

CER-S-5170TN_W8X97000.dgn

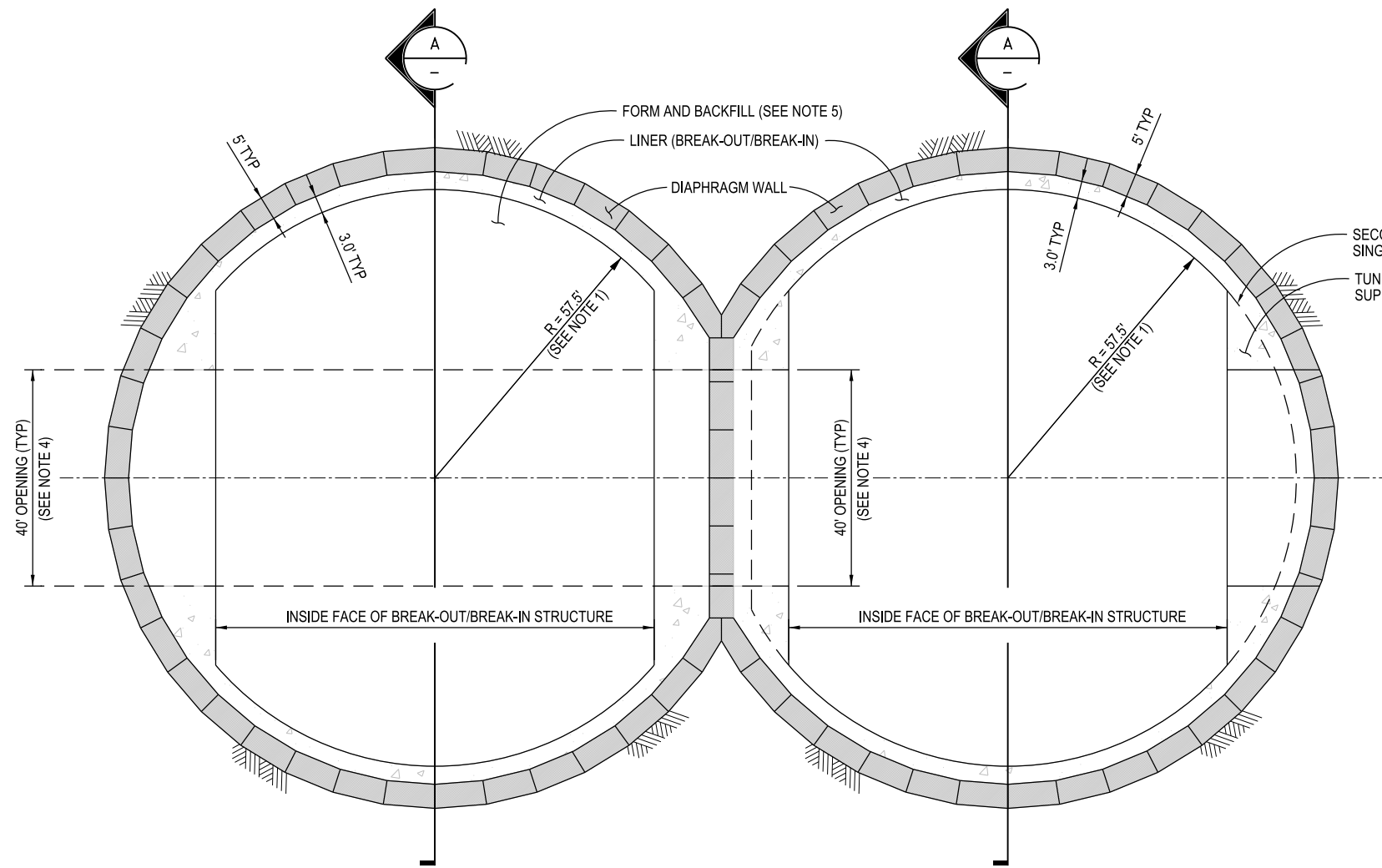
DESIGNED	M ELLIS	APPROVAL RECOMMENDED	
DRAWN	R TORADO	APPROVAL BY	A MURDOCK
CHECKED	S DUBNEWYCH		

CONCEPT PLANNING DOCUMENT
NOT FOR CONSTRUCTION

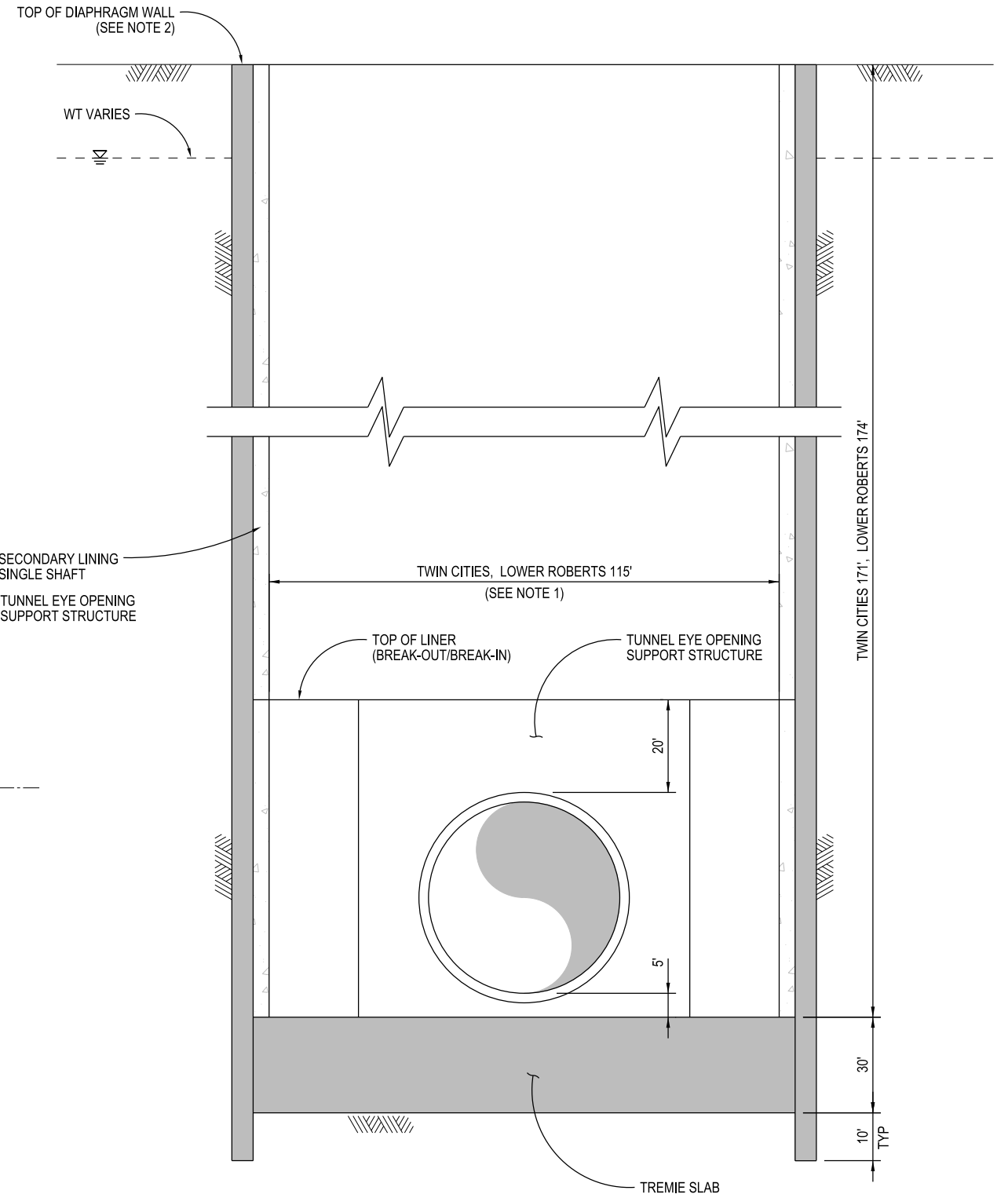


NOTES:

1. THE FINISHED INSIDE DIAMETER OF THE SHAFTS IS MEASURED FROM THE INSIDE FACE OF THE LINER.
2. SHAFT PAD/COVER NOT SHOWN FOR CLARITY, FINISHED GRADE LEVELS SHOWN ON DRAWING CER-S-5160TN.
3. SEE INTAKE DRAWINGS FOR SHAFT DETAILS AT INTAKES 3 AND 5.
4. TUNNEL EYE OPENING SIZE WOULD MATCH EXTERNAL SIZE OF TBM PLUS REQUIRED TOLERANCE.
5. ONLY FORM AND BACKFILL SOUTH SHAFT AT LOWER ROBERTS ISLAND. BOTH SHAFTS AT TWIN CITIES SITE WILL NOT BE BACKFILLED.



1 DOUBLE SHAFT PLAN
NOT TO SCALE



A SECTION
NOT TO SCALE

TUNNELS AND SHAFTS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1'

REV	DATE	DESCRIPTION	SUB.	APPD
SEP 2024		DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS		

DESIGNED M ELLIS	APPROVAL RECOMMENDED
DRAWN R TORADO	APPROVAL BY A MURDOCK
CHECKED S DUBNEWYCH	

CONCEPT PLANNING DOCUMENT
NOT FOR CONSTRUCTION

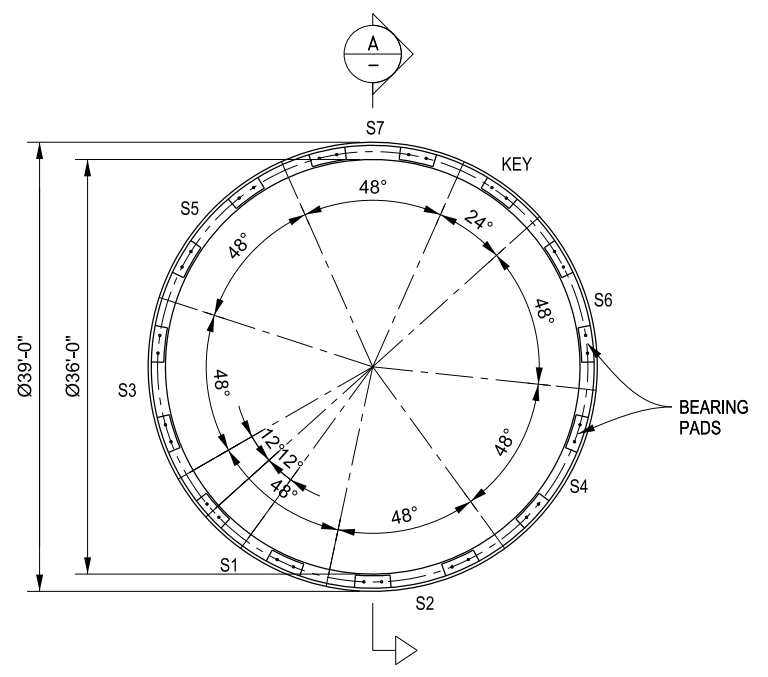
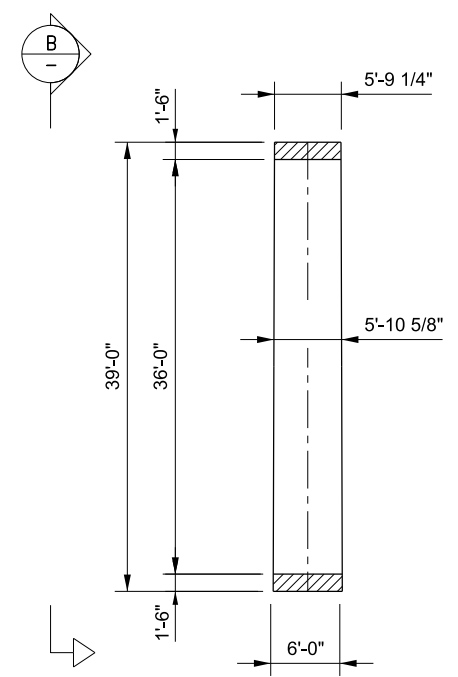


DELTA CONVEYANCE PROJECT
CONCEPT ENGINEERING REPORT
**TWIN CITIES/LOWER ROBERTS DBL LAUNCH SHAFT
PLAN AND SECTION**

PROJECT NO. W8X97000
SHEET NO. CER-S-5180TN
REV SEQUENCE NO. 67

CER-S-5180TN_W8X97000.dgn

NOTES:
 1. FOR AQUEDUCT TUNNELS GROUND SUPPORT AND FINAL LINING DETAILS REFER TO BETHANY RESERVOIR ADUEDUCT DRAWINGS.



NOTES:
 1. TAPER +/- 2.75" CORRESPONDING TO A MINIMUM CURVATURE RADIUS OF 1000 FEET.

A SECTION

B ELEVATION

1 36' DIA. MAIN TUNNEL LINING DETAIL PROJECT CAPACITY FOR 6,000 CFS OPTION NOT TO SCALE

CER-S-5190TN_W8X97000.dgn

DESIGNED	M ELLIS	APPROVAL RECOMMENDED	
DRAWN	J KASHIWADA	APPROVAL BY	A MURDOCK
CHECKED	S DUBNEWYCH		
REV	DATE	DESCRIPTION	SUB. APPD
	SEP 2024	DELTA CONVEYANCE PROJECT CONCEPT ENGINEERING REPORT DRAWINGS	

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 PLANNING
 DOCUMENT

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 CONSTRUCTION



DELTA CONVEYANCE PROJECT
 CONCEPT ENGINEERING REPORT

**MAIN TUNNELS
 SEGMENT LINING**

VERIFY SCALE
 BAR IS ONE INCH ON
 ORIGINAL DRAWING.
 0 1'

PROJECT NO.	W8X97000
SHEET NO.	CER-S-5190TN
REV	SEQUENCE NO.
	68