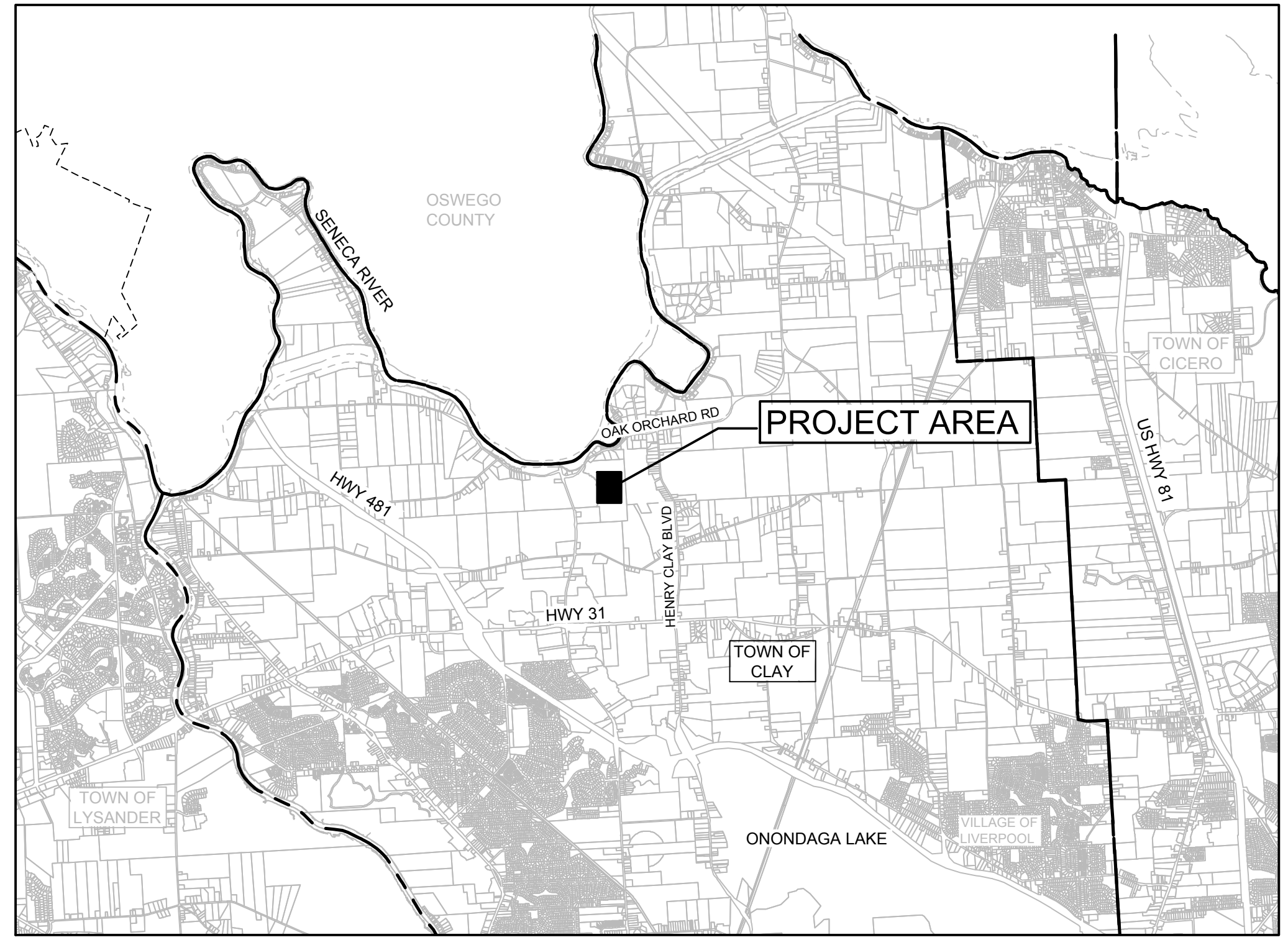
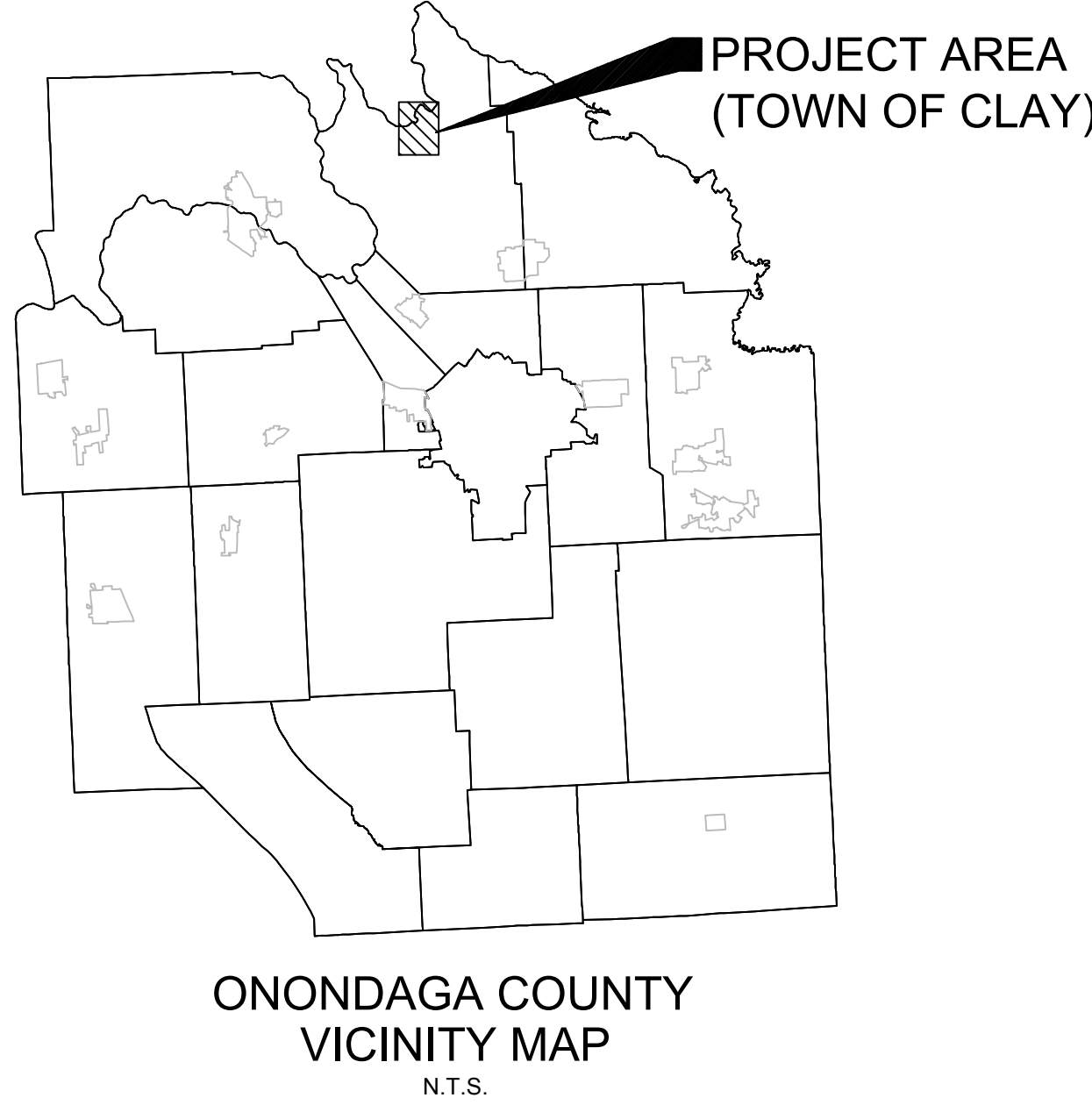
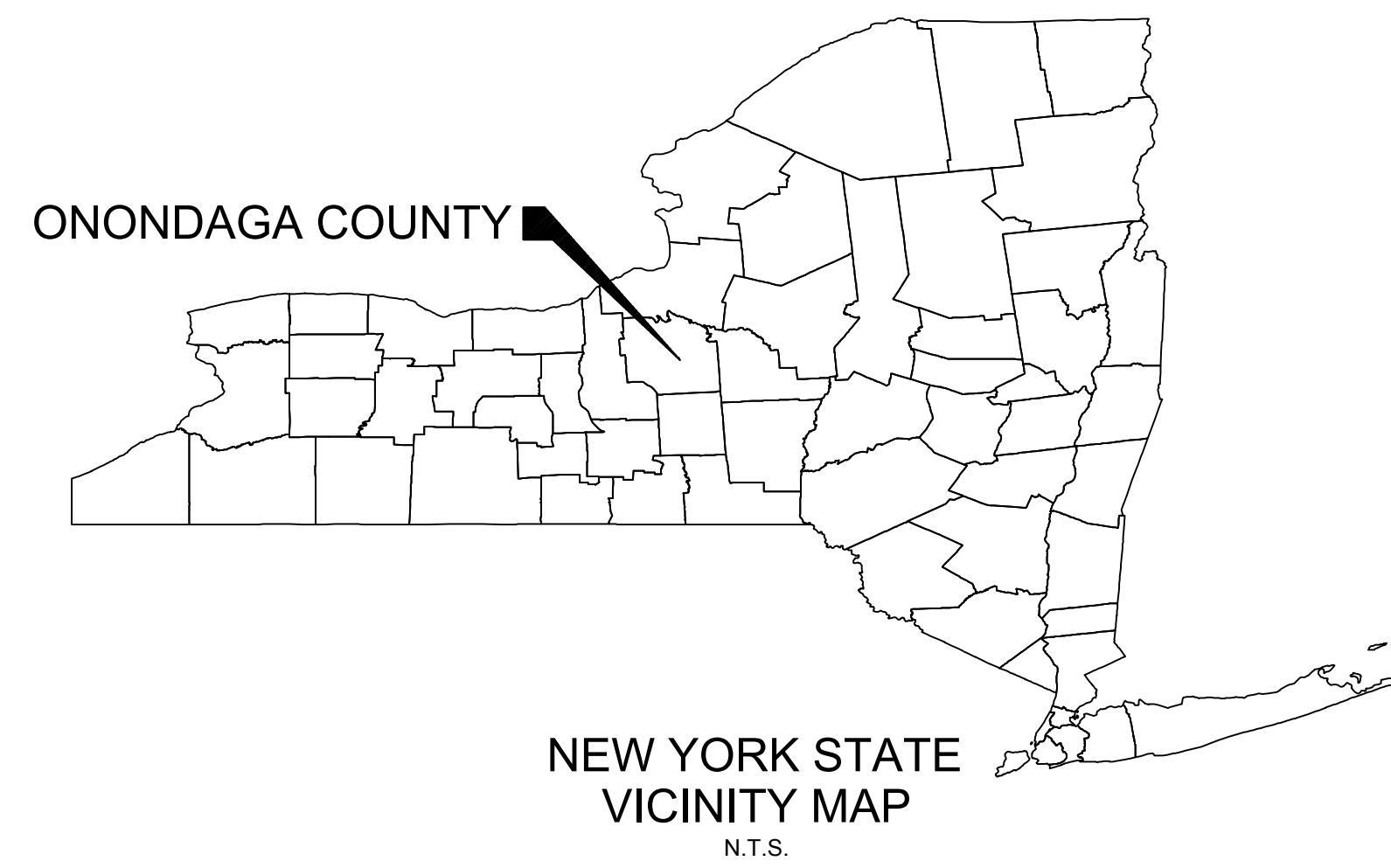


DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
 ONONDAGA COUNTY, NEW YORK  
 FEBRUARY 2015  
 OAK ORCHARD WASTEWATER TREATMENT PLANT  
 LAGOON CLEANING AND REHABILITATION PROJECT  
 CONTRACT NO. 1/GENERAL



LOCATION MAP  
SCALE: 1" = 5,000'

COUNTY EXECUTIVE  
COMMISSIONER

JOANNE M. MAHONEY  
TOM RHOADS, P.E.

DRAWING INDEX	
SHT. NO.	DESCRIPTION
GN-01	COVER SHEET
GN-02	LEGEND & NOTES
GN-03	OVERALL SITE PLAN
CI-01	LAGOON 1 EXISTING SEDIMENT PLAN & PROFILE
CI-02	LAGOON 1 EXISTING SEDIMENT PROFILES & SECTIONS
CI-03	LAGOON 2 EXISTING SEDIMENT PLAN & PROFILE
CI-04	AIR FEEDER LINE AND MODIFICATIONS AT LAGOONS 1 & 2
CI-100	SITE/GRADING & EROSION CONTROL PLAN - 1
CI-101	SITE/GRADING & EROSION CONTROL PLAN - 2
CI-102	CONSTRUCTION DETAILS - 1
CI-201	GRADING PLAN 1
CI-202	GRADING PLAN 2

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

SURVEYOR / ROAD CONSTRUCTION:

**FISHER ASSOCIATES**  
135 Calkins Road, Rochester, NY 14623

**95% REVIEW DRAWINGS**  
NOT FOR CONSTRUCTION

**CRA Infrastructure & Engineering, Inc.**

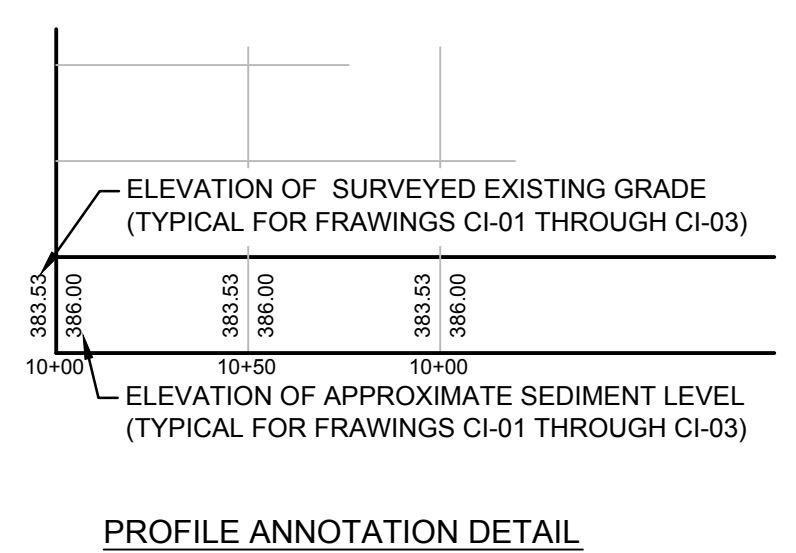
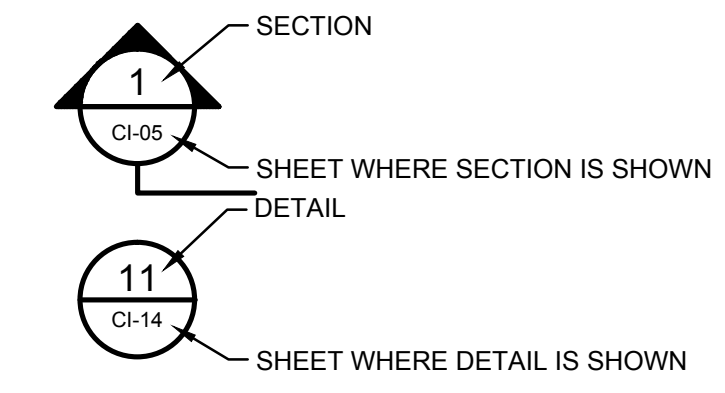
Source Reference:		Date: FEBRUARY 2015	
Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: AS SHOWN	Project No: 630965	Report No: 002	Drawing No: GN-01

SURVEY LINETYPES		
FEATURE	EXISTING	PROPOSED
CENTER LINE	---	---
MUNICIPAL BOUNDARY	---	---
PROPERTY LINE	---	---
EASEMENT	---	---
ROW & MONUMENT	---	---
CONTOURS MAJOR	---	---
CONTOURS MINOR	---	---
FEMA FLOOD CONTOUR	---	---
UTILITY LINETYPES		
FEATURE	EXISTING	PROPOSED
ELECTRIC UNDERGROUND	---	---
ELECTRIC OVERHEAD	---	---
TELEPHONE UNDERGROUND	---	---
TELEPHONE OVERHEAD	---	---
COMMUNICATION UNDERGROUND	---	---
COMMUNICATION OVERHEAD	---	---
GAS	---	---
WATER MAIN	---	---
SANITARY SEWER	---	---
SANITARY SEWER FORCEMAIN	---	---
STORM SEWER	---	---
ABANDONED PIPE	XXXXXX	XXXXXX
DEMOLITION	---	---
TOPOGRAPHIC LINETYPES		
FEATURE	EXISTING	PROPOSED
FENCE	---	---
WOODEN FENCE	---	---
GUIDE POSTS GUARD RAIL	---	---
RR TRACKS SMALL SCALE	---	---
SHEET PILING	---	---
SHORE LINE	---	---
WORK LIMIT LINE	---	---

SANITARY		
FEATURE	EXISTING	PROPOSED
SANITARY SEWER MH	⊙	●
CLEAN OUT	⊙	⊙
SANITARY SEWER VALVE	⊙	⊙
VENT	⊙	⊙
CUT AND CAP	---	---
CONCRETE PIPE ANCHOR	---	---
STORM & DRAINAGE		
FEATURE	EXISTING	PROPOSED
STORM MANHOLE	⊙	●
STORM CATCH BASIN	⊙	⊙
CULVERT/END SECTIONS	---	---
SWALE/DITCH	---	---
YARD DRAIN	---	---
FLOW ARROW	---	---
STORM PIPE	---	---
WATER		
FEATURE	EXISTING	PROPOSED
WATER GATE VALVE	⊙	⊙
WATER BUTTERFLY VALVE	⊙	⊙
HYDRANT VALVE	⊙	⊙
HYDRANT	⊙	⊙
CURB STOP	⊙	⊙
WATER METER	⊙	⊙
AIR RELIEF VALVE	⊙	⊙
WELL	⊙	⊙
LATERAL	---	---
LATERAL RECONNECT	---	---
BLOWOFF/SAMPLE POINT	⊙	⊙
TAPPING SLEEVE	⊙	⊙
WATER SERVICE BOX	⊙	⊙

POWER		
FEATURE	EXISTING	PROPOSED
UTILITY POLE	⊙	⊙
GUY WIRE ANCHOR	⊙	⊙
STREET LIGHT	⊙	⊙
BURIED CABLE MARKER	⊙	⊙
TRANSMISSION TOWERS	⊙	⊙
PULL BOX STREET LIGHTS	⊙	⊙
TERMINAL BOX	⊙	⊙
UTILITY MANHOLE	⊙	⊙
HANDHOLE	⊙	⊙
INSPECTION POST	⊙	⊙
UTILITY MARKER	⊙	⊙
TOPOGRAPHY		
FEATURE	EXISTING	PROPOSED
SPLASH BLOCK	---	---
MAIL BOX	⊙	⊙
YARD LIGHT	⊙	⊙
STONE FENCE	---	---
TREE LINE	---	---
STUMP	⊙	⊙
HEDGE	---	---
BOLLARD	⊙	⊙
EROSION CONTROL		
FEATURE	EXISTING	PROPOSED
SILT FENCE	---	---
INLET PROTECTION	---	---
MISC		
FEATURE	EXISTING	PROPOSED
CASING PIPE	⊙	⊙
TANK FILLER	⊙	⊙
CLAY DAM	---	---
CONTRACTOR TEST PIT	⊙	⊙
POST INDICATOR VALVE	⊙	⊙
PUMP	⊙	⊙
VALVE OPERATOR	⊙	⊙
CHECK VALVE	⊙	⊙
EXISTING BOREHOLE LOCATION	⊙	⊙

MATERIAL SYMBOLS	
FEATURE	HATCH
COMPACTED SELECT FILL	---
COMPACT CRUSHED STONE	---
CLAY	---
ASPHALT	---
CONCRETE	---
CONCRETE MASONRY UNIT	---
EARTH SURFACE	---
PIPE BEDDING	---
TOP COURSE	---
DEMOLITION	---



ABBREVIATIONS	
Ø, DIA	DIAMETER
AOBE	AS ORDERED BY ENGINEER
ASPH	ASPHALT
AHD	AHEAD
BOB	BOTTOM OF BANK
BC	BOTTOM OF CURB
BDY	BOUNDARY
BV	BUTTERFLY VALVE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCHMARK
BTD	BLACK TOP DRIVE
BK	BACK
CL	CENTERLINE
CB	CATCH BASIN
CATV	CABLE TV
C/C	CENTER TO CENTER
CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCTION
CP	CONTROL POINT
CR	COUNTY ROAD
CSD	CRUSHED STONE DRIVE
CSPA	CORRUGATED STEEL PIPE ARCH
CT	COPPER TUBING PIPE
CULV	CULVERT
DI	DRAINAGE INLET
DIP	DUCTILE IRON PIPE
DIA, Ø	DIAMETER
DN	DOWN
E	EAST
EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
EP	EDGE OF PAVEMENT
EPS	EDGE OF PAVED SHOULDER
ES	EDGE OF SHOULDER
FND	FOUNDATION
FS	FAR SIDE
FT	FOOT, FEET
GAR	GARAGE
GM	GAS METER
GP	GUY POLE
GRAV	GRAVEL
GSB	GAS SERVICE BOX
GV	GAS VALVE (MAIN LINE)
GS	GATE SERVICE
GW	GAS WELL
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
HPC	HIGH PRESSURE GAS
HSE #	HOUSE NUMBER
HW	HEADWALL
HWY	HIGHWAY
HYD	HYDRANT
INV	INVERT
IB	IRON BAR
IP	IRON PIPE OR IRON PIN
ID	INSIDE DIMENSION
LF	LINEAR FOOT
LP	LIGHT POLE
LPG	LOW PRESSURE GAS
LT	LEFT
MH	MANHOLE
MON	MONUMENT

ABBREVIATIONS	
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NITC	NOT IN THIS CONTRACT
NYT	NEW YORK TELEPHONE
PAVT	PAVEMENT
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCSP	PERFORATED CORRUGATED STEEL PIPE
PS	PUMP STATION
PVC	POLYVINYL CHLORIDE PIPE
PP	POWER POLE
RCP	REINFORCED CONCRETE PIPE
RIB	RECORDED IRON BAR
RD	ROAD
RP	REFLECTOR POST
RR	RAILROAD
ROW	RIGHT OF WAY
RT	RIGHT
RTE	ROUTE
R	RADIUS
STA	STATION
SA	SANITARY MANHOLE (SYMBOL)
SAN	SANITARY SEWER
SSMH	SANITARY MANHOLE
SHDR	SHOULDER
SIB	SET IRON BAR
SH	STATE HIGHWAY
S	SOUTH
SE	SOUTH EAST
SF	SILT FECE
SBD	STRAW BALE DIKE
SPK	SPIKE
SS	STAINLESS STEEL
STP	STEEL PIPE
STM	STORM SEWER
STM MH	STORM MANHOLE
STK	STAKE
ST	STREET
STY	STORY
SW	SIDEWALK
SW	SOUTH WEST
SWPP	STORMWATER POLLUTION PREVENTION PLAN
TB	TEST BORE
TOB	TOP OF BANK
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB
TEL P	TELEPHONE POLE
TGL	THEORETICAL GRADE LINE
TYP	TYPICAL
UP	UTILITY POLE
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
VCP	VITRIFIED CLAY PIPE
VTP	VITRIFIED TILE PIPE
WAT	WATER
W	WEST
WP	WATER PIPE
WM	WATER METER
WV	WATER VALVE
WS	WATER SERVICE (HSE. LINE)
WSE	WATER SURFACE ELEVATION

- GENERAL NOTES:**
- THE PROJECT SURVEY SOURCE INFORMATION HAS BEEN PREPARED FROM TOPOGRAPHICAL SURVEY BY FISHER ASSOCIATES, ROCHESTER, NEW YORK, DATE MARCH 25, 2013. ALL ELEVATIONS REFER TO USGS NAVD88 DATUM.
  - ASSUMED BOTTOM OF LAGOONS AND TOP OF CLAY LAYER SHOWN ON DRAWINGS CI-01 THROUGH CI-03 AND DRAWING CI-04 ARE DERIVED FROM AIR-AQUA OXIDATION SYSTEM #73243-A DOMESTIC WASTE LAGOONS FOR OAK ORCHARD TEMPORARY TREATMENT FACILITIES, ONONDAGA COUNTY, NY, AUGUST 3, 1973; PREPARED BY HINDE ENGINEERING COMPANY DATED AUGUST 3, 1973 FOR THE CONSTRUCTION OF LAGOON PIPING.
  - CONTRACTOR SHALL PROVIDE AND INSTALL STORMWATER EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE SWPPP, PLANS, SPECIFICATIONS AND NYSDEC REGULATIONS PRIOR TO BEGINNING ANY EXCAVATIONS.
  - DISTURBED AREAS NOT PAVED AND NOT PART OF LAGOON BANK TREATMENT SHALL BE GRADED WITH TOP SOIL PLACED TO A MINIMUM THICKNESS OF 6" AND SEEDED TO GRASS.
  - THE CONTRACTOR'S WORK AREA SHALL BE CONFINED TO THE LIMITS OF THE RIGHT OF WAYS. THE CONTRACTOR SHALL OBTAIN ANY TEMPORARY EASEMENTS OR WORK RELEASES SHOULD THE CONTRACTOR REQUIRE ADDITIONAL AREA TO ACCOMMODATE CONTRACTOR'S OPERATIONS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THESE ADDITIONAL WORK AREAS.
  - CONTRACTOR WILL BE WORKING IN CLOSE PROXIMITY TO UTILITIES AND SHALL MAKE EVERY EFFORT TO PRESERVE AND PROTECT THESE FACILITIES. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THE PROTECTION OF THESE FACILITIES. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH RELOCATION OR REPAIRS TO THESE EXISTING FACILITIES IN THE EVENT THEY ARE DAMAGED DURING CONSTRUCTION.
  - A BYPASS PIPE AROUND THE LAGOON WILL BE MADE AVAILABLE TO THE CONTRACTOR TO PERMIT BYPASSING OF FLOW WHILE THE LAGOON IS OUT OF SERVICE.

**95% REVIEW DRAWINGS**  
NOT FOR CONSTRUCTION

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

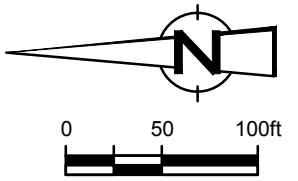
**LEGEND & NOTES**

**CRA Infrastructure & Engineering, Inc.**

Source Reference: \_\_\_\_\_ Date: FEBRUARY 2015

Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: NONE	Project No: 630965	Report No: 002	Drawing No: GN-02

GN-02 630965-00(002)GN-BU002-LEGEND FEB 12/2015



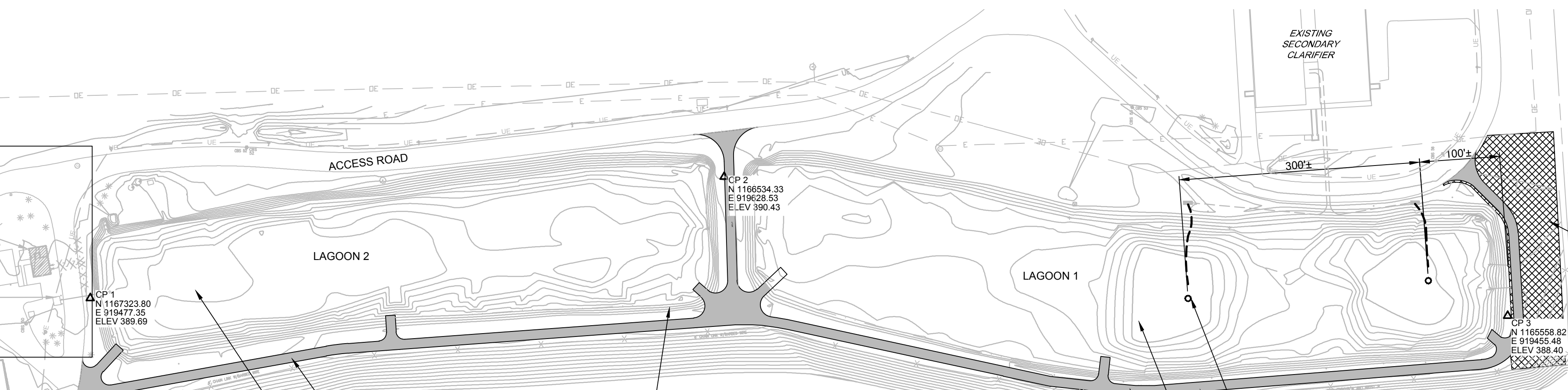
1  
GN-03

SEE DETAIL

EXISTING BLOWER ROOM, CHLORINE AND ELECTRICAL BUILDINGS

EXISTING LAGOON BY-PASS STRUCTURE

EXISTING CHLORINE CONTACT TANKS



PROPOSED STAGING AND LAYDOWN AREA  
SEE DRAWING CI-102

BENCHMARK 3  
TOP SOUTHWEST COR  
OF RETAINING WALL  
ELEV 388.50

PROVIDE AND INSTALL 12' WIDE  
GRAVEL MAINTENANCE DRIVE  
SEE SHEETS CI-100 TO CI-102,  
CI-201 AND CI-202

REMOVE AND DISPOSE OF EXISTING  
SEDIMENT IN LAGOON 2  
SEE SHEET CI-03

FOR LAGOON 2 EMBANKMENT MODIFICATIONS,  
GRADING AND RESTORATION  
SEE DRAWING CI-100 AND CI-201

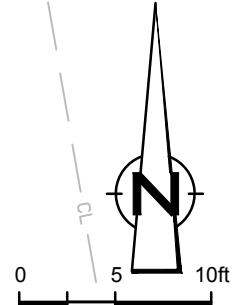
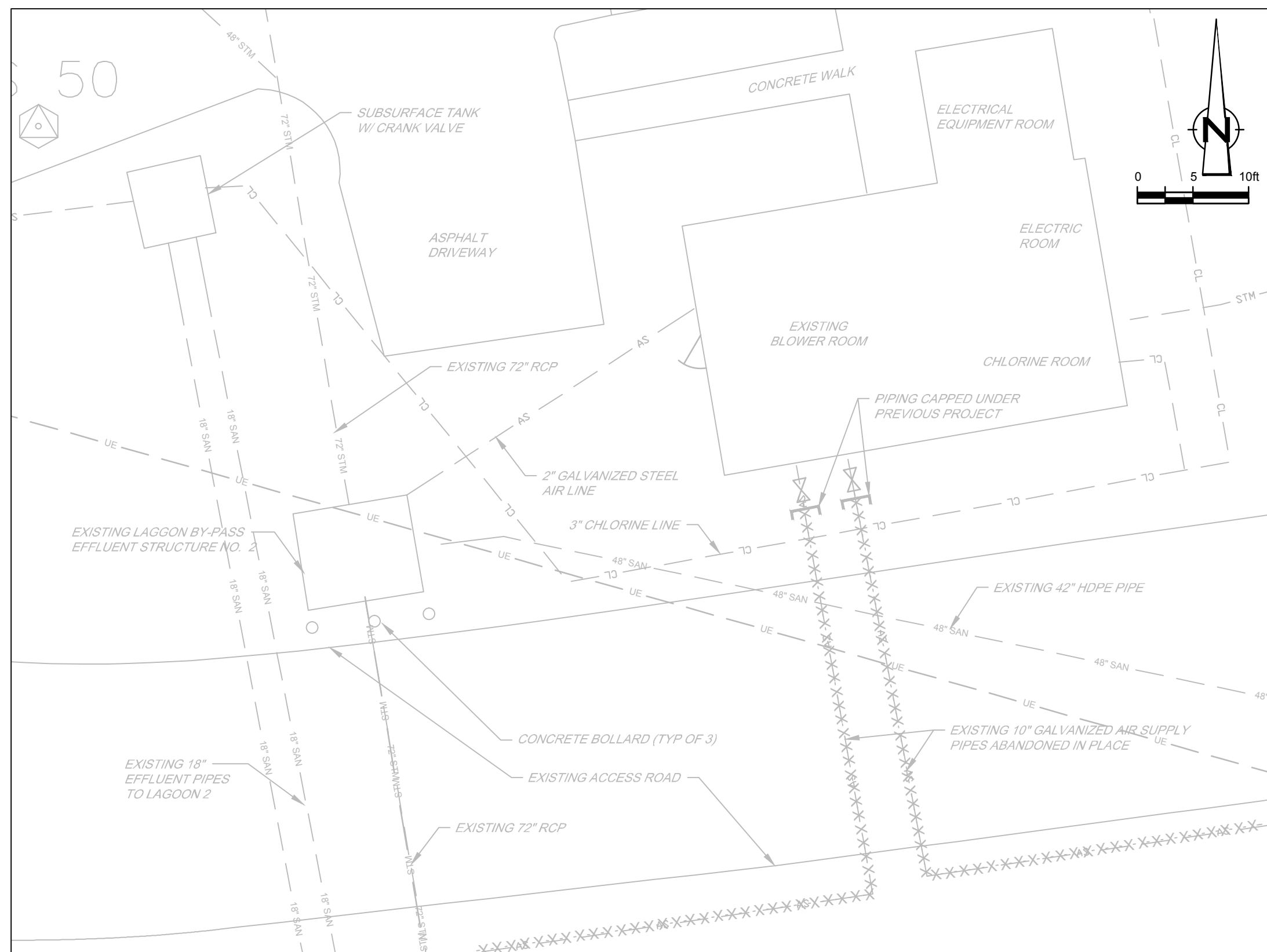
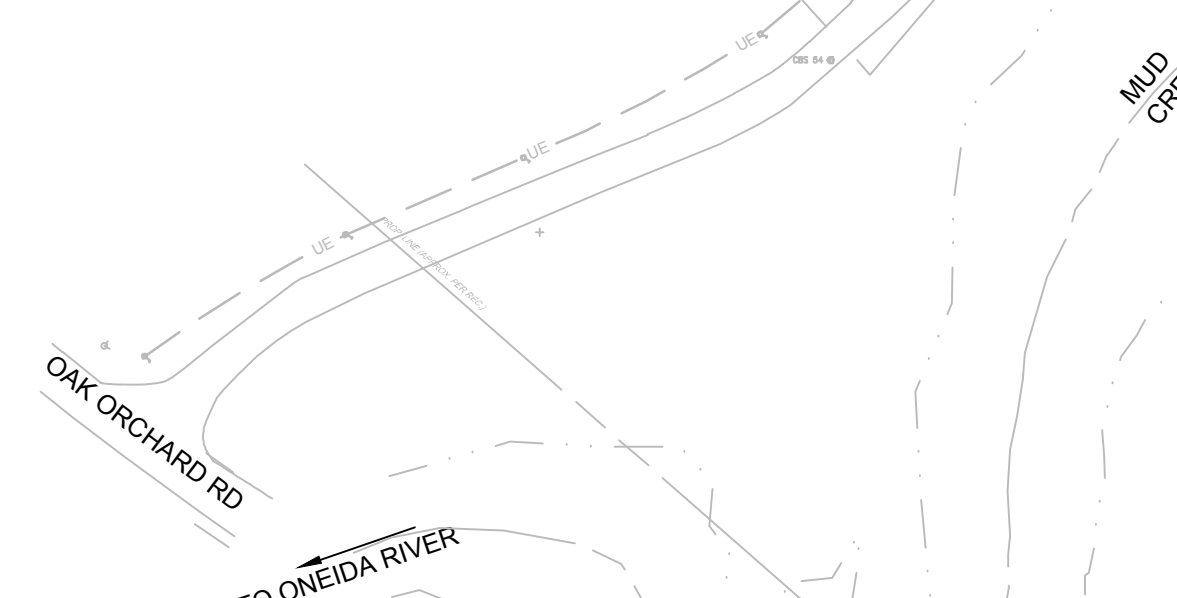
REMOVE EXISTING LAGOON AERATORS AND MOORING LINES.  
RE-INSTALL LAGOON AERATORS AND MOORING LINES UPON  
COMPLETION OF THE WORK. (TYP OF 2)

PROPOSED 12' WIDE  
GRAVEL MAINTENANCE DRIVE  
SEE DRAWING CI-101

REMOVE AND DISPOSE OF EXISTING  
SEDIMENT IN LAGOON 1. SEE DRAWING CI-01

FOR LAGOON 1 EMBANKMENT MODIFICATIONS, GRADING  
AND RESTORATION SEE DRAWING CI-101 AND CI-202

PLAN  
SCALE: 1" = 100'



DETAIL  
SCALE: 1" = 10'

1  
GN-03

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

WARNING: ALTERING THIS DOCUMENT IS  
IN VIOLATION OF THE NEW YORK STATE  
EDUCATION LAW EXCEPTING AS PROVIDED  
IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

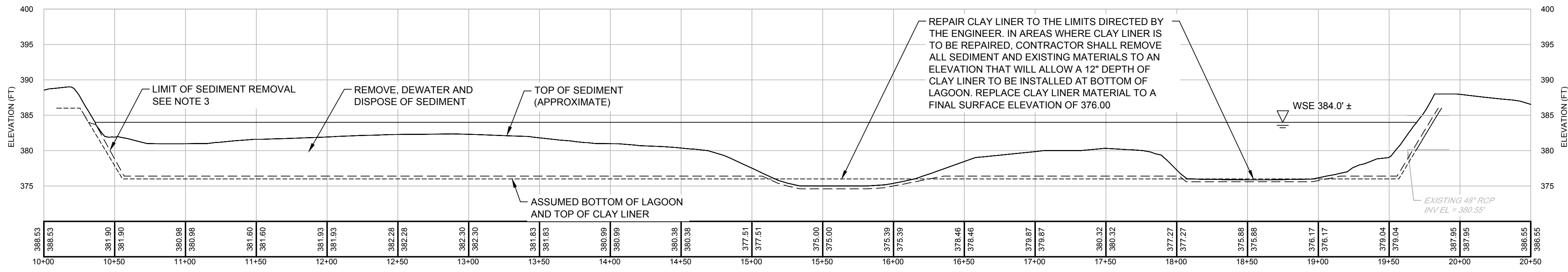
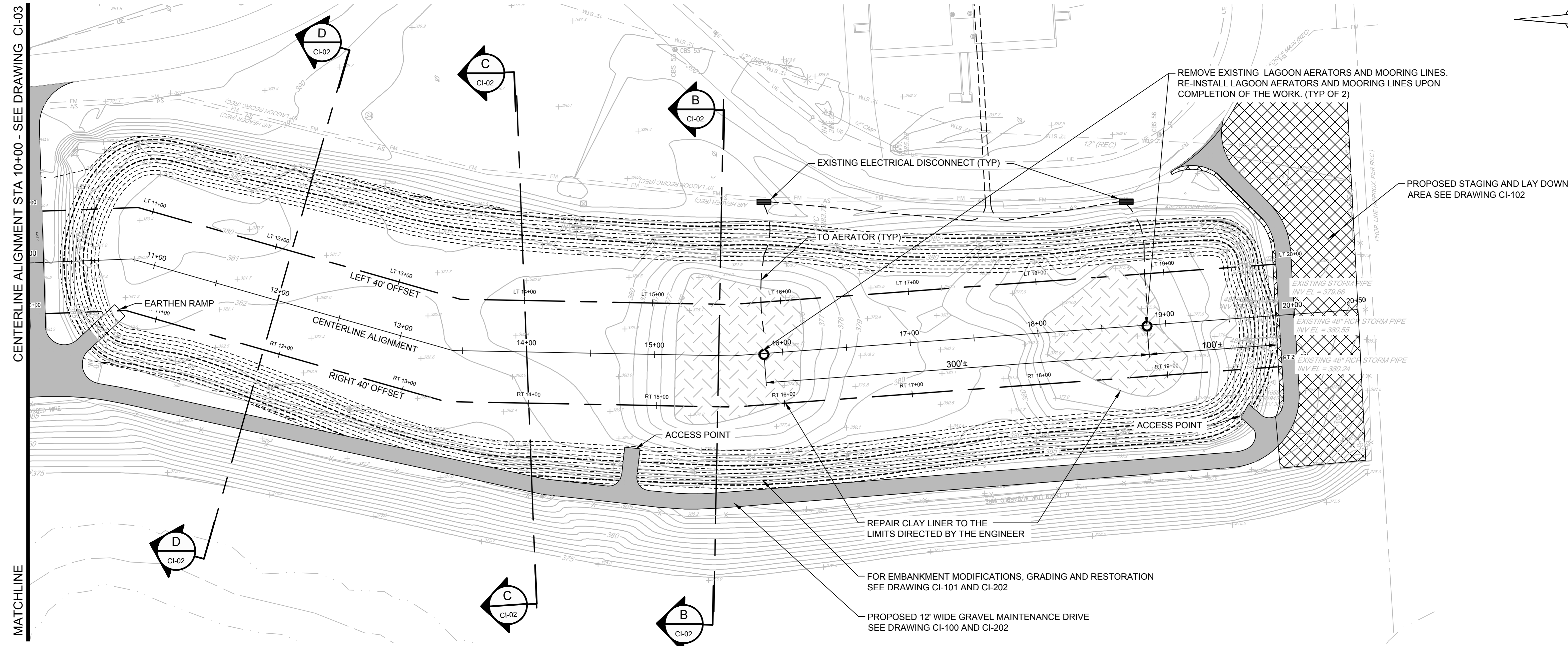
OVERALL SITE PLAN



**CRA Infrastructure & Engineering, Inc.**

Source Reference: SEE GENERAL NOTES 1 & 2 ON DRAWING GN-02.		Date: FEBRUARY 2015	
Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: AS SHOWN	Project No.: 630965	Report No.: 002	Drawing No.: GN-03





**NOTE:**  
 TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METALS/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTACT SPECIFICATIONS. THIS INFORMATION IS PROVIDED FOR REFERENCE ONLY AND IS NOT A PART OF THE CONSTRUCTION CONTRACT.

**95% REVIEW DRAWINGS**  
 NOT FOR CONSTRUCTION

**LAGOON CONSTRUCTION NOTES:**

- THE DETAILS OF CONSTRUCTION OF THE ORIGINAL LAGOONS AND EMBANKMENTS ARE NOT KNOWN. THE CONTRACTOR SHALL MONITOR STABILITY OF EMBANKMENTS DURING CONSTRUCTION OPERATIONS AND PROVIDE ALL PROTECTION MEASURES NECESSARY DURING CONSTRUCTION. THE CONTRACTOR SHALL CHANGE OR MODIFY HIS OPERATIONS WHEN NECESSARY DURING CONSTRUCTION TO PROTECT EXISTING EMBANKMENTS DURING ALL OPERATIONS. REPAIR LAGOON AND EMBANKMENTS DAMAGED BY CONTRACTOR'S OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
- PRIOR TO START OF EXCAVATION AND LAGOON CLEANING OPERATIONS, THE CONTRACTOR SHALL EXCAVATE A MINIMUM OF TEN (10) TEST HOLES IN EACH LAGOON TO VERIFY THE ELEVATION OF EXISTING CLAY LINER AT LAGOONS AND EMBANKMENTS.
- CONTRACTOR SHALL REMOVE SEDIMENT IN LAGOONS AND EMBANKMENTS TO AN ELEVATION THAT IS 6-INCHES ABOVE THE EXISTING CLAY LINER. TOP OF EXISTING CLAY LINER ASSUMED TO BE AT ELEVATION 376.00. IF EXCAVATIONS ARE MADE BELOW THE LIMITS REFERENCED HEREIN, THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE EXISTING CLAY LINER AT NO ADDITIONAL COST TO THE OWNER.
- FOR LOCATION OF EXISTING AIR PIPING SEE DRAWING CI-04
- AIR PIPING AND AERATION MODIFICATIONS FROM LAGOON 1 AREA SHOWN ON DRAWING CI-04.

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPT AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

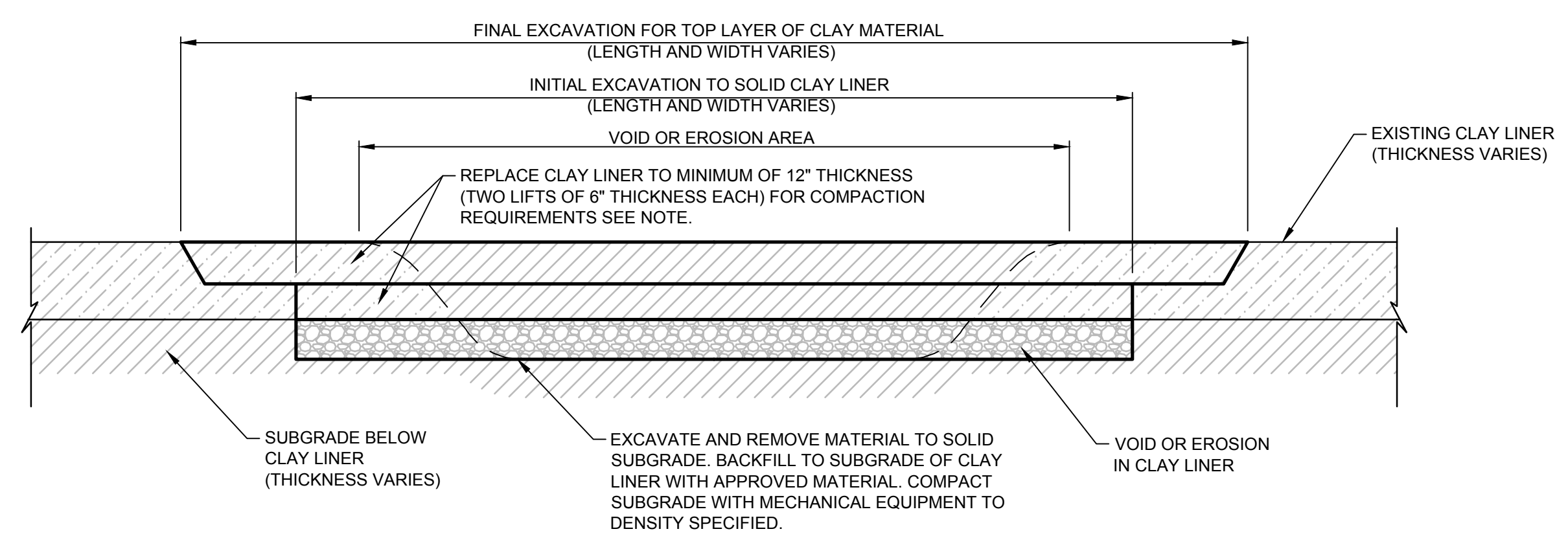
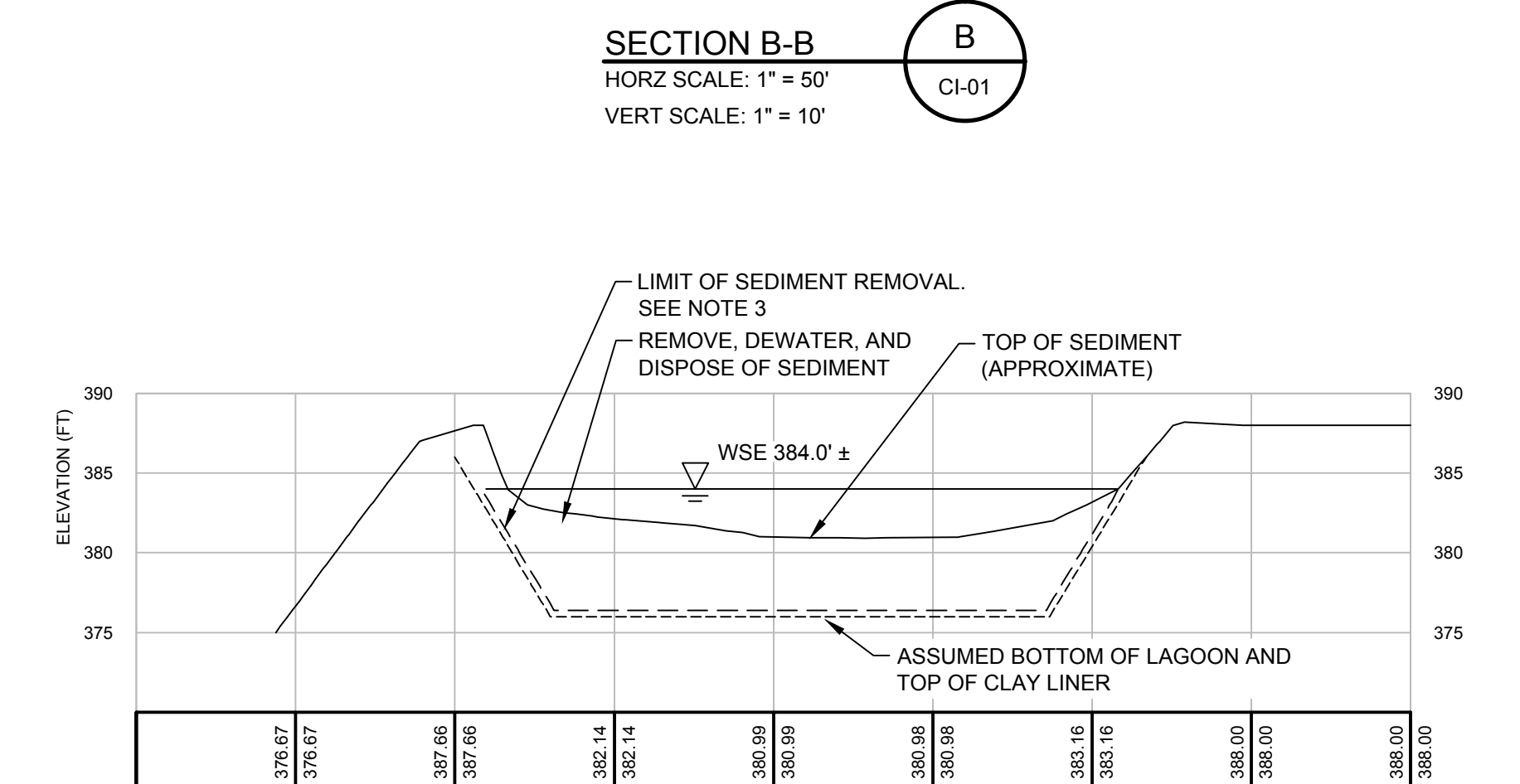
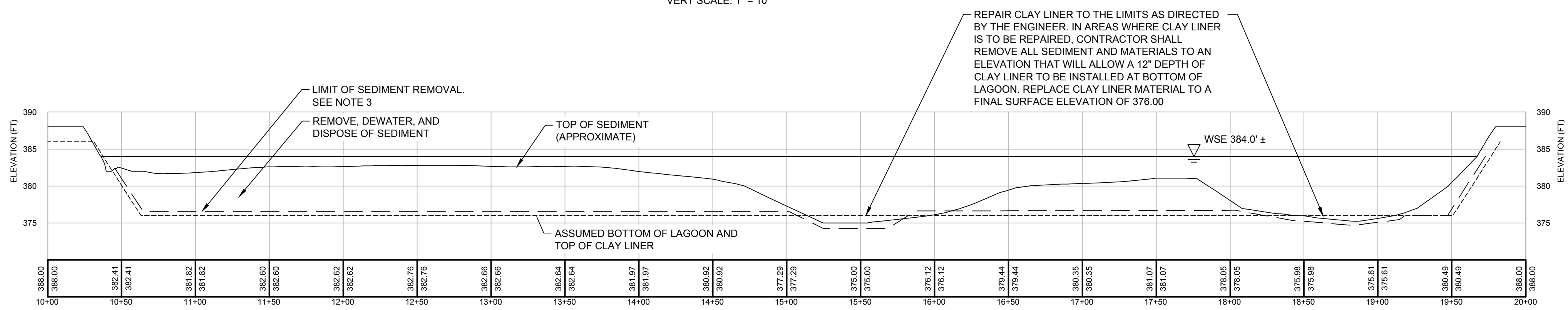
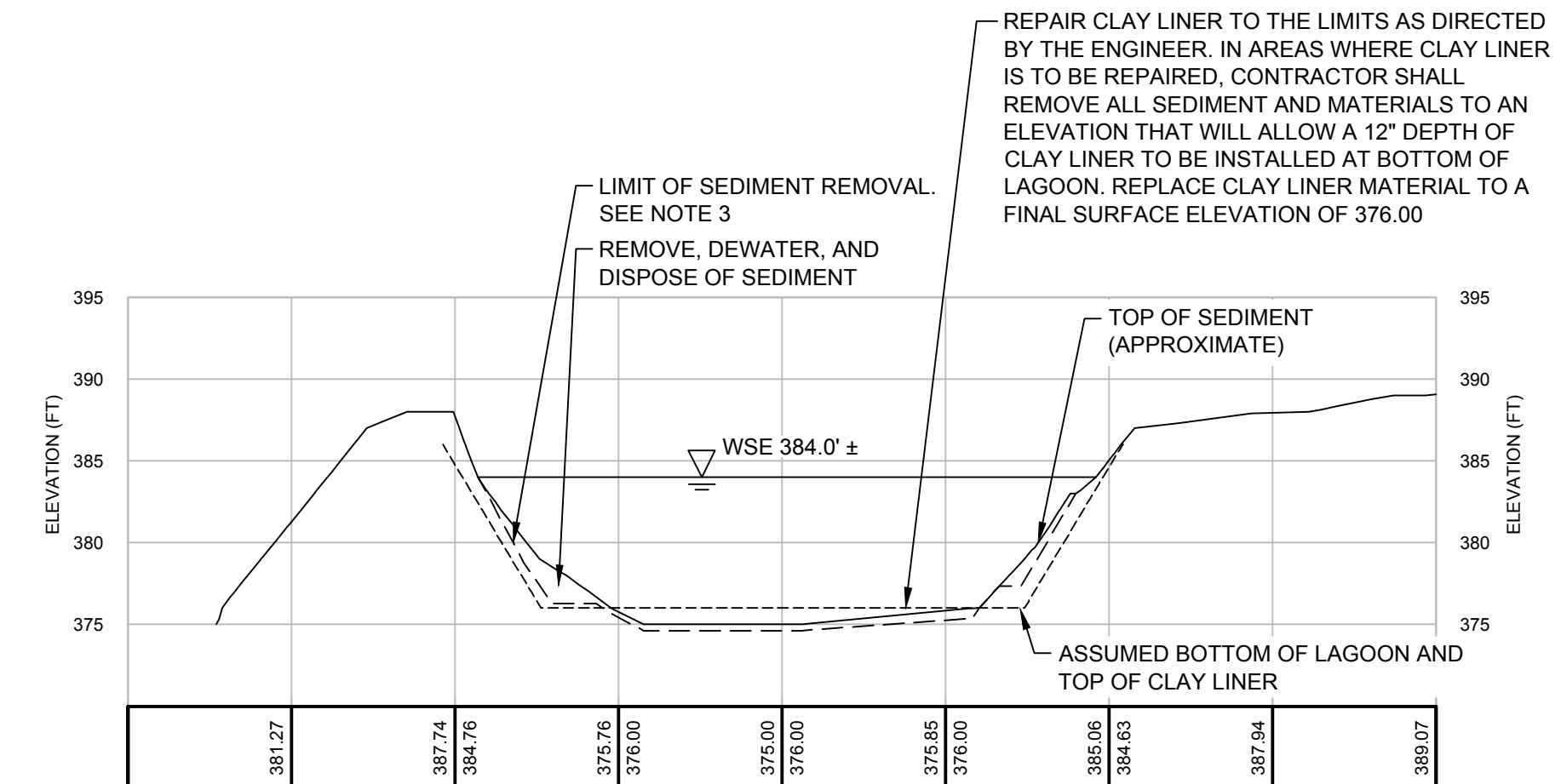
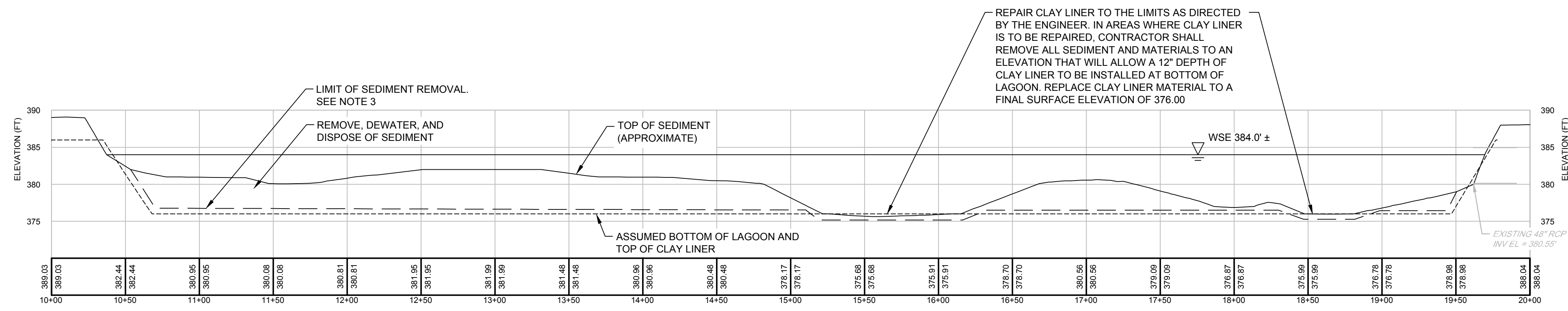
DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
 ONONDAGA COUNTY, NEW YORK  
 OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT  
**LAGOON 1 EXISTING SEDIMENT PLAN & PROFILE**

**CRA Infrastructure & Engineering, Inc.**

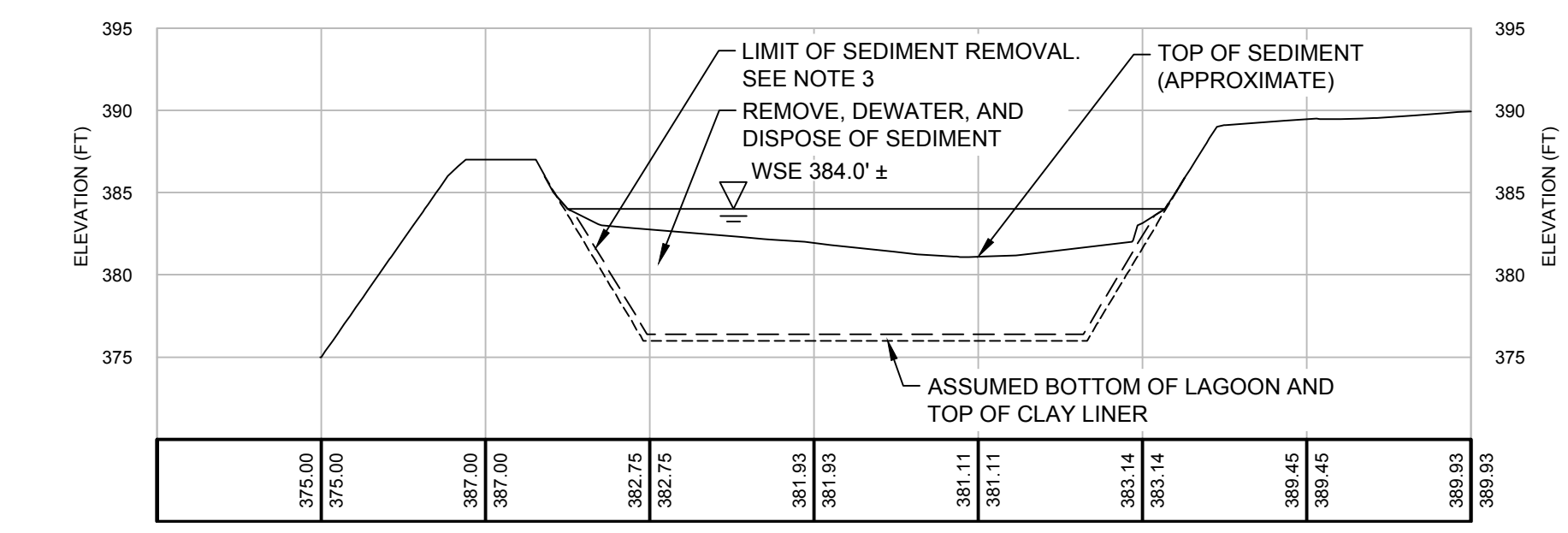
Source Reference: SEE GENERAL NOTES 1 & 2 ON DRAWING GN-02. Date: FEBRUARY 2015

Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: AS SHOWN	Project No: 630965	Report No: 002	Drawing No: CI-01





NOTE: REPLACEMENT OF CLAY LINER SECTION SHALL BE COMPACTED IN PLACE USING A SHEEPSFOOT TYPE ROLLER. COMPACTION REQUIREMENTS ARE INCLUDED IN CONTRACT SPECIFICATIONS.



95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION

- LAGOON CONSTRUCTION NOTES:
- THE DETAILS OF CONSTRUCTION OF THE ORIGINAL LAGOONS AND EMBANKMENTS ARE NOT KNOWN. THE CONTRACTOR SHALL MONITOR STABILITY OF EMBANKMENTS DURING CONSTRUCTION OPERATIONS AND PROVIDE ALL PROTECTION MEASURES NECESSARY DURING CONSTRUCTION. THE CONTRACTOR SHALL CHANGE OR MODIFY HIS OPERATIONS WHEN NECESSARY DURING CONSTRUCTION TO PROTECT EXISTING EMBANKMENTS DURING ALL OPERATIONS. REPAIR LAGOON AND EMBANKMENT DAMAGED BY CONTRACTOR'S OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
  - PRIOR TO START OF EXCAVATION AND LAGOON CLEANING OPERATIONS, THE CONTRACTOR SHALL EXCAVATE A MINIMUM OF TEN (10) TEST HOLES IN EACH LAGOON TO VERIFY THE ELEVATION OF EXISTING CLAY LINER AT LAGOONS AND EMBANKMENTS.
  - CONTRACTOR SHALL REMOVE SEDIMENT IN LAGOONS AND EMBANKMENTS TO AN ELEVATION THAT IS 6-INCHES ABOVE THE EXISTING CLAY LINER. TOP OF EXISTING CLAY LINER ASSUMED TO BE AT ELEVATION 376.00. IF EXCAVATIONS ARE MADE BELOW THE LIMITS REFERENCED HEREIN, THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE EXISTING CLAY LINER AT NO ADDITIONAL COST TO THE OWNER.
  - FOR LOCATION OF EXISTING AIR PIPING SEE DRAWING CI-04
  - AIR PIPING AND AERATION MODIFICATIONS FROM LAGOON 1 AREA SHOWN ON DRAWING CI-04.

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPT AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

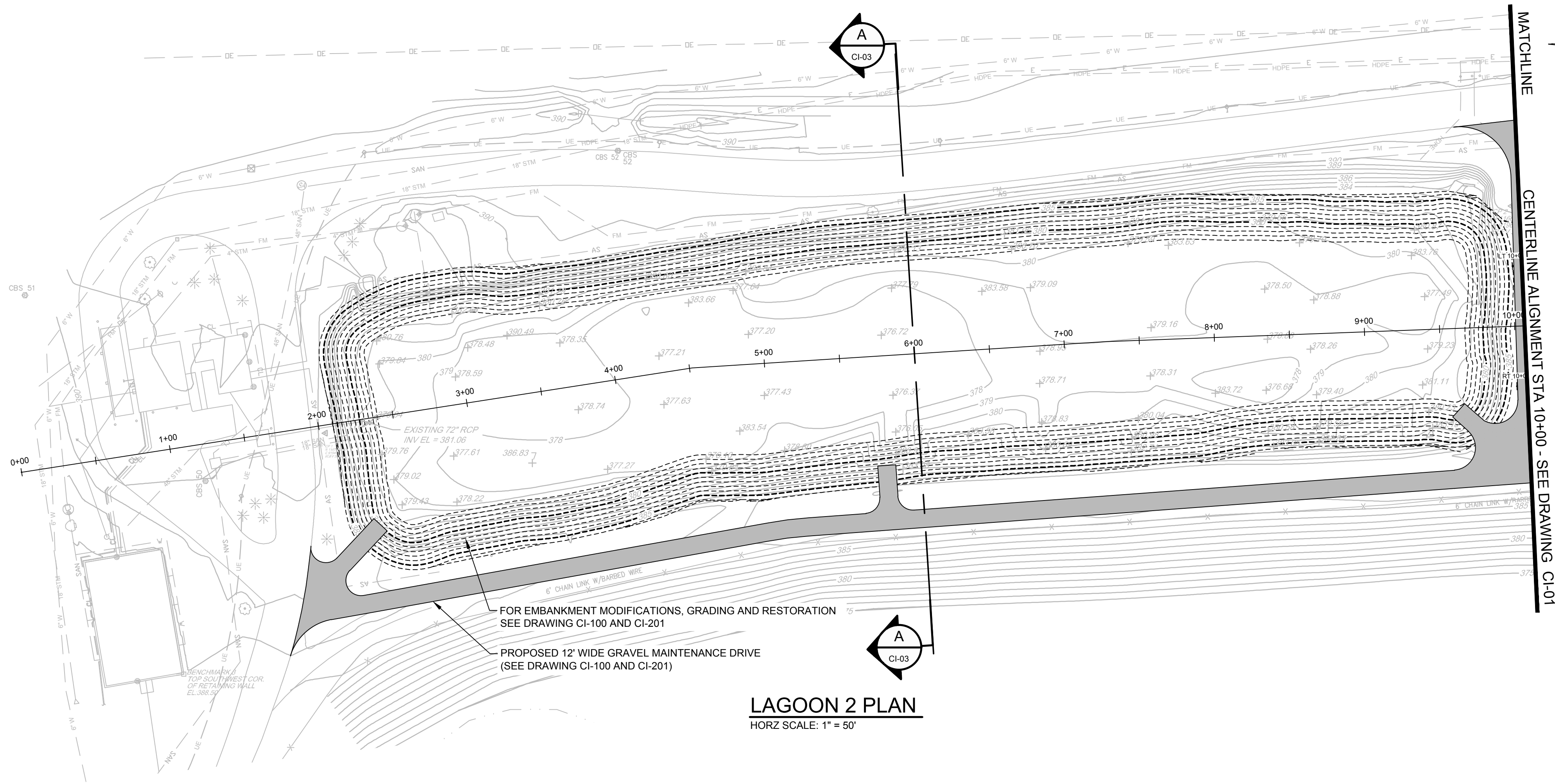
OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

LAGOON 1 EXISTING SEDIMENT  
PROFILES & SECTIONS

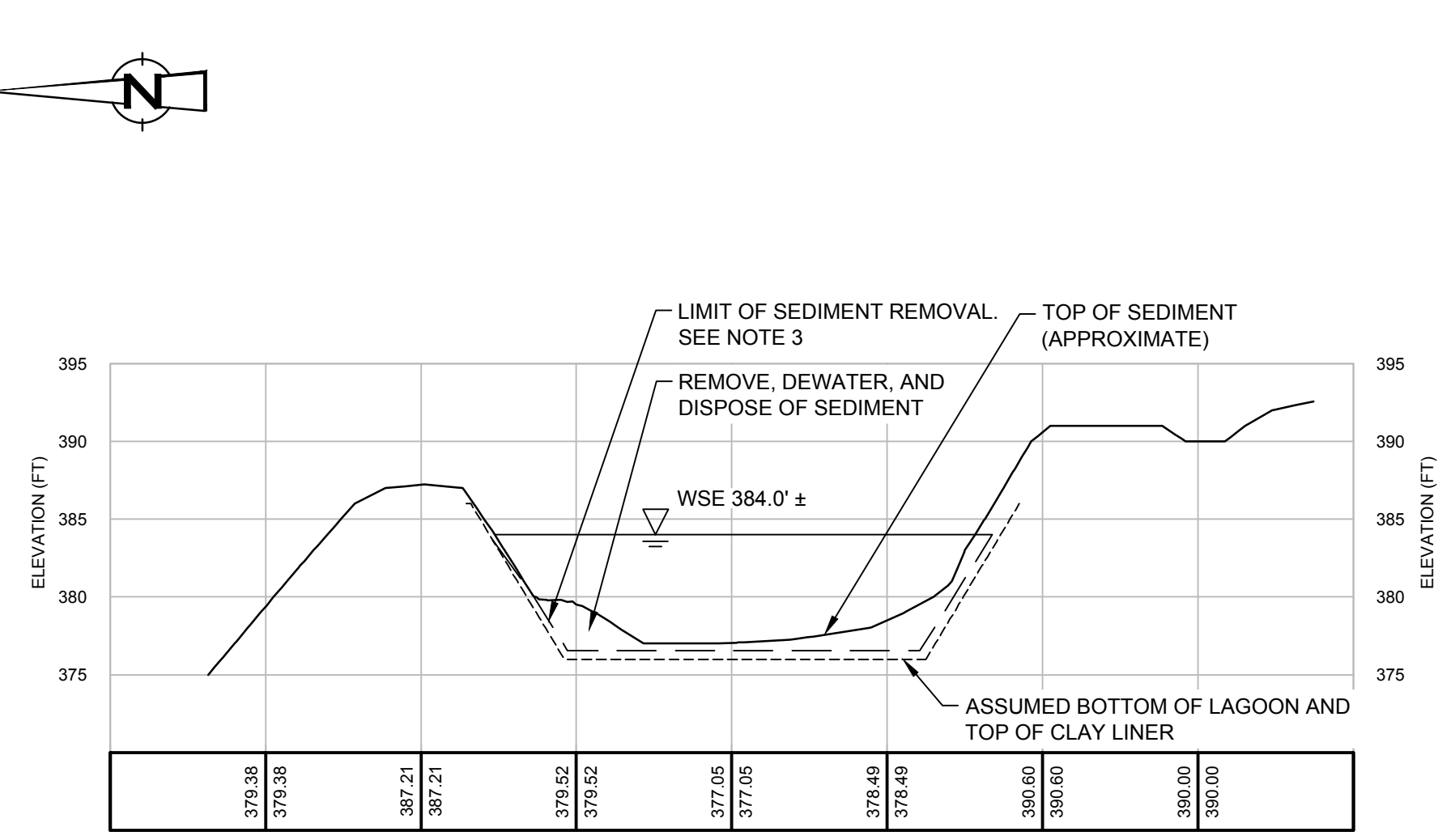
**CRA Infrastructure & Engineering, Inc.**

Source Reference: SEE GENERAL NOTES 1 & 2 ON DRAWING GN-02. Date: FEBRUARY 2015

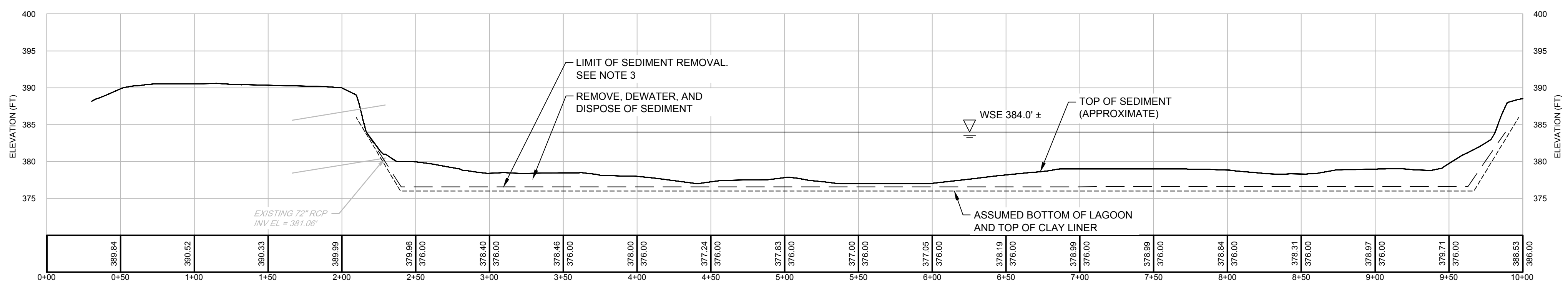
Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: AS SHOWN	Project No: 630965	Report No: 002	Drawing No: CI-02



**LAGOON 2 PLAN**  
HORZ SCALE: 1" = 50'



**SECTION A-A**  
HORZ SCALE: 1" = 50'  
VERT SCALE: 1" = 10'



**CENTER LINE PROFILE**  
HORZ SCALE: 1" = 50'  
VERT SCALE: 1" = 10'

**NOTE:**  
TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METAL'S/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTACT SPECIFICATIONS. THIS INFORMATION IS PROVIDED FOR REFERENCE ONLY AND IS NOT A PART OF THE CONSTRUCTION CONTRACT.

- LAGOON CONSTRUCTION NOTES:**
- THE DETAILS OF CONSTRUCTION OF THE ORIGINAL LAGOONS AND EMBANKMENTS ARE NOT KNOWN. THE CONTRACTOR SHALL MONITOR STABILITY OF EMBANKMENTS DURING CONSTRUCTION OPERATIONS AND PROVIDE ALL PROTECTION MEASURES NECESSARY DURING CONSTRUCTION. THE CONTRACTOR SHALL CHANGE OR MODIFY HIS OPERATIONS WHEN NECESSARY DURING CONSTRUCTION TO PROTECT EXISTING EMBANKMENTS DURING ALL OPERATIONS. REPAIR LAGOON AND EMBANKMENTS DAMAGED BY CONTRACTOR'S OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
  - PRIOR TO START OF EXCAVATION AND LAGOON CLEANING OPERATIONS, THE CONTRACTOR SHALL EXCAVATE A MINIMUM OF TEN (10) TEST HOLES IN EACH LAGOON TO VERIFY THE ELEVATION OF EXISTING CLAY LINER AT LAGOONS AND EMBANKMENTS.
  - CONTRACTOR SHALL REMOVE SEDIMENT IN LAGOONS AND EMBANKMENTS TO AN ELEVATION THAT IS 6-INCHES ABOVE THE EXISTING CLAY LINER. TOP OF EXISTING CLAY LINER ASSUMED TO BE AT ELEVATION 376.00. IF EXCAVATIONS ARE MADE BELOW THE LIMITS REFERENCED HEREIN, THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE EXISTING CLAY LINER AT NO ADDITIONAL COST TO THE OWNER.
  - FOR LOCATION OF EXISTING AIR PIPING SEE DRAWING CI-04
  - AIR PIPING AND AERATION MODIFICATIONS FROM LAGOON 1 AREA SHOWN ON DRAWING CI-04.

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

**LAGOON 2 EXISTING SEDIMENT  
PLAN & PROFILE**

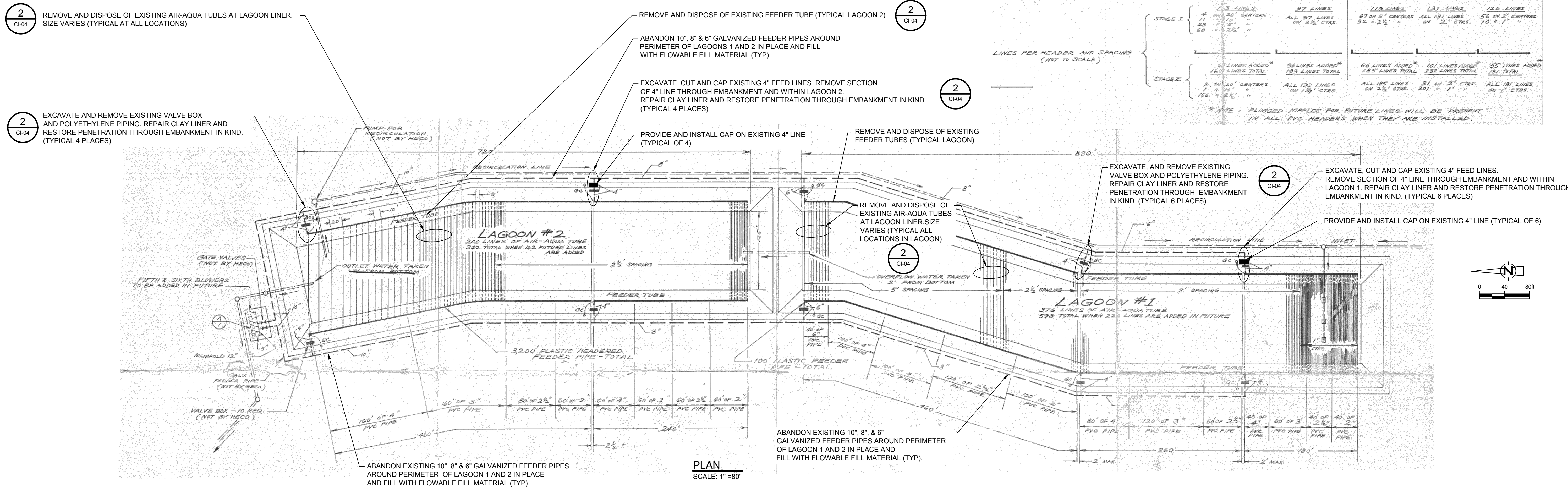
**95% REVIEW DRAWINGS**  
NOT FOR CONSTRUCTION

**CRA Infrastructure & Engineering, Inc.**

Source Reference: SEE GENERAL NOTES 1 & 2 ON DRAWING GN-02  
Date: FEBRUARY 2015

Project Manager: C. MARTIN	Reviewed By: M. GATES	Designed By: T. DOUGHERTY	Drawn By: J. MANNING
Scale: AS SHOWN	Project No: 630965	Report No: 002	Drawing No: CI-03





2  
CI-04

2  
CI-04

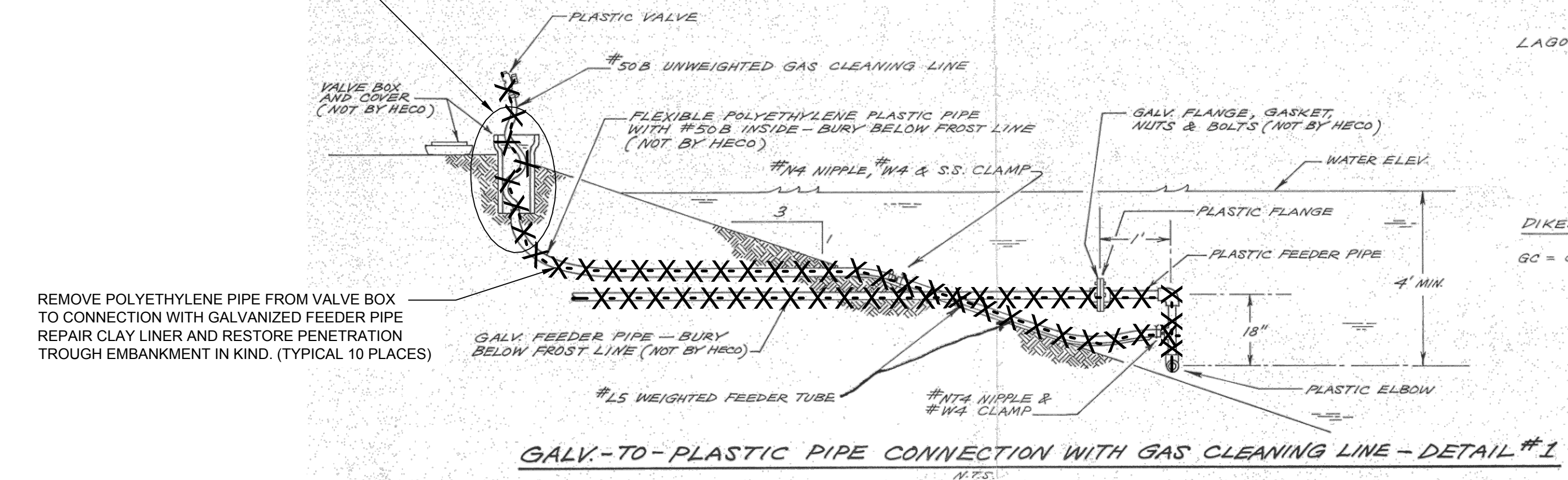
2  
CI-04

2  
CI-04

2  
CI-04

2  
CI-04

REMOVE VALVE BOX (TYPICAL OF 10 PLACES)



DETAIL  
NTS

2  
CI-04

**NOTES FOR STAGE I**

LAGOON #1 - 47,000' #1581.5-10 WEIGHTED AIR-AQUA TUBE INSTALLED 10' DEEP ± 6"

LAGOON #2 - 25,000' #1581.5-10 WEIGHTED AIR-AQUA TUBE INSTALLED 10' DEEP ± 6"

23,000' #15 WEIGHTED FEEDER TUBE

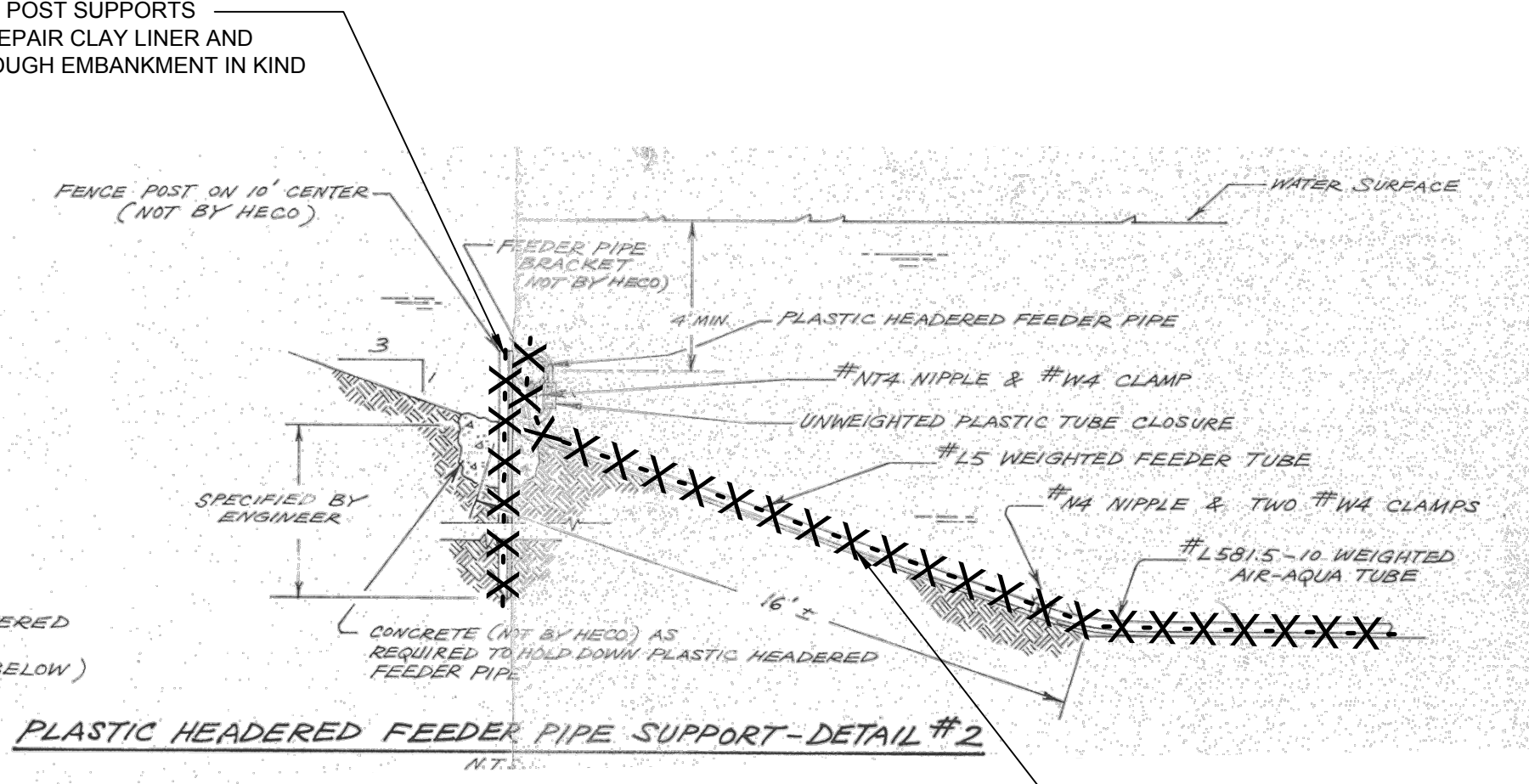
25 H.P. BLOWER TO DELIVER 495 CFM OF FILTERED OIL-FREE AIR AT 9# PRESSURE. (4 REQ., ONE AS STANDBY, SEE NOTE BELOW)

DIKES - 3 TO 1 SLOPE

GC = GAS CLEANING CONNECTION

NOTE: AIR MAINS AND PVC FEEDER & HEADER PIPE SIZED FR USE WITH FIFTH & SIXTH BLOWERS TO BE ADDED IN FUTURE - BASED ON FIVE (5) BLOWERS OPERATING.

REMOVE AND DISPOSE FENCE POST SUPPORTS ALONG FEEDER PIPE / TUBE REPAIR CLAY LINER AND RESTORE PENETRATION THROUGH EMBANKMENT IN KIND (TYPICAL OF ALL AREAS)



DETAIL  
NTS

2  
CI-04

REMOVE AND DISPOSE OF EXISTING AIR-AQUA TUBES AT LAGOON LINER. SIZE VARIES.

**95% REVIEW DRAWINGS**  
NOT FOR CONSTRUCTION

**CONSTRUCTION NOTES:**

- THE WORK INCLUDES ABANDONMENT OF GALVANIZED FEEDER PIPES AROUND PERIMETER OF LAGOONS 1 & 2 AND REMOVAL OF FEEDER TUBES AND AIR-AQUA TUBES WITH LAGOONS 1 & 2.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

**AIR FEEDER LINE AND MODIFICATIONS AT LAGOONS 1 & 2**

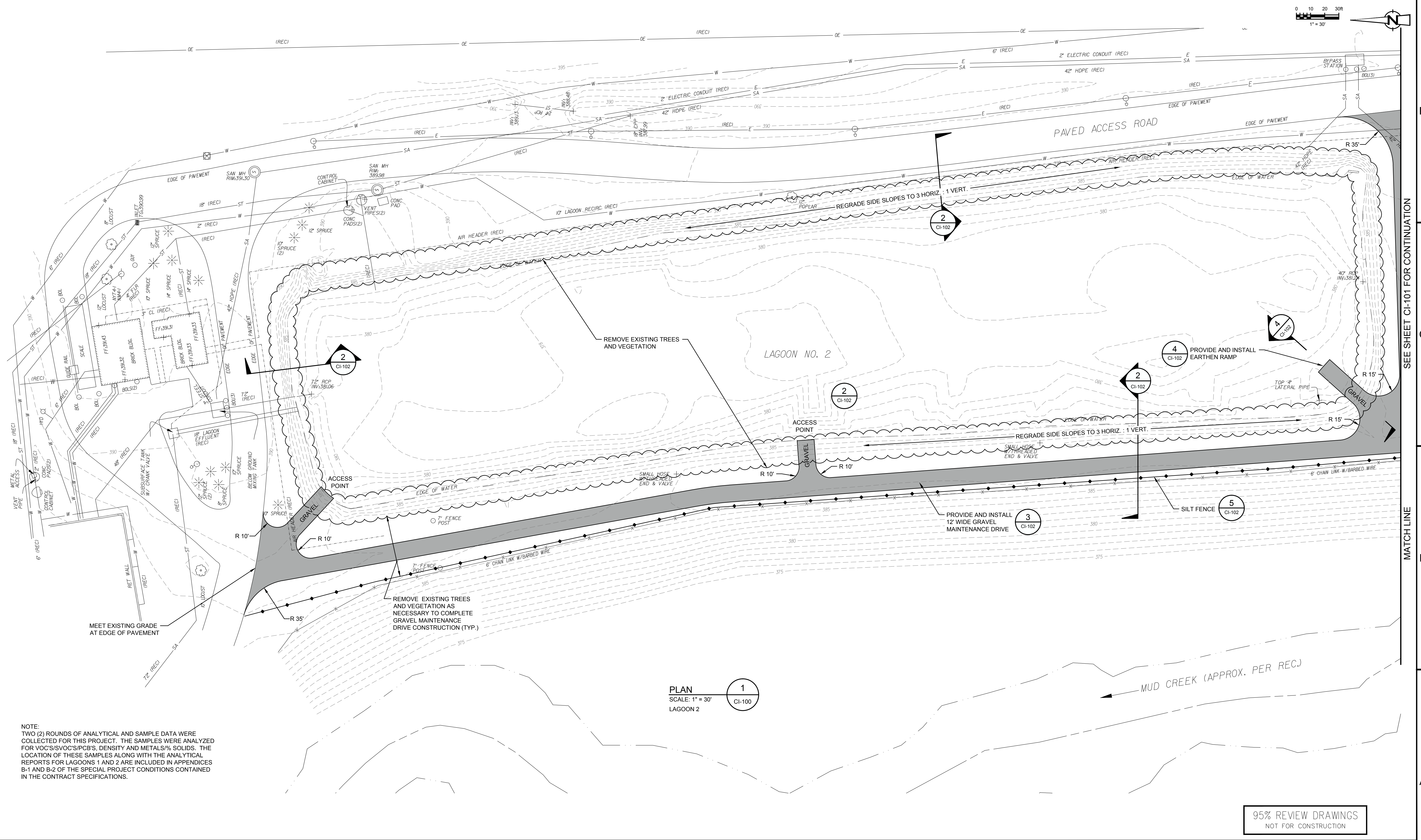
**CRA Infrastructure & Engineering, Inc.**

Source Reference: SEE GENERAL NOTES # 2 ON DRAWING GN-02  
Date: FEBRUARY 2015

Project Manager: C. MARTIN  
Reviewed By: M. GATES  
Designed By: T. DOUGHERTY  
Drawn By: J. MANNING

Scale: AS SHOWN  
Project No: 630965  
Report No: 002  
Drawing No: CI-04





NOTE:  
TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METALS/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTRACT SPECIFICATIONS.

PLAN 1  
SCALE: 1" = 30'  
LAGOON 2

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION



**FISHERASSOCIATES**  
www.fisherassoc.com  
135 Cal Jins Road, Rochester, NY 14623  
Phone: 585-334-1310

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.


No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM
No			

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

**SITE/GRADING & EROSION  
CONTROL PLAN - 1**

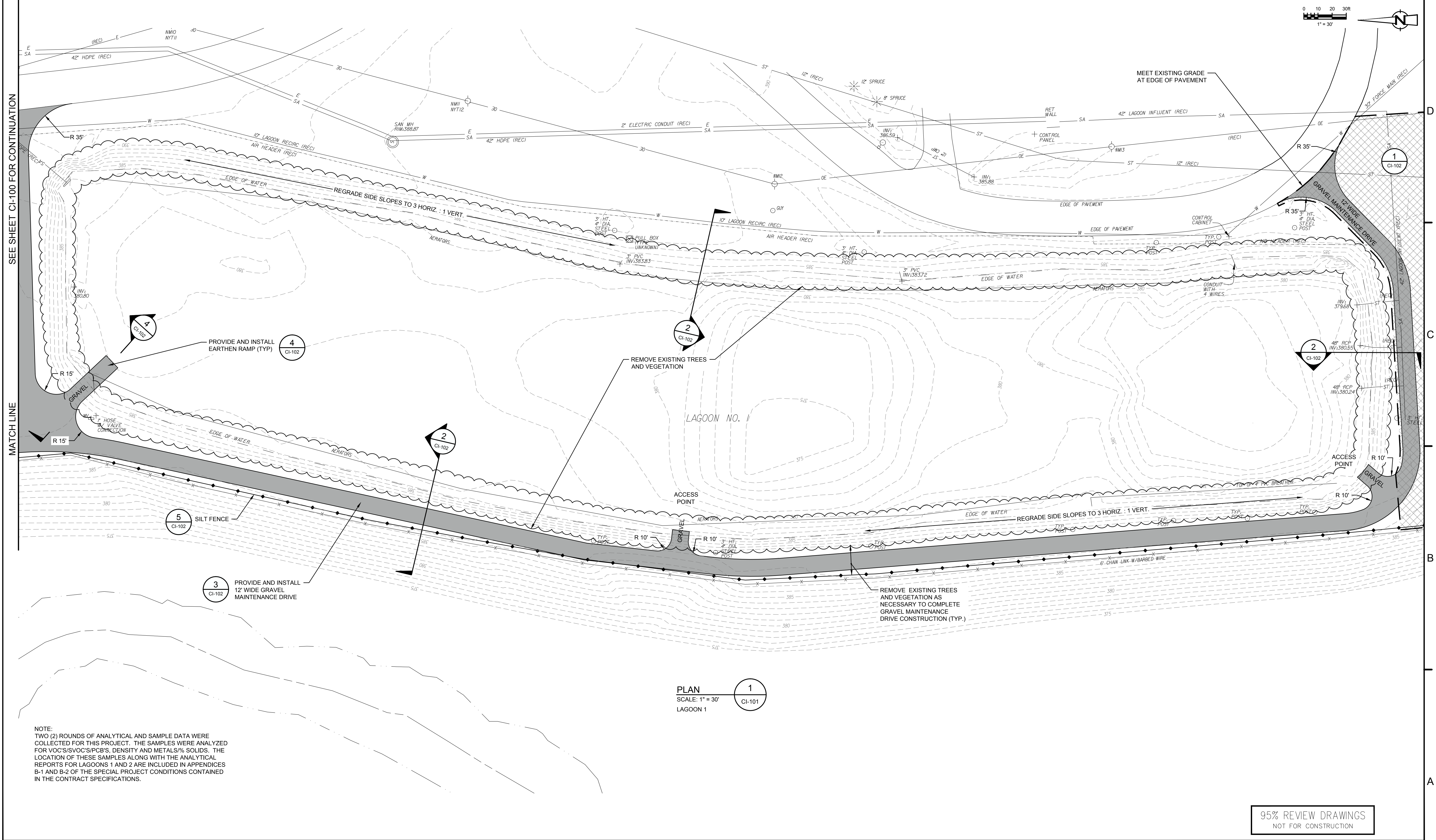


**CRA Infrastructure & Engineering, Inc.**

Source Reference:	Date:
Project Manager:	Reviewed By:
Designed By:	Drawn By:
Scale:	Project No:
Report No:	Drawing No:

630965-001002.ME-BU002 JUN 20/2015





**PLAN**  
SCALE: 1" = 30'  
LAGOON 1

NOTE:  
TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METALS/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTRACT SPECIFICATIONS.

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION

**FISHER ASSOCIATES**  
www.fisherassoc.com  
135 Cal Jins Road, Rochester, NY 14623  
Phone: 585-334-1310

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM
No			

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

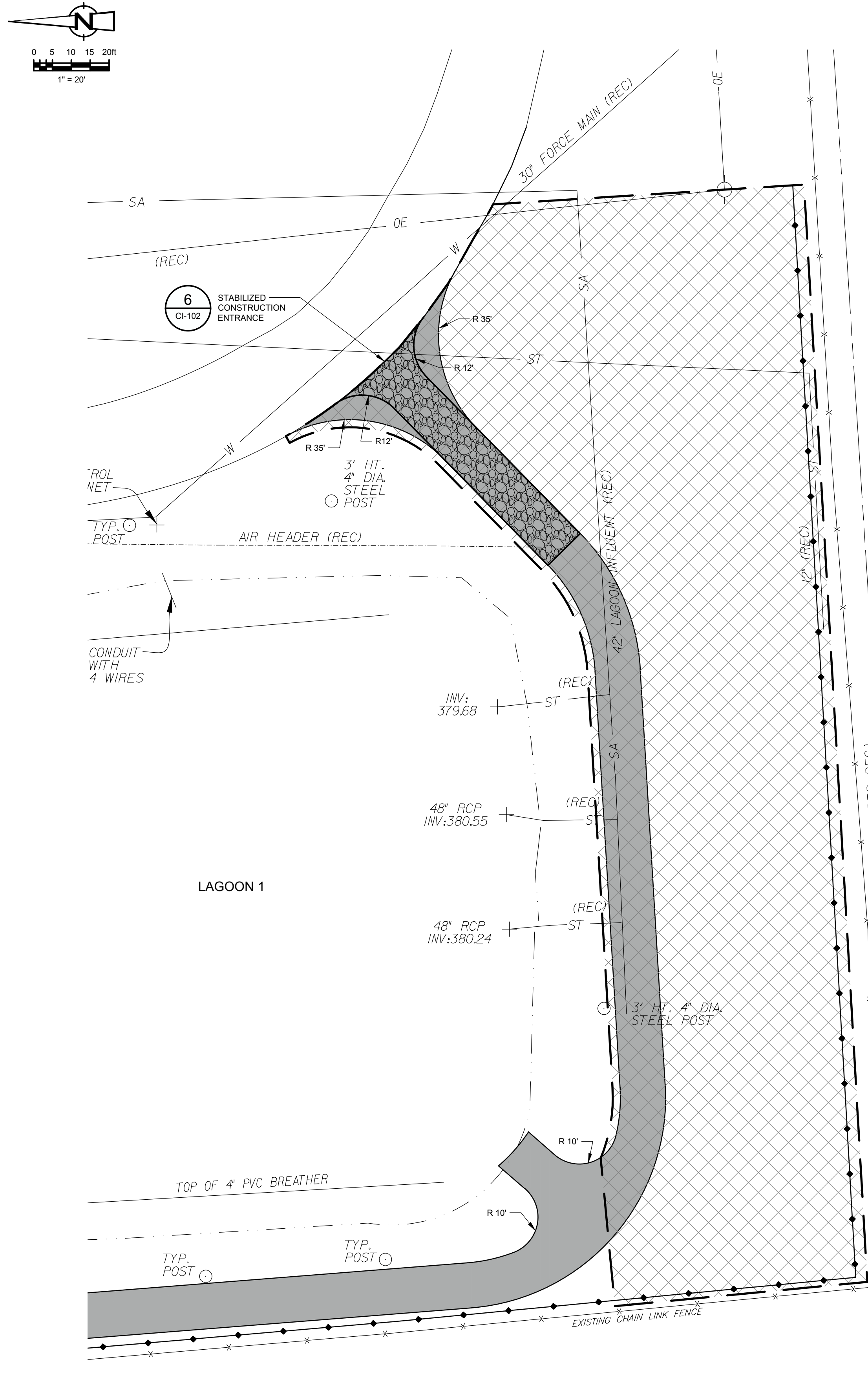
DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK  
OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

**SITE/GRADING & EROSION CONTROL PLAN - 2**

**CRA Infrastructure & Engineering, Inc.**

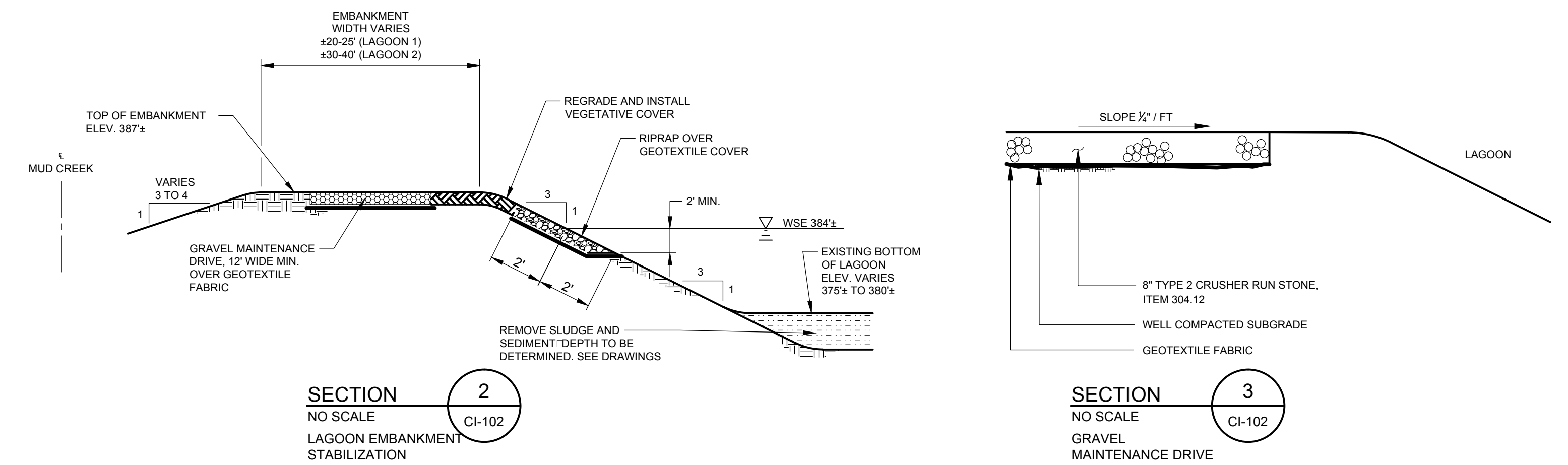
Source Reference:		Date:	
Project Manager:		Reviewed By:	
T. DOUGHERTY		M. GATES	
Designed By:		Drawn By:	
M. GROVANZ		D. PEARL	
Scale:	Project No:	Report No:	Drawing No:
1" = 30'	630965-00	002	CI-101



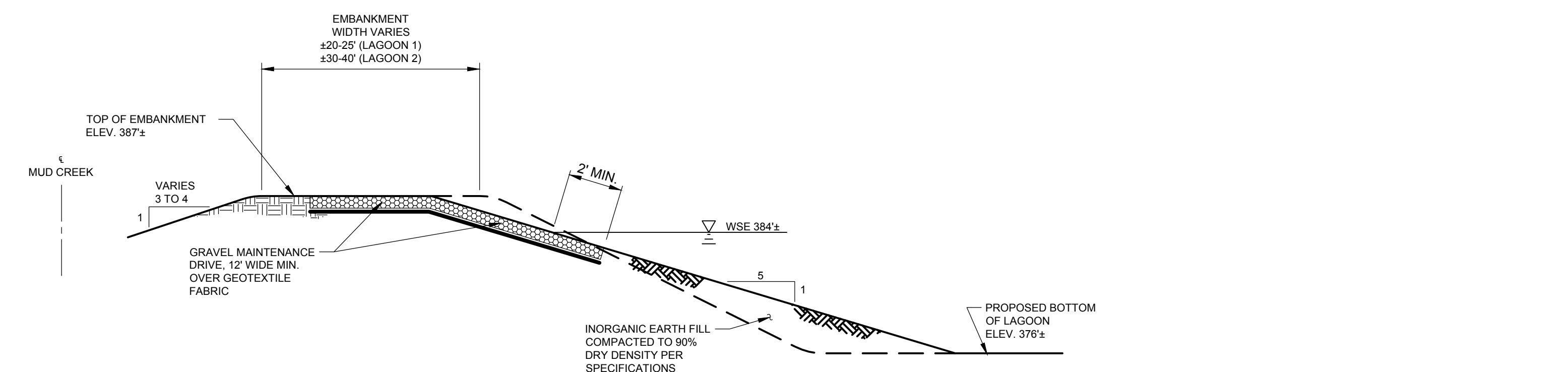


**PLAN**  
1  
NO SCALE  
CI-102  
1" = 20'  
STAGING AND LAYDOWN AREA

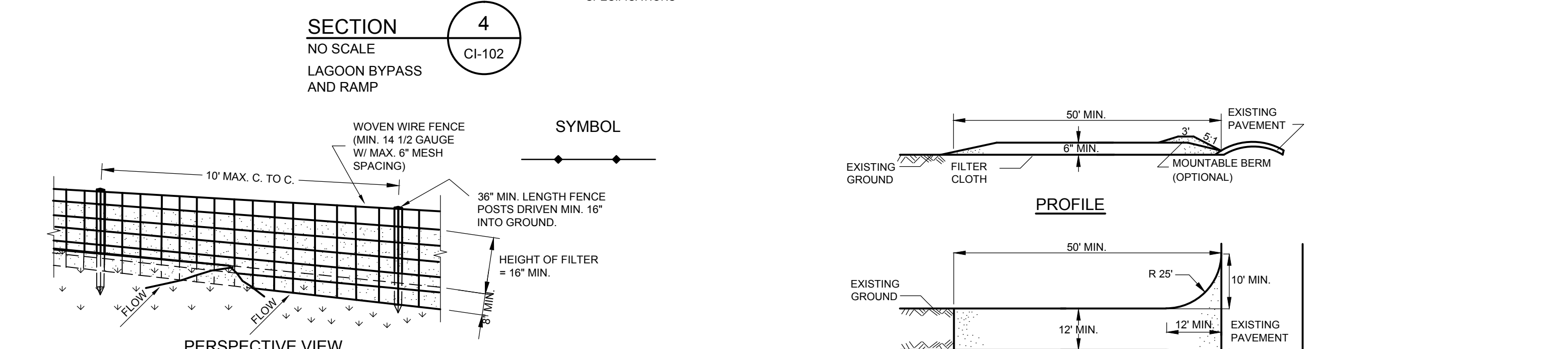
**LEGEND**  
APPROX. LIMITS OF STAGING AND LAYDOWN AREA  
NOTE:  
RESTORE TO LAWN AREA UPON COMPLETION OF CONSTRUCTION



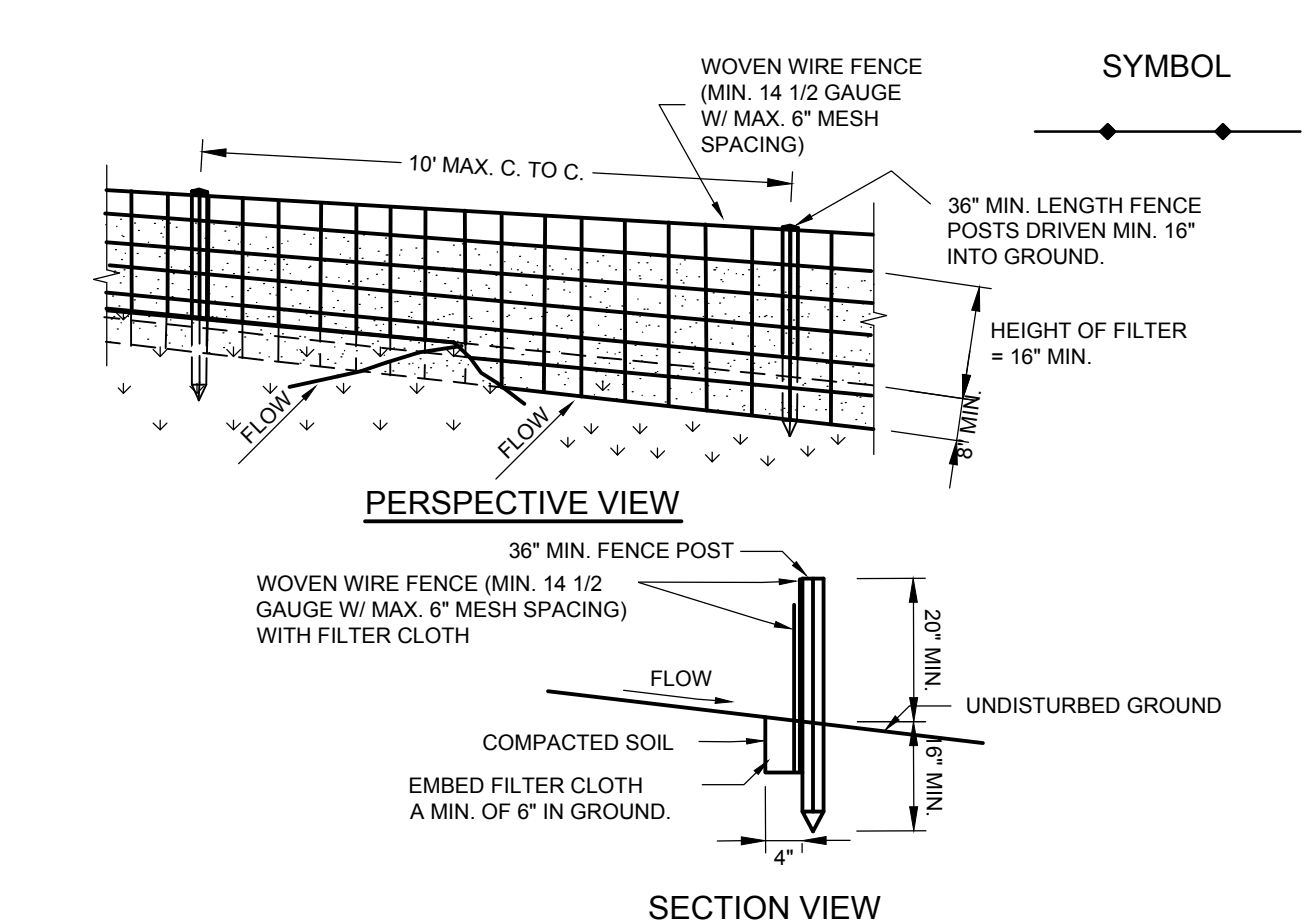
**SECTION 2**  
NO SCALE  
CI-102  
LAGOON EMBANKMENT STABILIZATION



**SECTION 3**  
NO SCALE  
CI-102  
GRAVEL MAINTENANCE DRIVE

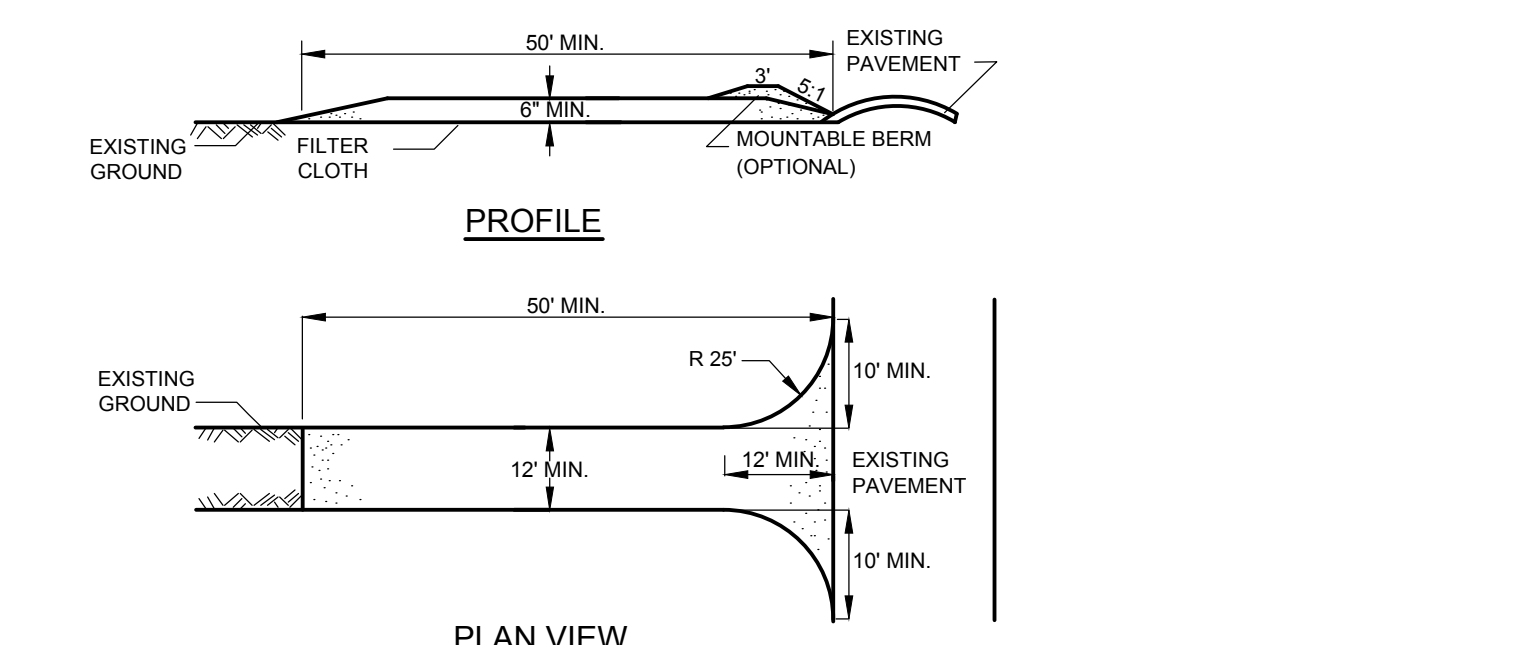


**SECTION 4**  
NO SCALE  
CI-102  
LAGOON BYPASS AND RAMP



- CONSTRUCTION SPECIFICATIONS**
- WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
  - FILTER CLOTH SHALL BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
  - WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
  - PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
  - MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

**DETAIL 5**  
NO SCALE  
CI-102  
SILT FENCE



- NOTES:**
- STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  - LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
  - THICKNESS - NOT LESS THAN SIX (6) INCHES.
  - WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
  - FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
  - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
  - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  - PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

**DETAIL 6**  
NO SCALE  
CI-102  
STABILIZED CONSTRUCTION ENTRANCE

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION

**FISHER ASSOCIATES**  
WWW.FISHERASSOC.COM  
135 Cal Lins Road, Rochester, NY 14623  
Phone: 585-334-1310

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

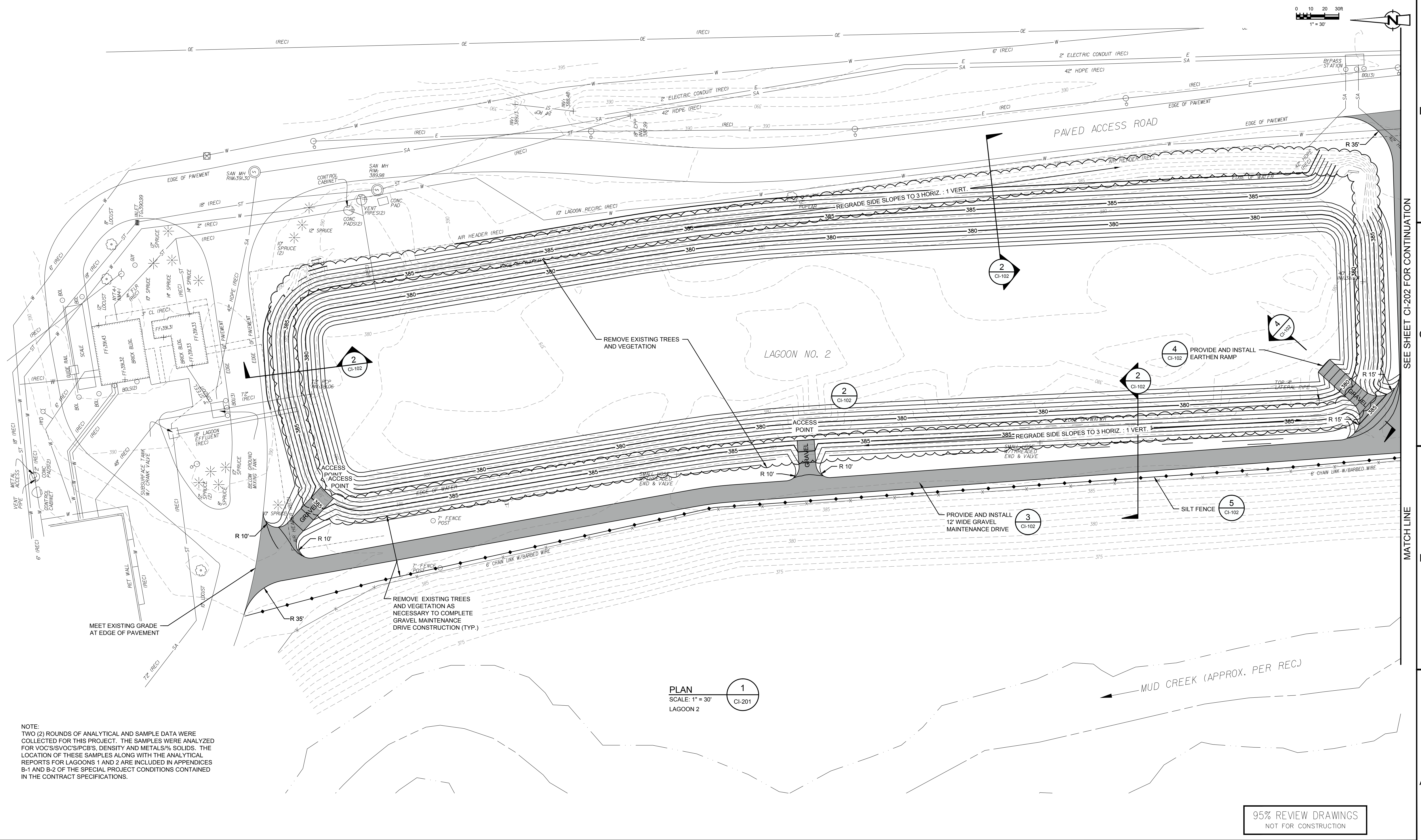
No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM
No	Revision	Date	Initial

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK  
OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT  
**CONSTRUCTION DETAILS - 1**

**CRA Infrastructure & Engineering, Inc.**  
Source Reference: Date: FEBRUARY 2015  
Project Manager: T. DOUGHERTY Reviewed By: M. GATES Designed By: M. GROVANZ Drawn By: D. PEARL  
Scale: AS NOTED Project No: 630965-00 Report No: 002 Drawing No: CI-102





NOTE:  
TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METALS/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTRACT SPECIFICATIONS.

PLAN 1  
SCALE: 1" = 30'  
LAGOON 2

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION

**FISHER ASSOCIATES**  
www.fisherassoc.com  
135 Cal Jins Road, Rochester, NY 14623  
Phone: 585-334-1310

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM
No			

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK  
OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

**GRADING PLAN - 1**

**CRA Infrastructure & Engineering, Inc.**

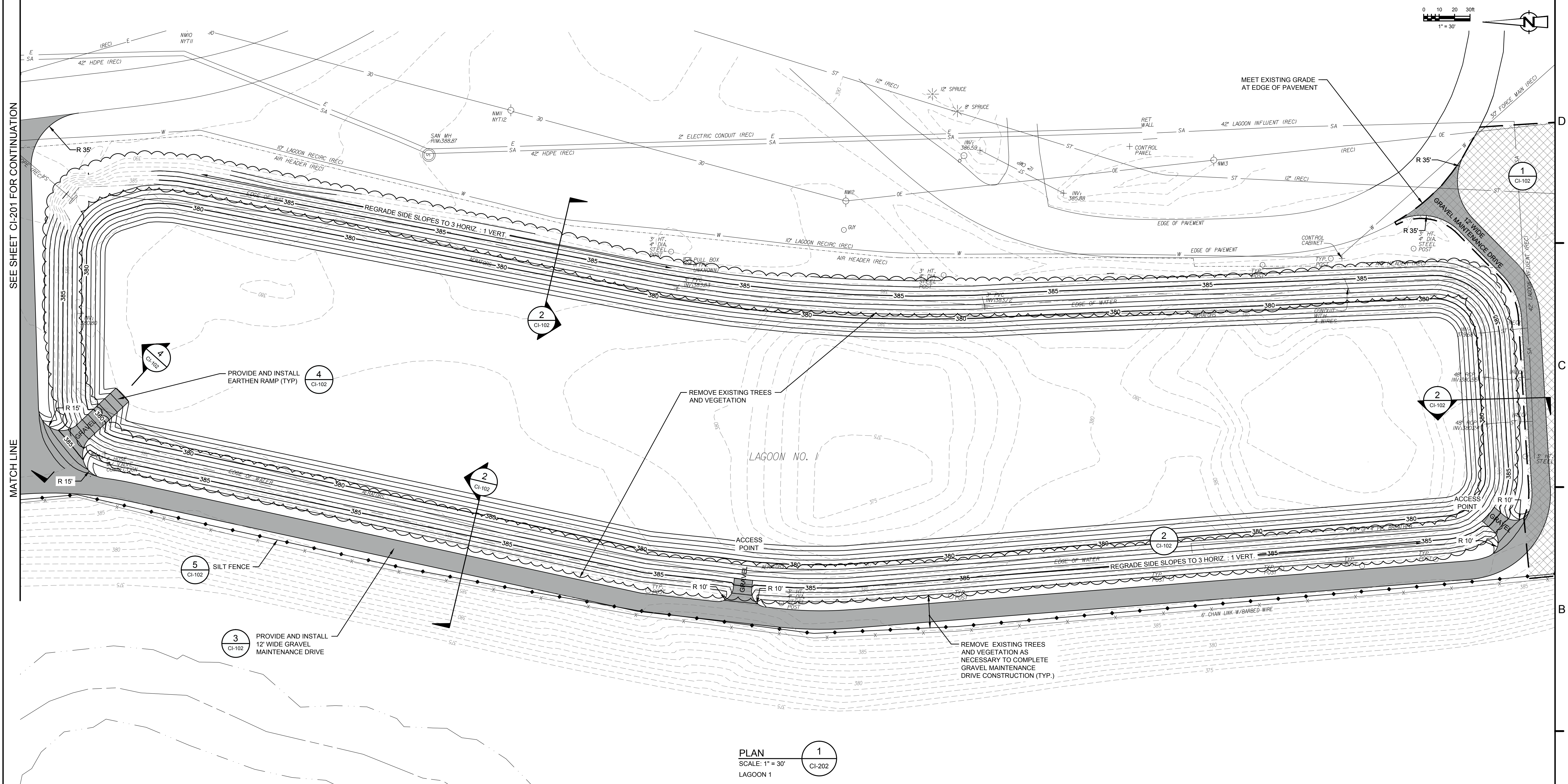
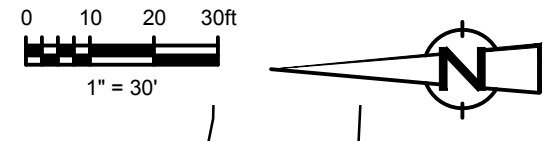
Source Reference:	Date:
Project Manager:	Reviewed By:
Designed By:	Drawn By:
Scale:	Project No:
Report No:	Drawing No:

1" = 30'    630965-00    002    CI-201

FEBRUARY 2015



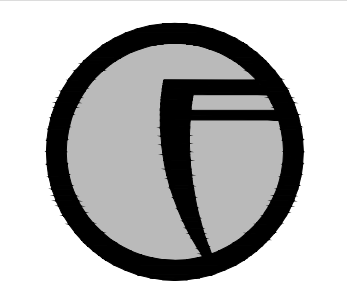
8 7 6 5 4 3 2 1



**PLAN**  
SCALE: 1" = 30'  
LAGOON 1

NOTE:  
TWO (2) ROUNDS OF ANALYTICAL AND SAMPLE DATA WERE COLLECTED FOR THIS PROJECT. THE SAMPLES WERE ANALYZED FOR VOC'S/SVOC'S/PCB'S, DENSITY AND METALS/% SOLIDS. THE LOCATION OF THESE SAMPLES ALONG WITH THE ANALYTICAL REPORTS FOR LAGOONS 1 AND 2 ARE INCLUDED IN APPENDICES B-1 AND B-2 OF THE SPECIAL PROJECT CONDITIONS CONTAINED IN THE CONTRACT SPECIFICATIONS.

95% REVIEW DRAWINGS  
NOT FOR CONSTRUCTION



**FISHER ASSOCIATES**  
www.fisherassoc.com  
135 Cal Jins Road, Rochester, NY 14623  
Phone: 585-334-1310

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial
B	95% SUBMITTAL	2/13/15	CPM
A	50% SUBMITTAL	6/21/13	CPM
No	Revision	Date	Initial

WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.

DEPARTMENT OF  
WATER ENVIRONMENT PROTECTION  
ONONDAGA COUNTY, NEW YORK

OAK ORCHARD WWTP LAGOON CLEANING & REHABILITATION PROJECT

GRADING PLAN - 2



**CRA Infrastructure & Engineering, Inc.**

Source Reference:	Date:
Project Manager:	Reviewed By:
T. DOUGHERTY	M. GATES
Designed By:	Drawn By:
M. GROVANZ	D. PEARL
Scale:	Project No:
1" = 30'	630965-00
Report No:	Drawing No:
002	CI-202