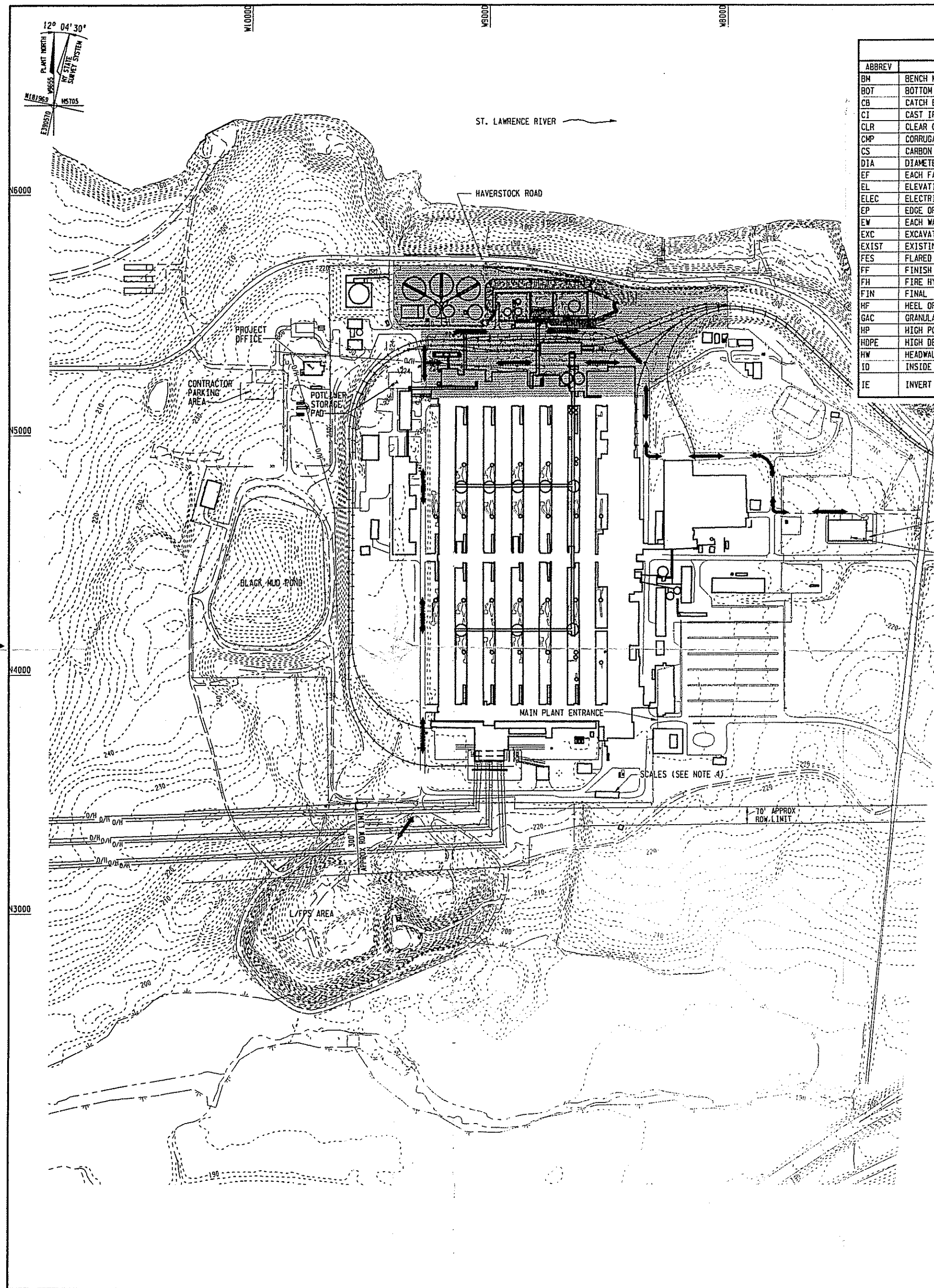




ABBREVIATION LIST (SEE NOTE 5)			
ABBREV	DESCRIPTION	ABBREV	DESCRIPTION
BM	BENCH MARK	JT	JOINT
ROT	BOTTOM	L/FPs	LANDFILL/FORMER POTLINER STORAGE
CB	CATCH BASIN	LP	LOW POINT
CI	CAST IRON	MH	MANHOLE
CLR	CLEAR OR CLEARANCE	MSL	MEAN SEA LEVEL
CMP	CORRUGATED METAL PIPE	OC	ON CENTER
CS	CARBON STEEL	PC	POINT OF CURVATURE
DIA	DIAMETER	PCB	POLYCHLORINATED BIPHENYL
EF	EACH FACE	PPM	PARTS PER MILLION
EL	ELEVATION	PS	1/2 POINT OF SWITCH
ELEC	ELECTRIC	PT	POINT OF TANGENT
EP	EDGE OF PAVEMENT	RCP	REINFORCED CONCRETE PIPE
EW	EACH WAY	RMC	REYNOLDS METALS COMPANY
EXC	EXCAVATE OR EXCAVATION	ROW	RIGHT-OF-WAY
EXIST	EXISTING	SA	SANITARY SEWER
FES	FLARED END SECTION	ST	STORM DRAIN
FF	FINISH FLOOR	SST	STAINLESS STEEL
FH	FIRE HYDRANT	STA	STATION
FIN	FINAL	TC	TOP OF CASTING
HF	HEEL OF FROG	T.O.	TURN OUT
GAC	GRANULAR ACTIVATED CARBON	TR	TRACK
HP	HIGH POINT	TYP	TYPICAL
HDPE	HIGH DENSITY POLYETHYLENE	UG	UNDERGROUND
HW	HEADWALL	WMF	WELDED WIRE FABRIC
ID	INSIDE DIAMETER	DIP	DUCTILE IRON PIPE
IE	INVERT ELEVATION	AREA	AMERICAN RAILWAY ENGINEERING ASSOCIATION

GENERAL LEGEND (SEE NOTE 5)		
PROPOSED	EXISTING	DESCRIPTION
---	---	GROUND CONTOURS
---	---	RAILROAD
---	---	WETLANDS RR-6 (DO NOT ENTER WITHOUT APPROVAL)
---	---	TRAFFIC PATTERN FOR CONSTRUCTION VEHICLES (EXACT ROUTE TO BE DETERMINED BY BECHTEL)
---	---	PAVED ROADS
---	---	UNIMPROVED ROADS
---	---	FENCE
---	---	DRAINAGEWAY
---	---	OVERHEAD UTILITIES
---	---	SANITARY SEWER
---	---	STORM DRAIN
---	---	DOMESTIC WATER
---	---	PROCESS WATER
---	---	FIRE AND MILL WATER
---	---	IMPINGEMENT WATER
---	---	FUME SCRUBBER RECYCLED LIQUOR
---	---	WASTE WATER (RECYCLED LIQUOR RETURN)
---	---	UNSPECIFIED UNDERGROUND PIPING
---	---	SILT FENCE
---	---	MONITORING WELL
---	---	MANHOLE
---	---	VALVE
---	---	UTILITY POLE
---	---	LIGHT POLE
---	---	CATCH BASIN
---	---	CAPPED UTILITY PIPE
---	---	ELECTRIC MANHOLE
---	---	FOOTINGS AND PIERS
---	---	DRAINAGE DIRECTION
---	---	SLOPE AND GEOMORPHIC LINE
---	---	FLARED END SECTION
---	---	ELECTRICAL BOX
---	---	GUARDRAIL
---	---	SEWER CLEAN-OUT
---	---	CENTERLINE

ATL AS-BUILT DRAWINGS	
NORTH YARD AREA ORIGINAL GROUND SURFACE	ATL-NYD-01
NORTH YARD AREA PLAN VIEW FINAL EXCAVATED SURFACE	ATL-NYD-02
NORTH YARD AREA WESTERN PORTION OF RESTORED GROUND SURFACE	ATL-NYD-03
NORTH YARD AREA EASTERN PORTION OF RESTORED GROUND SURFACE	ATL-NYD-04
NORTH YARD AREA FRENCH DRAIN PLAN AND PROFILE SOUTH OF HAVERSTOCK ROAD	ATL-NYD-05
NORTH YARD AREA VERIFICATION SAMPLE LOCATIONS	ATL-NYD-06
NORTH YARD AREA AS-BUILT SURFACE OF GEOMEMBRANE LINER	ATL-NYD-07
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 1 OF 7	ATL-NYD-X1
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 2 OF 7	ATL-NYD-X2
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 3 OF 7	ATL-NYD-X3
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 4 OF 7	ATL-NYD-X4
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 5 OF 7	ATL-NYD-X5
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 6 OF 7	ATL-NYD-X6
NORTH YARD AREA CROSS-SECTIONS LOCATION MAP - SHEET 7 OF 7	ATL-NYD-X7

RMC REFERENCE DRAWINGS	
UTILITIES/PIPING	
YARD PIPING PLAN - AREA 4	19-6225-Y-M-4
YARD PIPING PLAN - AREA 5	19-6225-Y-M-5
YARD PIPING PLAN - AREA 6	19-6225-Y-M-6
YARD PIPING PLAN - AREA 7	19-6225-Y-M-7
FLOW SHEET - PROCESS & POTABLE WATER SUPPLY & DISTRIBUTION	19-6225-Y-P-1
ELECTRIC	
PLANT 13.8 KV DISTRIBUTION PLANT SECTIONS SHEET 1	19-6225-Y-E-57
TELEPHONE	
TELEPHONE CONDUIT LAYOUT PLOT PLAN & DETAILS	19-6225-Y-E-57
PITCH & FUEL OIL PUMPHOUSE	
PITCH & FUEL OIL PUMPHOUSE FOUNDATION & DETAILS	19-6225-22A-C-3
PITCH PUMPHOUSE AREA EQUIPMENT ARRANGEMENT	19-6225-22A-L-1
PITCH, FUEL OIL & CAUSTIC TANK FARM PIPING PLAN	19-6225-22A-P-2
PITCH PUMPHOUSE & TANK CAR UNLOADING PIPING ARRANGEMENT	19-6225-22A-P-4
PITCH PUMPHOUSE PIPING PLAN ABOVE EL. 230'-0" & TANK CAR UNLOADING	19-6225-22A-P-5
PITCH PUMPHOUSE & TANK CAR UNLOADING SECTIONS	19-6225-22A-P-7
ORE UNLOADING SHED	
ORE UNLOADING SHED CONCRETE PLAN & SECTIONS	19-6225-25-C-6
PIPE BRIDGE	
YARD PIPE BRIDGE FDN. PLAN & DETAILS	19-6225-Y-C-1
YARD PIPING OVERHEAD PLANS	19-6225-Y-P-4
YARD PIPING OVERHEAD DETAILS & SECTIONS	19-6225-Y-P-5
YARD PIPING MISC. DETAILS SHEET NO. 2	19-6225-Y-M-26
BENCHMARKS	
PLANT SITE CONTROL POINTS AND BENCHMARKS	19-6225-Y-Y-6

GENERAL NOTES

- FOR LOCATIONS OF PLANT SITE SURVEY CONTROL POINTS, SEE RMC DRAWING 19-6225-Y-Y-6, "PLANT SITE CONTROL POINTS AND BENCHMARKS."
- UNLESS NOTED OTHERWISE, REMEDIATE THE NORTH YARD (NY) PER DESIGN DRAWINGS AND FOLLOWING TECHNICAL SPECIFICATIONS:
 - CSP-005, ONSITE TRANSPORT OF CONTAMINATED MATERIAL
 - CSP-007, TURF ESTABLISHMENT
 - CSP-010, BITUMINOUS TACK COAT
 - CSP-012, STORM SEWERS
 - CSP-014, DEMOLITION
 - CSP-016, BITUMINOUS PAVING FOR ROADS, STREETS, AND OPEN AREAS
 - CSP-021, REINFORCED CONCRETE FURNISHING, PLACING, FORMING, AND CURING
 - CSP-024, UNCONTAMINATED EARTHWORK
 - CSP-025, CONTAMINATED EARTHWORK
 - CSP-028, GEOMEMBRANE LINER, GEONET DRAINAGE LAYER, AND GEOTEXTILE FABRIC
- BECHTEL WILL DESIGNATE ONSITE AREAS FOR CONTRACTOR LAYDOWN AND STAGING.
- USE SCALES AS NEEDED FOR OFFSITE TRANSPORT.
- NOT ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS DRAWING ARE NECESSARILY USED ON THESE PLANS.
- ADDITIONAL TEMPORARY STORAGE IS AVAILABLE IN L/FPs AREA, AS DETERMINED IN FIELD BY BECHTEL.

BECHTEL REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT CONTAINMENT DIKES - PLANS, SECTIONS, AND DETAILS	Y-NYC-001
NORTH YARD REMEDIATION PROJECT AREA 1 AND AREA 2	Y-NYY-002
NORTH YARD REMEDIATION PROJECT CONSTRUCTION PHASING SCHEDULE	Y-NYY-003
NORTH YARD REMEDIATION PROJECT PAVEMENT, RAILROAD TRACK, AND STORM STRUCTURE DEMOLITION PLAN	Y-NYY-005
NORTH YARD REMEDIATION PROJECT GRID EXCAVATION SUMMARY	Y-NYY-006
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT PAVEMENT RESTORATION PLAN	Y-NYY-008
NORTH YARD REMEDIATION PROJECT UTILITY RESTORATION PLAN	Y-NYY-009
NORTH YARD REMEDIATION PROJECT RAILROAD TRACK PROFILES AND SECTION	Y-NYY-011
NORTH YARD REMEDIATION PROJECT FINISH GRADE SECTIONS	Y-NYY-012
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-014
NORTH YARD REMEDIATION PROJECT NORTH YARD WEST SUMP (NORTH YARD DIKE DRAINAGE AND GROUNDWATER PUMP STATION)	Y-NYY-019
NORTH YARD REMEDIATION PROJECT CONTAINMENT DIKE LAYOUT	Y-NYY-020
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-021

LEGEND

NORTH YARD AREA WORK LIMITS

0 200' 400' 600'
SCALE IN FEET

AS-BUILT	CH	JED	BES	GAC	DES	JWD
REVISED & REISSUED FOR CONSTRUCTION	KCL	DME	JJF	YCF	DES	JWD
ISSUED FOR CONSTRUCTION	KCL	DME	JJF	BWN	DES	JWD

NO. DATE REVISIONS

SCALE: AS SHOWN

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
SITE PLAN

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-001	2

8

7

6

5

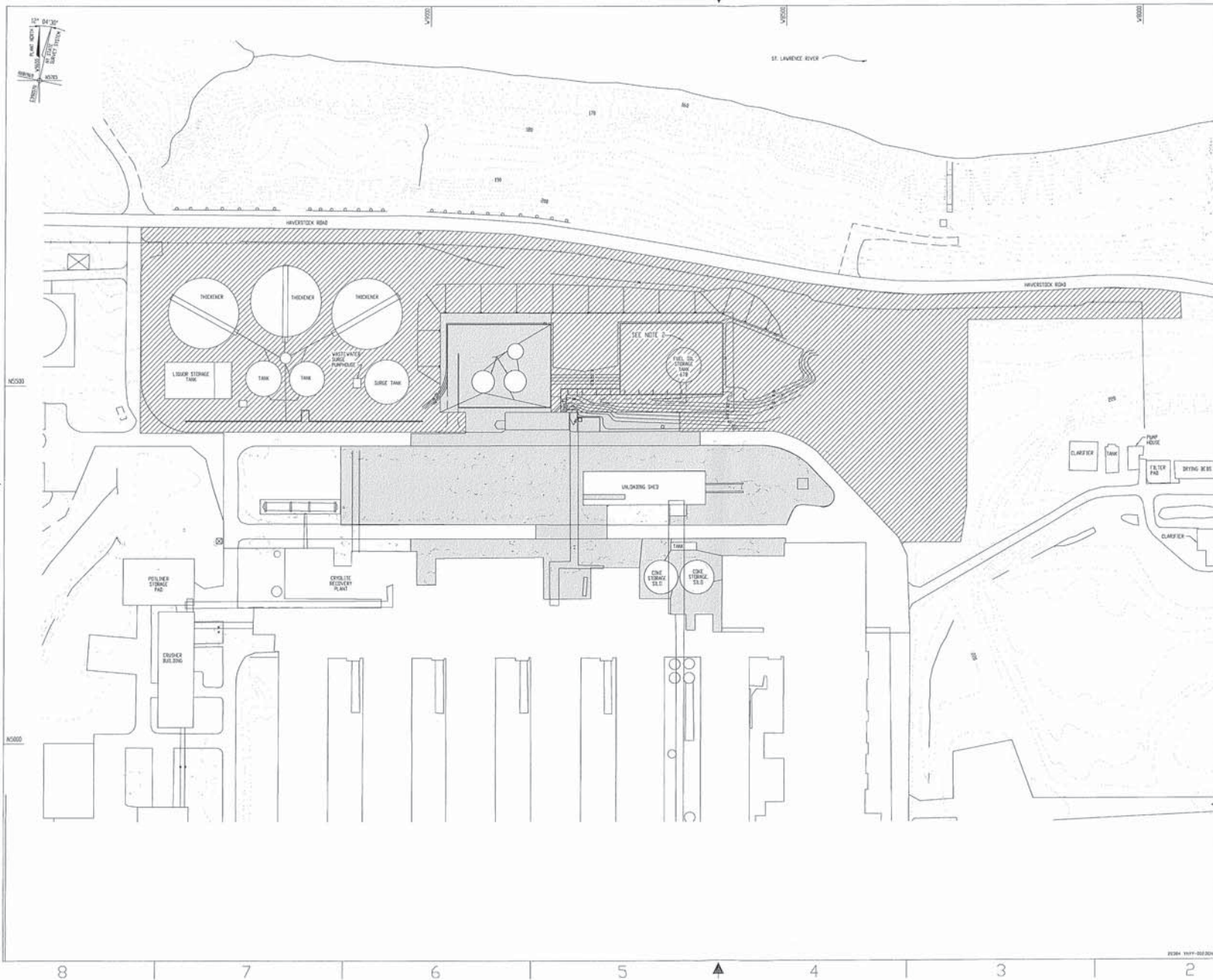
4

3

2

1

28 X 42



- NOTES**
1. FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001
 2. AREA AROUND FUEL OIL STORAGE TANK 678 WAS COVERED WITH CONCRETE FOR SECONDARY CONTAINMENT OF TANK.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
--	-----------

- LEGEND**
- NORTH YARD AREA WORK LIMITS
- AREA 1 WORK LIMIT (TO BE CAPPED)
 - AREA 2 WORK LIMIT (CAP NOT REQUIRED)



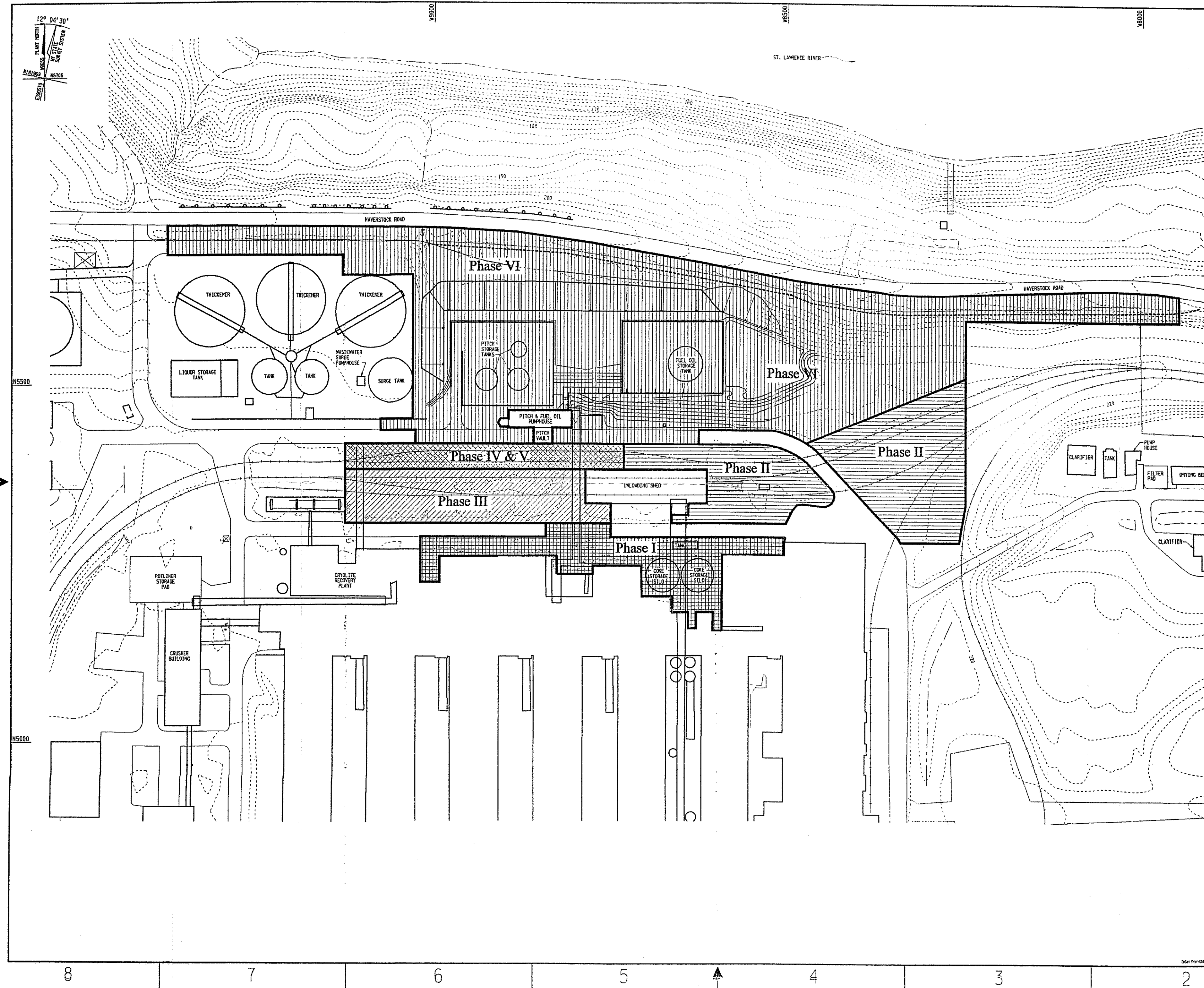
NO.	DATE	REVISION	BY	CHKD	APP'D
1	01/11/01	ISSUED FOR CONSTRUCTION	KEL	ENC	JLF
2	01/11/01	REVISED & RE-ISSUED FOR CONSTRUCTION	KEL	ENC	JLF
3	01/11/01	AS-BUILT, INCORPORATES FOR SET	CH	JES	RES

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
ONE KIRK, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
AREA 1 AND AREA 2

JOB NO.	DRAWING NO.	REV.
20384	Y-NYY-002	2



NOTES

1. FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
--	-----------

LEGEND

	CONSTRUCTION PHASE I
	CONSTRUCTION PHASE II
	CONSTRUCTION PHASE III
	CONSTRUCTION PHASE IV & V
	CONSTRUCTION PHASE VI

SCALE IN FEET

1/21/90	AS-BUILT, INCORPORATED FOR 146	CH	JED	DES	GAC	DES	JWG
1/12/95	REVISED & RE-ISSUED FOR CONSTRUCTION	KCL	DWE	JAF	WCF	DES	DFD
6/2/95	ISSUED FOR CONSTRUCTION	BLP	DWE	JAF	BKH	DES	JWG
NO.	DATE	REVISIONS	BY	CHKD	APP'D	DES	CHKD

SCALE: AS SHOWN

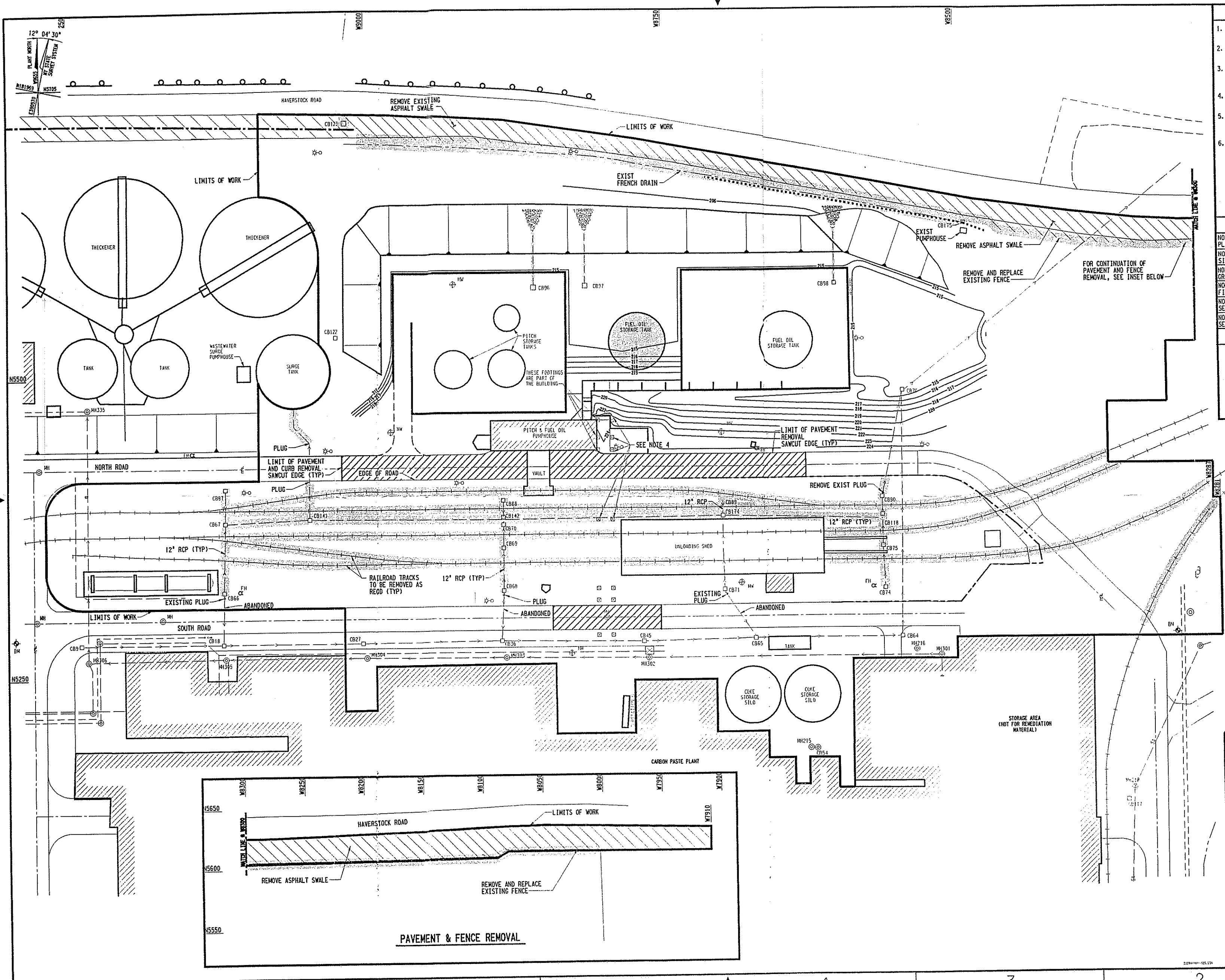
BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
CONSTRUCTION PHASING SCHEDULE

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-003	2

20384 NYY-001.001 28 X 42



NOTES

- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
- REMOVE EXISTING CATCH BASINS: CB 66, 67, 68, 69, 70, 74, 75, 87, 88, 89, 90, 96, 97, 98, 118, 123, & 1991B.
- CONCRETE FOOTINGS FOR THE PIPE BRIDGE AND THE PITCH TANK ARE NOT TO BE DISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. REFER TO DETAIL D ON DRAWING NO. Y-NYY-013.
- REMOVE EXISTING FOOTINGS IN INDICATED AREA AS NEEDED TO EXCAVATE AT DEPTHS GREATER THAN 10 FEET.
- DISPOSE OF DEMOLITION SPOILS IN THE L/PS AREA OR IN AN OFF-SITE LANDFILL DEPENDING ON THE LEVEL OF CONTAMINATION, AS DETERMINED BY BECHTEL.
- CATCH BASINS REPLACED FOLLOWING DEMOLITION AND EXCAVATION ARE SHOWN ON DRAWING Y-NYY-007.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PLAN, PROFILE, SECTION, AND DETAILS	Y-N-32
NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT FINISH GRADE SECTIONS	Y-NYY-012
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-014

LEGEND

	ITEMS TO BE REMOVED
	CENTERLINE
	CONCRETE PAVEMENT TO BE REMOVED
	ASPHALT SWALE TO BE REMOVED

0 30' 60' 90'

SCALE IN FEET

	1/28/98	REVISED CB NUMBERS AND ADDED REFERENCE DRAWING Y-N-32	CH	JED	JWG	JED	JWG	JWG	DFB
	1/21/98	AS-BUILT, INCORPORATED FORS 111 & 169	CH	JED	DES	GAC	DES	JWG	DFB
	1/12/98	REVISED & RE-ISSUED FOR CONSTRUCTION	KCL	DNE	JJF	WCF	DES	JWG	DFB
	6/2/95	ISSUED FOR CONSTRUCTION	KCL	DNE	JJF	BAN	DES	JWG	DFB
NO. DATE REVISIONS		1 1/28/98	2 1/21/98	3 1/12/98	4 6/2/95	5	6	7	8

SCALE: AS SHOWN

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

**NORTH YARD REMEDIATION PROJECT
PAVEMENT, RAILROAD TRACK,
AND STORM STRUCTURE DEMOLITION PLAN**

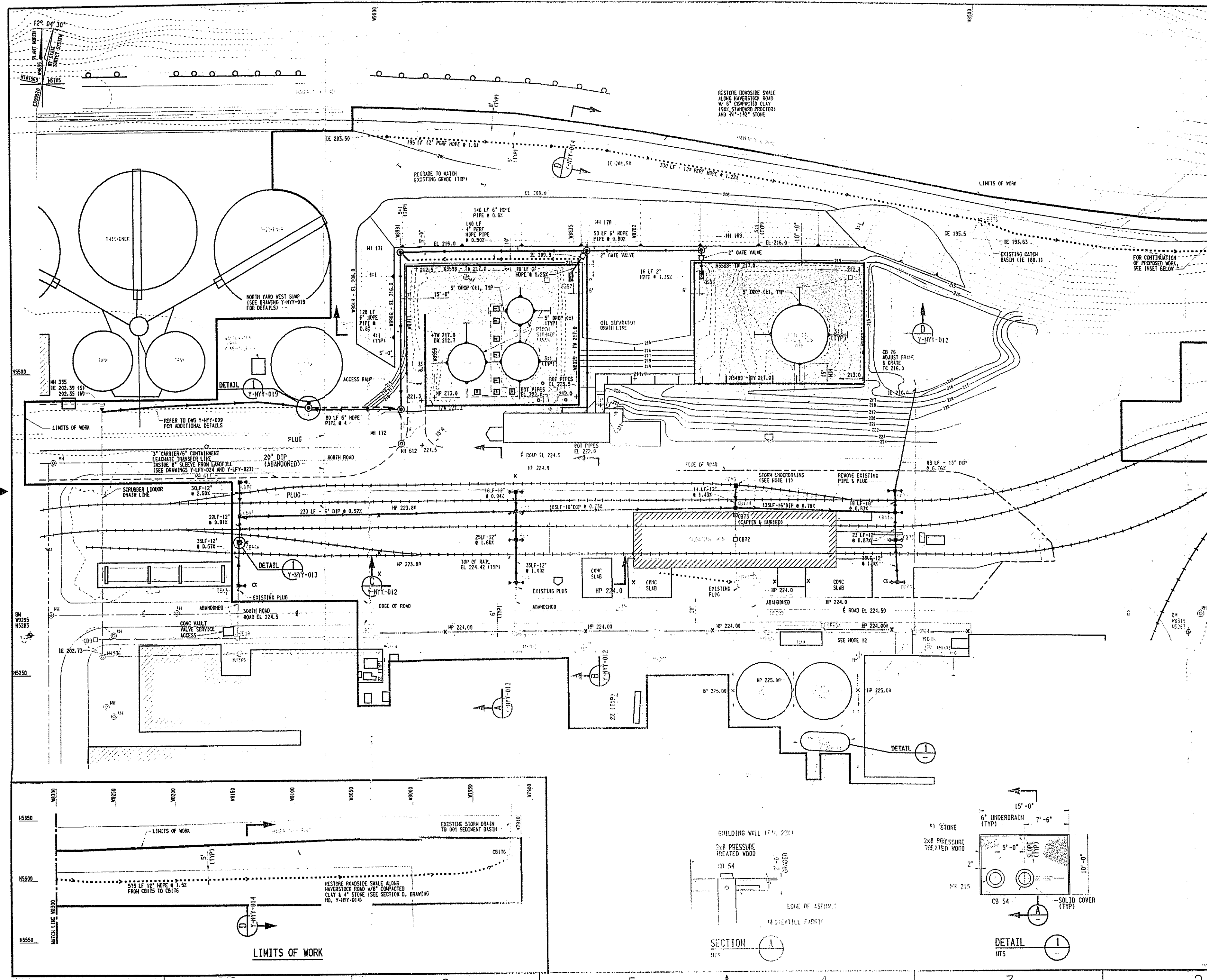
JOB NO.	DRAWING NO.	REV
20384	Y-NYY-005	3

D

C

B

A



NOTES

- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
- STANDARD STORM DRAIN PIPE SHALL BE ADS HOPE N-12 PIPE (OR EQUAL) UNLESS NOTED OTHERWISE. JOINTS SHALL CONSIST OF RUBBER GASKET, LEAK RESISTANT COUPLERS. PERFORATED UNDERDRAIN PIPE SHALL BE 12" HOPE WITH A FABRIC WRAP UNLESS NOTED OTHERWISE.
- EXISTING 16" AND 18" DIP SHALL BE REMOVED FOR REMEDIATION AND REUSED FOR RESTORATION.
- FOR CATCH BASIN SCHEDULE, STORM DRAIN LINE INVERT ELEVATIONS, AND ADDITIONAL INFORMATION, SEE ATL AS-BUILT DRAWINGS ATL-NYO-03 AND 04.
- GRADES SHOWN ARE FINISHED GRADES.
- ALL AREAS THAT ARE DISTURBED AND ARE NOT COVERED WITH A LINER, PAVEMENT, OR STONE SHALL BE SEEDED IN ACCORDANCE WITH CSP-007, "TURF ESTABLISHMENT."
- OIL SEPARATORS (OS) SHALL BE 100 GAL GREASE AND OIL INTERCEPTORS, MANUFACTURED BY KISTNER CONCRETE PRODUCTS INC. OR EQUAL.
- GRANULAR BACKFILL SHALL CONFORM TO THE REQUIREMENTS FOR SELECT GRANULAR MATERIAL IN TECHNICAL SPECIFICATION CSP-011.
- EXCAVATION OF THE TRENCH, PIPE INSTALLATION, AND TRENCH BACKFILL SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION CSP-024, "UNCONTAMINATED EARTHWORK."
- TRENCHES SHALL BE SHORED OR SLOPED IN ACCORDANCE WITH REQUIREMENTS OF OSHA 1910.120.
- ABANDONED CB 89 BY FILLING WITH STONE AND COVERING WITH GEOTEXTILE FABRIC. SEE FCN 110 FOR DETAILS.
- INSTALL CB 65A TO IMPROVE DRAINAGE CHARACTERISTICS SOUTH OF ORE UNLOADING SHED.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT - SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT - UTILITY RESTORATION PLAN	Y-NYY-009
NORTH YARD REMEDIATION PROJECT - FINISH GRADE SECTIONS	Y-NYY-012
NORTH YARD REMEDIATION PROJECT - SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT - SECTIONS AND DETAILS	Y-NYY-014
NORTH YARD REMEDIATION PROJECT - NORTH YARD WEST SUMP (NORTH YARD DIKE DRAINAGE AND GROUNDWATER PUMP STATION)	Y-NYY-019
NORTH YARD REMEDIATION PROJECT - CONTAINMENT DIKE LAYOUT	Y-NYY-020
NORTH YARD REMEDIATION PROJECT - SECTIONS AND DETAILS	Y-NYY-021
NORTH YARD REMEDIATION PROJECT - LEACHATE TRANSFER LINE PLAN AND PROFILE NO. 1	Y-LFY-024
NORTH YARD REMEDIATION PROJECT - LEACHATE TRANSFER LINE PLAN AND PROFILE NO. 2	Y-LFY-025
NORTH YARD REMEDIATION PROJECT - LEACHATE TRANSFER LINE PLAN AND PROFILE NO. 3	Y-LFY-026
NORTH YARD REMEDIATION PROJECT - LEACHATE TRANSFER LINE DETAILS	Y-LFY-027
YARD PIPING PLAN - AREA 5	19-6255-Y-M-5
YARD PIPING PLAN - AREA 6	19-6255-Y-M-6
PITCH, FUEL OIL, & CAUSTIC TANK FARM PIPING PLAN	19-6225-22A-P-2
PITCH PUMPHOUSE & TANK CAR UNLOADING PIPING ARRANGEMENT	19-6225-22A-P-4

LEGEND

FOR GENERAL LEGEND, SEE DRAWING Y-NYY-001.

---	PIPING TO THE FUEL OIL AND PITCH TANKS (INDICATES MULTIPLE PIPES)
---	STORM DRAIN
---	FRENCH DRAIN
---	DRAINAGE SWALE
---	STORM DRAIN
---	EXISTING CATCH BASIN
---	GROUND SLOPE INDICATOR
---	TRENCH PLUG
---	CONCRETE FLOOR/RAUP FOR THE CONTAINMENT DIKES
---	OIL SEPARATOR
---	TOP OF WALL
---	TOP OF SLAB

0 30 60 90
1"=30'

1/28/98	REVISED CB NUMBERS AND ADDED CONCRETE VAULT	CH	JED	JWG	JED	JWG	DFB
1/21/98	AS-BUILT, INCORPORATED FCN 110, 122, 132, 139, AND FCR 116, 155, 169	CH	JED	DES	CAC	DES	DFB
1/12/98	REVISED & RE-ISSUED FOR CONSTRUCTION	RFP	JED	JJF	JMK	DES	DFB
1/12/98	REVISED & RE-ISSUED FOR CONSTRUCTION	KCL	DNE	JJF	WST	DES	DFB
6/5/95	ISSUED FOR CONSTRUCTION	KCL	DNE	JJF	BKM	DES	DFB

NO. DATE REVISIONS

SCALE: AS SHOWN

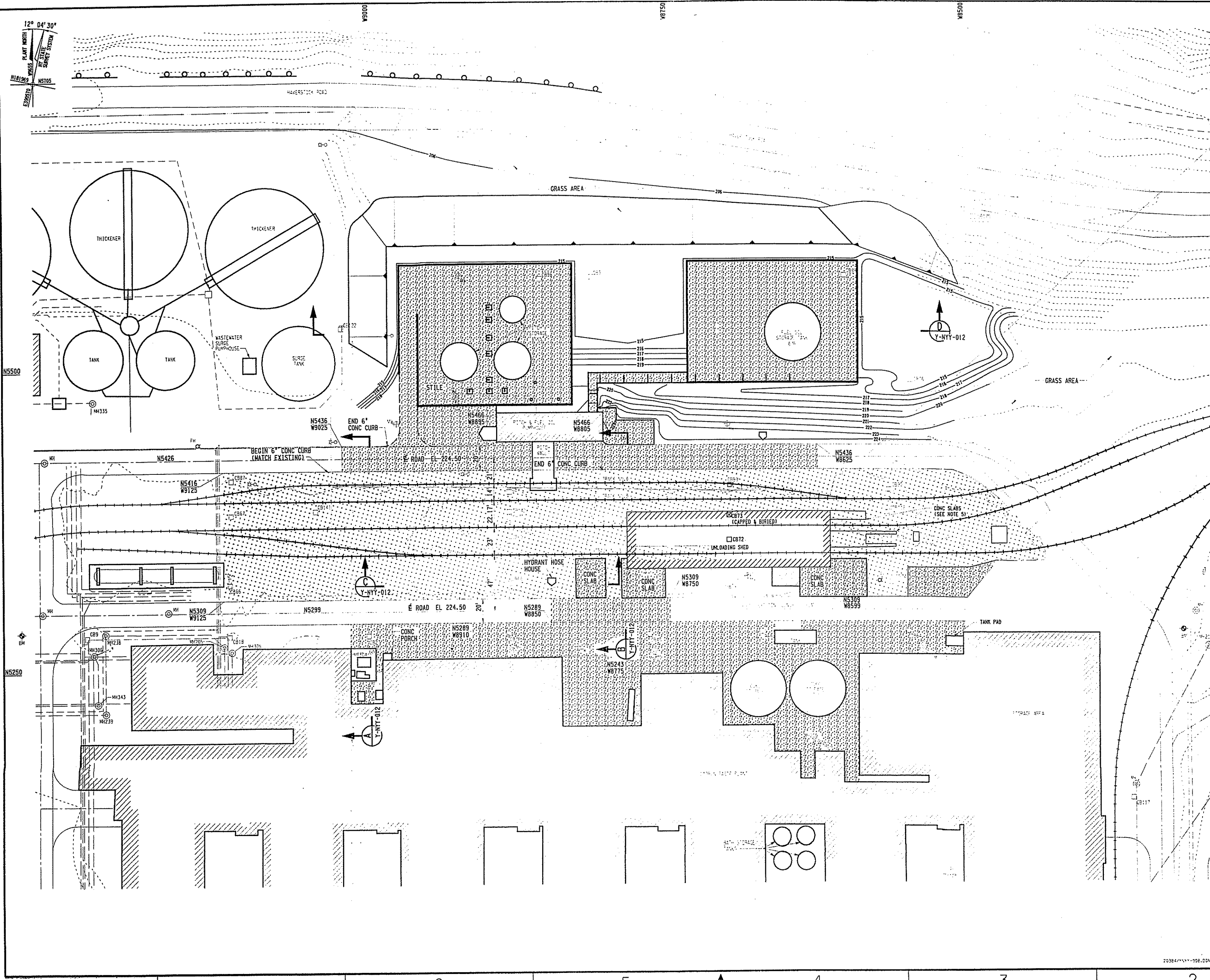
BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

**NORTH YARD REMEDIATION PROJECT
GRADING AND RESTORATION PLAN**

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-007	4

28 X 40



NOTES

1. FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
2. REFER TO DRAWING NO. Y-NYY-007 FOR FINISHED SURFACE GRADES.
3. DISTURBED AREAS THAT ARE NOT PAVED OR LINED SHALL BE SEEDED UNLESS DIRECTED OTHERWISE.
4. REFER TO NOTE 8 ON DRAWING NO. Y-NYY-006 REGARDING GENERAL FILL FOR ROADS AND GENERAL FILL FOR RAILROADS.
5. PLACE INDICATED CONCRETE SLABS NEAR UNLOADING SHED ABOVE GEOMEMBRANE LINER.
6. FOR AS-BUILT LIMITS OF CONCRETE PAVEMENT AND GEOMEMBRANE LINER, SEE ATL AS-BUILT DRAWINGS ATL-NYD-03 AND 04.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT GRID EXCAVATION SUMMARY	Y-NYY-006
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT FINISH GRADE SECTIONS	Y-NYY-012
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-014

LEGEND

- GEOMEMBRANE LINER (SEE DETAIL ON DWG NO. Y-NYY-012)
- CONCRETE ROAD REPLACEMENT AND CONCRETE PAVEMENT/SLABS (SEE DETAIL ON DWG NO. Y-NYY-013)

SCALE IN FEET

0 30' 60' 90'

1/21/98	REVISED CB NUMBERS AND LIMITS OF CONCRETE	CH	JED	JWG	JED	JWG	JWG	DFB
1/21/98	AS-BUILT, INCORPORATED FCN 108, 122, 125, 132, AND FCR 155	CH	JED	DES	GAC	DES	JWG	DFB
1/12/95	REVISED AND REISSUED FOR CONSTRUCTION	KCL	DWE	JJF	WCF	DES	JWG	DFB
6/9/95	ISSUED FOR CONSTRUCTION	KCL	DWE	JJF	BKM	DES	JWG	DFB
NO.	DATE	REVISIONS	CH	DES	JJF	WCF	DES	DFB

SCALE: AS SHOWN

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

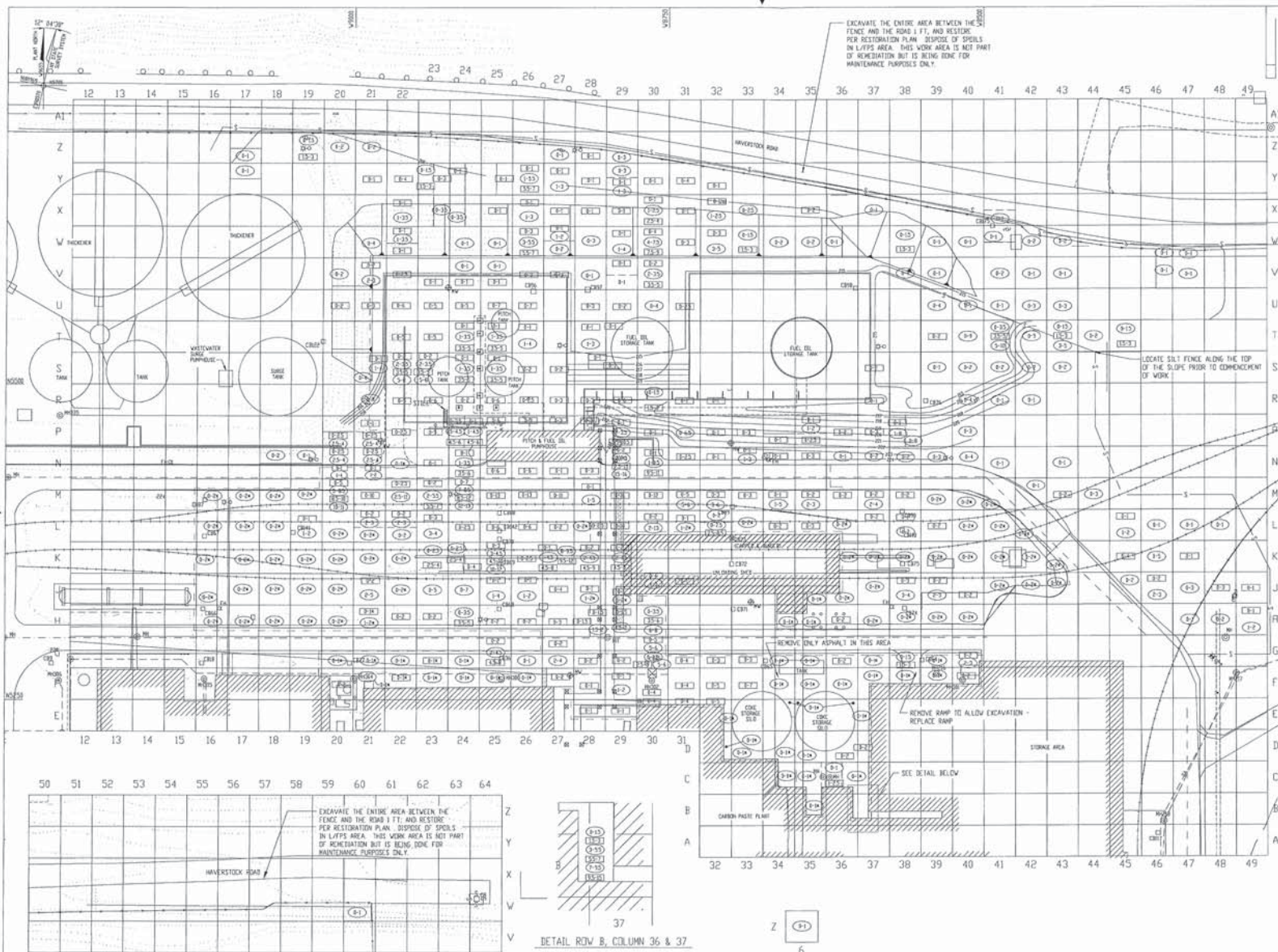
REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

**NORTH YARD REMEDIATION PROJECT
PAVEMENT RESTORATION PLAN**

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-008	3

20384/11/11-008.DGN

28 X 42



NOTES

- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NY-005.
- THE 100 PPM PCB ISOPLETH SHOWN IS FOR AREA 1 ONLY, AND IS NOT APPLICABLE TO AREA 2.
- RAILROAD TRACKS THAT FALL WITHIN THE LIMITS OF EXCAVATION SHALL BE REMOVED. THE RAILS WHEN ARE REMOVED ARE TO BE USED FOR RESTORATION OF THE TRACKS. THE EXISTING TIES SHALL BE CONSIDERED AS CONTAMINATED 100 PPM PCB AND SHALL BE DISPOSED OF ACCORDINGLY. BALLAST SHALL BE DISPOSED OF BASED UPON ITS LEVEL OF CONTAMINATION.
- REFER TO DRAWING Y-NY-005 FOR STRUCTURES, PAVEMENT, RAILROAD TRACKS, AND PIPES TO BE REMOVED.
- REFER TO ATTACHED REFERENCE DRAWINGS FOR ADDITIONAL INFORMATION REGARDING LOCATIONS OF UTILITIES.
- PCB SAMPLES WERE GENERALLY TAKEN AT THE CENTER OF EACH GRID WITHIN THE EXCAVATION AREA. EXCAVATION LIMITS EXTEND TO THE BOUNDARY OF EACH GRID, OR TO PHYSICAL CONSTRAINTS SUCH AS BUILDINGS, ROADS, OR FENCES. COORDINATES ARE PROVIDED ONLY WHEN THE EXCAVATION LIMITS DEVIATE FROM THIS RULE.
- CONCRETE FOOTINGS FOR THE PIPE BRIDGE AND THE PITCH TANK ARE NOT TO BE DISTURBED UNLESS OTHERWISE NOTED ON THE PLANS. REFER TO DETAIL 6 ON DRAWING NO. Y-NY-005.
- SHOULDER MATERIAL PLACED UNDER PROPOSED ROADS, RAILROADS, SIDE AREAS, LINERS, FOOTINGS, OR FOUNDATIONS SHALL BE PLACED AS GENERAL FILL FOR ROADS OR GENERAL FILL FOR RAILROADS. SHOULDER UNDER FUTURE GRASS AREAS SHALL BE PLACED AS "GENERAL FILL."
- REFER TO DRAWING Y-NY-003 FOR TYPICAL DETAILS OF EXCAVATION ADJACENT TO ROADS AND BUILDINGS (DETAILS C & D). THESE DETAILS ARE NOT APPLICABLE, HOWEVER, TO THE EXCAVATION IN COLUMNS 28 & 29 ROWS L-P. DUE TO THE DEPTH AND CONCENTRATION OF CONTAMINATION IN THIS AREA, NEARLY VERTICAL CUTS WILL BE REQUIRED. THEREFORE, ADEQUATE SHORING FOR THESE CUTS IS TO BE PROVIDED.
- ASPHALT PAVEMENT EXCAVATED WITH STEEL DESIGNATED FOR ONSITE DISPOSAL. WILL BE TRANSPORTED TO ONSITE LANDFILL. ASPHALT EASILY SEPARATED FROM SUB-BASE IN AREAS DESIGNATED FOR OFFSITE SHIPMENT. WILL BE TRANSPORTED TO ONSITE LANDFILL. ASPHALT NOT EASILY SEPARATED FROM SUB-BASE IN AREAS DESIGNATED FOR OFFSITE SHIPMENT WILL BE SHIPPED OFFSITE.
- FOR ACTUAL EXCAVATION LIMITS, SEE ATL DRAWING ATL-NY-07.

REFERENCE DRAWINGS

DRAWING NO.	DESCRIPTION
Y-NY-005	NORTH YARD REMEDIATION PROJECT PAVEMENT, RAILROAD TRACK, AND STORM STRUCTURE DETAIL PLAN
Y-NY-007	NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN
19-6225-T-N-4	YARD PIPING PLAN-AREA 4
19-6225-T-N-5	YARD PIPING PLAN-AREA 5
19-6225-T-N-6	YARD PIPING PLAN-AREA 6
19-6225-T-N-7	YARD PIPING PLAN-AREA 7
Y-NY-006	NORTH YARD REMEDIATION PROJECT SITE PLAN
Y-NY-004	NORTH YARD REMEDIATION PROJECT PITCH, PUMPINGS, PIPING, AND UTILITY PLAN
Y-NY-003	NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS

LEGEND

(E-2)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-3)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-4)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-5)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-6)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-7)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-8)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-9)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-10)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-11)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-12)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-13)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-14)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-15)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-16)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-17)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-18)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-19)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-20)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-21)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-22)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-23)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-24)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-25)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-26)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-27)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-28)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-29)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-30)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-31)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-32)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-33)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-34)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-35)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-36)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-37)	EXCAVATION DEPTH (FT) 100 PPM PCB
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(E-39)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-40)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-41)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-42)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-43)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-44)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-45)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-46)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-47)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-48)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-49)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-50)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-51)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-52)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-53)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-54)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-55)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-56)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-57)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-58)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-59)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-60)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-61)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-62)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-63)	EXCAVATION DEPTH (FT) 100 PPM PCB
(E-64)	EXCAVATION DEPTH (FT) 100 PPM PCB

INDICATES EXCAVATION REQUIRED ONLY FOR INSTALLATION OF LINER OR PAVING, NOT FOR REMEDIATION.

SCALE: 1" = 40'

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NT FOR BECHTEL ENVIRONMENTAL, INC. DAKA, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y. ST. LAWRENCE REDUCTION PLANT

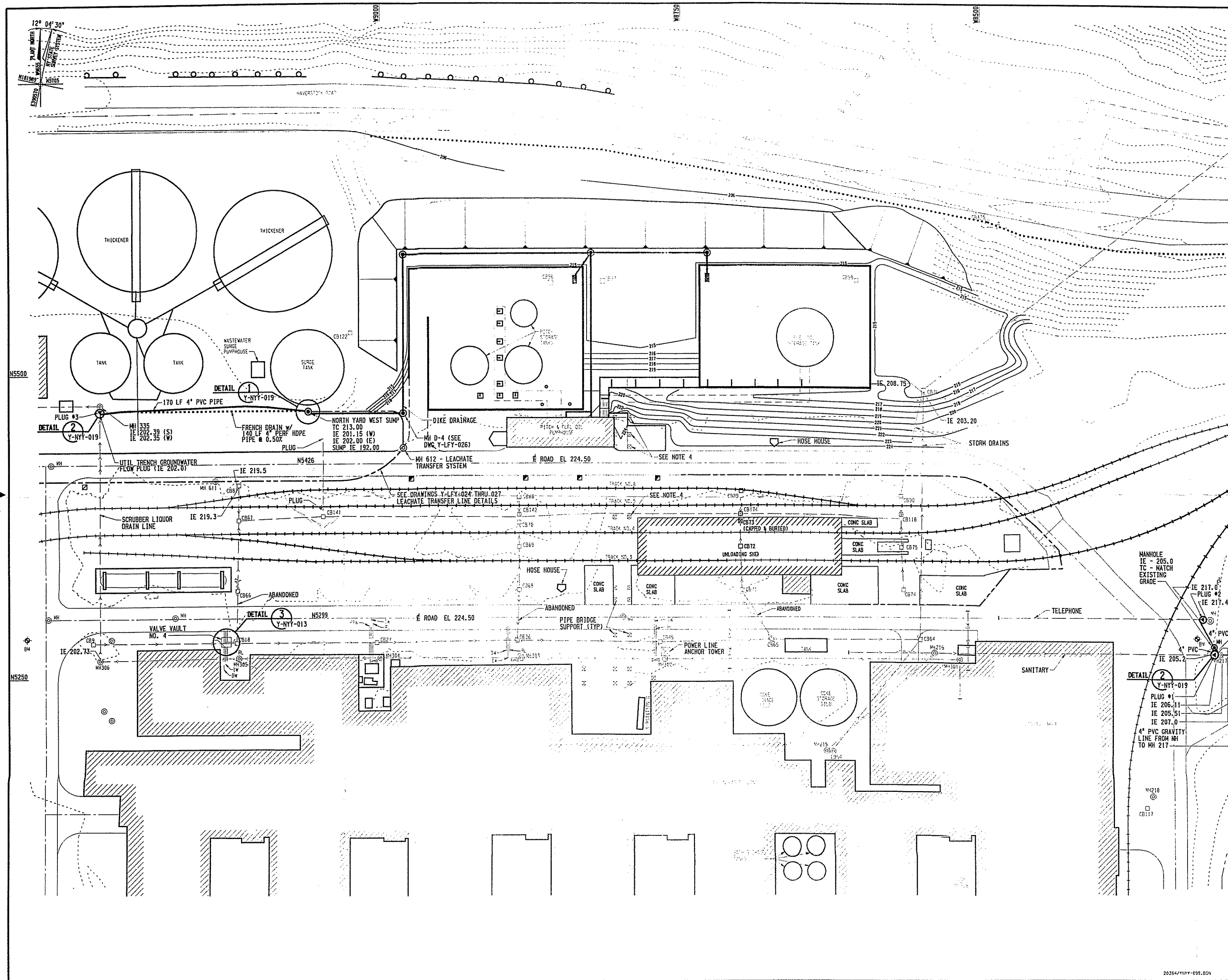
NORTH YARD REMEDIATION PROJECT GRID EXCAVATION SUMMARY

JOB NO.	DRAWING NO.	REV.
20384	Y-NY-006	3

DETAIL ROWS V - Z & COLUMNS 50 - 61

DETAIL ROW B, COLUMN 36 & 37

DETAIL ROW Z, COLUMN 6



NOTES

- FOR GENERAL ABBREVIATIONS, NOTES AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
- UTILITY RESTORATION IS GENERALLY LIMITED TO CONSTRUCTION OF THE 3 PROPOSED UTILITY VALVE VAULTS, REPLACEMENT OF PITCH TANK HEATER OUTLETS, LIGHTS AND POLES THAT ARE REMOVED DURING REMEDIATION, AND INSTALLATION OF THE 4 TRENCH PLUGS. HOWEVER, DURING THE COURSE OF EXCAVATION FOR REMEDIATION IT MAY BE NECESSARY TO SUPPORT OR REPLACE VARIOUS UTILITIES. REFER TO THE STANDARD DETAILS ON DRAWING NOS Y-NYY-013 AND Y-NYY-014.
- REFER TO BECHTEL DRAWING 19-6225-Y-M-4 FOR UTILITY INFORMATION RELATIVE TO PROPOSED VALVE VAULT CONSTRUCTION.
- REFERENCE RMC DRAWING NO. 19-6225-Y-P-5 AND 19-6225-Y-C-1 (LATEST REVISIONS) FOR YARD PIPE BRIDGE FOUNDATION DETAILS. PROVIDE A NEW FOOTING FOR FOOTINGS 1, 2, 3 AND 4, AND A NEW LADDER PAD AT THE EXISTING LOCATIONS AND THE DIMENSIONS AS SHOWN ON RMC DRAWING NO. 19-6225-Y-C-1.

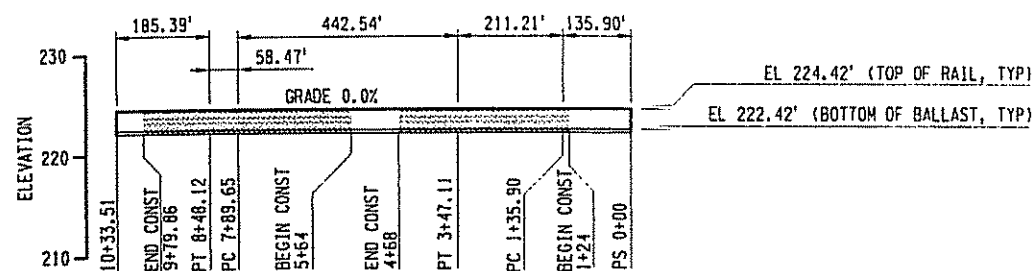
REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-014
NORTH YARD REMEDIATION PROJECT - NORTH YARD WEST SUMP (NORTH YARD DIKE DRAINAGE AND GROUNDWATER PUMP STATION)	Y-NYY-019
NORTH YARD REMEDIATION PROJECT LEACHATE TRANSFER LINE - PLAN & PROFILE	Y-LFY-024
NORTH YARD REMEDIATION PROJECT LEACHATE TRANSFER LINE - PLAN & PROFILE	Y-LFY-025
NORTH YARD REMEDIATION PROJECT LEACHATE TRANSFER LINE - PLAN & PROFILE	Y-LFY-026
NORTH YARD REMEDIATION PROJECT LEACHATE TRANSFER LINE - DETAILS	Y-LFY-027
YARD PIPING PLAN - AREA 4	19-6225-Y-M-4
YARD PIPING PLAN - AREA 5	19-6225-Y-M-5
YARD PIPING PLAN - AREA 6	19-6225-Y-M-6
YARD PIPING PLAN - AREA 7	19-6225-Y-M-7
YARD PIPING - MISC. DETAILS, SHEET NO. 2	19-6225-Y-M-26
YARD PIPE BRIDGE FON. PLAN AND DETAILS	19-6225-Y-C-1
YARD PIPING OVERHEAD DETAILS AND SECTIONS	19-6225-Y-P-5

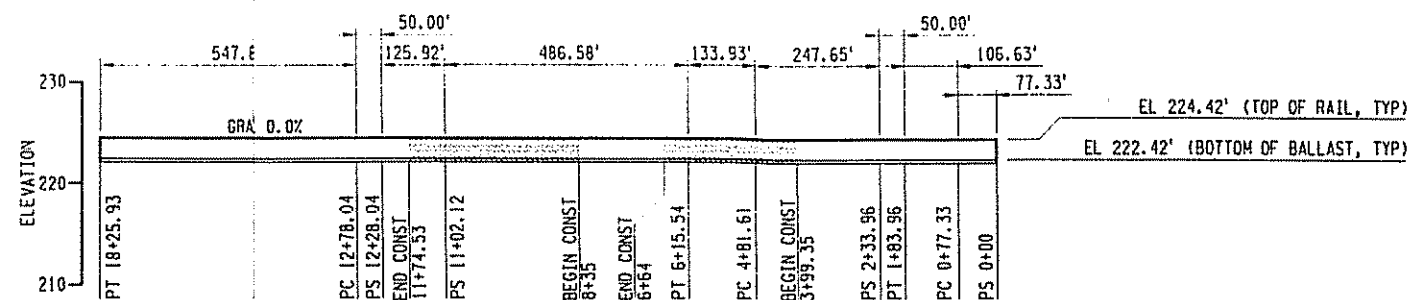
LEGEND

0 30' 60' 90'
SCALE IN FEET

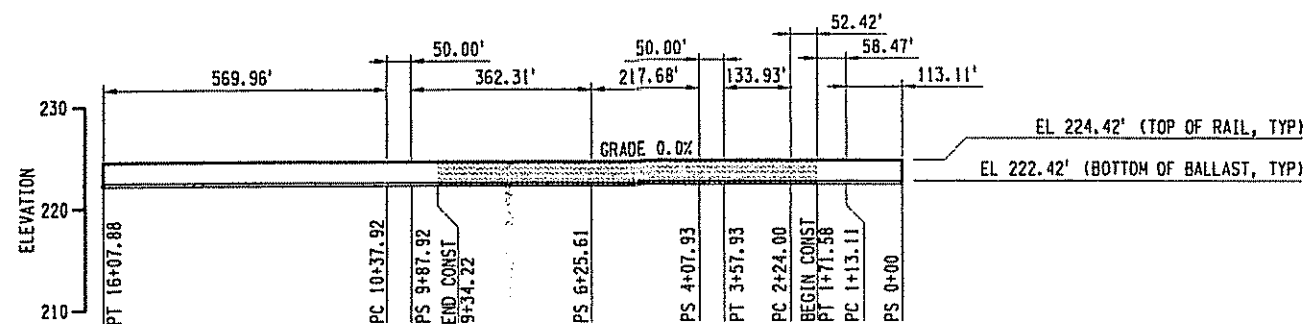
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1/21/99	AS-BUILT, INCORPORATED FROM 114, 121 AND 172	CH	JED	DES	GAC	DES	JWG	DFB
12/95	REVISED & REISSUED FOR CONSTRUCTION INCORPORATED FROM 134 AND 137	RLP	JED	JWF	JMI	DES	JWG	DFB
7/24/95	REVISED & REISSUED FOR CONSTRUCTION	KCL	DWE	JWF	WCF	DES	JWG	DFB
6/5/95	ISSUED FOR CONSTRUCTION	KCL	DWE	JWF	BNM	DES	JWG	DFB
NO.	DATE	REVISIONS	BY	CHECKED	DESIGNED	APPROVED	DATE	BY
SCALE: AS SHOWN								
BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY FOR BECHTEL ENVIRONMENTAL, INC. OAK RIDGE, TENNESSEE								
REYNOLDS METALS COMPANY - MASSENA N.Y. ST. LAWRENCE REDUCTION PLANT								
NORTH YARD REMEDIATION PROJECT UTILITY RESTORATION PLAN								
JOB NO.		DRAWING NO.		REV				
20384		Y-NYY-009		4				



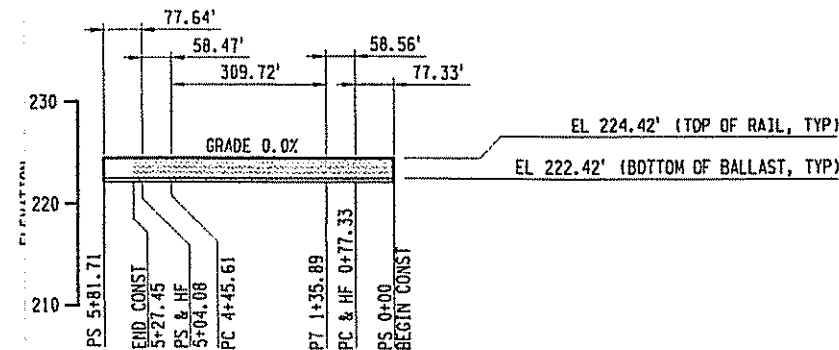
TRACK NO. 3



TRACK NO. 4

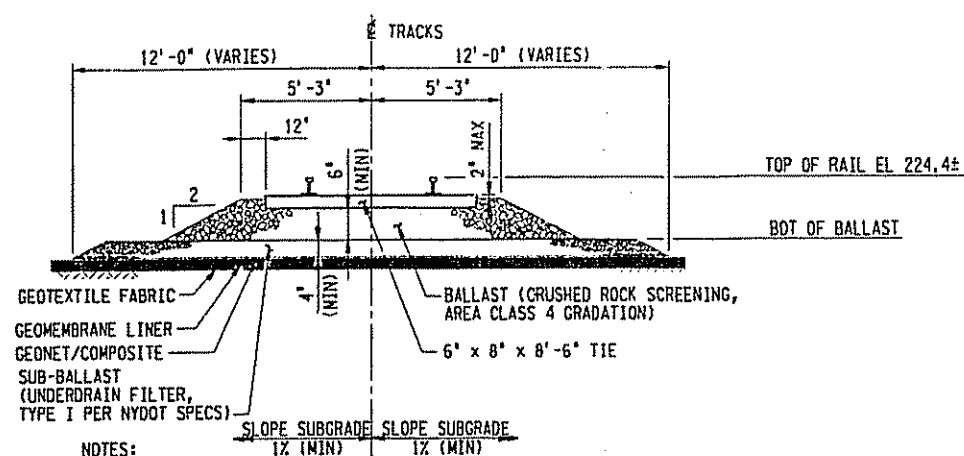


TRACK NO. 5



TRACK NO. 6

RAILROAD TRACK PROFILES HORZ SCALE 1"=200' VERT SCALE 1"=10'



- NOTES:
- ALL RAILWAY WORK AND MATERIALS SHALL CONFORM TO THE "TECHNICAL SPECIFICATIONS FOR INDUSTRIAL SIDE TRACKS" BY CONRAIL CONSOLIDATED RAIL CORPORATION.
 - SEE DRAWING NO. Y-NYY-012 FOR PRODUCT SPECIFICATIONS.

TYPICAL RAILROAD ROADBED SECTION
 SCALE 1"=4'

- NOTES
- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
 - REFER TO NOTES ON DRAWING NO. Y-NYY-012 FOR DETAILS OF THE GEOMEMBRANE LINER AND GEOTEXTILE.

REFERENCE DRAWINGS

RAILROAD TRACK PLAN	19-6225-Y-Y-8
RAILROAD TRACK, PROFILES AND SECTIONS	19-6225-Y-Y-9
NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT FINISH GRADE SECTIONS	Y-NYY-012

LIMITS OF RAILROAD TRACKS TO BE REMOVED AND REPLACED

NO.	DATE	REVISIONS	BY	CHKD	APP'D	DES	CHKD	APP'D	DES	CHKD	APP'D
1		AS-BUILT, INCORPORATED FOR 129	CH	JED	DES	GAC	DES	JWG			
2		REVISED AND RETISSUED FOR CONSTRUCTION	KCL	DWE	JJF	NCF	DES	JWG	DFB		
3		ISSUED FOR CONSTRUCTION	KCL	DWE	JJF	BKM	DES	JWG	DFB		

SCALE: AS NOTED

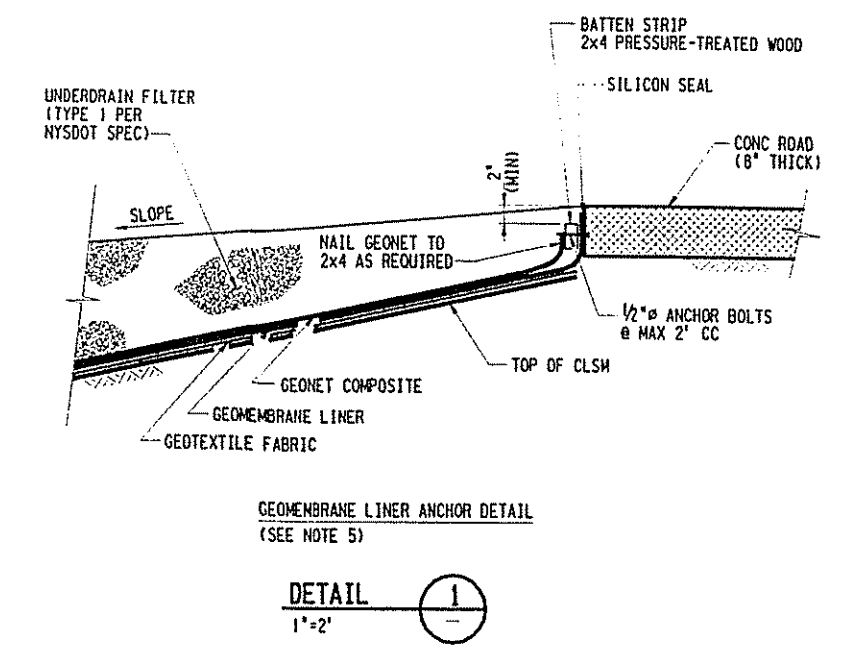
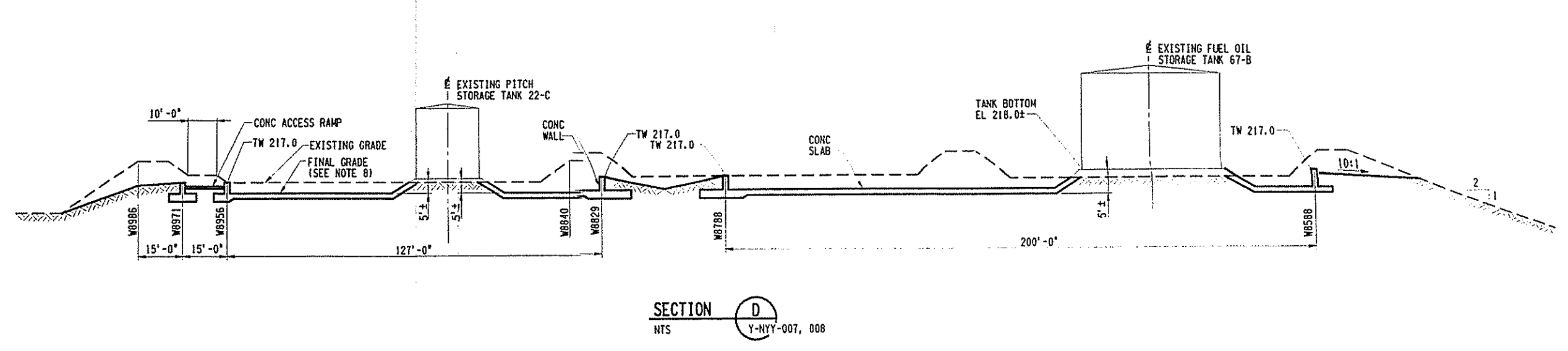
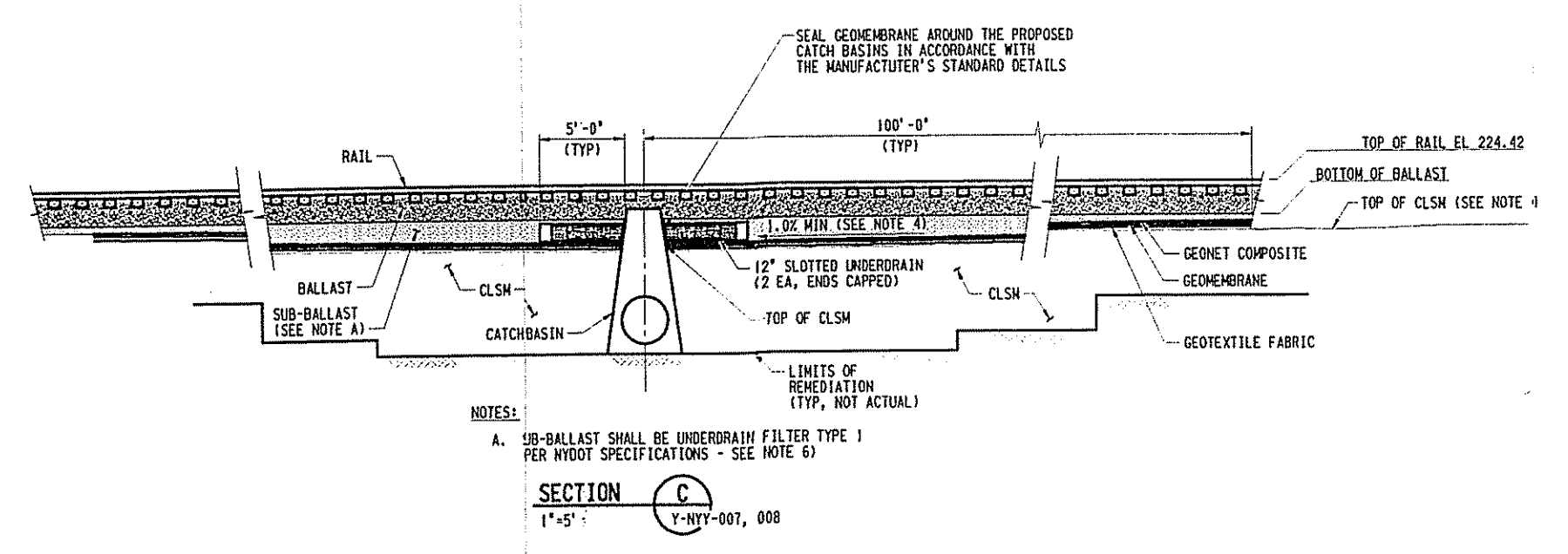
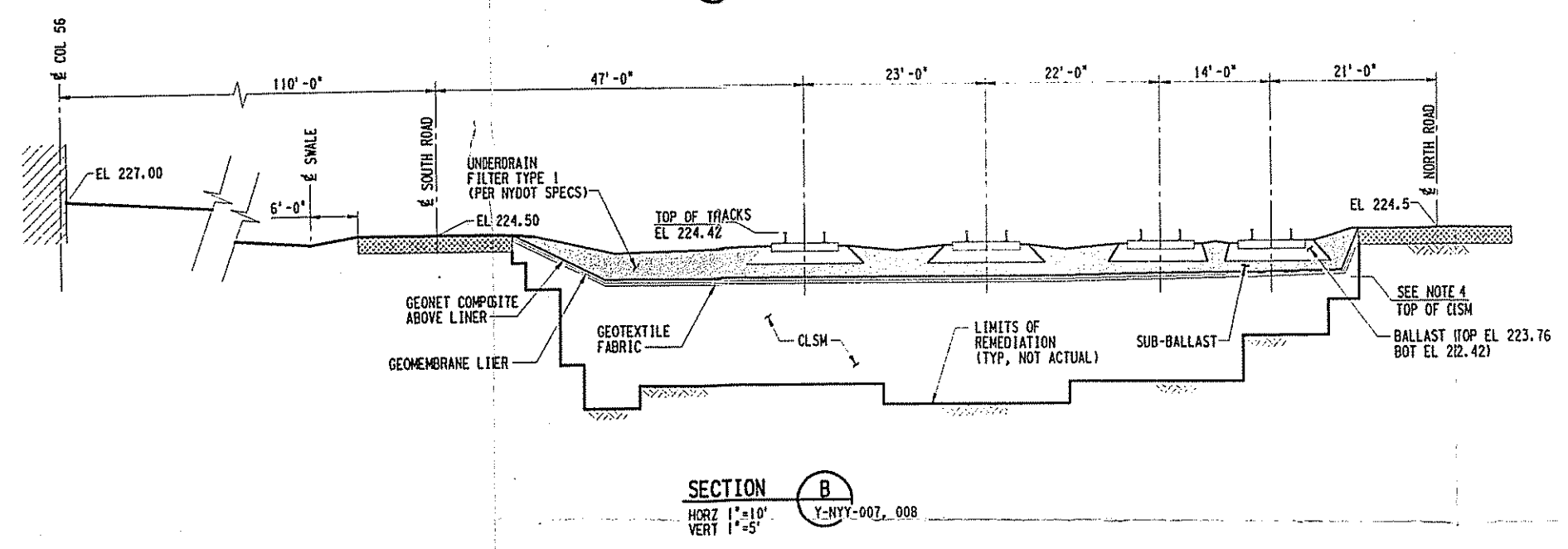
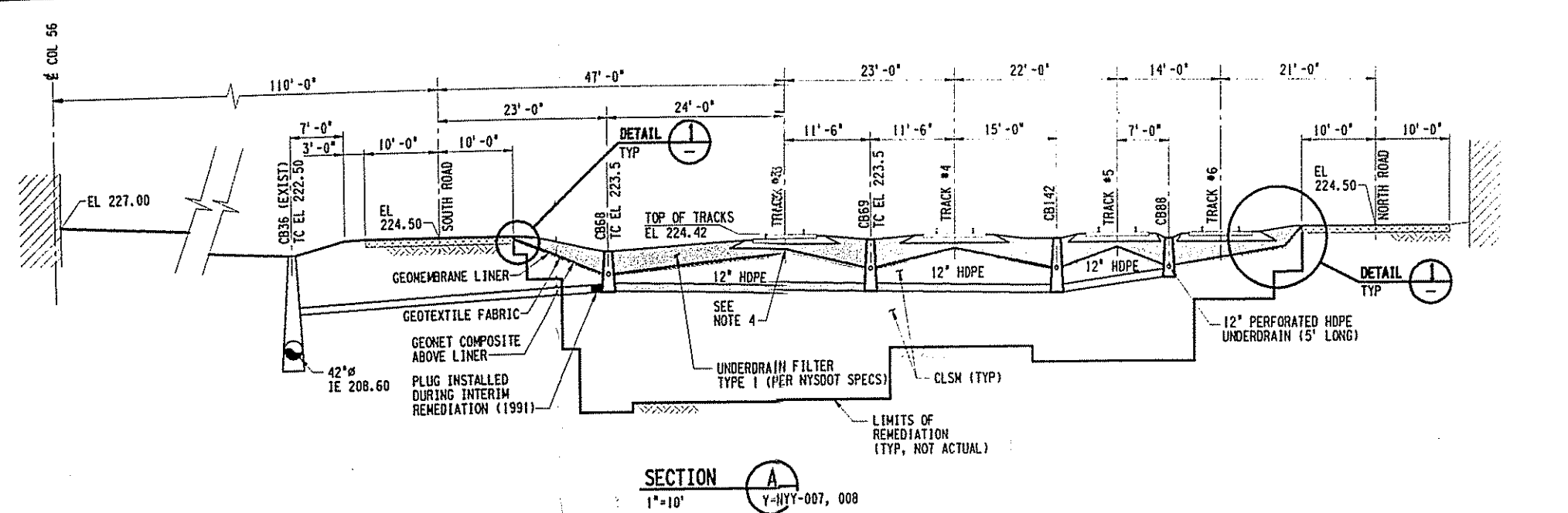
BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
 FOR BECHTEL ENVIRONMENTAL, INC.
 OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
 ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
 RAILROAD TRACK PROFILES AND SECTION

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-011	2

20384/1/11/011.DGN



- NOTES**
- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING Y-NYY-001.
 - REFER TO DRAWING NO. Y-NYY-008 FOR THE LIMITS OF THE PROPOSED GEOMEMBRANE LINER AND FOR THE PAVING LIMITS.
 - UNLESS NOTED OTHERWISE, USE THE FOLLOWING PRODUCTS (OR EQUAL) FOR ALL WORK WHERE CALLED FOR:
 - GEOMEMBRANE LINER - SEAMAN XR-5 (8130)
 - GEOTEXTILE FABRIC - TREVIRA 011/550
 - GEONET COMPOSITE - GUNDEL FABRI-NET XL-14 WITH TEXTILE BONDED TO ONE SIDE
 - FOR RAILROAD SUBGRADE, SEE TYPICAL RAILROAD ROADBED SECTION ON DRAWING Y-NYY-011. MAINTAIN 1% (MIN) CROSS-SLOPE AS SHOWN ON THAT TYPICAL SECTION. MAINTAIN MINIMUM 1% SLOPE ALONG DRAINAGE SLOES TO CATCH BASINS. FOR INVERT ELEVATION AT CATCH BASINS, SEE DRAWING Y-NYY-007 (ALSO REFER TO ATL AS-BUILT DRAWINGS).
 - DETAIL 1 IS APPLICABLE FOR ANCHORING LINER AT CONCRETE ROADS (TYPICAL AT NORTH AND SOUTH EDGE OF LINER), AND AT CONCRETE FOOTINGS (e.g., ALONG UNLOADING SHED). AT EAST END WHERE RAIL TRACKS CROSS ROAD, LINER WAS INSTALLED TO EDGE OF ROAD AND ASPHALT (MIN 1 FT WIDE) WAS PLACED TO COVER EDGE OF LINER. AT WEST END OF LINER, WHERE ROAD DOESN'T EXIST, LINER WAS BENT UP.
 - IN CONSTRUCTION PHASE II ONLY (SEE DRAWING Y-NYY-003), NYSDOT TABLE T03-4, SIZE NO. 2 STONE WAS SUBSTITUTED FOR UNDERDRAIN FILTER TYPE 1 STONE (THIS WAS DUE TO A TEMPORARY SHORTAGE OF TYPE 1 MATERIAL).
 - TO ALLOW MAINTENANCE IN RAIL YARD, CRUSHER RUN (GRADATION TYPE 4) WAS PLACED ON THE SURFACE AT LOCATIONS DETERMINED BY FIELD. GEOTEXTILE FABRIC (MIRAF 500) WAS LAID ON TOP OF SUB-BALLAST STONE BEFORE PLACING CRUSHER RUN.
 - FOR AS-BUILT FINAL GRADES, SEE ATL-NYD-03 AND 04.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT CONSTRUCTION PHASING SCHEDULE	Y-NYY-003
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT PAVEMENT RESTORATION PLAN	Y-NYY-008
FINISH GRADE SECTIONS	19-6225-Y-Y-20

LEGEND

CLSM	CONTROLLED LOW STRENGTH MATERIAL (USED AS BACKFILL MATERIAL)
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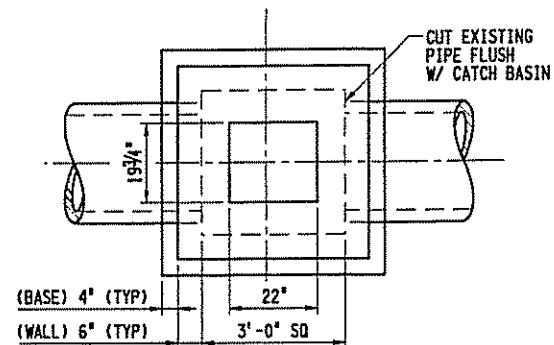
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2	1/21/98	AS-BUILT, INCORPORATED FOR 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000						
3	7/12/98	REVISED & REISSUED FOR CONSTRUCTION	ECL	DWE	JVF	WOF	JWG	DFB
4	6/5/99	ISSUED FOR CONSTRUCTION	ECL	DWE	JVF	BKM	DES	DFB
NO.	DATE	REVISIONS	6/20/97	9/27/97	10/13/97	11/13/97	11/24/97	12/1/97
CH	JED	DES	GAC	DES	JWG	DFB		

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

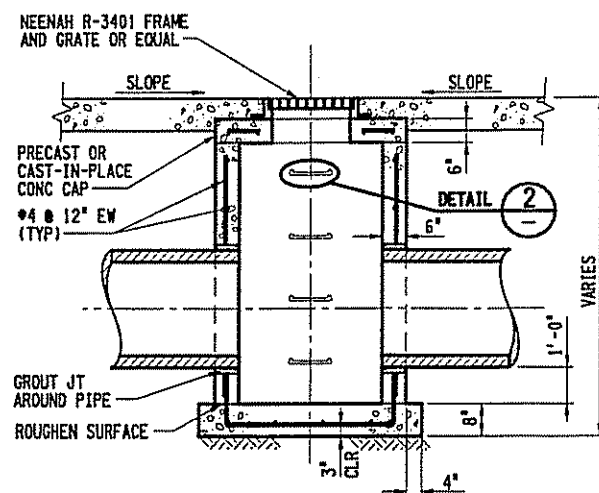
REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

**NORTH YARD REMEDIATION PROJECT
FINISH GRADE SECTIONS**

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-012	3



PLAN

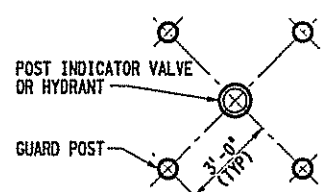


SECTION

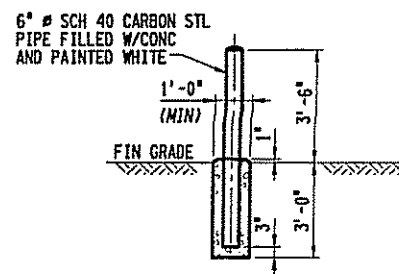
- NOTES:
- CATCH BASINS SHALL BE CAST-IN-PLACE OR PRECAST CONCRETE BY KISTNER OR EQUAL.
 - CAST-IN-PLACE CONCRETE CATCH BASINS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.
 - INSTALL LADDER BARS FOR DEPTHS GREATER THAN 4 FEET.

TYPICAL CATCH BASIN DETAIL

NTS Y-NYY-007



PLAN

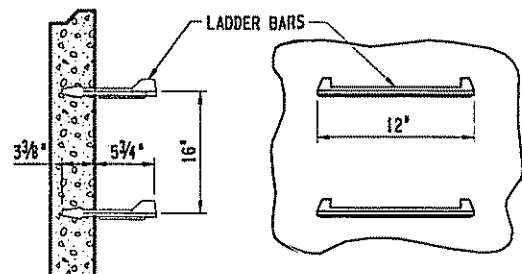


SECTION

- NOTE:
- GUARD POSTS FACE ROAD. NUMBER OF POSTS SHALL BE IN ACCORDANCE WITH HYDRANT LOCATION. TWO POSTS FOR ROADSIDE LOCATIONS, FOUR POSTS IN PARKING OR PAVED AREAS.

TYPICAL GUARD POST

NTS

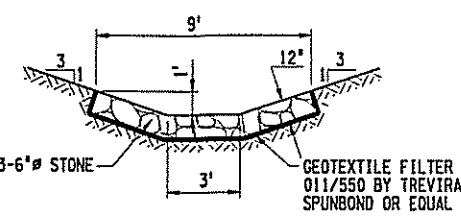


ELEVATION

- NOTES:
- CATCH BASIN LADDER BARS SHALL BE 1/2" STEEL INSULATED IN POLYPROPYLENE PLASTIC BY M.A. INDUSTRIES OR EQUAL.
 - EXACT DIMENSIONS OF LADDER BARS AND INSETS MAY VARY BY MANUFACTURER.

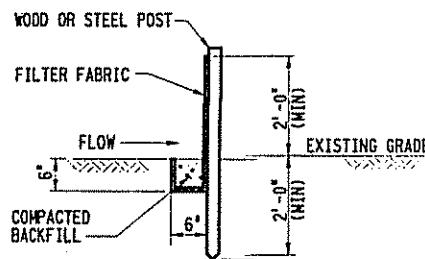
DETAIL 2

NTS



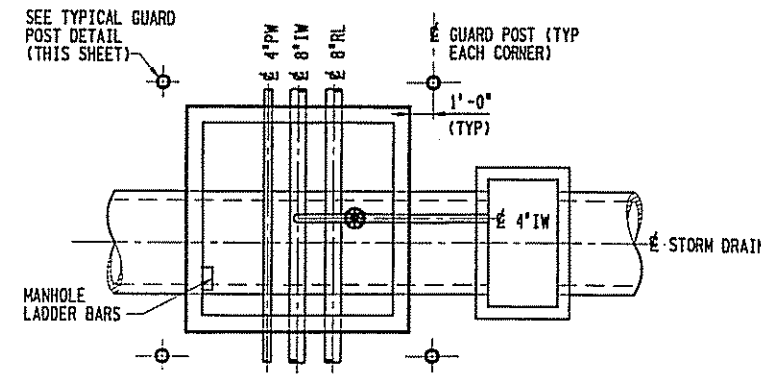
TYPICAL RIP RAP SPILLWAY DETAIL

NTS

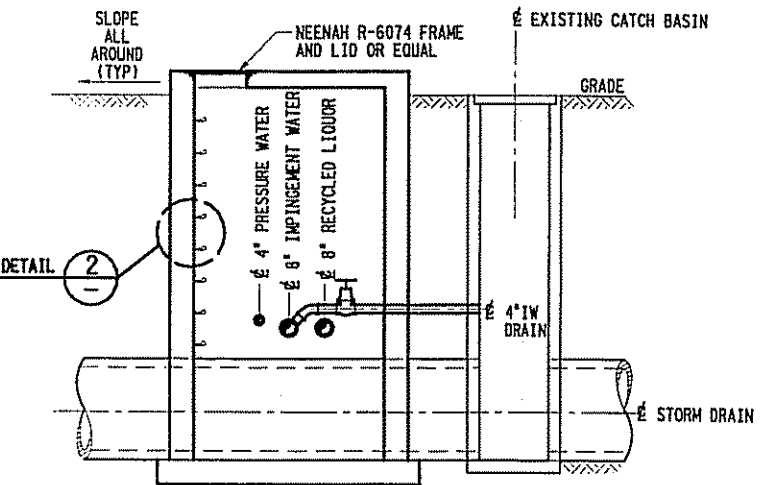


TYPICAL SILT FENCE DETAIL

NTS



PLAN

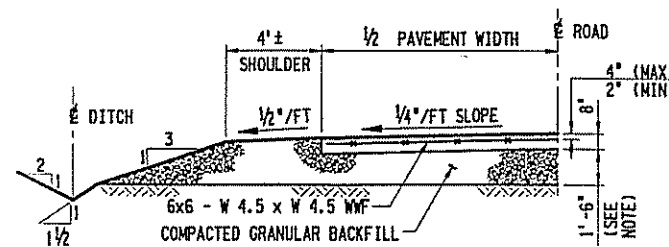


SECTION

- NOTES:
- REFER TO RMC YARD PIPING PLAN DRAWINGS FOR LOCATIONS OF UTILITIES AND STRUCTURES.
 - LOCATIONS AND DIMENSIONS OF EXISTING UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD.
 - BOTTOM OF VAULT MAY BE STEPPED OVER EXISTING STORM DRAIN. BOTTOM OF VAULT SHALL BE SUPPORTED TO PREVENT DAMAGE TO STORM DRAIN.

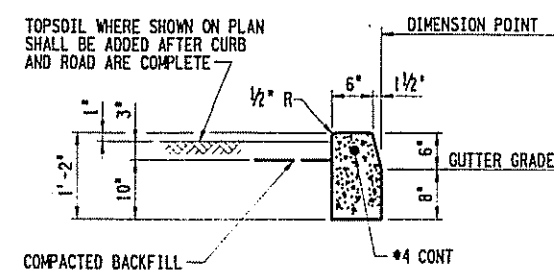
TYPICAL VALVE VAULT DETAIL

1/4" = 1'-0" Y-NYY-009



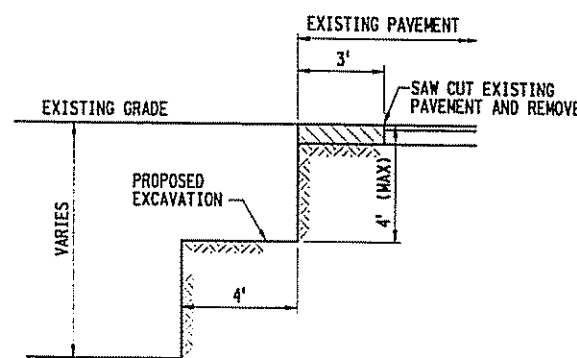
TYPICAL SECTION FOR CONCRETE ACCESS ROAD

NTS



TYPICAL CONCRETE CURB

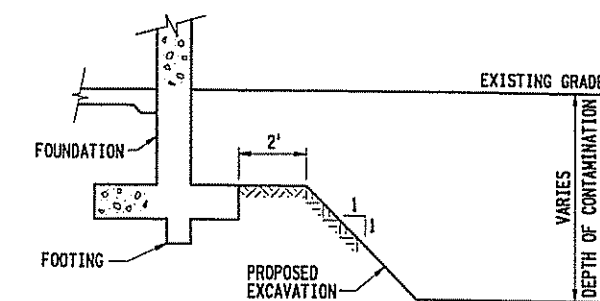
NTS



- NOTES:
- DISPOSE OF PAVEMENT AS DIRECTED BY BECHTEL.
 - UPON COMPLETION OF REMEDIATION, SITE SHALL BE RESTORED SO THAT THE NEW PAVEMENT WILL MATCH FLUSH TO THE EXISTING PAVEMENT AT THE SAW CUT.

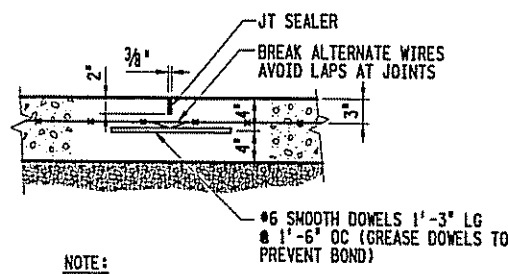
TYPICAL EXCAVATION ADJACENT TO ROADWAYS

NTS Y-NYY-006



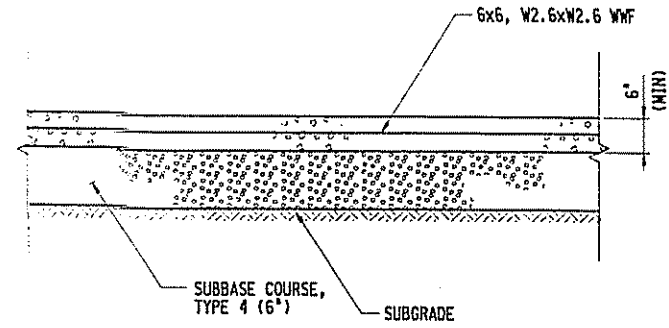
TYPICAL EXCAVATION ADJACENT FOOTINGS/FOUNDATIONS

NTS Y-NYY-006



TYPICAL CONTRACTION JOINT FOR ACCESS ROADS

NTS



TYPICAL CONCRETE PAVEMENT DETAIL

NTS

- NOTES
- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING NO. Y-NYY-001.
 - CONCRETE WORK SHALL BE PER SPECIFICATION CSP-021 (UNLESS NOTED OTHERWISE).
 - EXACT DIMENSIONS OF SPECIFIED PRODUCTS MAY VARY BY MANUFACTURER.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT UTILITY RESTORATION PLAN	Y-NYY-009

NO.	DATE	REVISIONS	BY	CHKD	APP'D	DATE
1	1/2/98	ADDED VALVE VAULT DETAIL	CH	JED	JWG	JED
2	1/21/98	AS-BUILT, INCORPORATED FOR 125 AND FOR 154	CH	JED	DES	GAC
3	1/12/98	REVISED AND RE-ISSUED FOR CONSTRUCTION	KCL	DWE	JAF	WCF
4	1/5/98	ISSUED FOR CONSTRUCTION	KCL	DWE	JAF	BNM

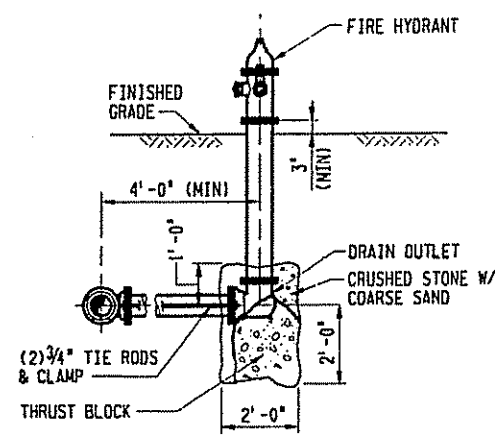
SCALE: AS NOTED

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

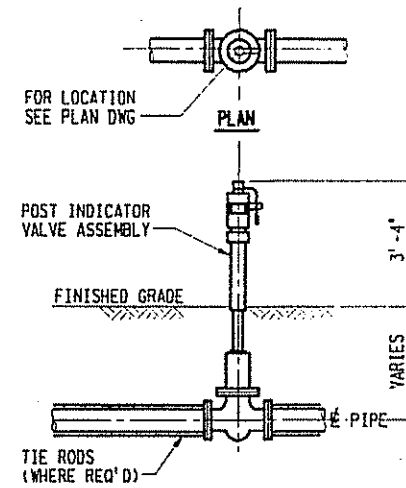
REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
SECTIONS AND DETAILS

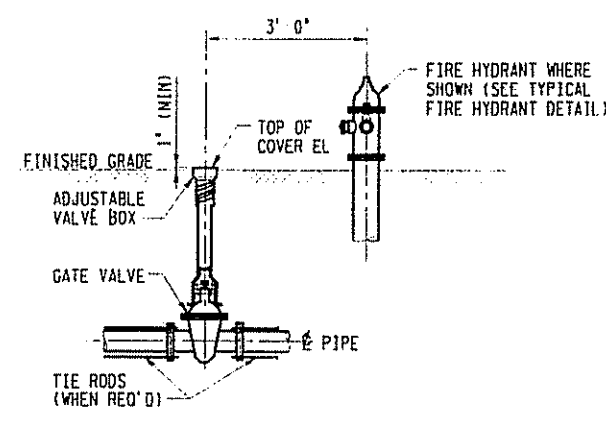
JOB NO.	DRAWING NO.	REV
20384	Y-NYY-013	3



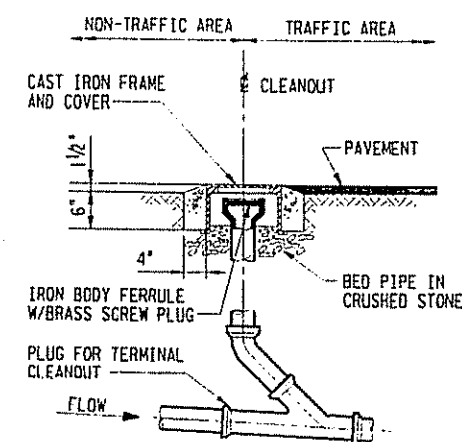
TYPICAL FIRE HYDRANT
NTS



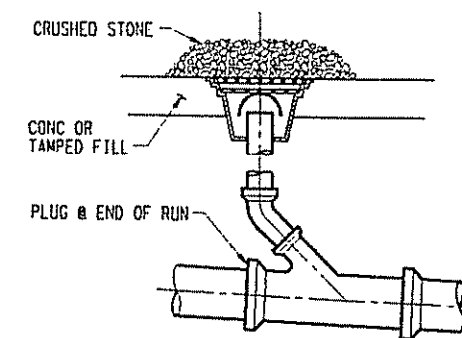
TYPICAL POST
INDICATOR VALVE
NTS



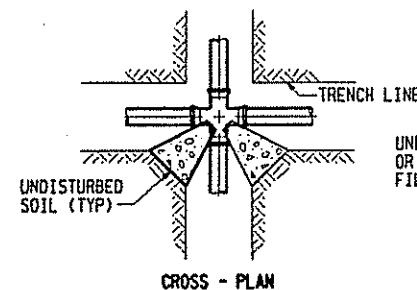
TYPICAL VALVE BOX
NTS



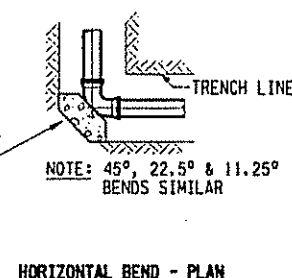
TYPICAL PIPE CLEANOUT
NTS



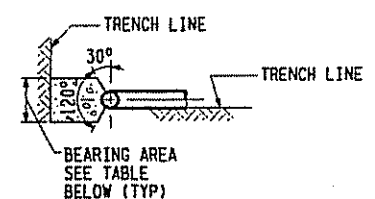
TYPICAL DRAIN
NTS



TYPICAL THRUST BLOCK SECTION



HORIZONTAL BEND - PLAN

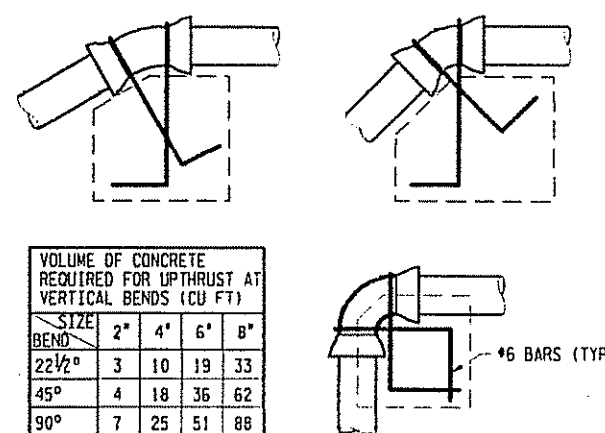


TEE - PLAN

THRUST BLOCK BEARING AREA (SQ FT)					
PIPE SIZE	90° BEND	45° BEND	22.5° BEND	11.25° BEND	1LL
6"	1.96	1.44	1.00	1.00	1.96
8"	3.61	2.56	1.44	1.00	3.61
10"	5.29	4.00	2.25	1.21	5.29
12"	7.84	5.76	2.89	1.69	7.84

AREAS IN TABLE HAVE BEEN DERIVED BY USING A WATER PRESSURE OF 200 PSI AND SOIL RESISTANCE OF 3000 PSF. CENTER OF THRUST BLOCK IS ASSUMED 3 FT MIN BELOW GRADE.

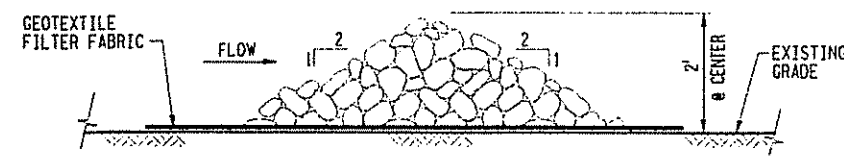
TYPICAL BEND THRUST BLOCK
NTS



VOLUME OF CONCRETE REQUIRED FOR UPTHRUST AT VERTICAL BENDS (CU FT)					
SIZE BEND	2"	4"	6"	8"	
22 1/2°	3	10	19	33	
45°	4	18	36	62	
90°	7	25	51	88	

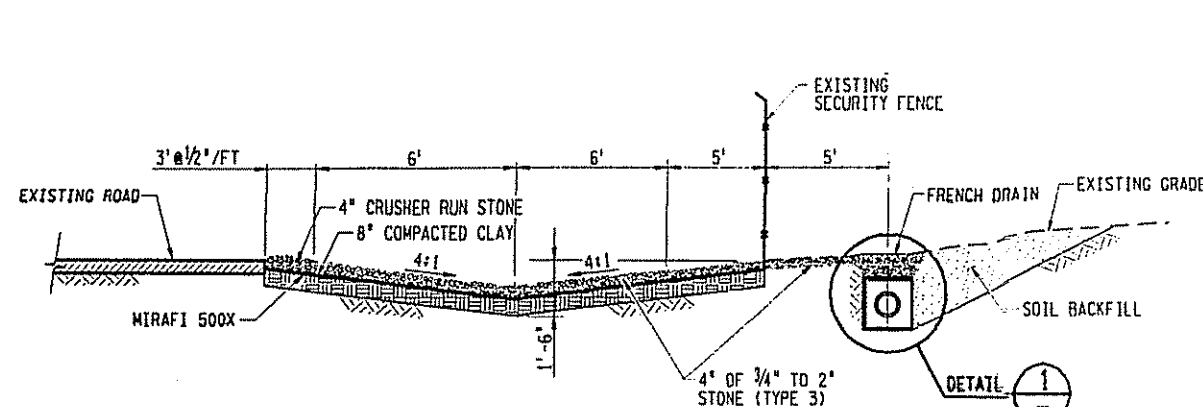
NOTE: ALL BARS TO HAVE EMBEDMENT OF AT LEAST 30 DIAMETERS.

TYPICAL ANCHOR BLOCKS
NTS

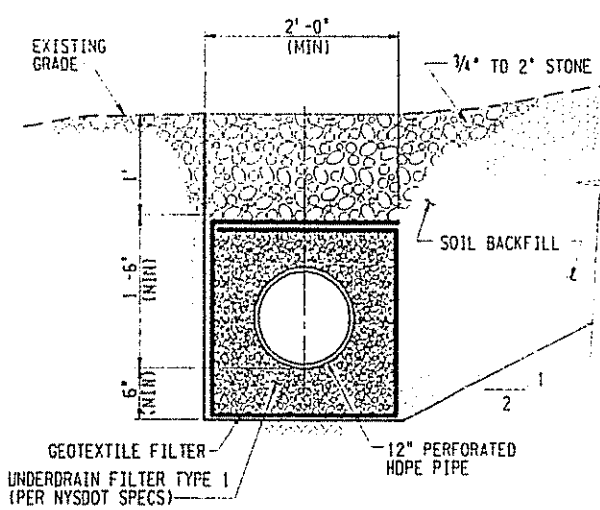


- NOTES:
- INSPECT CHECK DAM AFTER EACH STORM EVENT. REMOVE COLLECTED SEDIMENTS AND TRASH AS NEEDED.
 - RIPRAP SHALL BE NYSDDT LIGHT STONE FILL, $d_{50} \leq 6$ IN.

TYPICAL STONE CHECK DAM DETAIL
NTS



SECTION D
NTS



DETAIL 1
NTS

- NOTES
- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING Y-NYY-001.
 - UTILITY LINES ARE NOT PROPOSED FOR CONSTRUCTION WITHIN THIS CONTRACT. SHOULD EXISTING UTILITIES BE UNCOVERED, DISTURBED, OR DAMAGED, THEY SHALL BE REPAIRED IN ACCORDANCE WITH THE DETAILS ON THIS SHEET.
 - THE MANHOLES SHALL BE 4 FEET DIAMETER CONCRETE.

REFERENCE DRAWINGS	
NORTH YARD REMEDIATION PROJECT SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT UTILITY RESTORATION PLAN	Y-NYY-009

NO.	DATE	REVISIONS	BY	CHK	APP	REV
1	1/21/98	AS-BUILT, INCORPORATED FOR 189 AND FCH 189	CH	JED	DES	GAC
2	5/21/98	REVISED AND REISSUED FOR CONSTRUCTION	KCL	JED	JJF	DES
3	7/18/98	REVISED AND REISSUED FOR CONSTRUCTION	KCL	ONE	JJF	WCF
4	6/5/98	ISSUED FOR CONSTRUCTION	KCL	ONE	JJF	DKH

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.,
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

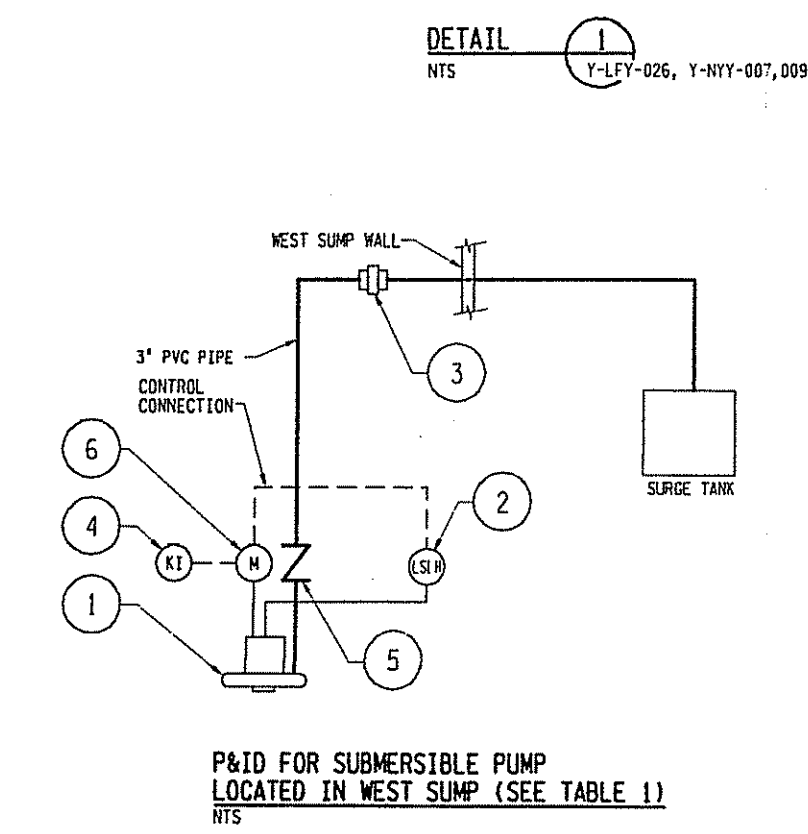
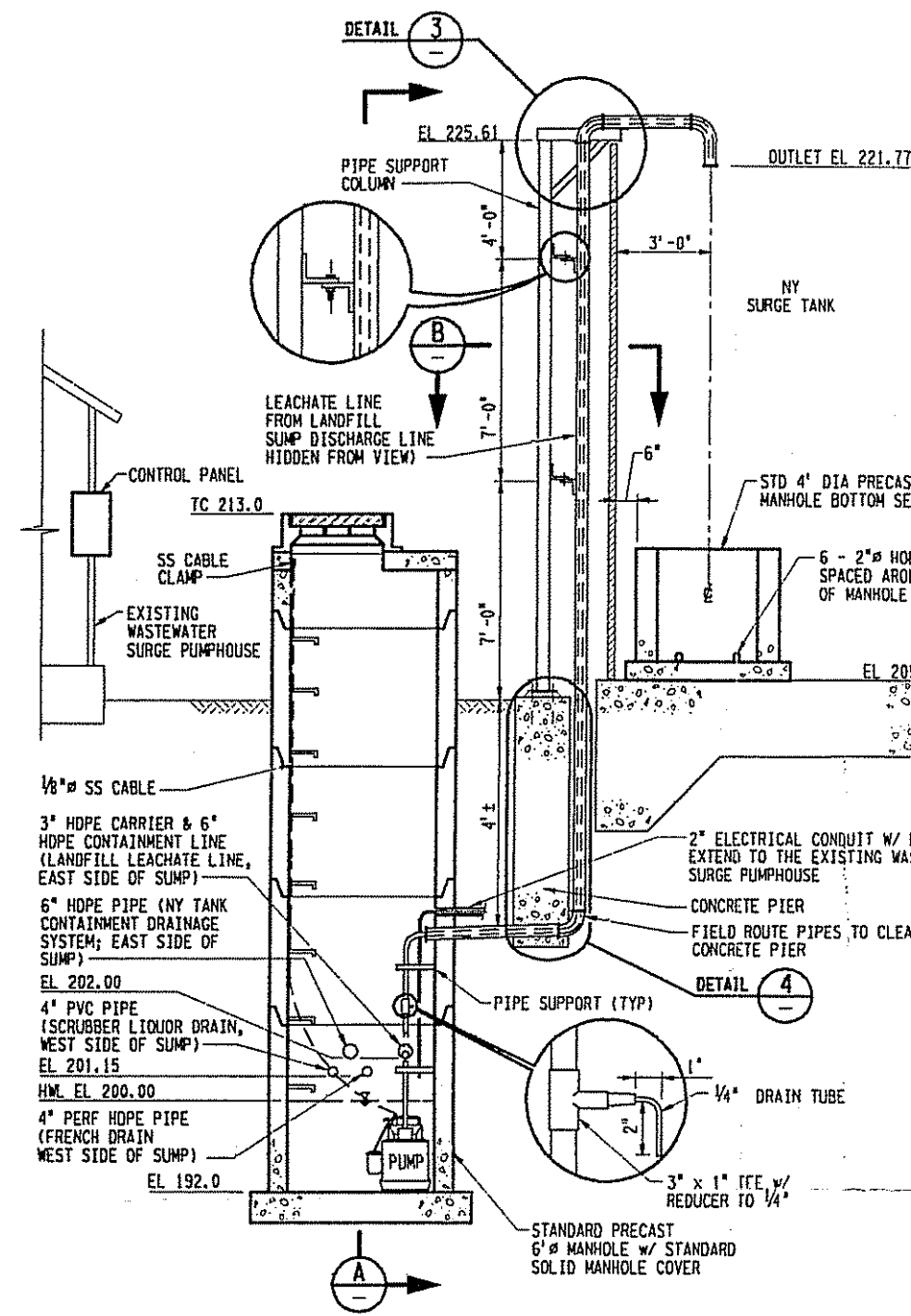
NORTH YARD REMEDIATION PROJECT
SECTIONS AND DETAILS

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-014	3

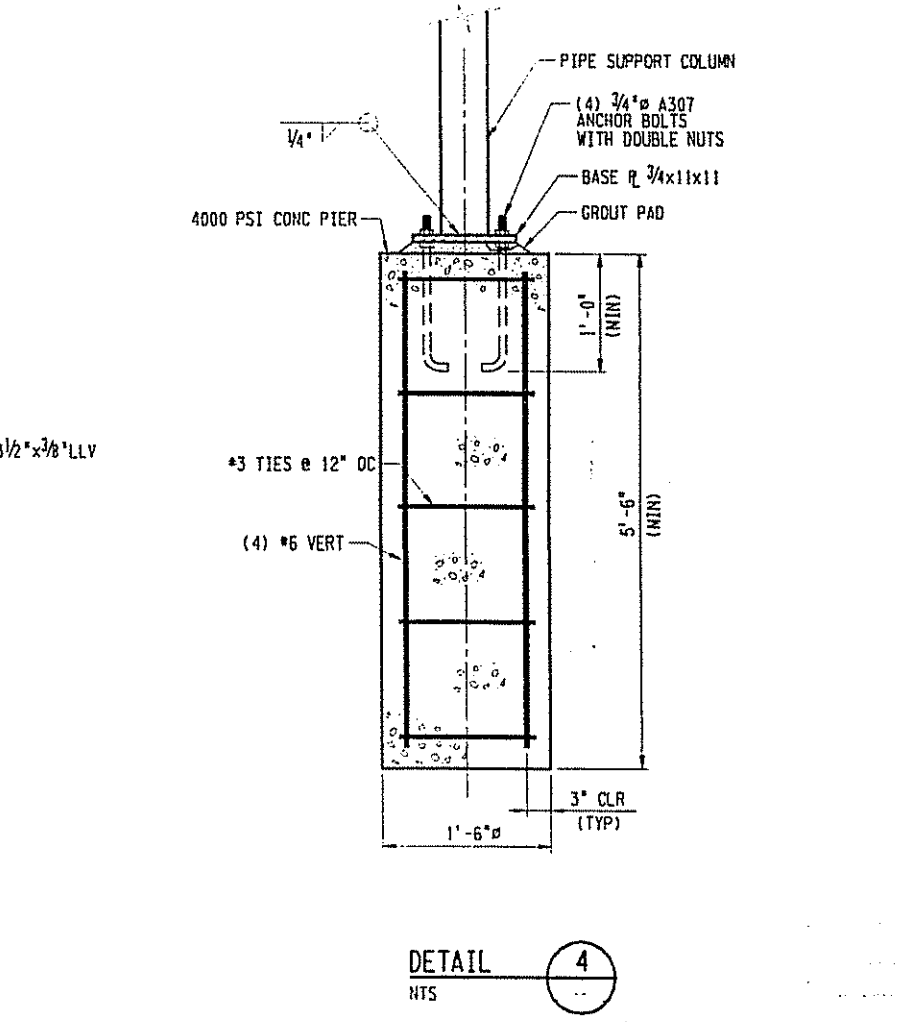
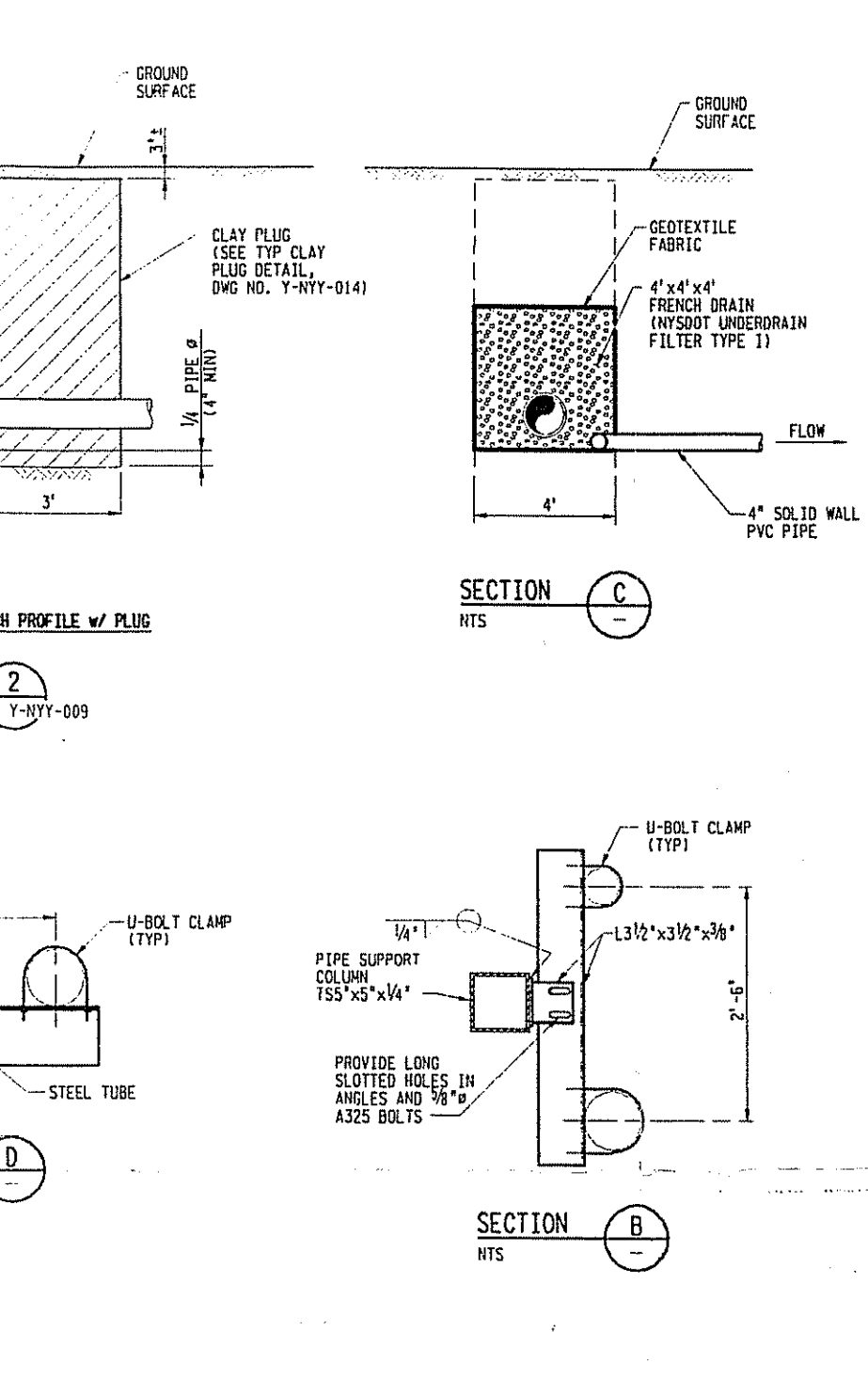
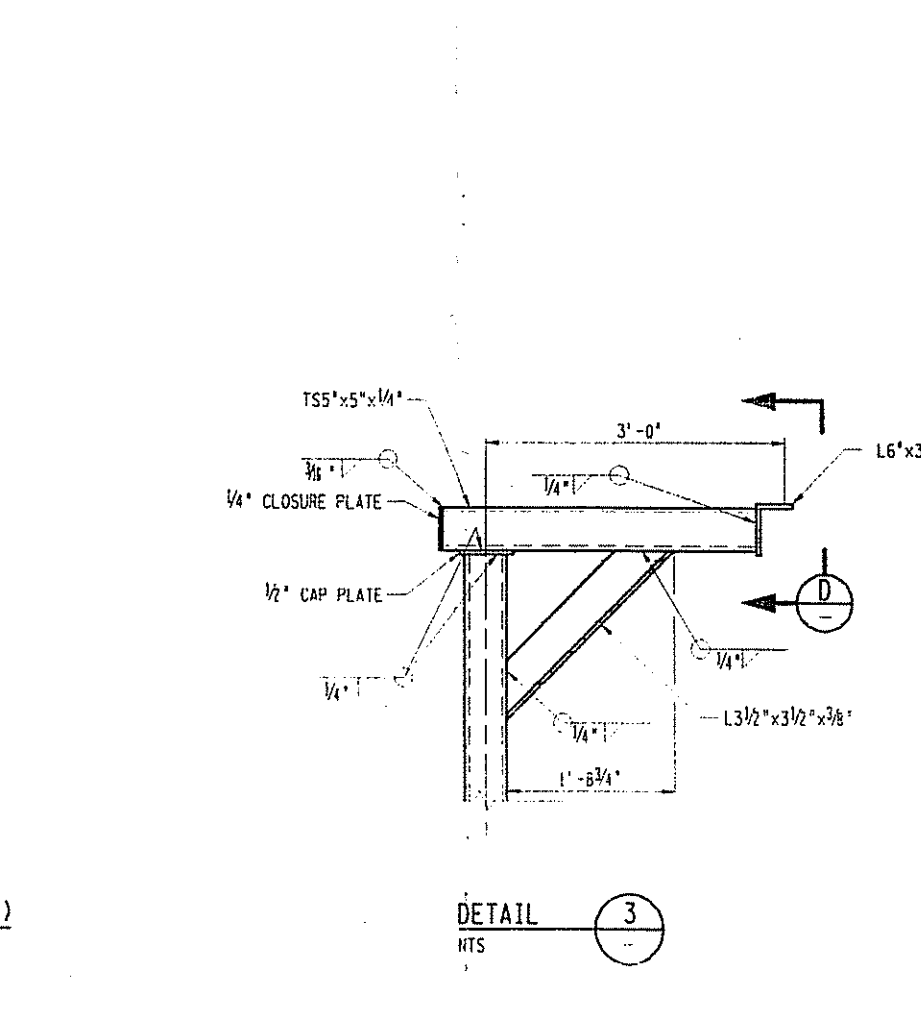
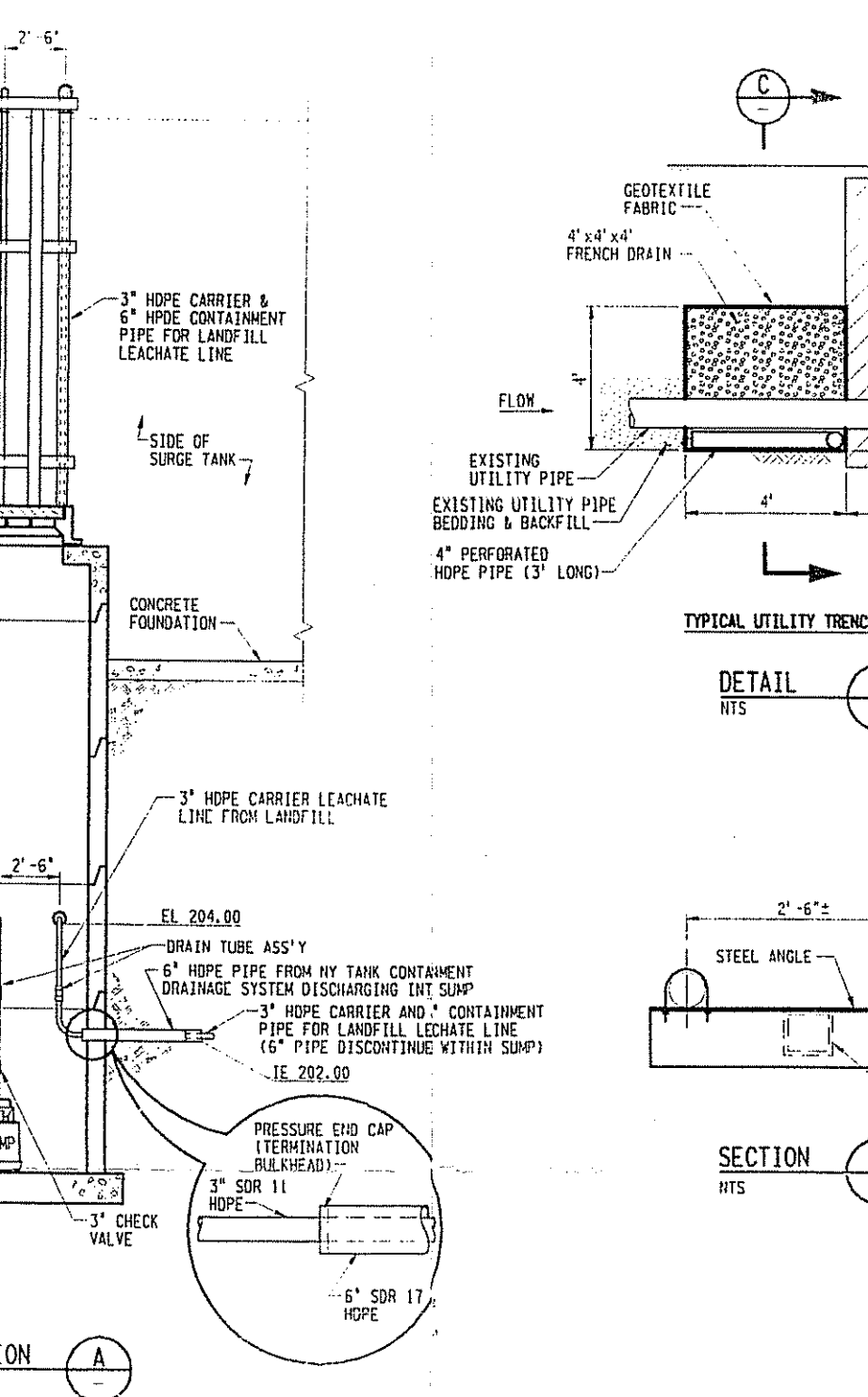
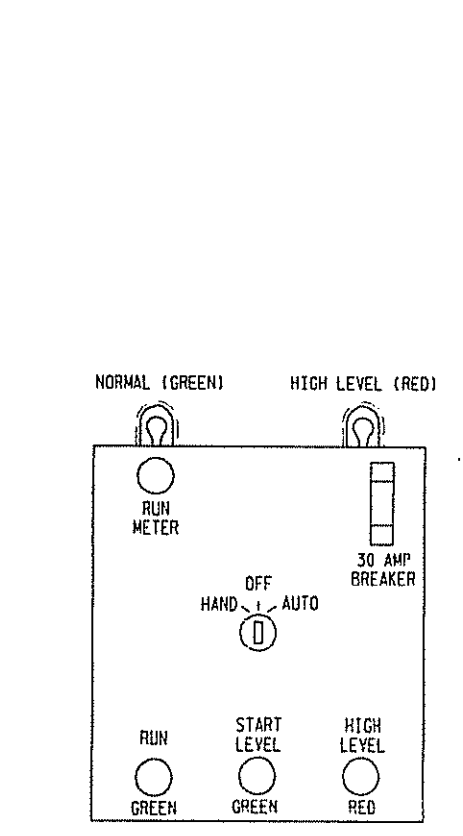
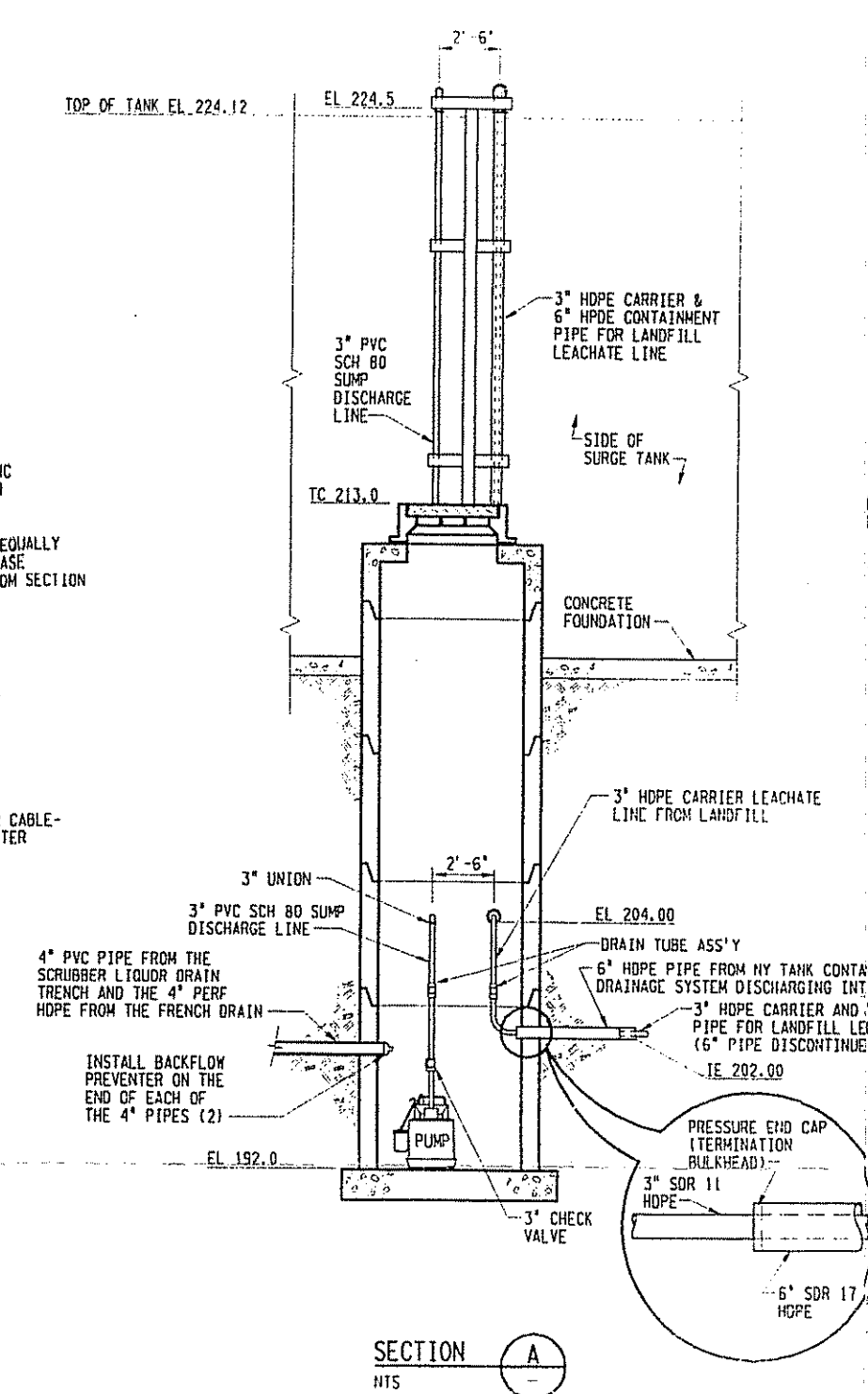


NY-014-009

20 X 42



PART NO.	DESCRIPTION
1	5.0 HP SUBMERSIBLE PUMP (MSHA CERTIFIED PERMISSIBLE) - 3φ, 460V, 3400 RPM, SS SHAFT, FLYGT MODEL BS-2015(P), PUMP CAPACITY - 100 GPM @ 40 FT HEAD
2	LEVEL SWITCH - HIGH AND LOW; HIGH LEVEL - ON @ EL 200.0; LOW LEVEL - OFF @ EL 192.5; HIGH LEVEL ALARM ON @ EL 201.0
3	3" PVC UNION
4	RUN-TIME TOTALIZING INDICATOR (HOUR METER)
5	3" CHECK VALVE
6	MOTOR STARTER



NOTES

- UNLESS NOTED OTHERWISE, HDPE PRESSURE PIPE SHALL BE 3", SDR 11, JOINED BY THE THERMAL BUTT FUSION PROCESS.
- ALL STRUCTURAL STEEL FRAMING COMPONENTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123.
- ALL FIELD WELDS AND DAMAGES TO GALVANIZED COATING SHALL BE COATED WITH A COLD GALVANIZING COMPOUND MANUFACTURED BY ZRC PRODUCTS COMPANY OR EQUAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- SUMP MANHOLE - STANDARD 6" SANITARY SEWER QUALITY PRECAST CONCRETE MANHOLES WITH THE FOLLOWING FEATURES:
 - WATERTIGHT PIPE BOOT SEAL BY KOR-N-SEAL OR EQUAL.
 - O-RING GASKET BETWEEN BARREL SECTIONS
 - "BITUMINOUS BLACK" COATING OR EQUAL.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN	Y-NYY-007
NORTH YARD REMEDIATION PROJECT UTILITY RESTORATION PLAN	Y-NYY-009
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-014
LEACHATE TRANSFER LINE DETAILS	Y-LFY-027
NORTH YARD WATER REMEDIATION SURGE TANKS AND PUMP STATION	D-FT-630-M-2755

LEGEND

REVISOR	DATE	REVISIONS	BY	CHK	APP	DATE
AS-BUILT	12/97	CH	JED	DES	JH	DES
ISSUED FOR CONSTRUCTION	12/99	KCL	CH	JIF	JH	DES

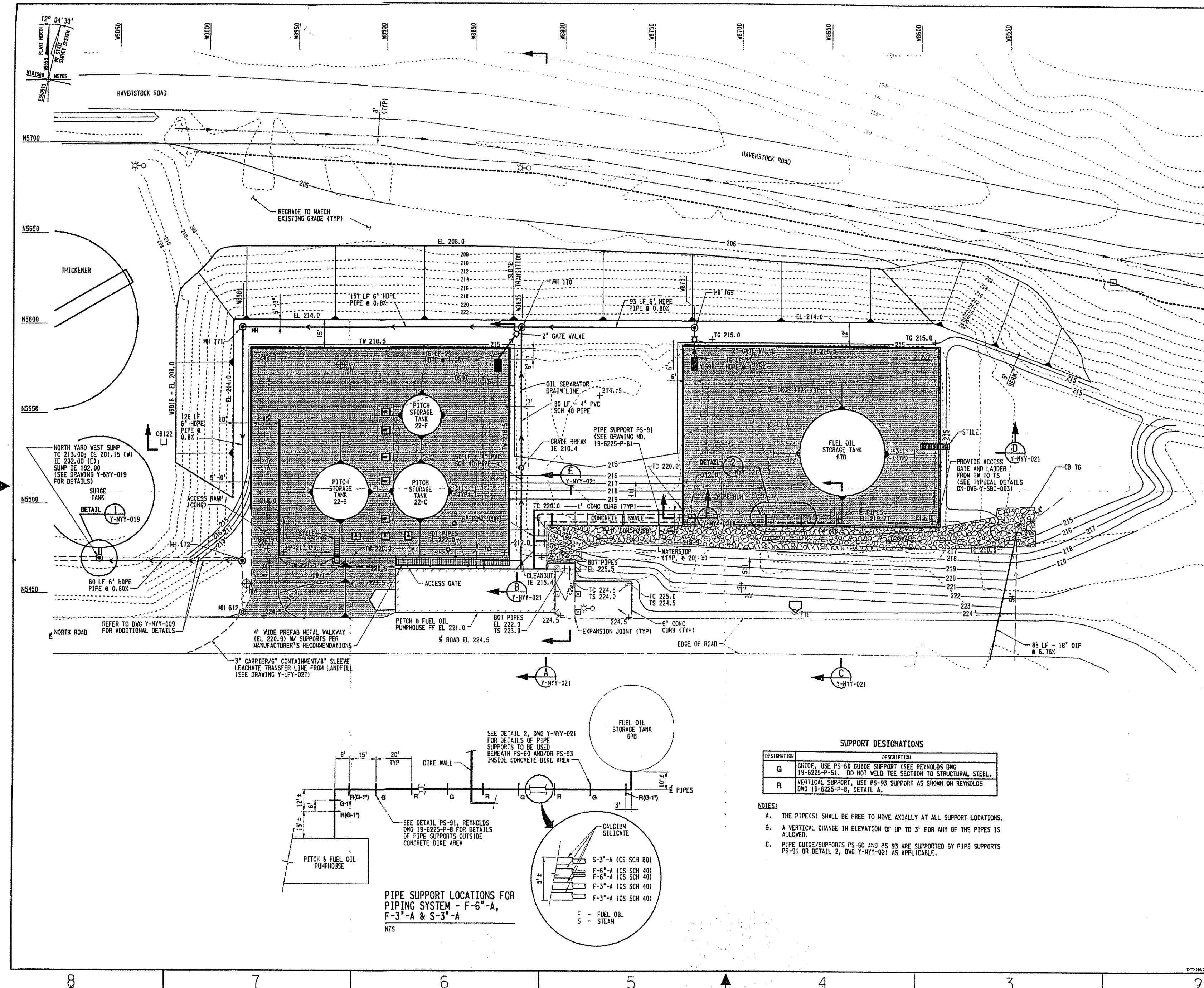
SCALE: AS SHOWN

BECHTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECHTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

NORTH YARD REMEDIATION PROJECT
NORTH YARD WEST SUMP
(NORTH YARD DIKE DRAINAGE AND GROUNDWATER PUMP STATION)

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-019	2



NOTES

- FOR GENERAL ABBREVIATIONS, NOTES, AND LEGEND, REFER TO DRAWING Y-NYY-001.
- STANDARD STORM DRAIN PIPES SHALL BE ADS HOPE N-12 PIPE (OR EQUAL) UNLESS NOTED OTHERWISE. JOINTS SHALL CONSIST OF RUBBER GASKET, LEAK RESISTANT COUPLERS. PERFORATED PIPE SHALL BE 12" HOPE WITH A FABRIC WRAP UNLESS NOTED OTHERWISE.
- GRADES SHOWN ARE FINISHED GRADES.
- ALL AREAS THAT ARE DISTURBED AND ARE NOT COVERED WITH A LINER, PAVEMENT, OR STONE SHALL BE SEEDED IN ACCORDANCE WITH CSP-007, "TURF ESTABLISHMENT."
- OIL SEPARATORS (OS) SHALL BE 100 GAL. GREASE AND OIL INTERCEPTORS, MANUFACTURED BY KISTNER CONCRETE PRODUCTS INC., OR EQUAL.
- GRANULAR BACKFILL SHALL CONFORM TO THE REQUIREMENTS FOR SELECT GRANULAR MATERIAL IN TECHNICAL SPECIFICATION CSP-024.
- EXCAVATION OF THE TRENCH, PIPE INSTALLATION, AND TRENCH BACKFILL SHALL BE PERFORMED IN ACCORDANCE WITH TECHNICAL SPECIFICATION CSP-024, "UNCONTAMINATED EARTHWORK."
- TRENCHES SHALL BE SHORED OR SLOPED IN ACCORDANCE WITH REQUIREMENTS OF OSHA 1910.120.
- A PERMANENT HIGH WATER LEVEL (HWM) MARKER SHALL BE LOCATED IN THE CONTAINMENT DIKE AREAS. THE HWM IS 213.50'. STORMWATER IS TO BE DRAINED FROM THE DIKES WHEN IT REACHES THIS LEVEL.
- REFER TO THE CONTAINMENT BASIN PLANS ON DRAWING Y-NYC-001 FOR DETAILED DIMENSIONS AND ELEVATIONS OF THE CONCRETE CONTAINMENT DIKES.
- FOR PITCH PIPING AS-BUILTS, REFER TO CONTROLS SOUTH-WEST VENDOR DRAWINGS FOUND IN BECTEL FIELD CHRON #8F09264.

REFERENCE DRAWINGS

NORTH YARD REMEDIATION PROJECT - SITE PLAN	Y-NYY-001
NORTH YARD REMEDIATION PROJECT - UTILITY RESTORATION PLAN	Y-NYY-003
NORTH YARD REMEDIATION PROJECT - FINISH GRADE SECTIONS	Y-NYY-012
NORTH YARD REMEDIATION PROJECT - SECTIONS AND DETAILS	Y-NYY-013
NORTH YARD REMEDIATION PROJECT - SECTIONS AND DETAILS	Y-NYY-014
NORTH YARD REMEDIATION PROJECT - NORTH YARD WEST SUMP	Y-NYY-019
NORTH YARD DIKE DRAINAGE & GROUNDWATER PUMP STATION	Y-NYY-021
NORTH YARD REMEDIATION PROJECT SECTIONS AND DETAILS	Y-NYY-021
NORTH YARD REMEDIATION PROJECT CONTAINMENT DIKE, PLANS, SECTIONS, AND DETAILS	Y-NYC-001
LEACHATE TRANSFER LINE - DETAILS	Y-LFY-027
YARD PIPING PLAN - AREA 5	19-6225-Y-M-5
YARD PIPING PLAN - AREA 6	19-6225-Y-M-6
PITCH, FUEL OIL, & CAUSTIC TANK FARM - PIPING PLAN	19-6225-Y-M-6
PITCH, FUEL OIL, & CAUSTIC TANK FARM - SECTIONS & DETAILS	19-6225-22A-P-3
PITCH PUMPHOUSE & TANK CAR UNLOADING - PIPING ARRANGEMENT	19-6225-22A-P-4
STANDARD DETAILS - MISC. PIPE SUPPORTS TYPES 57 THRU 70	19-6225-P-5
STANDARD DETAILS - MISC. PIPE SUPPORTS TYPES 91 THRU 104	19-6225-P-8

LEGEND

FOR GENERAL LEGEND, SEE DRAWING Y-NYY-001.

=====	RELOCATED PIPING TO THE PITCH TANKS (INDICATES MULTIPLE PIPES)
=====	PIPING TO THE FUEL OIL AND PITCH TANKS (INDICATES MULTIPLE PIPES)
-----	STORM DRAIN
-----	FRENCH DRAIN
-----	DRAINAGE SWALE
-----	STORM DRAIN
CB	CATCH BASIN
2x	TRENCH PLUG
▽	GROUND SLOPE INDICATOR
=====	CONCRETE FLOOR/RAMP FOR THE CONTAINMENT DIKES
=====	CONCRETE FOOTING FOR THE STEEL TOWER
OS	OIL SEPARATOR
TW	TOP OF WALL
TS	TOP OF SLAB
TG	TOP OF GROUND

0 20 40 60
1"=20'

SUPPORT DESIGNATIONS

DESIGNATION	DESCRIPTION
G	GUIDE, USE PS-60 GUIDE SUPPORT (SEE REYNOLDS DWG 19-6225-P-5). DO NOT WELD TEE SECTION TO STRUCTURAL STEEL.
R	VERTICAL SUPPORT, USE PS-93 SUPPORT AS SHOWN ON REYNOLDS DWG 19-6225-P-8, DETAIL A.

NOTES:

- THE PIPE(S) SHALL BE FREE TO MOVE AXIALLY AT ALL SUPPORT LOCATIONS.
- A VERTICAL CHANGE IN ELEVATION OF UP TO 3' FOR ANY OF THE PIPES IS ALLOWED.
- PIPE GUIDE/SUPPORTS PS-60 AND PS-93 ARE SUPPORTED BY PIPE SUPPORTS PS-91 OR DETAIL 2, DWG Y-NYY-021 AS APPLICABLE.

PIPE SUPPORT LOCATIONS FOR PIPING SYSTEM - F-6"-A, F-3"-A & S-3"-A

NYS

SEE DETAIL 2, DWG Y-NYY-021 FOR DETAILS OF PIPE SUPPORTS TO BE USED BENEATH PS-60 AND/OR PS-93 INSIDE CONCRETE DIKE AREA

SEE DETAIL PS-91, REYNOLDS DWG 19-6225-P-8 FOR DETAILS OF PIPE SUPPORTS OUTSIDE CONCRETE DIKE AREA

PITCH & FUEL OIL PUMPHOUSE

DIKE WALL

8' 15' 20' TYP

12' ± 15' ±

3' ±

10' ±

1' ±

5'-3"-A (CS SCH 80)
F-6"-A (CS SCH 40)
F-6"-A (CS SCH 40)
F-3"-A (CS SCH 40)
F-3"-A (CS SCH 40)

F - FUEL OIL
S - STEAM

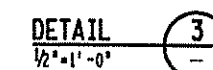
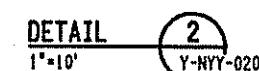
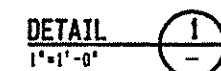
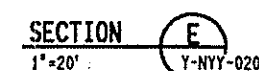
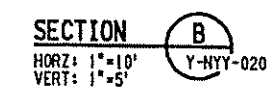
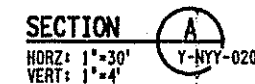
BECTEL ASSOCIATES PROFESSIONAL CORPORATION-NY
FOR BECTEL ENVIRONMENTAL, INC.
OAK RIDGE, TENNESSEE

REYNOLDS METALS COMPANY - MASSENA N.Y.
ST. LAWRENCE REDUCTION PLANT

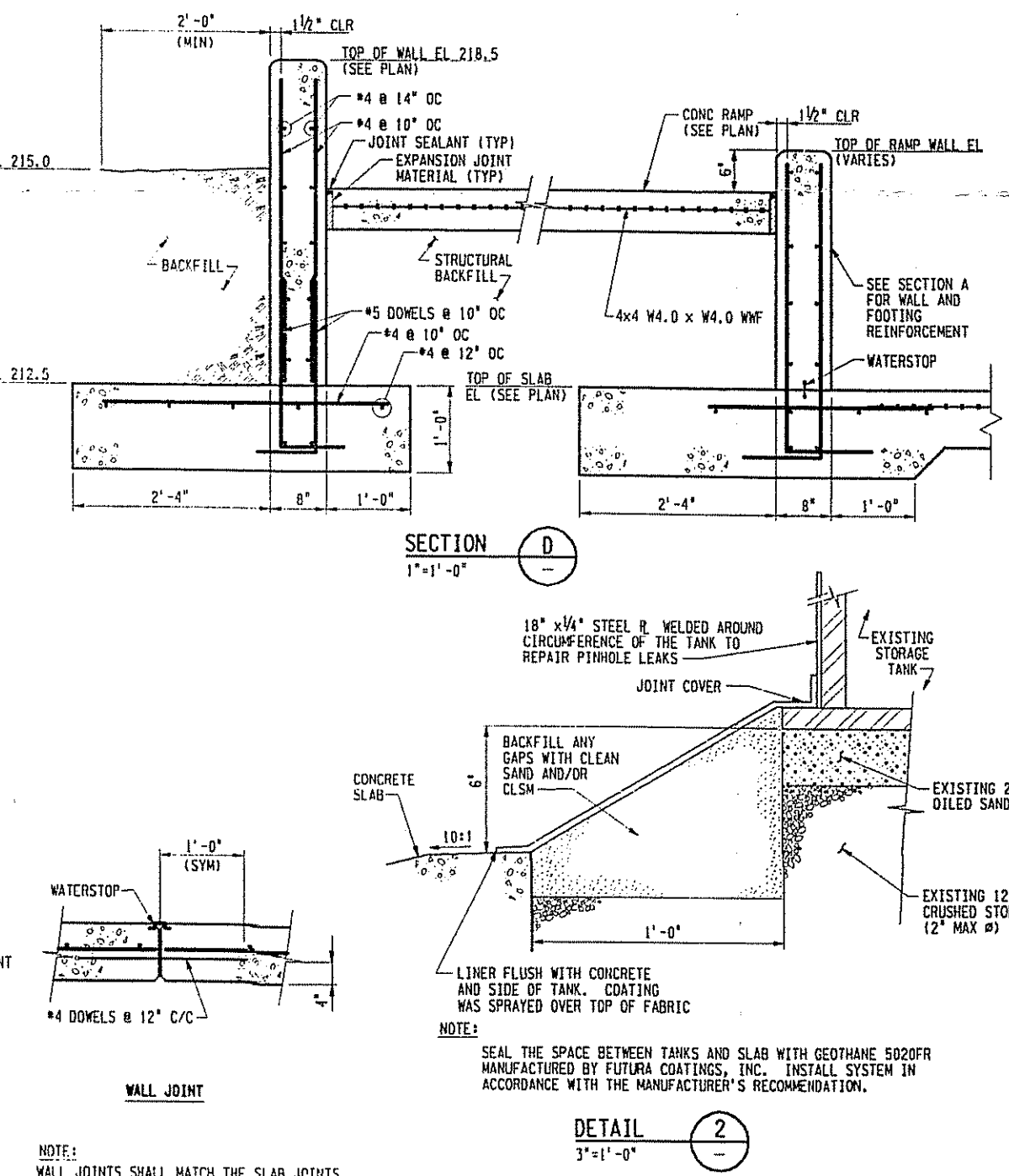
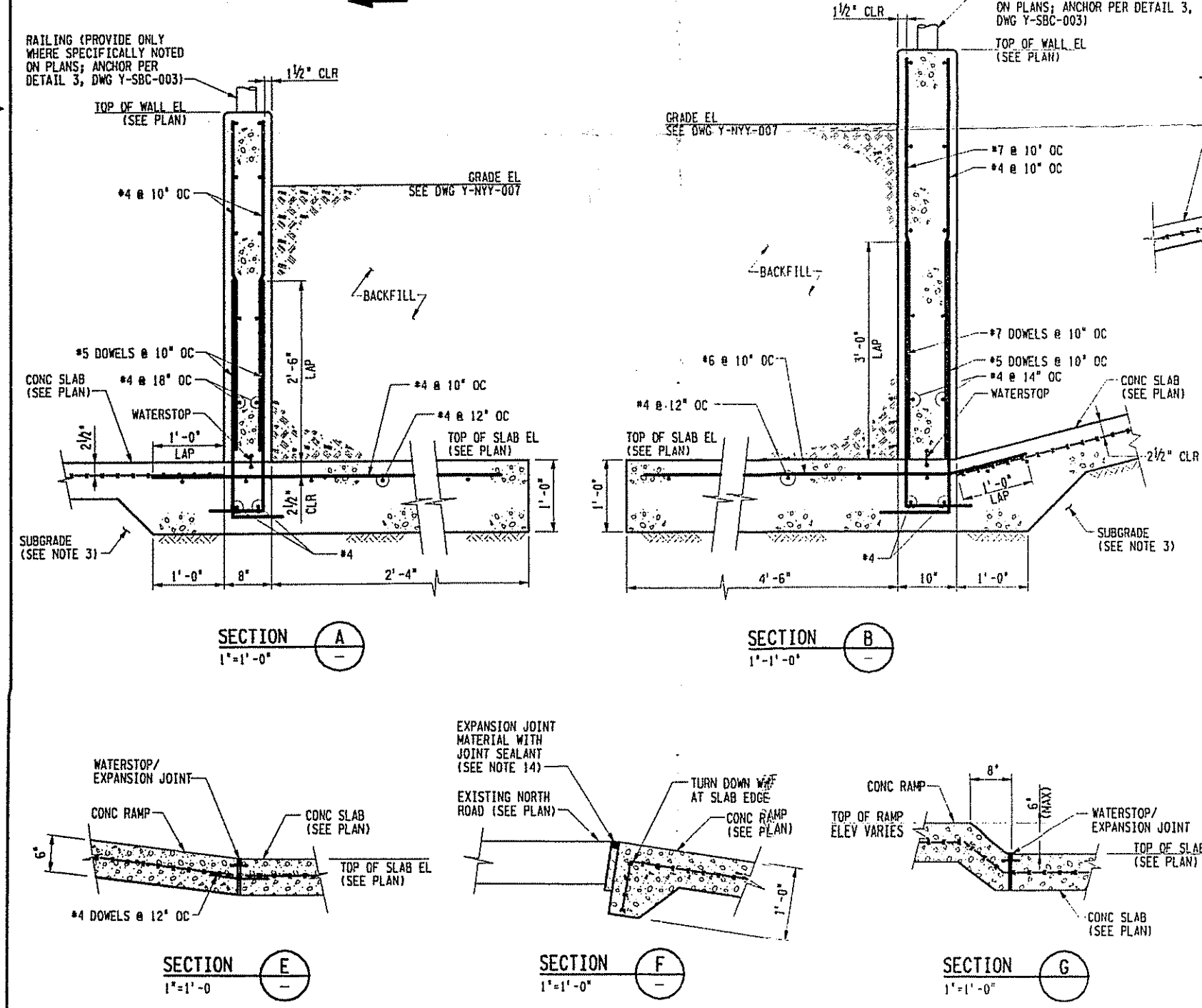
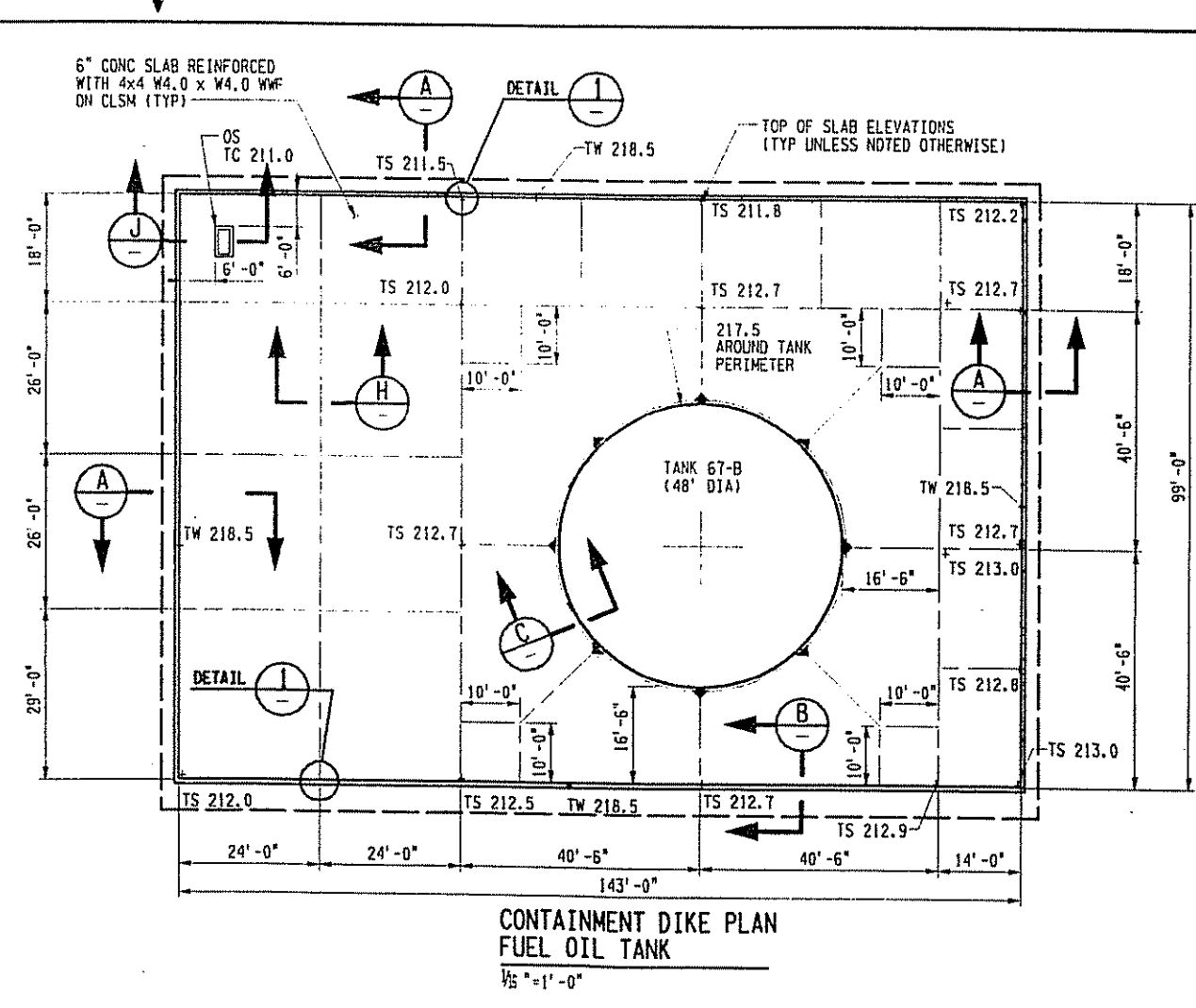
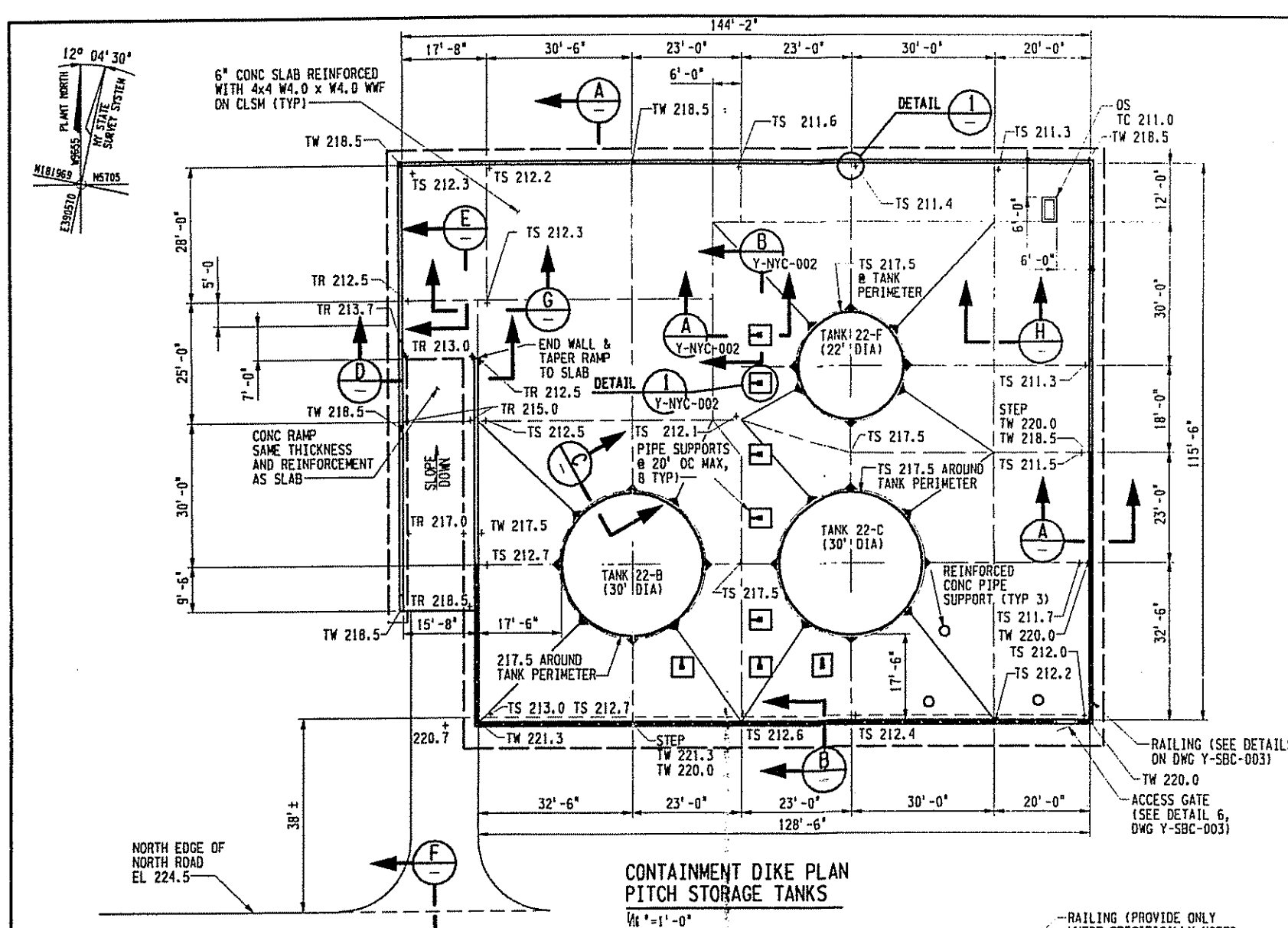
NORTH YARD REMEDIATION PROJECT
CONTAINMENT DIKE LAYOUT

JOB NO.	DRAWING NO.	REV
20384	Y-NYY-020	3

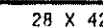
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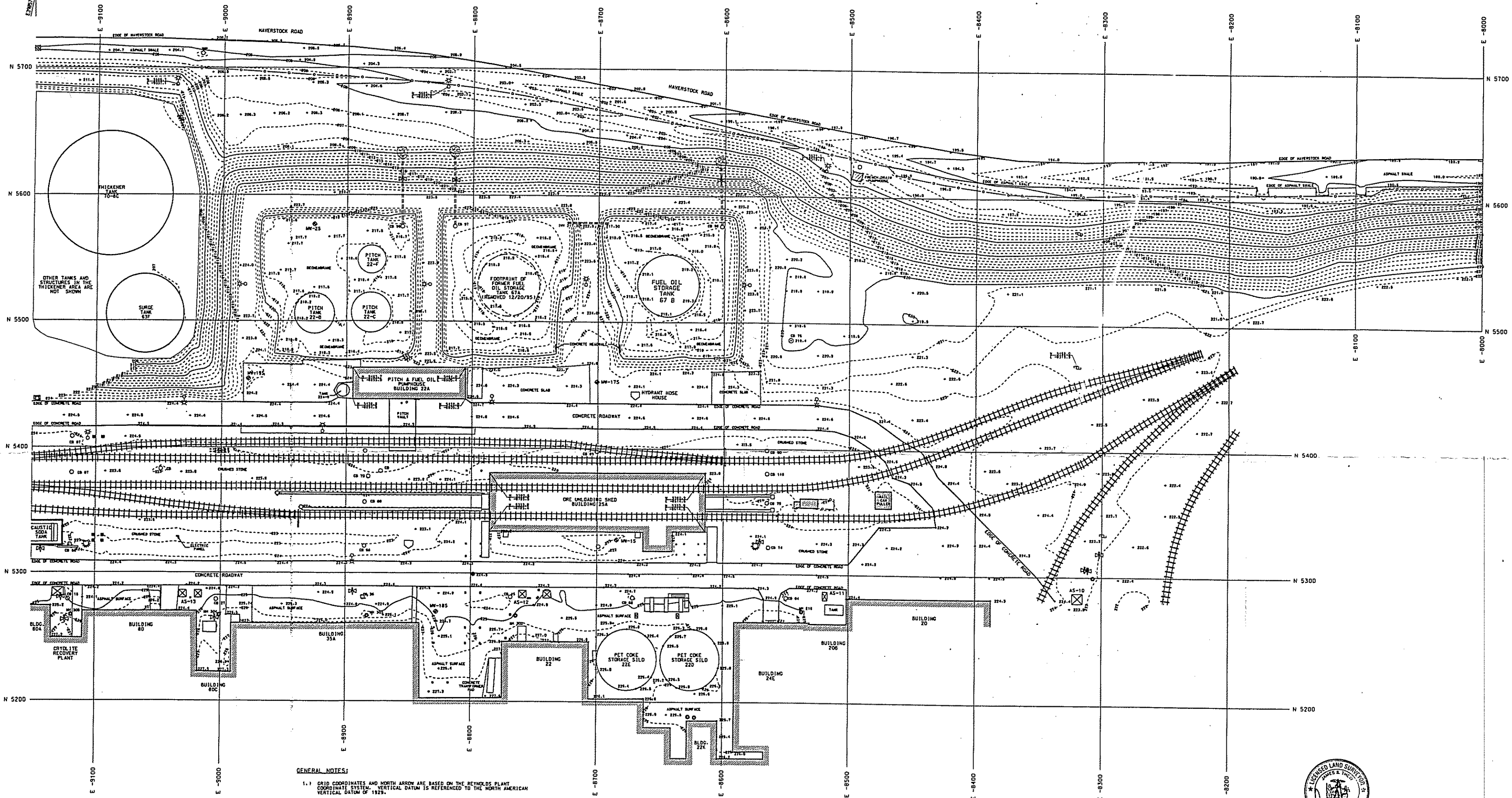
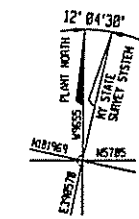


	JOB NO.	DRAWING NO.	REV
	20384	Y-NYY-021	3



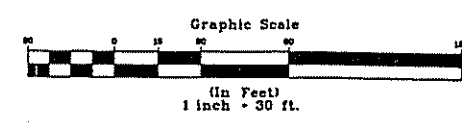
NOTES											
1. CONCRETE WORK SHALL BE PER SPECIFICATION CSP-021 (UNLESS NOTED OTHERWISE).											
2. WATERSTOPS SHALL BE 3/8" x 4" PVC DUMBBELL WATERSTOP AS MANUFACTURED BY GREENSTREAK OR EQUAL (UNLESS NOTED OTHERWISE).											
3. UNLESS NOTED OTHERWISE, PLACE CONCRETE ON STRUCTURAL FILL (COMPACTED CLAY, CLSM, OR EQUAL).											
4. WATERSTOP/EXPANSION JOINT SHALL BE WATERSTOP/EXPANSION JOINT CAP SEAL, MANUFACTURED BY WESTEC BARRIER TECHNOLOGIES OR EQUAL.											
5. ALL EXPOSED STRUCTURAL STEEL AND HANDRAIL MATERIAL SHALL BE GALVANIZED PER ASTM A153 AND/OR A123.											
6. ALL EXPOSED CONCRETE CORNERS SHALL RECEIVE 3/4" CHAMFERS OR RADIUS (UNLESS NOTED OTHERWISE).											
7. ALL CONCRETE WORK SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE STANDARD 318, 301, AND 350.											
8. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI (UNLESS NOTED OTHERWISE).											
9. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60, EXCEPT AS NOTED.											
10. UNLESS NOTED OTHERWISE, MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE :											
3" FOR CONCRETE CAST AGAINST EARTH											
2" FOR CONCRETE EXPOSED TO WEATHER, EARTH, OR WATER											
2" TOP COVER AT ALL SLABS											
11. UNLESS NOTED OTHERWISE, REINFORCING LAP SPLICES SHALL BE AMERICAN CONCRETE INSTITUTE CLASS B BUT NOT LESS THAN 18"											
12. PRIOR TO PLACING CONCRETE, ALL REINFORCING STEEL SHALL BE FREE OF LOOSE RUST AND SCALE OR ANY FOREIGN MATERIAL.											
13. GROUT FOR WATERSTOPS SHALL BE THE SAME DESIGN MIX AS THE STRUCTURAL CONCRETE EXCEPT THE COARSE AGGREGATE FILL SHALL BE OMITTED.											
14. JOINT SEALANT SHALL BE THIKOL T-2235-M JOINT SEALANT, OR EQUAL.											
15. FOR GENERAL NOTES AND LEGEND, SEE DRAWING Y-NY-001.											
REFERENCE DRAWINGS											
001 SEDIMENT BASIN STRUCTURAL SECTIONS & DETAILS								Y-SBC-003			
NORTH YARD REMEDIATION PROJECT SITE PLAN								Y-NY-001			
NORTH YARD REMEDIATION PROJECT GRADING AND RESTORATION PLAN								Y-NY-007			
NORTH YARD REMEDIATION PROJECT PIPE SUPPORT SYSTEM - SECTIONS AND DETAIL								Y-NYC-002			
LEGEND											
TC TOP OF CONCRETE											
TS TOP OF SLAB											
TW TOP OF WALL											
OS OIL SEPARATOR											
TR TOP OF RAMP											
CLSM CONTROLLED LOW-STRENGTH MATERIAL											
HANDRAIL											
EXPANSION JOINT											





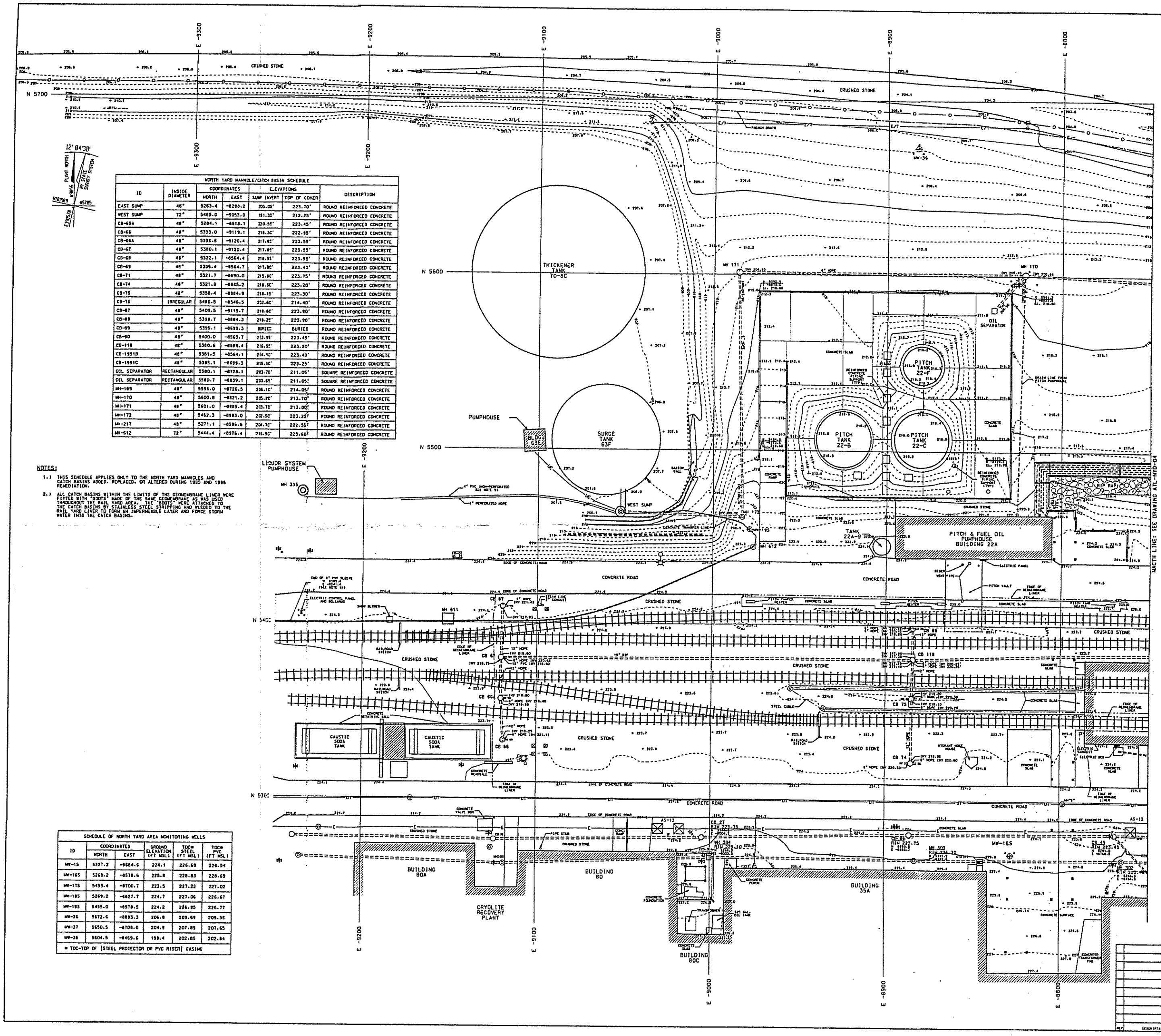
- LEGEND:**
- REYNOLDS COORDINATE GRID
 - INDEX CONTOUR LINE
 - INTERMEDIATE CONTOUR LINE
 - CHAINLINK FENCE
 - FIRE HYDRANT
 - WATER VALVE
 - MANHOLE
 - CATCH BASIN
 - PIPE RACK SUPPORT
 - LIGHT POLE
 - POWER POLE
 - FIRE HOSE HOUSE
 - RAILROAD
 - ELECTRIC TOWER FOUNDATION

- GENERAL NOTES:**
- GRID COORDINATES AND NORTH ARROW ARE BASED ON THE REYNOLDS PLANT COORDINATE SYSTEM. VERTICAL DATUM IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1929.
 - REFERENCED DRAWINGS:
 - A. BECHTEL DRAWING NO. 20384-YNY-001, "NORTH YARD SOIL SAMPLING PLAN."
 - B. BECHTEL DRAWING NO. 20384-YNY-003, "NORTH YARD REMEDIATION PROJECT CONSTRUCTION PHASING SCHEDULE."
 - C. BECHTEL DRAWING NO. 20384-YNY-006, "NORTH YARD REMEDIATION PROJECT GRID EXCAVATION SUMMARY."
 - DRIVING GROUND SURVEY WAS COMPLETED ON 12/13/94.
 - OVERHEAD AND UNDERGROUND UTILITIES HAVE BEEN DELETED FROM THIS DRAWING. ONLY SURFACE FEATURES ARE SHOWN. FOR LOCATION AND ROUTING OF PRIMARY UTILITIES AFFECTED BY REMEDIATION, REFER TO DRAWING ATL-NYD-03 AND ATL-NYD-04. FOR DETAILS ON PROCESS PIPING REFER TO ORIGINAL REYNOLDS PLANT DRAWINGS.
 - REFERENCED BENCHMARK IS REYNOLDS PLANT BENCHMARK BM A, TOP OF BOLT PLANT STRUCTURE AS-10, NORTH EAST OF FACILITY 20. ELEVATION 223.88'.
 - REFER TO DRAWING ATL-NYD-02 FOR FINAL EXCAVATED SURFACE.
 - REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR THE RESTORED GROUND SURFACE AND MANHOLE AND CATCHBASIN TABULATION.
 - REFER TO DRAWING ATL-NYD-01 FOR CROSS-SECTION LOCATIONS.
 - REFER TO DRAWINGS ATL-NYD-02, ATL-NYD-03, ATL-NYD-04, ATL-NYD-05, ATL-NYD-06 AND ATL-NYD-07 FOR CROSS-SECTIONS.
 - REFER TO DRAWING ATL-NYD-05 FOR PLAN AND PROFILE OF THE FRENCH DRAIN SOUTH OF HAVERSTOCK ROAD.
 - REFER TO DRAWING ATL-NYD-06 FOR VERIFICATION SAMPLE LOCATIONS.
 - REFER TO DRAWING ATL-NYD-07 FOR GEMMEMBRANE LINER SURFACE.



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 1209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT		DHD		NORTH YARD AREA ORIGINAL GROUND SURFACE	
DRAWING NO.		DATE		ST. LAWRENCE REDUCTION PLANT	
ATL-NYD-01		4/15/97		REYNOLDS METALS COMPANY	
PROJECT NO.		CK2060-4-94		MASSENA, NEW YORK	
DESCRIPTION		DATE		SPENCER F. THEW, P.E. L.S.	
DATE		DATE		PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR	
DATE		DATE		WILSON, N.Y. DAYTON, N.Y. STERLING, N.Y.	



NORTH YARD MANHOLE/CATCH BASIN SCHEDULE						
ID	INSIDE DIAMETER	COORDINATES		ELEVATIONS		DESCRIPTION
		NORTH	EAST	SUMP INVERT	TOP OF COVER	
EAST SUMP	48"	5283.4	-8299.2	229.05'	223.70'	ROUND REINFORCED CONCRETE
WEST SUMP	72"	5485.0	-8203.0	191.31'	212.25'	ROUND REINFORCED CONCRETE
CB-45A	48"	5284.1	-8618.1	220.85'	223.45'	ROUND REINFORCED CONCRETE
CB-45B	48"	5333.0	-9119.1	218.30'	222.95'	ROUND REINFORCED CONCRETE
CB-46A	48"	5336.6	-9120.4	217.85'	223.55'	ROUND REINFORCED CONCRETE
CB-47	48"	5330.1	-9120.4	217.85'	223.55'	ROUND REINFORCED CONCRETE
CB-48	48"	5322.1	-8564.4	216.35'	223.40'	ROUND REINFORCED CONCRETE
CB-49	48"	5356.4	-8564.4	216.35'	223.40'	ROUND REINFORCED CONCRETE
CB-71	48"	5321.7	-8680.0	215.82'	223.75'	ROUND REINFORCED CONCRETE
CB-74	48"	5321.9	-8685.2	216.50'	223.70'	ROUND REINFORCED CONCRETE
CB-75	48"	5358.4	-8884.9	216.15'	223.30'	ROUND REINFORCED CONCRETE
CB-76	IRREGULAR	5486.5	-8546.5	232.62'	214.40'	ROUND REINFORCED CONCRETE
CB-87	48"	5409.5	-9119.7	218.82'	223.90'	ROUND REINFORCED CONCRETE
CB-88	48"	5398.7	-8884.3	219.25'	223.90'	ROUND REINFORCED CONCRETE
CB-89	48"	5399.1	-8693.3	BURIED	BURIED	ROUND REINFORCED CONCRETE
CB-90	48"	5400.0	-8563.7	213.95'	223.45'	ROUND REINFORCED CONCRETE
CB-118	48"	5380.6	-8884.4	216.55'	223.20'	ROUND REINFORCED CONCRETE
CB-191B	48"	5381.3	-8564.1	214.10'	223.40'	ROUND REINFORCED CONCRETE
CB-191C	48"	5395.1	-8693.3	215.10'	223.25'	ROUND REINFORCED CONCRETE
OIL SEPARATOR	RECTANGULAR	5380.1	-8728.1	203.75'	211.05'	SQUARE REINFORCED CONCRETE
OIL SEPARATOR	RECTANGULAR	5380.7	-8639.1	203.43'	211.05'	SQUARE REINFORCED CONCRETE
MW-165	48"	5356.0	-8726.0	206.10'	214.05'	ROUND REINFORCED CONCRETE
MW-170	48"	5600.8	-8821.2	205.70'	213.70'	ROUND REINFORCED CONCRETE
MW-171	48"	5601.0	-8985.4	203.70'	213.00'	ROUND REINFORCED CONCRETE
MW-172	48"	5482.3	-8985.0	202.50'	223.25'	ROUND REINFORCED CONCRETE
MW-217	48"	5271.1	-8296.6	204.70'	222.55'	ROUND REINFORCED CONCRETE
MW-612	72"	5444.4	-8976.4	216.95'	223.60'	ROUND REINFORCED CONCRETE

NOTES:
1.1 THIS SCHEDULE APPLIES ONLY TO THE NORTH YARD MANHOLES AND CATCH BASINS ADDED, REPLACED, OR ALTERED DURING 1995 AND 1996 REDEMPTION.
2.1 ALL CATCH BASINS WITHIN THE LIMITS OF THE GEOMEMBRANE LINER WERE FILLED WITH "ROCK" MADE OF THE SAME GEOMEMBRANE AS WAS USED THROUGHOUT THE RAIL YARD AREA. THE "ROCKS" WERE ATTACHED TO THE CATCH BASIN BY STAINLESS STEEL STRIPPING AND WELDED TO THE RAIL YARD FLOOR TO FORM AN IMPERMEABLE LAYER AND FORCE STORM WATER INTO THE CATCH BASINS.

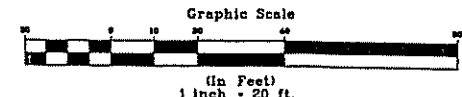
SCHEDULE OF NORTH YARD AREA MONITORING WELLS				
ID	COORDINATES	GROUND ELEVATION (FT MSL)	TOC PVC (FT MSL)	TOC MCL (FT MSL)
	NORTH	EAST		
MW-15	5327.2	-8684.6	224.1	226.69
MW-165	5268.2	-8578.6	225.8	228.63
MW-175	5453.4	-9100.7	223.5	227.22
MW-185	5269.2	-8627.7	224.7	227.06
MW-195	5455.0	-8978.5	224.2	226.95
MW-35	5672.6	-8883.3	204.8	209.36
MW-37	5550.5	-8708.0	204.9	207.89
MW-38	5604.5	-8469.6	198.4	202.65

• TOC-TOF OF [STEEL PROTECTOR OR PVC RISER] CASING

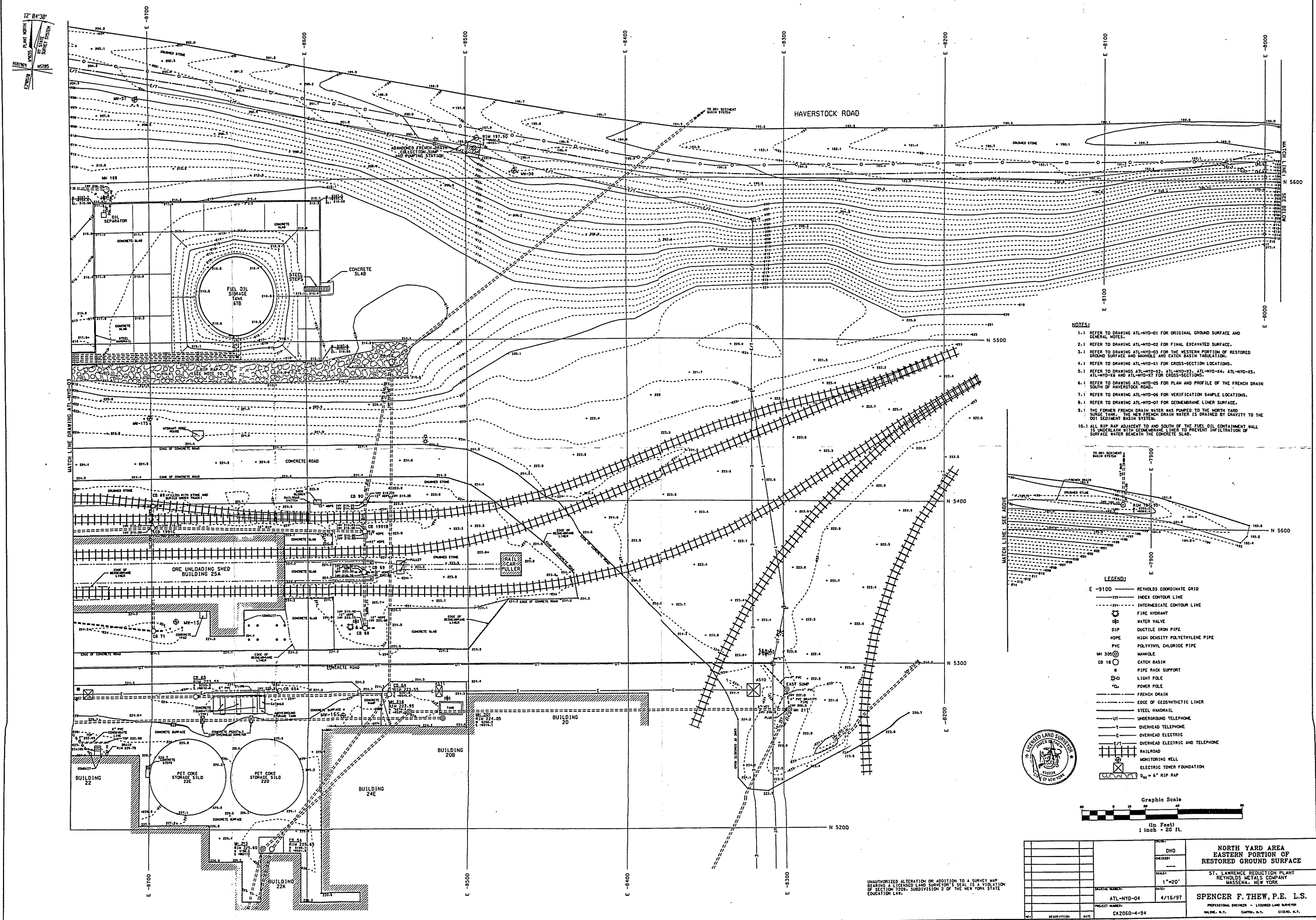
NOTES:
1.1 REFER TO DRAWING ATL-HYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
2.1 REFER TO DRAWING ATL-HYD-02 FOR FINAL EXCAVATED SURFACE.
3.1 REFER TO DRAWING ATL-HYD-04 FOR THE EASTERN PORTION OF THE RESTORED GROUND SURFACE.
4.1 REFER TO DRAWING ATL-HYD-01 FOR CROSS-SECTION LOCATIONS.
5.1 REFER TO DRAWINGS ATL-HYD-02, ATL-HYD-03, ATL-HYD-04, ATL-HYD-05, ATL-HYD-06 AND ATL-HYD-07 FOR CROSS-SECTIONS.
6.1 REFER TO DRAWING ATL-HYD-05 FOR PLAN AND PROFILE OF THE FRENCH DRAIN SOUTH OF HAVERTON ROAD.
7.1 REFER TO DRAWING ATL-HYD-06 FOR VERIFICATION SAMPLE LOCATIONS.
8.1 REFER TO DRAWING ATL-HYD-07 FOR GEOMEMBRANE LINER SURFACE.
9.1 THE 4" PVC PIPE DRAINS THE VOLUME COLLECTED IN THE FRENCH DRAIN CONSTRUCTED AROUND THE LIQUOR DRAIN LINE SOUTH OF MW-355.
10.1 THE CLEAN WATER DRAIN LINE FROM THE PITCH PHOSPHORUS FLOWS CONSTANTLY INTO THE NEW CONTAINMENT DIKE DRAINAGE SYSTEM AND INTO THE SURGE TANK AT APPROXIMATELY 15 GPM.
11.1 THE 8" PVC SLEEVE WAS INSTALLED FROM THE END OF 8" PVC SLEEVE TO MW-612 DURING THE 1995 NORTH YARD REDEMPTION TO FACILITATE INSTALLATION OF LEACHATE TRANSFER LINE WITHOUT HAVING TO REMOVE GEOMEMBRANE LINER PLACED IN THE RAIL YARD IN 1995. THE LEACHATE TRANSFER LINE WAS INSTALLED THROUGH THE 8" PVC SLEEVE IN 1996.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 2509, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

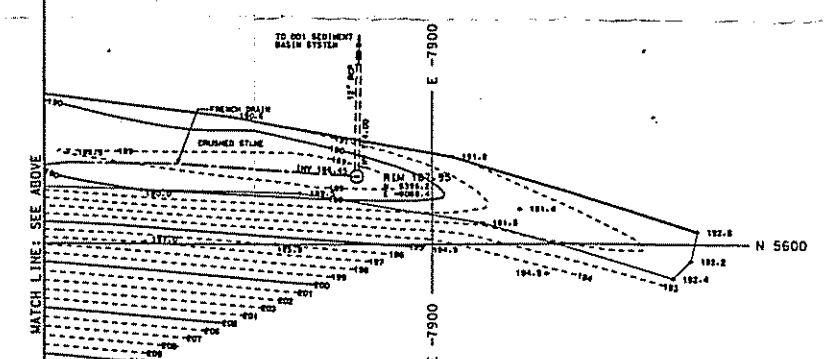
- LEGEND:
- E -9100 REYNOLDS COORDINATE GRID
 - INDEX CONTOUR LINE
 - - - - - INTERMEDIATE CONTOUR LINE
 - FINE HYDRANT
 - WATER VALVE
 - DIP
 - DUCTILE IRON PIPE
 - HDPE
 - PVC
 - POLYVINYL CHLORIDE PIPE
 - MANHOLE
 - CB 18
 - CATCH BASIN
 - PIPE RACK SUPPORT
 - LIGHT POLE
 - POWER POLE
 - FRENCH DRAIN
 - EDGE OF GEOMEMBRANE LINER
 - STEEL HANDRAIL
 - UNDERGROUND TELEPHONE
 - OVERHEAD TELEPHONE
 - OVERHEAD ELECTRIC
 - OVERHEAD ELECTRIC AND TELEPHONE
 - RAILROAD
 - MONITORING WELL
 - ELECTRIC TOWER FOUNDATION
 - D₆₀ = 6" RIP RAP
 - STORM DRAINS



DATE	DHO	NORTH YARD AREA WESTERN PORTION OF RESTORED GROUND SURFACE
DRAWN BY	CK	
SCALE	1"=20'	ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK
PROJECT NUMBER	ATL-HYD-03	SPENCER F. THEW, P.E. L.S.
DATE	4/16/97	PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR
REVISION	CK2060-4-94	MADE, N.Y. SOUTH, N.Y. STORM, N.Y.



- NOTES:
- 1.1 REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 - 2.1 REFER TO DRAWING ATL-NYD-02 FOR FINAL EXCAVATED SURFACE.
 - 3.1 REFER TO DRAWING ATL-NYD-03 FOR THE WESTERN PORTION OF RESTORED GROUND SURFACE AND MANHOLE AND CATCH BASIN TABULATION.
 - 4.1 REFER TO DRAWING ATL-NYD-04 FOR CROSS-SECTION LOCATIONS.
 - 5.1 REFER TO DRAWINGS ATL-NYD-05, ATL-NYD-06, ATL-NYD-07, ATL-NYD-08, ATL-NYD-09, ATL-NYD-10, ATL-NYD-11, ATL-NYD-12, ATL-NYD-13, ATL-NYD-14, ATL-NYD-15, ATL-NYD-16, ATL-NYD-17, ATL-NYD-18, ATL-NYD-19, ATL-NYD-20, ATL-NYD-21, ATL-NYD-22, ATL-NYD-23, ATL-NYD-24, ATL-NYD-25, ATL-NYD-26, ATL-NYD-27, ATL-NYD-28, ATL-NYD-29, ATL-NYD-30, ATL-NYD-31, ATL-NYD-32, ATL-NYD-33, ATL-NYD-34, ATL-NYD-35, ATL-NYD-36, ATL-NYD-37, ATL-NYD-38, ATL-NYD-39, ATL-NYD-40, ATL-NYD-41, ATL-NYD-42, ATL-NYD-43, ATL-NYD-44, ATL-NYD-45, ATL-NYD-46, ATL-NYD-47, ATL-NYD-48, ATL-NYD-49, ATL-NYD-50, ATL-NYD-51, ATL-NYD-52, ATL-NYD-53, ATL-NYD-54, ATL-NYD-55, ATL-NYD-56, ATL-NYD-57, ATL-NYD-58, ATL-NYD-59, ATL-NYD-60, ATL-NYD-61, ATL-NYD-62, ATL-NYD-63, ATL-NYD-64, ATL-NYD-65, ATL-NYD-66, ATL-NYD-67, ATL-NYD-68, ATL-NYD-69, ATL-NYD-70, ATL-NYD-71, ATL-NYD-72, ATL-NYD-73, ATL-NYD-74, ATL-NYD-75, ATL-NYD-76, ATL-NYD-77, ATL-NYD-78, ATL-NYD-79, ATL-NYD-80, ATL-NYD-81, ATL-NYD-82, ATL-NYD-83, ATL-NYD-84, ATL-NYD-85, ATL-NYD-86, ATL-NYD-87, ATL-NYD-88, ATL-NYD-89, ATL-NYD-90, ATL-NYD-91, ATL-NYD-92, ATL-NYD-93, ATL-NYD-94, ATL-NYD-95, ATL-NYD-96, ATL-NYD-97, ATL-NYD-98, ATL-NYD-99, ATL-NYD-100.
 - 6.1 REFER TO DRAWING ATL-NYD-05 FOR PLAN AND PROFILE OF THE FRENCH DRAIN SOUTH OF HAVERSTOCK ROAD.
 - 7.1 REFER TO DRAWING ATL-NYD-06 FOR VERIFICATION SAMPLE LOCATIONS.
 - 8.1 REFER TO DRAWING ATL-NYD-07 FOR GEOMEMBRANE LINER SURFACE.
 - 9.1 THE FORMER FRENCH DRAIN WATER WAS PUMPED TO THE NORTH YARD SUMP TANK. THE NEW FRENCH DRAIN WATER IS DRAINED BY GRAVITY TO THE 001 SEDIMENT BASIN SYSTEM.
 - 10.1 ALL RIP RAP ADJACENT TO AND SOUTH OF THE FUEL OIL CONTAINMENT WALL IS UNDERLAIN WITH GEOMEMBRANE LINER TO PREVENT INFILTRATION OF SURFACE WATER BENEATH THE CONCRETE SLABS.

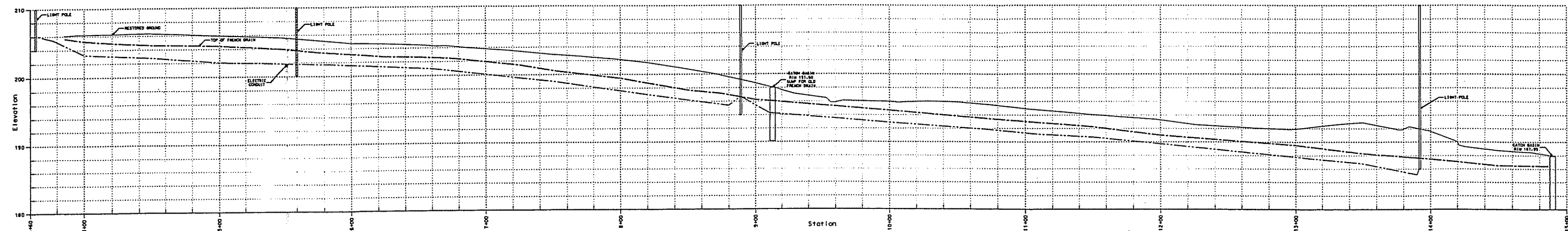
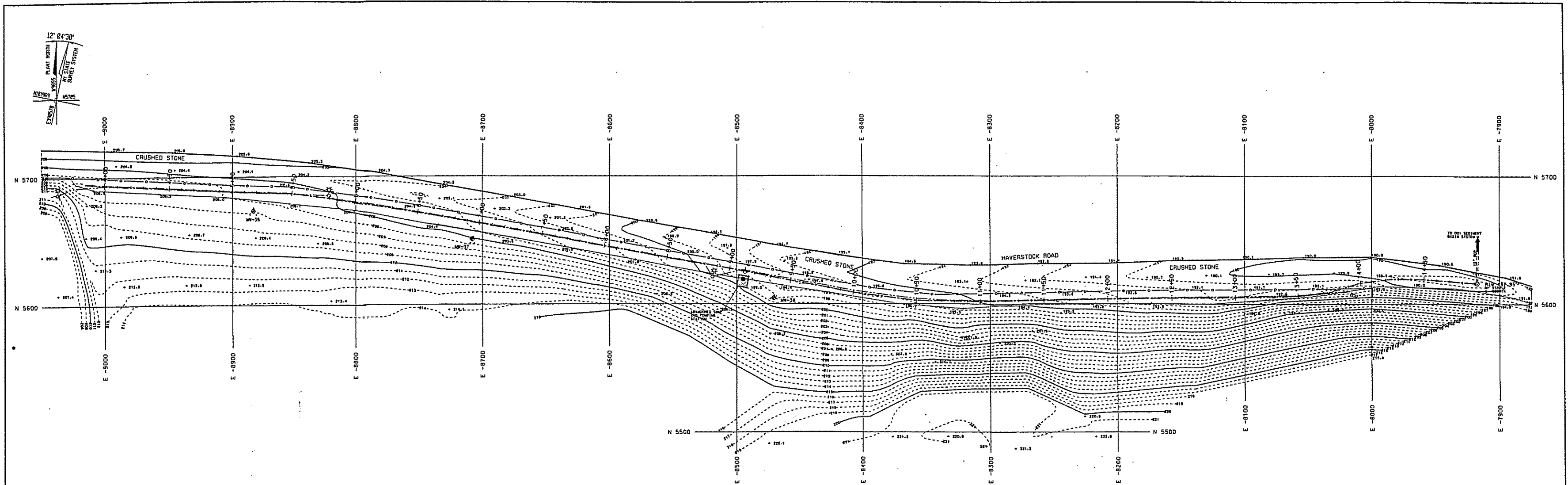


- LEGEND:
- E-9100 REYNOLDS COORDINATE GRID
 - INDEX CONTOUR LINE
 - - - - - INTERMEDIATE CONTOUR LINE
 - ⊕ FIRE HYDRANT
 - ⊕ WATER VALVE
 - ⊕ DIP
 - ⊕ DUCTILE IRON PIPE
 - ⊕ HDPE
 - ⊕ HIGH DENSITY POLYETHYLENE PIPE
 - ⊕ PVC
 - ⊕ POLYVINYL CHLORIDE PIPE
 - ⊕ MANHOLE
 - ⊕ CATCH BASIN
 - ⊕ PIPE RACK SUPPORT
 - ⊕ LIGHT POLE
 - ⊕ POWER POLE
 - ⊕ FRENCH DRAIN
 - ⊕ EDGE OF GEOSYNTHETIC LINER
 - ⊕ STEEL HANDRAIL
 - ⊕ UNDERGROUND TELEPHONE
 - ⊕ OVERHEAD TELEPHONE
 - ⊕ OVERHEAD ELECTRIC
 - ⊕ OVERHEAD ELECTRIC AND TELEPHONE
 - ⊕ RAILROAD
 - ⊕ MONITORING WELL
 - ⊕ ELECTRIC TOWER FOUNDATION
 - ⊕ 6" RIP RAP



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP
RENDERING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION
OF SECTION 2009, SUBDIVISION 2 OF THE NEW YORK STATE
EVIDENCE LAW.

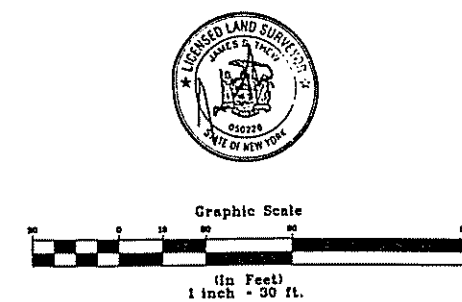
PROJECT		DND	NORTH YARD AREA EASTERN PORTION OF RESTORED GROUND SURFACE	
CLIENT		ST. LAWRENCE REDUCTION PLANT	REYNOLDS METALS COMPANY MASSENA, NEW YORK	
SCALE		1"=20'	SPENCER F. THEW, P.E. L.S.	
DRAWING NUMBER		ATL-NYD-04	DATE	
PROJECT NUMBER		CK2060-4-94	DATE	
REVISION			DATE	
DESCRIPTION			DATE	



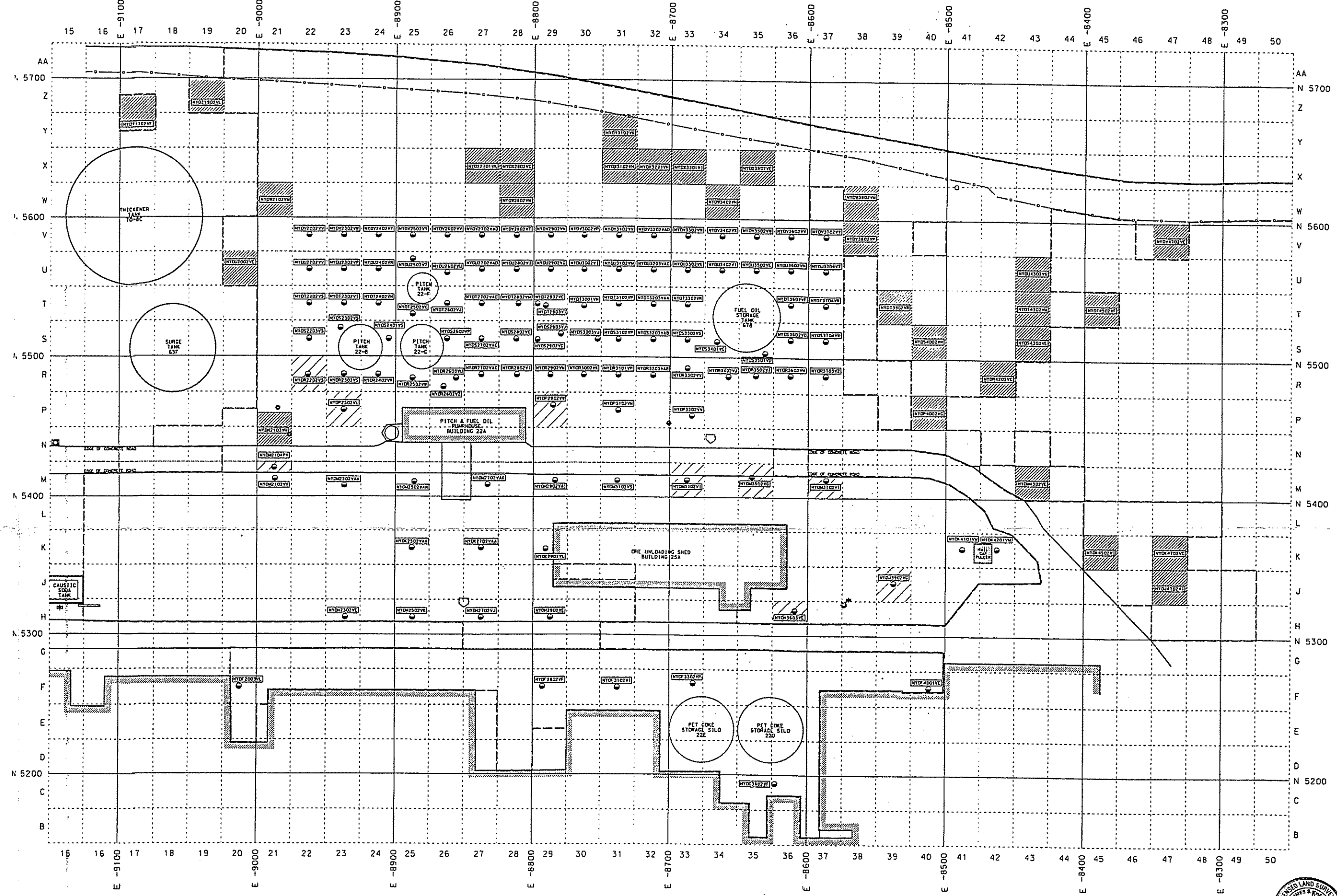
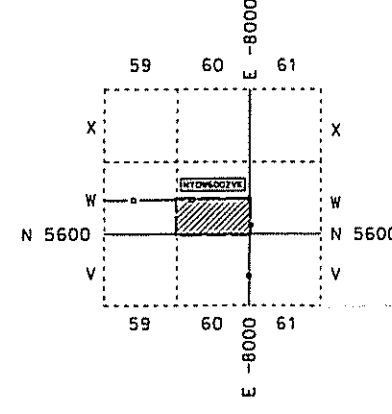
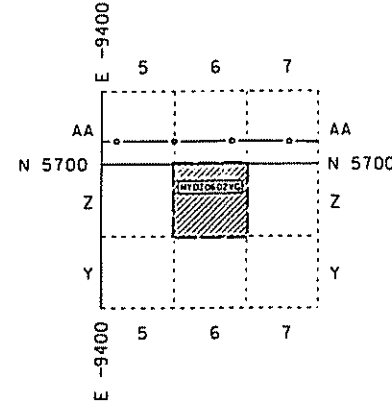
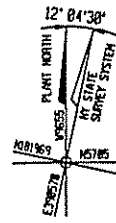
- LEGEND:**
- E -9100 REYNOLDS COORDINATE GRID
 - INDEX CONTOUR LINE
 - INTERMEDIATE CONTOUR LINE
 - FIRE HYDRANT
 - W WATER VALVE
 - MB 305 ○ MANHOLE
 - CB 18 ○ CATCH BASIN
 - LIGHT POLE
 - POWER POLE
 - RAILROAD
 - FRENCH DRAIN
 - ELECTRICAL CONDUIT

- NOTES:**
1. REFER TO DRAWING ATL-NYD-01 FOR GENERAL NOTES AND ORIGINAL GROUND SURFACE.
 2. REFER TO DRAWING ATL-NYD-02 FOR FINAL EXCAVATED SURFACE.
 3. REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR THE RESTORED GROUND SURFACE AND MANHOLE AND CATCHBASIN TABULATION.
 4. REFER TO DRAWING ATL-NYD-05 FOR CROSS-SECTION LOCATIONS.
 5. REFER TO DRAWINGS ATL-NYD-02, ATL-NYD-03, ATL-NYD-04, ATL-NYD-05, ATL-NYD-06 AND ATL-NYD-07 FOR CROSS-SECTIONS.
 6. REFER TO DRAWING ATL-NYD-06 FOR VERIFICATION SAMPLE LOCATIONS.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 1204, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

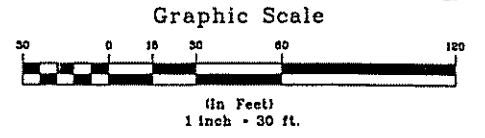


DHD CHECKED SCALE 1"=30' DATE 4/28/97		NORTH YARD AREA FRENCH DRAIN PLAN & PROFILE SOUTH OF HAVERSTOCK ROAD	
		ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK	
PROJECT NAME ATL-NYD-05		SPENCER F. THEW, P.E. L.S. PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR MILLINE, N.Y. EASTON, N.Y. ELIZABETH, N.Y.	
SHEET 1 OF 1	DATE 4/28/97	CK2060-4-94	



- LEGEND:**
- RAILROAD TRACKS
 - PLANT COORDINATE GRID
 - ACTUAL LINES OF EXCAVATION
 - CHAIN LINK FENCE
 - ROUND CATCH BASIN
 - MANHOLE
 - WATER VALVE
 - FIRE HYDRANT
 - POWER POLE
 - CONCRETE TOWER BASE
 - HYDRANT HOSE HOUSE
 - VERIFICATION SAMPLE ID
 - VERIFICATION SAMPLE POINT (NOT VALIDATED)
 - VERIFICATION COMPOSITE SAMPLE (VALIDATED)
 - VERIFICATION SAMPLE POINT (VALIDATED)

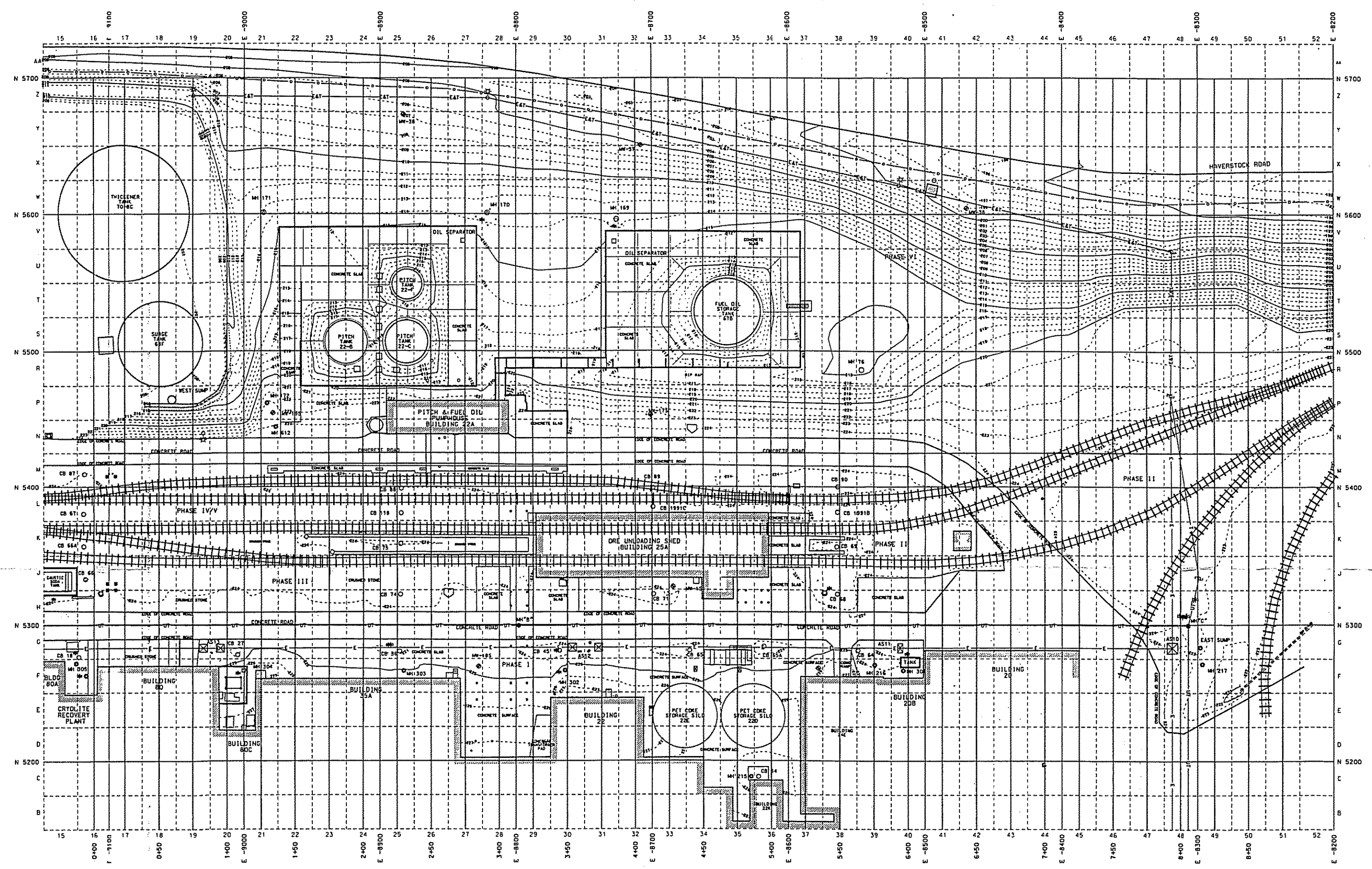
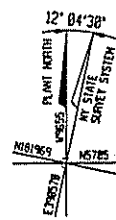
- NOTES:**
- 1.) REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 - 2.) REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR THE RESTORED GROUND SURFACE AND MANHOLE AND CATCH BASIN TABULATIONS.
 - 3.) REFER TO DRAWING ATL-NYD-X1 FOR CROSS-SECTION LOCATIONS.
 - 4.) REFER TO DRAWINGS ATL-NYD-22, ATL-NYD-23, ATL-NYD-24, ATL-NYD-25, ATL-NYD-26 AND ATL-NYD-27 FOR CROSS-SECTIONS.



PROJECT INFORMATION		DRAWING INFORMATION	
PROJECT NAME:	ATL-NYD-06	DRAWN BY:	DHD
PROJECT NUMBER:	CK2060-4-94	CHECKED BY:	
		DATE:	4/24/97
DESCRIPTION:		SCALE:	
		1"=30'	

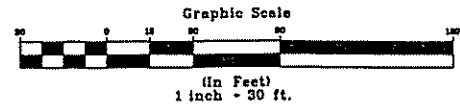
NORTH YARD AREA VERIFICATION SAMPLE LOCATIONS	
ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK	
SPENCER F. THEW, P.E. L.S.	
MASSACHUSETTS	NEW YORK

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP
BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION
OF SECTION 1309, SUBDIVISION 2 OF THE NEW YORK STATE
ELECTION LAW.



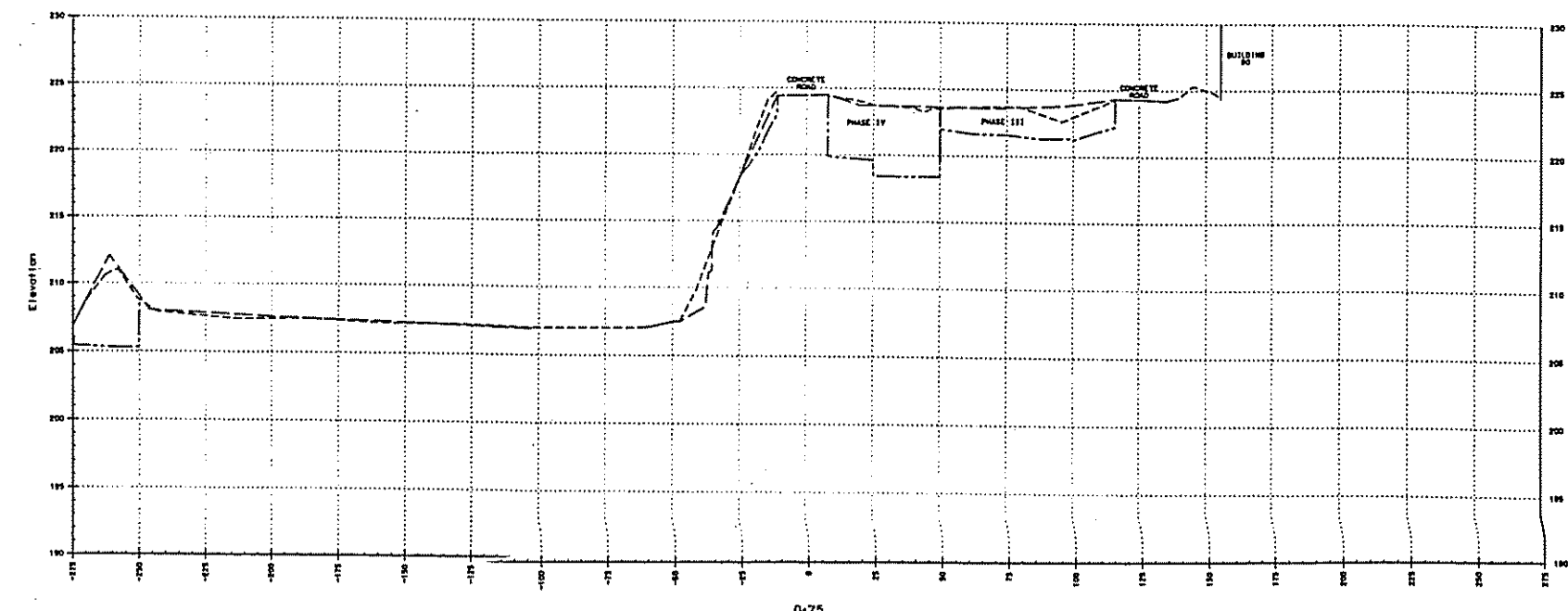
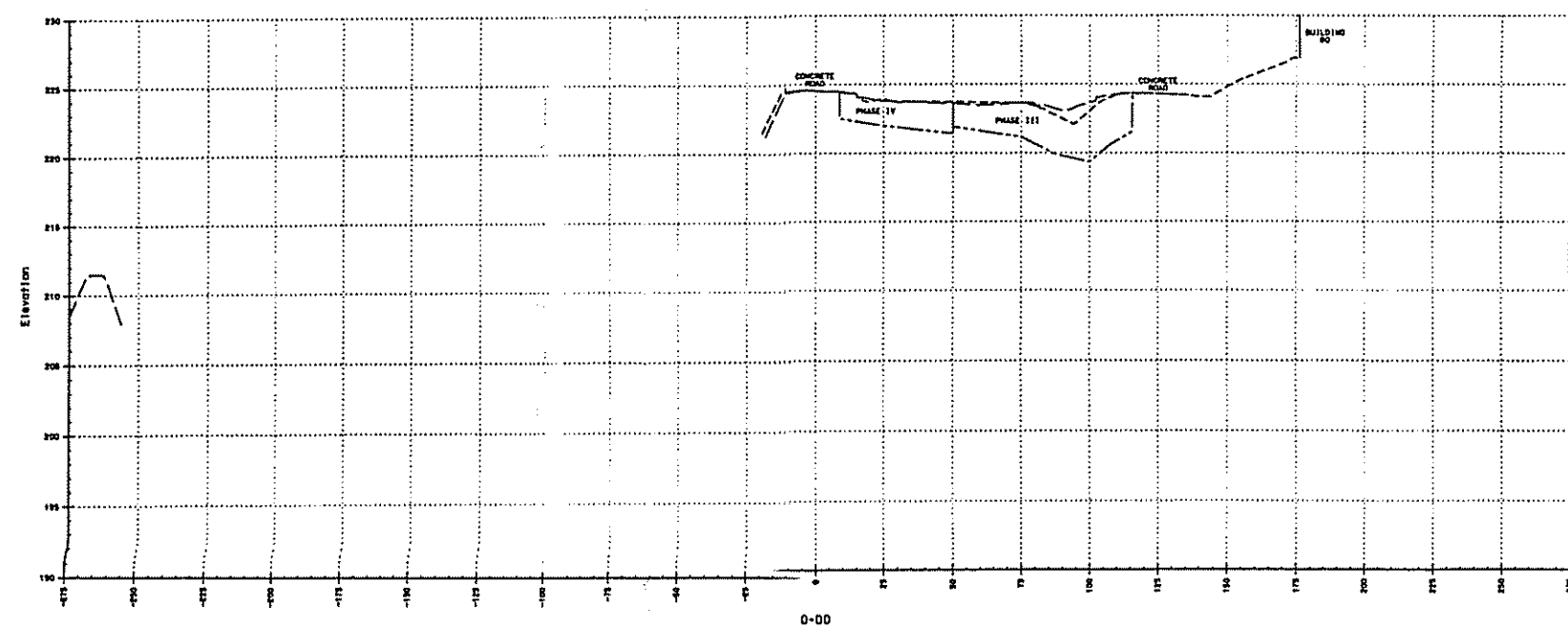
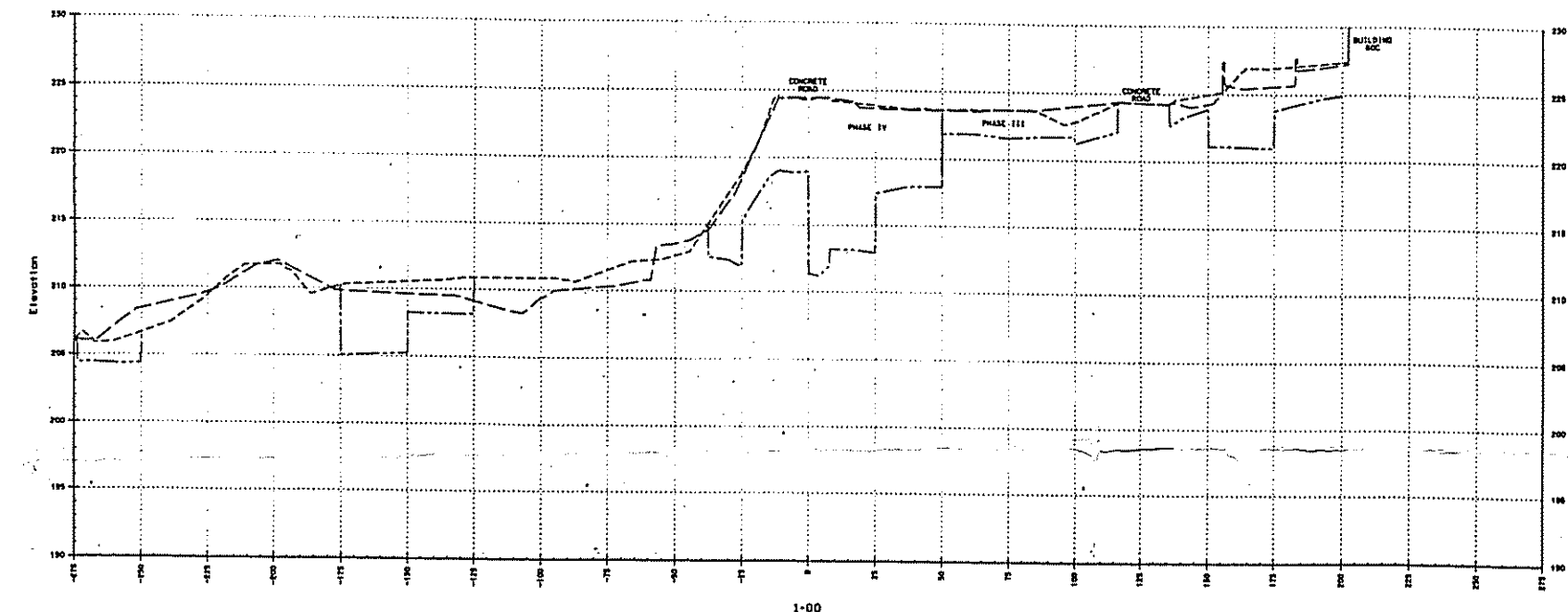
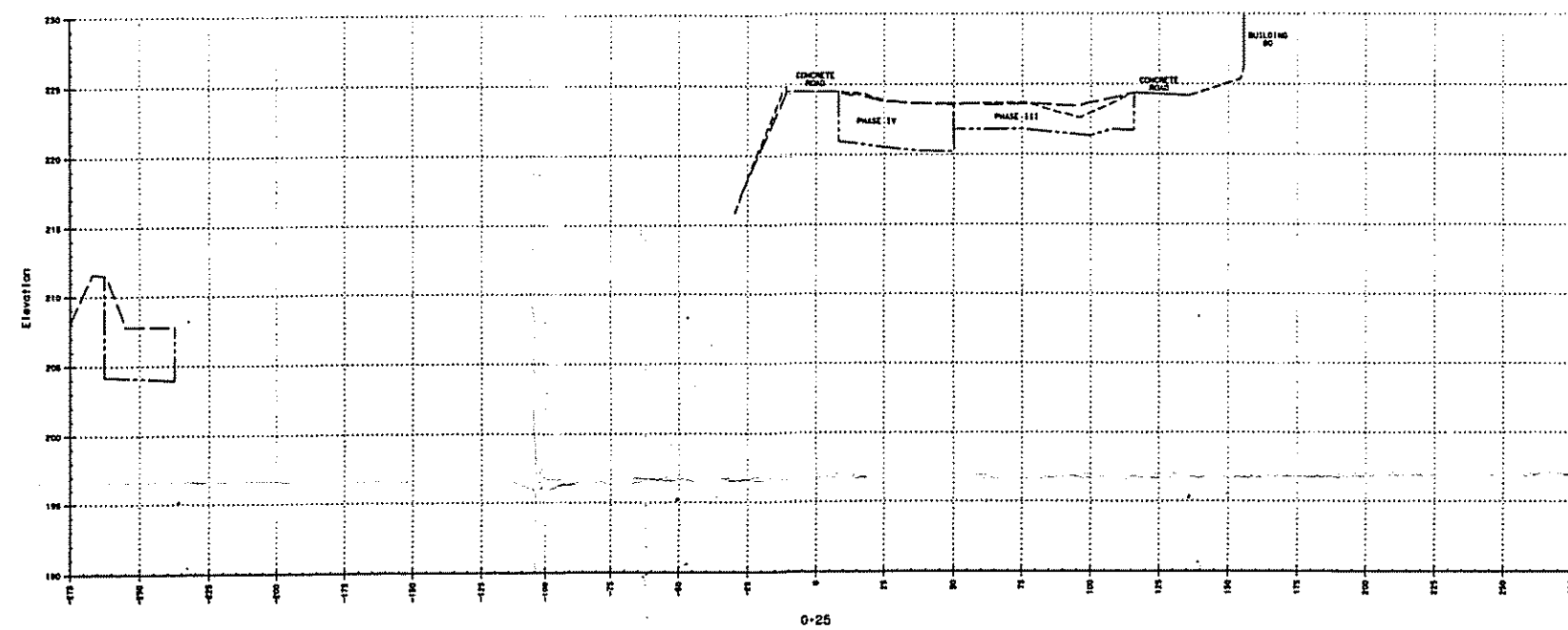
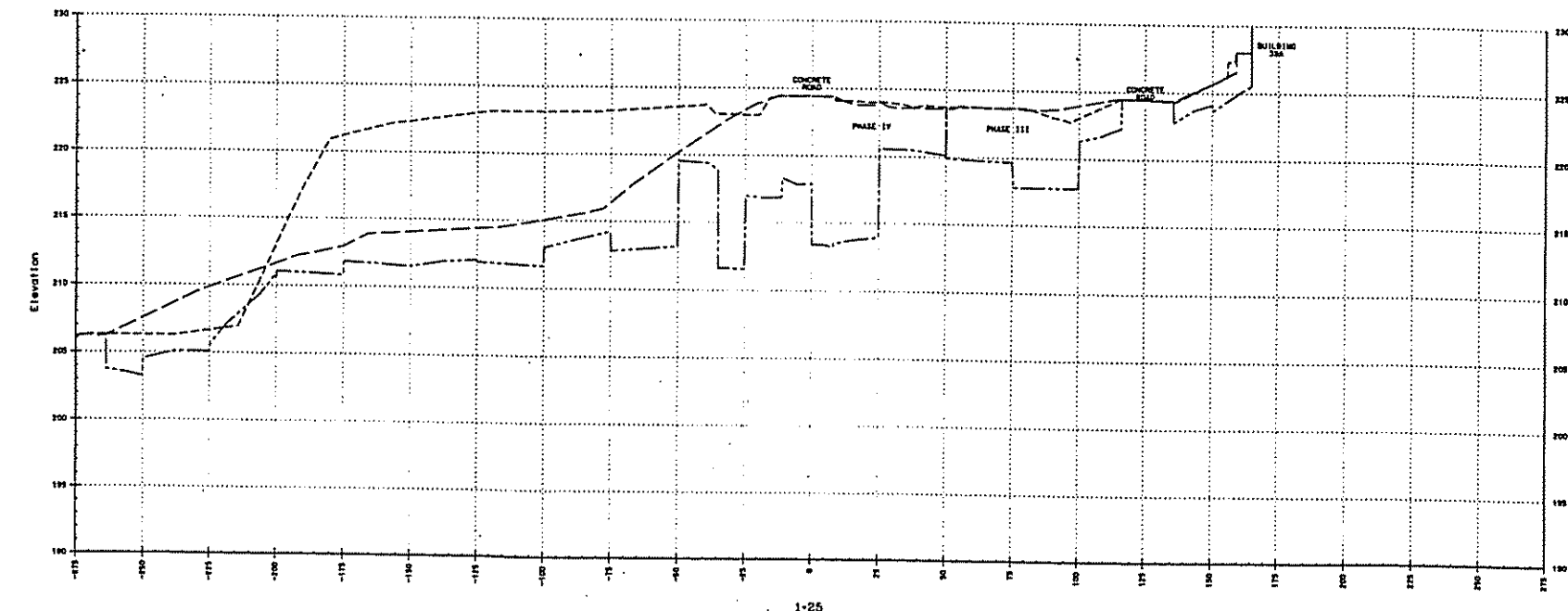
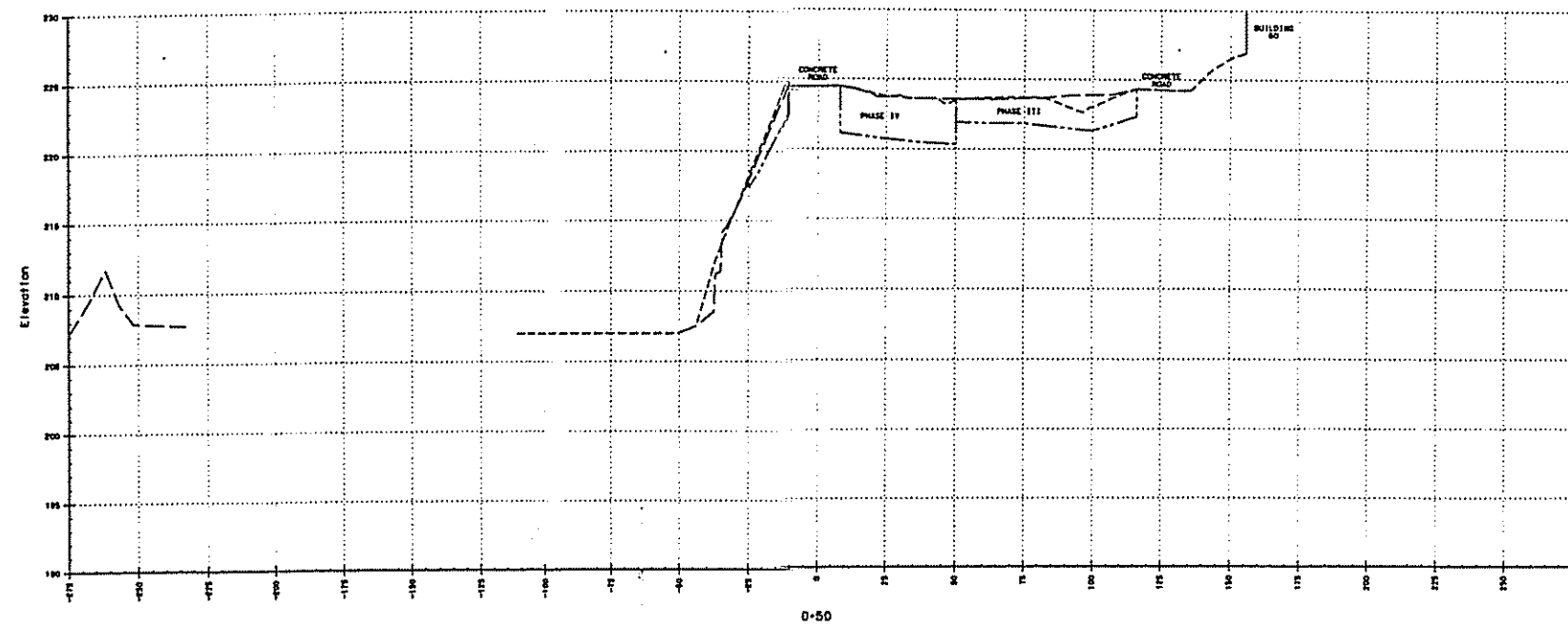
- LEGEND:**
- 0+00 SECTION LOCATION LINE
 - E -9100 REYNOLDS COORDINATE GRID
 - SAMPLING GRID
 - INDEX CONTOUR LINE
 - INTERMEDIATE CONTOUR LINE
 - FIRE HYDRANT
 - W WATER VALVE
 - MH 305 MANHOLE
 - CB 18 CATCH BASIN
 - RCP REINFORCED CONCRETE PIPE
 - HDP HIGH DENSITY POLYETHYLENE
 - PVC POLYVINYL CHLORIDE
 - P PIPE RACK SUPPORT
 - L LIGHT POLE
 - TD POWER POLE
 - UT UNDERGROUND TELEPHONE
 - OVERHEAD TELEPHONE
 - OVERHEAD ELECTRIC
 - EAT OVERHEAD ELECTRIC AND TELEPHONE

- NOTES:**
- 1.1 REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 - 2.1 REFER TO DRAWING ATL-NYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
 - 3.1 REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

NORTH YARD AREA CROSS-SECTION LOCATION MAP SHEET 1 OF 7	
ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK	
SPENCER F. THEW, P.E. L.S.	
MADE: N.Y. DRAWN: N.Y. CHECKED: N.Y.	
DATE: 4/9/97	PROJECT NUMBER: CK2050-4-94
ATL-NYD-X1	DATE: 4/9/97
DATE: 4/9/97	PROJECT NUMBER: CK2050-4-94



LEGEND:
 - - - - - ORIGINAL GROUND SURFACE (6/14/85)
 - - - - - RESTORATION SURFACE (11/14/95)
 - - - - - FINAL EXCAVATION SURFACE (3/4/96)
 - - - - - CONCRETE SLAB OR WALL (11/14/95)

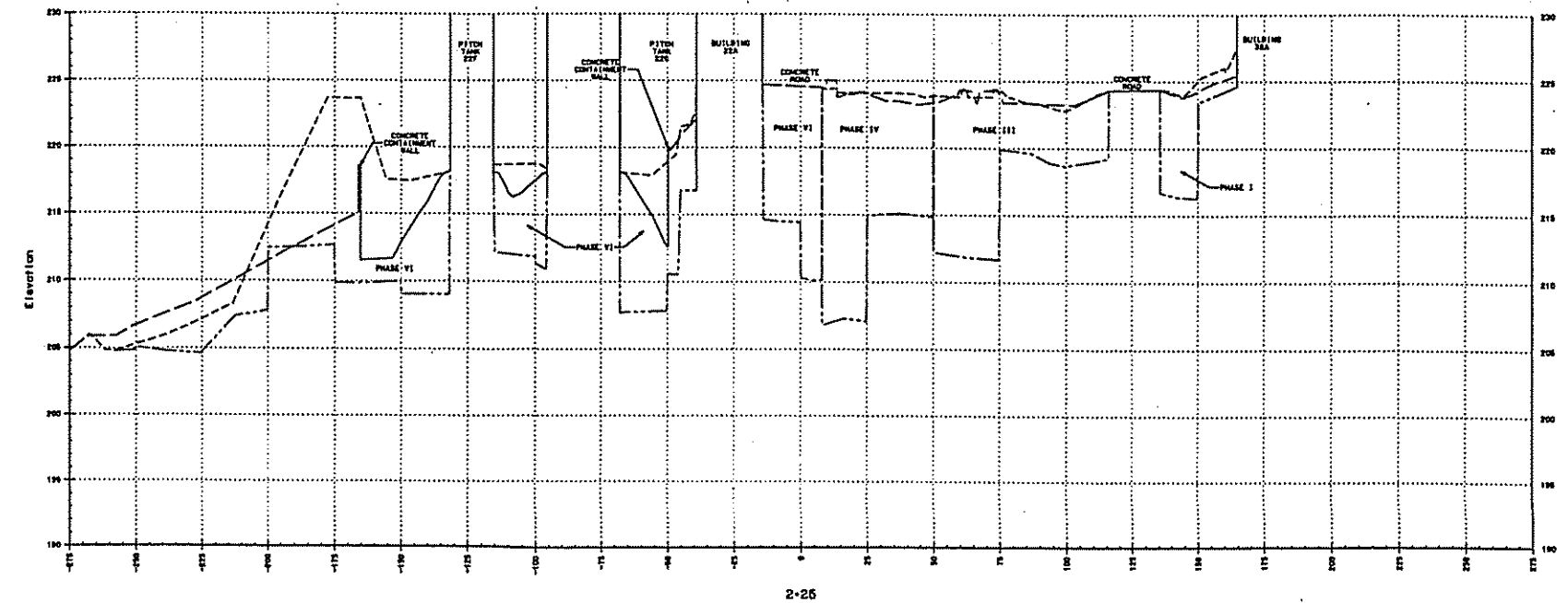
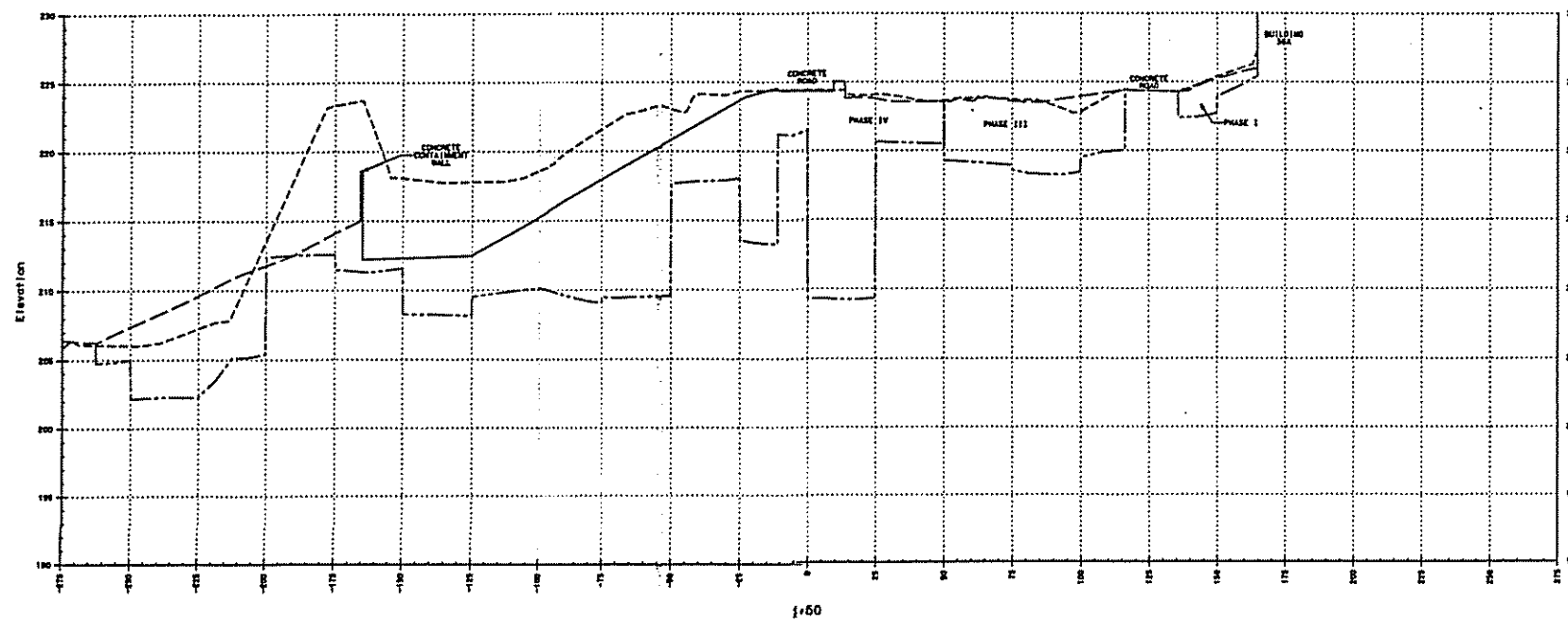
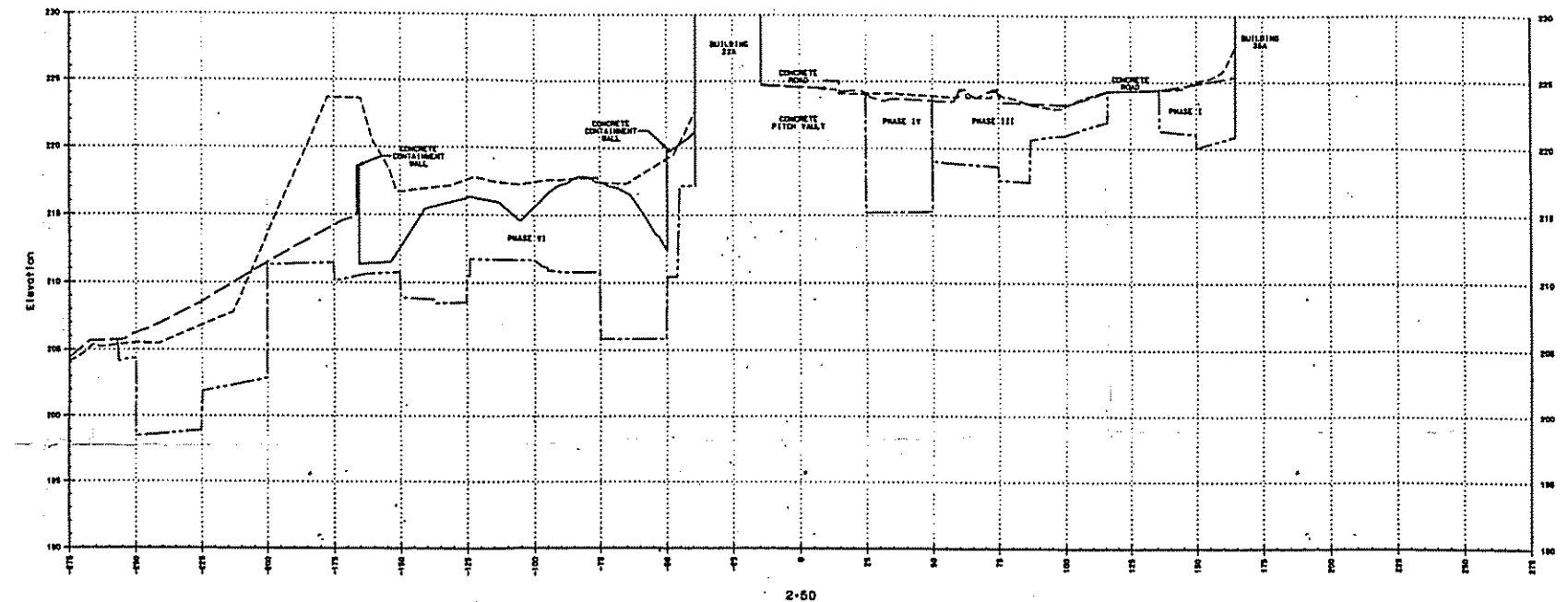
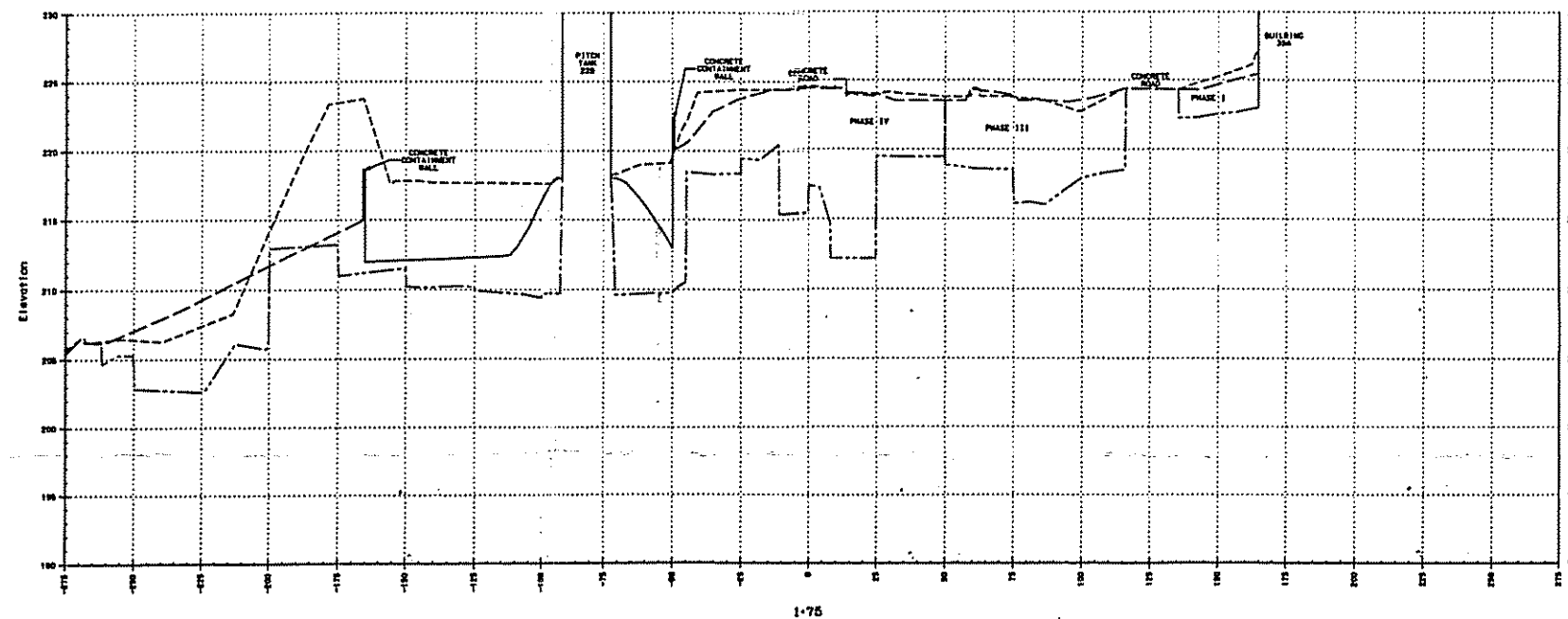
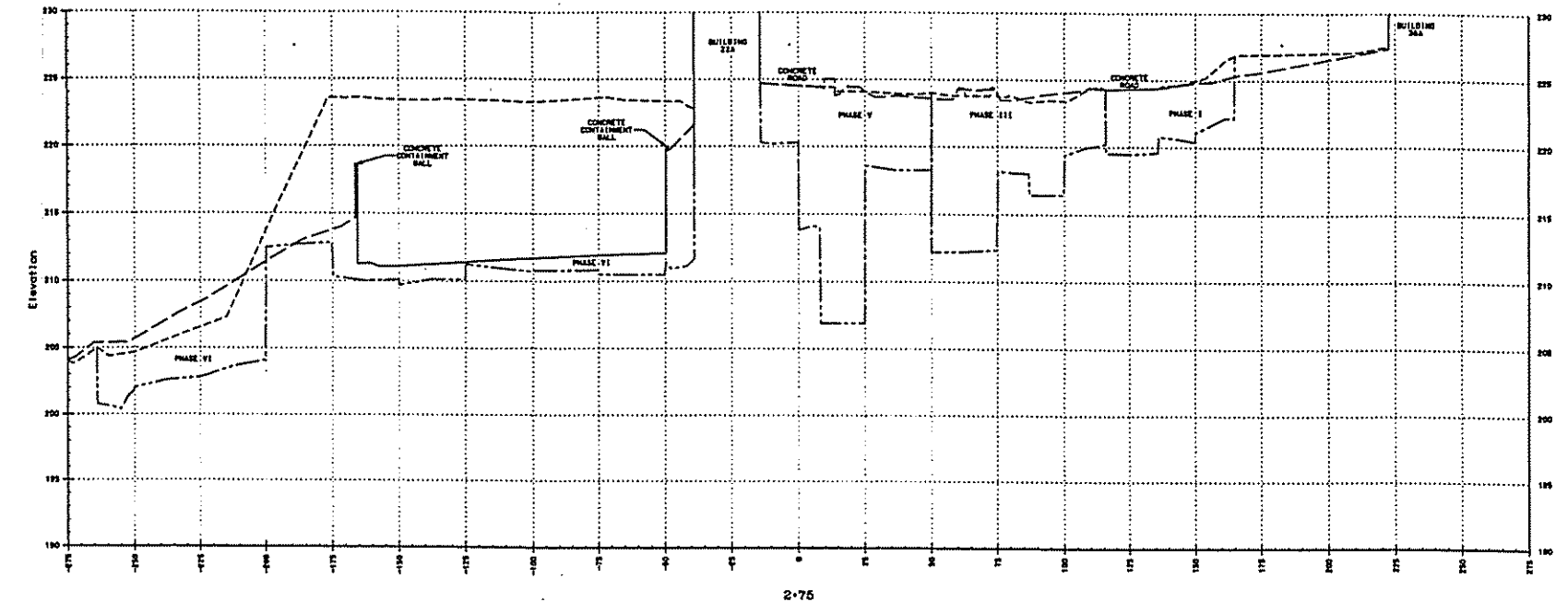
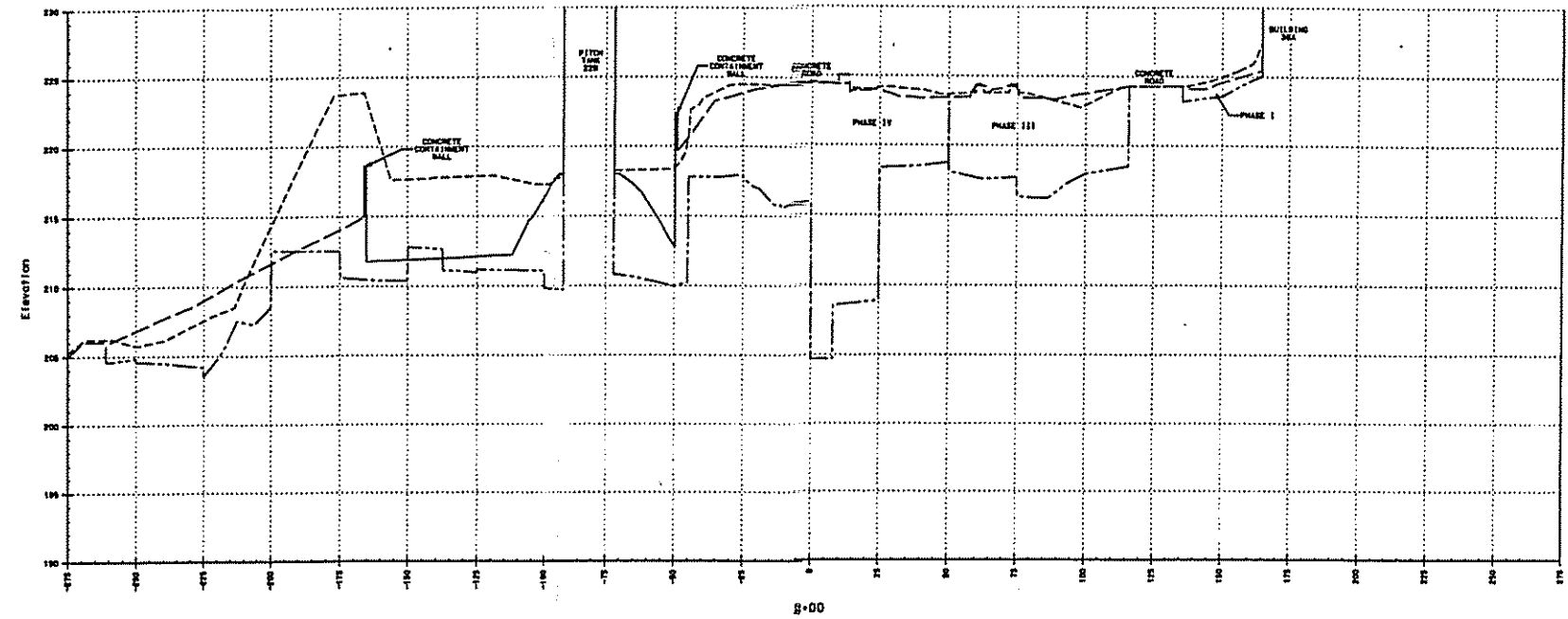
- NOTES:**
 1.) REFER TO DRAWING ATL-HYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 2.) REFER TO DRAWING ATL-HYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
 3.) REFER TO DRAWINGS ATL-HYD-03 AND ATL-HYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.
 4.) REFER TO DRAWING ATL-HYD-01 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=10'



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP
 REQUIRING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION
 OF SECTION 1209, SUBDIVISION 2 OF THE NEW YORK STATE
 EDUCATION LAW.

		PROJECT		DHD	NORTH YARD AREA CROSS-SECTIONS SHEET 2 OF 7
		CHECKED			
		DATE			
		SCALE		AS NOTED	ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK
		DATE			
		ATL-HYD-X2		4/9/97	SPENCER F. THEW, P.E. L.S. PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR MASS. - N.Y. CALIF. - N.Y. ILLINOIS - N.Y.
		PROJECT NUMBER			
NET		DESCRIPTION	DATE	CK2060-4-94	



LEGEND:

- ORIGINAL GROUND SURFACE (6/14/95)
- RESTORATION SURFACE (11/4/95)
- FINAL EXCAVATION SURFACE (9/4/96)
- CONCRETE SLAB OR WALL (11/4/96)

NOTES:

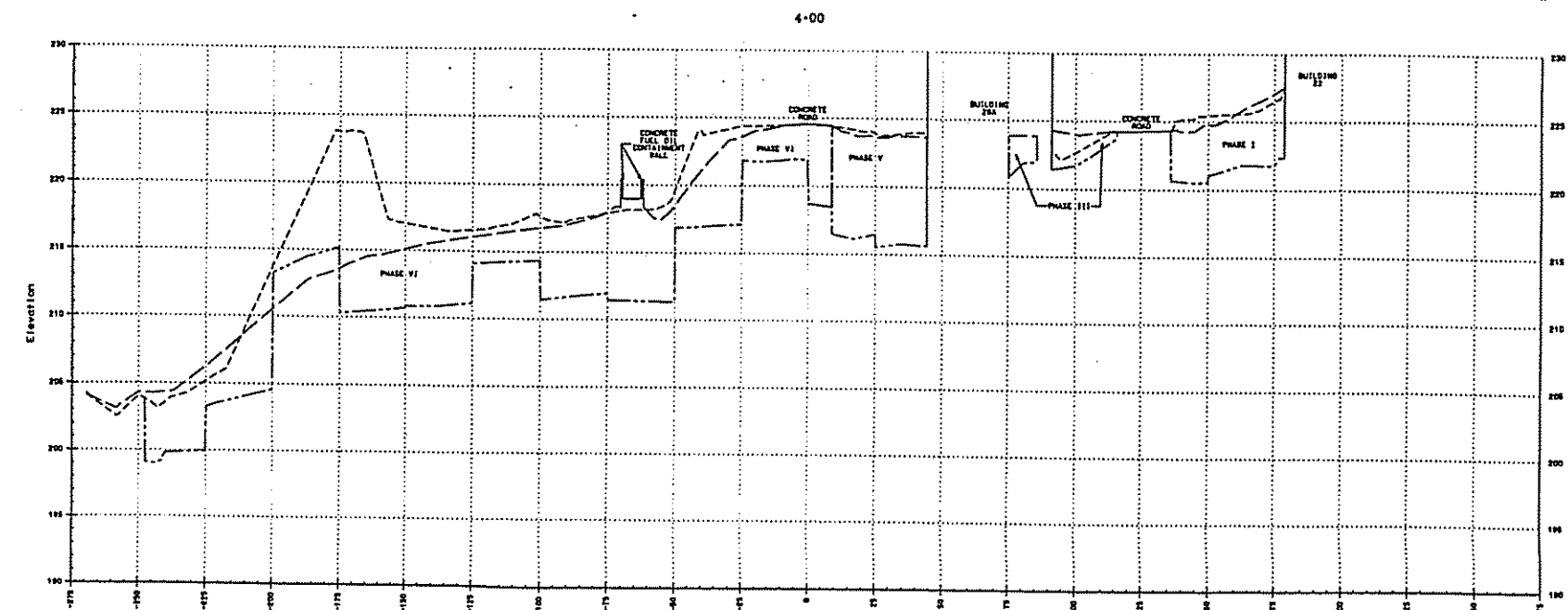
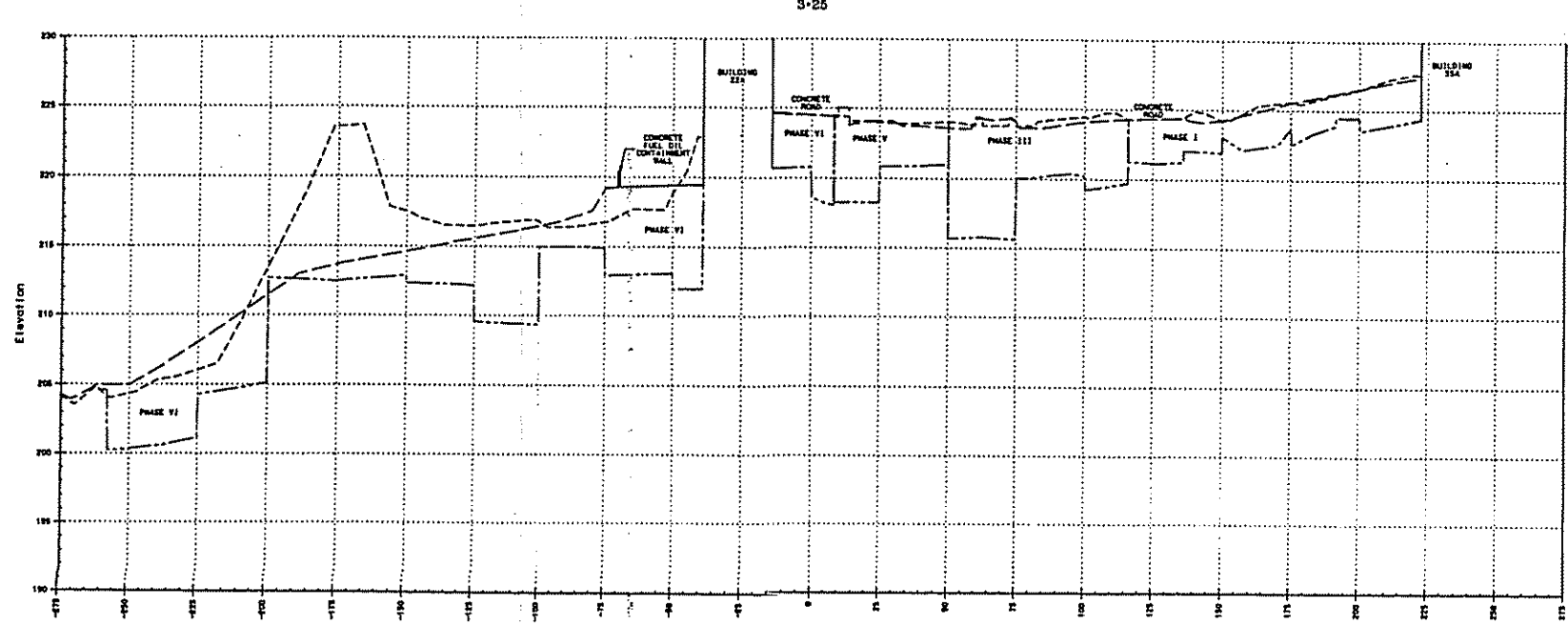
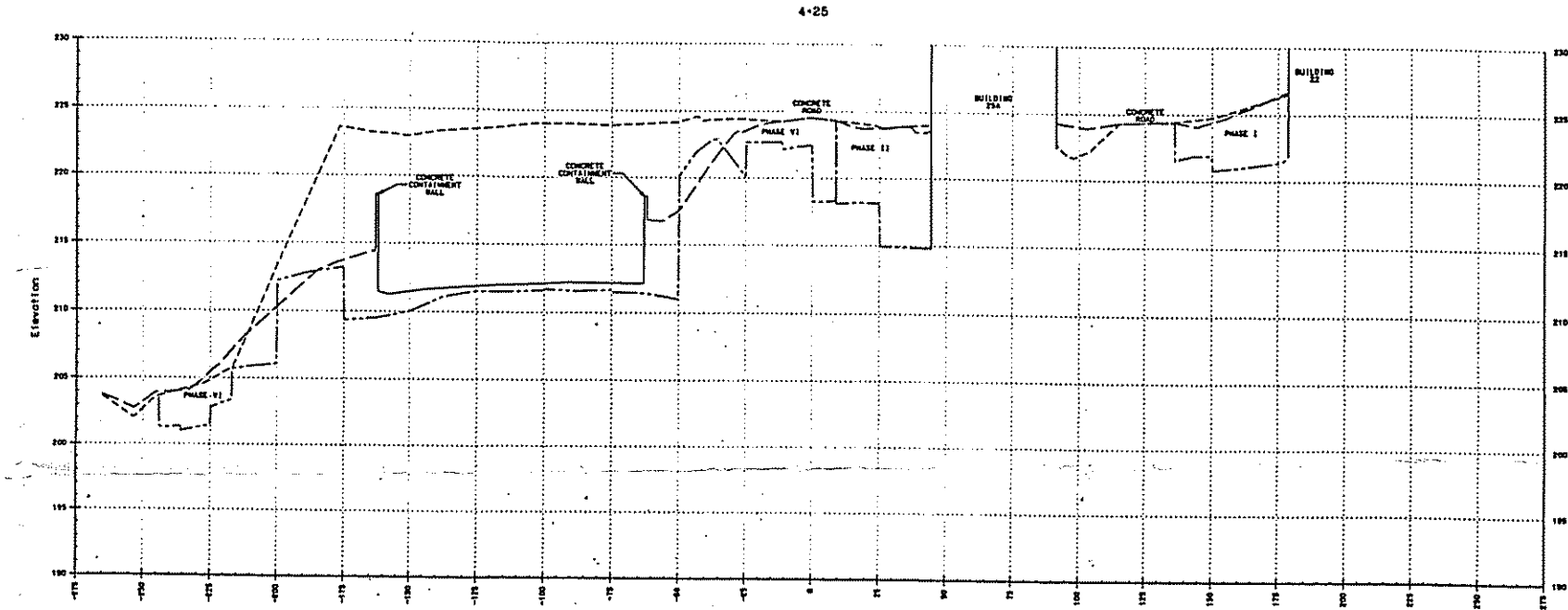
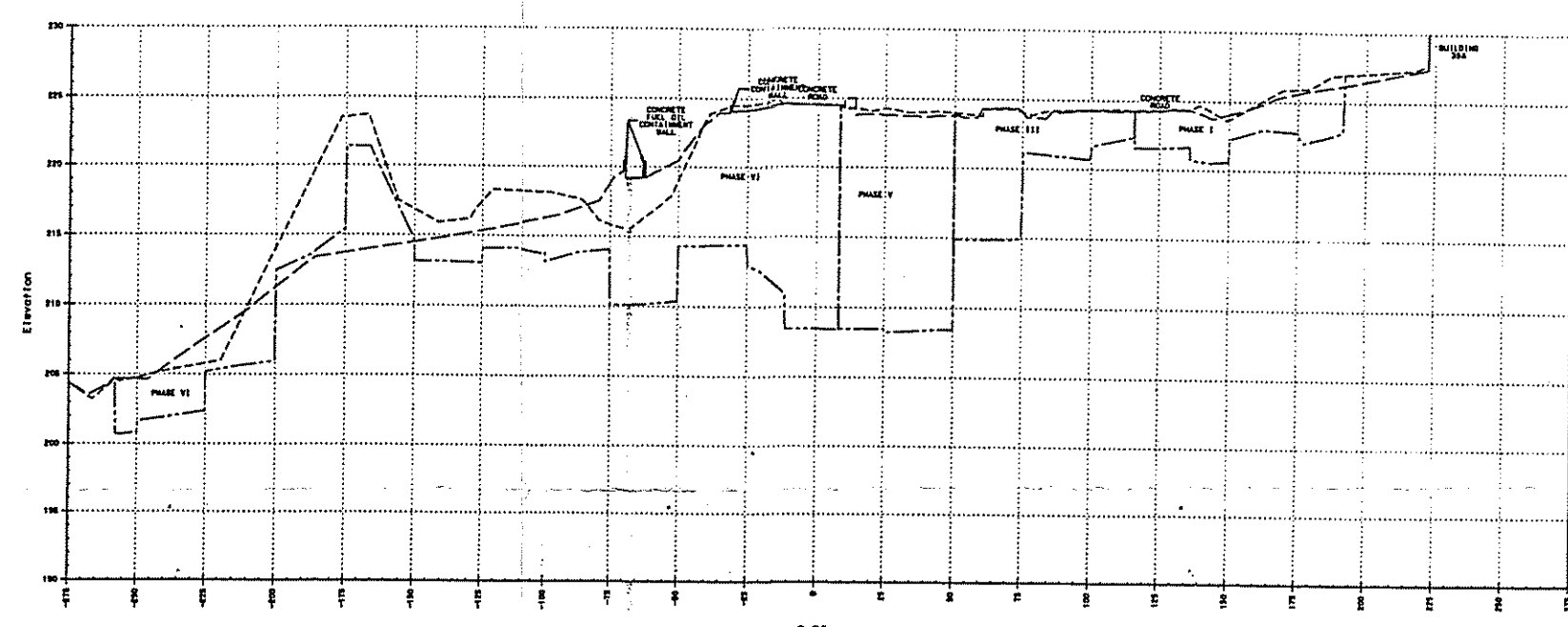
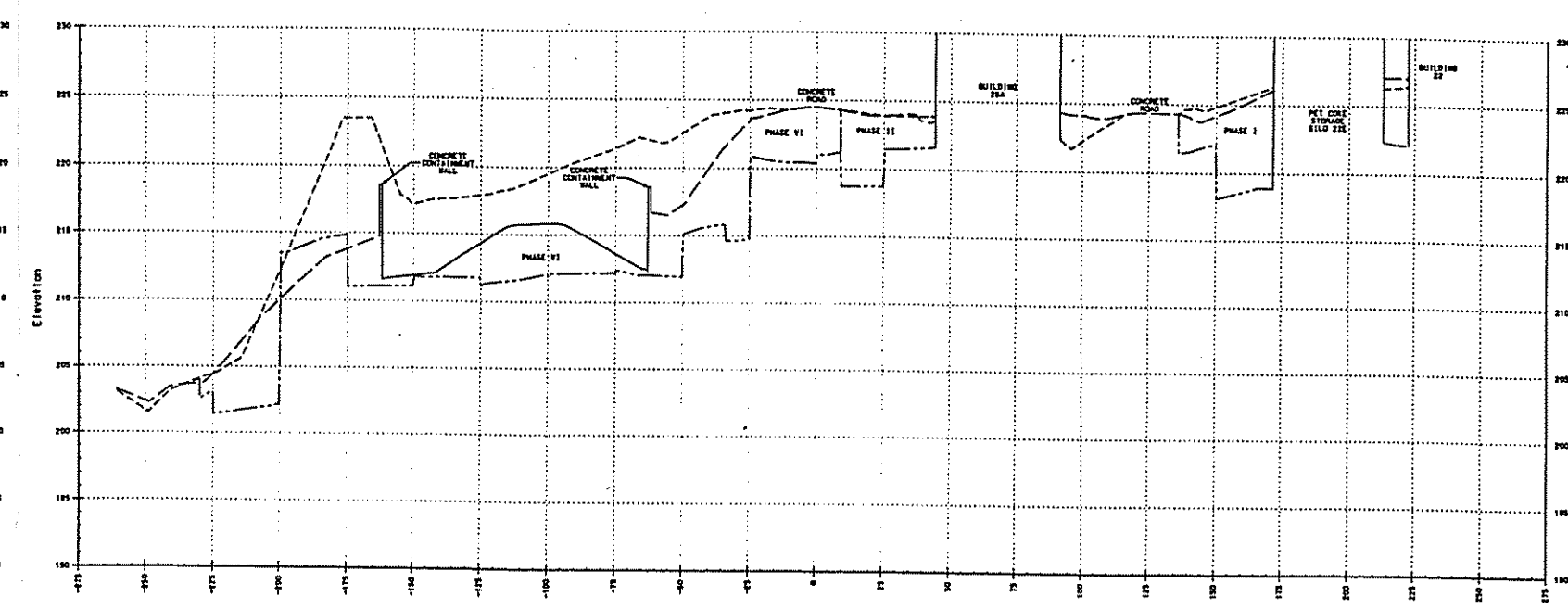
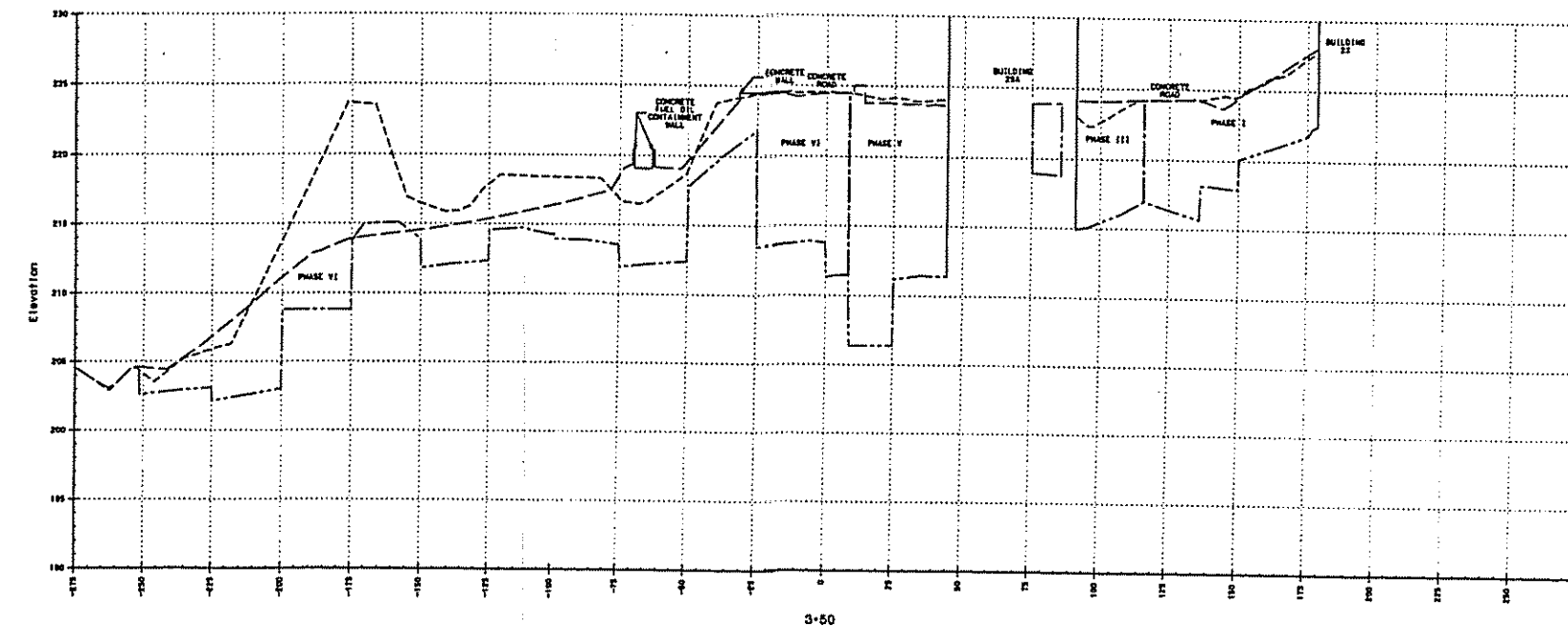
- 1.) REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
- 2.) REFER TO DRAWING ATL-NYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
- 3.) REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.
- 4.) REFER TO DRAWING ATL-NYD-01 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=4'



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 2209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT NAME:		NORTH YARD AREA CROSS-SECTIONS SHEET 3 OF 7	
PROJECT NUMBER:		ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK	
DATE:		SPENCER F. THEW, P.E. L.S.	
DRAWN BY:		PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR	
CHECKED BY:		MASSENA, N.Y. CANTON, N.Y. ELIZON, N.Y.	
SCALE:		AS NOTED	
ATL-NYD-X3		4/9/97	
CK2060-4-94			



LEGEND:
 - - - - - ORIGINAL GROUND SURFACE (8/14/95)
 ——— RESTORATION SURFACE (11/4/96)
 FINAL EXCAVATION SURFACE (9/4/96)
 ——— CONCRETE SLAB OR WALL (11/4/96)

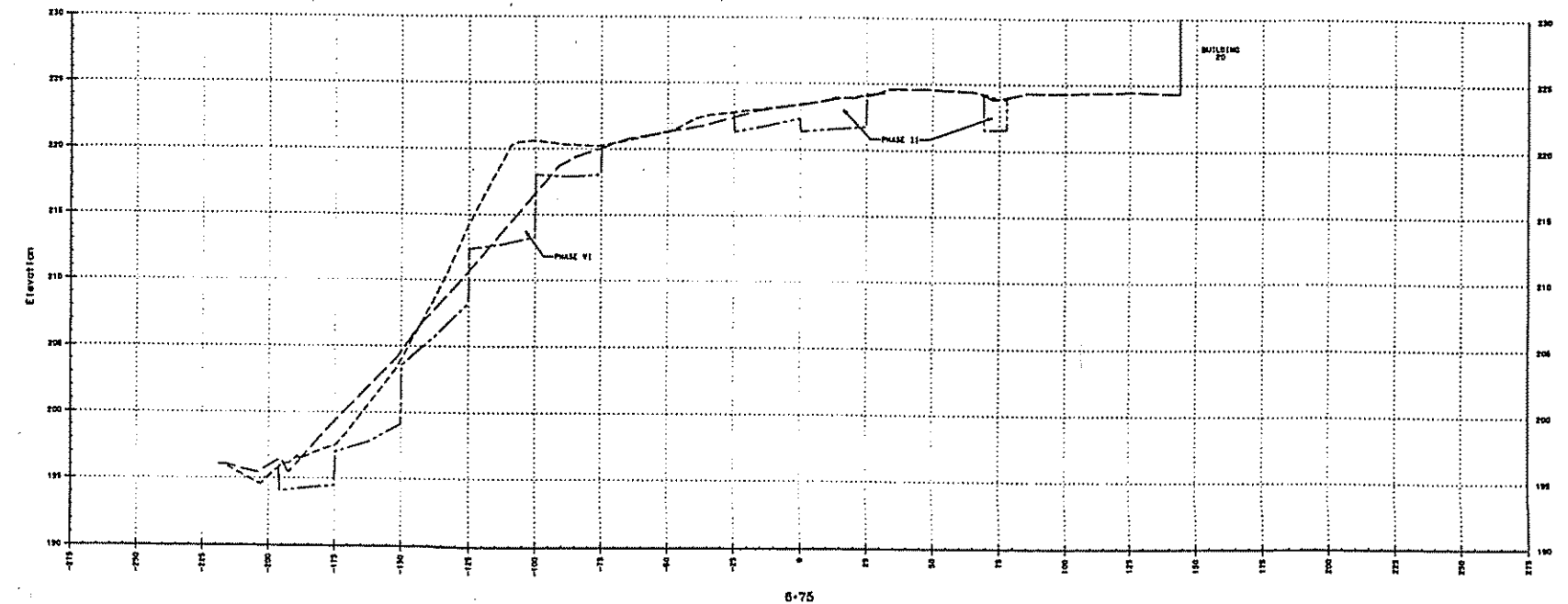
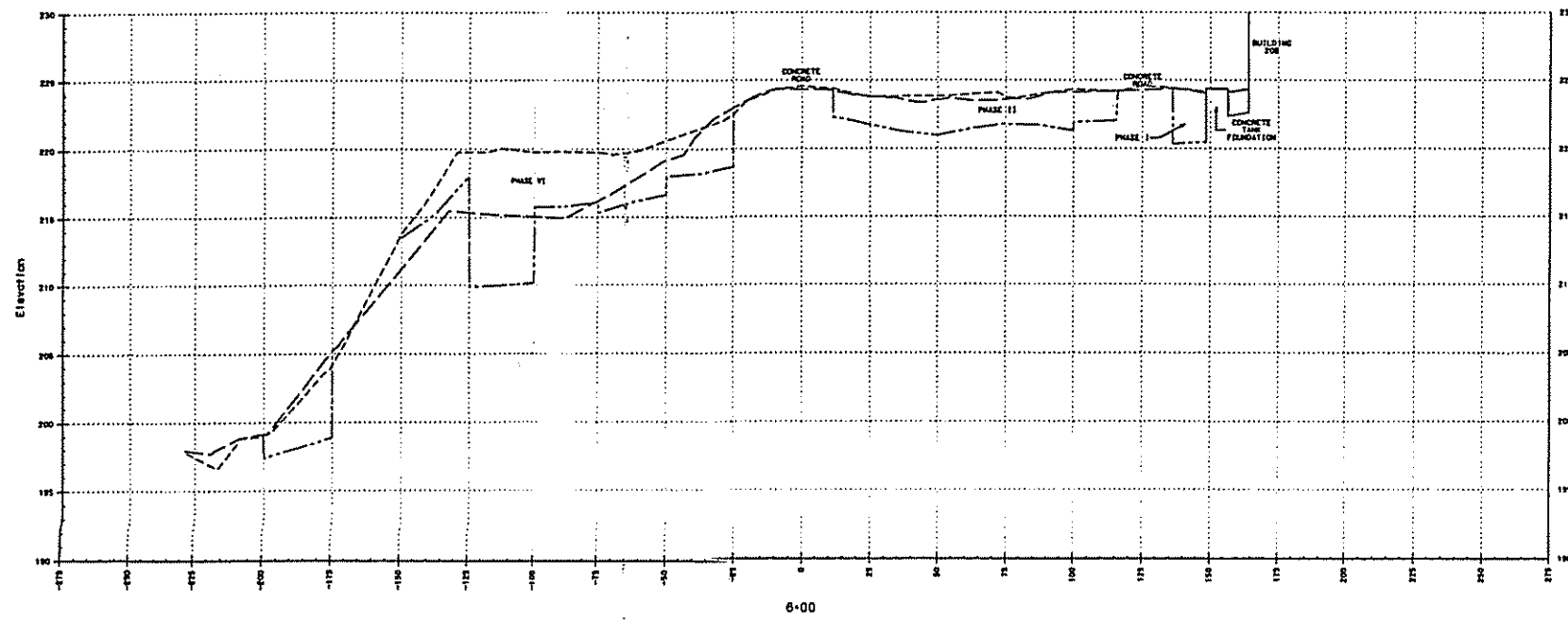
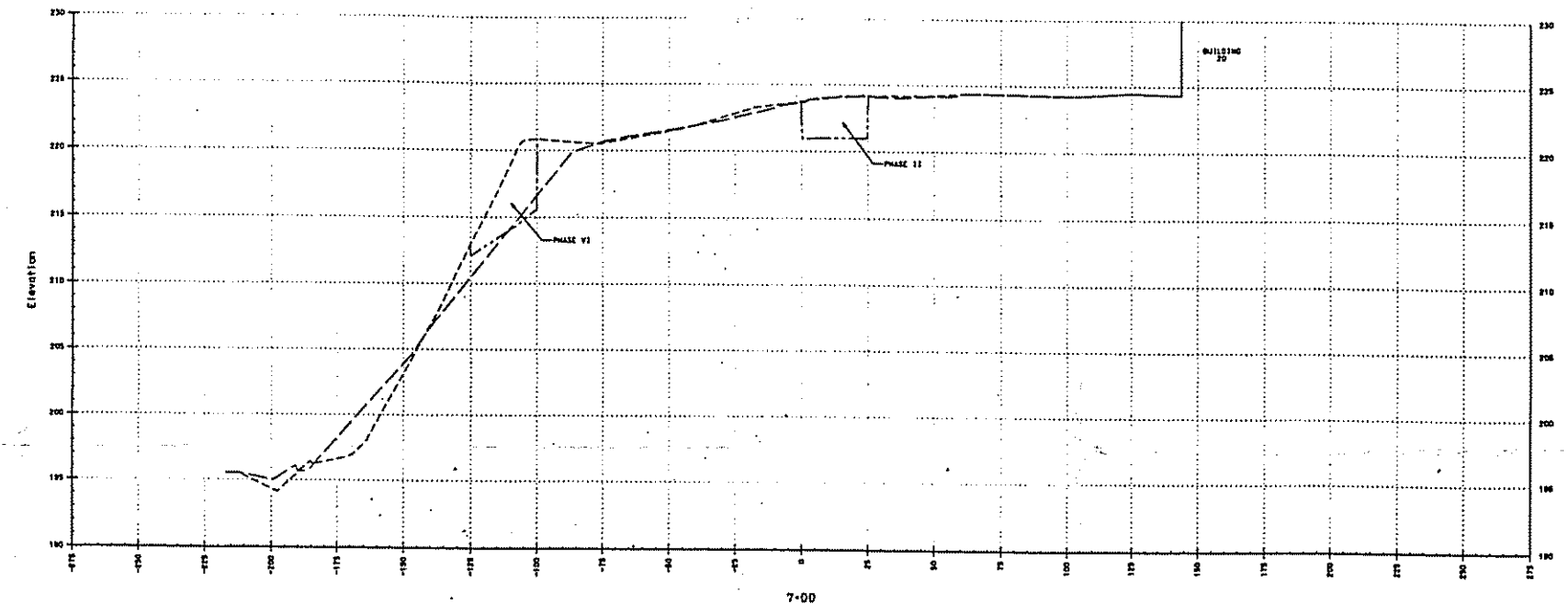
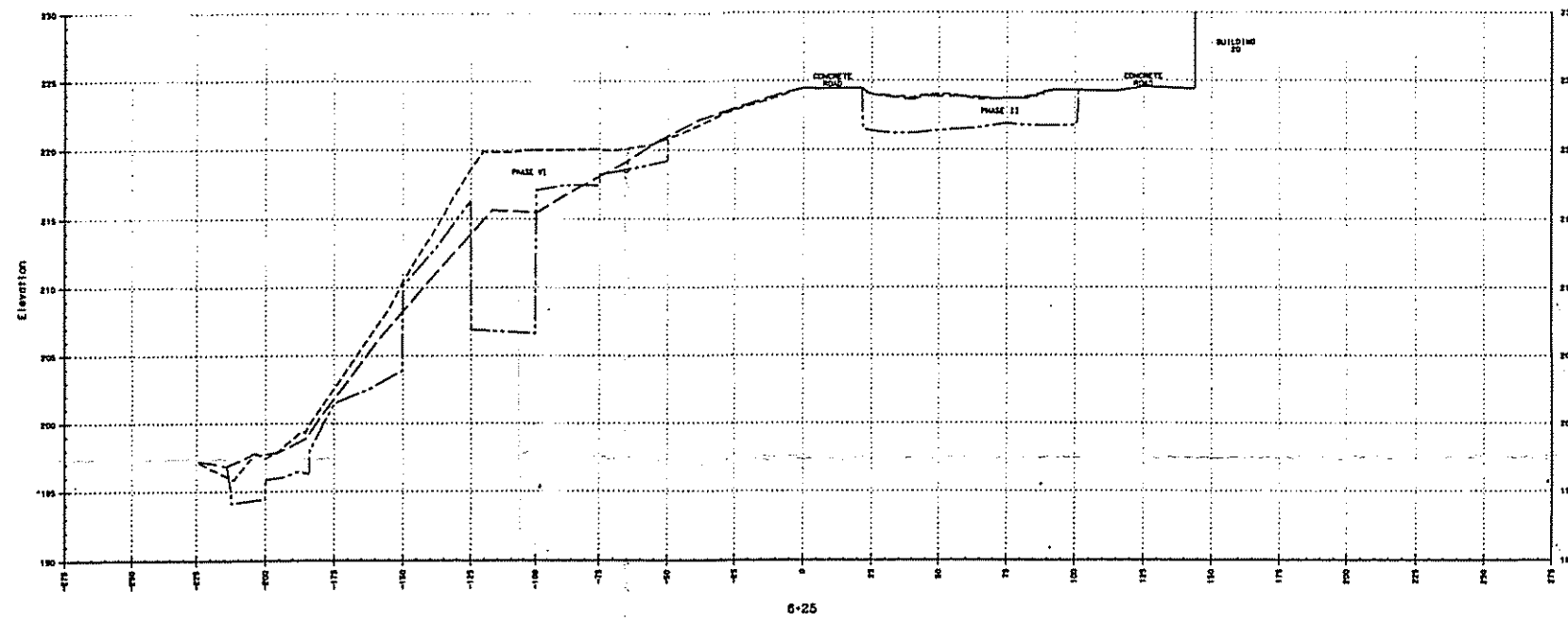
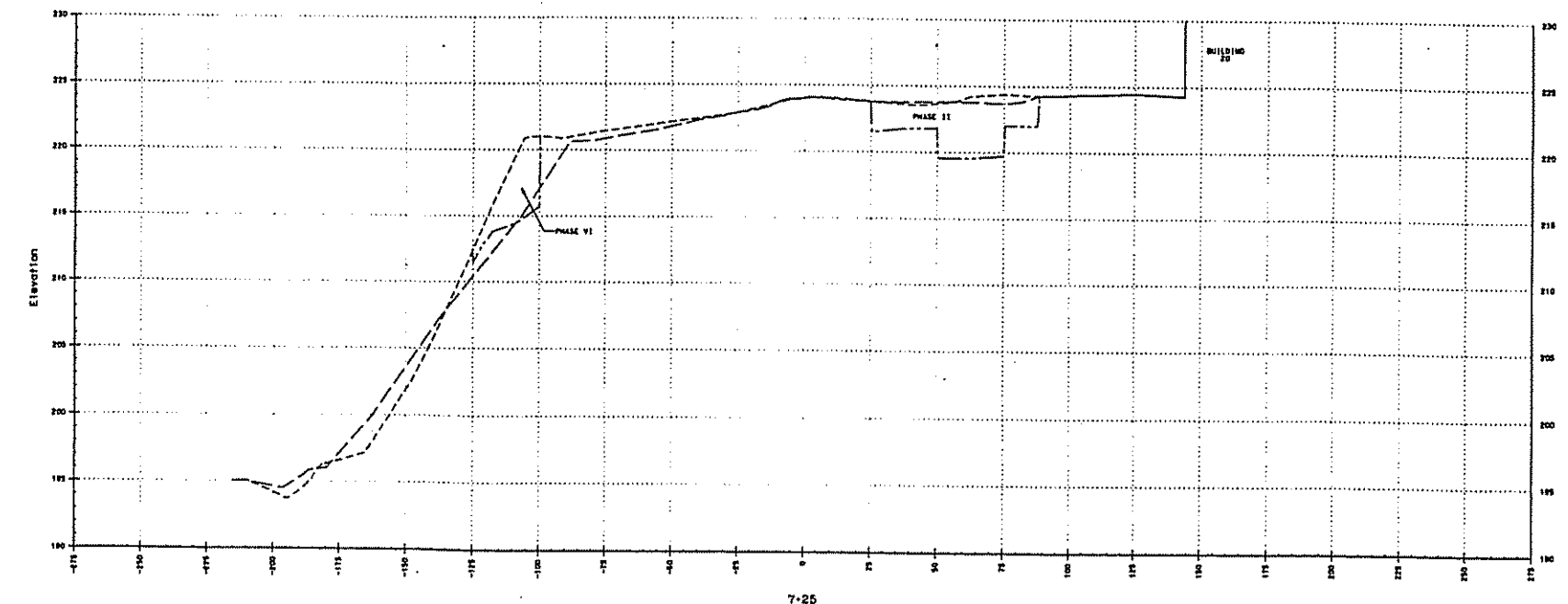
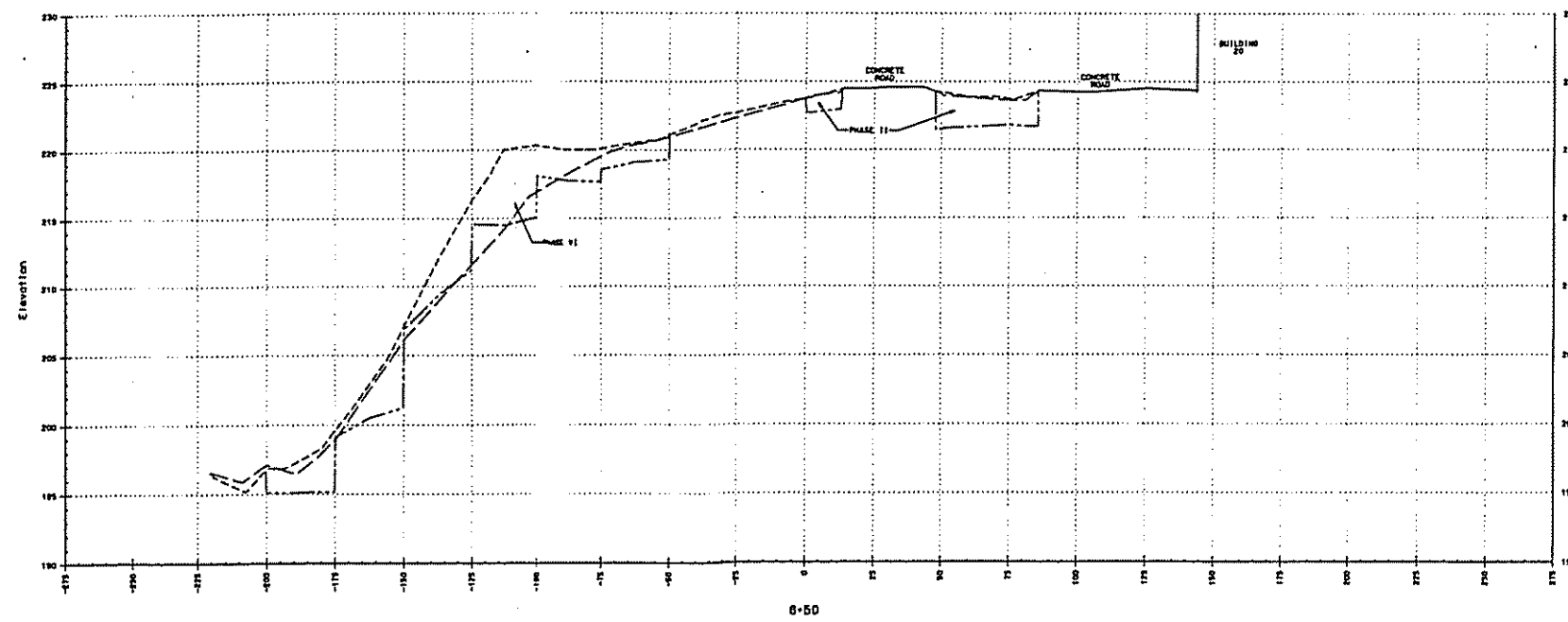
NOTES:
 1. REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 2. REFER TO DRAWING ATL-NYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
 3. REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.
 4. REFER TO DRAWING ATL-NYD-01 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL SCALE: 1"=50'
 VERTICAL SCALE: 1"=5'



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 209-A, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

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LEGEND:
 - - - - - ORIGINAL GROUND SURFACE (6/14/95)
 - - - - - RESTORATION SURFACE (11/4/96)
 - - - - - FINAL EXCAVATION SURFACE (11/4/96)
 - - - - - CONCRETE SLAB OR WALL (11/4/96)

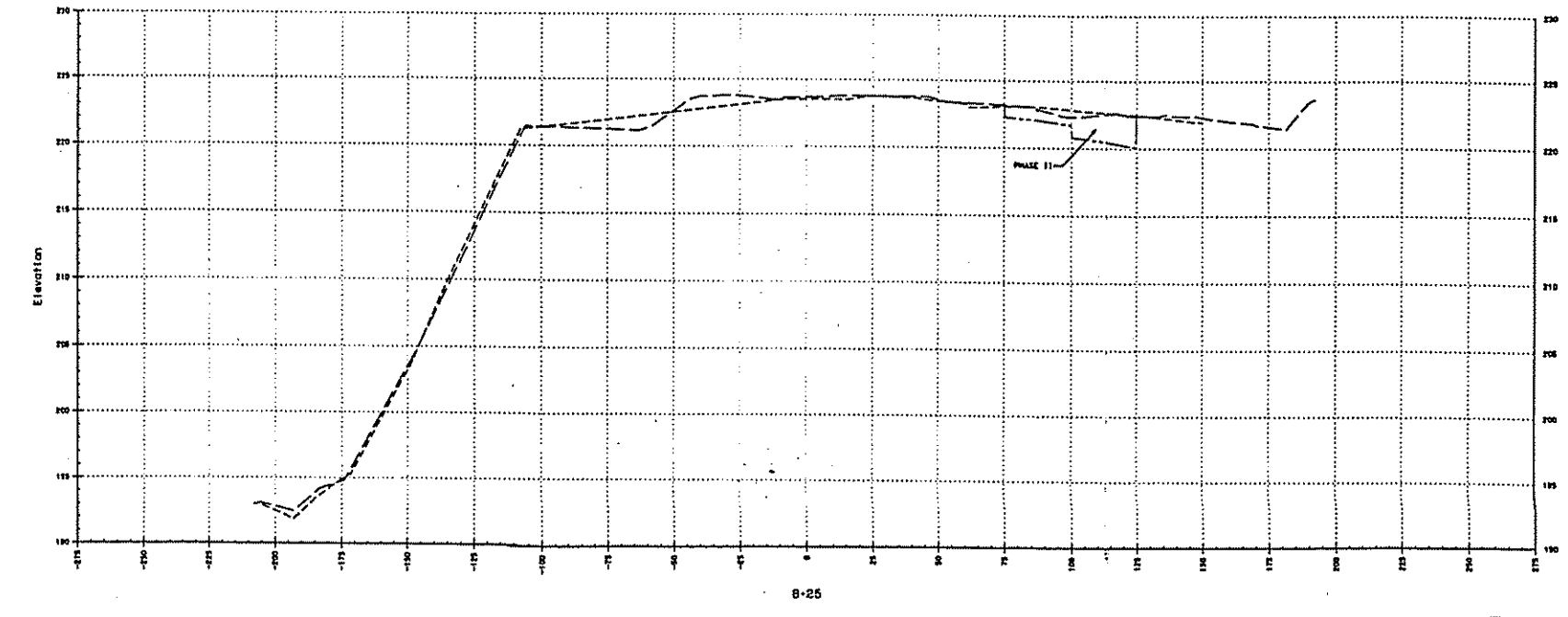
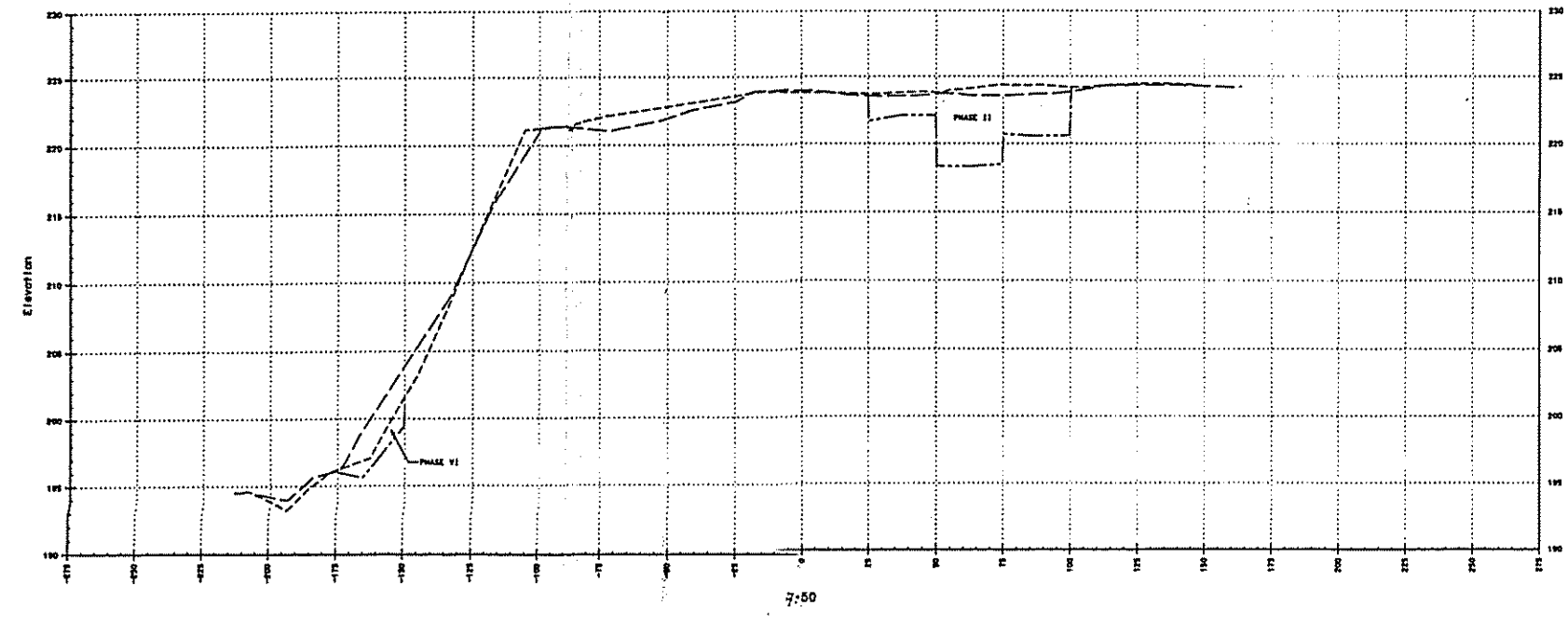
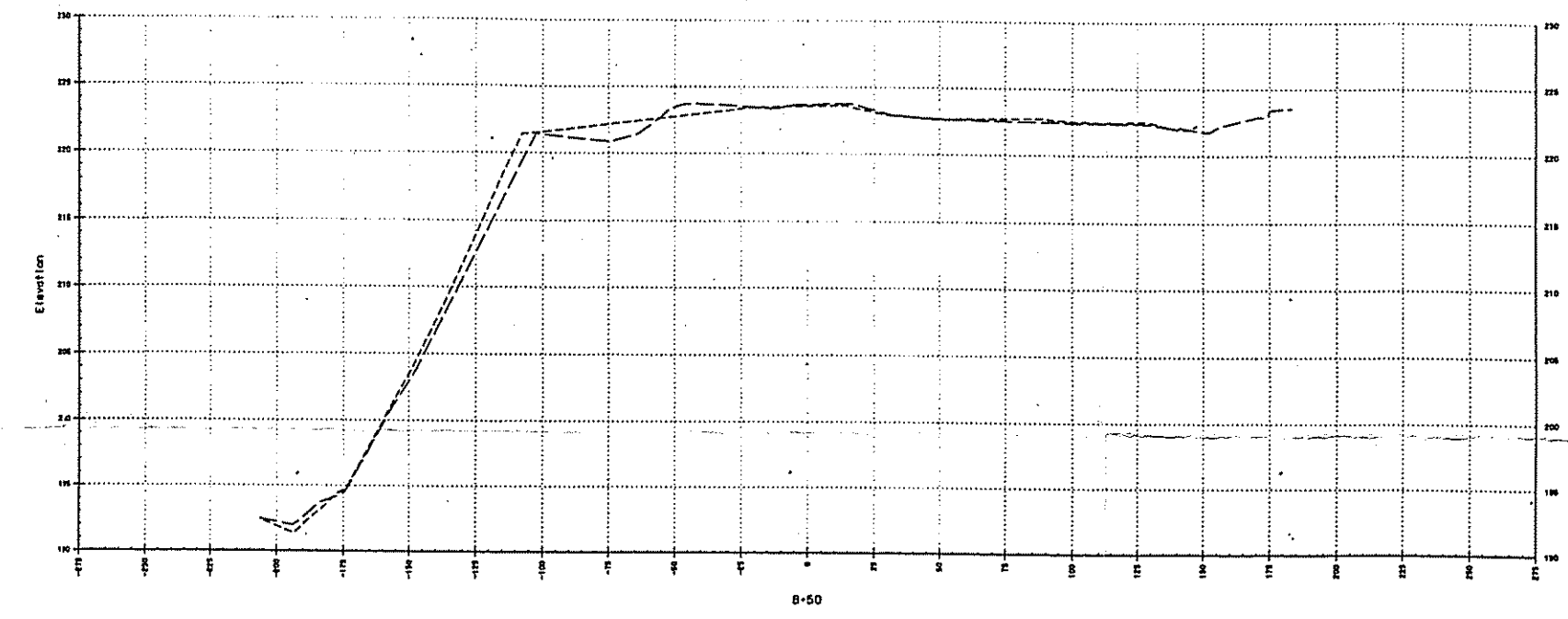
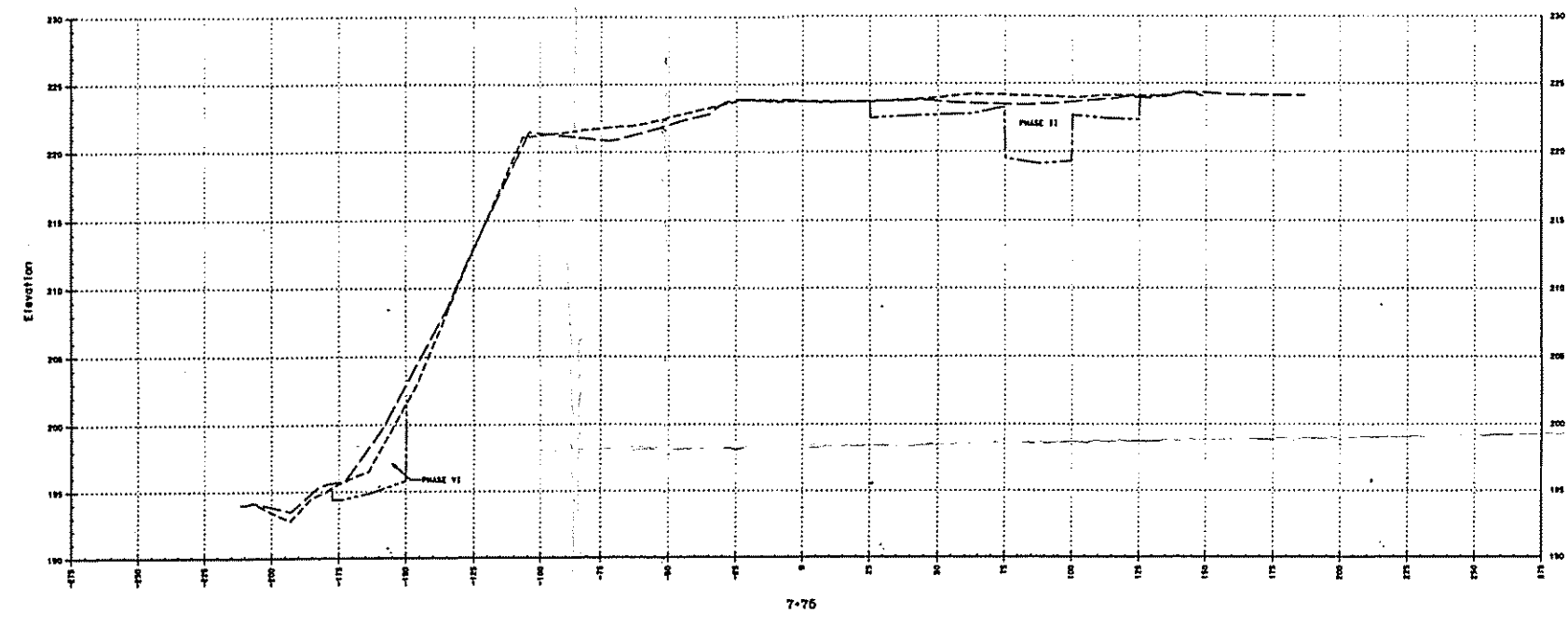
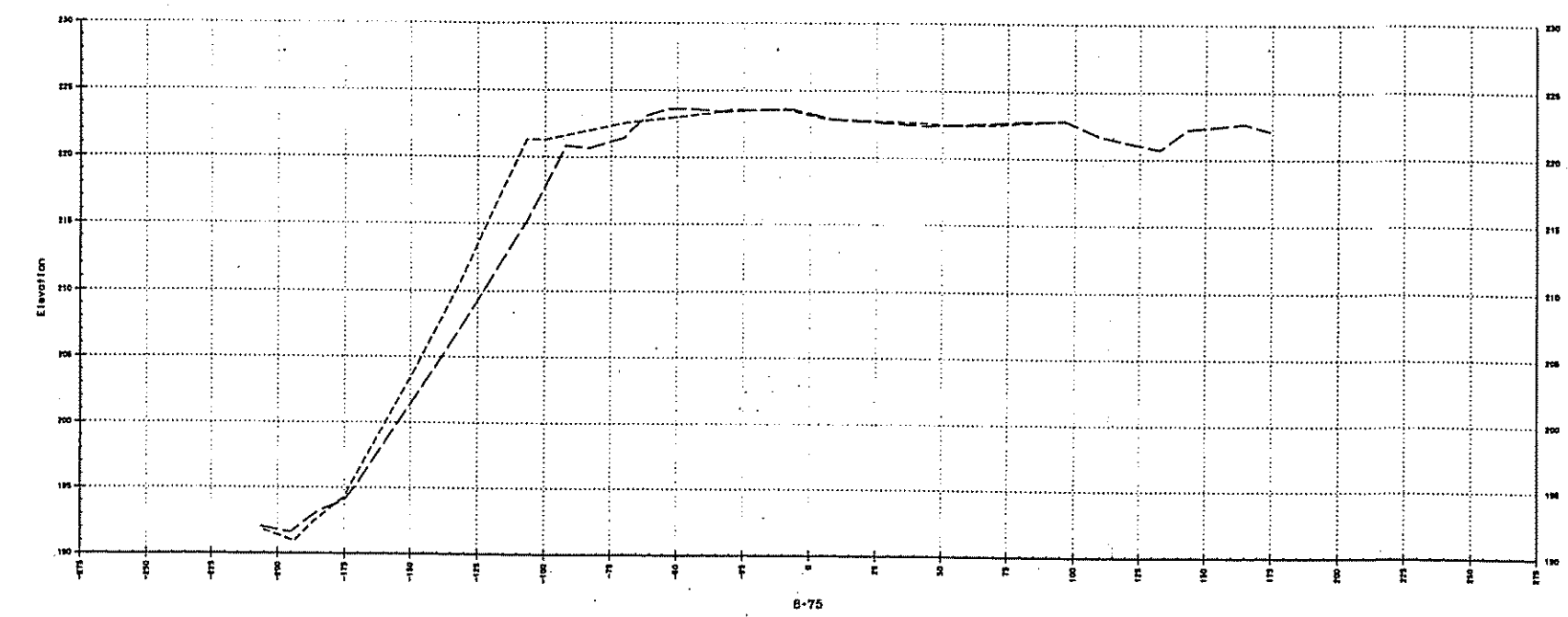
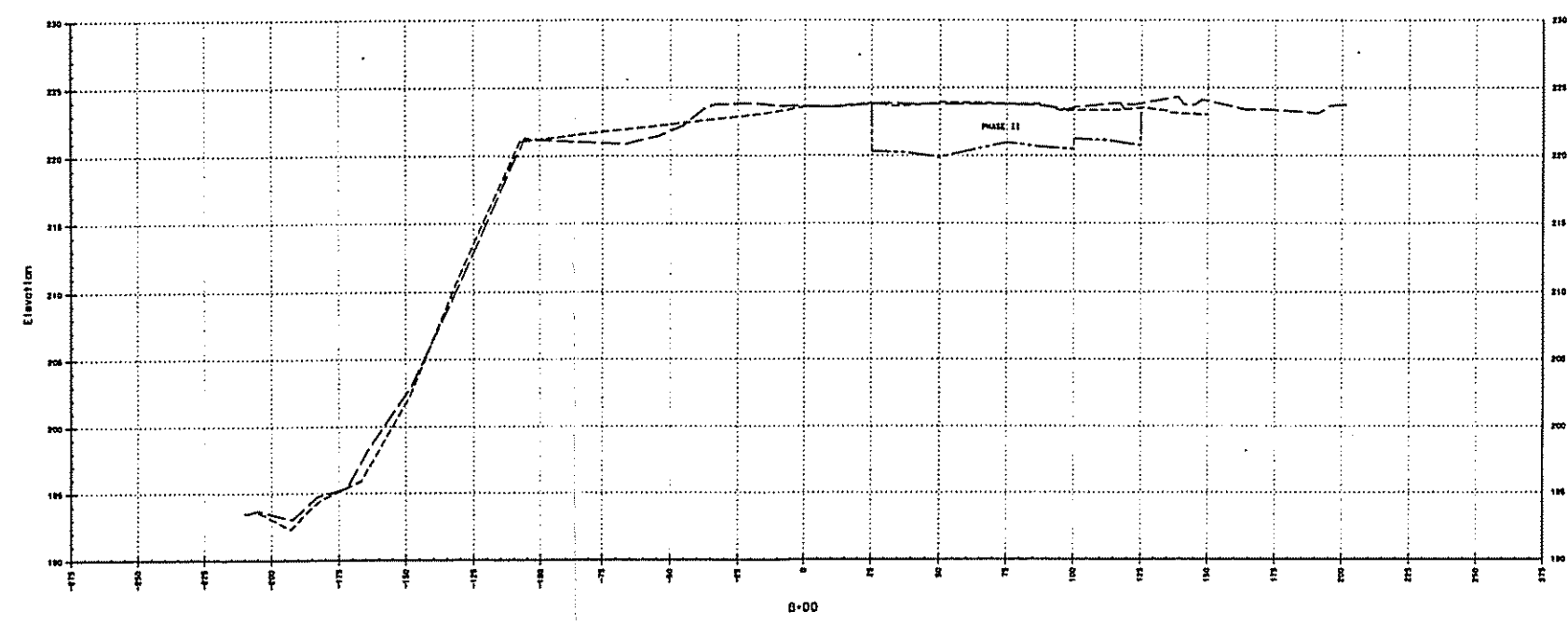
NOTES:
 1. REFER TO DRAWING ATL-NYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 2. REFER TO DRAWING ATL-NYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
 3. REFER TO DRAWINGS ATL-NYD-03 AND ATL-NYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.
 4. REFER TO DRAWING ATL-NYD-05 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=4'



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 2209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

			DATE:	NORTH YARD AREA CROSS-SECTIONS SHEET 6 OF 7
			DND	
			CHECKED BY:	
			SCALE:	ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK
			AS NOTED	
		DATE:	DATE:	SPENCER F. THEW, P.E. L.S.
		ATL-NYD-X6	4/9/97	
		PROJECT NUMBER:		
		CK2060-4-94		
NEW	DESCRIPTION:	DATE:	PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR MASSENA, N.Y. EASTON, N.Y. ELIZON, N.Y.	



LEGEND:
 - - - - - ORIGINAL GROUND SURFACE (6/14/93)
 - - - - - RESTORATION SURFACE (11/4/96)
 FINAL EXCAVATION SURFACE (9/4/96)
 ——— CONCRETE SLAB OR WALL (11/4/96)

NOTES:
 1. REFER TO DRAWING ATL-HYD-01 FOR ORIGINAL GROUND SURFACE AND GENERAL NOTES.
 2. REFER TO DRAWING ATL-HYD-02 FOR PLAN VIEW OF THE EXCAVATED GROUND SURFACE.
 3. REFER TO DRAWINGS ATL-HYD-03 AND ATL-HYD-04 FOR PLAN VIEW OF THE RESTORED GROUND SURFACE.
 4. REFER TO DRAWING ATL-HYD-X1 FOR CROSS-SECTION LOCATIONS.

HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=4'



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 200-A, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

		DATE		NORTH YARD AREA CROSS-SECTIONS SHEET 7 OF 7 
		DND		
		CHECKED BY		
		SCALE		
		AS NOTED		ST. LAWRENCE REDUCTION PLANT REYNOLDS METALS COMPANY MASSENA, NEW YORK
DESIGNER NUMBER		DATE		SPENCER F. THEW, P.E. L.S. PROFESSIONAL ENGINEER - LICENSED LAND SURVEYOR MAINE, N.Y. MONTGOMERY, N.Y. CINCINNATI, N.Y.
ATL-HYD-X7		4/9/97		
PROJECT NUMBER		CK2060-4-94		
DESCRIPTION		DATE		