The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:

MailTo:ContractAdministration@TampaGov.net

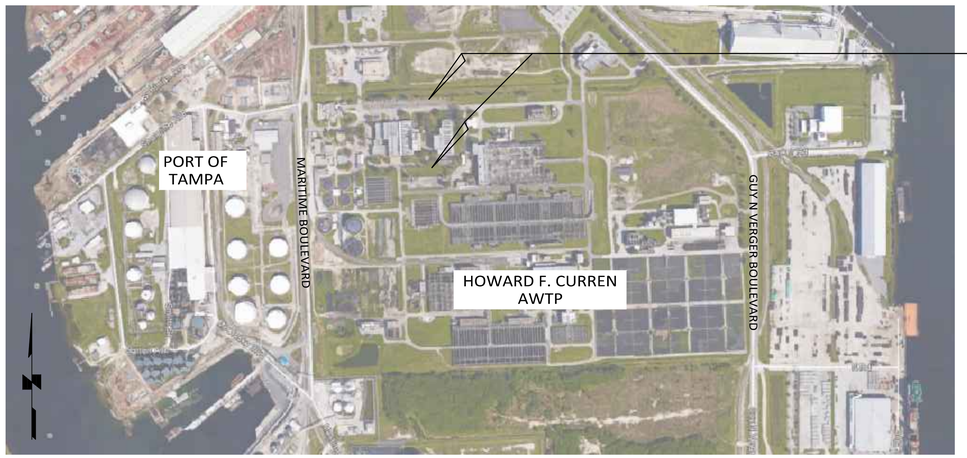
Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

HOWARD F. CURREN ADVANCED WASTEWATER TREATMENT PLANT PARKING LOTS IMPROVEMENTS

CONTRACT 17-C-00007

CITY OF TAMPA
WASTEWATER DEPARTMENT
2700 MARITIME BOULEVARD
TAMPA, FL 33605



VICINITY MAP (NOT TO SCALE)

INDEX TO DRAWINGS

100% SUBMITTAL – 04/24/17

REVISIONS

BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION

MILLS and ASSOCIATES, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
3242 HENDERSON BOULEVARD – SUITE 300
TAMPA, FLORIDA 33609–3056
TELEPHONE: (813) 876–5869

FOR
CITY OF TAMPA
WASTEWATER DEPARTMENT
2700 MARITIME BOULEVARD
TAMPA, FLORIDA 33605

DRAWN BY: CVL DATE 4/24/17
DESIGN BY: CVL DATE 4/24/17
CHECKED BY: LEM DATE 4/24/17
SCALE: NA

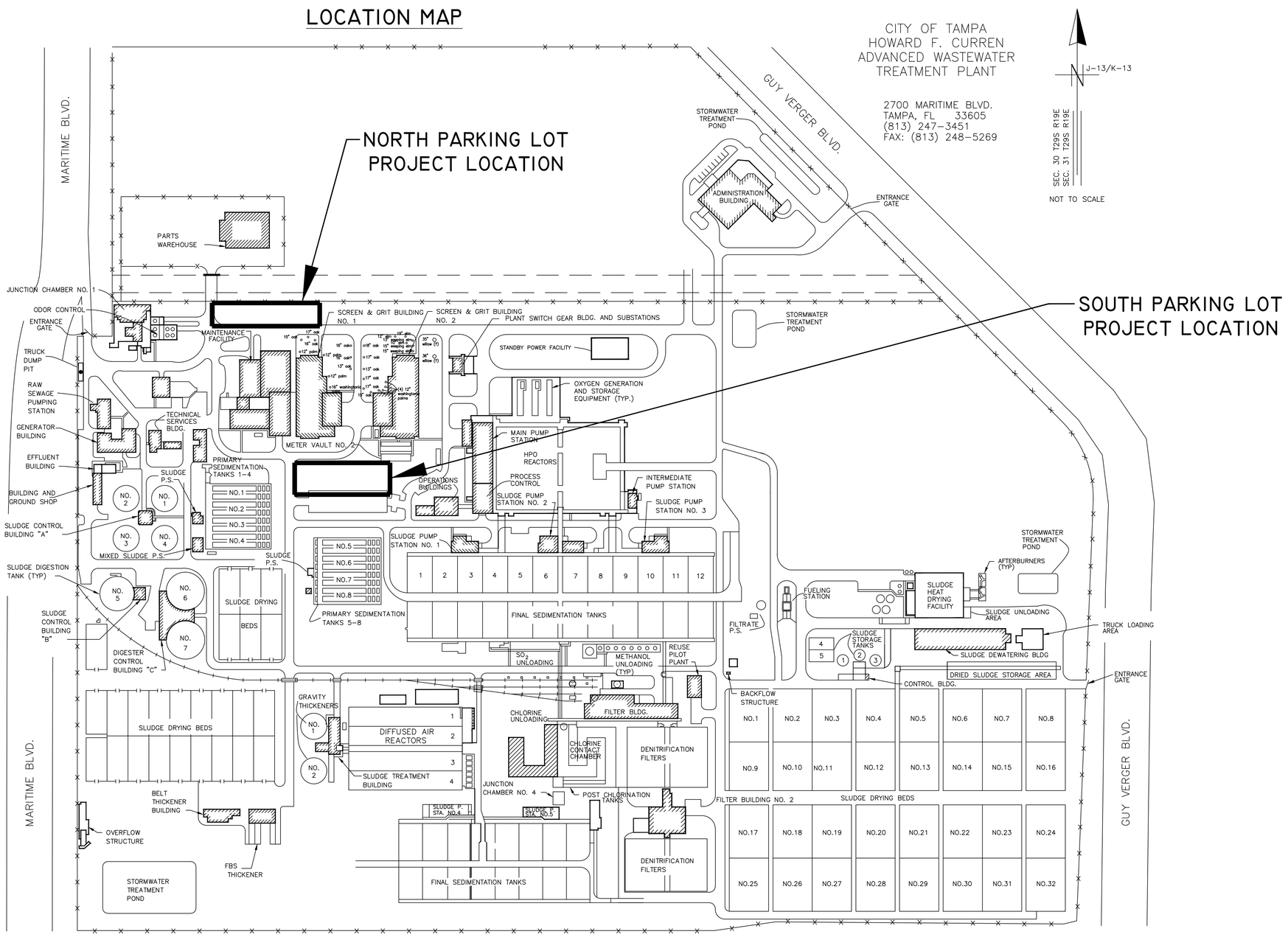
LAWRENCE E. MILLS
P.E. NO. 22324 – P.L.S. NO. 3141
E.B. NO. 3860 – L.B. NO. 3868
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN AWTP PARKING LOTS
COVER SHEET

SHEET
CX.0

JOB NO.
15–021

LOCATION MAP



SITE DATA:

OWNER: City of Tampa

ADDRESS: 2700 Maritime Boulevard
Tampa, FL 33605
S/T/R: 30/29/19
ZONING: Industrial Heavy
FLOOD ZONE: AE
PROPERTY USE: Large Industrial Class
PROJ FOLIO #: 199340-0000
PROPERTY AREA: 150.13 acres
TOTAL PROJECT AREA: ±1.26 acres (North Parking Lot)
±0.65 acres (South Parking Lot)

NORTH PARKING LOT AREAS:
TOTAL = 54,932 S.F. (±1.26 acres)

EXISTING:
IMPERVIOUS (GRAVEL/DIRT) = 24,172 S.F.
GREEN SPACE = 30,760 S.F.

PROPOSED:
IMPERVIOUS (ASPHALT) = 31,455 S.F.
GREEN SPACE = 17,991 S.F.
POND = 5,486 S.F.

SOUTH PARKING LOT AREAS:
TOTAL = 28,523 S.F. (±0.65 acres)

EXISTING:
IMPERVIOUS = 371 S.F.
GREEN SPACES = 28,152 S.F.

PROPOSED:
IMPERVIOUS = 13,790 S.F.
GREEN = 12,183 S.F.
POND = 2,550 S.F.

PARKING DATA:

EXISTING:
TOTAL EXISTING PARKING: 393 SPACES (INCLUDING ADA)
TOTAL EXISTING ADA PARKING: 8 SPACES

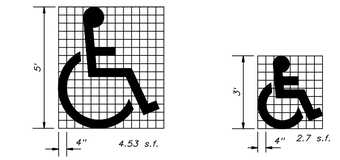
PROPOSED:
PROPOSED NORTH PARKING: 61 SPACES
PROPOSED SOUTH PARING: 30 SPACES
**RE-CALCULATED EXISTING PARKING: 378 SPACES (INCLUDING 8 ADA)

TOTAL PROPOSED PARKING: 469 SPACES (INCLUDING ADA)
TOTAL PROPOSED ADA PARKING: 9 SPACES
* RE-STRIPE EXISTING PARKING AREA NEAR BLDG. ENTRANCE AS REQUIRED TO PROVIDE 1 ADDITIONAL ADA PARKING SPACE. SEE ADA STRIPING DETAIL BELOW

**RE-STRIPING OF THE EXISTING PARKING LOT SOUTH OF THE PROPOSED SOUTH PARKING LOT RESULTS IN A REDUCTION OF 15 SPACES FROM THE TOTAL EXISTING PARKING SPACE COUNT.

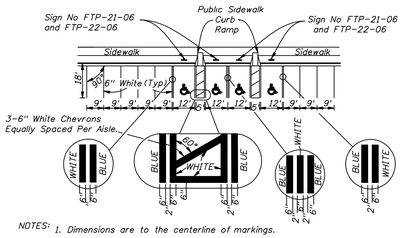
PARKING REQUIRED BY CODE:
REQUIRED EMPLOYEE PARKING: 100 SPACES (100 EXPLOYEES X 1 SPACE/EMPLOYEE)
REQUIRED ADA PARKING: 9 SPACES

**NOTE: EXISTING PARKING NEAR BUILDING ENTRANCE TO BE RE-STRIPED AS REQUIRED TO PROVIDE ONE ADDITIONAL ADA PARKING SPACE. COORDINATE PROPOSED ADA RE-STRIPING LOCATION WITH OWNER.



Use of pavement symbol in accessible parking spaces is optional, when used the symbol shall be 3' or 5' high and white in color.

UNIVERSAL SYMBOL OF ACCESSIBILITY



NOTES:
1. *Dimensions are to the centerline of markings.*
2. *An Access Aisle is required for each accessible space when angle parking is used.*
3. *Criteria for pavement markings only, not public sidewalk curb ramp locations For ramp locations refer to plans.*
4. *Blue pavement markings shall be tinted to match shade 15180 of Federal Standards 595a.*
5. *The FTP-22-06 panel shall be mounted below the FTP-21-06 sign.*

ADA PARKING– PAVEMENT MARKING DETAIL
NTS

*REFER TO FDOT INEX #17346 INDEX FOR ADDITIONAL INFORMATION

100% SUBMITTAL – 04/24/17

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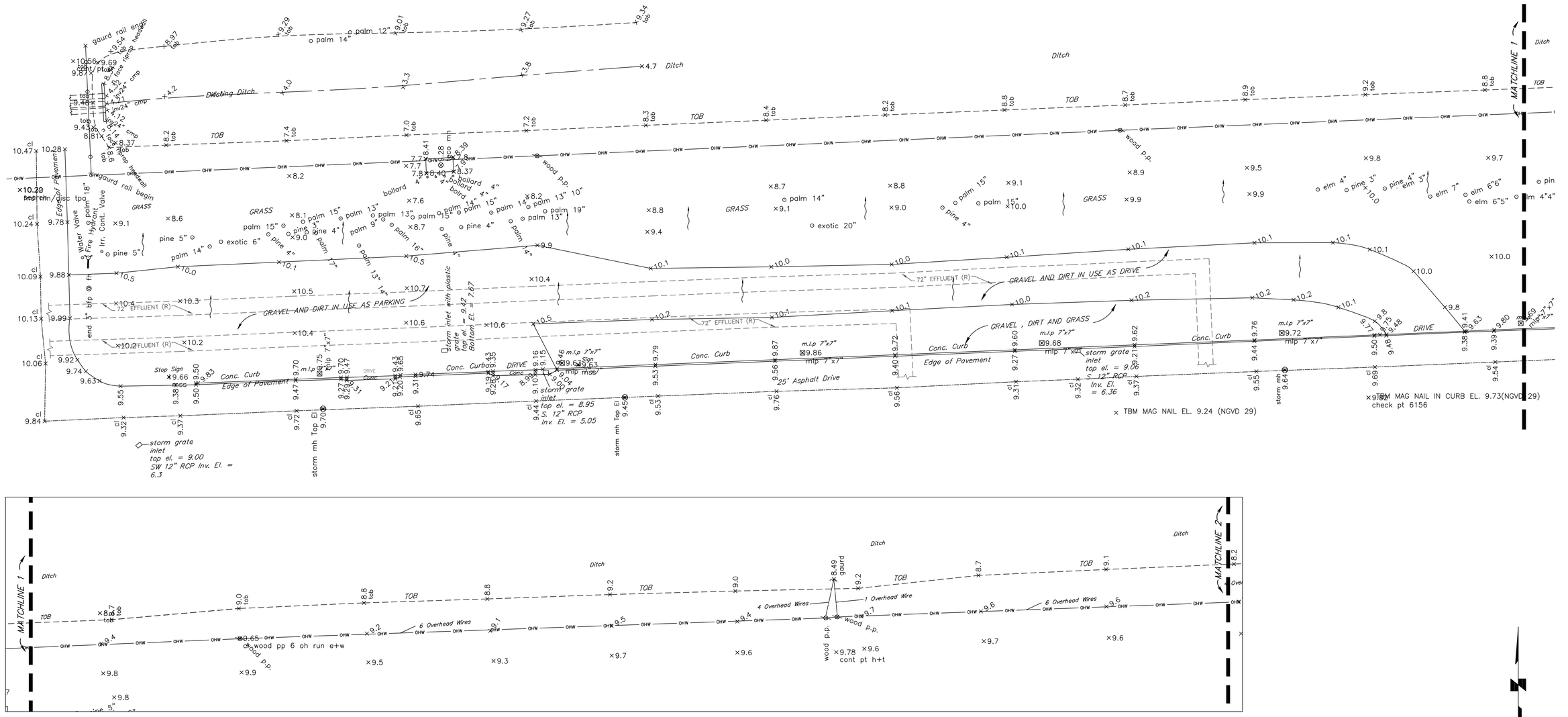
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN
AWTP PARKING LOTS
OVERALL FACILITY MAP

SHEET
CX.1

JOB NO.
15-021



LEGEND (As Applicable)

CL	Center Line
CLF	Chain Link Fence
Conc.	Concrete
EL.	Elevation
FH	Fire Hydrant
IE	Invert Elevation
IRR	Irrigation
LP	Light Pole
(M)	Measured data
MEG	Match Existing Grade
MH	Manhole
P.P.	Power Pole
(R)	Reported
RCP	Reinforced Concrete Pipe
R/W	Right of Way
TBM	Temporary Bench Mark
TE	Top Elevation
TOB	Top of Bank
OHW	Overhead Wires
UP	Utility Pole
+9.1	Existing Grade
	Existing Flow Arrow

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PROJECT
HOWARD F. CURREN
AWTP PARKING LOTS
NORTH PARKING LOT
EXISTING CONDITIONS

SHEET
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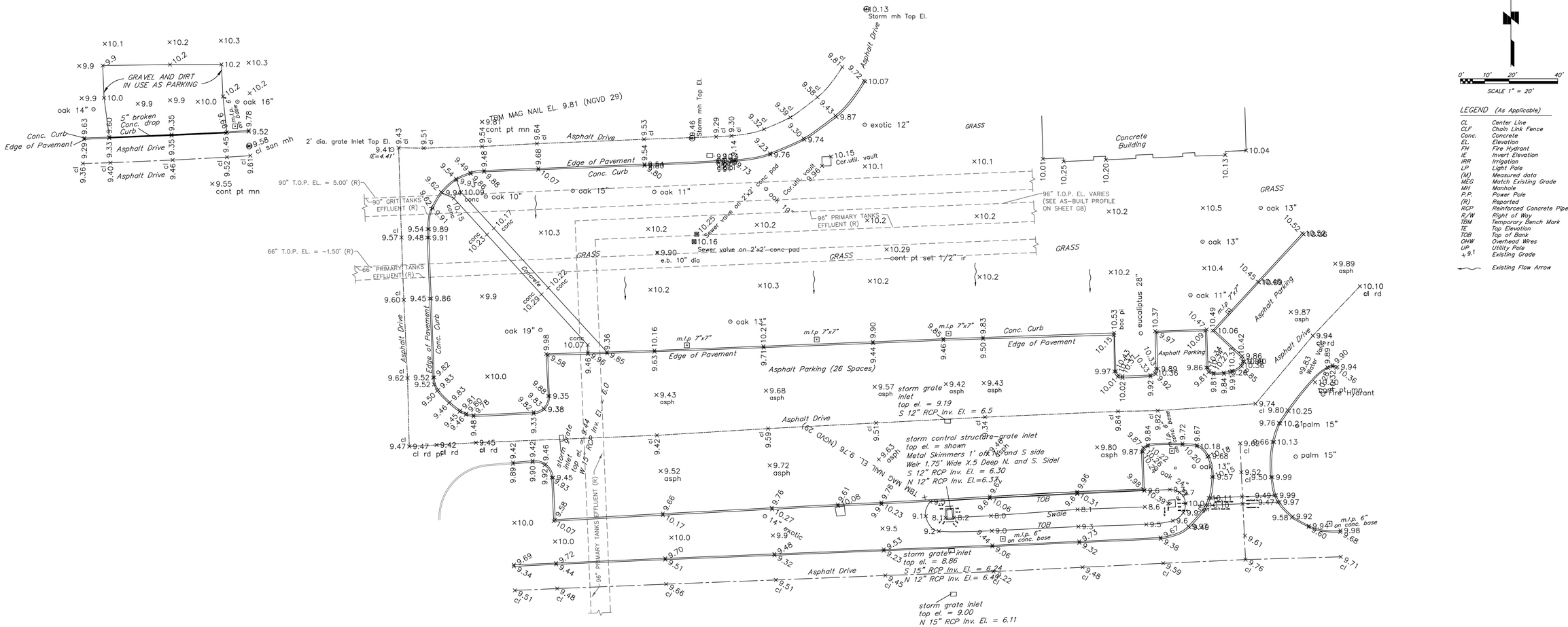

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PROJECT
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SOUTH PARKING LOT EXISTING CONDITIONS

SHEET
C0.1

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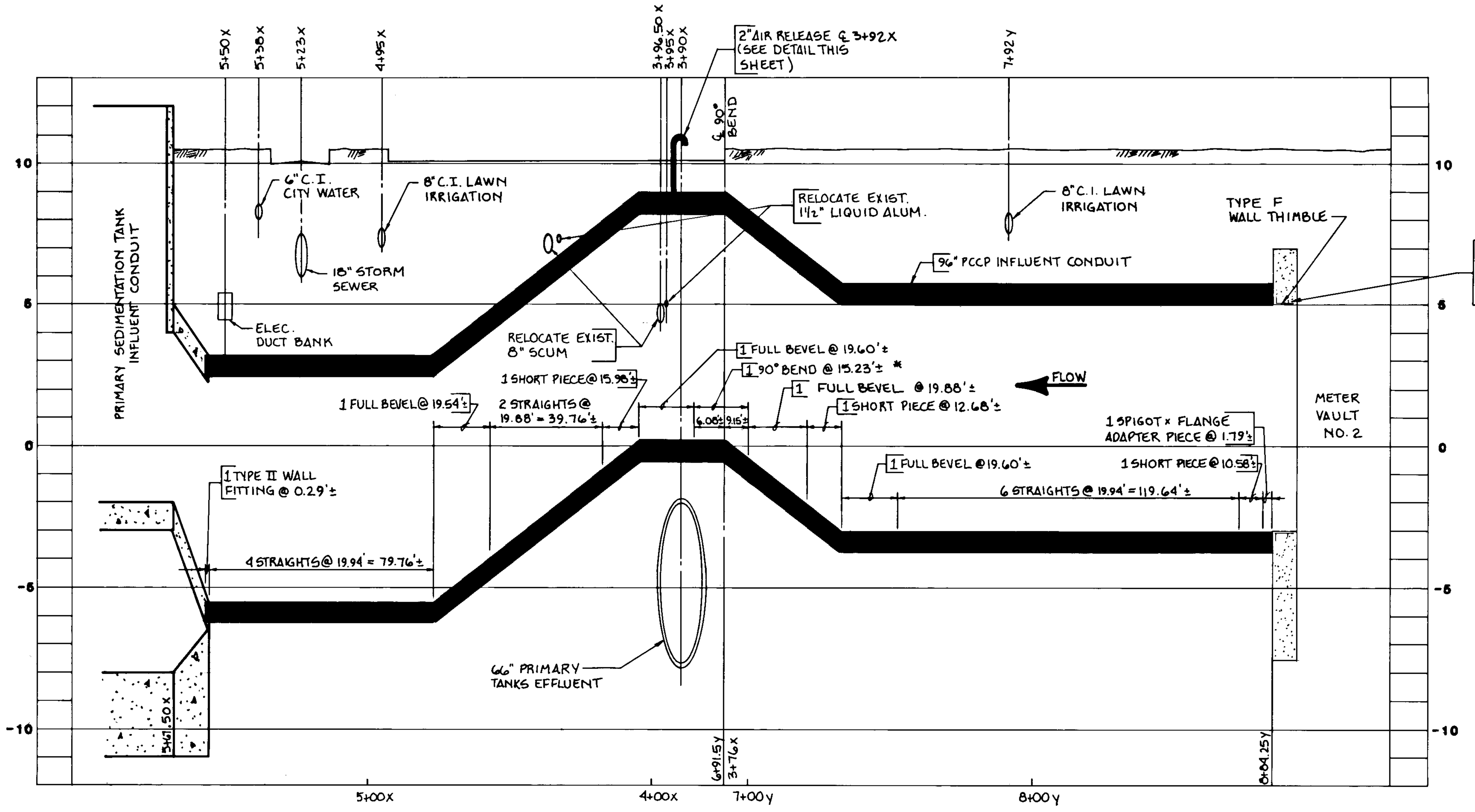
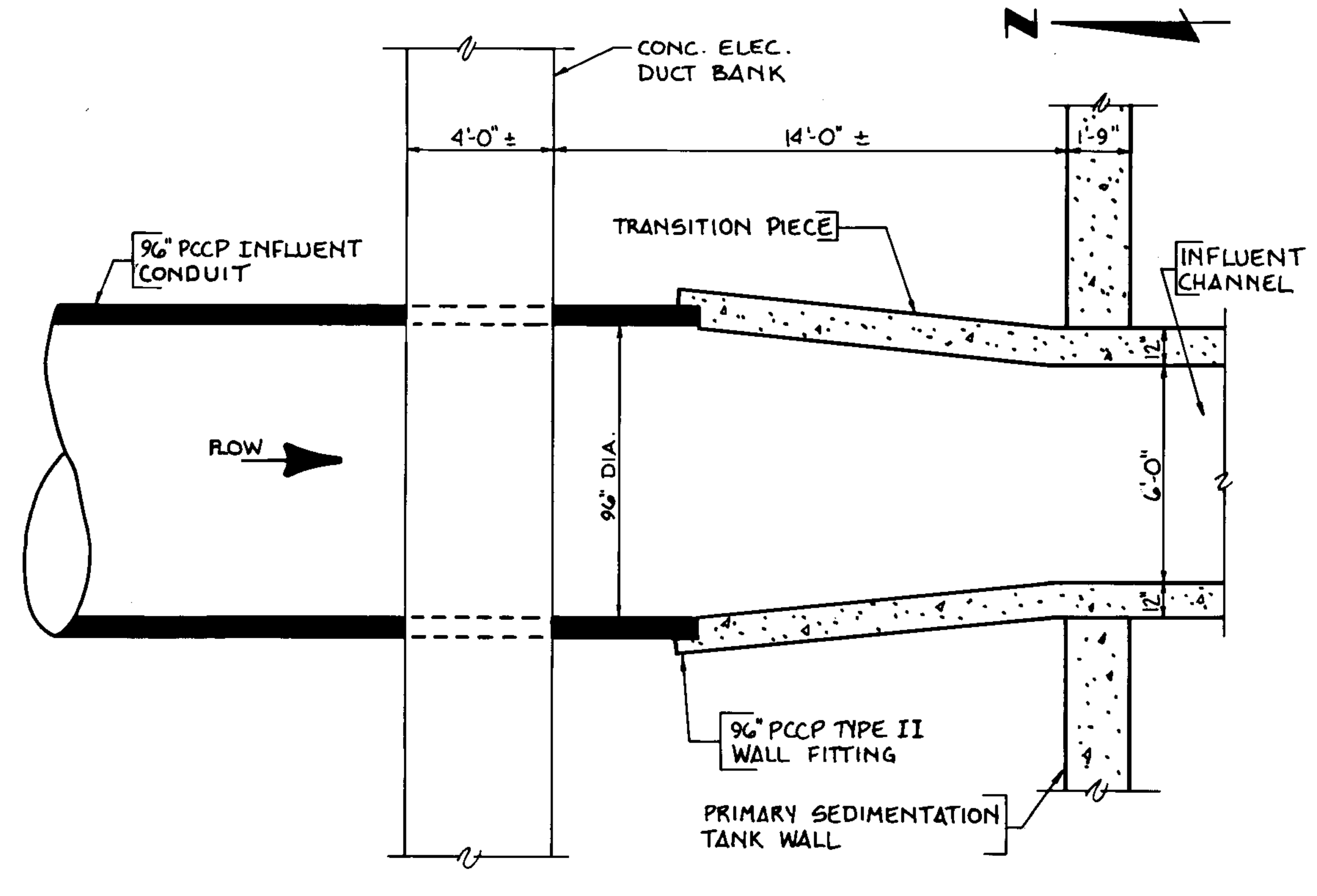


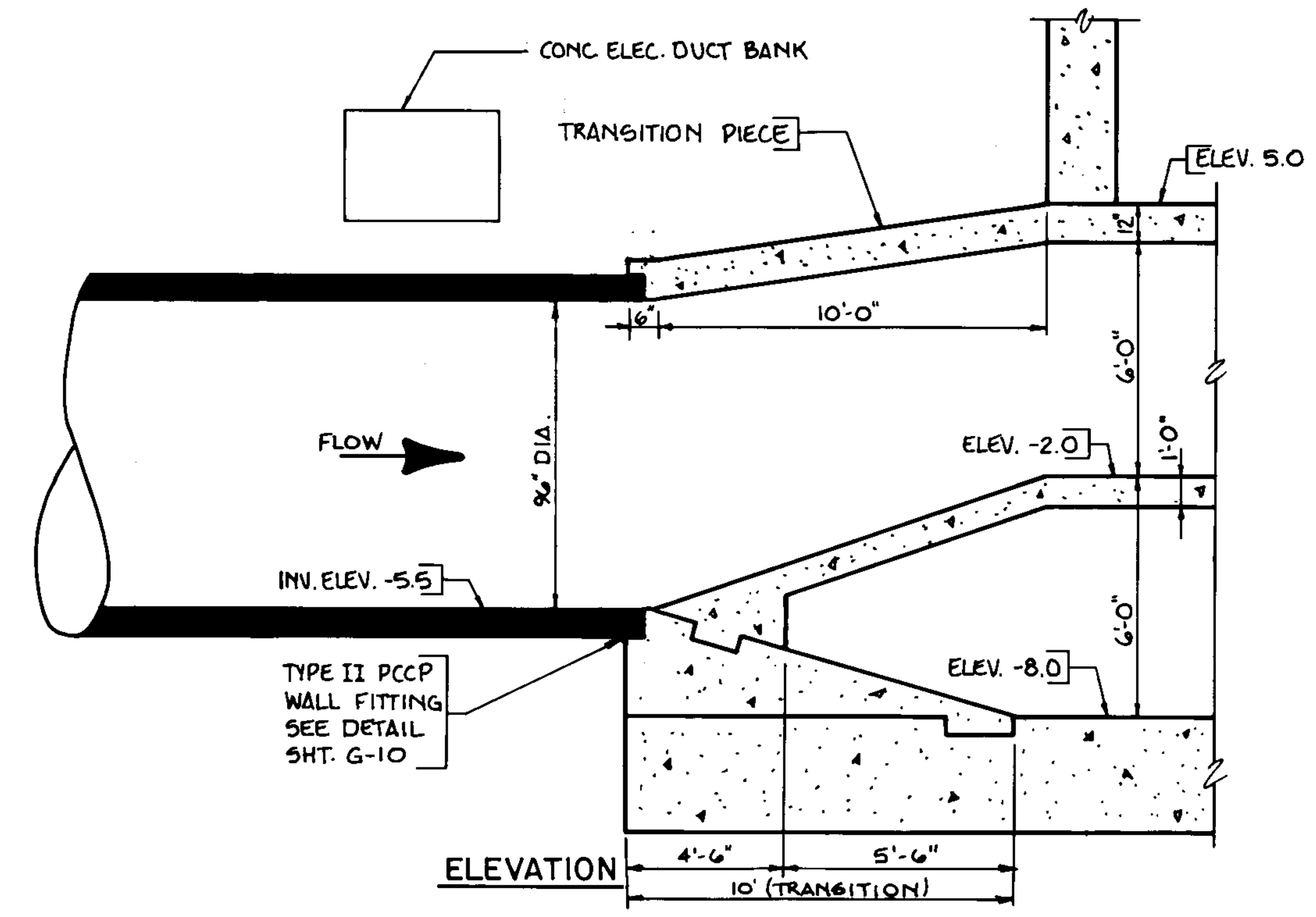
* 90° BEND TO HAVE DOWNSTREAM SIDE SHORTENED TO ALLOW FULL BEVEL PIPE SECTION TO BE CENTERED OVER EXISTING 66" CONDUIT FOR PILE SUPPORT. FOR DETAILS SEE SHEET G-11.

96" PRIMARY SEDIMENTATION TANKS INFLUENT CONDUIT

SCALE: 1" = 30' HORIZ.
SCALE: 1" = 3' VERT.



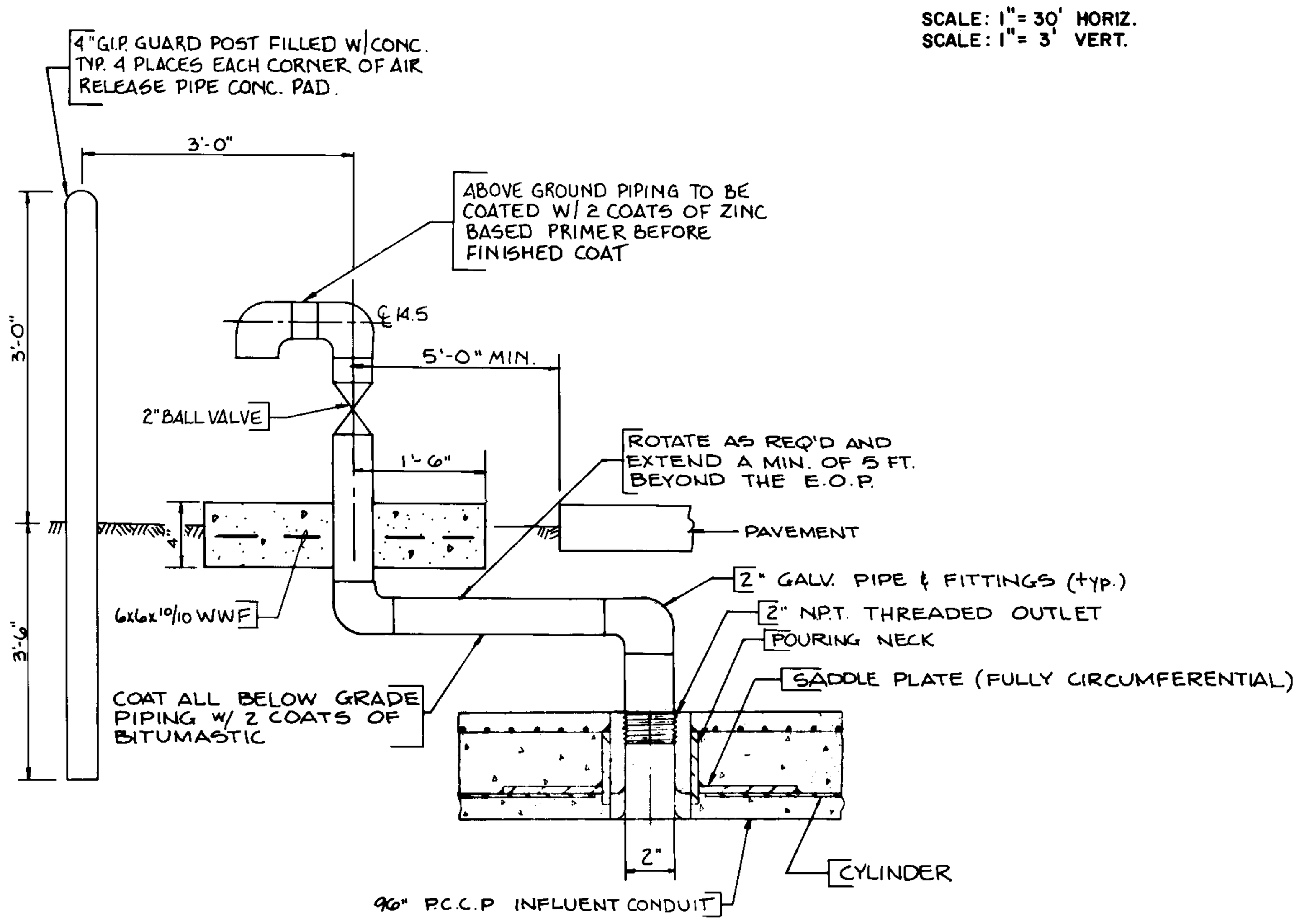
PLAN



ELEVATION

INFLUENT CONDUIT & TRANSITION PIECE DETAILS

SCALE: 1/4" = 1'-0"



AIR RELEASE PIPING DETAIL

NO SCALE

NOTES:

1) THE 96" PRIMARY SEDIMENTATION TANKS INFLUENT CONDUIT SHALL BE PRESTRESSED CONCRETE EMBEDDED CYLINDER PIPE (PCCP) AS DESCRIBED IN SPECIFICATIONS AND DETAILED ON SHEET G-10.
2) LENGTH FOR CLOSURE PIECE TO BE VERIFIED AND ADJUSTED IN THE FIELD.
3) CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
4) SEE SHEET G-11 FOR PILE BENT DETAILS FOR 96" PCCP.
5) PIPE LENGTHS NOTED ARE FOR DESIGN PURPOSES ONLY. ACTUAL PIPE LENGTHS TO BE DETERMINED BASED ON RECOMMENDATIONS OF MANUFACTURER AND ON ACTUAL FIELD CONDITIONS.

NOTE: THIS IS AN AS-BUILT, RECORD DRAWING INCLUDED IN THIS SET FOR REFERENCE ONLY TO REFLECT EXISTING CONDITIONS. THERE IS NO PROPOSED WORK ON THIS SHEET.

NOTE:
ALL ELEVATIONS SHOWN ARE REFERENCED TO CITY OF TAMPA DATUM. TO CONVERT TO NATIONAL OCEAN SURVEY (NOS) DATUM, SUBTRACT 0.15 FEET (0'-1 13/16").

Post, Buckley, Schuh & Jernigan, Inc.
TAMPA, FLORIDA

DES: [signature]
DRN: [signature]
CKD: [signature]
578-152.00

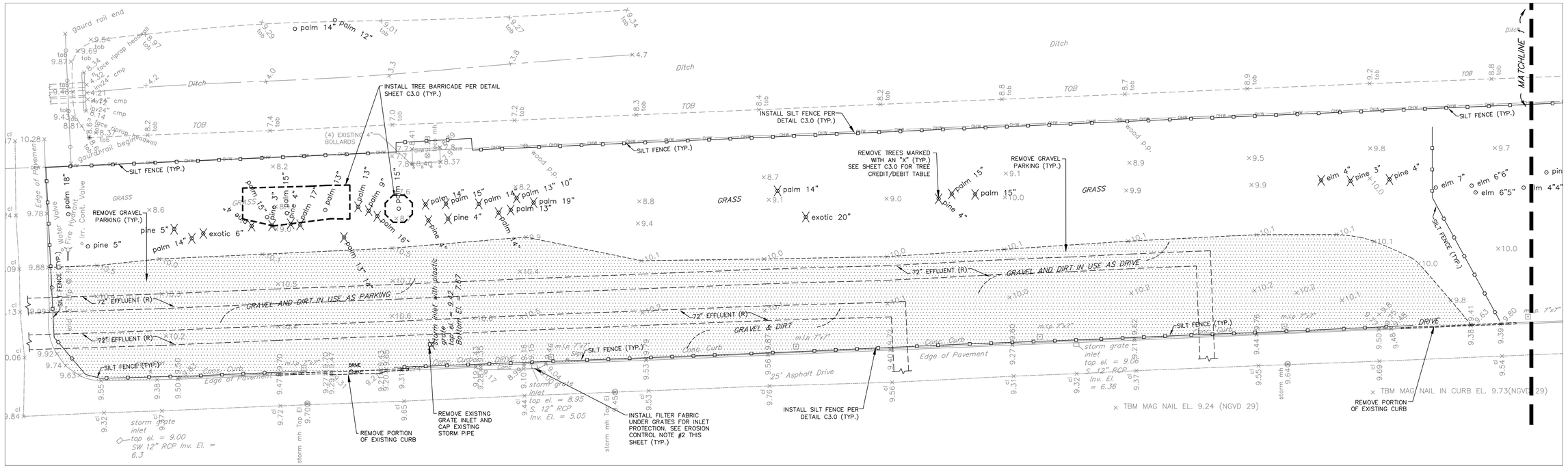
No	DATE	REVISIONS
1		
2		
3		
4		
5		

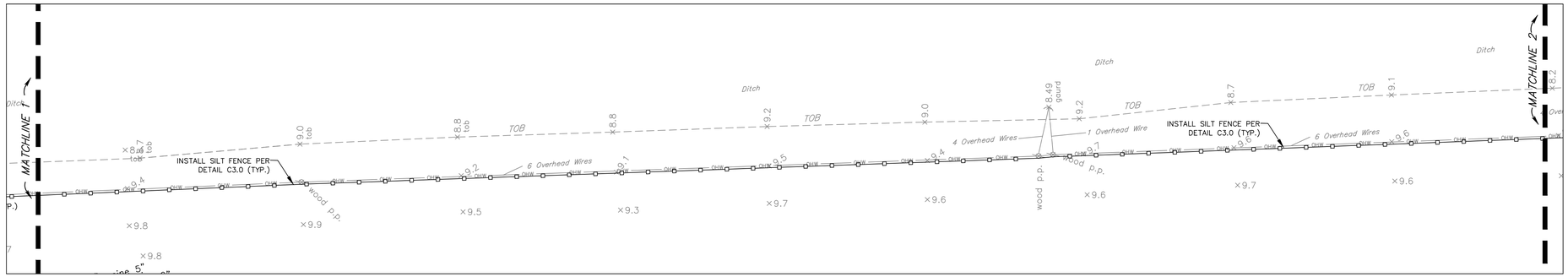
SCALE
1/4" = 1'-0"
1 IN. = 30 FT.
1 IN. = 3 FT.

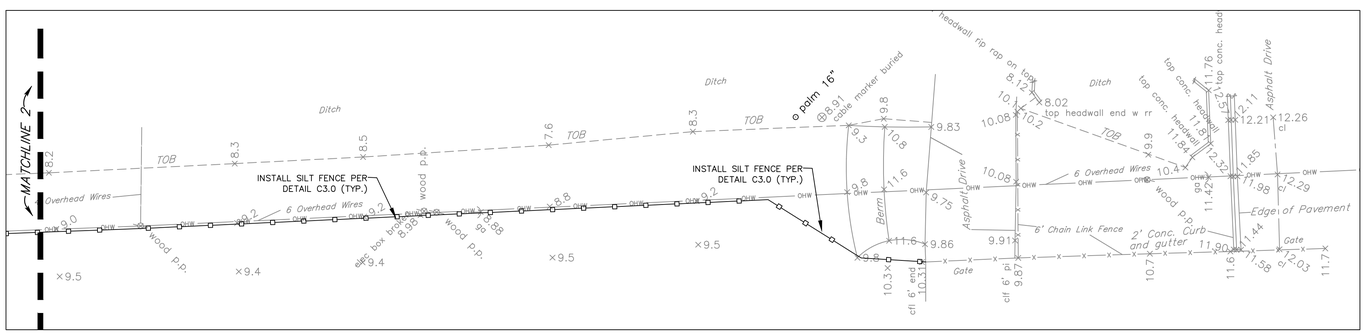
DEPARTMENT of SANITARY SEWERS
CITY of TAMPA, FLORIDA
ADDITIONS TO HOOKERS POINT AWT PLANT
DIVISION 4H - 11

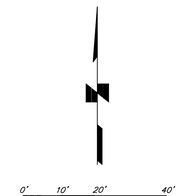
GENERAL
96" PRIMARY SEDIMENTATION TANKS INFLUENT CONDUIT
PROFILE AND DETAILS

DATE: SEPT. 1982
SHEET G8 OF G12
DWG. 8 OF 48









LEGEND (As Applicable)

CL	Center Line
CLF	Chain Link Fence
Conc.	Concrete
EL.	Elevation
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IRR	Irrigation
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UP	Utility Pole
+9.1	Existing Grade

= Proposed Gravel Parking Demo

= Silt Fence

= Tree Barricade

EROSION CONTROL NOTES:

1. EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION OF PROJECT.
2. THE CONTRACTOR TO SET SILT SCREEN, HAY BALES PRIOR TO THE START OF CONSTRUCTION. ALL EXISTING STORMWATER GRATE INLETS WITHIN THE PROJECT AREA ARE TO BE PROTECTED. AFTER NEW INLETS ARE INSTALLED, THE CONTRACTOR SHALL PLACE EROSION CONTROL ON THOSE ALSO. AS AN ALTERNATE, PLACE FILTER FABRIC UNDER THE GRATES. THE CONTRACTOR TO INSPECT ALL EROSION CONTROL MEASURES ON A DAILY BASIS AND RE-ERECT AS REQUIRED.

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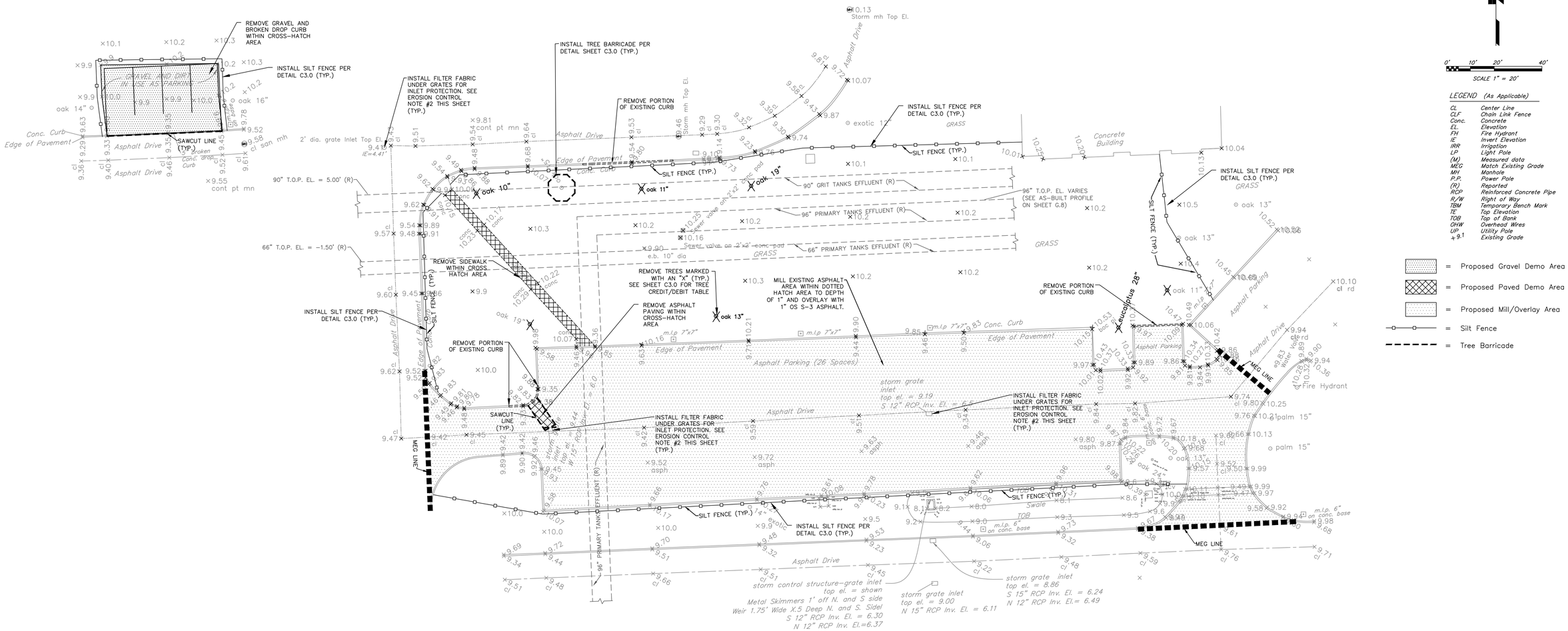
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN AWTP PARKING LOTS
NORTH PARKING LOT DEMOLITION AND EROSION CONTROL

SHEET
C1.0

JOB NO.
15-021



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= Proposed Gravel Demo Area

= Proposed Paved Demo Area

= Proposed Mill/Overlay Area

= Silt Fence

= Tree Barricade

EROSION CONTROL NOTES:

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SOUTH PARKING LOT DEMOLITION AND EROSION CONTROL

SHEET
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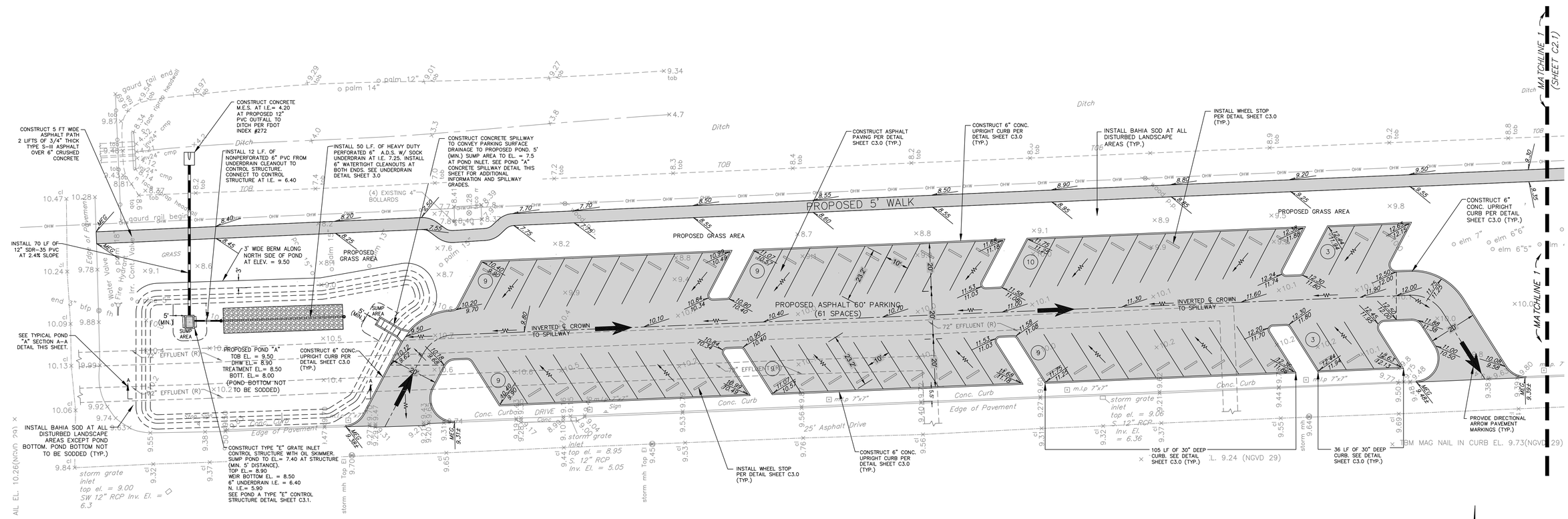
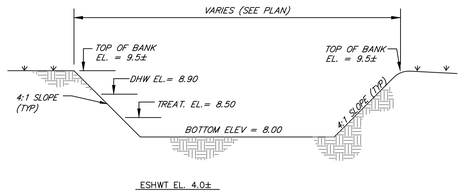
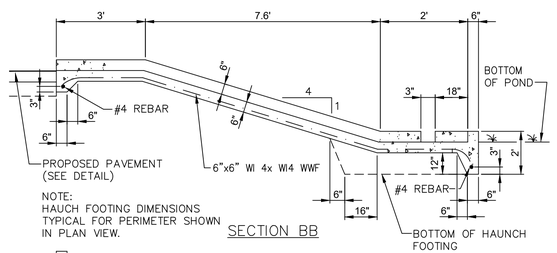
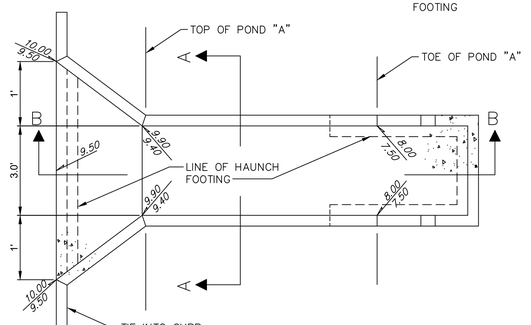




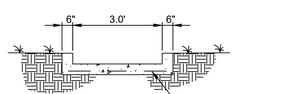
TYPICAL POND "A" SECTION A-A
N.T.S.



SECTION BB

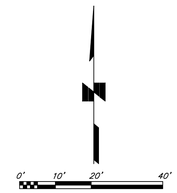


PLAN VIEW



SECTION AA

POND "A" CONCRETE SPILLWAY DETAIL
N.T.S.



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= Proposed Asphalt Paving Area

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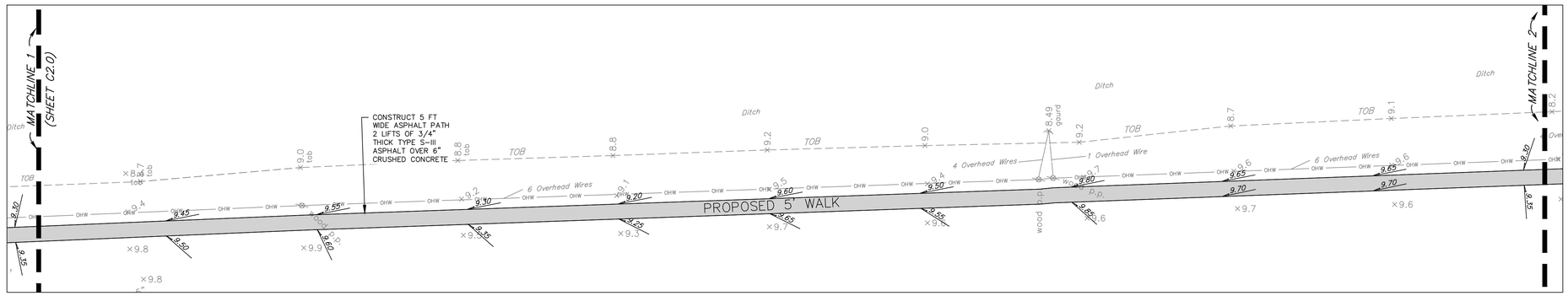
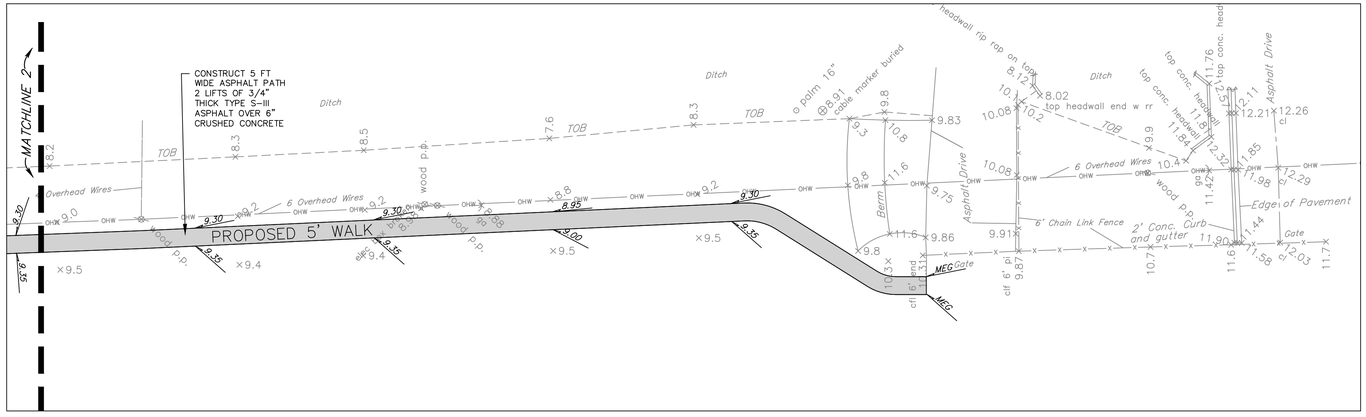
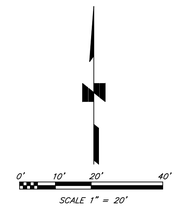
NORTH PARKING LOT SITE PLAN

SHEET C2.0

JOB NO. 15-021







CL	Center Line
CLF	Chain Link Fence
Conc.	Concrete
EL.	Elevation
FH	Fire Hydrant
IE	Invert Elevation
IRR	Irrigation
LP	Light Pole
(M)	Measured data
MEG	Match Existing Grade
MH	Manhole
P.P.	Power Pole
(R)	Reported
RCP	Reinforced Concrete Pipe
R/W	Right of Way
TBM	Temporary Bench Mark
TE	Top Elevation
TOB	Top of Bank
OHW	Overhead Wires
UP	Utility Pole
+9.1	Existing Grade
9.1	Proposed Grade
	Proposed Flow Arrow

= Proposed Asphalt Paving Area

100% SUBMITTAL – 04/24/17

REVISIONS

BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION

MILLS and ASSOCIATES, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
3242 HENDERSON BOULEVARD – SUITE 300
TAMPA, FLORIDA 33609-3056
TELEPHONE: (813) 876-5869

FOR
CITY OF TAMPA
WASTEWATER DEPARTMENT
2700 MARITIME BOULEVARD
TAMPA, FLORIDA 33605

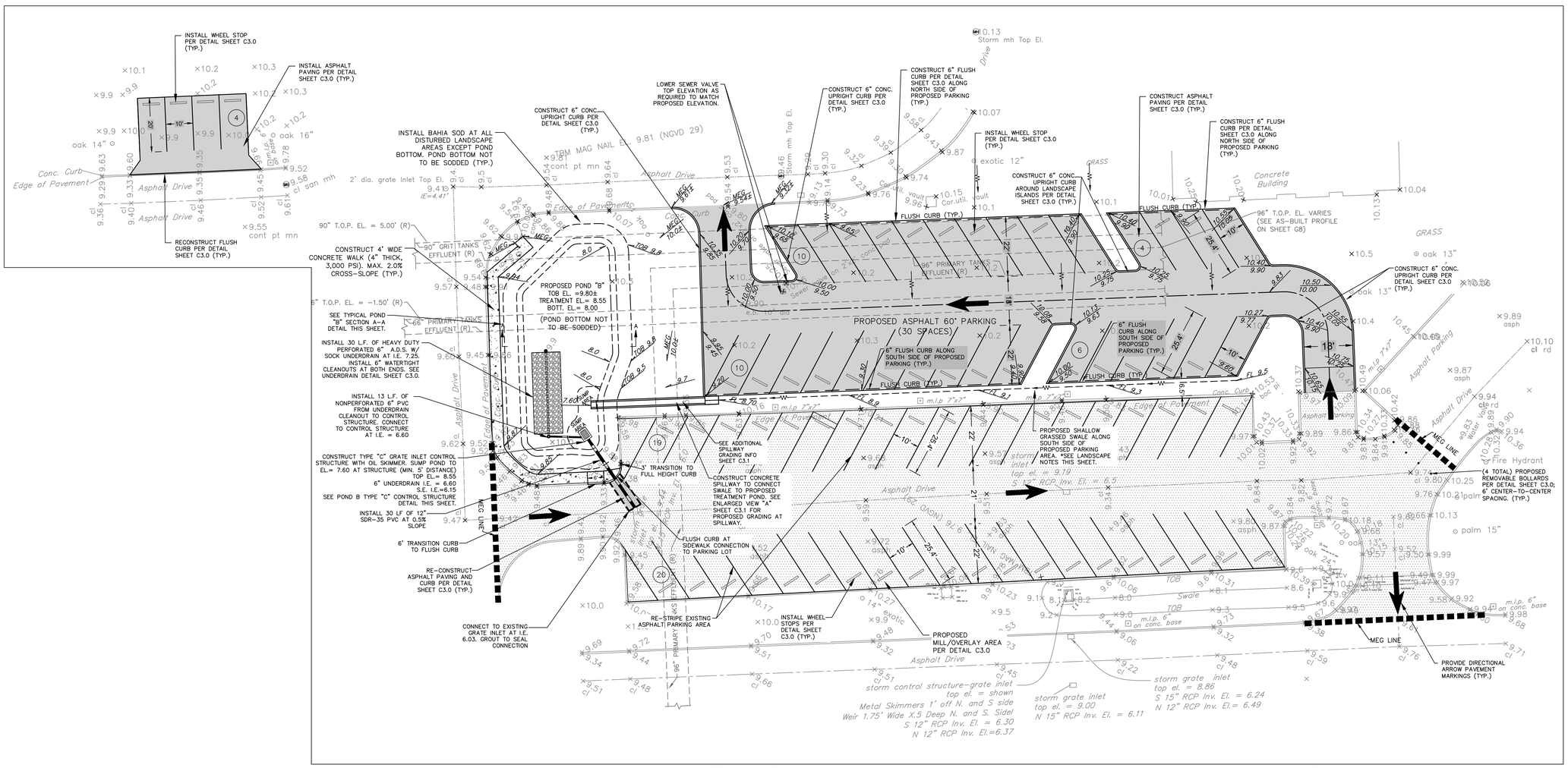
DRAWN BY: CVL DATE 4/24/17
DESIGN BY: CVL DATE 4/24/17
CHECKED BY: LEM DATE 4/24/17
SCALE: 1"= 20'

LAWRENCE E. MILLS
P.E. NO. 22324 – P.L.S. NO. 3141
E.B. NO. 3860 – L.B. NO. 3868
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN
AWTP PARKING LOTS
NORTH PARKING LOT
WALKING TRAIL

SHEET
C2.1

JOB NO.
15-021



LEGEND (As Applicable)

CL	Center Line
CLF	Chain Link Fence
Conc.	Concrete
EL.	Elevation
FH	Fire Hydrant
IE	Invert Elevation
IRR	Irrigation
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(M)	Measured data
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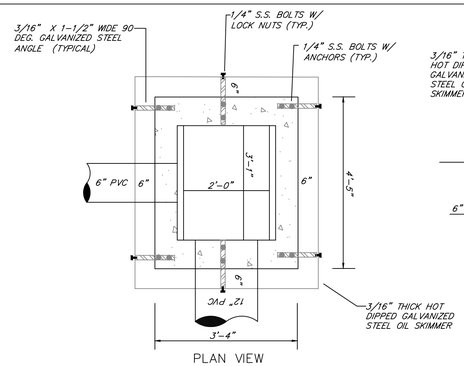
OHW	Overhead Wires
UP	Utility Pole
+9.1	Existing Grade
9.1	Proposed Grade
	Proposed Flow Arrow

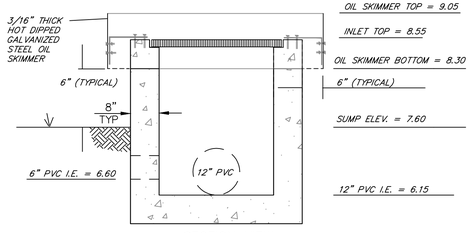
= Proposed Mill/Overlay Area

= Proposed Asphalt Paving Area

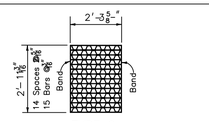
= Proposed Concrete Walk Area

LANDSCAPE NOTE:
LANDSCAPE GRADES SHOWN ARE FINISH GRADES:
1. *IF GRASSING IS ACHIEVED BY SPRIGGING, FINISHED GRADE TO BE FINAL GRADE.*
2. *IF GRASSING IS ACHIEVED BY SODDING, FINISHED GRADE TO BE TOP OF SOD.*



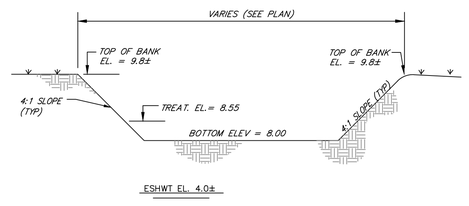


NOTE: SEE GRATE INLET STRUCTURE DETAIL.



Straight Bars 2"x⅜"
Reticuline Bars 1¼"x⅛"
Bands 1¾"x¼"
Approx. Weight 100 Lbs. (NON TRAFFIC)
Approx. Weight 150 Lbs. (TRAFFIC)

STEEL GRATES



TYPICAL POND "B" SECTION A-A
N.T.S.

POND "B" TYPE "C" CONTROL STRUCTURE DETAIL

SEE F.D.O.T. INDEX NO. 232
NOT TO SCALE

100% SUBMITTAL – 04/24/17

REVISIONS					
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LAWRENCE E. MILLS
P.E. NO. 22324 – P.L.S. NO. 3141
E.B. NO. 3860 – L.B. NO. 3868
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN AWTP PARKING LOTS
SOUTH PARKING LOT SITE PLAN

SHEET
C2.2

JOB NO.
15-021

TREE PROTECTION NOTES

Development on parcels shall comply to the following tree protection standards:

1.) Protective barricades shall be placed around all protected trees during site clearing, and shall remain in place until land alteration, site clearing, and construction activities are complete. Barricades shall be erected at a minimum distance of ten feet (10') from the center of the protected tree.

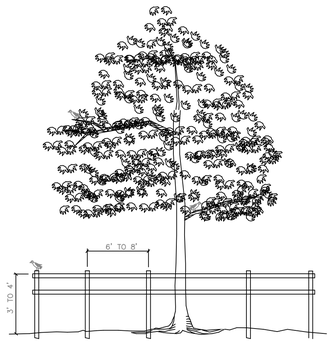
2.) Trenching shall not take place within the root zone of trees with a trunk diameter of 6 inches or larger. The root zone shall be defined as the greater of 1) the dripline of the tree or 2) a circular zone extending outward from the base of the tree a distance equivalent to ½ foot for every inch of trunk diameter as measured 4–1/2 feet above natural grade. If this results in unreasonable hardship, a soil auger shall be used to tunnel under the root system.

3.) Installation of artificial barriers such as protective barricades, fences, posts, or walls shall not destroy or irreversibly harm the root system of protected trees. Footers for walls shall end at the point where larger roots are encountered, and tree roots shall be bridged. Post holes and trenches located close to protected trees shall be adjusted to avoid damage to major roots.

4.) All roots to be removed during the site clearing phase shall be severed clean at the perimeter of the designated protective radius.

5.) A two inch (2") layer of mulch shall be applied over the surface of exposed roots during the site clearing phase.

6.) All trimming of protected trees shall be done by a qualified, licensed tree service during development.



HORIZONTAL: WOOD MEMBER, CHAIN LINK FENCE OR OTHER APPROVED MATERIAL

VERTICAL: WOOD MEMBER OR APPROVED MATERIAL

BARRICADES PLACED AT DESIGNATED PROTECTIVE ROOT ZONE

TREE BARRICADE DETAIL

NOT TO SCALE

*ALL EXISTING TREES TO REMAIN SHALL BE BARRICADED AS PER THE DETAIL. BARRICADES SHALL BE ERECTED BEFORE SITE WORK BEGINS AND SHALL REMAIN FOR THE ENTIRE DURATION OF THE WORK.

CITY OF TAMPA
Tree Tables for Credit and Debit
PROPOSED NORTH AND SOUTH PARKING LOT AREAS

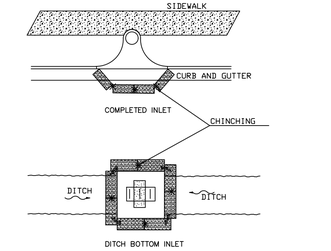
Diameter (inches)	# Retained on Site	Multiplier for Credit	Credit
5" to 7"	4	0	0
8" to 12"	3	1	3
13" to 19"	23	2	46
20" to 29"	1	4	4
30" or more	2	10	20
All Palms	18	1	18
Total	51		91

Diameter (inches)	# Removed on Site	Multiplier for Debit	Debit
5" to 7"	2	0	0
8" to 12"	3	1	3
13" to 19"	3	2	6
20" to 29"	2	4	8
30" or more	0	Inch per inch	0
*Hazard Tree	0	Replace w/ 4–2"	0
All Palms	18	1	18
Total	28		35

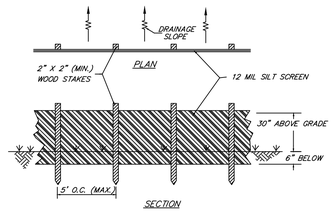
		Required Number of 2" trees
V.U.A. Street Frontage requirement	0 / 40 l.f. =	0
V.U.A. Square Footage requirement	37,896 / 1,500 sq.ft. =	+ 26
Debit for trees removed		+ 35
Credit for trees to remain		– 91
TOTAL TREES REQUIRED		= –30

*NO ADDITIONAL TREES REQUIRED

*NOTE: CREDIT TREES LOCATED ON WASTEWATER TREATMENT PLANT PROPERTY BUT OUTSIDE OF PROJECT AREAS ARE SHOWN ON SHEET CX.1.



STRAW BALE SILT BARRIER



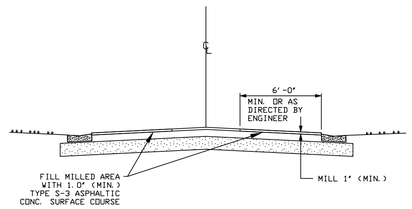
SILT SCREEN DETAIL
N.T.S.

EROSION CONTROL DETAIL

NOT TO SCALE

NOTE :
EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION OF PROJECT.

Erosion Control Note:
The contractor to set silt screen, hay bales prior to the start of construction. All existing stormwater grate inlets within the project area are to be protected. After new inlets are installed, the contractor shall place erosion control on those also. As an alternate, place filter fabric under the grates. The contractor to inspect all erosion control measures on a daily basis and re–erect as required.

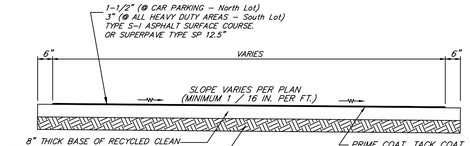


MILLING DETAIL
TYPICAL ROAD SECTION

N.T.S.

NOTES:

1. *MILLING OF EXISTING ASPHALT AREAS SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATION §327 (LATEST EDITION)*
2. *ALL DISTURBED PAVEMENT MARKINGS SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.*



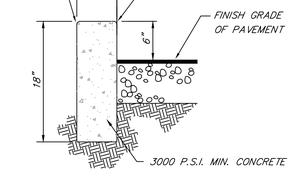
NOTES:

1. *All paving shall conform to Florida Dept. of Transportation Standard Specifications for Road and Bridge Construction, latest edition and geotechnical engineers report recommendations.*
2. *Existing asphalt paving to be sawcut as necessary for removal and disposal.*
3. *Blend and match new asphalt paving areas to form a smooth transition with existing paving areas.*
4. *Density testing of subgrade and base to be coordinated with Owner.*

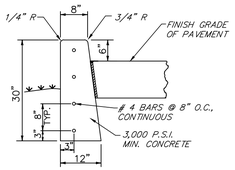
STABILIZED SUBGRADE:

1. *The stabilizing shall be FDOT Type B.*
2. *It shall be the contractor's responsibility that the finished roadbed section meets the bearing value requirements, regardless of the quantity of stabilizing materials necessary to be added.*
3. *After the mixing operations have been completed and requirements for Bearing Value, uniformity, and particle size have been satisfied, the stabilized area shall be compacted to 98% Modified Proctor per AASHTO T–180.*

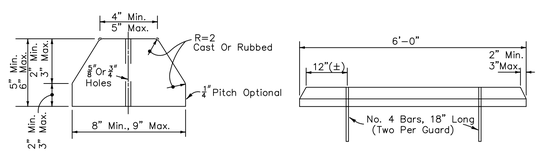
ON–SITE ASPHALT PAVING SECTION
N.T.S.



UPRIGHT CURB DETAIL
N.T.S.

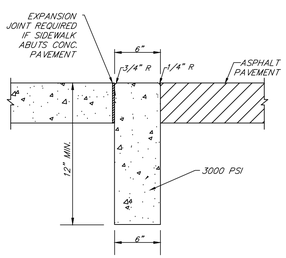


30" DEEP CURB
NTS



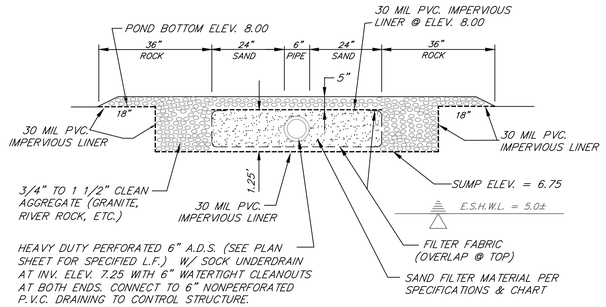
CONCRETE BUMPER GUARD

CONCRETE WHEEL STOPS
REFER TO FDOT INDEX NO. 300
N.T.S.



RIBBON (FLUSH) CURB
NOT TO SCALE

THE FOLLOWING APPROVED S.W.F.W.M.D. PERMIT CONDITION REGARDING PROPOSED RETENTION POND UNDERDRAIN IS THE CONTRACTORS RESPONSIBILITY:
PRIOR TO INSTALLATION OF THE FILTER MEDIA, THE PERMITTEE'S CONTRACTOR SHALL SUBMIT A CERTIFIED TEST OF THE MEDIA TO THE PERMITEE'S PROFESSIONAL ENGINEER AND THE DISTRICT. THE TEST SHALL ADDRESS THE FOLLOWING PARAMETERS: UNIFORMITY COEFFICIENT, EFFECTIVE GRAIN SIZE, SIEVE ANALYSIS, PERCENT SILTS, CLAYS AND ORGANIC MATTER, AND PERMEABILITY TESTING (CONSTANT HEAD). IF TESTING INDICATES THE ACTUAL PERMEABILITY RATE IS LESS THAN THE VALUE SPECIFIED IN THE PERMITTED DESIGN, A PERMIT MODIFICATION WILL BE REQUIRED TO LENGTHEN THE EFFLUENT FILTRATION SYSTEM. THE PERMITTEE SHALL ALSO NOTIFY THE SURFACE WATER REGULATION MANAGER, TAMPA REGULATION DEPARTMENT, AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION OF THE EFFLUENT FILTRATION SYSTEM, SO THAT DISTRICT STAFF MAY OBSERVE THIS CONSTRUCTION ACTIVITY. (SWFWMD PHONE: 813/985–7481)



UNDERDRAIN DETAIL

NOT TO SCALE

NOTE: THE UNDERDRAIN SYSTEM IS WRAPPED IN A 30 MIL IMPERVIOUS LINER WHICH SEPARATES THE HYDRAULIC CONTRIBUTION OF THE SURROUNDING WATER TABLE. (CHAPTER 5.2 (b.) (2.)

UNDERDRAIN PROTECTION DURING CONSTRUCTION NOTES:

1. *UNDERDRAIN FILTER MEDIA IS TO BE PROTECTED FROM SILTATION THROUGHOUT THE ENTIRE LENGTH OF CONSTRUCTION FOR THIS PROJECT.*
2. *UNDERDRAIN SYSTEMS ARE VERY SUSCEPTIBLE TO CLOGGING FROM CONSTRUCTION SEDIMENTS. THEREFORE, STORMWATER VAULT UNDERDRAIN SYSTEM TO BE CONSTRUCTED ONCE SITE HAS BEEN STABILIZED AND CONSTRUCTION COMPLETED.*

   IF UNDERDRAIN SYSTEM IS TO BE INSTALLED PRIOR TO CONSTRUCTION COMPLETION, A 30 MIL IMPERVIOUS VINYL COVER TO BE INSTALLED TO PROTECT UNDERDRAIN FILTER MEDIA FROM CONSTRUCTION SEDIMENTS. VINYL COVER TO BE SCALED AND BONDED TO PREVENT CONSTRUCTION SEDIMENTS FROM CLOGGING UNDERDRAIN.
3. *POND TO BE CLEARED OF ALL CONSTRUCTION SEDIMENTS AND DEBRIS ONCE SITE HAS BEEN STABILIZED AND CONSTRUCTION COMPLETED.*

UNDERDRAIN FILTER MATERIAL SPECIFICATIONS

FILTER MATERIAL TO BE PER F.D.O.T. STANDARDS & SPECIFICATIONS INDEX NO. 901 WITH THE EXCEPTION OF LIMESTONE, LIMEROCK OR DOLEMITE WHICH ARE UNACCEPTABLE.

FILTER MATERIAL TO BE UTILIZED FOR UNDERDRAIN SYSTEMS SHALL BE COMPOSED OF CLEAN CREEK GRAVELS AND SAND MIXTURES , TO PRODUCE THE GRADATION SHOWN ON CHART BELOW. THE D 20 SIZE OF THIS FILTER IS APPROXIMATELY 0.42 MM AND THE VERTICAL PERMEABILITY RATE (K) IS 1.30 FEET PER DAY.

FILTRATION SYSTEMS SHALL HAVE PORE SPACES LARGE ENOUGH TO PROVIDE SUFFICIENT FLOW CAPACITY SO THAT THE PERMEABILITY OF THE FILTER IS EQUAL TO OR GREATER THAN THE SURROUNDING SOIL. THE DESIGN SHALL ENSURE THAT THE FILTER MEDIUM PARTICLES DO NOT MOVE. THE FILTER MATERIAL SHALL BE OF A QUALITY SUFFICIENT TO SATISFY THE REQUIREMENTS LISTED BELOW, BUT THESE REQUIREMENTS ARE NOT INTENDED TO PRECLUDE THE USE OF MULTI-LAYERED FILTERS NOR THE USE OF MATERIALS TO INCREASE ION EXCHANGE, PRECIPITATION OR POLLUTANT ABSORPTION CAPACITY OF THE FILTER. THE REQUIREMENTS ARE:

(A) WASHED MATERIAL MEETING FDOT ROAD AND BRIDGE SPECIFICATIONS FOR SILICA SAND AND QUARTZ GRAVELS, OR MIXTURES THEREOF (LESS THAN 1 PERCENT SILT, CLAY AND ORGANIC MATTER), UNLESS FILTER CLOTH IS USED WHICH IS SUITABLE TO RETAIN THE SILT, CLAY AND ORGANIC MATTER WITHIN THE FILTER; CALCIUM CARBONATE AGGREGATE IS NOT AN ACCEPTABLE SUBSTITUTE;

(B) UNIFORMITY COEFFICIENT 1.5 OR GREATER; AND

(C) EFFECTIVE GRAIN SIZE OF 0.20 TO 0.55 MILLIMETERS IN DIAMETER.

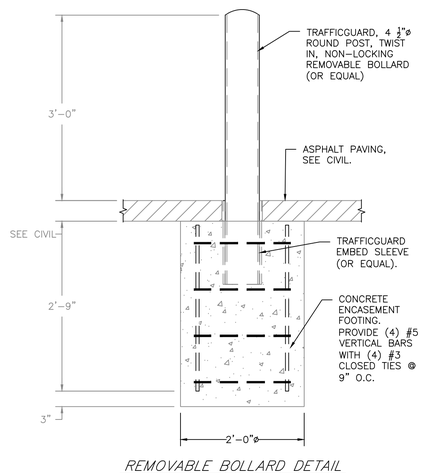
FILTER GRADATION CHART

U.S. STD. SIEVE SIZE	PERCENT FINES BY WEIGHT
3/4"	100
3/8"	90 – 100
#4	77 – 96
#10	60 – 87
#20	26 – 69
#40	9 – 43
#50	7 – 27
#100	5 – 7

(D) UNDERDRAIN FILTER SAND SHALL MEET OR EXCEED SPECIFICATIONS & REQUIREMENTS OF FDOT STANDARD INDEX 286 FOR TYPE V UNDERDRAIN.

MAINTENANCE AND OPERATION INSTRUCTIONS FOR STORMWATER FACILITY.

1. *ALL STORMWATER PIPES, INLETS, MANHOLES, RETENTION VAULT AND OUTFALL STRUCTURES (INCLUDING OIL SKIMMER, PUMPS, FILTERS, CONTROLS, AND DISCHARGE PIPE) TO BE INSPECTED ON A REGULAR BASIS AND MAINTAINED TO OPERATE PER THE APPROVED PLANS AND PERMITS.*
2. *NO CHEMICALS, OILS, GREASES, WASTES, ETC. TO BE DISPOSED OF OR DISCHARGED INTO THE STORMWATER FACILITY.*
3. *POND TO BE KEPT FREE OD ALL SEDIMENT, TRASH, DEBRIS, ETC. WITH GRASS MAINTAINED AND MOWED.*
4. *ALL PIPES, STRUCTURES, RETENTION VAULT, ETC. TO BE KEPT FREE OF ALL SEDIMENT, TRASH, DEBRIS, ETC. IF NECESSARY, FLUSH WITH HIGH PRESSURE WATER TO CLEAR SYSTEM.*
5. *UNDERDRAIN SHALL BE INSPECTED AT A MINIMUM EVERY THREE (3) MONTHS. IF POND FAILS TO DRAIN WITHIN 72 HOURS OF THE END OF A RAINFALL EVENT, MAINTENANCE IS REQUIRED. FOR UNDERDRAIN SYSTEMS, IF FLUSHING UNDERDRAIN PIPES DOES NOT CAUSE A REMEDY, THE FILTER SAND MUST BE REMOVED AND REPLACED WITH NEW CLEAN MATERIAL PER THE APPROVED PLAN SPECIFICATIONS.*
6. *DURING ANY REPAIR OF MAINTENANCE, USE CARE TO AVOID CAUSING EROSION, SILTATION OR POLLUTION TO ADJACENT OR OFF–SITE AREAS. DISPOSE OF ANY WASTES, SEDIMENTS, ETC. TO A PERMITTED FACILITY.*
7. *NO ALTERATION OF THESE STORMWATER FACILITIES WITHOUT PRIOR APPROVAL FROM ALL APPLICABLE GOVERNING AGENCIES.*
8. *THE APPROVED STORMWATER PLANS AND PERMITS, WITH ALL CONDITIONS, SHALL BE MADE PART OF THESE INSTRUCTIONS.*
9. *UNDERDRAIN FILTER MEDIA IS TO BE PROTECTED FROM SILTATION THROUGHOUT THE ENTIRE LENGTH OF CONSTRUCTION FOR THIS PROJECT. (SEE UNDERDRAIN PROTECTION DURING CONSTRUCTION NOTES THIS SHEET.)*



REMOVABLE BOLLARD DETAIL
NOT TO SCALE

100% SUBMITTAL – 04/24/17

REVISIONS

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CONSULTING ENGINEERS & LAND SURVEYORS
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FOR
CITY OF TAMPA
WASTEWATER DEPARTMENT
2700 MARITIME BOULEVARD
TAMPA, FLORIDA 33605

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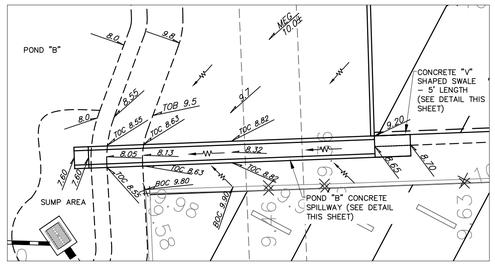
SCALE: NA

LAWRENCE E. MILLS
P.E. NO. 22324 – P.L.S. NO. 3141
E.B. NO. 3860 – L.B. NO. 3868
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN AWTP PARKING LOTS
DETAILS & NOTES

SHEET C3.0
JOB NO. 15–021

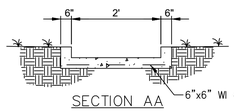


ENLARGED VIEW "A"

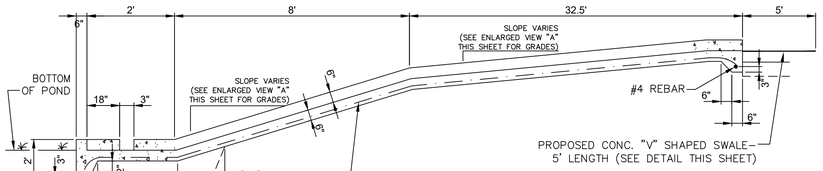
SCALE 1" = 10'

LEGEND

BOC	Back of Curb
TOC	Top of Curb
+9.1	Existing Grade
9.1	Proposed Grade
	Proposed Flow Arrow

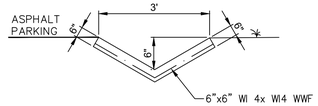


SECTION AA



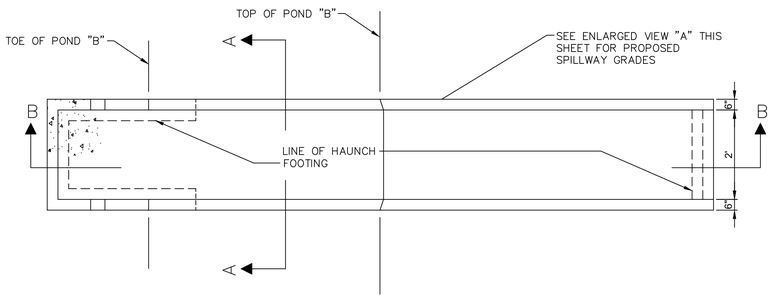
NOTE: HAUCH FOOTING DIMENSIONS TYPICAL FOR PERIMETER SHOWN IN PLAN VIEW.

SECTION BB



CONCRETE "V" SHAPE SWALE

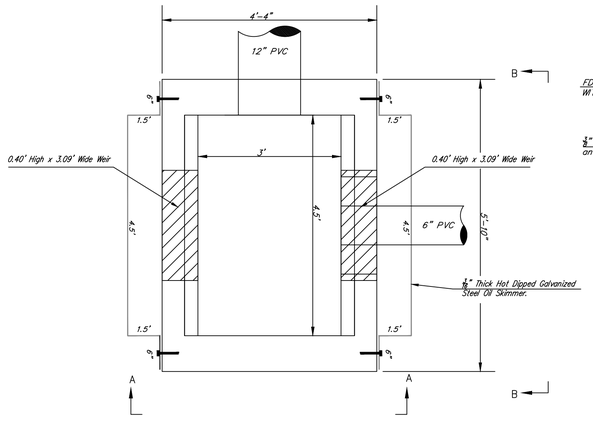
NTS



PLAN VIEW

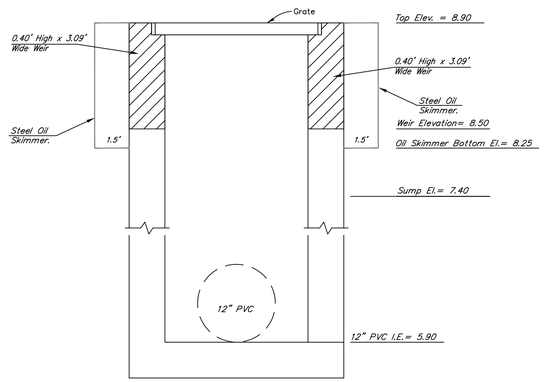
POND "B" CONCRETE SPILLWAY DETAIL

NTS



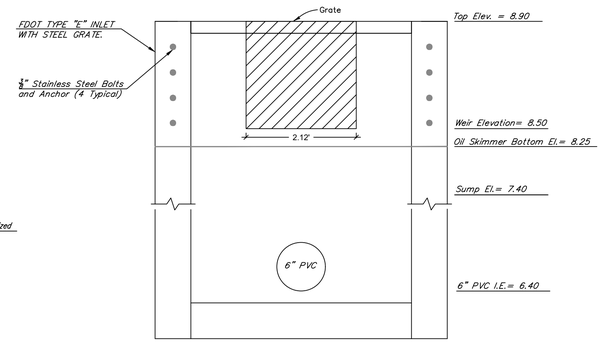
PLAN

N.T.S.



SECTION A-A

N.T.S.



SECTION B-B

N.T.S.

POND "A" TYPE "E" CONTROL STRUCTURE DETAIL

N.T.S.

100% SUBMITTAL – 04/24/17

REVISIONS					
BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION

MILLS and ASSOCIATES, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
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TAMPA, FLORIDA 33605

DRAWN BY: CVL DATE 4/24/17
DESIGN BY: CVL DATE 4/24/17
CHECKED BY: LEM DATE 4/24/17
SCALE: NA

LAWRENCE E. MILLS
P.E. NO. 22324 – P.L.S. NO. 3141
E.B. NO. 3860 – L.B. NO. 3868
STATE OF FLORIDA

PROJECT
HOWARD F. CURREN AWTP PARKING LOTS
DETAILS & NOTES

SHEET
C3.1

JOB NO.
15-021

GENERAL NOTES:

1. All work shall comply with the regulations, requirements and ordinances of the various governing agencies having jurisdiction over said work, including, and not limited to, Hillsborough County, City of Tampa, F.D.E.P., F.D.H.R.S. , S.W.F.W.M.D., F.D.O.T. and Florida Building Code (FBC) 5th edition 2014, National Electrical Code 2011, and City of Tampa Code Chapter 5.
2. Location, dimension, elevation and identification of existing utilities, structures and other topographic features are approximate only, according to the best information available at the time of preparation of these plans. There may be additional existing details on-site and off-site, the presence of which is not known or detected at this time. Engineer/Surveyor shall not be held responsible for undetected underground utilities. Prior to construction, it is the contractor's responsibility to verify the location, dimension, elevation and identification of all utilities, structures and topographic features (i.e. buildings, sidewalks, canopy supports, fences, pavement, underground utilities, utility poles/guy wires, manholes, inlets, a/c units, trees, landscaping, etc.). If any of the existing or proposed conditions either: a) conflict with the proposed improvements, or b) are not shown or shown incorrectly on the plans, it is the contractor's responsibility to contact the Engineer prior to the commencing any work activities.
3. The construction testing/inspection shall be the owner's responsibility to schedule and complete any and all tests as required with all site civil improvements constructed on and off site. It shall also be the owner's responsibility to pre-test these improvements prior to giving the Engineer-of-Record any governing agency field representative 48 hours advance notice of any formal tests.
4. Engineer/Surveyor shall not be held responsible for undetected underground utilities and/or soil conditions. Site preparation to be in accordance with a geotechnical engineers recommendations and as a minimum standard must conform with the following: a) Unsuitable material to be removed; b) Fill material to be clean with no organics, muck, clay, etc.; c) Fill to be placed 12" lifts or less and compacted to 98% modified proctor.
5. All elevations refer to National Geodetic Vertical Datum 29 (NGVD29).
6. The Contractor shall notify the appropriate public agency(ies) and utility companies prior to commencing work within their jurisdiction(s).
7. All pipe lengths are plus or minus and are measured from center of fittings and/or structures.
8. The Contractor shall maintain copies of all applicable permits on-site and shall be responsible to adhere to all permit conditions during construction.
9. The Contractor shall use appropriate measures to prevent erosion and transport of sediment to surface drains. The Contractor shall use hay bales and/or silt barriers to mitigate adverse impacts to existing surface water quality.
10. The Contractor shall check plans for conflicts and discrepancies prior to construction. The Contractor shall notify the owner's Engineer of any conflict before performing any work in the affected area.
11. Reinforced concrete pipe (RCP) shall be a minimum of Class III pipe as designated in ASTM C-76.
12. Any relocation or modification of proposed storm sewer system shall not be made without the approval of the Engineer-of-Record.
13. Drainage shall be maintained during construction.
14. All mitered end sections (M.E.S.) shall be per F.D.O.T. Index #272 unless otherwise noted.
15. Storm drain inlets and manholes shall be traffic bearing suitable for H-20 Loading.
16. The Contractor is responsible for repairing any damage to existing facilities, above or below ground, that may occur as a result of the work performed by the Contractor called for in this contract.
17. All underground utilities must be in place and tested or inspected prior to base and surface construction.
18. All inspections and documents referred to shall be of latest revision.
19. The Contractor shall submitt for approval to the Owner's Engineer shop drawings on all precast and manufactured items. failure to obtain approval before installation may result in removal and replacement at Contractor's expense.
20. At least 3 working days prior to construction, the Contractor shall notify the Engineer and approriate Agencies and supply them with all required shop drawings, the Contractor,s name, starting date, projected schedule and other information as required. Any work performed prior to notifying the Engineer or without an Agency Inspector present may be subject to removal and replacement at the Contractor,s expense.
21. Mills & Associates, Inc. makes no representations or guarantees pertaining to easements, rights of way, set back lines, reservations, agreements and other similar matters.
22. All mechanical equipment shall be screened.
23. SAFETY:
    A. During the construction and/or maintenance of this project, all safety regulations are to be enforced. The Contractor or his representative shall be responsible for the control and safety of the traveling public and the safety of his personnel.
    B. Labor safety regulations shall conform to the provisions set forth by OSHA in the Federal Register of the Department of Transportation.
    C. The minimum standards as set forth in the current edition of "The State of Florida, Manual on Traffic Control and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations" shall be followed in the design application, installation, maintenance and removal of all traffic control devices, warning devices and barriers necessary to protect the public and workmen from hazards within the project limits.
    D. All traffic control markings and devices shall conform to the provisions set forth in the manual on uniform traffic control devices prepared by the U.S. Department of Transportation Federal Highway Administration.

it shall be the sole responsibility of the Contractor to comply and enforce all applicable safety regulations. The above information has been provided for the Contractor's information only and does not imply the Owner or Engineer will inspect and/or enforce safety regulations.

24. Contractor shall vacuum excavate at all new light pole locations to a depth exceeding the proposed pole foundation depth in order to ensure there are no conflicts with existing pipes. Contractor shall also locate the shallow section of the existing 96" pipe shown on sheet C1.1 and as-built sheet G8 by vacuum or hand excavation to verify and mark its location, and restrict any heavy equipment traffic over the shallow section of pipe.

City of Tampa
Standard Site Plan Notes

TRANSPORTATION

1. All abandoned driveways shall be removed and curbs raised to City of Tampa standards and specifications.
2. All broken sidewalks shall be restored to City of Tampa standards and specifications; concrete 3,000 P.S.I., 5 feet wide, 4 inches thick, 6 by 6 welded wire mesh, 6 inches thick, no mesh in driveway.
3. All disturbed areas within the rights-of-way shall be restored to City of Tampa standards and specifications.
4. All signage and striping to comply with the Manual for Uniform Traffic Control Devices (M.U.T.C.D.)

STORMWATER

1. Erosion/Sedimentation Control:
   Contractor is to provide erosion control/sedimentation barrier (hay bales or siltation curtain) to prevent siltation of adjacent property, streets, storm sewers and waterways. In addition, Contractor shall place straw, mulch or other suitable material on ground in areas where construction related traffic is to enter and exit site. If, in the opinion of the Engineer and/or local authorities, excessive quantities of earth are transported off-site either by natural drainage or by vehicular traffic, the Contractor is to remove and clean said earth to the satisfaction of the Engineer and/or authorities.

CODE REFERENCE NOTE:

ALL CONSTRUCTION TO COMPLY WITH FLORIDA BUILDING CODE 5TH EDITION 2014, CHAPTER 5; NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) SERIES 70; AND NATIONAL ELECTRICAL CODE (NEC) 2011 EDITION

DEVELOPMENT WILL COMPLY WITH CITY OF TAMPA TREE & LANDSCAPE CODE CHAPTER 13, CHAPTER 22, LIFE SAFETY CODES, FIRE MARSHAL'S REGULATIONS AND ADA REQUIREMENTS.

THIS PROJECT SHALL BE DESIGNED TO MEET EXISTING FEDERAL, STATE AND LOCAL REGULATIONS FOR BUILDINGS, STRUCTURES AND OTHER AMENITIES TO PROVIDE HANDICAP ACCESSIBILITY ON SITE.

100% SUBMITTAL – 04/24/17

REVISIONS

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STATE OF FLORIDA

PROJECT
HOWARD F. CURREN
AWTP PARKING LOTS

DETAILS & NOTES

SHEET
C3.2

JOB NO.
15-021

ELECTRICAL SPECIFICATIONS:

SCOPE

A. THE WORK, APPARATUS AND MATERIALS WHICH SHALL BE FURNISHED UNDER THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS SHALL INCLUDE ALL ITEMS SPECIFIED HEREINAFTER AND SHOWN ON THE DRAWINGS. ALL OTHER MATERIALS NECESSARY FOR THE COMPLETE INSTALLATION SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR TO PROVIDE COMPLETE ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.

B. THE CONTRACTOR SHALL EXTEND THE SERVICE FROM THE POINT OF SERVICE ATTACHMENT FURNISHING ALL PROTECTIVE DEVICES, CONDUCTORS, SUPPORTS, RACEWAYS, ETC. TO PROVIDE COMPLETE INTERIOR ELECTRICAL SYSTEMS TO SERVE MOTOR LOADS, LIGHTING LOADS AND MISCELLANEOUS ELECTRICAL LOADS, AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREINAFTER. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF THE WORK AND MAKING ANY MINOR CONNECTION CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY AND NO SUBSTANDARD WORK WILL BE ACCEPTED.

C. VERIFY CONDITIONS AT THE FIELD PRIOR TO PRICING THE JOB. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH ALL DETAILS OF THE WORK AND EXISTING CONDITIONS.

CODES

A. THE WORK UNDER THE REQUIREMENTS OF THESE SPECIFICATIONS SHALL BE IN CONFORMANCE WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE. THE INSTALLATION SHALL ALSO COMPLY WITH ALL APPLICABLE RULES AND REGULATIONS OF LOCAL AND STATE LAWS AND ORDINANCES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
NFPA70 NATIONAL ELECTRIC CODE
NFPA72 NATIONAL FIRE ALARM CODE
NFPA780 LIGHTNING PROTECTION CODE
NFPA101 LIFE SAFETY CODE
NFPA110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS
5TH EDITION FLORIDA BUILDING CODE – BUILDING

B. PROVIDE ARC FLASH WARNINGS ON ELECTRICAL PANELS AND SWITCHBOARDS TO COMPLY WITH NEC 110.16

INTERFERENCES

A. THE PLANS ARE GENERALLY DIAGRAMMATIC AND THE CONTRACTOR SHALL COORDINATE THE WORK WITH THE DIFFERENT TRADES SO THAT INTERFERENCES BETWEEN CONDUITS, PIPING, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL WORK WILL BE AVOIDED. ALL NECESSARY OFFSETS IN RACEWAYS, FITTINGS, ETC. REQUIRED TO PROPERLY INSTALL THE WORK SHALL BE FURNISHED SO AS TO TAKE UP A MINIMUM SPACE, AND ALL MATERIALS REQUIRED TO ACCOMPLISH THIS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER. IN CASE INTERFERENCE DEVELOPS, THE OWNER'S AUTHORIZED REPRESENTATIVE WILL DECIDE WHICH EQUIPMENT, PIPING, ETC., MUST BE RELOCATED, REGARDLESS OF WHICH WAS INSTALLED FIRST.

MATERIALS

A. IN GENERAL, MATERIALS AND APPARATUS SHALL COMPLY WITH ALL APPLICABLE TESTS, RATINGS, SPECIFICATIONS, AND REQUIREMENTS OF THE IEEE AND NEMA AND SHALL BEAR THE APPROVED DEVICE LABEL OF THE UNDERWRITERS' LABORATORIES, INC.

B. ANY MATERIAL OR PRODUCT SPECIFIED HEREIN OR ON THE DRAWINGS BY MANUFACTURER AND CATALOG NUMBER AFTER WHICH THE TERM "OR EQUAL" DOES NOT APPEAR SHALL BE INTERPRETED AS LIMITING SUCH ITEMS BY A PREDETERMINED SELECTION AS STATED. IN SUCH INSTANCES NO SUBSTITUTIONS WILL BE ALLOWED. ANY MANUFACTURER AND CATALOG NUMBER FOLLOWED BY THE TERM "OR EQUAL" SHALL BE INTERPRETED TO MEAN EQUAL IN QUALITY, VALUE, AND INTEGRAL PROPERTIES AND SIMILAR IN APPEARANCE, DESIGN, AND FUNCTIONS. THE CONTRACTOR MAY IN THESE INSTANCES AFTER OBTAINING WRITTEN APPROVAL OF THE OWNER, SUBSTITUTE MATERIALS OR PRODUCTS OTHER THAN THE ONE NAMED.

C. THE CONTRACTOR SHALL SUBMIT A LIST OF PRINCIPAL MATERIAL ITEMS, GIVING MANUFACTURER'S NAMES AND CATALOG NUMBERS. APPROVAL OF THE LIST SHALL BE OBTAINED FROM THE OWNER BEFORE ORDERS ARE PLACED.

GUARANTEE

A. CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION. CONTRACTOR SHALL RECTIFY ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THEREFROM WITHIN SAID PERIOD. THE OWNER WILL GIVE NOTICE OF DEFECTS WITH REASONABLE PROMPTNESS.

IDENTIFICATION OF EQUIPMENT

A. IDENTIFICATION OF EQUIPMENT SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT INSTALLED BY THE CONTRACTOR. ENGRAVED LAMINATED PLASTIC NAMEPLATES SHALL BE PROVIDED AND IDENTIFICATION SHALL CLEARLY DESCRIBE THE EQUIPMENT AND FUNCTION. COORDINATE NAMES ABBREVIATIONS AND OTHER DESIGNATIONS USED IN ELECTRICAL IDENTIFICATION WORK WITH CORRESPONDING DESIGNATIONS SHOWN, SPECIFIED OR SCHEDULED. PROVIDE NUMBERS, LETTERS AND WORDING AS INDICATED OR IF NOT OTHERWISE INDICATED, AS RECOMMENDED BY MANUFACTURER OR AS REQUIRED FOR PROPER IDENTIFICATION AND MAINTENANCE OF ELECTRICAL SYSTEMS AND EQUIPMENT.

B. INSTALL LABEL TAGS ON ALL WIRE AND CABLE IN JUNCTION BOXES, WIREWAYS AND WIRING GUTTERS OF PANELS. TAGS SHALL IDENTIFY WIRE OR CABLE CIRCUIT NUMBER AND/OR EQUIPMENT SERVED AS SHOWN ON DRAWINGS.

C. ALL JUNCTION BOXES TO BE DESIGNATED WITH PERMANENT MARKER INDICATING PANELBOARD AND CIRCUIT NUMBERS OF BRANCH CIRCUIT WIRING CONTAINED WITHIN.

D. PROVIDE BRANCH CIRCUIT IDENTIFICATION FOR ALL NEW AND EXISTING DEVICES WITHIN TENANT SUITE. IDENTIFY ALL RECEPTACLES, FURNITURE FEEDS, POWER POLES, WALLS SWITCHES AND DISCONNECT SWITCHES WITH PANELBOARD AND CIRCUIT NUMBER. ATTACH TO COVERPLATE WITH DYMO TYPE LABEL (1/2" WIDE TAPE, CLEAR BACKING/BLACK LETTERS). TRACE EXISTING BRANCH CIRCUIT WIRING TO OBTAIN CURRENT AND ACCURATE INFORMATION. ALL LABELS TO BE APPLIED TO TOP OF DEVICE PLATE AND AFFIXED IN A CONSISTENT MANNER THROUGHOUT.
THE LABELING FORMAT SHALL BE TWO LINES: "PANEL XXX
CIRCUIT XX"

E. PANELBOARD DIRECTORIES SHALL BE UPDATED/TYPEWRITTEN WITH ACCURATE AND CURRENT INFORMATION BY THE CONTRACTOR AT THE END OF CONSTRUCTION. DIRECTORIES SHALL REFLECT EXISTING UNCHANGED AND NEW RECORD CONDITIONS AND INCLUDE CIRCUIT NUMBER, TYPE AND LOCATION OF LOAD.

RACEWAYS AND FITTINGS

A. CONDUITS RUN EXPOSED ON EXTERIOR OF THE BUILDING OR BELOW GRADE SHALL BE RIGID ALUMINUM CONDUIT. SCH 80 PVC CONDUIT IS ACCEPTABLE BELOW GRADE PROVIDED RIGID ALUMINUM CONDUIT ELBOWS AND RISERS ARE USED.

B. RACEWAYS:

EXPOSED OR CONCEALED IN WALLS OR ABOVE CEILINGS – RIGID ALUMINUM.

1. FOR INTERIOR CONNECTIONS TO MOTORS. TRANSFORMERS, AND VIBRATING EQUIPMENT – NONMETALLIC CONDUIT.

2. FOR CONNECTIONS TO MOTORS, ETC. EXPOSED TO WEATHER–SEALTIGHT.

C. ALL CONDUIT SHALL BE PROPERLY ALIGNED, GROUPED AND SUPPORTED. EXPOSED CONDUIT SHALL BE INSTALLED AT RIGHT ANGLES TO OR PARALLEL TO THE PRINCIPAL STRUCTURAL MEMBERS. PROVIDE SUPPORT A MINIMUM OF 18" FROM BENDS AND OUTLET BOXES AND ON INTERVALS NOT TO EXCEED 8'–0". CONDUIT IS NOT TO SPAN ANY SPACE UNSUPPORTED. ALL CONDUIT SHALL BE SUPPORTED FROM STRUCTURE AND NOT FROM CEILING SUPPORT SYSTEM.

D. PROVIDE NYLON PULL CORD AND LEAVE IN PLACE IN EACH EMPTY CONDUIT.

E. THIN WALL CONDUIT:

1. THIN WALL CONDUIT SHALL BE UNDERWRITERS' APPROVED RIGID ALUMINUM TUBING. COUPLINGS AND CONNECTORS FOR CONDUIT SHALL BE STEEL HEX–NUT SET SCREW TYPE FITTINGS.

F. FLEXIBLE NONMETALLIC CONDUIT (SIZE 2 INCH OR LESS):

1. ALL FLEXIBLE CONDUITS SIZE 2 INCH OR LESS IN NON–CLASSIFIED AREAS SHALL BE NONMETALLIC, LIQUIDTIGHT AND HAVE A CIRCULAR CROSS SECTION. THE CONDUIT SHALL BE RESISTANT TO OIL, WATER, HEAT, SUNLIGHT, CORROSION, MOST ACIDS, OZONE, ALKALI, STRAINS, ABRASIONS AND CRUSHING. THE CONDUIT SHALL BE RATED FOR CONTINUOUS USE AT 140°F AND BE U.L. INC. LISTED. COMPATIBLE LIQUIDTIGHT NONMETALLIC FITTINGS SHALL BE USED FOR CONDUIT INSTALLATION. THE FLEXIBLE CONDUIT AND FITTINGS SHALL BE AS MANUFACTURED BY CARLON, KELLEMS, K–FLEX OR EQUAL.

2. ALL FLEXIBLE CONDUITS GREATER THAN 2 INCH IN NON–CLASSIFIED AREAS SHALL BE METALLIC, LIQUIDTIGHT AND HAVE A CIRCULAR CROSS SECTION. THE CONDUIT SHALL BE OF A LIGHT–WEIGHT ALUMINUM CORE, COUPLED WITH A PVC JACKET. THE CONDUIT SHALL BE RESISTANT TO SUNLIGHT, ACID AND OIL. THE CONDUIT SHALL BE RATED FOR A WORKING TEMPERATURE BETWEEN –20°C TO 80°C AND U.L. INC. LISTED. COMPATIBLE LIQUIDTIGHT METALLIC FITTINGS SHALL BE USED FOR CONDUIT INSTALLATION. THE FLEXIBLE CONDUIT AND FITTINGS SHALL BE AS MANUFACTURED BY THOMAS & BETTS OR EQUAL.

G. RIGID ALUMINUM CONDUIT:

1. ALL CONDUIT SHALL COMPLY WITH THE REQUIREMENTS OF THE U.L. INC. STANDARDS. CONDUIT SHALL BE DELIVERED TO THE JOB SITE IN STANDARD BUNDLES HAVING EACH LENGTH SUITABLY MARKED WITH THE MANUFACTURER'S NAME OR TRADEMARK AND BEARING THE LABEL OF THE U.L. INC. INSPECTION SERVICE. THE MINIMUM SIZE CONDUIT SERVICE SHALL BE 3/4 INCH.

2. ALL EXPOSED CONDUIT WITHIN BUILDINGS AND EXPOSED ON OUTDOOR STRUCTURES SHALL BE RIGID HEAVY WALL, 6063 ALLOY, T–1 TEMPER, ALUMINUM CONDUIT. ALUMINUM CONDUIT SHALL CONFORM TO FED. SPEC. WW–C–540 AND ANSI C80.5.

3. ALL CONDUIT ENCASED IN BUILDING STRUCTURES, EXPOSED IN THE SCREEN ROOM/WET WELL AREA OR OTHERWISE NOTED, SHALL BE RIGID ALUMINUM COVERED WITH NOT LESS THAN 40 MILS OF PVC OUTSIDE AND 2 MILS OF URETHANE INSIDE, AS MANUFACTURED BY PLASTI–BOND, PERMA–COTE, KORKAP OR EQUAL. THE PHYSICAL PROPERTIES OF THE PVC AND URETHANE MATERIALS SHALL CONFORM TO THE APPLICABLE ASTM STANDARDS AND UL 6A.

4. CONDUIT FITTINGS, SUCH AS ELBOWS, TEES, COUPLINGS, CAPS, BUSHINGS, NIPPLES AND LOCKNUTS SHALL BE THREADED TO PROVIDE WATERTIGHT CONNECTIONS.

5. WHERE IT IS NECESSARY TO USE ELECTRICAL UNIONS, UNIVERSAL, ERIKSON OR EQUAL CONDUIT COUPLINGS SHALL BE USED.

BOXES

A. ALL BOXES SHALL BE RIGIDLY MOUNTED AND SHALL BE EQUIPPED WITH SUITABLE SCREW FASTENED COVERS. OPEN KNOCK–OUTS OR HOLES IN BOXES SHALL BE PLUGGED WITH A SUITABLE BLANKING DEVICE.

B. CAST ALUMINUM SHALL BE USED FOR OUTLET BOXES IN ALUMINUM CONDUIT SYSTEMS. OUTLET AND JUNCTION BOXES SHALL BE OF PROPER DIMENSIONS FOR EACH APPLICATION. CAST METAL BOXES SHALL HAVE WATERTIGHT GASKETS AND COVERS SECURED WITH NONFERROUS SCREWS. PVC COATED BOXES SHALL BE USED IN PVS COATED CONDUIT SYSTEMS.

C. INSTALL ELECTRICAL BOXES IN THOSE LOCATIONS WHICH ENSURE READY ACCESSIBILITY TO ENCLOSED ELECTRICAL WIRING. ALL EXISTING AND NEW JUNCTION BOXES WITHIN THE PROJECT AREA SHALL BE MADE ACCESSIBLE. RELOCATE EXISTING JUNCTION BOXES AS REQUIRED TO COMPLY WITH NEC, PROVIDE ACCESS PANELS OF ADEQUATE SIZE FOR ACCESSIBILITY.

CONDUCTORS

A. UNLESS OTHERWISE INDICATED, ALL BRANCH CIRCUIT CONDUCTORS SHALL BE NO. 12 AWG. BRANCH CIRCUITS RUN OVER 75 FEET IN LENGTH, MEASURING ONE WAY FROM THE FIRST OUTLET OF THE CIRCUIT TO THE PANEL, SHALL BE NO. 10 AWG FOR THE ENTIRE CIRCUIT

B. SPLICES, TAPS AND ATTACHMENT FITTINGS AND LUGS SHALL BE ELECTRICALLY AND MECHANICALLY SECURE AND SOLDERLESS FOR CONDUCTORS SIZES NO. 8 AWG AND LARGER. THERE SHALL BE PLENTY OF SLACK CABLE IN BOXES, OUTLETS AND CABINETS TO INSURE THAT THERE IS NO BINDING AT THE BUSHINGS. ALL LUGS SHALL BE OF THE CORRECT SIZES FOR THE CONDUCTORS JOINED AND IN NO CASE SHALL STRANDS BE CUT FROM A CONDUCTOR IN ORDER TO FIT THE CONDUCTOR INTO A LUG. TAPING OF JOINTS SHALL BE WITH VINYL PLASTIC ELECTRICAL TAPE TO SECURE INSULATION STRENGTH EQUAL TO THAT OF THE CONDUCTORS JOINED.

C. ALL CONDUCTORS SHALL BE STRANDED COPPER, CONDUCTOR INSULATION SHALL BE DUAL TYPE THHN/THWN 75°C. (167°F.) FOR DRY, DAMP & WET LOCATIONS. CONDUCTOR INSULATION WITH SINGLE TYPE MARKING THHN 90°C. (194°F.) MAY BE USED FOR DRY LOCATIONS ONLY. ALL CONDUCTORS SHALL BE COLOR CODED AS REQUIRED BY NEC AND FURTHER IDENTIFIED AND CODED AS SPECIFIED HEREINAFTER. COLOR CODING SHALL BE BY MEANS OF COLORED INSULATING MATERIAL, COLORED BRAID OR JACKET OVER THE INSULATION OR BY MEANS OF SUITABLE COLORED, PERMANENT, NON–AGING, INSULATING TAPE APPLIED TO CONDUCTORS AT EACH CABINET OR JUNCTION POINT. THE COLOR CODING SHALL BE ACCOMPLISHED AS THE CONDUCTORS ARE INSTALLED. THE FOLLOWING SYSTEMS OF COLOR CODING SHALL BE STRICTLY ADHERED TO:

1) GROUND LEADS: GREEN
2) 120/208 VOLT, GROUNDED NEUTRAL LEADS: WHITE
3) 277/480 VOLT, GROUNDED NEUTRAL LEADS: GRAY
4) 120/208 VOLT, UNGROUNDED PHASE WIRES: BLACK, RED AND BLUE
5) 277/480 VOLT, UNGROUNDED PHASE WIRES: BROWN, ORANGE AND YELLOW.

THE COLOR CODE ASSIGNED TO EACH PHASE WIRE SHALL BE CONSISTENTLY FOLLOWED THROUGHOUT.

NOTE: COLOR CODING OF CONDUCTORS ON NEW WORK SHOULD CONFORM TO ASSIGNED COLOR CODES REGARDLESS OF EXISTING WIRE COLORS. ADVISE ENGINEER (IN WRITING) OF COLOR CODING TO BE USED.

D. ALL WIRING IN CEILING SPACE OR IN AIR HANDLING PLENUMS NOT IN CONDUIT SHALL BE UL LISTED AS SUITABLE FOR PLENUM USE.

E. THE CONTRACTOR SHALL REMOVE ALL EXISTING WIRING AND EQUIPMENT MADE UNNECESSARY BY THE NEW INSTALLATION. ALL MATERIALS REMOVED AND NOT REUSED UNDER THIS PROJECT SHALL BE RETURNED TO BUILDING STOCK.

GROUNDING

A. THE INTERIOR ELECTRICAL SYSTEMS SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED BY THE NEC AND AS SPECIFIED HEREINAFTER.

B. ALL METALLIC RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY SECURE AT ALL JOINTS AND AT ALL BOXES, CABINETS, FITTINGS, AND EQUIPMENT. METALLIC RACEWAYS SHALL BE CONNECTED TO A DIRECT GROUND AT THE POINT OF ELECTRICAL SERVICE ENTRANCE AND SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT THE ENTIRE SYSTEM.

C. ALL GROUND CONDUCTORS SHALL BE INSULATED COPPER UNLESS OTHERWISE NOTED.

D. ALL RACEWAYS WITH NO. 10 OR 12 AWG PHASE CONDUCTORS FOR RECEPTACLES, LIGHTING FIXTURES AND SIMILAR CIRCUITS (NEW BRANCH CIRCUITS) SHALL BE PROVIDED WITH A PARITY SIZED GREEN EQUIPMENT GROUND CONDUCTOR. GROUND CONDUCTOR SHALL BE INSTALLED IN ENTIRE RACEWAY SYSTEM INCLUDING WALL SWITCHES AND FLEXIBLE CONDUIT TO LIGHT FIXTURES. EQUIPMENT GROUND CONDUCTOR SIZES FOR CIRCUITS WITH PHASE CONDUCTORS LARGER THAN NO. 12 AWG ARE INDICATED ON DRAWINGS. GROUND CONDUCTORS SHALL BE CONNECTED TO GROUND BUS IN PANELBOARDS.

E. TERMINATE FEEDER AND BRANCH CIRCUIT INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH GROUNDING LUG, BUS, OR BUSHING. CONDUCTORS LOOPED UNDER SCREW OR BOLT HEADS WILL NOT BE PERMITTED.

F. INSTALL CLAMP–ON CONNECTORS ON CLEAN METAL CONTACT SURFACES TO ENSURE ELECTRICAL CONDUCTIVITY AND CIRCUIT INTEGRITY.

G. PROVIDE A GROUNDING BUSHING AND A CONTINUOUS COPPER BONDING JUMPER FROM THE BUSHING TO THE EQUIPMENT GROUND BUS IN ALL FEEDERS. THE BONDING JUMPER SHALL BE THE SAME SIZE AS THE EQUIPMENT GROUND CONDUCTOR.

CIRCUIT PROTECTIVE DEVICES

A. GENERAL:

1. UNLESS OTHERWISE INDICATED, PROTECTIVE DEVICES SHALL BE MOUNTED WITH TOP OF CABINET OR ENCLOSURE 6'–6" ABOVE FINISHED FLOOR, SHALL BE PROPERLY ALIGNED, AND SHALL BE ADEQUATELY SUPPORTED INDEPENDENTLY OF THE CONNECTING RACEWAYS. ALL STEEL SHAPES, ETC., NECESSARY FOR THE SUPPORT OF THE EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. UNLESS OTHERWISE INDICATED, ALL BRANCH CIRCUIT PROTECTIVE DEVICES ENCLOSURES SHALL BE NEMA TYPE 1, GENERAL PURPOSE TYPE. CIRCUIT PROTECTIVE DEVICES INSTALLED OUTDOORS OR EXPOSED TO THE WEATHER SHALL HAVE WEATHERPROOF ENCLOSURES, NEMA TYPE 3R OR TYPE 4.

2. INSTALL DISCONNECT SWITCHES FOR USE WITH MOTOR–DRIVEN APPLIANCES, AND MOTORS AND CONTROLLERS WITHIN SIGHT OF CONTROLLER POSITION UNLESS OTHERWISE INDICATED.

3. SUBMIT MANUFACTURER'S DATA (MINIMUM 5 COPIES) ON CIRCUIT AND MOTOR DISCONNECT SWITCHES AND/OR MOTOR STARTERS. SUBMIT SHOP DRAWINGS IN BOOKLET FORM WITH SEPARATE SHEET FOR EACH DEVICE. PROVIDE EQUIPMENT IDENTIFICATION AS DESIGNATED ON PLANS FOR EACH SHOP DRAWING CUT SHEET SUBMITTED.

B. CIRCUIT BREAKERS:

1. CIRCUIT BREAKERS FOR MOUNTING IN EXISTING PANELBOARD SHALL BE MOLDED PLASTIC CASE, AIR CIRCUIT BREAKER TYPE. BREAKERS SHALL HAVE THERMAL MAGNETIC TRIP UNITS AND MULTI–POLE BREAKERS SHALL HAVE A COMMON TRIP BAR SO THAT THE TRIPPING OF ONE POLE WILL AUTOMATICALLY TRIP ALL POLES OF THE BREAKER. BREAKERS SHALL BE TRIP FREE AND TRIP INDICATING AND SHALL HAVE QUICK–MAKE, QUICK–BREAK CONTACTS.

ELECTRICAL SYMBOL LEGEND

SYMBOL	DESCRIPTION	MOUNTING
⌒	RACEWAY BELOW GRADE	SEE SPECIFICATIONS
EX	DENOTES EXISTING DEVICE OR CIRCUIT TO REMAIN	
N	DENOTES NEW DEVICE – MATCH EXISTING DEVICES UNLESS SPECIFICALLY NOTED OTHERWISE	

100% SUBMITTAL - 04/24/17

REVISIONS

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CARASTRO & ASSOCIATES, INC.
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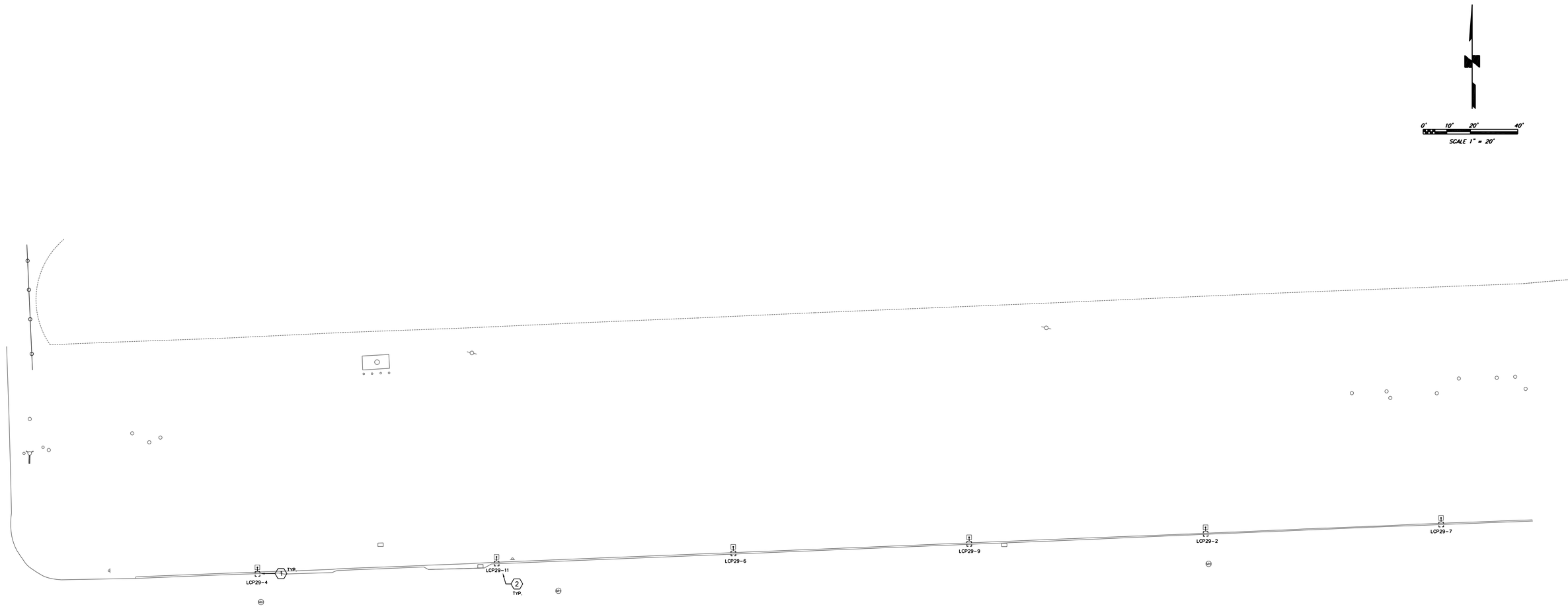
TELEPHONE: (813) 874–9494 WWW.CARASTRO.COM

FOR
CITY OF TAMPA
WASTEWATER DEPARTMENT
2700 MARITIME BOULEVARD
TAMPA, FLORIDA 33605

DRAWN BY: NJ DATE 4/24/17
DESIGN BY: NJ DATE 4/24/17
CHECKED BY: PC DATE 4/24/17
SCALE: 1"= 20'

PROJECT
HOWARD F. CURREN
AWTP PARKING LOTS

SHEET
E0.1
JOB NO.
15–021



NORTH PARKING LOT – LIGHTING DEMOLITION PLAN

SCALE: 1" = 20'-0"

DRAWING NOTES:

1. EXISTING POLE LIGHT, POLE AND POLE BASE TO BE REMOVED AND REPLACED WITH NEW. REUSE EXISTING BRANCH CIRCUIT WIRING TO SERVE NEW FIXTURE (TYPICAL).
2. DENOTES EXISTING BRANCH CIRCUIT (TYPICAL).

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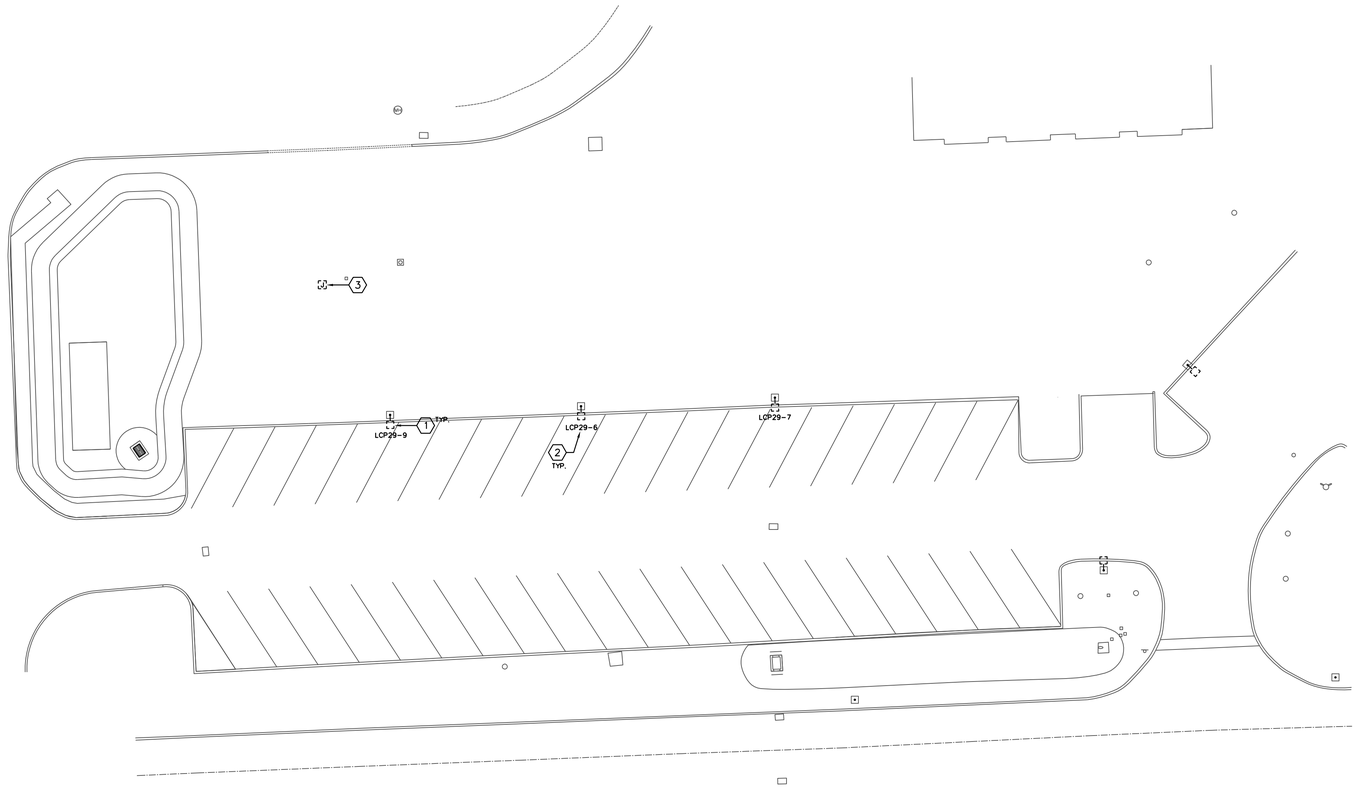
SHEET
E1.1

JOB NO.
15-021



0' 10' 20' 40'

SCALE 1" = 20'

SOUTH PARKING LOT – LIGHTING DEMOLITION PLAN

SCALE: 1" = 20'-0"

DRAWING NOTES:

1. EXISTING POLE LIGHT, POLE AND POLE BASE TO BE REMOVED AND REPLACED WITH NEW. EXISTING BRANCH CIRCUIT WIRING TO BE REUSED TO SERVE NEW FIXTURE (TYPICAL).
2. DENOTES EXISTING BRANCH CIRCUIT (TYPICAL).
3. EXISTING FLUSH IN-GRADE JUNCTION BOX TO BE REMOVED AND RELOCATED. EXTEND EXISTING BRANCH CIRCUIT WIRING AS REQUIRED TO RELOCATE TO NEW LOCATION SHOWN ON DRAWING E2.2.

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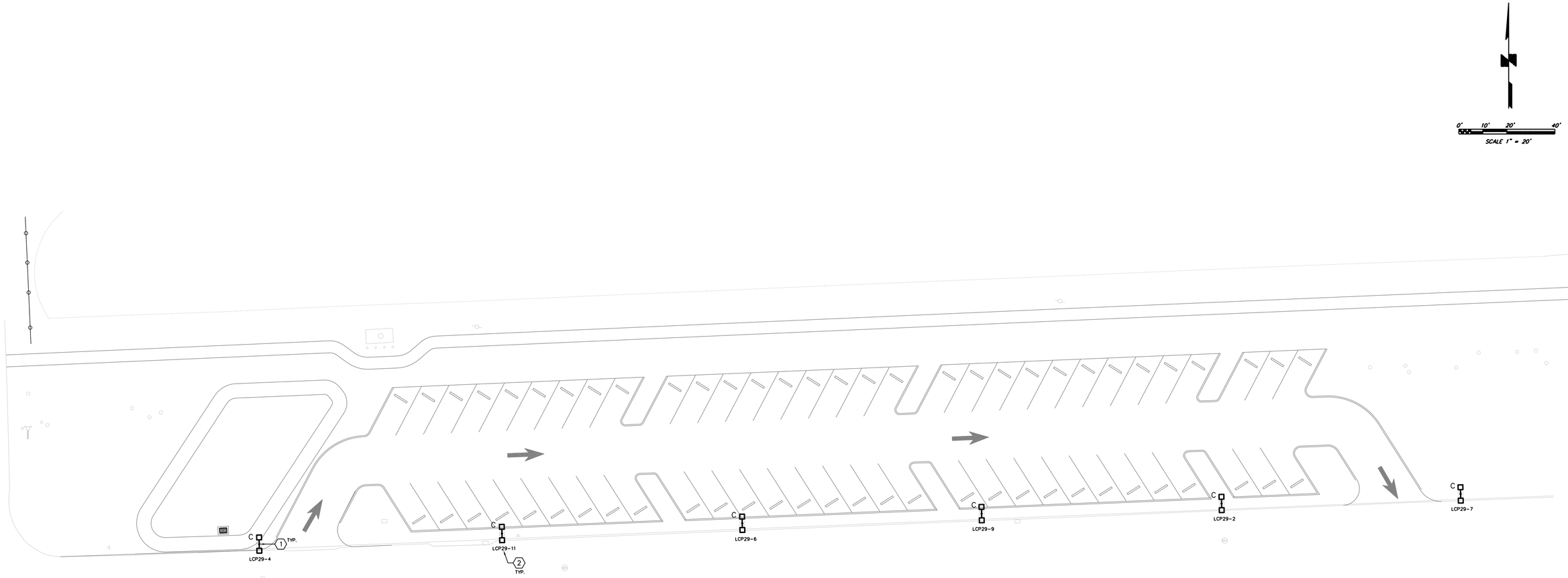
AWTP PARKING LOTS

SHEET
E1.2

JOB NO.
15-021



NORTH PARKING LOT – LIGHTING PLAN

SCALE: 1" = 20'-0"

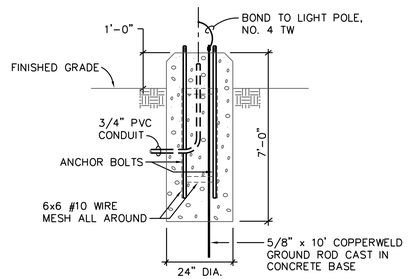
DRAWING NOTES:

1. FURNISH AND INSTALL NEW POLE LIGHT FIXTURE, POLE AND POLE BASE. REFER TO LIGHTING FIXTURE SCHEDULE ON THIS SHEET FOR FIXTURE AND POLE SPECIFICATIONS. REFER TO POLE BASE DETAIL THIS SHEET FOR POLE BASE REQUIREMENTS. RECONNECT NEW FIXTURE TO EXISTING BRANCH CIRCUIT WIRING AND CONTROL (TYPICAL).

2. DENOTES EXISTING BRANCH CIRCUIT (TYPICAL).

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	VOLTAGE	LAMPS	MOUNTING
A	POLE MOUNTED SITE LIGHT FIXTURE (1 HEAD) LITHONIA LIGHTING NO. KAD-LED-60C-1000-40K-R3-MVOLT-HS ROUND ALUMINUM POLE 30' AFG BRONZE COLOR 135 MPH WIND LOAD RATED HAPCO NO. RSA30D7-4-BM	MVOLT	216W, LED	POLE MOUNT SEE BASE DETAIL THIS SHEET.
B	POLE MOUNTED SITE LIGHT FIXTURES (2 HEADS) LITHONIA LIGHTING NO. KAD-LED-60C-1000-40K-R5-MVOLT ROUND ALUMINUM POLE 30' AFG BRONZE COLOR 135 MPH WIND LOAD RATED HAPCO NO. RSA30D7-4-BM	MVOLT	(2) 216W, LED	POLE MOUNT SEE BASE DETAIL THIS SHEET.
C	POLE MOUNTED SITE LIGHT FIXTURES (2 HEADS) LITHONIA LIGHTING NO. KAD-LED-60C-1000-40K-R4-MVOLT-HS ROUND ALUMINUM POLE 30' AFG BRONZE COLOR 135 MPH WIND LOAD RATED HAPCO NO. RSA30D7-4-BM	MVOLT	(2) 216W, LED	POLE MOUNT SEE BASE DETAIL THIS SHEET.



BASE DETAIL FOR POLE MOUNTED FIXTURES

NOT TO SCALE

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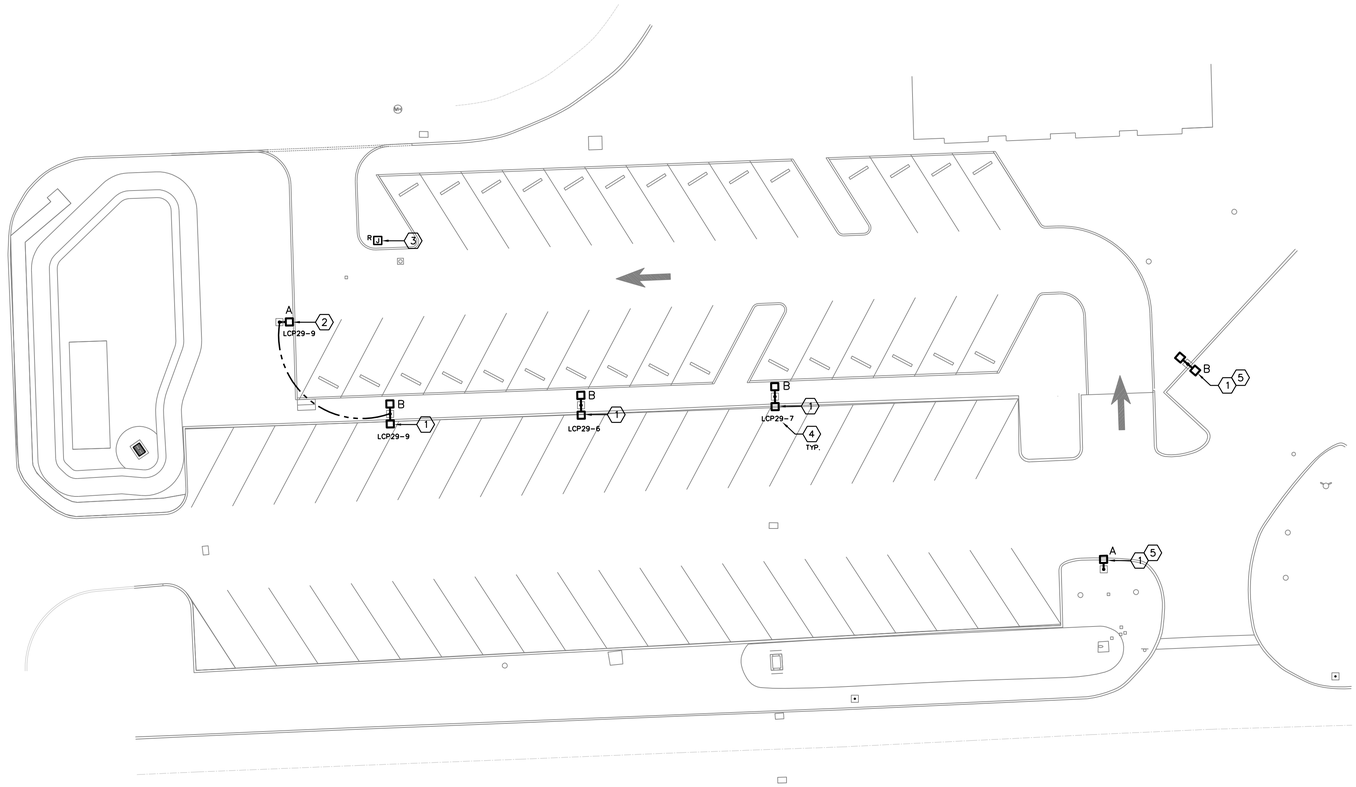
PROJECT
HOWARD F. CURREN AWTP PARKING LOTS

SHEET
E2.1

JOB NO.
15-021



SOUTH PARKING LOT – LIGHTING PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES:

1. REFER TO SHEET E2.1 FOR LIGHT FIXTURE SCHEDULE.

DRAWING NOTES:

1. FURNISH AND INSTALL NEW POLE LIGHT FIXTURE, POLE AND POLE BASE. REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET E2.1 FOR FIXTURE AND POLE SPECIFICATIONS. REFER TO POLE BASE DETAIL ON SHEET E2.1 FOR POLE BASE REQUIREMENTS. RECONNECT NEW FIXTURE TO EXISTING BRANCH CIRCUIT WIRING AND CONTROL.
2. FURNISH AND INSTALL NEW POLE LIGHT FIXTURE, POLE AND POLE BASE. REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET E2.1 FOR FIXTURE AND POLE SPECIFICATIONS. REFER TO POLE BASE DETAIL ON SHEET E2.1 FOR POLE BASE REQUIREMENTS. CONNECT TO EXISTING BRANCH CIRCUIT WIRING AND CONTROL SHOWN.
3. RELOCATED IN-GRADE JUNCTION BOX. EXTEND EXISTING BRANCH CIRCUIT WIRING AS REQUIRED TO RELOCATE TO NEW LOCATION SHOWN. REFER TO ELECTRICAL DEMOLITION PLAN ON DRAWING E1.2 FOR EXISTING LOCATION.
4. DENOTES EXISTING BRANCH CIRCUIT (TYPICAL).
5. TRACE OUT AND IDENTIFY EXISTING BRANCH CIRCUIT AT THIS LOCATION AND UPDATE AS-BUILT DRAWINGS ACCORDINGLY.

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PROJECT
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AWTP PARKING LOTS

SHEET
E2.2

JOB NO.
15-021

EXISTING

OPERATIONS AND MAINTENANCE ELEC. RM.

PANEL 'LCP29' CIRCUIT BREAKER TYPE 277/480 V., 3 PH., 4 W. 100A. MCB

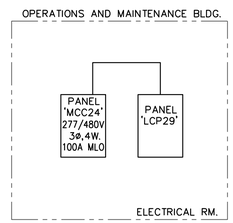
CKT. NO.	NO. OF POLES	TRIP AMPS	VOLT AMPS	LOAD		CKT. NO.	NO. OF POLES	TRIP AMPS	VOLT AMPS	LOAD	
1	1	30	--	WINDOW LIGHTS 107	EXISTING LOAD	**2**	**1**	**30**	**432**	**HIGH LEVEL STREET LIGHTING**	
3	1	30	--	WINDOW LIGHTS LAB BLDG.	EXISTING LOAD	**4**	**1**	**30**	**432**	**HIGH LEVEL STREET LIGHTING**	
5	1	30	--	OUTSIDE LIGHTS MECH. BLDG.	EXISTING LOAD	**6**	**1**	**30**	**864**	**HIGH LEVEL STREET LIGHTING**	
7	**1**	**30**	**1512**	**LOW LEVEL STREET LIGHTING**		8	1	30	--	SED TANK NORTH END	EXISTING LOAD
9	**1**	**30**	**1080**	**LOW LEVEL STREET LIGHTING**		10	1	30	--	SED TANK NORTH END	EXISTING LOAD
11	**1**	**30**	**432**	**LOW LEVEL STREET LIGHTING**		12	1	30	--	STREET LIGHTING	EXISTING LOAD
13	1	30	--	STREET LIGHTING	EXISTING LOAD	14	1	30	--	STREET LIGHTING	EXISTING LOAD
15	1	30	--	STREET LIGHTING	EXISTING LOAD	16	1	30	--	STREET LIGHTING	EXISTING LOAD
17	1	30	--	STREET LIGHTING	EXISTING LOAD	18	1	30	--	STREET LIGHTING	EXISTING LOAD
19	1	30	--	STREET LIGHTING	EXISTING LOAD	20	1	30	--	STREET LIGHTING	EXISTING LOAD
21	1	30	--	STREET LIGHTING	EXISTING LOAD	22	1	30	--	STREET LIGHTING	EXISTING LOAD
23	1	30	--	STREET LIGHTING	EXISTING LOAD	24	1	30	--	STREET LIGHTING	EXISTING LOAD
25	1	30	--	AREA LIGHT	EXISTING LOAD	26	1	--	--	SPACE	
27	1	30	--	SPARE		28	1	--	--	SPACE	
29	1	30	--	SPARE		30	1	--	--	SPACE	
31	1	--	--	SPACE		32	1	--	--	SPACE	

ALL NEW CIRCUIT BREAKERS TO MATCH AIC RATING OF EXISTING BREAKERS & SHALL BE OF SAME MANUFACTURER AS EXISTING PANEL.

NOTE: BRANCH CIRCUITS SHOWN BOLD ARE EXISTING BRANCH CIRCUITS ALTERED UNDER THIS PROJECT SCOPE.

LOAD SUMMARY

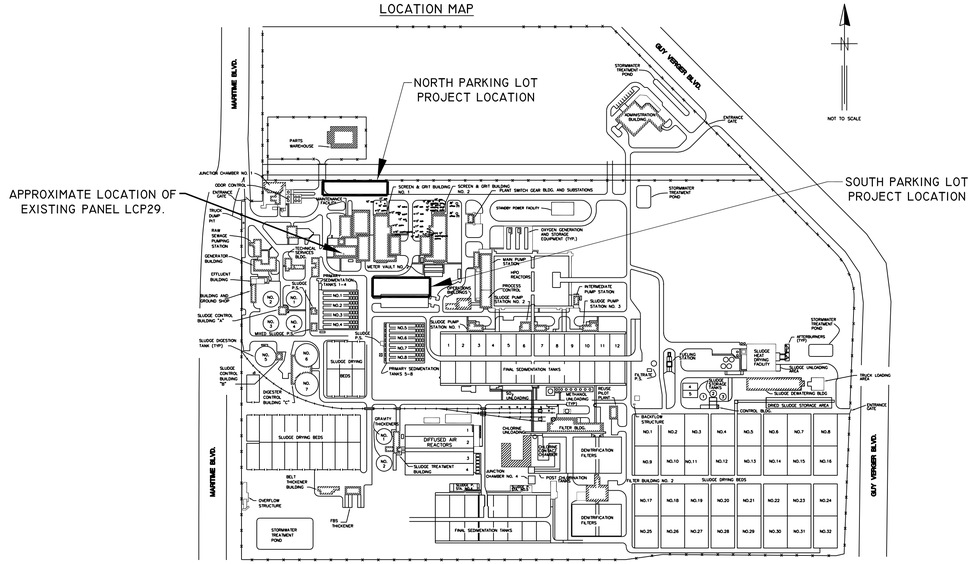
LOAD	CONNECTED KVA (ADD)
ESTIMATED LOAD REMOVED DURING DEMOLITION	<4.40>
LOAD ADDED PANEL LCP29	4.75
TOTAL CONNECTED LOAD NET ADDED	0.35



PARTIAL POWER ONE-LINE DIAGRAM

NOT TO SCALE

LOCATION MAP



SITE KEYPLAN

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PROJECT
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SHEET
E3.0

JOB NO.
15-021