

CONSTRUCTION DRAWINGS
FOR THE
**MORRIS BRIDGE REPUMP WEST GST
MODIFICATIONS**

SECTION 23, TOWNSHIP 27 SOUTH, RANGE 19 EAST
TAMPA, HILLSBOROUGH COUNTY, FLORIDA

PREPARED FOR
CITY OF TAMPA

City of Tampa Water Department
306 E. Jackson Street, 4N
Tampa, FL 33602



RE REISS ENGINEERING, INC.
CONSULTING ENGINEERS

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SUITE 180
TAMPA, FL 33607
CERTIFICATE OF AUTH. #8181
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Weston T. Haggen, P.E.
Florida P.E. No. 77777

ISSUED FOR BID

Elizabeth A. Broadway, P.E.

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(813) 251-9244 Fax (813) 251-9330

REI Project No. 0814



Elizabeth A. Broadway, P.E.
Florida P.E. No. 38558

Parent Sheet: Sect:0814TAMPAGST Rev/Plot by:JAY MILLER Rev on:10/19/2018 2:06 PM Individual File Path:GDT.DWG

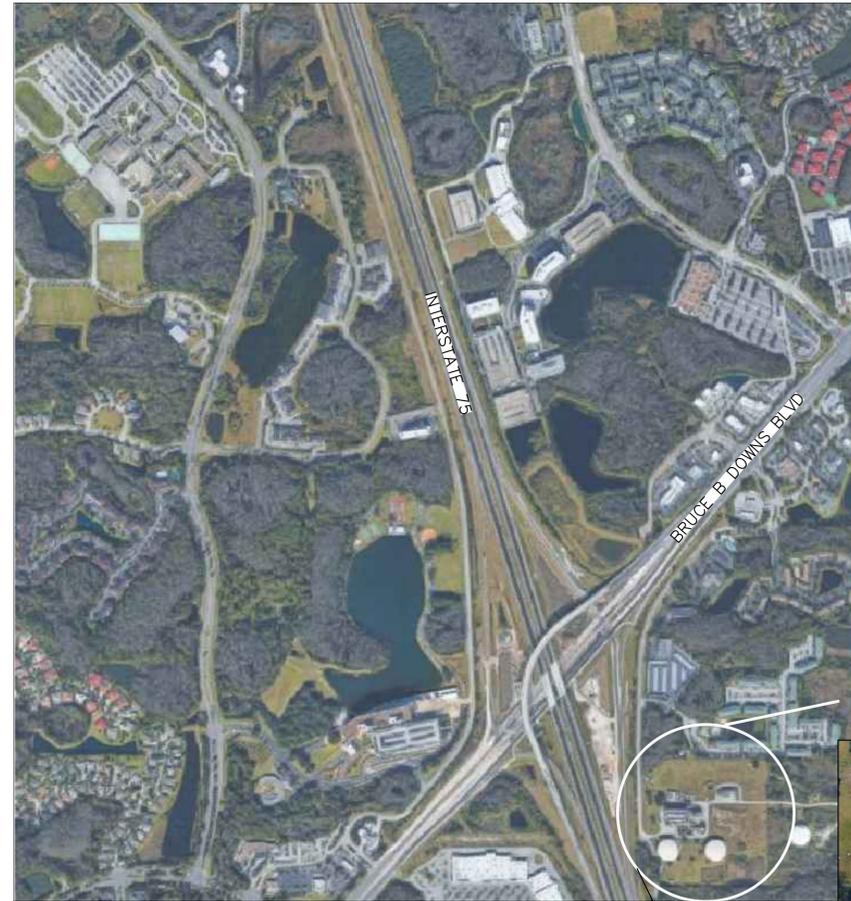
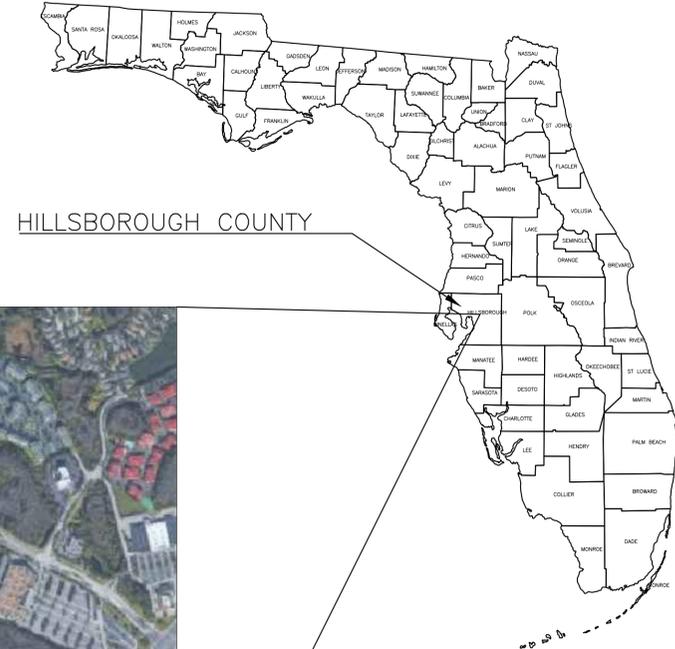
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GENERAL NOTES

- CONSTRUCTION ACTIVITIES SHALL NOT CAUSE INTERRUPTIONS TO FACILITY OPERATIONS WITH THE EXCEPTION OF WORK DESCRIBED IN SPECIFICATION SECTION 01015-SEQUENCE OF CONSTRUCTION.
- ONLY TAMPA WATER DEPARTMENT STAFF SHALL OPERATE ALL EXISTING VALVES, PUMPS, ELECTRICAL EQUIPMENT OR OTHER FACILITY EQUIPMENT. THE CONTRACTOR SHALL COORDINATE EQUIPMENT AND VALVE OPERATIONS WITH THE DEPARTMENT STAFF.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN TO THE BEST INFORMATION AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) AFFECTING THIS WORK.
- CONTRACTOR SHALL CONFORM TO 2017 FLORIDA BUILDING CODE, SIXTH EDITION.



LOCATION MAP



MORRIS BRIDGE PUMP
STATION SITE
17101 DONA MICHELLE DRIVE
LAT: 28 07 08.56 N LONG:
82 22 16.07 W



DRAWING INDEX

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| SHEET # | DWG NO. | DESCRIPTION |
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| PHOTOS | | |
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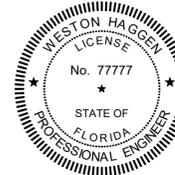
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Drawn RLL/PAH
Checked TSE
Reviewed GWD
Approved WTH

1" = 1" AT FULL SIZE

CITY OF TAMPA
MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS

GENERAL
GENERAL NOTES, DRAWING INDEX, LOCATION MAP

PROJECT NO.:
0814

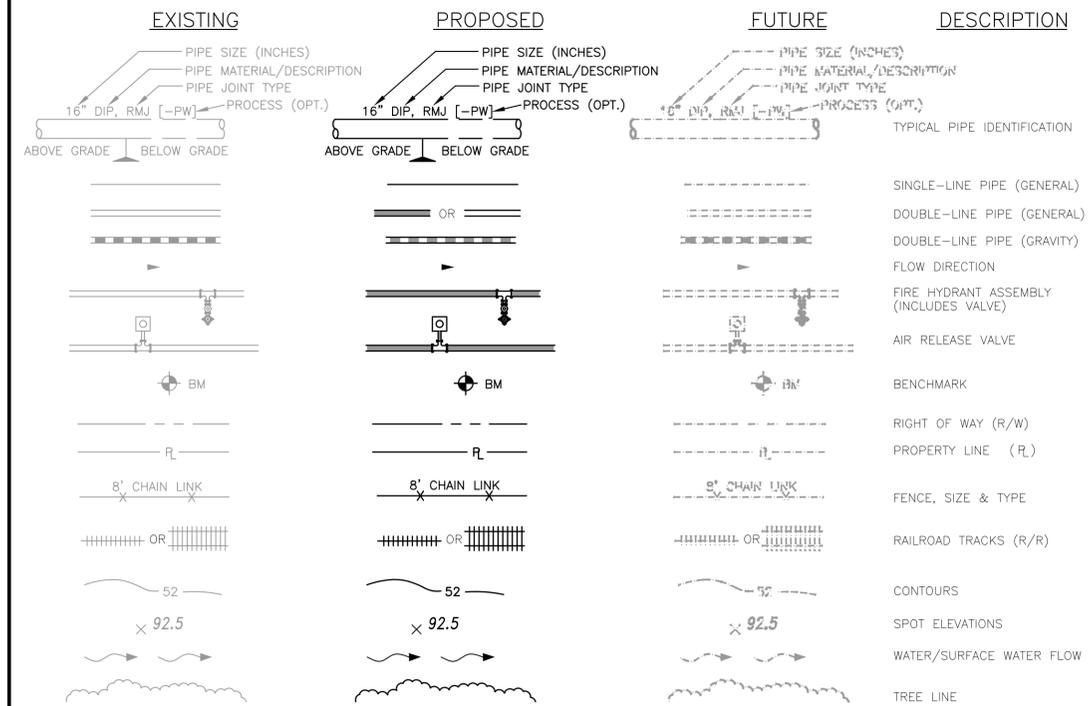
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REVISION: 0

DRAWING NO.: G02
SHEET NO.: 02 OF 12

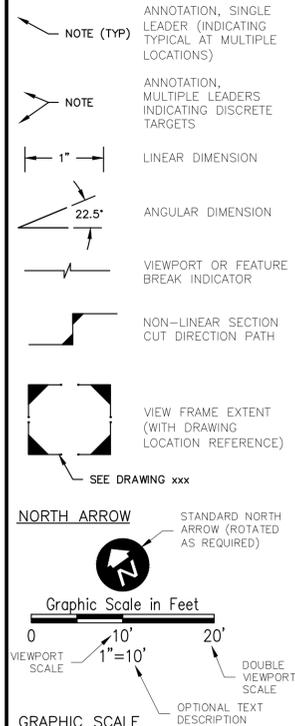


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CIVIL SYMBOLS LEGEND



DRAFTING LEGEND



STANDARD ABBREVIATIONS

| | | | | | | | |
|--|---|--|--|---|--|---|--|
| (A)ARV A/C A/VV AAV ABAN ABFV ABRSV ABS AB-xx ACOMP | (AUTOMATIC) AIR RELEASE VALVE AIR CONDITIONING AIR/VACUUM AIR VALVE AUTOMATIC AIR VENT ABANDON(ED) ACTUATED BUTTERFLY VALVE ABRASIVE ACRYLONITRILE BUTADIENE STYRENE AUGER BORING (e.g. AB-1) ASPHALT-COATED CORRUGATED METAL PIPE | EGO EJ EL(EV) ELAST ELL EMER EOP EPDM | ELEVATED GEAR OPERATOR EXPANSION JOINT ELEVATION ELASTOMERIC ELBOW EMERGENCY EDGE OF PAVEMENT ETHYLENE PROPYLENE DIENE MONOMER EQUIPMENT ESTIMATE(D) ELECTRIC VALVE ACTUATOR EXISTING EXPANSION EXTERIOR FACE TO FACE FABRICATE(D) FLEXIBLE COUPLING FLANGED COUPLING ADAPTER FLOW-CONTROL VALVE FLOOR DRAIN FIBER(O) EFFLUENT FINISH FLOOR FIRE HYDRANT FIGURE FINISH(ED) FLUORIDE FLEXIBLE FLANGE(D) FLOOR FORCE MAIN FIBER OPTIC (LINE)(CONDUIT) FEET PER MINUTE FEET PER SECOND FIBERGLASS REINFORCED PLASTIC FOOT OR FEET FOOT VALVE FINISHED WATER GAUGE GALLON(S) GALVANIZED GAC BACKWASH GALVANIZED IRON PIPE GROOVE JOINT GROUND GEAR OPERATED GALLONS PER DAY GALLONS PER HOUR GALLONS PER MINUTE GALLONS PER SECOND GRADE GALVANIZED STEEL GALVANIZED STEEL PIPE GROUND STORAGE RESERVOIR GROUND STORAGE TANK GATE VALVE HOSE BIBB HEAVY-DUTY HORIZ. DIRECTIONAL DRILL HIGH-DENSITY POLYETHYLENE HYDROFLUOSILICIC ACID HARNESSED FLANGED COUPLING ADAPTER HORIZONTAL HORSEPOWER HIGH PRESSURE AIR HOUR HIGH SERVICE PUMP HEIGHT HYDRAULIC VALVE ACTUATOR HEATING, VENTILATION, AND AIR CONDITIONING HOT WATER HIGH WATER LEVEL HYDRAULIC INSIDE DIAMETER INCH(ES) INTERNAL RECYCLE IRRIGATION WATER JUNCTION BOX JOINT KNIFE GATE VALVE LEFT LABORATORY LAMINATE OR LAMINATION LATERAL POUND(S) LENGTH LINEAR FEET LINEAR HIGH-DENSITY POLYETHYLENE LIME SLURRY LIME STABILIZED SLUDGE LOW WATER LEVEL MAINTAIN OR MAINTENANCE MANUAL(LY) MAXIMUM MOTOR CONTROL CENTER MITERED END (SECTION) MECHANICAL MICROFILTRATION MANUFACTURE(R) MILLION GALLONS MILLION GALLONS PER DAY MANHOLE MILE(S) MINIMUM MISCELLANEOUS MECHANICAL JOINT | ML MPH MRPP MTD MV MW MWL N N.C. N.I.C. N.O. N/A NaOCl NE NF NIC NO., # NOM NPT NFW NFS NTS,N.T.S. NW O&M O.C. O/E O/O O2 OD OF OFF OH OP OPER OPP OPT OVF P/L PA PBV PC PE PEP PERM PG PGL PJM PUB PVC PVC-D PVDF PVMT PW Q QTY R,RT R/W, R.O.W. RAD., R. RADIUS RAS RAW RCB RCP RCRPA RCW REBAR RED REW REF REINF REJ REQ'D REW RJ RMJ RNG RO ROC RPM RPZBP RR RS RW RWW S S.F. S.I. S.O. S.STL S.Y. SA SAN SB-xx SCH SCV SD | MIXED LIQUOR MILES PER HOUR METAL REINFORCED PLASTIC PIPE MOUNTED MOTORIZED VALVE MANWAY MEAN WATER LEVEL NORTH(ING) NORMALLY CLOSED NOT IN CONTRACT NORMALLY OPEN NOT APPLICABLE SODIUM HYPOCHLORITE NORTHEAST NANO FILTRATION NOT IN CONTRACT NUMBER NOMINAL NATIONAL PIPE TAPER NON-POTABLE WATER NOT SHOWN FOR CLARITY NOT TO SCALE NORTHWEST OPERATION AND MAINTENANCE ON CENTERS OR EQUAL OUTSIDE TO OUTSIDE OXYGEN OUTSIDE DIAMETER OUTSIDE FACE OFFSET OVER HEAD ORIFICE PLATE OPERATOR OPPOSITE OPTION(AL) OVERFLOW PROCESSED AIR PROJECT AIR PLASTIC BALL VALVE POINT OF CURVE PLAIN END POLYETHYLENE PIPE PERMEATE PRESSURE GAUGE PROPOSED GRADE LINE PUSH-ON JOINT PROCESS MECHANICAL PINCH VALVE POINT OF BEGINNING POINT OF INTERSECTION PUSH-ON JOINT POLYMER POUNDS PER DAY PARTS PER MILLION PREFABRICATED PRESSURE PROPOSED PRESSURE REDUCING VALVE PROCESS WATER POUNDS PER SQUARE FOOT POUNDS PER SQUARE INCH POINT OF TANGENCY PLUG VALVE POLYVINYL CHLORIDE POLYVINYLCHLORIDE (DOUBLE CONTAINED) POLYNYLIDENE FLUORIDE (KYNAR) PAVEMENT POTABLE WATER FLOW QUANTITY RIGHT R/W, R.O.W. RADIUS RETURN ACTIVATED SLUDGE RAW WATER REINFORCED CONCRETE BOX REINFORCED CONCRETE PIPE REINFORCED CONCRETE PIPE ARCH RECLAIMED WATER REINFORCING STEEL REDUCER REUSE EFFLUENT WATER REFERENCE REINFORCE(D)(ING)(MENT) RO REJECT REQUIRED RETURN EFFLUENT WATER RESTRAINED JOINT (BELL) RESTRAINED MECHANICAL JOINT RANGE REVERSE OSMOSIS RADIUS OF CURVATURE REVOLUTIONS PER MINUTE REDUCED PRESSURE ZONE BACKFLOW PREVENTER RAILROAD RAW SEWAGE RECLAIMED WATER RAW WASTEWATER SOUTH SQUARE FOOT SQUARE INCH SIDE OPERATED STAINLESS STEEL SQUARE YARD SAMPLE LINE SANITARY SOIL BORING (e.g. SB-1) SCHEDULE SILENT CHECK VALVE STORM DRAIN | SDR SE SEC SEFF SF SFT SIM SL SLV SOL SM SOL SPT SPEC(S) SPT-xx | STANDARD DIMENSION RATIO SOUTHEAST SECTION SECONDARY EFFLUENT SQUARE FOOT OR FEET SHEET(ED)(ING) SIMILAR SLUDGE SLEEVE SHEET METAL SOLUTION SOIL PIPE SPECIFICATION(S) STANDARD PENETRATION TEST BORING (e.g. SPT-1) SQUARE SANITARY SEWER SUBSTANDARD EFFLUENT SAMPLE TAP STATION STANDARD STEEL STORM WATER STRAIGHT SUPER NATANT SOLENOID VALVE SERVICE SERVICE WATER SOUTHWEST SIDEWATER DEPTH SYMBOL SYMMETRICAL TOP AND BOTTOM TOP OF CONCRETE TOP OF SLAB TAPPING SLEEVE TAPPING VALVE TANGENT TEMPORARY BENCH MARK TEST BORING-xx (e.g. TB-1) TOTAL DYNAMIC HEAD TELEPHONE TEMPORARY TEST HOLE THREAD(ED) THICK(NESS) TIED JOINT TOB TOC TOE OF SLOPE TS TV TWP TYP UD UG UGE UON UTC UTIL UV VAC VARIES VB VC VCP VEL VERT VFD VOL VTR W W.L. W.P. W/ W/O WAS WCO WF WH WM WPR WSP WT WTF WTP WW WWF WWW WTF WTFP TRANSFER XLHDP YD YH YR |
|--|---|--|--|---|--|---|--|

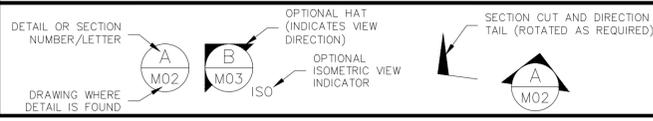
PROCESS PIPING LEGEND (SINGLE-LINE, PLAN VIEW)

| EXISTING | PROPOSED | FUTURE | DESCRIPTION |
|----------|----------|--------|--|
| | | | UNCLASSIFIED, TYPE AS SHOWN ON DRAWINGS ADJACENT TO SYMBOL |
| | | | FLOW METER |
| | | | UNION |
| | | | PRESSURE CONTROL VALVE |
| | | | GATE VALVE |
| | | | KNIFE GATE VALVE |
| | | | BALL VALVE (SHOWN N.C.) |
| | | | DIAPHRAGM VALVE |
| | | | BUTTERFLY VALVE |
| | | | PLUG VALVE |
| | | | CHECK VALVE, GENERAL SYMBOL |
| | | | FLAP VALVE |
| | | | SHEAR GATE |
| | | | FLOW CONTROL VALVE |
| | | | BACKFLOW PREVENTER |
| | | | ELECTRIC MOTOR ACTUATOR |
| | | | SOLENOID ACTUATOR |
| | | | REDUCER OR REDUCING BUSHING |
| | | | WYE-STRAINER |
| | | | PIPE COUPLING, GENERAL SYMBOL |
| | | | FLEXIBLE COUPLING |
| | | | PIPE DOWN |
| | | | PIPE CROSSING (NO CONNECTION) |
| | | | PUMPS (TYPE AS IDENTIFIED) |

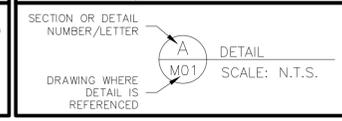
PROCESS PIPING LEGEND (DOUBLE-LINE OR 3D, PLAN VIEW)

| EXISTING | PROPOSED | FUTURE (UON) | DESCRIPTION |
|----------|----------|--------------|---|
| | | | MECHANICAL JOINT FITTINGS |
| | | | FLANGED FITTINGS |
| | | | SOLVENT WELD FITTINGS |
| | | | BALL VALVE (SOLVENT WELD SHOWN) |
| | | | GATE VALVE (FLANGED SHOWN) |
| | | | PLUG VALVE (FLANGED SHOWN) |
| | | | BUTTERFLY VALVE (FLANGED SHOWN, WHEEL OPERATED) |
| | | | BUTTERFLY VALVE (WAFER, LEVER OPERATED) |
| | | | GLOBE CHECK VALVE (FLANGED SHOWN) |
| | | | SWING CHECK VALVE (FLANGED SHOWN) |
| | | | PIPE COUPLING |
| | | | EXPANSION JOINT, FLANGED |
| | | | FLOW CONTROL VALVE (FLANGED SHOWN) |
| | | | MAGNETIC FLOW METER (FLANGED SHOWN) |
| | | | PROPELLER FLOW METER (FLANGED SHOWN) |
| | | | V-CONE FLOW METER (FLANGED SHOWN) |
| | | | VENTURI FLOW METER (FLANGED SHOWN) |

DETAIL OR SECTION REFERENCE



SUBTITLE (SECTION OR DETAIL)



NOTE: THIS LEGEND IS FOR GENERAL REFERENCE. NOT ALL ABBREVIATIONS, SYMBOLS, PROCESSES, MATERIALS, OR FITTINGS MAY BE USED IN THIS DESIGN, NOR IS THIS LEGEND COMPREHENSIVE. REFER TO INDIVIDUAL DRAWING LEGEND(S) IF SYMBOLS ARE NOT LISTED. INDIVIDUAL DISCIPLINE STANDARD LEGENDS SUPERCEDE THIS GENERAL LEGEND, IF PROVIDED.

Parent Sheet Set:0814:TAMPAGST Rev on:10/19/2018 12:24 PM Individual File Path:G03.DWG Rev/Plot by:JAY MILLER



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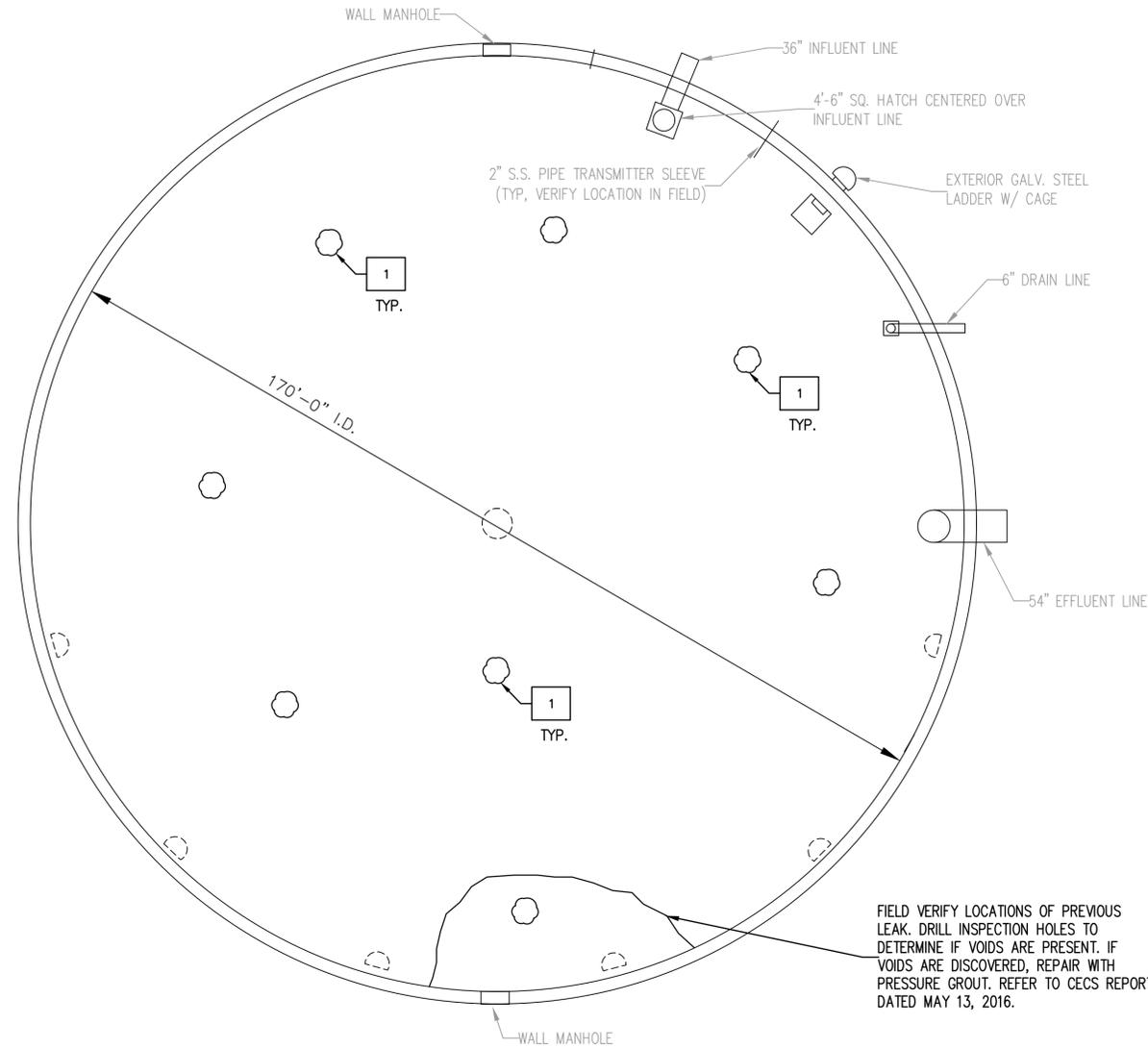
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 Checked TSE
 Reviewed GWD
 Approved WTH

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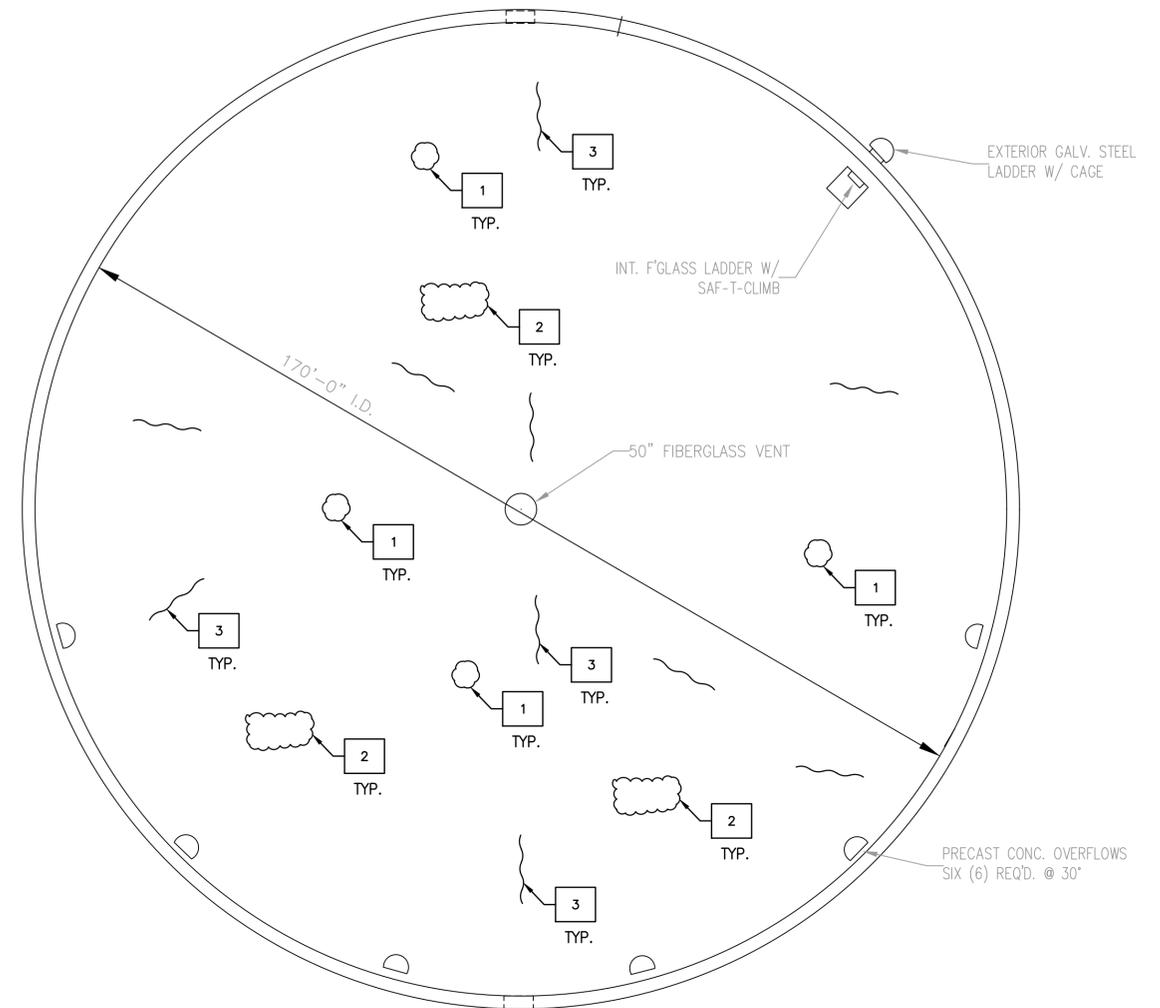
CITY OF TAMPA
 MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS
 GENERAL

PROJECT NO.: 0814
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 DRAWING NO.: G03
 SHEET NO.: 03 OF 12

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1 GROUND STORAGE TANK – INTERIOR CONCRETE FLOOR PLAN
 S01 SCALE: 1/16" = 1'-0"



2 GROUND STORAGE TANK – INTERIOR REFLECTED DOME PLAN
 S01 SCALE: 1/16" = 1'-0"

KEY NOTES

- 1 AREAS REQUIRING PATCHING – SEE CONCRETE PATCHING NOTES
- 2 AREAS REQUIRING RESTORATION – SEE CONCRETE RESTORATION NOTES
- 3 CRACKS REQUIRING REPAIR – SEE CRACK REPAIR NOTES
- 4 AREAS REQUIRING GROUT – SEE GROUT NOTES

NOTES:

1. REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY AND DO NOT REPRESENT ACTUAL LOCATIONS AND QUANTITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL TYPES OF REPAIRS, LOCATIONS AND QUANTITIES.

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 Drawn DEG
 Checked EAB
 Reviewed WITH
 Approved EAB

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CITY OF TAMPA
 MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS
 STRUCTURAL
 STORAGE TANK STRUCTURAL REPAIR PLAN

PROJECT NO.: 0814
 SCALE: NOTED REVISION: 0
 DRAWING NO. S01 SHEET NO.: 04 OF 12

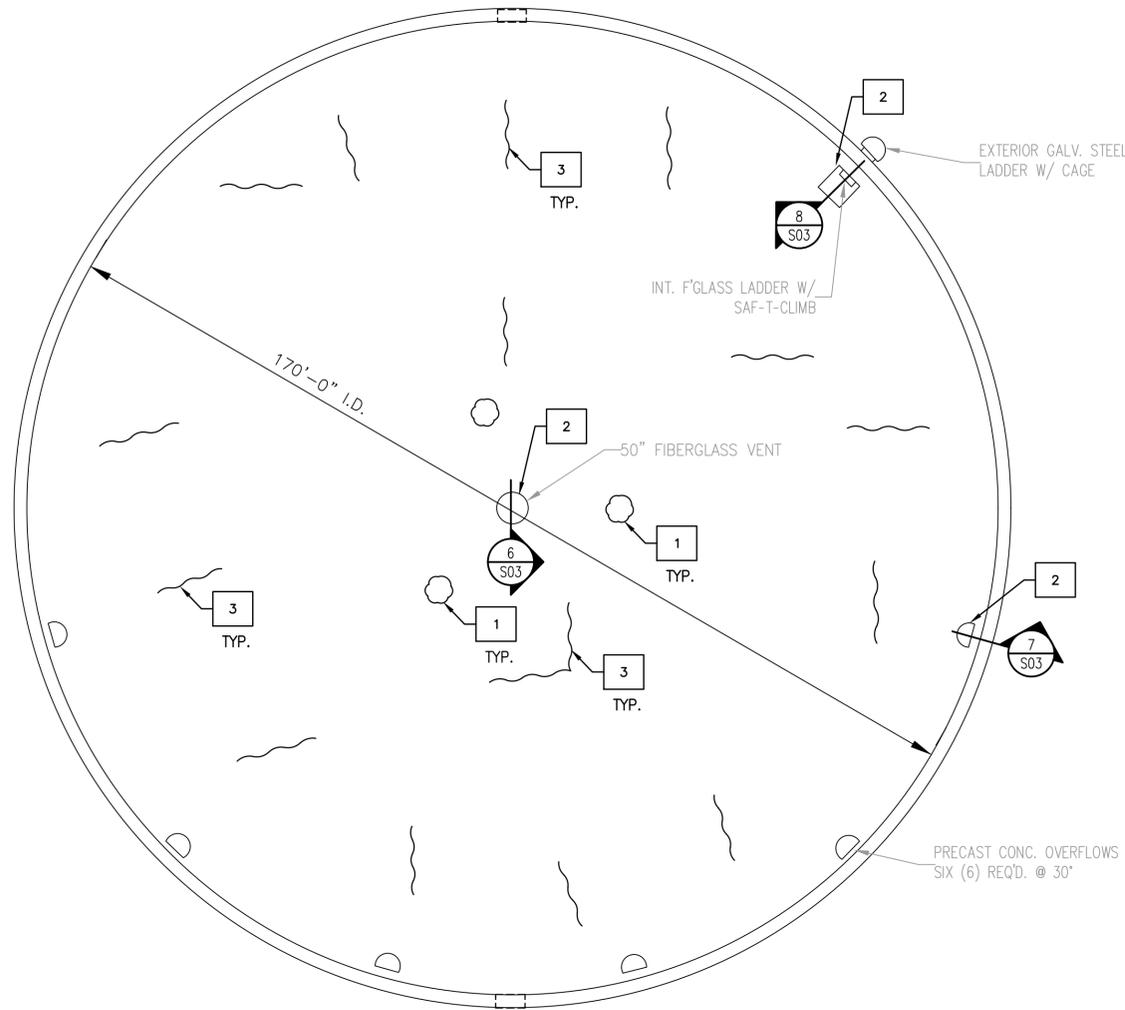


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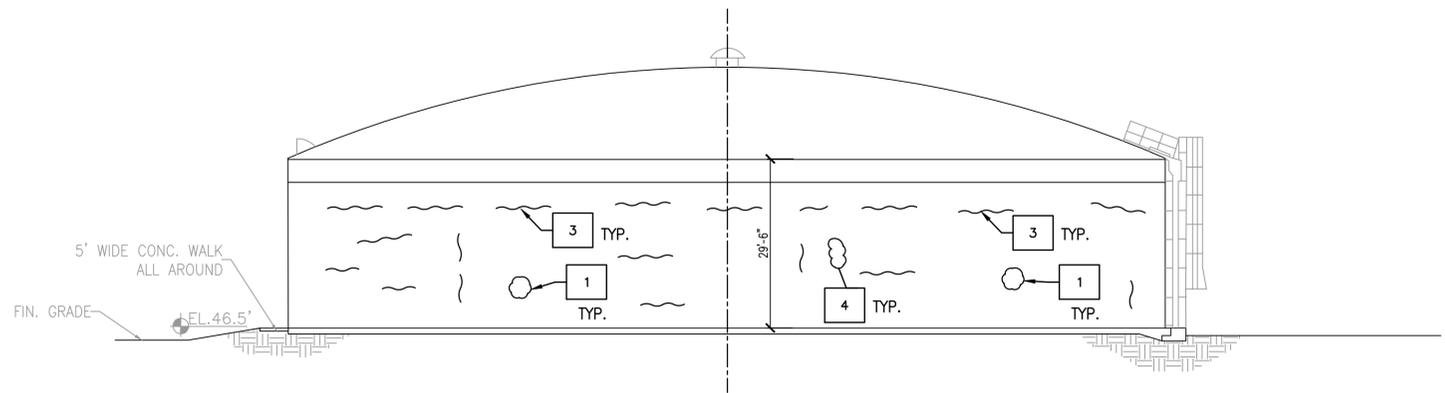
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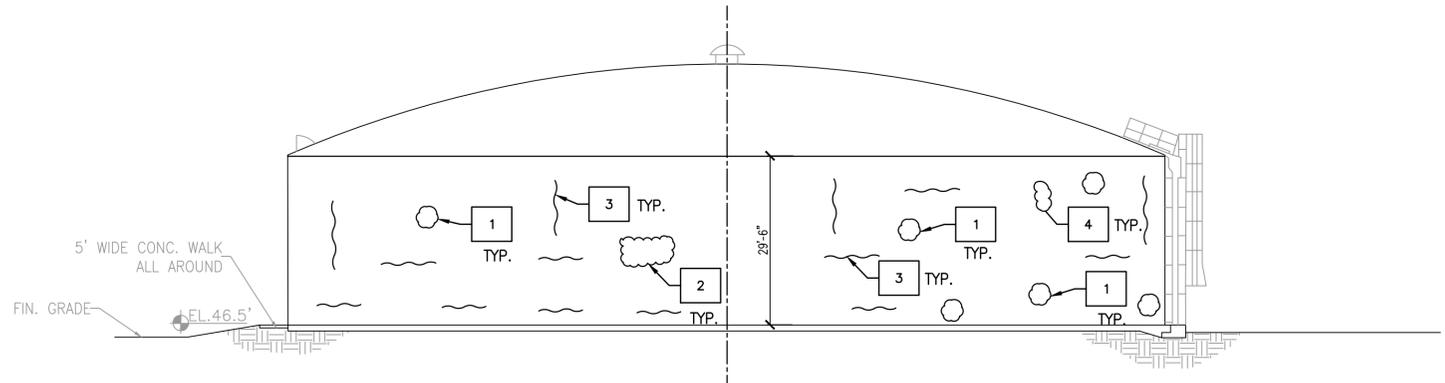
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3 GROUND STORAGE TANK – EXTERIOR DOME PLAN
S02 SCALE: 1/16" = 1'-0"



4 GROUND STORAGE TANK – TYPICAL EXTERIOR SIDE ELEVATION
S02 SCALE: 1/16" = 1'-0"



5 GROUND STORAGE TANK – TYPICAL INTERIOR ELEVATION
S02 SCALE: 1/16" = 1'-0"

KEY NOTES

- 1** AREAS REQUIRING PATCHING – SEE CONCRETE PATCHING NOTES
- 2** AREAS REQUIRING RESTORATION – SEE CONCRETE RESTORATION NOTES
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- 4** AREAS REQUIRING GROUT – SEE GROUT NOTES

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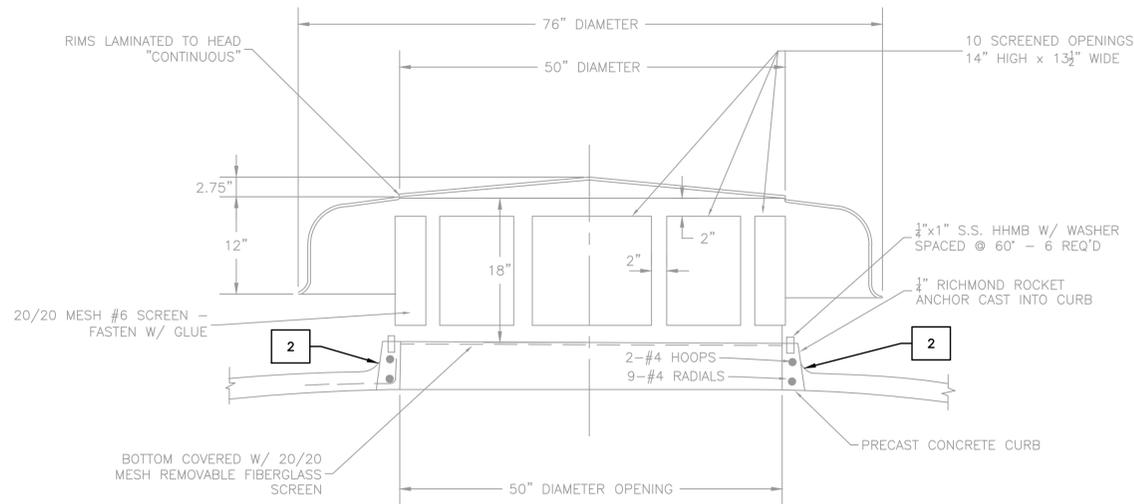
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| Designed | EAB |
| Drawn | DEG |
| Checked | EAB |
| Reviewed | WTH |
| Approved | EAB |

CITY OF TAMPA
MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS
STRUCTURAL
STORAGE TANK STRUCTURAL PLAN & ELEVATIONS

| | |
|--------------|----------|
| PROJECT NO.: | 0814 |
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| REVISION: | 0 |
| DRAWING NO.: | S02 |
| SHEET NO.: | 05 OF 12 |

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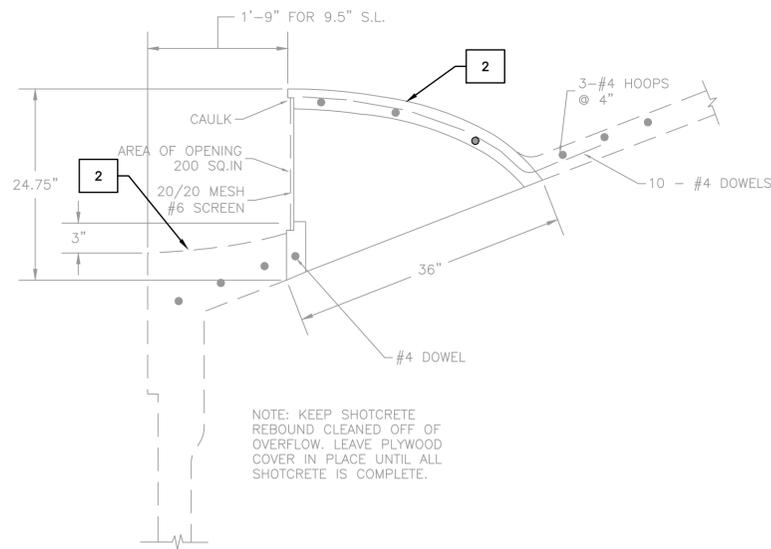
6 CENTER VENT DETAIL
S03 SCALE: N.T.S.

KEY NOTES

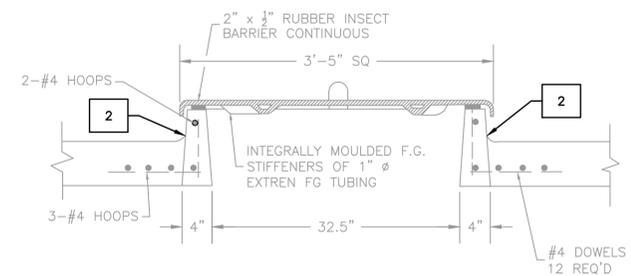
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7 OVERFLOW DETAIL
S03 SCALE: N.T.S.



8 ACCESS HATCH DETAIL
S03 SCALE: N.T.S.

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Checked EAB
Reviewed WTH
Approved EAB

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CITY OF TAMPA
MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS

STRUCTURAL
STORAGE TANK STRUCTURAL DETAILS

PROJECT NO.: 0814

SCALE: NOTED REVISION: 0

DRAWING NO. S03 SHEET NO.: 06 OF 12



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GENERAL NOTES

GENERAL

- 1.- ALL DRAWINGS SHALL BE USED IN CONJUNCTION WITH EACH OTHER TO COORDINATE WITH MECHANICAL, ELECTRICAL, PLUMBING AND SITE PLANS.
- 2.- CHECK ALL SHOP DRAWINGS FOR SLEEVES, DEPRESSIONS, AND PLUMBING DETAILS NOT SHOWN ON THESE DRAWINGS.
- 3.- AS A MINIMUM, CONSTRUCTION SHALL COMPLY WITH CITY OF TAMPA, THE 2014 (5TH ED.) FLORIDA BUILDING CODE, AND LATEST ACI SPECIFICATIONS.
- 4.- ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL IS SHOWN.
- 5.- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. DO NOT SCALE THE DRAWINGS. FOLLOW WRITTEN DIMENSIONS ONLY. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- 6.- ALL EXISTING STRUCTURES NOT DESIGNED BY BROADWAY ENGINEERING ARE ASSUMED TO BE ADEQUATE AND NOT THE RESPONSIBILITY OF BROADWAY ENGINEERING.
- 7.- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MINIMIZE DAMAGE TO EXISTING STRUCTURES. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT NO EXTRA COST TO OWNER.
- 8.- MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, AND SAFETY PRECAUTIONS ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- 9.- FIELD VERIFY EXISTING CONDITIONS, DIMENSIONS, SIZE, VOLTAGE, AND LOCATION OF UTILITIES PRIOR TO NEW OR REMODELING WORK.
- 10.- DEVIATIONS FROM DRAWINGS SHALL BE APPROVED BY THE ENGINEER.
- 11.- INFORM ENGINEER OF CONSTRUCTION CONFLICTS FOUND AMONG TRADES FOR ANY REQUIRED CHANGES FROM THESE DRAWINGS.
- 12.- REFER TO "TANK INSPECTION REPORT" PREPARED BY CROM ENGINEERING & CONSTRUCTION SERVICES, DATED MAY 13, 2016, FOR ADDITIONAL INFORMATION.

SHOP DRAWING REVIEW

- 1.- SHOP DRAWINGS SHALL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY.
- 2.- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC.
- 3.- IN ALL INSTANCES, THE CONTRACT DOCUMENTS SHALL GOVERN THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER.

FORMWORK (IF REQUIRED)

- 1.- FORMWORK, SHORING, AND BRACING FOR ALL CONCRETE BEAMS, SLABS, COLUMNS, AND WALLS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH ACI 347, "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".

REINFORCING STEEL (IF REQUIRED)

- 1.- REBAR SHALL BE ASTM A615 GRADE 60 DEFORMED BARS, FREE FROM OIL, SCALE, AND RUST.
- 2.- REINFORCING BARS SHALL BE PLACED IN ACCORDANCE WITH THE TYPICAL BENDING DIAGRAM AND PLACING DETAILS OF THE ACI STANDARDS AND SPECIFICATIONS.
- 3.- HORIZONTAL AND VERTICAL BARS SHALL LAP A MINIMUM OF 5 X BAR NO. = INCHES, (40 BAR DIAMETERS) UNLESS OTHERWISE NOTED.

WELDED WIRE MESH FIBERS (IF REQUIRED)

- 1.- WELDED WIRE MESH IF USED, SHALL BE ASTM A185, GRADE 65, FREE FROM OIL, SCALE, AND RUST.
- 2.- WIRE MESH SHALL BE PLACED IN ACCORDANCE WITH ACI DETAILS.
- 3.- MINIMUM WIRE MESH LAP SHALL BE ONE WIRE SPACE PLUS TWO INCHES.

CONCRETE PATCHING

- 1.- CONCRETE PATCHING SHALL BE PERFORMED AT LOCATIONS THAT ARE DEFINED AS AREAS OF CONCRETE ON THE FLOOR, WALLS, OR DOME, INTERIOR OR EXTERIOR, THAT ARE CHIPPED OR SPALLED WITHOUT EXPOSED REBAR OR WIRE MESH.
- 2.- CONCRETE RESTORATION PRODUCT SHALL BE MASTEREMACO N424 AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 3.- BONDING AGENT FOR CONCRETE SHALL BE LIQUID EPOXY SUCH AS MASTEREMACO ADH 326 AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 4.- SURFACES TO BE REPAIRED SHALL BE PREPARED IN ACCORDANCE WITH CONCRETE RESTORATION PRODUCT MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. SAW CUT THE PERIMETER OF THE AREA BEING REPAIRED INTO A SQUARE OR RECTANGLE WITH A MINIMUM DEPTH OF 1/4".
 - B. THE SURFACE MUST BE CLEAN AND FREE OF ALL DUST, DIRT, OR GREASE.
- 5.- BONDING AGENT SHALL BE APPLIED TO CONCRETE PRIOR TO PATCHING IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 6.- CONCRETE RESTORATION PRODUCT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 7.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 8.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED WITHIN THE TEMPERATURE RANGE RECOMMENDED BY THE MANUFACTURER. FOLLOW ACI 305 AND 306 IF PRODUCT WILL BE APPLIED OUTSIDE OF THE MANUFACTURER'S RECOMMENDED TEMPERATURE RANGE.
- 9.- ALLOW CONCRETE RESTORATION PRODUCT TO CURE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS PRIOR TO SANDING, COATING, OR PAINTING.

CONCRETE RESTORATION

- 1.- CONCRETE RESTORATION SHALL BE PERFORMED AT LOCATIONS THAT ARE DEFINED AS AREAS OF CONCRETE ON THE FLOOR, WALLS, OR DOME, INTERIOR OR EXTERIOR, THAT ARE CHIPPED OR SPALLED AND HAVE EXPOSED REBAR OR WIRE MESH.
- 2.- CONCRETE RESTORATION PRODUCT SHALL BE MASTEREMACO N424 AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 3.- PRIMER FOR STEEL REINFORCEMENT SHALL BE ONE-COMPONENT ZINC-RICH EPOXY SUCH AS MASTERPROTECT P8100AP AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 4.- BONDING AGENT FOR CONCRETE SHALL BE LIQUID EPOXY SUCH AS MASTEREMACO ADH 326 AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 5.- SURFACES TO BE REPAIRED SHALL BE PREPARED IN ACCORDANCE WITH CONCRETE RESTORATION PRODUCT AND PRIMER MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. SAW CUT THE PERIMETER OF THE AREA BEING REPAIRED INTO A SQUARE OR RECTANGLE WITH A MINIMUM DEPTH OF 1/4".
 - B. FULLY EXPOSE ANY CORRODED STEEL IN THE REPAIR AREA.
 - C. REMOVE ALL LOOSE SCALE AND CORROSION DEPOSITS, PAYING PARTICULAR ATTENTION TO THE BACK OF EXPOSED STEEL.
 - D. MECHANICALLY ABRASE ALL EXPOSED STEEL TO REMOVE CORROSION FROM PITS AND IMPERFECTIONS WITHIN THE SURFACE.
 - E. THE SURFACE MUST BE CLEAN AND FREE OF ALL DUST, DIRT, RUST, OR GREASE.
- 6.- PRIMER SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 7.- PRIMER SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 8.- PRIMER SHALL BE ALLOWED TO COMPLETELY DRY PRIOR TO APPLYING CONCRETE RESTORATION PRODUCT.
- 9.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED TO EXPOSED STEEL WITHIN 7 DAYS OF THE PRIMER APPLICATION.
- 10.- BONDING AGENT SHALL BE APPLIED TO CONCRETE PRIOR TO PATCHING IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 11.- CONCRETE RESTORATION PRODUCT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

- 12.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 13.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED WITHIN THE TEMPERATURE RANGE RECOMMENDED BY THE MANUFACTURER. FOLLOW ACI 305 AND 306 IF PRODUCT WILL BE APPLIED OUTSIDE OF THE MANUFACTURER'S RECOMMENDED TEMPERATURE RANGE.
- 14.- ALLOW CONCRETE RESTORATION PRODUCT TO CURE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS PRIOR TO SANDING, COATING, OR PAINTING.

CRACK REPAIR

- 1.- CRACK REPAIR SHALL BE PERFORMED AT LOCATIONS THAT ARE DEFINED AS AREAS OF CONCRETE ON THE FLOOR, WALLS, OR DOME, INTERIOR OR EXTERIOR, THAT ARE CRACKED LESS THAN 1/4" WIDE WITHOUT EXPOSED REBAR OR WIRE MESH.
- 2.- EPOXY CAULK SHALL BE SIKADUR AS MANUFACTURED BY SIKA OR APPROVED EQUAL.
- 3.- SURFACES TO BE REPAIRED SHALL BE PREPARED IN ACCORDANCE WITH CAULK MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. ROUT ALL CRACKS TO A SMOOTH EVEN FINISH.
 - B. THE SURFACE MUST BE CLEAN AND FREE OF ALL DUST, DIRT, OR GREASE.
- 4.- CAULK SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5.- CAULK SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 6.- ALLOW CAULK TO CURE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS PRIOR TO COATING OR PAINTING.

GROUT

- 1.- GROUTING SHALL BE PERFORMED AT LOCATIONS THAT ARE DEFINED AS AREAS OF CONCRETE ON THE WALLS THAT HAVE VOIDS WHERE THE SHOTCRETE HAS DELAMINATED.
- 2.- EPOXY GROUT SHALL BE MASTERFLOW 647 AS MANUFACTURED BY BASF OR APPROVED EQUAL.
- 3.- SURFACES TO BE REPAIRED SHALL BE PREPARED IN ACCORDANCE WITH GROUT MANUFACTURER'S RECOMMENDATIONS AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
 - A. THE CONCRETE MUST BE AS CLEAN, SOUND, AND AS OIL- AND WATER-FREE AS POSSIBLE.
- 4.- GROUT SHALL BE MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5.- GROUT SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 6.- CONCRETE RESTORATION PRODUCT SHALL BE APPLIED WITHIN THE TEMPERATURE RANGE RECOMMENDED BY THE MANUFACTURER.
- 7.- ALLOW GROUT TO CURE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

Parent Sheet Set:0814:TAMPACST Rev/Plot by:JAY MILLER Rev on:10/19/2018 12:57 PM Individual File Path:S04.DWG

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 1335 W. Cass Street
 Tampa, Florida 33606 813-251-9244
 Fax 813-251-9330 Bus. Email: info@broadway-eng.com
Civil Email: cborn@broadway-eng.com
BE-4621 Certificate of Authorization No. 4599



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CITY OF TAMPA
 MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS

STORAGE TANK STRUCTURAL GENERAL NOTES

PROJECT NO.: 0814

SCALE: NOTED REVISION: 0

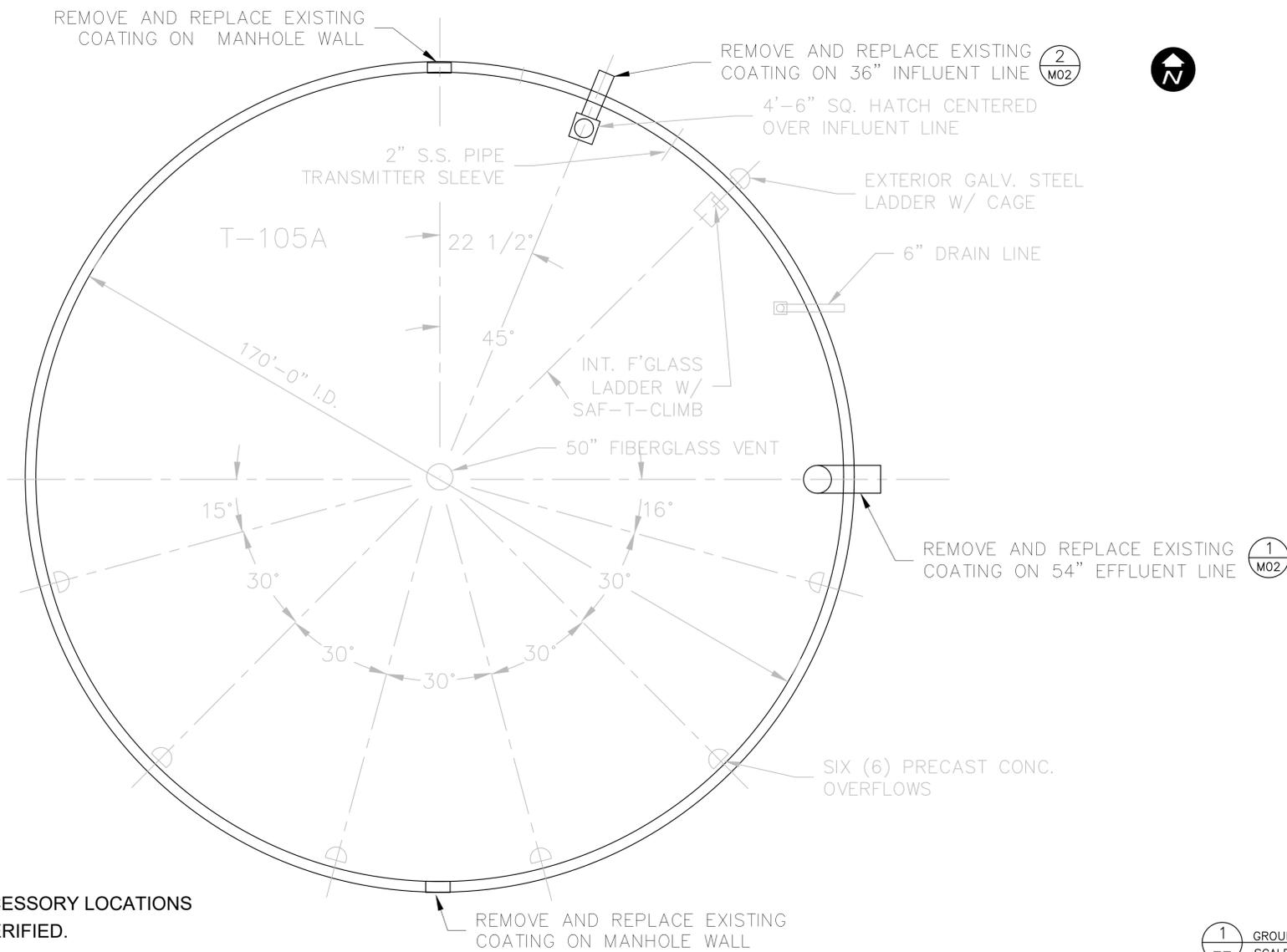
DRAWING NO. S04 SHEET NO.: 07 OF 12



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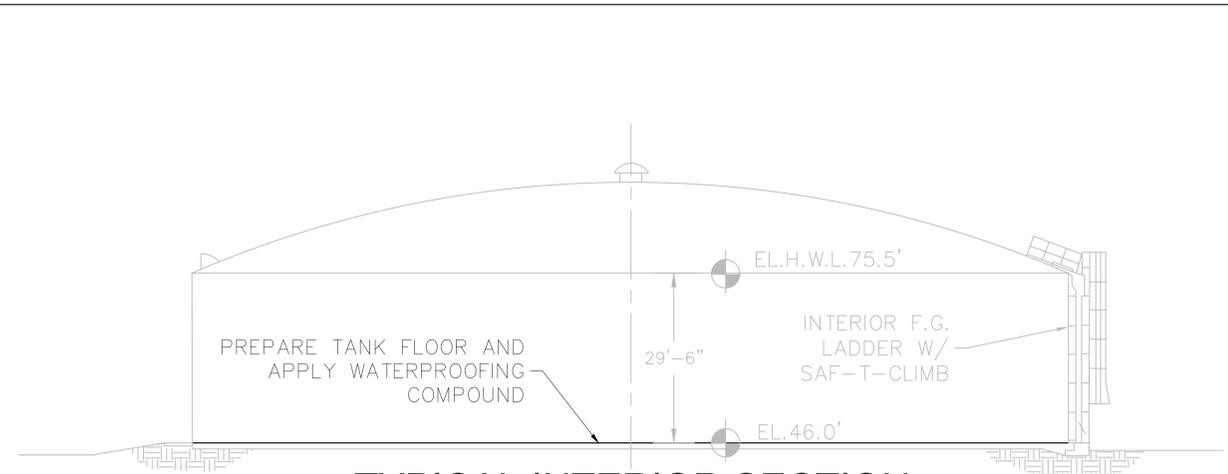
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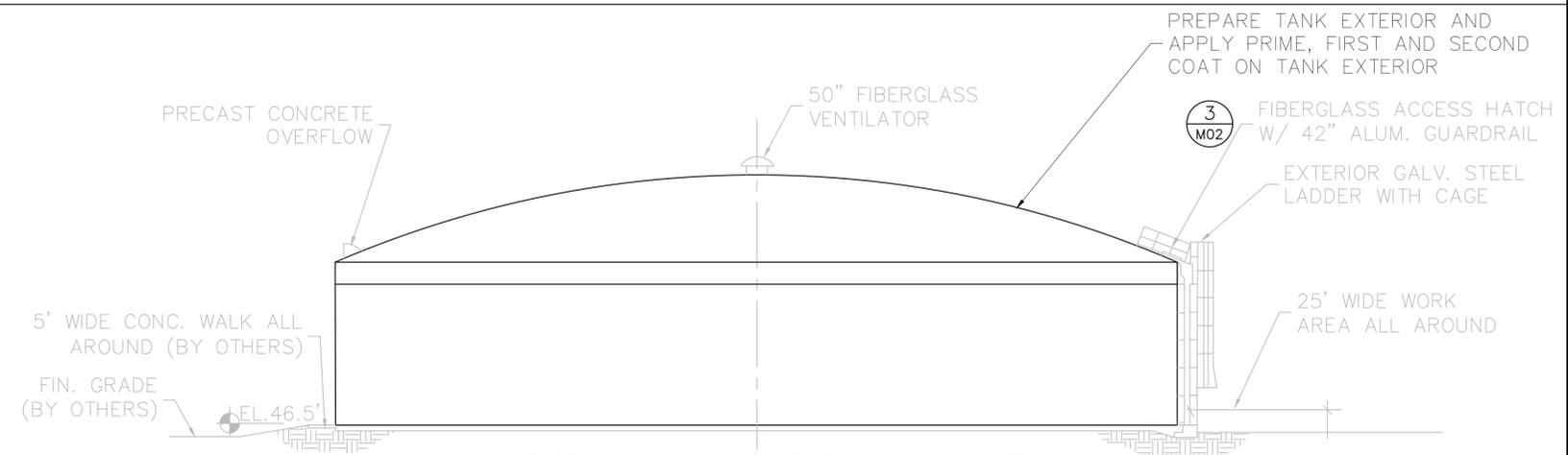
NOTES:
1. SEE SPECIFICATIONS FOR COATING MANUFACTURES AND COATINGS REQUIREMENTS.

NOTE: ALL PIPE & ACCESSORY LOCATIONS TO BE FIELD VERIFIED.

1 GROUND STORAGE TANK - PLAN
SCALE: 3/4" = 1'-0"



TYPICAL INTERIOR SECTION



TYPICAL EXTERIOR ELEVATION

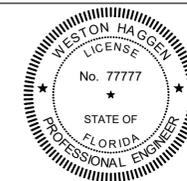
2 GROUND STORAGE TANK - SECTION
SCALE: 3/4" = 1'-0"



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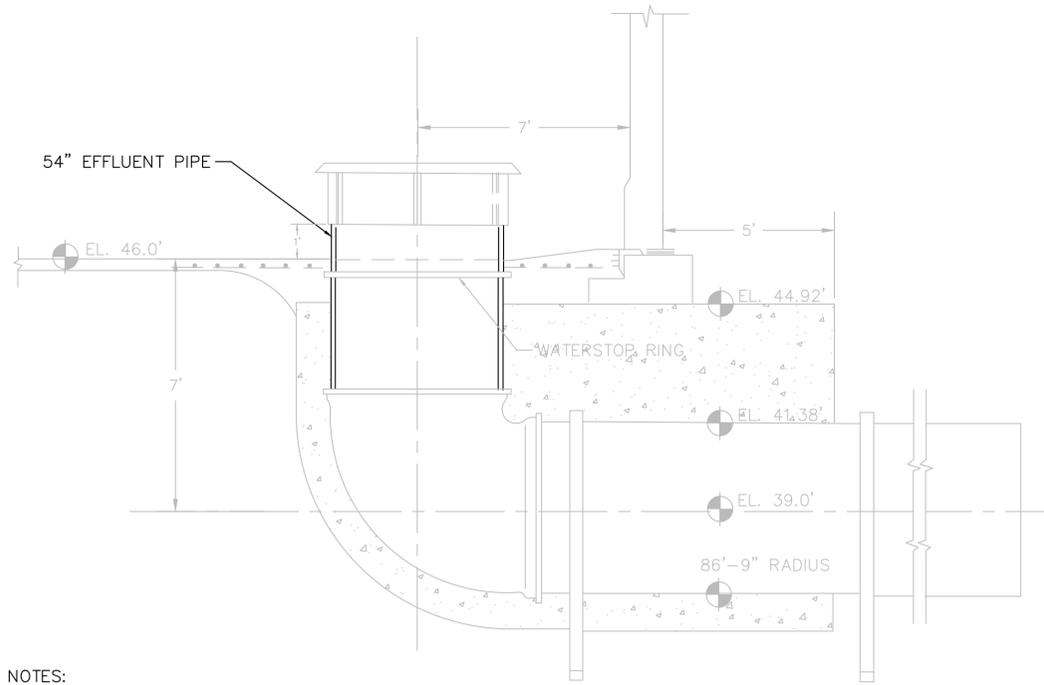


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Reviewed GWD
Approved WTH
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CITY OF TAMPA
MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS
MECHANICAL
STORAGE TANK COATING PLAN AND SECTION

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| SHEET NO.: | 08 OF 12 |

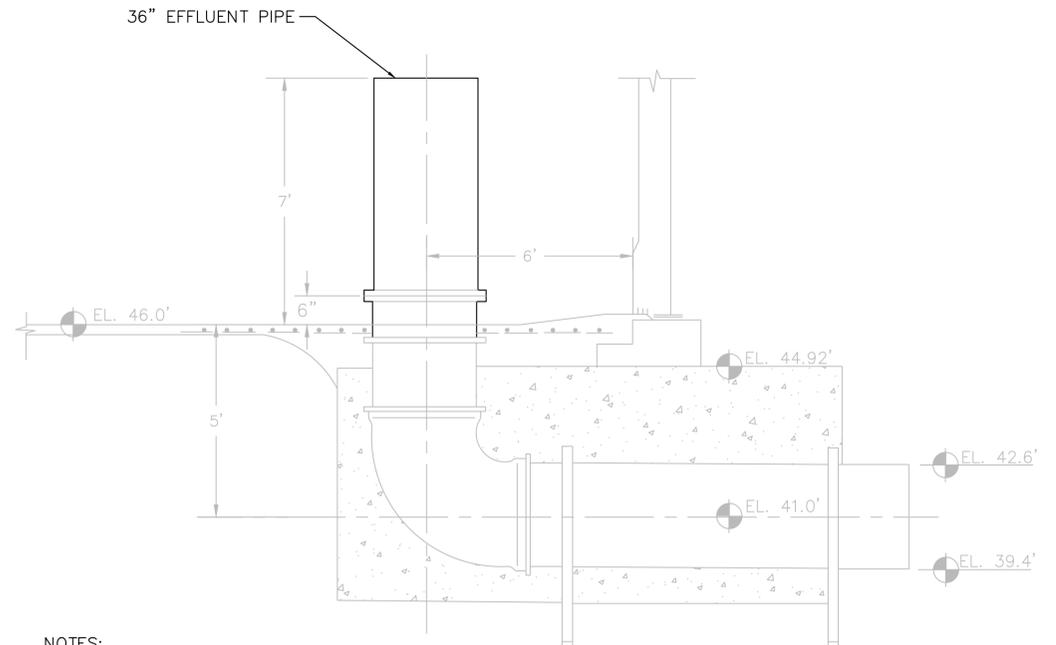




NOTES:

1. Prepare interior ductile iron surfaces in accordance with NAPF 500-03 Surface Preparation Standard or Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings and/or Special Internal Linings.
2. Prepare interior carbon steel surfaces for painting in accordance with SSPC-SP-1 Solvent Cleaning and SSPC-SP-10 Near White Abrasive Blast Cleaning.
3. Apply three coats of an NSF/ANSI 61 approved epoxy coating system to all metal surfaces per specifications. Each coat should be of a contrasting color and applied in accordance with the coating manufacturer's published recommendations.
4. Following application of the epoxy coating system apply an approved, flexible caulk compatible with the coating and concrete at seams, crevices caulk edges. The caulk shall be one approved product recommended by the coating manufacturer.

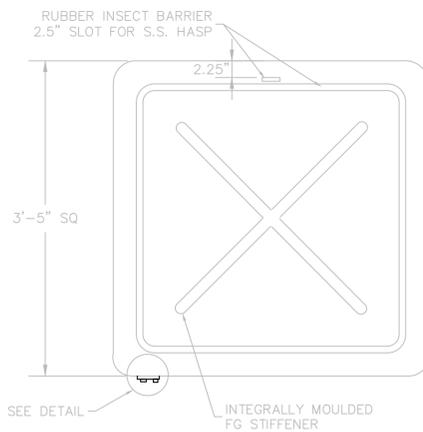
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M01 54-INCH EFFLUENT PIPE DETAIL
SCALE: N.T.S.



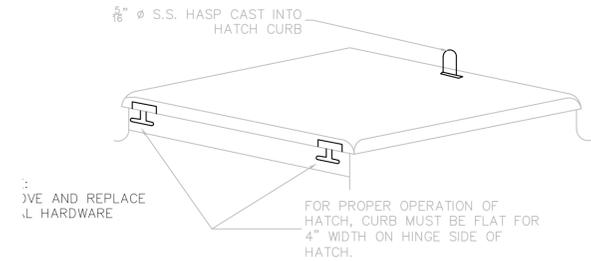
NOTES:

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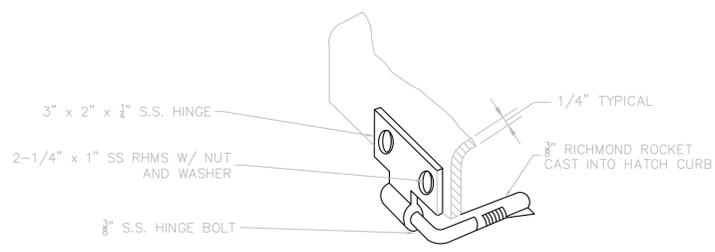
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M01 36-INCH INFLUENT PIPE DETAIL
SCALE: N.T.S.



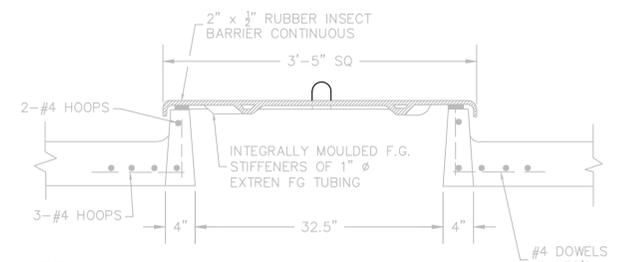
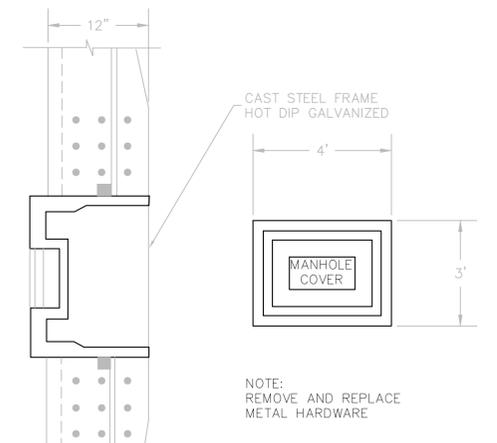
PLAN



PICTORIAL VIEW



HINGE DETAIL



SECTION A-A

3
M01 FIBERGLASS HATCH AND CURB DETAILS
SCALE: N.T.S.

NOTES:

1. Prepare interior ductile iron surfaces in accordance with NAPF 500-03 Surface Preparation Standard or Ductile Iron Pipe and Fittings in Exposed Locations Receiving Special External Coatings and/or Special Internal Linings.
2. Prepare interior carbon steel surfaces for painting in accordance with SSPC-SP-1 Solvent Cleaning and SSPC-SP-10 Near White Abrasive Blast Cleaning.
3. Apply three coats of an NSF/ANSI 61 approved epoxy coating system to all metal surfaces per specifications. Each coat should be of a contrasting color and applied in accordance with the coating manufacturer's published recommendations.
4. Following application of the epoxy coating system apply an approved, flexible caulk compatible with the coating and concrete at seams, crevices caulk edges. The caulk shall be one approved product recommended by the coating manufacturer.

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CITY OF TAMPA
 MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS

MECHANICAL

STORAGE TANK DETAILS

| | |
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| DRAWING NO.: | M02 |
| SHEET NO.: | 09 OF 12 |





Figure 1. West MBPS GST Interior Facing South



Figure 2. West MBPS GST Interior Facing North



Figure 3. West MBPS GST Interior Concrete Walls
The interior tank wall had efflorescence along cracks in the concrete.



Figure 4. West MBPS GST Interior Dome
Concrete loss (spalling) in the interior dome has also occurred and has exposing steel mesh.



Figure 5. West MBPS GST Interior DIP Pipe
Corrosion on exposed, coated interior DIP pipe (with Fiberglass vortex breaker).



Figure 6. West MBPS GST Interior DIP Pipe
Corrosion on exposed, coated interior DIP pipe (with Fiberglass vortex breaker).

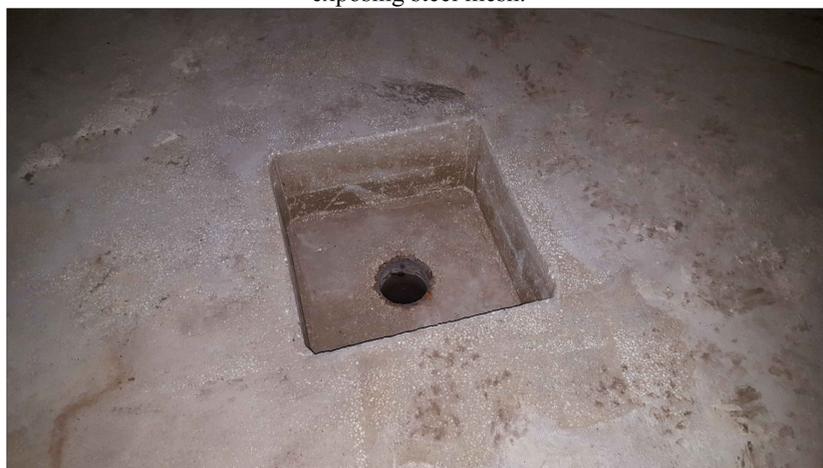


Figure 7. West MBPS GST Floor Drain
Issues were not seen on the existing floor drain.



Figure 8. West MBPS GST Interior Access Ladder Hatch
Corrosion on hardware.



Figure 9. West MBPS GST Secondary Interior Access Hatch
Possible rain leaks or minor concrete repairs.

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CITY OF TAMPA
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PHOTOS
 SITE PHOTOS

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Figure 10. West MBPS GST Exterior Facing South



Figure 11. West MBPS GST Exterior Tank Wall
Repaired cracks in the exterior tank wall.



Figure 12. West MBPS GST Exterior Tank Wall
Repaired cracks in the exterior tank wall.



Figure 13. West MBPS GST North Manway
Cast steel manway frame and aluminum alloy manway cover. Coating was peeling from the frame and corrosion and pitting were found on the cover.



Figure 14. West MBPS GST Cast South Manway
Cast steel manway frame and aluminum alloy manway cover. Coating was peeling from the frame and corrosion and pitting were found on the cover.



Figure 15. West MBPS GST Exterior Ladder
The exterior galvanized steel ladder and climbing device are in good condition.



Figure 16. West MBPS GST Dome Access Hatch, Handrails and Top of the Exterior Ladder Cage
Fiberglass dome access hatch, aluminum alloy handrails and top of the exterior galvanized steel ladder cage. The aluminum and galvanizing were in good condition. Hardware on the fiberglass access hatch was rusting. There was cracking on the hatch curb.



Figure 17. West MBPS GST Center Dome Vent
The center dome vent was in good condition with minor corrosion on metal vent supports and minor cracking on vent curb.



Figure 18. West MBPS GST Dome
Minor cracks on the dome.

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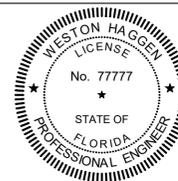


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| SHEET NO.: | 11 OF 12 |





Figure 19. West MBPS GST Interior Concrete Walls
The interior tank wall had efflorescence along cracks in the concrete.



Figure 20. West MBPS GST Interior DIP Pipe
Corrosion on an upper section of coated interior pipe.

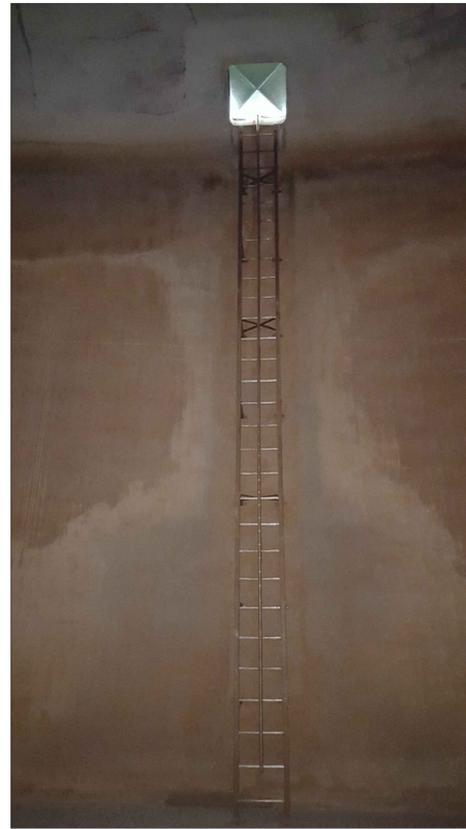


Figure 21. West MBPS GST Interior Access Ladder
Issues were not seen on the existing access ladder.



Figure 22. West MBPS GST Interior Access Ladder
Issues were not seen on the existing access ladder.



Figure 23. West MBPS GST Perimeter Dome Vents
The perimeter dome vents were in good condition with minor cracking.



Figure 24. West MBPS GST Dome
Minor cracks on the dome.

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CITY OF TAMPA
 MORRIS BRIDGE REPUMP WEST GST MODIFICATIONS

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