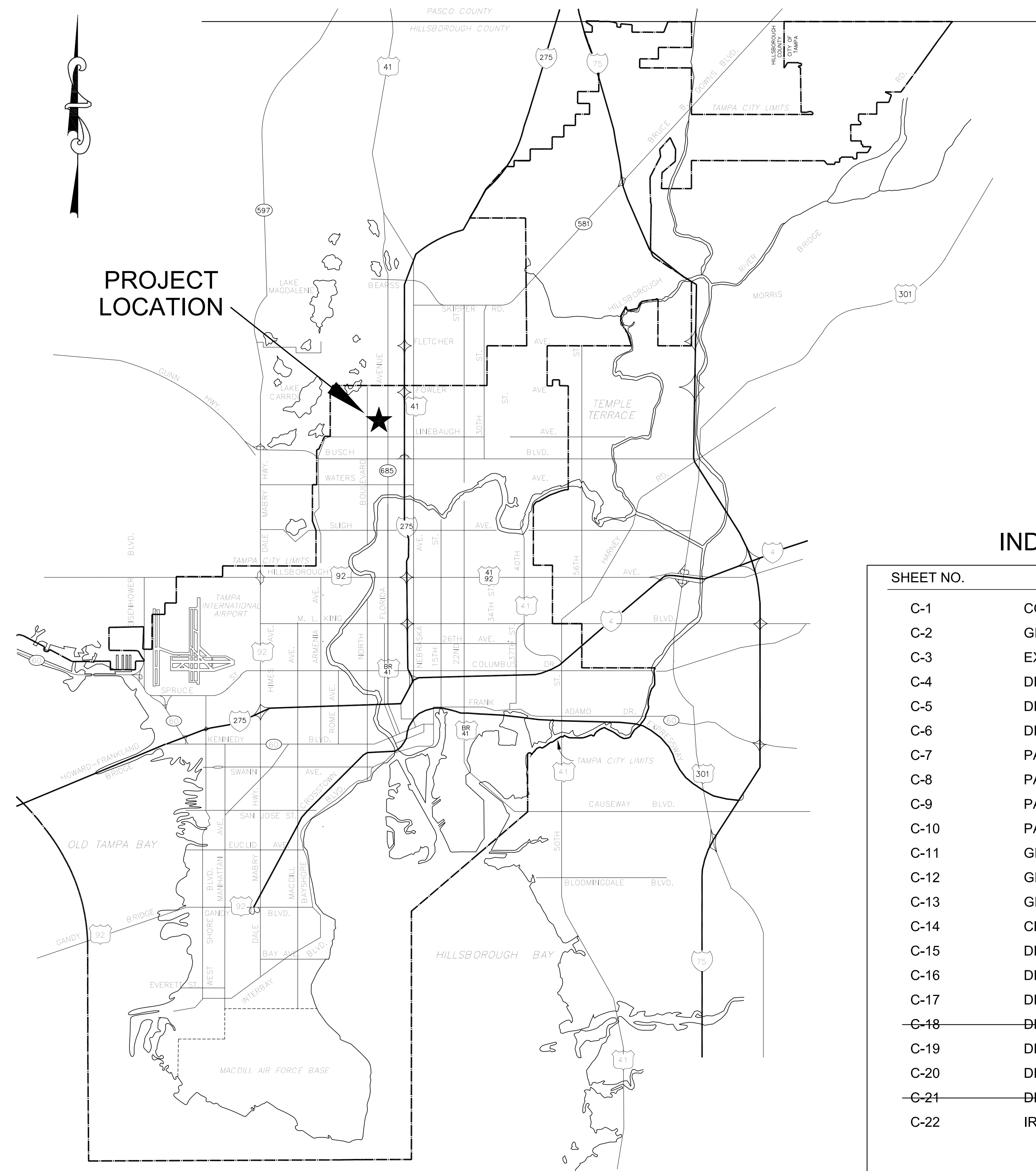


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Please Email ALL Questions:
[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

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



CITY of TAMPA



DEPARTMENT OF
TRANSPORTATION AND STORMWATER SERVICES
STORMWATER ENGINEERING DIVISION

PLANS FOR
FOREST HILLS PARK CONSTRUCTION PLANS

CONTRACT NO. 19-C-00020

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ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1	2/8/19	REVISIONS FOR CONTRACT / BID	4		

DES: HDM
DRN: TLD
CKD: HDM
DATE: 11/7/18

CITY of TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division



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GENERAL NOTES:

- 1. THE BASIS FOR THESE PLANS IS THAT "TOPOGRAPHIC SURVEY" PREPARED BY POLARIS ASSOCIATES, INC., JOB NO. 01-4603, DATED 5/20/16, REVISED 12/9/16. DATUM AND BEARING INFORMATION BELOW IS TAKEN FROM THAT SURVEY.
2. ELEVATIONS ARE IN FEET AND BASED ON NAVD-88 DATUM. REFERENCE BENCHMARK IS CITY OF TAMPA BENCHMARK NUMBER HV-02-0156, ELEVATION = 34.715' AND HV-02 0151, ELEVATION = 31.858.
3. BEARINGS ARE BASED ON A BEARING OF N 89°59'57" E HELD ALONG THE NORTHERLY LINE OF THE FIRST ADDITION TO SENECA SUBDIVISION, ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 34, PAGE 93 IN THE PUBLIC RECORDS OF HILLSBOROUGH COUNTY, FLORIDA.
4. PROPERTY APPEARS TO BE LOCATED IN FLOOD ZONES "X" AND "AE"(31.7) PER F.I.R.M. NO. 12057C0212H DATED 8-28-08.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST CONTACT SUNSHINE811.COM AND VERIFY THE LOCATIONS OF ALL EXISTING BURIED UTILITIES WITHIN THE WORK AREA. ANY CONFLICTS WITH PROPOSED CONSTRUCTION SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
6. EXISTING UTILITIES SHOWN ARE APPROXIMATE AND MUST BE VERIFIED AS STATED ABOVE.
7. PRIOR TO CONSTRUCTION OR DEMOLITION, THE CONTRACTOR SHALL SCHEDULE A SITE PRE-CONSTRUCTION MEETING WITH ALL APPLICABLE PUBLIC AND PRIVATE UTILITY COMPANIES, AS WELL AS THE OWNER, ENGINEER, THE SURVEYOR PROVIDING AS-BUILTS, AND THE CONSTRUCTION MATERIAL TESTING COMPANY.
8. NO CONSTRUCTION OPERATIONS OR EQUIPMENT STORAGE IS TO OCCUR WITHIN THE PROTECTED RADIUS OF EXISTING TREES TO REMAIN UNLESS SPECIFICALLY ALLOWED BY THESE PLANS.
9. ALL CONSTRUCTION MUST COMPLY WITH CITY OF TAMPA AND FDOT STANDARDS AS APPLICABLE.
10. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, COORDINATION OF ALL REQUIRED TESTS AND INSPECTIONS IS THE RESPONSIBILITY OF THE CONTRACTOR.
11. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, CONSTRUCTION MATERIAL TESTING SHALL BE PAID FOR BY THE CONTRACTOR AND PROVIDED TO THE OWNER AND MPH CIVIL CONSULTANTS, WITH ALL TEST RESULTS CERTIFIED BY A FLORIDA LICENSED PROFESSIONAL ENGINEER.
12. ALL UTILITY WORK PERFORMED WITHIN THE CITY RIGHT-OF-WAY SHALL BE PERMITTED THROUGH THE TRANSPORTATION DIVISION. APPLICATIONS, PLANS, AND CERTIFICATES OF INSURANCE WILL BE EMAILED TO RIGHTOFWAYPERMITS@TAMPAGOV.NET; AND THE CITY RIGHT-OF-WAY PERMITTING STAFF WILL BE CONTACTED AT 813-274-8333.
13. THE CONTRACTOR SHALL KEEP RECORD DRAWINGS OF ALL WORK COMPLETED. PHOTOGRAPHS OF ALL BURIED UTILITIES WHILE TRENCHES ARE STILL OPEN, AND SUBMIT COPIES OF ALL RECORD DRAWINGS AND PHOTOGRAPHS TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
14. PRIOR TO FINAL ACCEPTANCE, HORIZONTAL AND VERTICAL AS-BUILTS OF ALL IMPROVEMENTS PROPOSED BY THESE DRAWINGS, CERTIFIED BY A FLORIDA LICENSED SURVEYOR AND MAPPER, SHALL BE PROVIDED TO THE ENGINEER. UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS, SAID AS-BUILTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

EROSION CONTROL AND EARTHWORK NOTES:

- 1. SILT SCREEN SHALL BE TRENCHED-IN 6 INCHES BELOW EXISTING GRADE EXCEPT WHERE CROSSING ROADS OF PROTECTED TREES.
2. FINISH GRADE OF ALL SURFACES, WHETHER PAVED, SODDED, OR MULCHED SHALL BE COORDINATED SO THAT DOWNGRADIENT SURFACES DO NOT BLOCK OR POOL WATER ON UPGRADE SURFACES.
3. PRIOR TO GRADING FOR THE PROPOSED TRAIL, THE CONTRACTOR SHALL SET GRADE STAKES ALONG THE TRAIL AT 100 FOOT INTERVALS AS WELL AS CRITICAL POINTS ALONG THE TRAIL. THE CONTRACTOR SHALL CONTACT THE OWNER AND ENGINEER AND SCHEDULE A "WALK-THRU" TO REVIEW AND POSSIBLY ADJUST TRAIL GRADES TO MINIMIZE IMPACT ON SURROUNDING GRADES AND TREES. SUCH ADJUSTMENTS WILL BE CONSIDERED A PART OF THE BID ITEM AND COST ASSOCIATED WITH THE TRAIL.
4. EARTHWORK SHALL BE COMPLETED IN ACCORDANCE WITH "REPORT OF SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING SERVICES", DATED APRIL 11, 2016, BY GHD SERVICES, INC.
5. ALL DISTURBED AREAS WILL BE SODDED WITH BAHIA SOD UNLESS NOTED OTHERWISE IN THE LANDSCAPE PLAN. POND BOTTOM AREA SHALL BE HYDROSEED WITH BAHIA SEED.

STORM DRAINAGE NOTES:

- 1. PRIOR TO CASTING STRUCTURES, THE CONTRACTOR SHALL PROVIDE ONE SET OF SHOP DRAWINGS VIA PDF TO THE ENGINEER AT DUANE@MPHCIVIL.COM.
2. STORM STRUCTURES SHALL MEET THE APPLICABLE FDOT STANDARDS UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE.
3. STORM PIPE MATERIAL SHALL BE AS SHOWN ON THESE PLANS. UNLESS OTHERWISE NOTED, RCP SHALL BE CLASS III. THE CONTRACTOR MAY PROPOSE SUBSTITUTES TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION BUT SUBSTITUTES MAY NOT BE USED WITHOUT APPROVAL RECEIVED IN WRITING FROM THE ENGINEER AND OR OWNER.
4. PIPE LENGTHS SHOWN ON THE PLANS ARE GENERALLY TO THE CENTER OF THE STRUCTURES AND ARE NOT INTENDED TO REPRESENT EXACT LENGTHS TO BE INSTALLED. THE CONTRACTOR MUST CALCULATE ACTUAL PIPE LENGTHS BASED ON STRUCTURE LOCATION.

PAVING, SIGNAGE, AND STRIPING NOTES:

- 1. ALL PAVING SHALL MEET CITY OF TAMPA AND FDOT STANDARDS.
2. PAVEMENT MARKINGS AND TRAFFIC SIGNAGE SHALL GENERALLY CONFORM TO MUTCD STANDARDS.
3. PARKING SPACES, EXCEPT IN GRASS PARKING AREAS, SHALL BE DELINEATED WITH 6- INCH WHITE STRIPES. STOP BARS SHALL BE 24 INCHES WIDE AND SHALL EXTEND THE FULL WIDTH OF THE LANE SUBJECT TO THE STOP CONDITION.
4. HANDICAP PARKING SHALL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE DETAILS WITHIN THESE PLANS.
5. UNLESS OTHERWISE INDICATED, ALL SIGNS SHALL BE MOUNTED SUCH THAT THE BOTTOM EDGE IS 7 FEET ABOVE FINISHED GRADE.
6. WHERE POSSIBLE, 2 FEET OF HORIZONTAL CLEARANCE SHALL BE PROVIDED BETWEEN SIGNS AND PAVEMENT OR WALKWAY EDGES.

WATER SYSTEM NOTES:

- 1. ALL WATER MATERIALS AND INSTALLATION PRACTICES SHALL MEET CITY OF TAMPA WATER DEPARTMENT (TWD) REQUIREMENTS.
2. ON SITE DOMESTIC WATER PIPE SHALL BE PVC, SDR 21 OR BETTER.
3. DOMESTIC WATER PIPE BETWEEN TAP AND METER SHALL BE HDPE SDR9.
4. THIS PROJECT MAY REQUIRE CLEARANCE FROM THE HILLSBOROUGH COUNTY HEALTH DEPARTMENT. INSPECTIONS, TESTING, AND AS-BUILTS FOR THE WATER SYSTEMS SHOULD BE COMPLETED APPROXIMATELY ONE MONTH PRIOR TO SUBSTANTIAL COMPLETION. THIS PROCESS SHOULD BE CLOSELY COORDINATED WITH THE ENGINEER AND TAMPA WATER DEPARTMENT PERSONNEL.

RIGHT OF WAY CONSTRUCTION NOTES:

- 1. ALL EROSION AND SEDIMENT CONTROL WITHIN R/W SHALL CONFORM TO FDOT INDEX 102.
2. SIDEWALKS AND RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX 304 AND 310, AND IN ACCORDANCE WITH ADA STANDARDS.
3. TURNOUTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FDOT INDEX 515.
4. ALL DISTURBED PORTIONS OF THE RIGHT-OF-WAY NOT OTHERWISE TO BE PAVED SHALL BE FINISHED WITH BAHIA SOD.
5. ANY SIDEWALK DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO THE NEAREST JOINT.
6. SAWCUT EXISTING ASPHALT ALONG PAVEMENT EDGE PRIOR TO THE CURB/DRIVEWAY REMOVAL.
7. ALL MAINTENANCE OF TRAFFIC SHALL CONFORM TO FDOT INDEX SERIES 600, AS APPLICABLE. LANE CLOSURES MUST BE SPECIFICALLY AUTHORIZED BY THE CITY OF TAMPA.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING ROADWAY, CURBS, GUTTERS, SIDEWALKS, DRAINAGE SYSTEM, AND UTILITIES AS A DIRECT RESULT OF CONSTRUCTION. ROAD IMPROVEMENTS SUCH AS BUT NOT LIMITED TO RESURFACING MAY BE REQUIRED.
9. THE SITE DRAINAGE AND CONSTRUCTION IMPROVEMENTS SHALL NOT ADVERSELY IMPACT ADJOINING PROPERTIES AND/OR ROADWAYS.

DEMOLITION NOTES:

- 1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY FOR THE DEMOLITION AND REMOVAL OF THE EXISTING IMPROVEMENTS AS SHOWN ON THIS PLAN.
2. PRIOR TO ANY WORK BEING DONE, THE CONTRACTOR SHALL CALL 811 (SUNSHINE811.COM) TO VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES.
3. THE CONTRACTOR SHALL REVIEW THE EXISTING IMPROVEMENTS WITH THE OWNER TO DETERMINE ANY IMPROVEMENTS THAT MAY NEED TO BE LEFT IN PLACE, EITHER TEMPORARILY OR PERMANENTLY; OR ANY IMPROVEMENTS TO BE REMOVED THAT MUST BECOME THE PROPERTY OF THE OWNER.
4. TREE BARRICADES AND/OR SILT SCREEN WILL BE INSTALLED PRIOR TO ANY DEMOLITION ACTIVITIES AND WILL BE MAINTAINED THROUGHOUT CONSTRUCTION.
5. TREE BARRICADES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE DETAILS SHOWN WITHIN THE PROJECT PLANS. ADJUSTMENTS TO LOCATIONS MAY ONLY BE MADE TO ACCOMMODATE IMPROVEMENTS SPECIFICALLY APPROVED AS PART OF THESE PLANS.
6. THE CONTRACTOR SHALL DESIGNATE A MAXIMUM OF 2 LOCATIONS, TO BE APPROVED BY THE OWNER, FOR CONSTRUCTION INGRESS AND EGRESS AND SHALL MAINTAIN SUCH LOCATIONS IN ACCORDANCE WITH ALL APPLICABLE PERMITS AND REGULATIONS. PERIMETER SILT SCREEN MAY BE OMITTED ONLY AT THESE LOCATIONS BUT ONLY FOR THE MINIMUM WIDTH NECESSARY FOR INGRESS AND EGRESS. SIGNAL TRACKING PREVENTION DEVICES MUST BE USED AT THESE LOCATIONS, AND MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "FLORIDA EROSION AND SEDIMENT CONTROL MANUAL", LATEST EDITION. THESE LOCATIONS MAY BE RELOCATED FOR THE VARIOUS STAGES OF THE PROJECT, BUT ALL LOCATIONS MUST BE APPROVED BY THE OWNER.
7. ADJACENT PROPERTIES, RIGHTS-OF-WAY, AND STREETS SHALL BE KEPT CLEAR OF DEBRIS AND SEDIMENT. ANY SUCH DEBRIS OR SEDIMENT SHALL BE REMOVED AT ONCE.
8. ALL ABANDONED DRIVEWAYS WILL BE REMOVED AND PUBLIC RIGHT-OF-WAY RESTORED TO CITY OF TAMPA AND/OR FDOT STANDARDS AND SPECIFICATIONS.
9. UNLESS DESIGNATED FOR RELOCATION OR PROTECTION, ALL EXISTING TREES AND VEGETATION WITH THE PROJECT LIMITS SHALL BE REMOVED, INCLUDING ROOT SYSTEMS. EXCEPT IN AREAS OF EXCAVATION, ROOT AREAS SHALL BE BACKFILLED WITH CLEAN FINE SAND WITH NOT LESS THAN 15% PASSING THE NO. 200 SIEVE, 9 TO 12 INCH LIFTS, AND COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY.
10. THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION, INCLUDING REMOVAL OF VEGETATION AND GRADING, AS SHOWN ON THE DEMOLITION PLANS, WITH ALL PROPOSED CONSTRUCTION AS SHOWN ON THE APPLICABLE PLAN SHEETS. DEMOLITION SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE CONSTRUCTION AS SHOWN ON THOSE SHEETS.
11. ANY SIDEWALK TO BE REMOVED SHALL BE REMOVED TO THE NEAREST CONTROL JOINT.

CONSTRUCTION SURFACE WATER POLLUTION PREVENTION NOTES:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND IMPLEMENTING A CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH THE REQUIREMENTS OF THE FDEP. THE CONTRACTOR SHALL CONSULT WITH THE FDEP'S GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES, DEP DOCUMENT 62-621.300(4)(i) TO VERIFY THAT ALL REQUIREMENTS ARE BEING MET.
2. THE SWPPP SHALL BE COMPLETED PRIOR TO SUBMITTAL OF THE NOTICE OF INTENT WHICH SHALL PRECEED ALL CONSTRUCTION ACTIVITIES.
3. THE SWPPP SHALL BE AMENDED IF IT BECOMES INEFFECTIVE OR IF ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR ITS IMPLEMENTATION.
4. THE SWPPP SHALL INCLUDE A SITE MAP WITH, AT A MINIMUM, THE FOLLOWING:
- DRAINAGE PATTERNS,
- APPROXIMATE SLOPES AFTER MAJOR GRADING ACTIVITIES,
- AREAS OF SOIL DISTURBANCE,
- OUTLINE OF ALL AREAS THAT ARE NOT TO BE DISTURBED,
- LOCATION OF ALL MAJOR STRUCTURAL AND NON-STRUCTURAL CONTROLS,
- THE LOCATION OF EXPECTED STABILIZATION PRACTICES,
- WETLANDS AND SURFACE WATERS, AND
- LOCATIONS WHERE STORMWATER MAY DISCHARGE TO A SURFACE WATER OR MSA.
5. THE SWPPP SHALL ALSO INCLUDE:
- SITE AND PROJECT DESCRIPTION,
- DETAILED DESCRIPTION OF ALL SURFACE WATER CONTROLS,
- DESCRIPTION OF TEMPORARY AND PERMANENT STABILIZATION PRACTICES,
- DESCRIPTION OF PERMANENT STORMWATER MANAGEMENT CONTROLS TO BE INSTALLED DURING THE CONSTRUCTION PROCESS,
- DESCRIPTION OF WASTE DISPOSAL CONTROLS,
- CONTROLS FOR OFFSITE VEHICLE TRACKING FROM CONSTRUCTION SITE EXITS,
- DESCRIPTION OF THE STORAGE, APPLICATION, GENERATION, AND MIGRATION OF ALL TOXIC SUBSTANCES,
- DETAILED MAINTENANCE PLAN FOR ALL OF THE ABOVE,
- INSPECTION AND INSPECTION DOCUMENTATION PROCEDURES, AND
- DESCRIPTION OF ALL SOURCES OF NON-STORMWATER DISCHARGES AS ALLOWED IN PART IV.A.3.
6. THE SWPPP MUST CLEARLY IDENTIFY, FOR EACH MEASURE IDENTIFIED WITH THE SWPPP, THE CONTRACTOR(S) OR SUBCONTRACTOR(S) THAT WILL IMPLEMENT EACH MEASURE. THE FOLLOWING CERTIFICATION MUST BE INCLUDED IN THE SWPPP AND MUST BE SIGNED BY ALL CONTRACTOR(S) AND SUBCONTRACTOR(S) IDENTIFIED IN THE SWPPP: "I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND, AND SHALL COMPLY WITH, THE TERMS AND CONDITIONS OF THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES AND THIS STORMWATER POLLUTION PREVENTION PLAN PREPARED THEREUNDER."
7. SPECIAL SWPPP NOTE FOR FOREST HILLS PARK: SINCE THE OUTFALL FOR THIS PROJECT AREA IS VIA PUMPING, THE CONTRACTOR'S SWPPP SHALL INCLUDE MEASURES TO CONTROL TURBIDITY AT THE PUMP INTAKE. THE CONTRACTOR SHALL ASSUME THAT PUMPING SHALL BE INITIATED BY THE CITY OF TAMPA ANYTIME RAINFALL (FORECASTED OR ACTUAL) EXCEEDS 4-INCHES IN A 24-HOUR PERIOD.

SPECIFICATIONS INCORPORATED BY REFERENCE:

- FLORIDA DEPT. OF TRANSPORTATION STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION, UNLESS OTHERWISE STATED WITHIN THESE PLANS.
FLORIDA DEPT. OF TRANSPORTATION DESIGN STANDARDS, LATEST EDITION, UNLESS OTHERWISE STATED WITHIN THESE PLANS.
CITY OF TAMPA LAND DEVELOPMENT CODE.
CITY OF TAMPA WATER DEPT. TECHNICAL MANUAL, LATEST EDITION.

SHELTER SPECIFICATIONS / REQUIREMENTS:

- THE CONTRACTOR SHALL PROVIDE ENGINEERED PLANS AND SUBMIT SAME TO CITY OF TAMPA FOR PERMITTING PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR PERMIT FEES.
MODEL: SDR 20, OR APPROVED EQUAL WITH EQUAL WARRANTY.
CONCRETE SLAB AND FOOTINGS PER MANUFACTURER'S RECOMMENDATIONS
COLUMNS: (A) 8" ROUND AT EACH SHELTER.
ROOF STYLE: MULTI RIB METAL WITH 0.75% SLOPE.
ELECTRICAL OUTLETS: QTY = 2 AT LOCATIONS SELECTED BY OWNER (AT EACH SHELTER).
NO EXPOSED BOLTS ALLOWED ON FRAME CONSTRUCTION.
PROVIDE "POLY-SPOD" POWDER COAT PAINT FINISH; OWNER TO SELECT COLOR FROM STANDARD COLOR ALTERNATES PRIOR TO CONTRACTOR ORDERING.
THE ABOVE REQUIREMENTS ARE GENERALLY FOR SHELTERS S-1 AND S-2. AS APPLICABLE, THE SAME REQUIREMENTS ARE TO APPLY TO S-3.

LIGHTING SPECIFICATIONS / REQUIREMENTS:

- THE CONTRACTOR SHALL PROVIDE ENGINEERED PLANS AND SUBMIT SAME TO CITY OF TAMPA FOR PERMITTING PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR PERMIT FEES.
LIGHTING SHALL BE AS MANUFACTURED BY MUSCO SPORTS LIGHTING, OR APPROVED EQUAL, WITH WARRANTY REQUIREMENTS.
THESE PLANS INCLUDE 4 HIGH POLES AT THE FIELD AND 10 LIGHT POLES AROUND COURTS OF VARYING TYPES. ACTUAL NUMBERS AND LOCATIONS MAY VARY, BUT MUST BE APPROVED BY THE CITY OF TAMPA.
THE CONTRACTOR IS REFERRED TO THE SPECIFICATIONS INCLUDED WITH THESE CONTRACT DOCUMENTS FOR THE SPECIFIC LIGHTING REQUIREMENTS.

IRRIGATION SPECIFICATIONS / REQUIREMENTS:

- THE IRRIGATION SOURCE SHALL BE A WELL THAT SHALL BE INSTALLED BY THE CITY OF TAMPA ABOUT 60 FEET NORTHWEST OF THE NEW PICKLEBALL COURTS. THE WELL WILL SUPPLY NO LESS THAN 50 GPM AT 85 PSI TO THE IRRIGATION SYSTEM. THE CONTRACTOR'S RESPONSIBILITY REGARDING WELL CONSTRUCTION SHALL BE AS FOLLOWS:
- COORDINATION WITH CITY PARKS & RECREATION DEPT. STAFF AND THE CITY'S WELL CONTRACTOR.
- COMPLETE GRADING IN THE AREA OF THE PROPOSED WELL AND SCHEDULE WELL DRILLING PRIOR TO THE INSTALLATION OF SOD. ALLOW ABOUT ONE WEEK IN SCHEDULE FOR WELL DRILLING.
- PROVIDE 60 AMP DOUBLE PULL BREAKER IN PANEL AT COURTS AND TWO 80 WIRE SLEEVES (LEWD) FROM PANEL TO WELL.
- IRRIGATION PIPING FROM WELL TO NEW IRRIGATION SYSTEMS.
THE CONTRACTOR SHALL PROVIDE ENGINEERED PLANS FOR THE COMPLETE UNDERGROUND IRRIGATION SYSTEM AND SUBMIT SAME TO CITY OF TAMPA PARKS AND RECREATION DEPARTMENT FOR REVIEW AND APPROVAL. AFTER CITY PARKS & RECREATION DEPARTMENT APPROVAL, THE CONTRACTOR SHALL SUBMIT SAME TO THE CITY OF TAMPA CONSTRUCTION SERVICES DIVISION FOR PERMITTING PRIOR TO CONSTRUCTION. CONTRACTOR RESPONSIBLE FOR PERMIT FEES.
THE SYSTEM SHALL BE APPROPRIATELY ZONED AND SHALL COVER:
- THE MULTI-PURPOSE FIELD FROM THE EDGE OF THE FUTURE TRAIL ALONG THE NORTH AND EAST, THE EDGE OF THE FUTURE GRASSED PARKING TO THE SOUTH, AND THE TOP OF THE SLOPE OF THE HILL FOR THE FIELD ALONG THE WEST.
- IN ADDITION, THE EXISTING IRRIGATION SYSTEM AROUND THE BUILDING AND THE EXISTING PARKING LOT SHALL BE MODIFIED AS NECESSARY SUCH THAT THE SYSTEM IS FED FROM THE NEW WELL. THE CONTRACTOR SHALL DISCONNECT THE EXISTING IRRIGATION SYSTEM FROM THE CITY METER ALONG 109th AVENUE.
THE IRRIGATION CONTROLLER SHALL BE INSTALLED AT THE COMMUNITY CENTER BUILDING AT THE NORTHWEST CORNER OF THE PARK. COORDINATE LOCATION WITH THE CITY PARKS & RECREATION DEPT. THE CONTRACTOR SHALL WARRANT THE ENTIRE SYSTEM FOR A MINIMUM OF 3-YEAR AGAINST ALL DEFECTS IN MATERIALS AND WORKMANSHIP. THIS WARRANTY SHALL EXTEND TO ANY VEGETATION ADVERSELY AFFECTED BY A MALFUNCTIONING IRRIGATION SYSTEM. ALL MANUFACTURER'S LITERATURE PERTAINING TO ADDITIONAL WARRANTIES SHALL BE PROVIDED TO THE OWNER.
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TIMING OF LANDSCAPE MATERIAL INSTALLATION AND OPERATION OF THE IRRIGATION SYSTEM. ANY LANDSCAPE MATERIAL INSTALLED PRIOR TO THE OPERATION OF THE IRRIGATION SYSTEM SHALL REQUIRE THAT THE CONTRACTOR PROVIDE OTHER TEMPORARY MEANS OF KEEPING THE MATERIALS FROM BEING OVERWATERED.
IN ADDITION TO THE UNDERGROUND IRRIGATION SYSTEM, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUFFICIENTLY WATERING ALL OTHER INSTALLED LANDSCAPE MATERIALS, PRIMARILY MEANING NEW TREES. THIS RESPONSIBILITY SHALL EXTEND TO SUBSTANTIAL COMPLETION, OR 3 MONTHS AFTER INSTALLATION OF LANDSCAPE MATERIALS, WHICHEVER OCCURS LAST. COORDINATE WITH SUPPLEMENTAL TREE WATERING WITH CITY PARKS & RECREATION DEPT.

STORMWATER SYSTEM MAINTENANCE REQUIREMENTS:

- THE OWNER (CITY OF TAMPA) WILL BE RESPONSIBLE FOR THE ON-GOING MAINTENANCE OF THE STORMWATER SYSTEM IN ACCORDANCE WITH THE APPROVED PLANS AND THE APPLICABLE PERMIT CONDITIONS.
THE SYSTEM CONSISTS OF SEVERAL PARTS WHICH SHALL BE MAINTAINED AS FOLLOWS:
- RETENTION POND - THE TOP OF BANK, BANKS, AND BOTTOM (WHEN DRY) SHALL BE MOWED ON A REGULAR INTERVAL. ANY ACCUMULATED DEBRIS SHALL BE REMOVED.
- PUMP DISCHARGE STRUCTURE - THE EXISTING DISCHARGE STRUCTURE AT THE SOUTH END OF THE PROJECT SHALL BE KEPT CLEAN AND FREE OF EXCESSIVE SEDIMENT AND DEBRIS. VEGETATION OTHER THAN MAINTAINED GRASS, SHALL BE KEPT A MINIMUM DISTANCE OF 15 FEET FROM THE STRUCTURE. THE STRUCTURE SHALL BE KEPT IN GOOD WORKING CONDITION IN ACCORDANCE WITH THE APPROVED PLANS AND PERMITS.
- PIPES AND INLETS - PIPES AND INLETS SHALL BE KEPT CLEAN AND FREE OF EXCESSIVE SEDIMENT AND DEBRIS.
- PARKING AREAS - PARKING AREAS SHALL BE KEPT CLEAN AND FREE OF EXCESSIVE SEDIMENT AND DEBRIS.
- WETLAND AREA - MOWING SHALL NOT OCCUR IN THE WETLAND AREA AS SHOWN ON THESE PLANS AND AS PROVIDED BY PLANTING BUFFER VEGETATION. ANY MAINTENANCE IN THIS AREA SHALL BE IN STRICT CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
3. OTHER THAN MOWING AND DEBRIS REMOVAL, OTHER MAINTENANCE ACTIVITIES SHALL OCCUR ON A MONTHLY BASIS AND AFTER LARGE STORM EVENTS.
4. THE SYSTEM PERMITS MAY INCLUDE ADDITIONAL MAINTENANCE REQUIREMENTS. THE PERMITS SHALL BE REVIEWED REGULARLY TO INSURE COMPLIANCE.

TREE TRIMMING:

- FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES TO PRUNE EXISTING TREES WITH BRANCHES THAT EXTEND WITHIN 15' OF PROPOSED MULTIPURPOSE TRAIL. THE SCOPE INCLUDES, BUT IS NOT LIMITED TO, MOBILIZATION, ALL CUTTING, REMOVAL, LOADING, HAULING AND DISPOSAL OF DEBRIS, BARRICADING, TRAFFIC CONTROL, CLEAN-UP, RESTORATION, AND ALL OTHER APPURTENANT WORK COMPLETE IN PLACE. ALL PRUNING SHALL BE DONE IN ACCORDANCE WITH ANSI STANDARDS AND BEST MANAGEMENT PRACTICES - TREE PRUNING BY INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) FOR THE PURPOSE OF CROWN RAISING AND CROWN CLEANING ("DEADWOODING"). WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A LICENSED, CERTIFIED ARBORIST - A CURRENT COPY OF CERTIFICATION SHALL BE SUBMITTED PRIOR TO BEGINNING OF WORK.
PERMITS FOR TREE PRUNING FOR TRAIL INSTALLATION ON THIS PROJECT ARE EXEMPTED PER PRE-APPROVAL BY THE PARKS & RECREATION URBAN FORESTRY MANAGER.
CROWN CLEANING SHALL REMOVE ALL DEAD, DISEASED, DETACHED, AND BROKEN BRANCHES AND STUBS GREATER THAN ONE INCH (1") IN DIAMETER. CROWN RAISING SHALL REMOVE LOWER BRANCHES WHERE PRACTICAL TO OBTAIN AN EVENTUAL FULL FOLIAGE HEIGHT CLEARANCE OF TWELVE (12) FEET OVER THE PEDESTRIAN TRAIL. ALL WORK SHALL ALWAYS MAINTAIN THE CROWN SHAPE AND SYMMETRY TYPICAL OF THE SPECIES BEING PRUNED AT ITS GIVEN SIZE AND AGE, AND SHALL BALANCE THE TREE EVENLY. PRUNING MAY INCLUDE REDUCTION CUTS TO SHORTEN LOWER LIMBS, OR THINNING CUTS TO LIGHTEN LOWER BRANCH LOADS TO ACHIEVE CLEARANCE IF COMPLETE BRANCH REMOVAL FROM THE TREE TRUNK IS NOT PRACTICAL.
ALL FINAL CUTS SHALL BE "COLLAR CUTS" MADE SUFFICIENTLY CLOSE TO THE TRUNK OR PARENT LIMB, WITHOUT CUTTING INTO THE BRANCH COLLAR OR LEAVING A PROTRUDING STUB SO THAT CLOSURE CAN READILY BEGIN UNDER NORMAL CONDITIONS. THE FACE OF THE "COLLAR CUT" OR WOUND AREA SHALL BE CIRCULAR IN FORM "FLUSH" CUTS TO THE MAIN STEM BEHIND THE BRANCH COLLAR THAT LEAVE OVAL EXPOSED WOUNDS ARE PROHIBITED AND SHALL NOT BE MADE. CUTS SHALL BE MADE SUCH THAT ALL WOUND SIDES ARE EVEN EDGED AND DO NOT LEAVE "DOG EAR" RIDGES ON ONE SIDE OR ANOTHER. CLEAN CUTS SHALL BE MADE AT ALL TIMES WITHOUT LEAVING ANY STUBS.
ALL LIMBS TO BE REMOVED SHALL BE CUT IN SUCH A MANNER AS TO PREVENT ANY RIPPING OR TEARING OF THE WOOD OR BARK ON THE PARENT OR REMAINING STEM. LARGE LIMBS SHALL BE CUT USING THE THREE-CUT PRUNING METHOD. ALL LIMBS SHALL BE BROUGHT TO THE GROUND IN SUCH A MANNER AS TO PREVENT ANY DAMAGE TO REAL OR PERSONAL PROPERTY, PUBLICLY OR PRIVATELY OWNED.
PROPER TOOLS FOR PRUNING SHALL BE USED FOR EACH CUT. ALL TOOLS SHALL BE STERILIZED PRIOR TO BEGINNING WORK ON EACH TREE SPECIFIC AS REFERENCED BY INDUSTRY STANDARDS AND THE INSTITUTE OF FLORIDA AGRICULTURAL SERVICES (IFAS). BLADES OF EACH TOOL, INCLUDING HAND PRUNING, POLE SAWS, HAND SAWS, AND CHAIN SAWS, SHALL BE PLACED ON EACH BRANCH THAT LEAVES OVAL EXPOSED WOUNDS TO OBTAIN THE BEST CUT. THIS SHALL BE DONE IN A WAY THAT WILL NOT CUT, RIP, OR HARM ADJACENT BARK AREAS. NO PERSON WORKING IN TREES SHALL USE SHOES WITH SPIKES, OR ANY OTHER FOOTWEAR WHICH WILL INHURE THE TREE BEING PRUNED. AT NO TIME SHALL ANY PERSON WORKING IN TREES FOR PRUNING PURPOSES WEAR SPURS OR CLIMBING IRONS.
CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO OTHER TREES, STRUCTURES, UTILITIES, AND ANY OTHER DAMAGES AS A RESULT OF TREE PRUNING ACTIVITIES AT THE PROJECT SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO TREES DUE TO IMPROPER PRUNING TECHNIQUES. THE COST OF DAMAGES SHALL BE ASSESSED ACCORDING TO THE COUNCIL OF TREE AND LANDSCAPE APPLIERS GUIDE FOR PLANT APPRAISAL, LATEST EDITION, AS AMENDED, AND SHALL BE DEDUCTED FROM THE INVOICED AMOUNT.
CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL WOOD, BRUSH AND DEBRIS COMPLETELY. THE AREA SHALL BE CLEANED AND RAKED BEFORE THE JOB IS CONSIDERED COMPLETE. DEBRIS SHALL NOT BE ALLOWED TO REMAIN OVERNIGHT UNLESS PRIOR APPROVAL HAS BEEN ARRANGED, AND BRUSH PILES ARE PROPERLY MARKED FOR SAFETY. ANY LARGE LOGS UNABLE TO BE CHIPPED WILL BE LOCATED IN A SAFE PLACE ON-SITE AND URBAN FORESTRY INFORMED BY CONTRACTOR THAT SAME DAY SO THAT THE CITY CAN MAKE ARRANGEMENTS FOR REMOVAL. ALL WOOD BY-PRODUCTS (WOOD CHIPS, LOGS, WOOD, ETC.) SHALL BE DISPOSED OF AT SITE APPROVED BY THE CITY AND COMPLIANT WITH THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION. SITE DISPOSAL SHALL BE INDICATED ON INVOICING SUBMITTED TO THE CITY WITH THE DISPOSAL TICKET NUMBER.

FOREST HILLS PARK IMPROVEMENTS - EQUIPMENT MANUFACTURERS AND CONTACT INFORMATION

Table with columns: Improvement Location, Label, Item, Manufacturer, Website, Contact Name, Phone. Includes sections for Courts (Tennis, Pickleball, Racquetball), South Private Property Fencing, Multi-purpose Sports Field, Exercise Equipment, Shelters, Dog Park, Site Furnishings, Trail, and Expanded Parking Lot.

GENERAL NOTES

SW

ENGINEER-OF-RECORD

H. DUANE MILFORD P.E. # 42657

Table with columns: No., DATE, REVISIONS. Includes revision 1 dated 2/8/19 for REVISIONS FOR CONTRACT / BID.

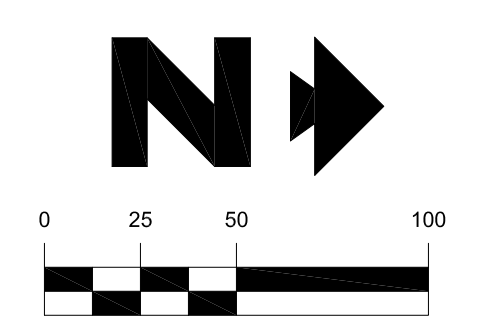
DES: HDM
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CITY of TAMPA
Department of Transportation and Stormwater Services
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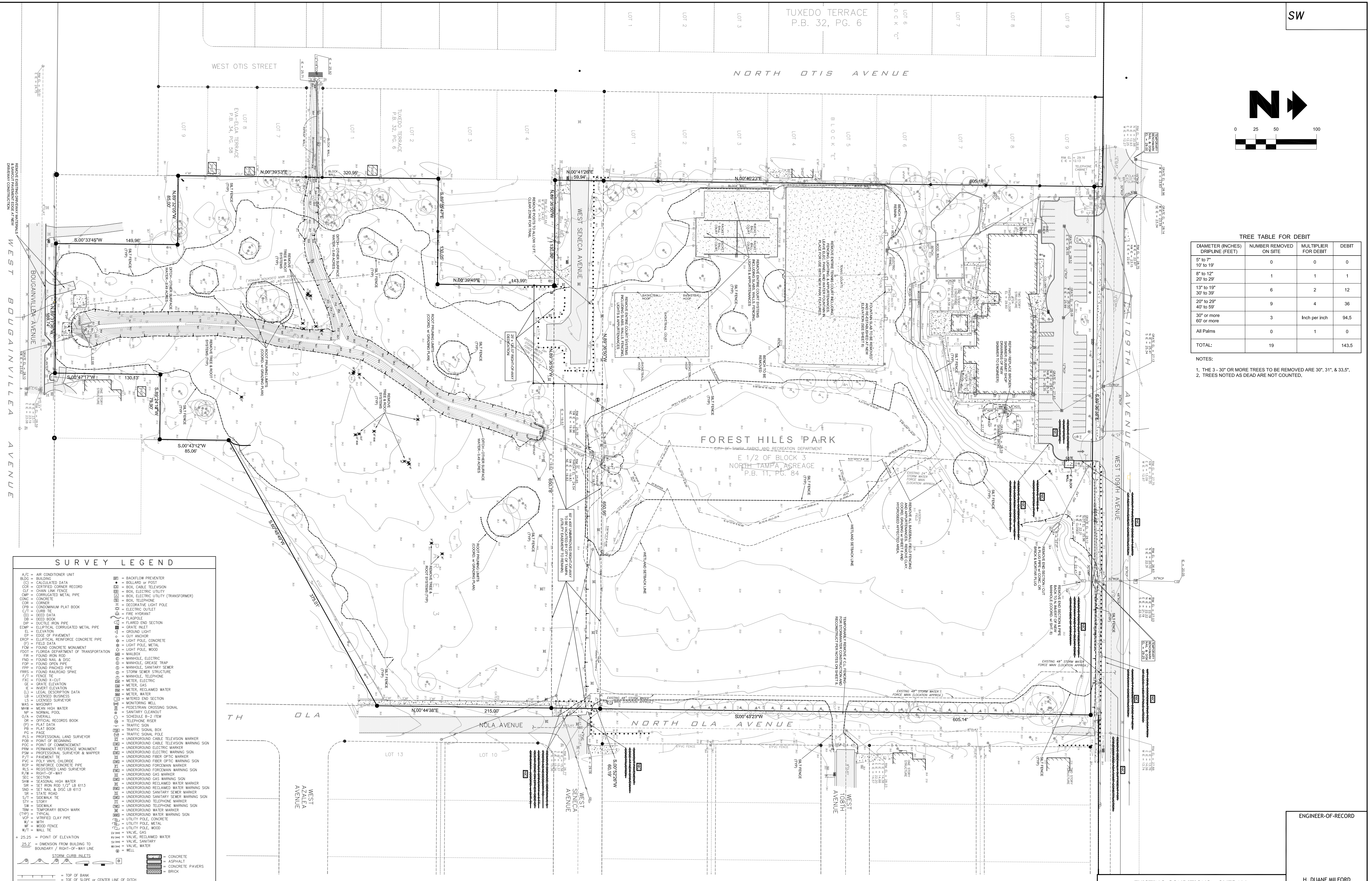


TREE TABLE FOR DEBIT

DIAMETER (INCHES) DRIPLINE (FEET)	NUMBER REMOVED ON SITE	MULTIPLIER FOR DEBIT	DEBIT
5" to 7"	0	0	0
8" to 12"	1	1	1
13" to 19"	6	2	12
20" to 29"	9	4	36
30" or more	3	Inch per inch	94.5
All Palms	0	1	0
TOTAL:	19		143.5

NOTES:

1. THE 3 - 30" OR MORE TREES TO BE REMOVED ARE 30", 31", & 33.5".
2. TREES NOTED AS DEAD ARE NOT COUNTED.



SURVEY LEGEND

A/C	AIR CONDITIONER UNIT	⊠	BACKFLOW PREVENTER
BLDG	BUILDING	⊠	BOLLARD or POST
CC	CALCULATED DATA	⊠	BOX, CABLE TELEVISION
CC	CERTIFIED CORNER RECORD	⊠	BOX, ELECTRIC UTILITY
CL	CHAIN LINK FENCE	⊠	BOX, ELECTRIC UTILITY (TRANSFORMER)
CM	CORRUGATED METAL PIPE	⊠	BOX, TELEPHONE
CON	CONCRETE	⊠	BOX, TELEPHONE
CP	CORNER	⊠	ELECTRIC OUTLET
CPB	CONDOMINIUM PLAT BOOK	⊠	FLARED END SECTION
CUR	CURB	⊠	GRATE INLET
DE	DEED DATA	⊠	GROUND LIGHT
DIR	DIRTY ROAD	⊠	GUY ANCHOR
DIP	DUCTILE IRON PIPE	⊠	LIGHT POLE, CONCRETE
EL	ELLIPICAL CORRUGATED METAL PIPE	⊠	LIGHT POLE, METAL
EL	ELEVATION	⊠	LIGHT POLE, WOOD
EM	EDGE OF PAVEMENT	⊠	MANHOLE
ERCC	ELLIPICAL REINFORCED CONCRETE PIPE	⊠	MANHOLE, GREASE TRAP
ERCC	EDGE OF REINFORCEMENT	⊠	MANHOLE, SANITARY SEWER
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	⊠	MANHOLE, TELEPHONE
FO	FIELD DATA	⊠	METER, ELECTRIC
FO	FOUND CONCRETE MONUMENT	⊠	METER, GAS
FR	FOUND REINFORCED CONCRETE	⊠	METER, RECLAIMED WATER
FR	FOUND REINFORCED CONCRETE	⊠	METER, WATER
FR	FOUND REINFORCED CONCRETE	⊠	METERED END SECTION
FR	FOUND REINFORCED CONCRETE	⊠	MONITORING WELL
FR	FOUND REINFORCED CONCRETE	⊠	PEDESTRIAN CROSSING SIGNAL
FR	FOUND REINFORCED CONCRETE	⊠	SANITARY CLEANOUT
FR	FOUND REINFORCED CONCRETE	⊠	SCHEDULE B-2 ITEM
FR	FOUND REINFORCED CONCRETE	⊠	TELEPHONE RISER
FR	FOUND REINFORCED CONCRETE	⊠	TRAFFIC SIGNAL
FR	FOUND REINFORCED CONCRETE	⊠	TRAFFIC SIGNAL BOX
FR	FOUND REINFORCED CONCRETE	⊠	TRAFFIC SIGNAL POLE
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND CABLE TELEVISION MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND CABLE TELEVISION WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND ELECTRIC MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND ELECTRIC WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND FIBER OPTIC MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND FIBER OPTIC WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND FOREMAN MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND FOREMAN WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND GAS MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND GAS WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND RECLAIMED WATER MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND RECLAIMED WATER WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND SANITARY SEWER MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND SANITARY SEWER WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND TELEPHONE MARKER
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FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND WATER MARKER
FR	FOUND REINFORCED CONCRETE	⊠	UNDERGROUND WATER WARNING SIGN
FR	FOUND REINFORCED CONCRETE	⊠	UTILITY POLE, CONCRETE
FR	FOUND REINFORCED CONCRETE	⊠	UTILITY POLE, METAL
FR	FOUND REINFORCED CONCRETE	⊠	UTILITY POLE, METAL
FR	FOUND REINFORCED CONCRETE	⊠	UTILITY POLE, WOOD
FR	FOUND REINFORCED CONCRETE	⊠	VALVE, GAS
FR	FOUND REINFORCED CONCRETE	⊠	VALVE, RECLAIMED WATER
FR	FOUND REINFORCED CONCRETE	⊠	VALVE, SANITARY
FR	FOUND REINFORCED CONCRETE	⊠	VALVE, WATER
FR	FOUND REINFORCED CONCRETE	⊠	WELL

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EXISTING CONDITIONS - OVERALL

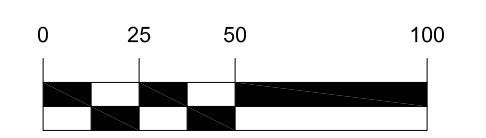
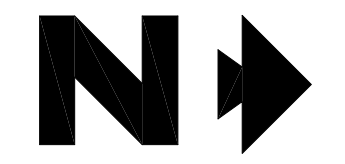
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ENGINEER-OF-RECORD

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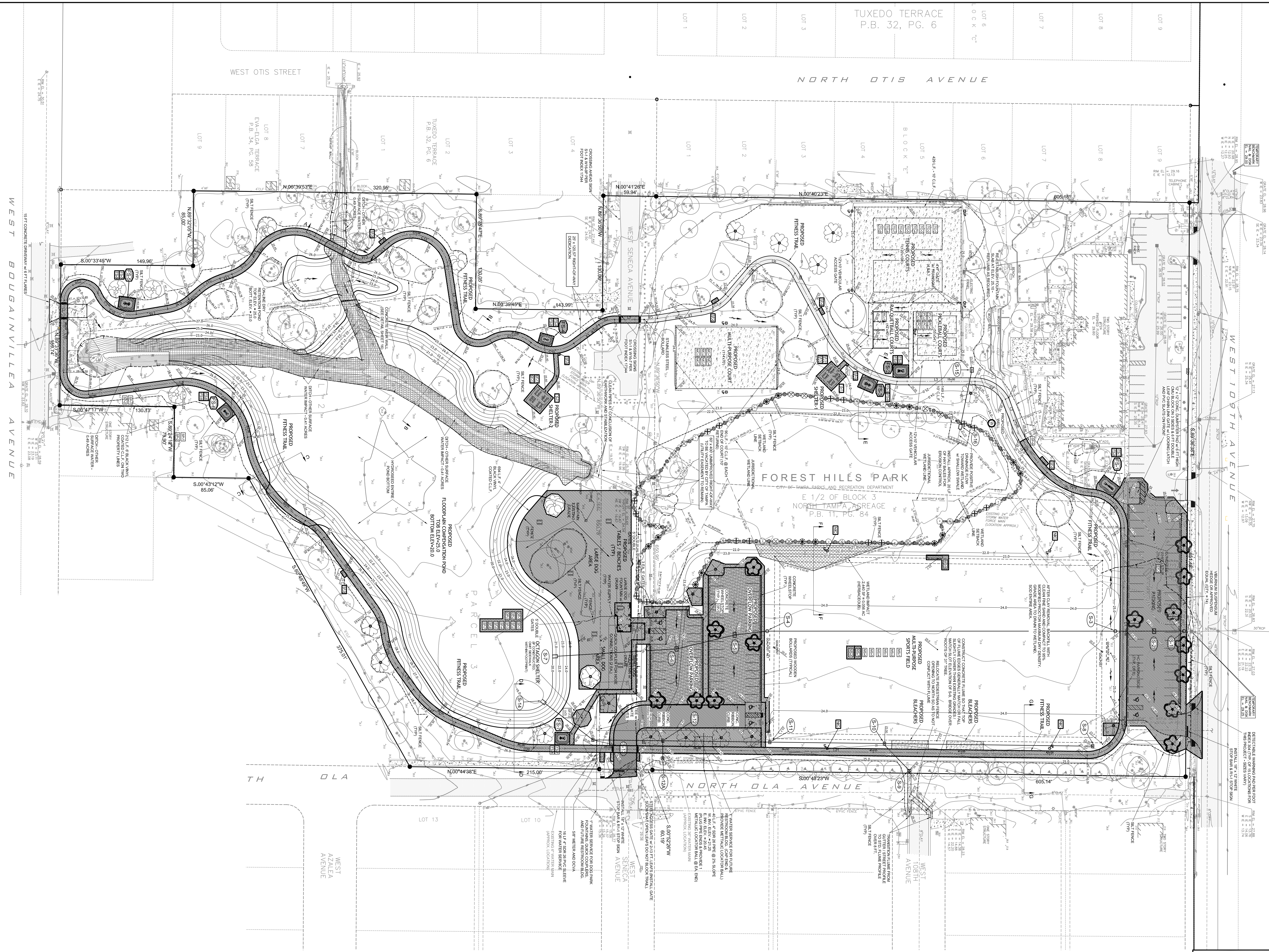


SITE LEGEND

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- EXISTING CONTOUR
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- PROPOSED MUHLY GRASS (MG)(250)
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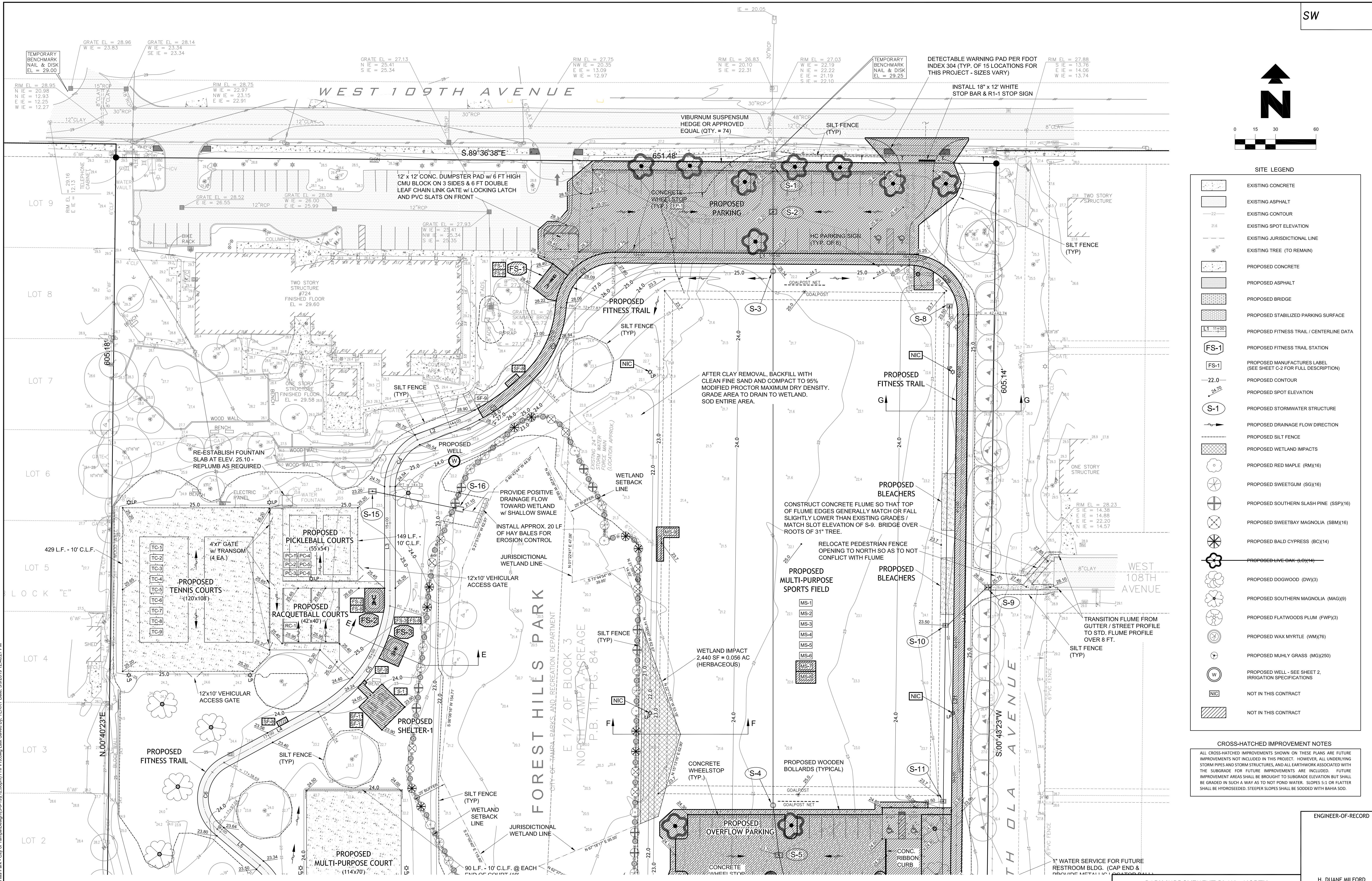
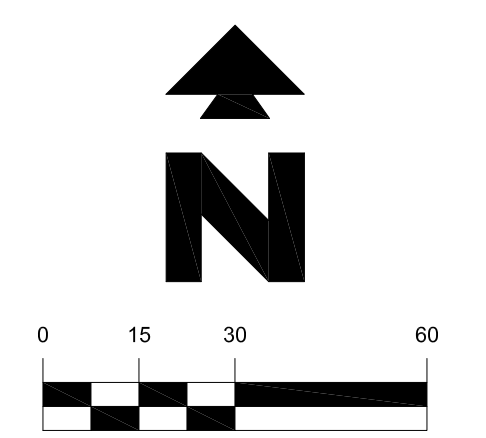
PARK IMPROVEMENT PLAN - OVERALL



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 7
 OF 22

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PARK IMPROVEMENT PLAN - NORTH

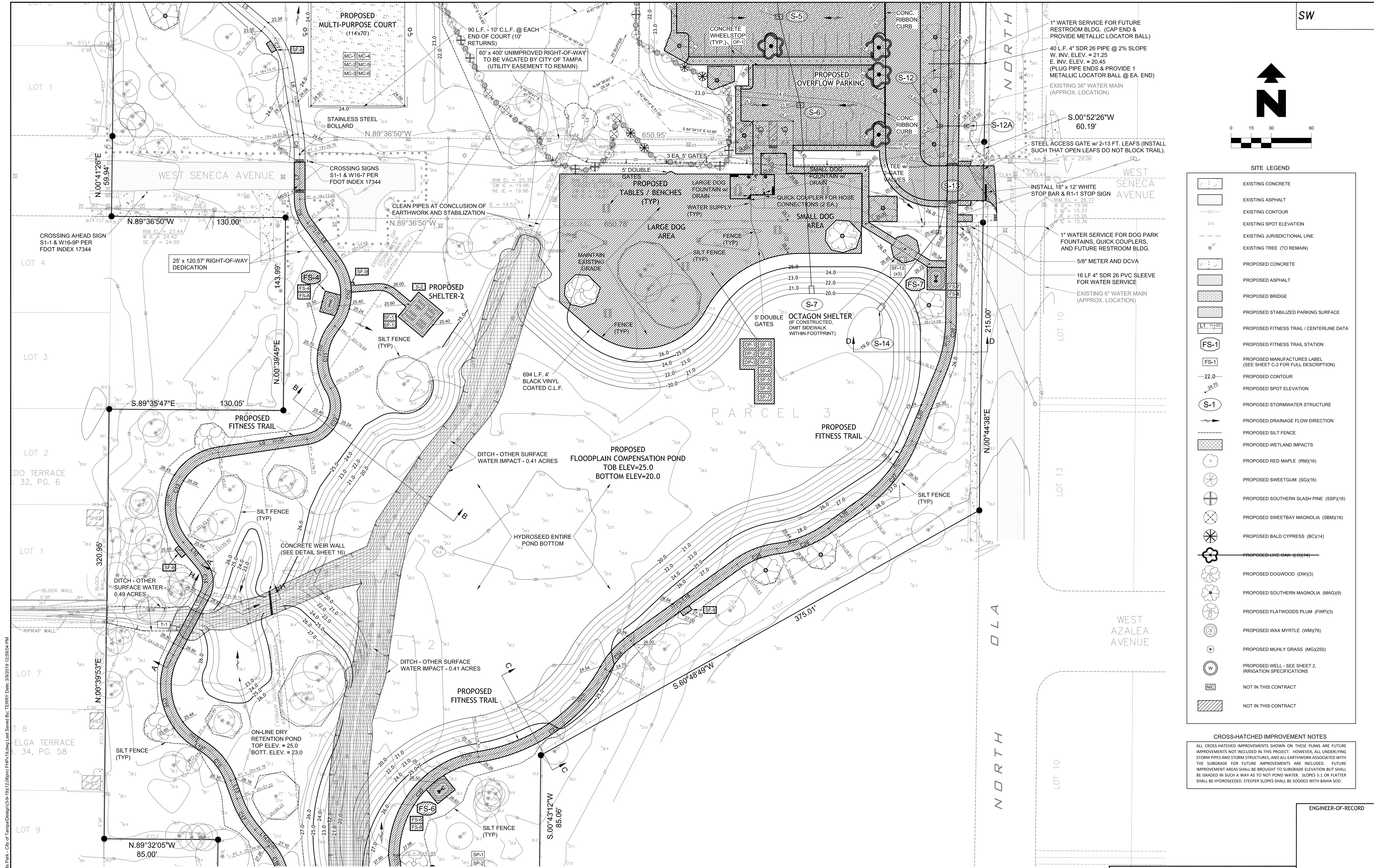
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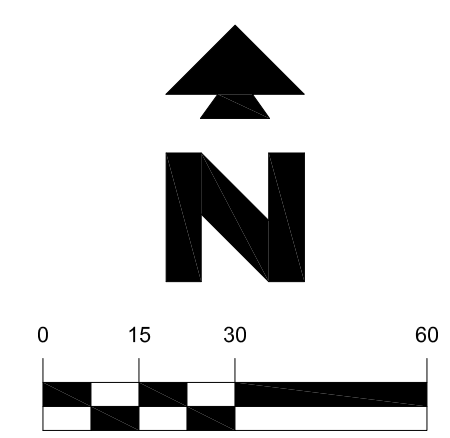
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PARK IMPROVEMENT PLAN - CENTRAL

ENGINEER-OF-RECORD

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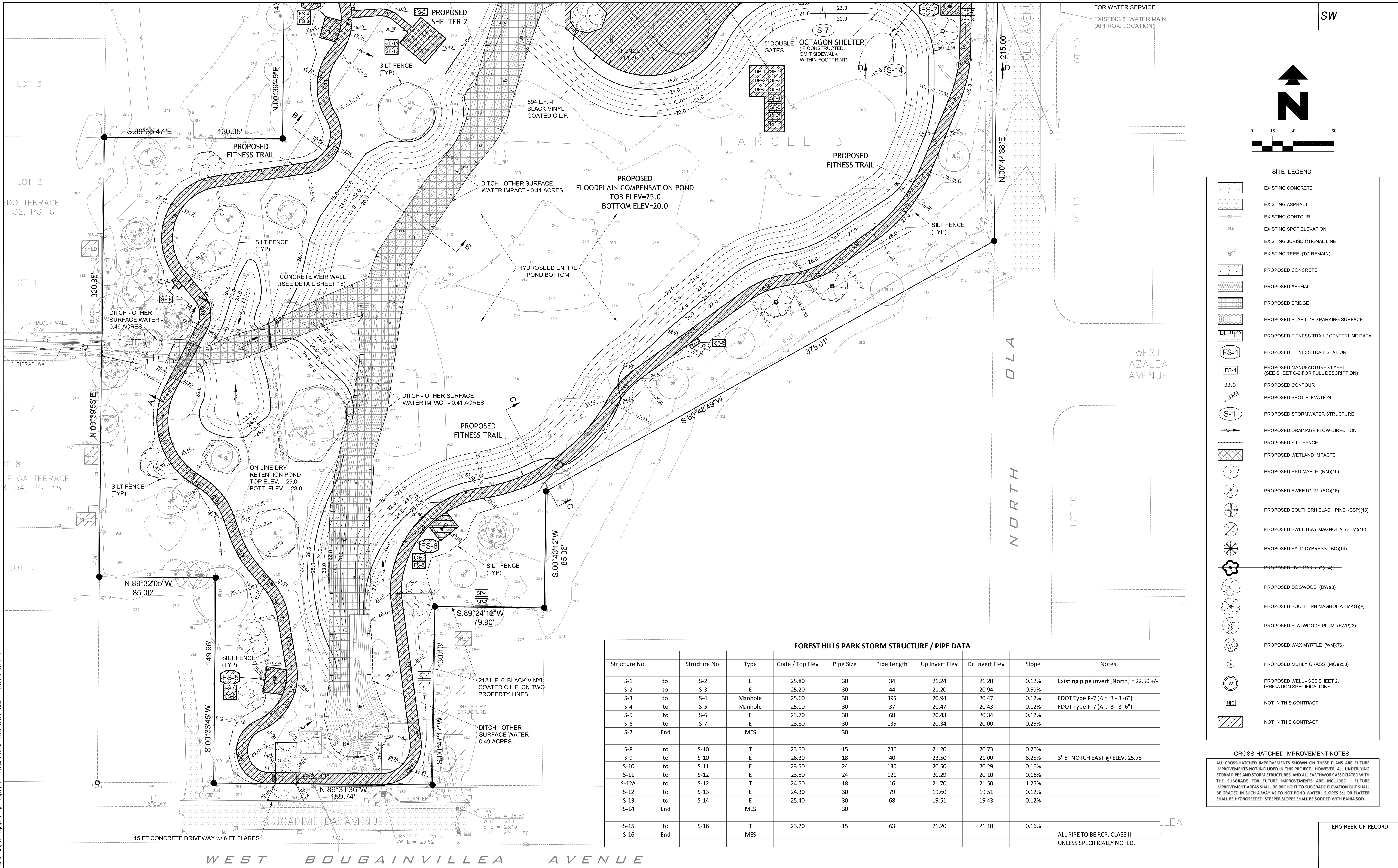
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FOREST HILLS PARK STORM STRUCTURE / PIPE DATA

Structure No.	Structure No.	Type	Grate / Top Elev	Pipe Size	Pipe Length	Up Invert Elev	Cn Invert Elev	Slope	Notes
S-1	to S-2	E	25.80	30	34	21.24	21.20	0.12%	Existing pipe invert (North) = 22.50 +/-
S-2	to S-3	E	25.20	30	44	21.20	20.94	0.59%	
S-3	to S-4	Manhole	25.60	30	395	20.94	20.47	0.12%	FDOT Type P-7 (Alt. B - 3'-6")
S-4	to S-5	Manhole	25.10	30	37	20.47	20.43	0.12%	FDOT Type P-7 (Alt. B - 3'-6")
S-5	to S-6	E	23.70	30	68	20.43	20.34	0.12%	
S-6	to S-7	E	23.80	30	135	20.34	20.00	0.25%	
S-7	End	MES		30					
S-8	to S-10	T	23.50	15	236	21.20	20.73	0.20%	
S-9	to S-10	E	26.30	18	40	23.50	21.00	6.25%	3'-6" NOTCH EAST @ ELEV. 25.75
S-10	to S-11	E	23.50	24	130	20.50	20.29	0.16%	
S-11	to S-12	E	23.50	24	121	20.29	20.10	0.16%	
S-12A	to S-12	T	24.50	18	16	21.70	21.50	1.25%	
S-12	to S-13	E	24.30	30	79	19.60	19.51	0.12%	
S-13	to S-14	E	25.40	30	68	19.51	19.43	0.12%	
S-14	End	MES		30					
S-15	to S-16	T	23.20	15	63	21.20	21.10	0.16%	
S-16	End	MES							ALL PIPE TO BE RCP, CLASS III UNLESS SPECIFICALLY NOTED.

CROSS-HATCHED IMPROVEMENT NOTES

ALL CROSS-HATCHED IMPROVEMENTS SHOWN ON THESE PLANS ARE FUTURE IMPROVEMENTS NOT INCLUDED IN THIS PROJECT. HOWEVER, ALL UNDERLYING STORM PIPES AND STORM STRUCTURES, AND ALL EARTHWORK ASSOCIATED WITH THE SUBGRADE FOR FUTURE IMPROVEMENTS ARE INCLUDED. FUTURE IMPROVEMENT AREAS SHALL BE BROUGHT TO SUBGRADE ELEVATION BUT SHALL BE GRADED IN SUCH A WAY AS TO NOT POND WATER. SLOPES 5:1 OR FLATTER SHALL BE HYDROSEDED. STEEPER SLOPES SHALL BE SOODED WITH BANJA SOD.

ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

PARK IMPROVEMENT PLAN - SOUTH

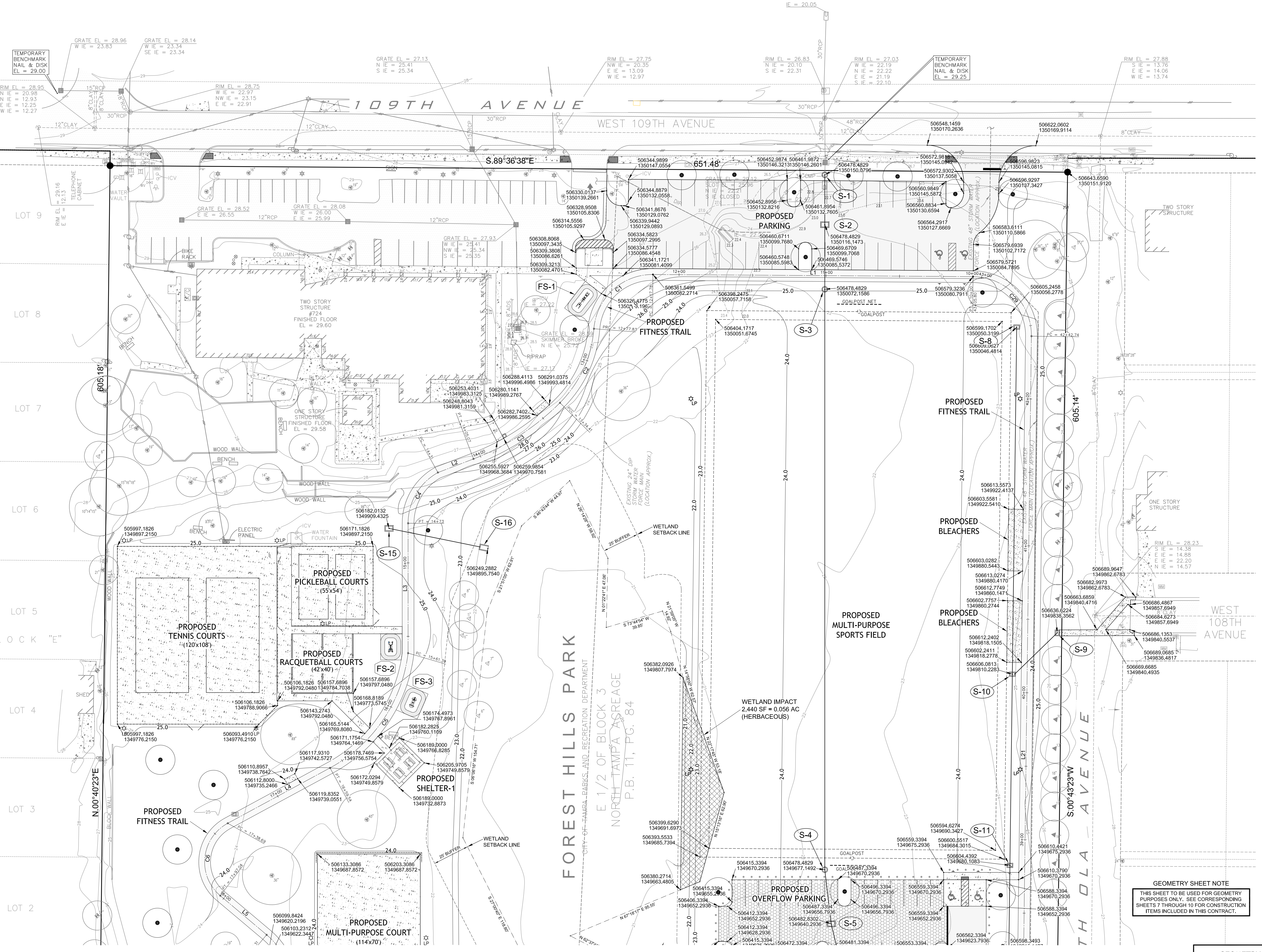
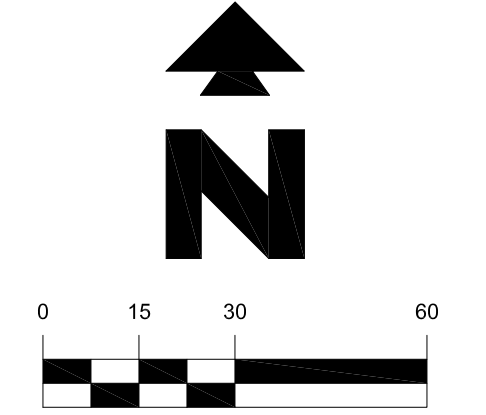
CITY of TAMPA
Department of Transportation and Stormwater Services
Stormwater Engineering Division

MPH CIVIL CONSULTANTS, INC.
P.O. Box Odessa, Florida 33556
Phone: 813.731.0052
duane@mphcivil.com
Florida CA No.: 30727

SHEET **10** OF **21**

No.	DATE	REVISIONS	No.	DATE	REVISIONS	DES:	HDM
3			6			DRN:	TLD
2			5			CKD:	HDM
1	2/8/19	REVISIONS FOR CONTRACT / BID	4			DATE:	11/7/18

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SITE LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING CONTOUR
- EXISTING JURISDICTIONAL LINE
- EXISTING TREE (TO REMAIN)
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED STABILIZED PARKING SURFACE
- PROPOSED FITNESS TRAIL / CENTERLINE DATA
- PROPOSED FITNESS TRAIL STATION
- PROPOSED CONTOUR
- PROPOSED STORMWATER STRUCTURE
- PROPOSED TREES
- PROPOSED WETLAND IMPACTS

GEOMETRY COORDINATES LABELS

506598.3493 NORTHING
1349615.1427 EASTING

TRAIL CENTERLINE LINE TABLE

LINE	LENGTH	BEARING
L1	217.78	N89°36'36"W
L2	25.92	S69°05'10"W
L3	86.39	S00°00'00"W
L4	73.16	S61°34'16"W
L5	41.27	S49°14'05"E
L6	50.22	S08°50'41"E
L7	33.29	S00°00'00"W
L8	35.42	S82°15'22"E
L9	66.86	S81°30'22"W
L10	21.99	S39°26'41"E
L11	59.76	S27°33'14"W
L12	7.75	S58°29'39"E
L13	14.46	S19°41'32"E
L14	15.73	S40°19'45"E
L15	36.20	S09°36'36"E
L16	81.74	S89°31'19"E
L17	106.04	N07°44'23"W
L18	97.68	N54°21'03"E
L19	30.51	N54°21'03"E
L20	69.04	N22°30'00"E
L21	628.16	N00°43'23"E

TRAIL CENTERLINE CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	40.00	60.05	86°00'42"	54.57	S47°23'01"W
C2	80.07	56.58	40°29'11"	55.41	N24°37'15"E
C3	167.16	70.67	24°13'20"	70.14	N68°56'30"E
C4	39.50	42.01	80°56'44"	40.05	S30°20'07"W
C5	102.73	98.14	54°44'13"	94.45	N34°12'10"E
C6	30.00	58.35	111°29'56"	49.58	S05°51'18"W
C7	50.00	35.79	41°05'38"	35.03	S03°46'48"W
C8	100.00	15.44	8°50'41"	15.42	N04°25'21"W
C9	30.00	18.04	36°21'52"	18.72	S18°10'56"E
C10	40.01	51.98	74°25'53"	48.40	N00°5'12"E
C11	40.30	49.84	70°51'59"	46.73	S03°46'48"W
C12	25.00	49.37	113°09'22"	41.73	N24°55'41"E
C13	41.36	87.84	121°40'35"	72.24	S21°23'36"W
C14	20.00	23.39	66°59'55"	22.08	N05°56'44"W
C15	50.00	73.36	54°02'53"	66.94	S14°22'13"E
C16	50.00	32.12	36°48'07"	31.57	N38°05'35"W
C17	75.00	27.01	20°38'13"	26.87	S30°00'38"E
C18	50.00	26.80	30°42'49"	26.48	N24°58'20"W
C19	40.00	53.33	70°52'28"	49.47	N38°34'47"E
C20	20.00	54.56	156°18'09"	39.15	S11°22'33"E
C21	25.00	42.85	98°12'48"	37.80	N41°22'01"E
C22	74.64	105.36	80°52'27"	96.82	S40°42'26"W
C23	130.00	119.33	52°35'36"	115.18	N51°16'40"E
C24	65.00	28.78	25°22'11"	28.55	S41°39'57"W
C25	65.00	32.17	28°21'27"	31.84	S68°31'47"W
C26	85.00	42.07	28°21'27"	41.84	N88°31'47"E
C27	110.00	61.15	31°15'03"	60.36	N38°25'31"E
C28	100.00	38.01	21°46'37"	37.78	N11°36'41"E
C29	40.00	63.06	90°20'01"	56.73	N44°26'38"W

GEOMETRY SHEET NOTE

THIS SHEET TO BE USED FOR GEOMETRY PURPOSES ONLY. SEE CORRESPONDING SHEETS 7 THROUGH 10 FOR CONSTRUCTION ITEMS INCLUDED IN THIS CONTRACT.

WETLAND LINE TABLE

LINE	LENGTH	BEARING
L1	14.45	S03°33'52"E
L2	9.45	S72°04'04"E
L3	31.49	N08°45'10"E
L4	7.70	N00°17'49"E
L5	3.00	S00°21'00"W

ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

GEOMETRY COORDINATES PLAN - NORTH

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1	2/8/19	REVISIONS FOR CONTRACT / BID	4		

DES: HDM
DRN: TLD
CKD: HDM
DATE: 11/7/18

CITY of TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division

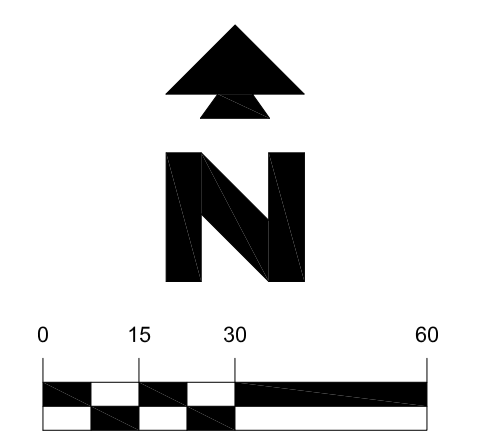


P.O. Box
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Florida CA No.: 30727

SHEET
11
OF
21

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SW



SITE LEGEND

	EXISTING CONCRETE
	EXISTING ASPHALT
	EXISTING CONTOUR
	EXISTING JURISDICTIONAL LINE
	EXISTING TREE (TO REMAIN)
	PROPOSED CONCRETE
	PROPOSED ASPHALT
	PROPOSED STABILIZED PARKING SURFACE
	PROPOSED FITNESS TRAIL / CENTERLINE DATA
	PROPOSED FITNESS TRAIL STATION
	PROPOSED CONTOUR
	PROPOSED STORMWATER STRUCTURE
	PROPOSED TREES
	PROPOSED WETLAND IMPACTS

GEOMETRY COORDINATES LABELS

506598.3493 NORTHING
1349615.1427 EASTING

TRAIL CENTERLINE TABLE

LINE	LENGTH	BEARING
L1	217.78	N89°36'36"W
L2	25.92	S69°05'10"W
L3	88.39	S00°00'00"W
L4	78.16	S61°34'16"W
L5	41.27	S49°51'40"E
L6	50.22	S08°50'41"E
L7	33.29	S00°00'00"W
L8	35.42	S38°21'52"E
L9	66.88	S81°30'22"W
L10	21.99	S39°26'41"E
L11	50.76	S27°33'14"W
L12	7.75	S58°29'39"E
L13	14.46	S19°41'32"E
L14	16.73	S40°19'45"E
L15	36.20	S09°36'36"E
L16	81.74	S89°31'19"E
L17	108.04	N07°44'23"W
L18	97.68	N54°21'03"E
L19	30.51	N54°21'03"E
L20	69.04	N22°30'00"E
L21	628.16	N00°43'23"E

TRAIL CENTERLINE CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	40.00	60.05	86°00'42"	54.57	S47°23'01"W
C2	80.07	56.58	40°29'11"	55.41	N24°37'15"E
C3	107.16	70.67	24°13'20"	70.14	N68°56'30"E
C4	39.50	42.01	80°56'14"	40.05	S30°29'07"W
C5	102.73	98.14	54°44'13"	94.45	N34°12'10"E
C6	30.00	58.35	111°29'56"	49.58	S05°51'18"W
C7	50.00	35.79	41°05'58"	35.03	N29°21'10"W
C8	100.00	15.44	8°50'41"	15.42	N04°25'21"W
C9	30.00	18.04	36°21'52"	18.72	S18°10'56"E
C10	40.01	51.98	74°25'53"	48.40	N00°51'22"E
C11	40.30	49.84	70°51'39"	46.73	S03°46'48"W
C12	25.00	49.37	113°09'22"	41.73	N24°55'41"E
C13	41.36	87.84	121°40'35"	72.24	S21°23'36"W
C14	20.00	23.39	66°59'55"	22.08	N05°56'44"W
C15	50.00	73.35	84°02'53"	66.94	S14°25'13"E
C16	50.00	32.12	36°48'07"	31.57	N38°05'35"W
C17	75.00	27.01	20°38'13"	26.87	S30°00'38"E
C18	50.00	26.80	30°42'49"	26.48	N24°58'20"W
C19	40.00	53.33	70°52'28"	49.47	N03°34'47"E
C20	20.00	54.56	156°18'09"	39.15	S11°22'33"E
C21	25.00	42.85	98°12'48"	37.80	N41°22'01"E
C22	74.64	105.36	80°52'27"	96.82	S40°42'26"W
C23	130.00	119.33	52°35'36"	115.18	N51°16'40"E
C24	65.00	32.17	28°21'27"	31.84	S68°31'47"W
C25	65.00	32.17	28°21'27"	31.84	S68°31'47"W
C26	85.00	42.07	28°21'27"	41.64	N68°31'47"E
C27	110.00	61.15	31°15'03"	60.36	N38°25'31"E
C28	100.00	38.01	21°46'37"	37.78	N11°36'41"E
C29	40.00	63.06	90°20'01"	56.73	N44°26'38"W

WETLAND LINE TABLE

LINE	LENGTH	BEARING
L1	14.45	S03°33'52"E
L2	9.45	S72°04'04"E
L3	31.49	N08°45'10"E
L4	7.70	N08°17'49"E
L5	3.00	S00°21'00"W

GEOMETRY SHEET NOTE

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ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

GEOMETRY COORDINATES PLAN - CENTRAL



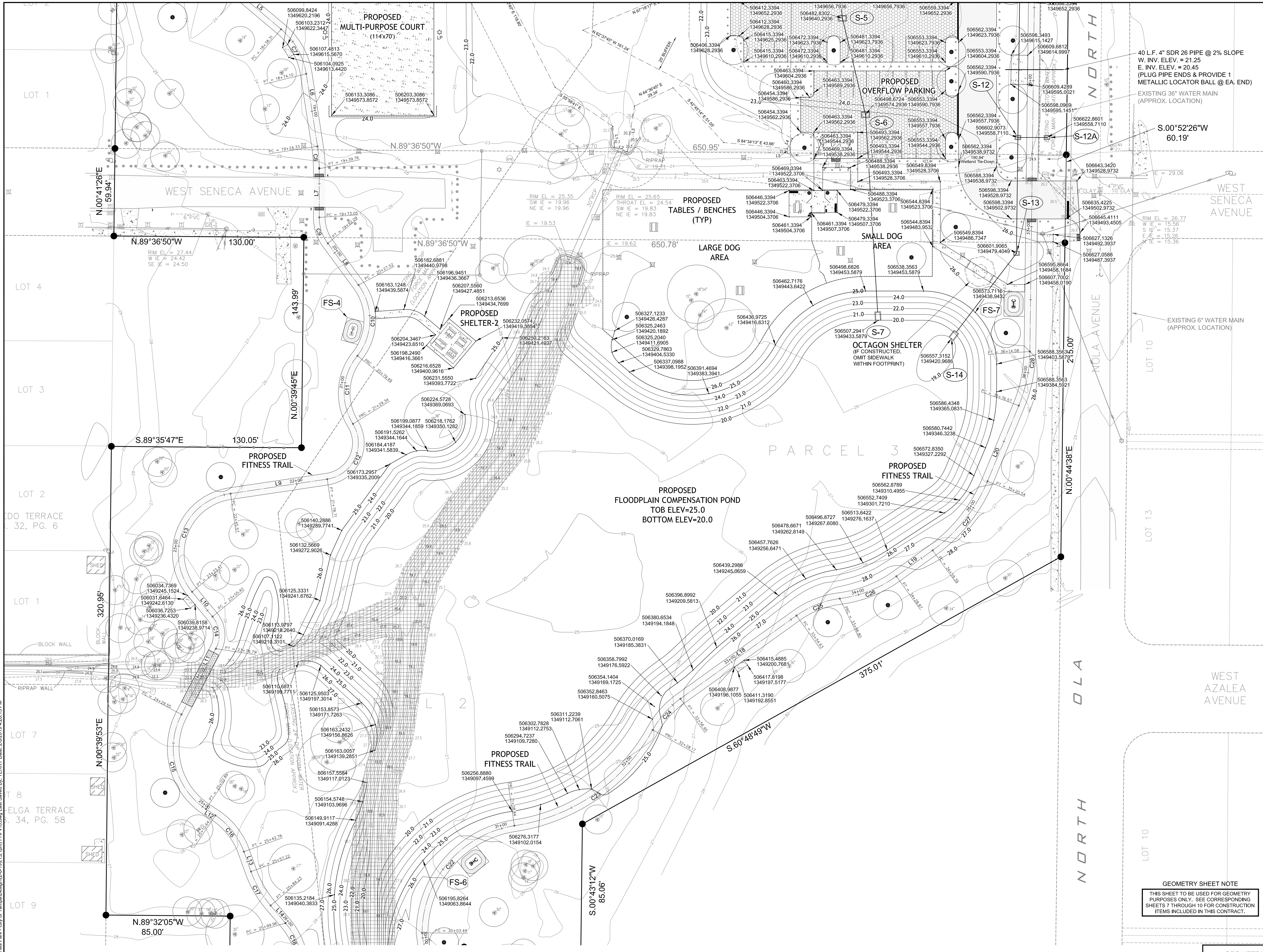
P.O. Box
Odessa, Florida 33556
Phone: 813.731.0052
duane@mphcivil.com
Florida CA No.: 30727

SHEET
12
OF
21

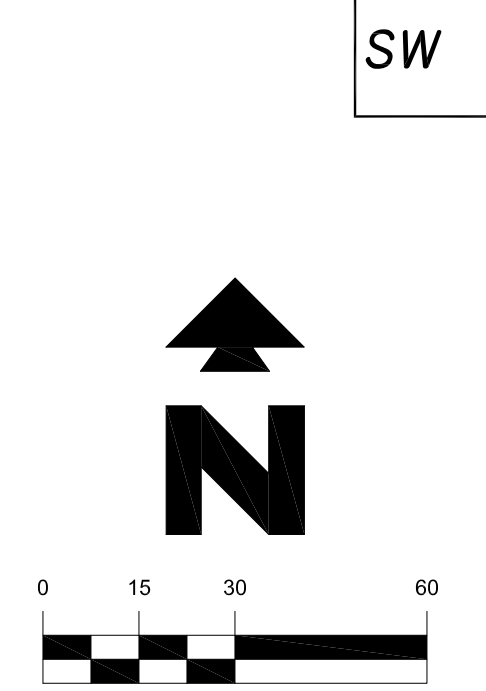
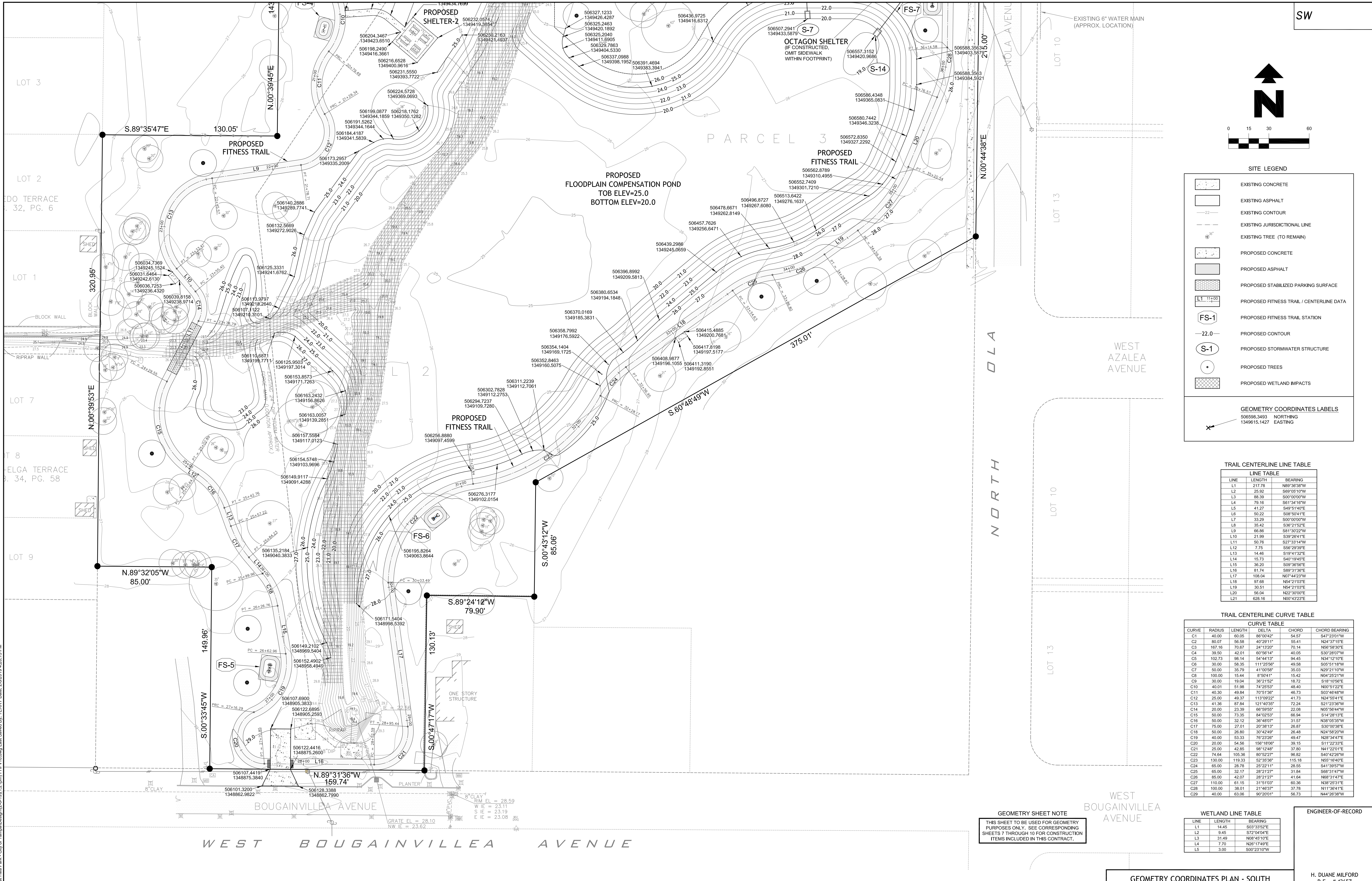
No.	DATE	REVISIONS	No.	DATE	REVISIONS
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DES: TLD
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DATE: 11/7/18

CITY of TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division



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 Plot Scale: 1" = 40'



SITE LEGEND

- EXISTING CONCRETE
- EXISTING ASPHALT
- EXISTING CONTOUR
- EXISTING JURISDICTIONAL LINE
- EXISTING TREE (TO REMAIN)
- PROPOSED CONCRETE
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- PROPOSED WETLAND IMPACTS

GEOMETRY COORDINATES LABELS

506598.3493 NORTHING
1349615.1427 EASTING

TRAIL CENTERLINE LINE TABLE

LINE	LENGTH	BEARING
L1	217.78	N89°36'36"W
L2	25.92	S69°05'10"W
L3	88.39	S00°00'00"W
L4	73.16	S61°34'16"W
L5	41.27	S49°51'40"E
L6	50.22	S08°50'41"E
L7	33.29	S00°00'00"W
L8	35.42	S58°23'39"E
L9	66.88	S81°30'22"W
L10	21.99	S39°26'41"E
L11	59.76	S27°33'14"W
L12	7.75	S58°23'39"E
L13	14.46	S19°41'32"E
L14	15.73	S40°19'45"E
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L16	81.74	S89°31'19"E
L17	108.04	N07°44'23"W
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C7	50.00	35.79	41°05'58"	35.03	N29°21'10"W
C8	100.00	15.44	8°50'41"	15.42	N04°25'21"W
C9	30.00	18.04	36°21'52"	18.72	S18°10'56"E
C10	40.01	51.98	74°25'53"	48.40	N00°51'22"E
C11	40.30	49.84	70°51'39"	46.73	S03°46'46"W
C12	25.00	49.37	113°09'22"	41.73	N24°55'41"E
C13	41.36	87.84	121°40'35"	72.24	S21°23'36"W
C14	20.00	23.39	66°59'55"	22.08	N05°56'44"W
C15	50.00	73.36	94°03'23"	66.94	S14°22'13"E
C16	50.00	32.12	36°48'07"	31.57	N38°05'35"W
C17	75.00	27.01	20°38'13"	26.87	S30°00'38"E
C18	50.00	26.80	30°42'49"	26.48	N24°58'20"W
C19	40.00	53.33	78°22'28"	49.47	N08°34'47"E
C20	20.00	54.56	156°18'06"	39.15	S11°22'33"E
C21	25.00	42.85	98°12'48"	37.80	N41°22'01"E
C22	74.64	105.36	80°52'27"	96.82	S40°42'26"W
C23	130.00	119.33	52°36'38"	115.18	N51°16'40"E
C24	65.00	28.78	25°22'11"	28.55	S41°39'57"W
C25	65.00	32.17	28°21'27"	31.84	S68°31'47"W
C26	85.00	42.07	28°21'27"	41.84	N88°31'47"E
C27	110.00	61.15	31°51'03"	60.36	N38°25'31"E
C28	100.00	38.01	21°46'37"	37.78	N11°36'41"E
C29	40.00	63.06	90°20'01"	56.73	N44°26'38"W

WETLAND LINE TABLE

LINE	LENGTH	BEARING
L1	14.45	S03°33'52"E
L2	9.45	S72°04'04"E
L3	31.49	N08°45'10"E
L4	7.70	N08°17'49"E
L5	3.00	S00°21'10"W

GEOMETRY SHEET NOTE

THIS SHEET TO BE USED FOR GEOMETRY PURPOSES ONLY. SEE CORRESPONDING SHEETS 7 THROUGH 10 FOR CONSTRUCTION ITEMS INCLUDED IN THIS CONTRACT.

ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

GEOMETRY COORDINATES PLAN - SOUTH

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1	2/8/19	REVISIONS FOR CONTRACT / BID	4		

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DRN: TLD
CKD: HDM
DATE: 11/7/18

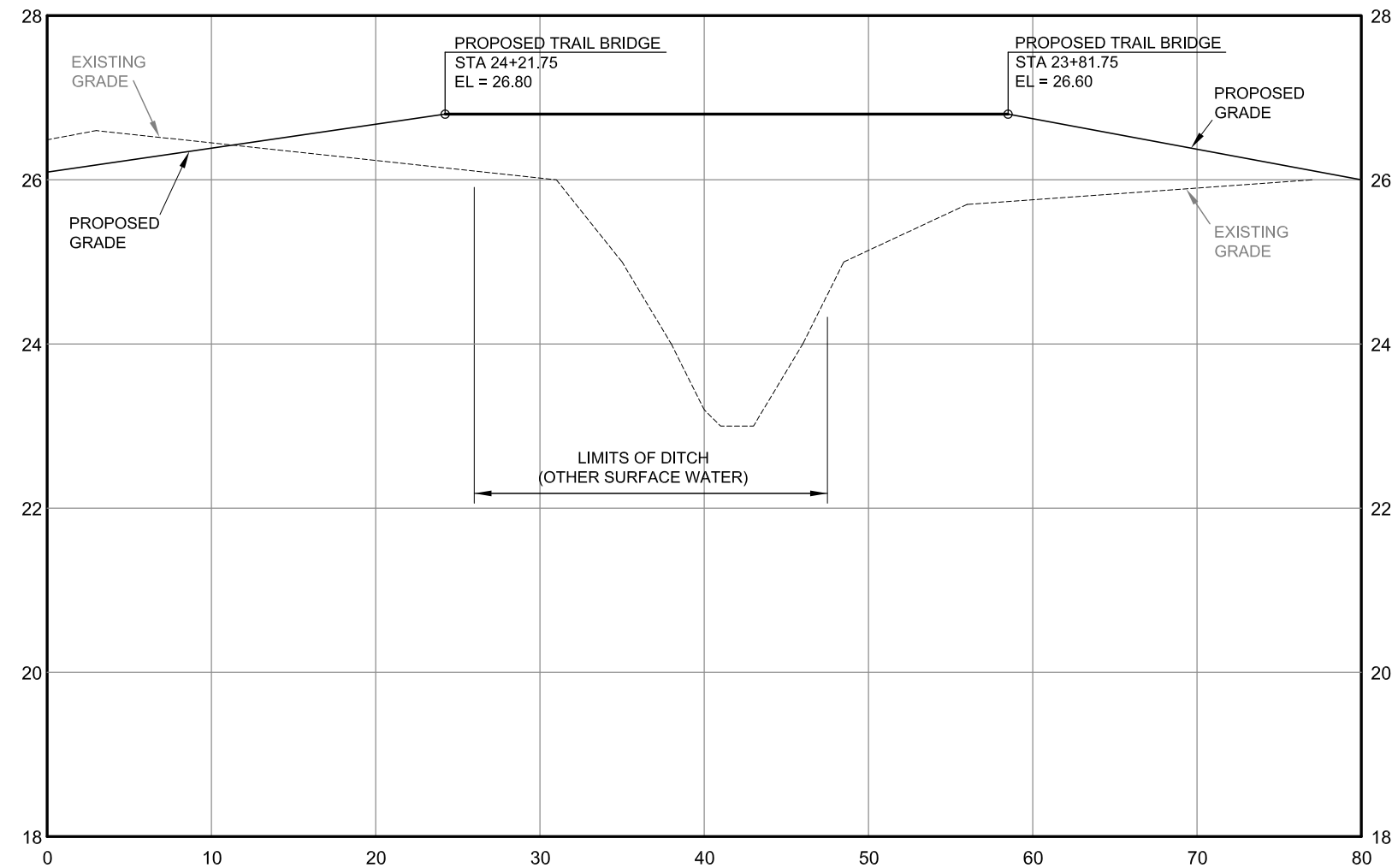
CITY of TAMPA
Department of Transportation
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Stormwater Engineering Division

MPH CIVIL CONSULTANTS, INC.

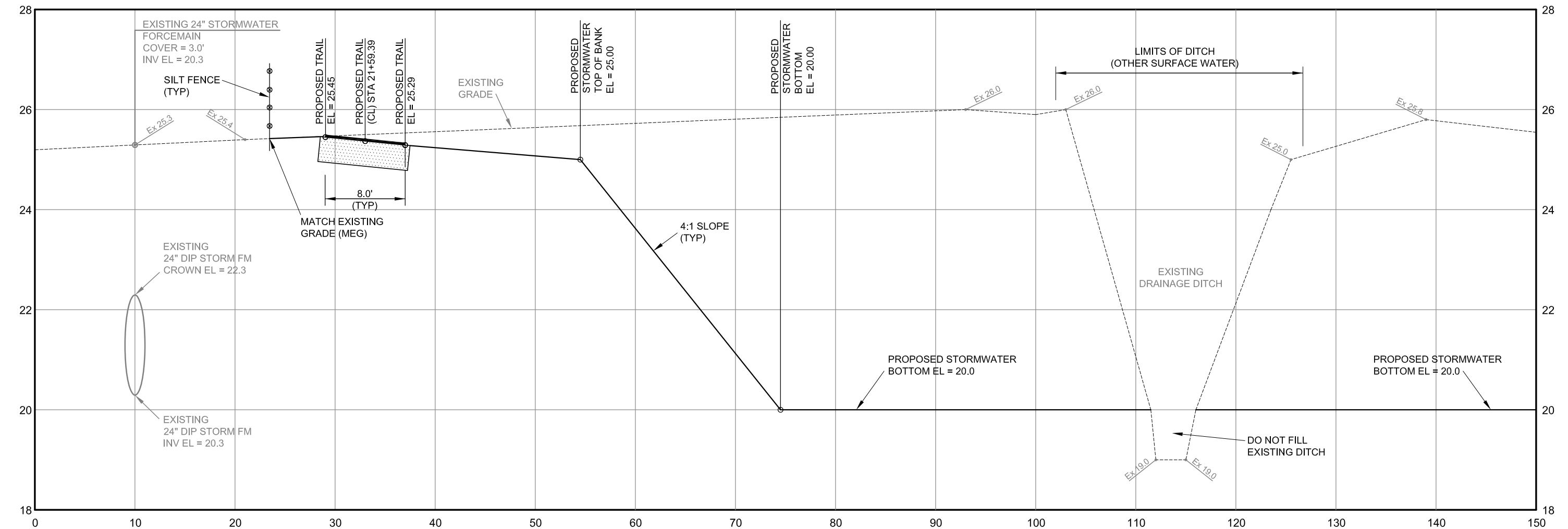
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duane@mphcivil.com
Florida CA No.: 30727

SHEET 13 OF 21

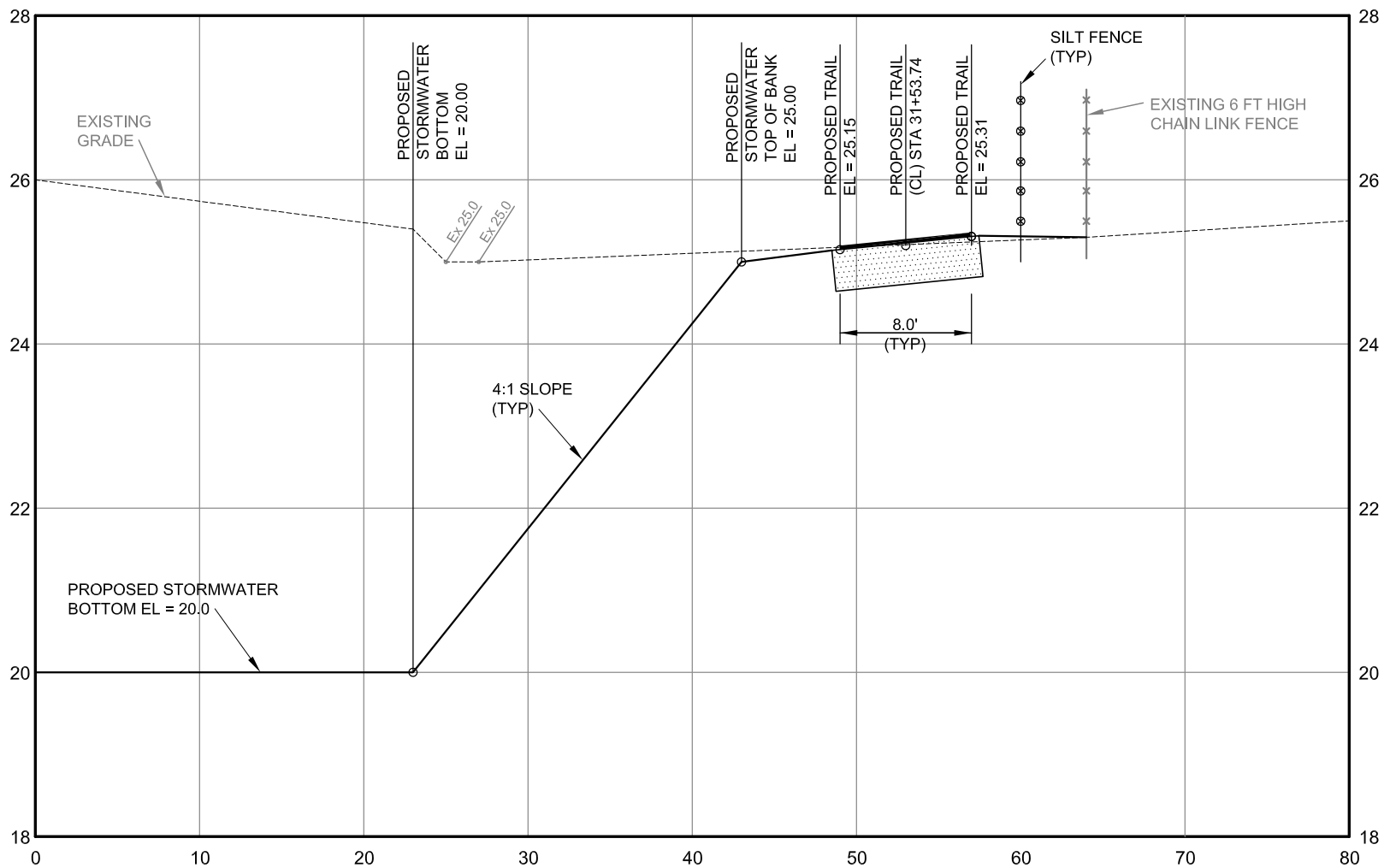
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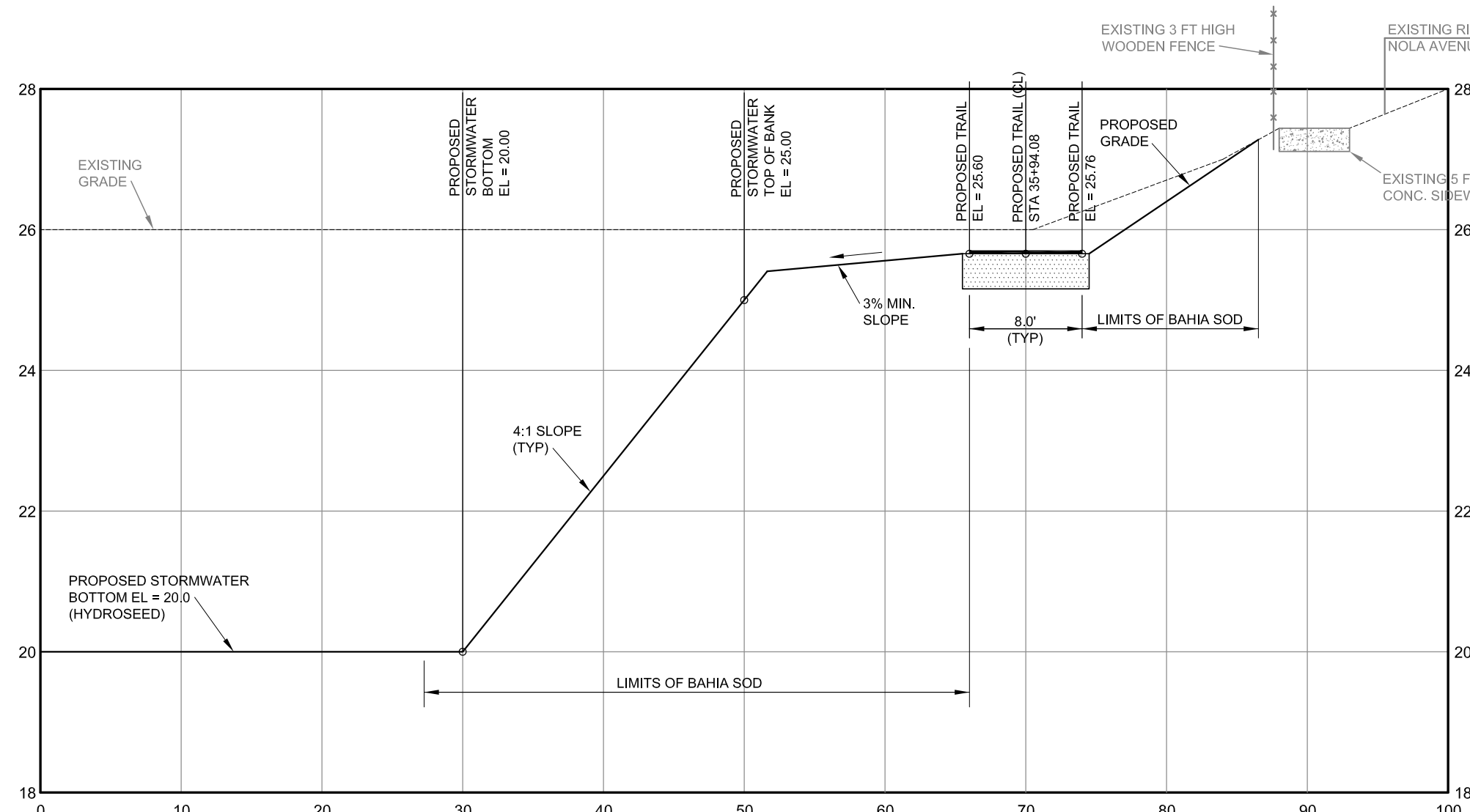
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1" = 2' VERTICAL



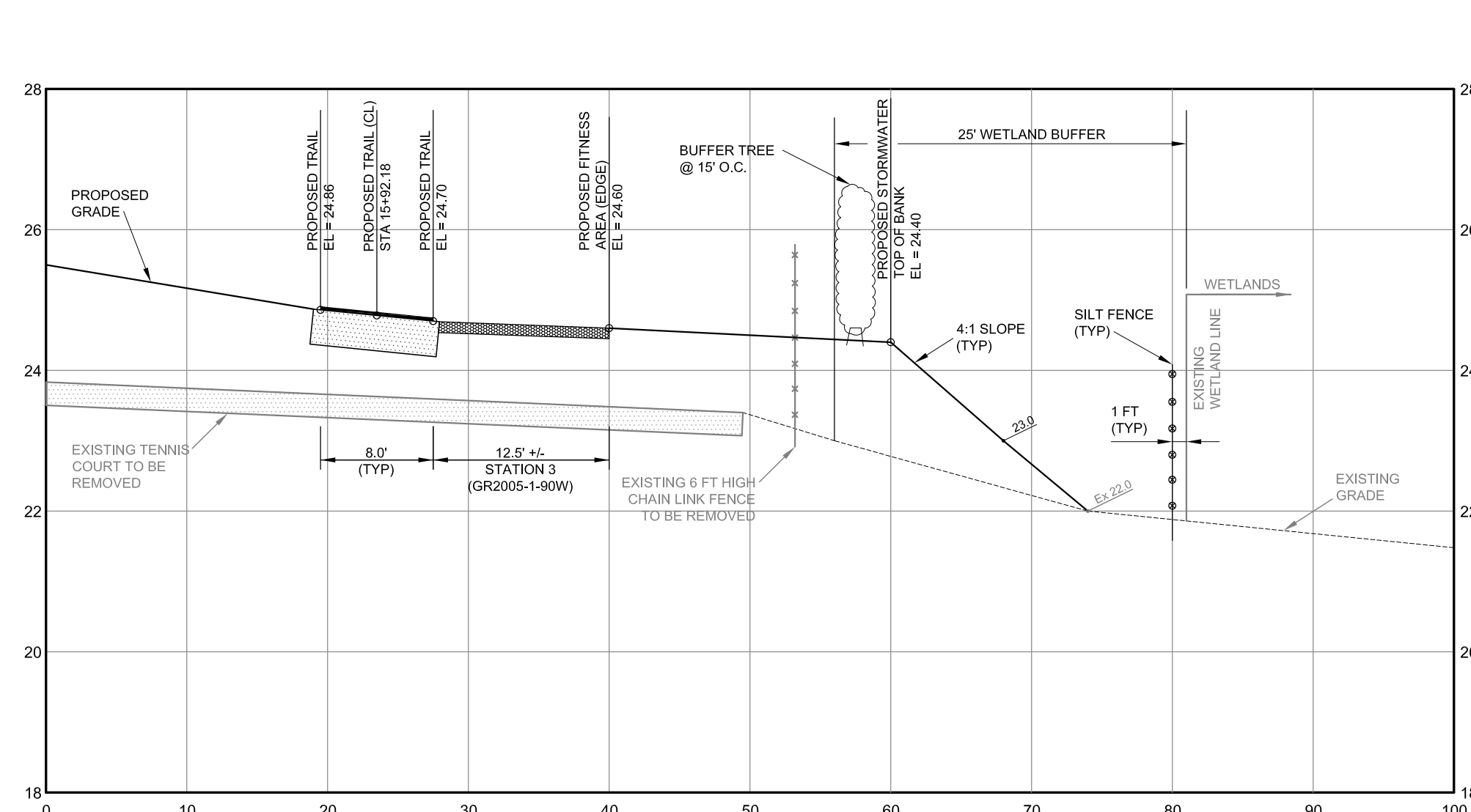
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1" = 2' VERTICAL



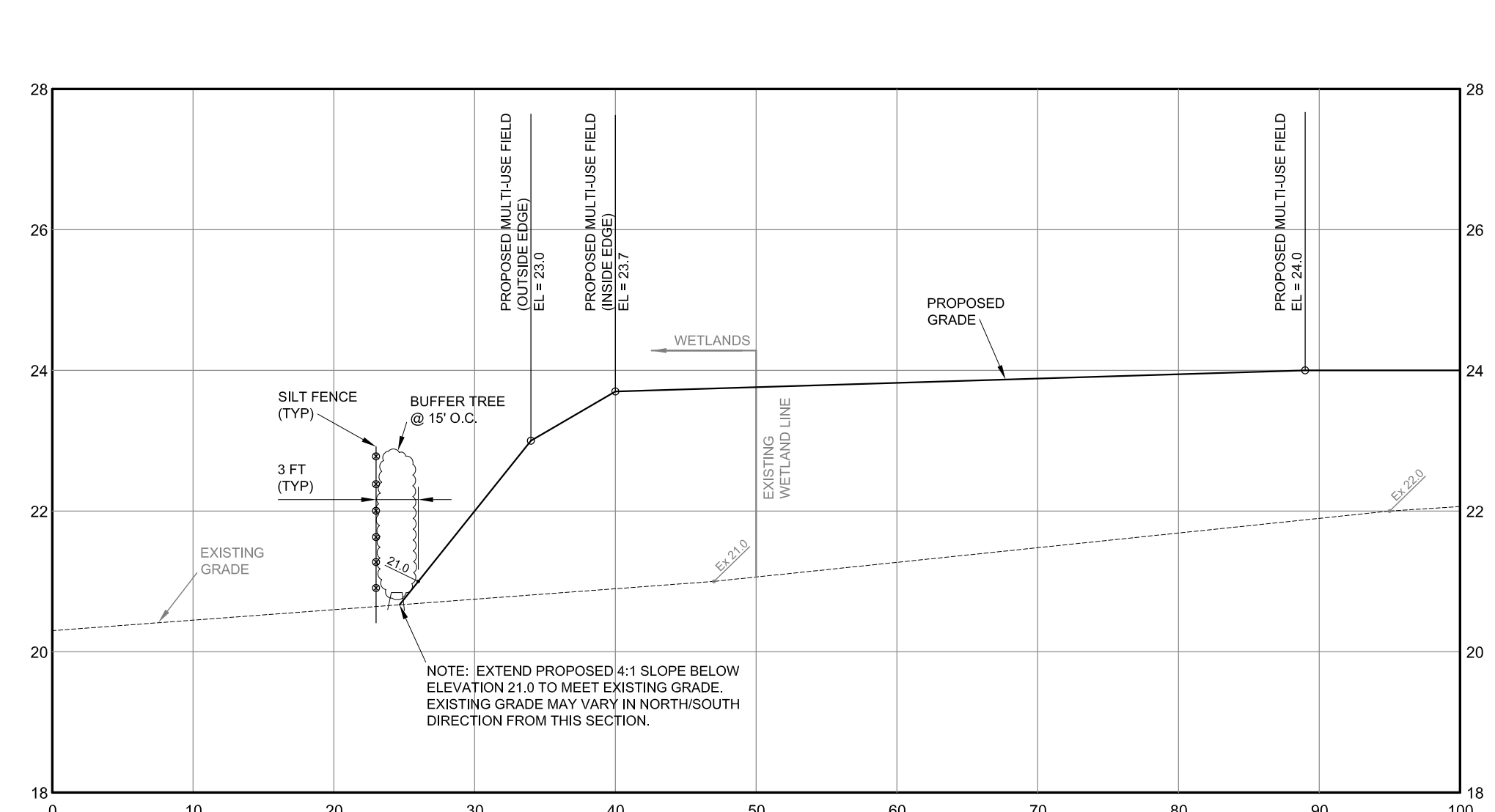
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1" = 2' VERTICAL



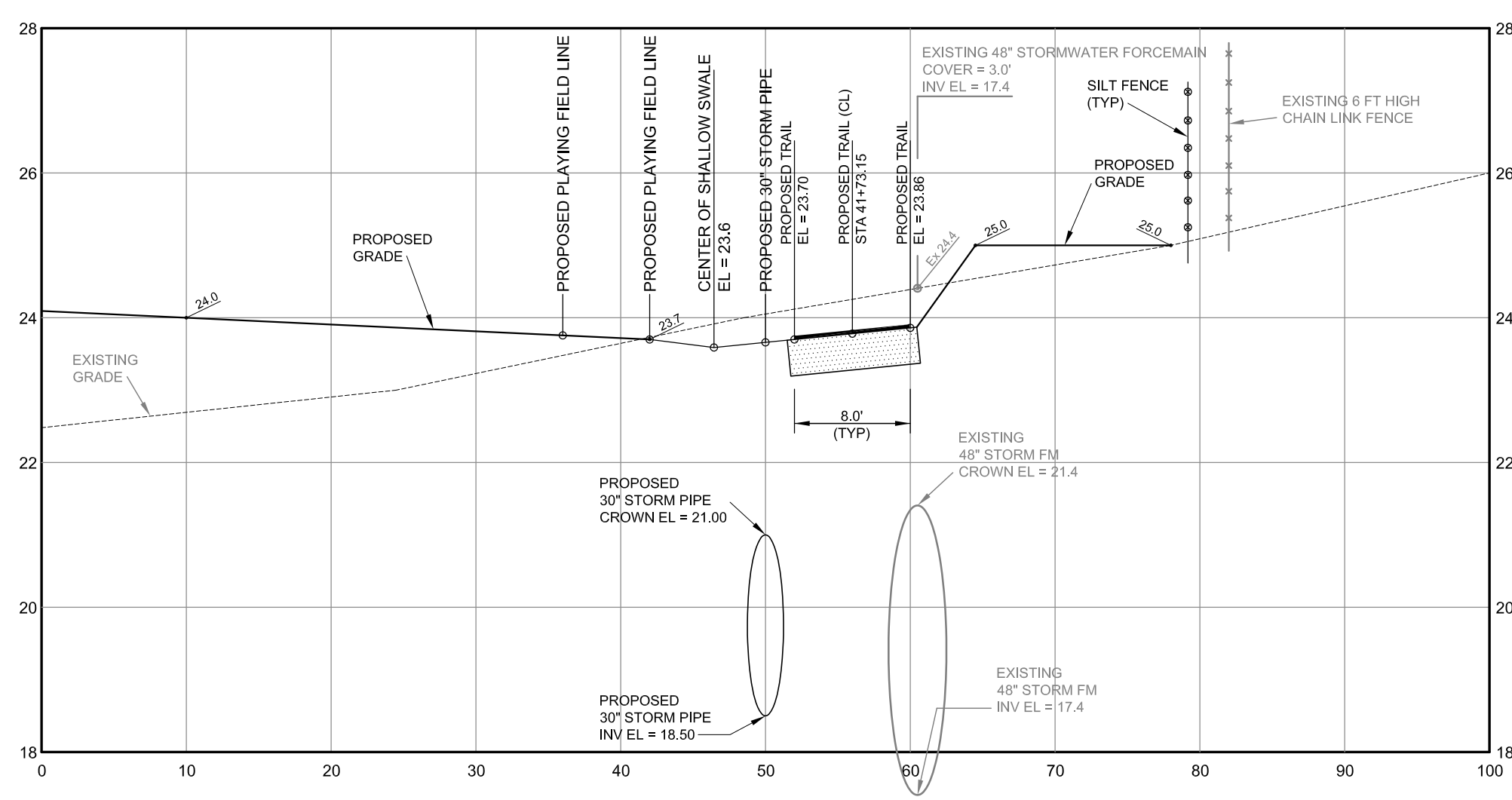
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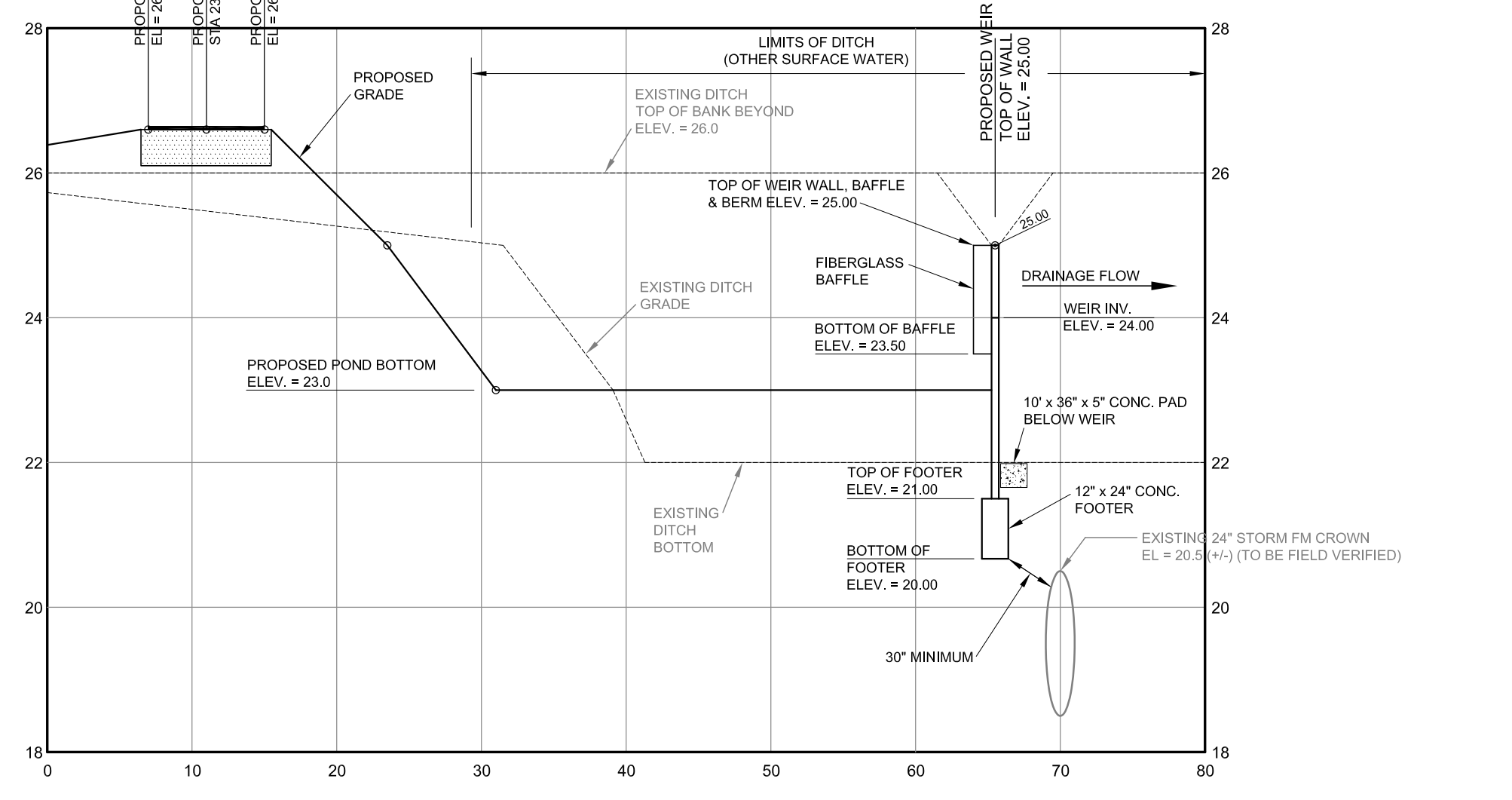
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1" = 2' VERTICAL



SECTION F-F
SCALE: 1" = 10' HORIZONTAL
1" = 2' VERTICAL



SECTION G-G
SCALE: 1" = 10' HORIZONTAL
1" = 2' VERTICAL



SECTION H-H
SCALE: 1" = 10' HORIZONTAL
1" = 2' VERTICAL

BID NOTE
SECTIONS A-A THROUGH D-D, G-G, & H-H SHALL NOT INCLUDE THE TRAIL FOR THIS BID. SIMILARLY SECTION A-A SHALL NOT INCLUDE THE BRIDGE AND SECTION E-E SHALL NOT INCLUDE THE EXERCISE STATION. ALL EARTHWORK SHALL BE COMPLETED WITH FINAL GRADE GENERALLY MATCHING THE TOP OF THE FUTURE TRAIL BASE ELEVATION. FINAL GRADING UNDER THIS BID SHALL NOT ALLOW FOR STANDING WATER.

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No.	DATE	REVISIONS	No.	DATE	REVISIONS
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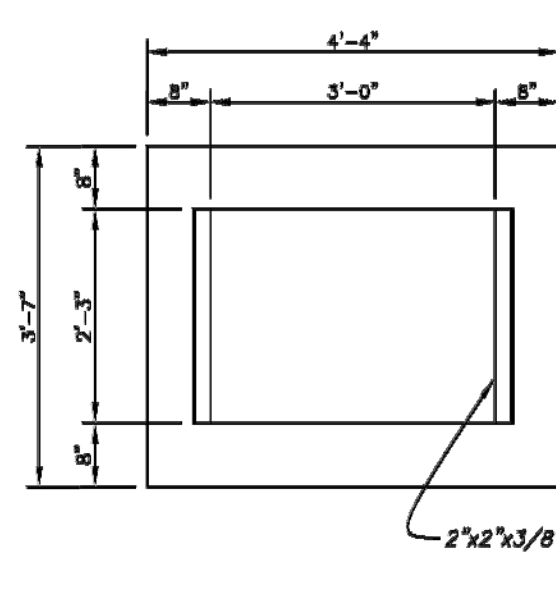
CITY of TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division

MPH
CIVIL CONSULTANTS, INC.

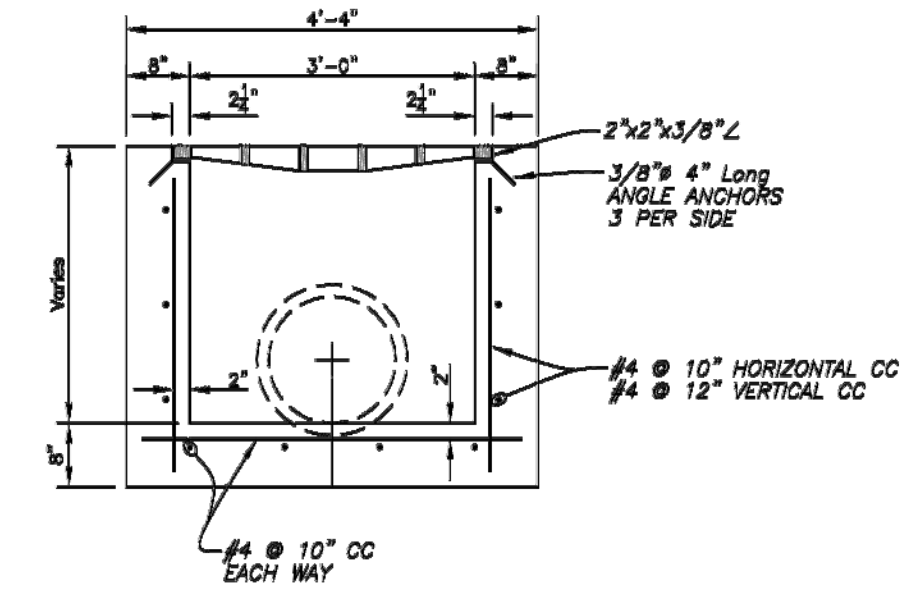
P.O. Box
Odessa, Florida 33556
Phone: 813.731.0052
duane@mphcivil.com
Florida CA No.: 30727

ENGINEER-OF-RECORD
H. DUANE MILFORD
P.E. # 42657
SHEET
14
OF
21

CROSS SECTIONS

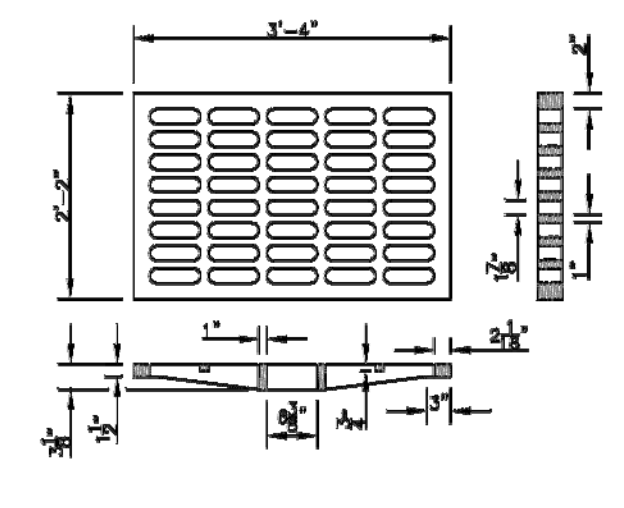


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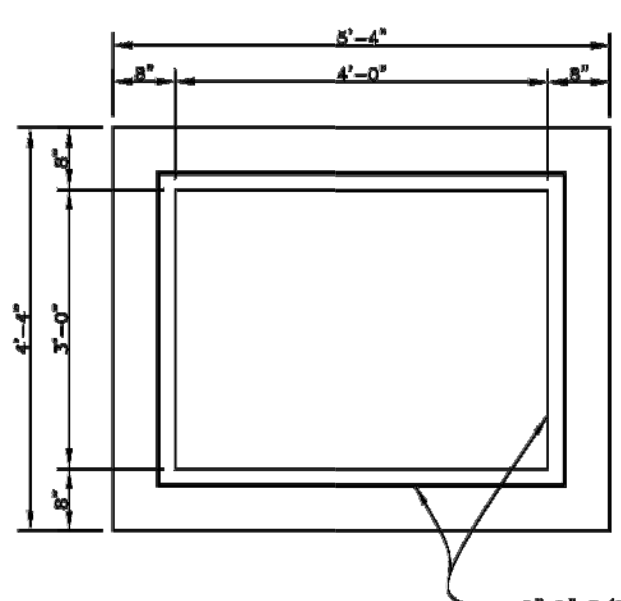


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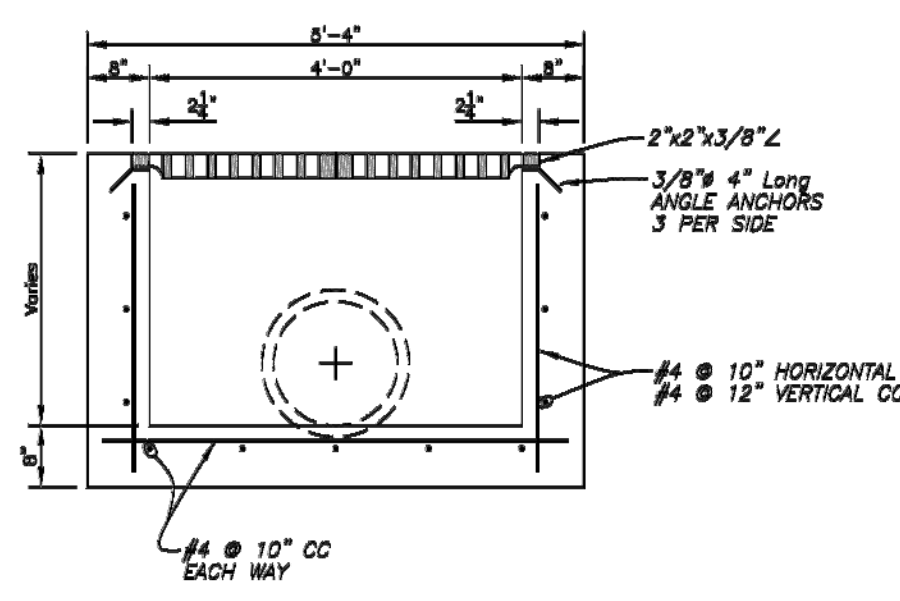
TYPE "T" GRATE INLET
NTS



CAST IRON GRATING

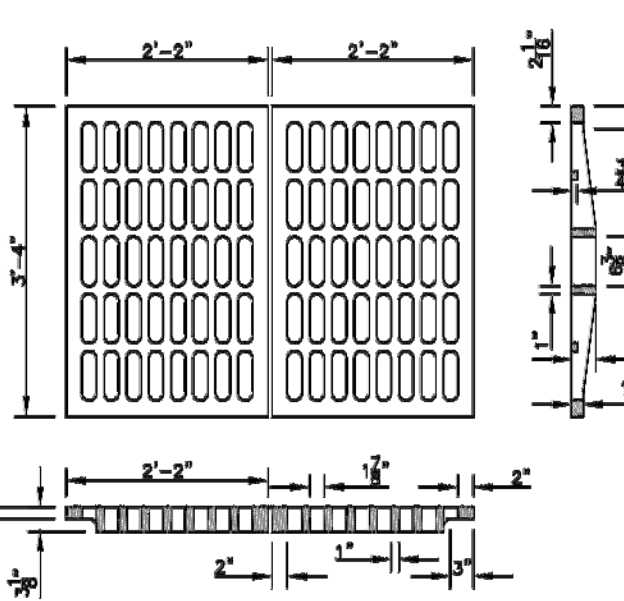


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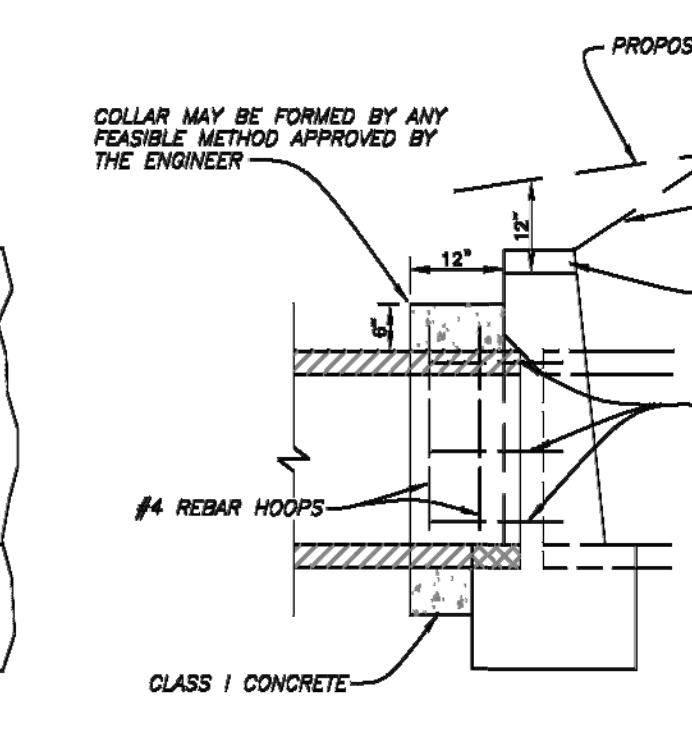
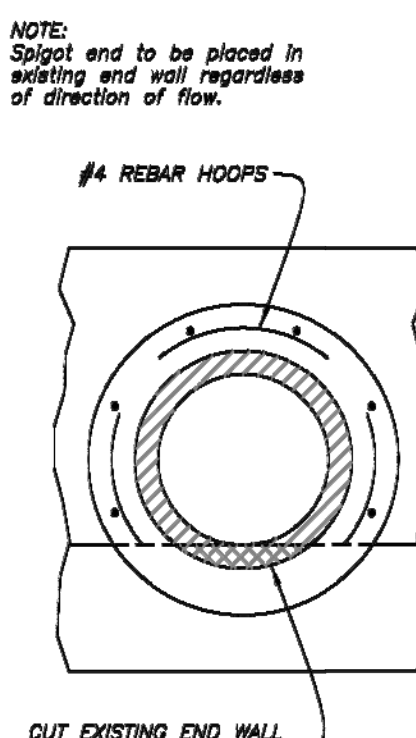


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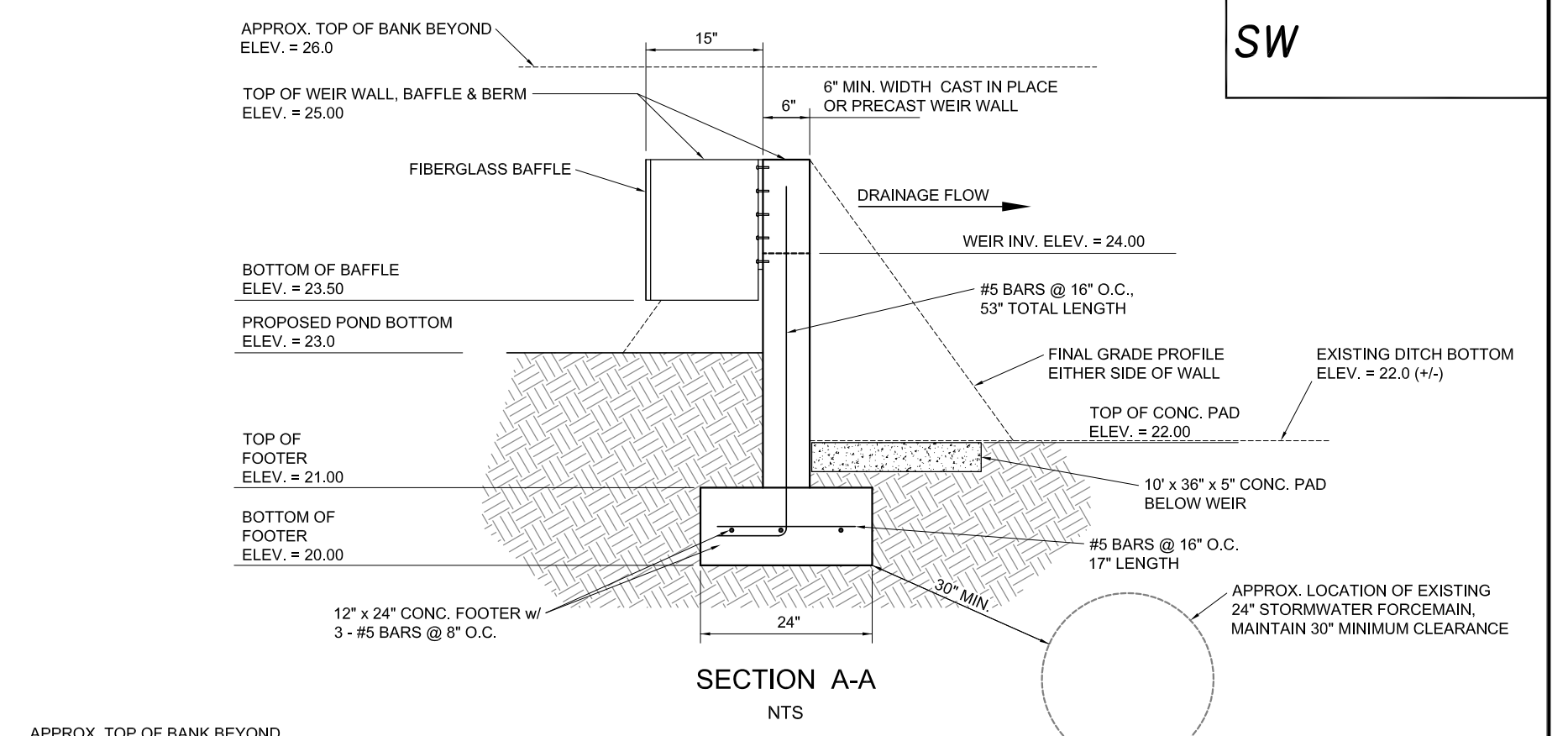


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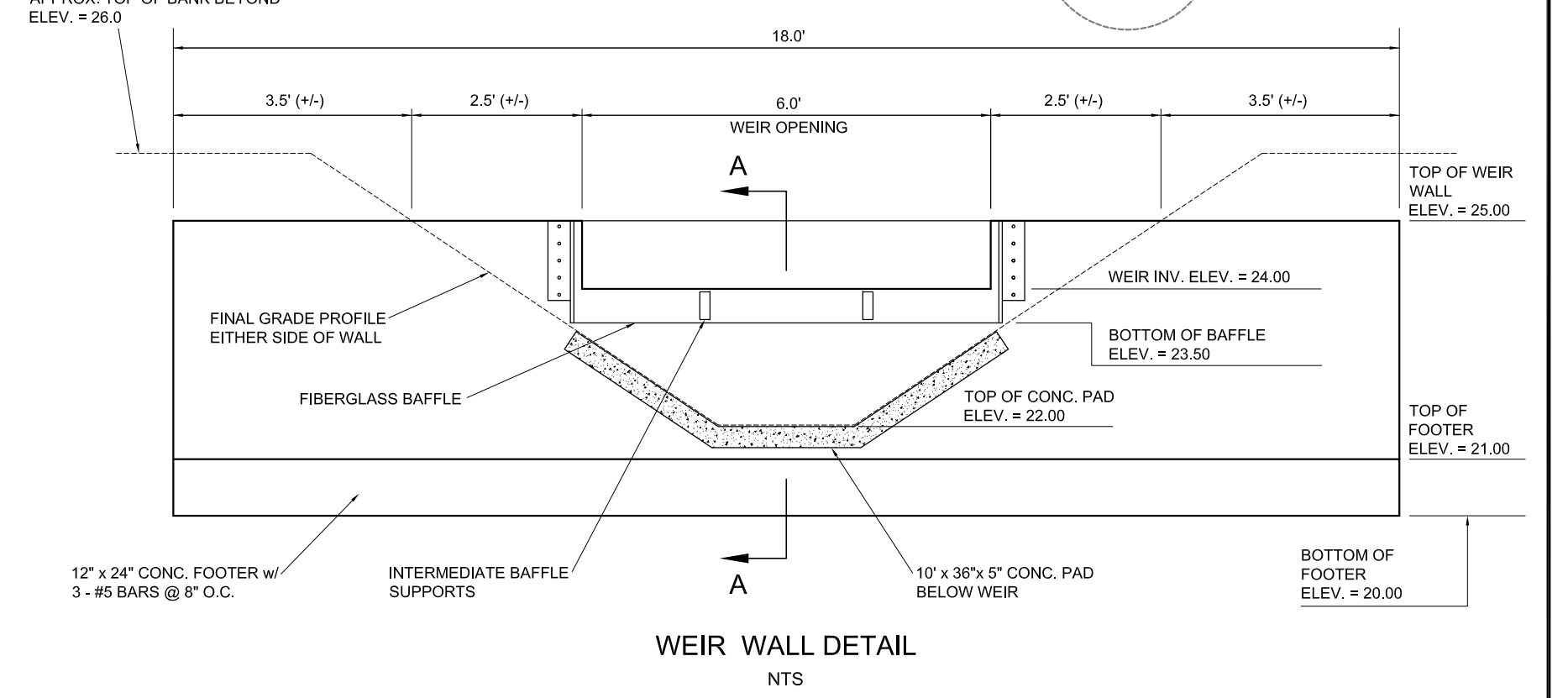


CONCRETE COLLAR FOR EXTENSION OF EXISTING PIPE CULVERT
NTS

CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE
NTS

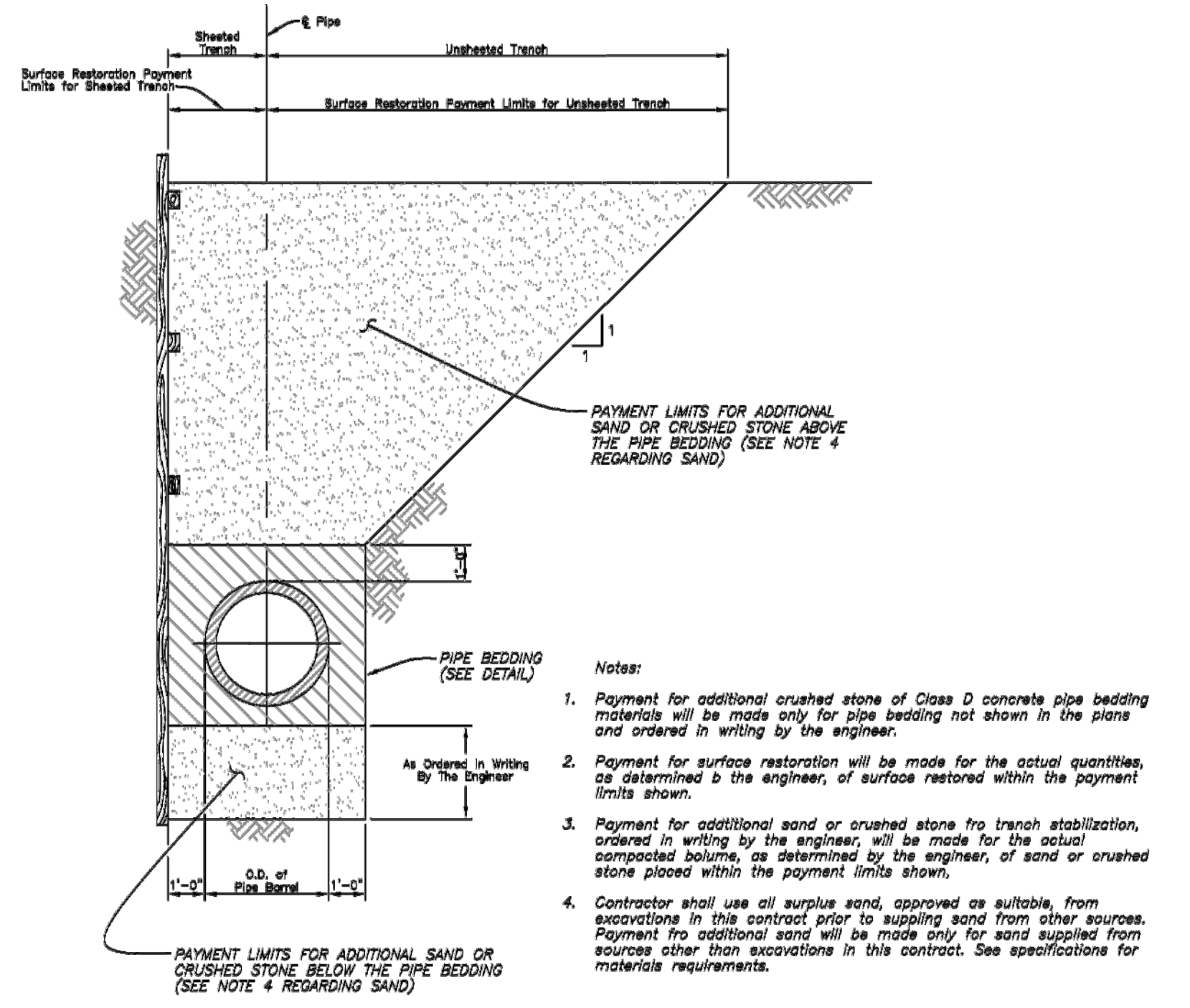


SECTION A-A
NTS

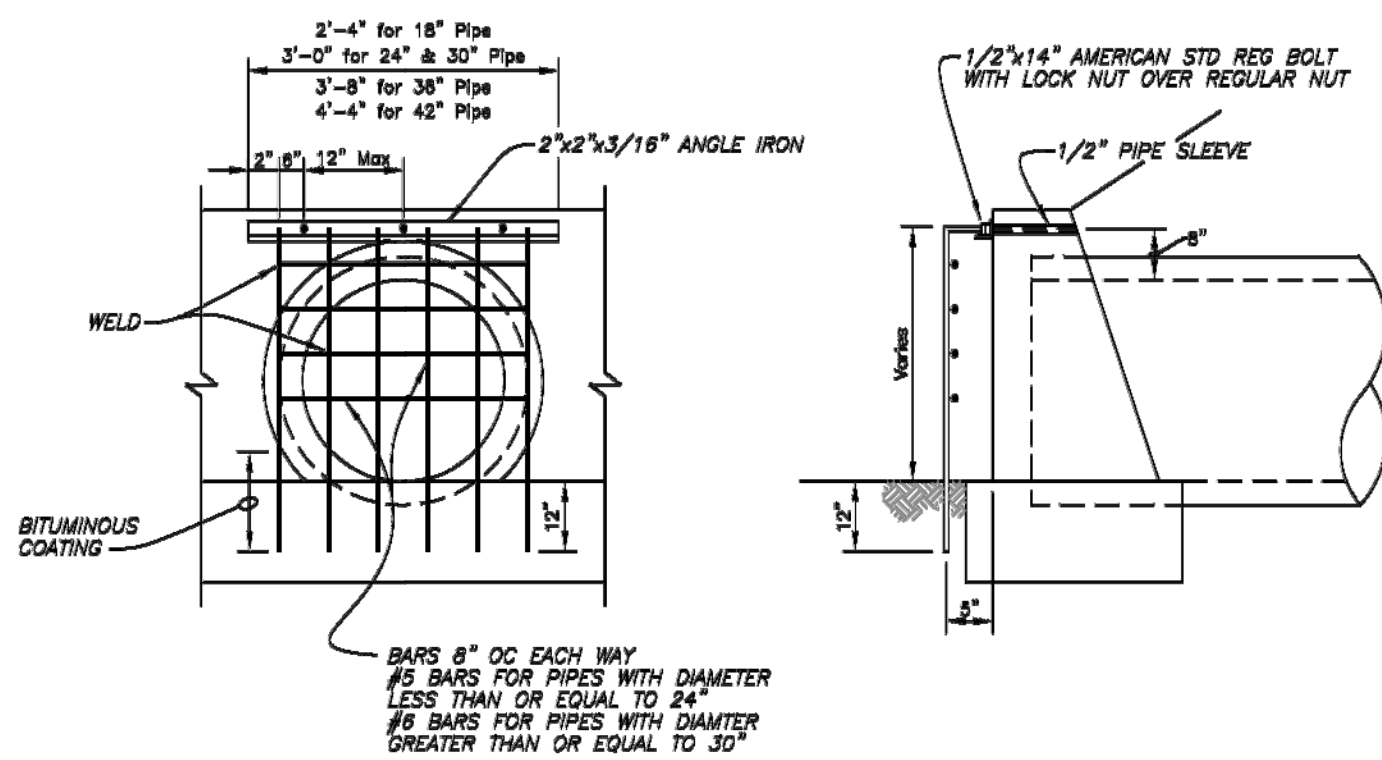


WEIR WALL DETAIL
NTS

QUANTITIES FOR PAYMENT FOR ADDITIONAL PIPE BEDDING MATERIALS ORDERED IN WRITING BY THE ENGINEER										
NOMINAL INSIDE DIAMETER (INCHES)	18	18	24	30	36	42	48	54	60	72
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CONCRETE ENCASMENT	0.238	0.299	0.383	0.472	0.588	0.680	0.787	0.908	1.027	1.279
CUBIC YARDS OF CONCRETE PER LINEAR FOOT OF PIPE IN CLASS A BEDDING (CONCRETE DRAGLE)	0.128	0.150	0.162	0.238	0.294	0.349	0.399	0.453	0.514	0.640
CUBIC YARDS OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B-1 BEDDING	0.304	0.382	0.479	0.608	0.781	0.938	1.103	1.281	1.471	1.887
CUBIC YARDS OF CRUSHED STONE PER LINEAR FOOT OF PIPE IN CLASS B BEDDING	0.111	0.143	0.207	0.280	0.381	0.478	0.578	0.690	0.810	1.078



PAYMENT LIMITS FOR SURFACE RESTORATION AND ADDITIONAL SAND OR CRUSHED STONE FOR TRENCH STABILIZATION
NTS

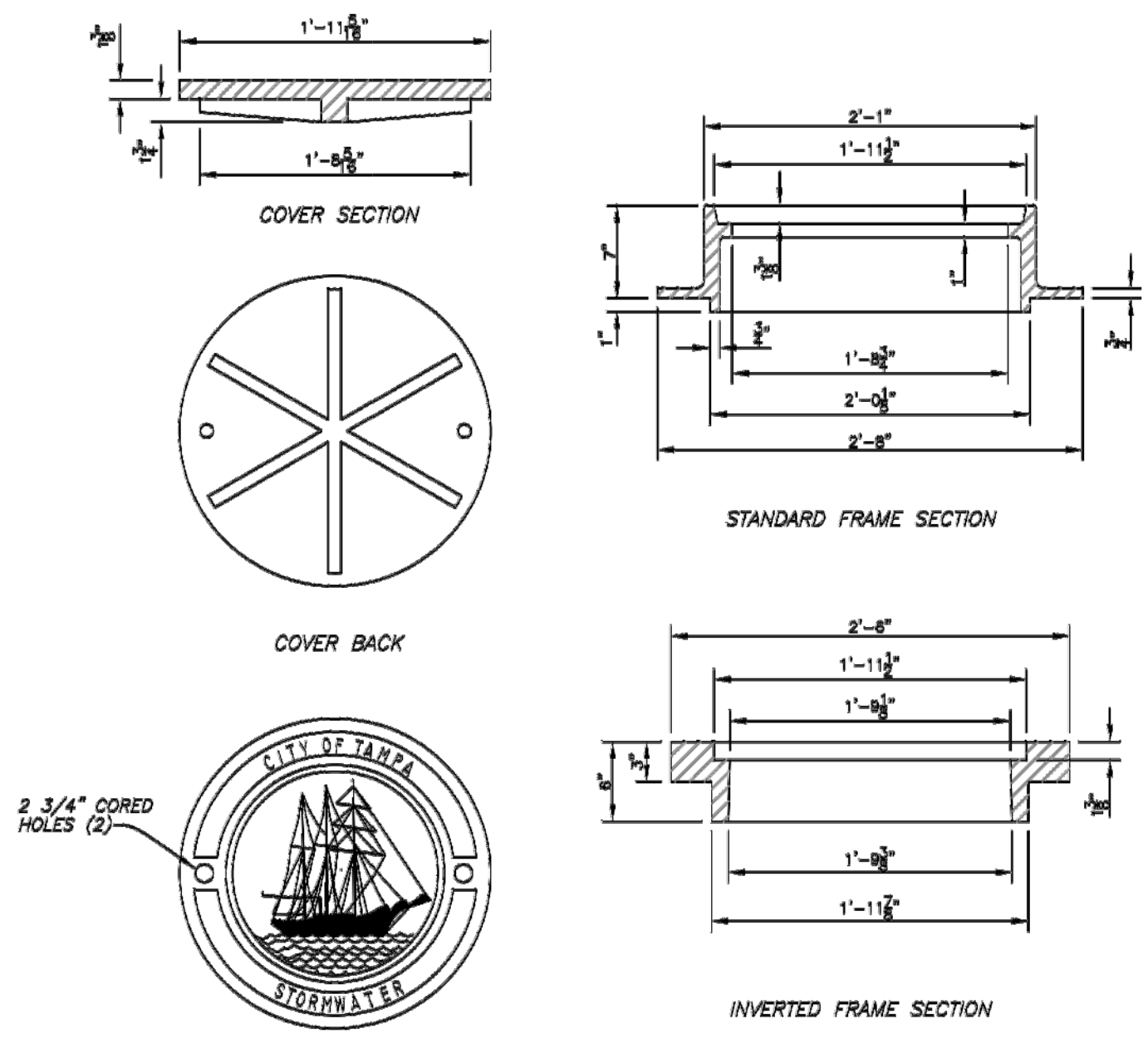


GUARD AT PIPE ENDS
NTS

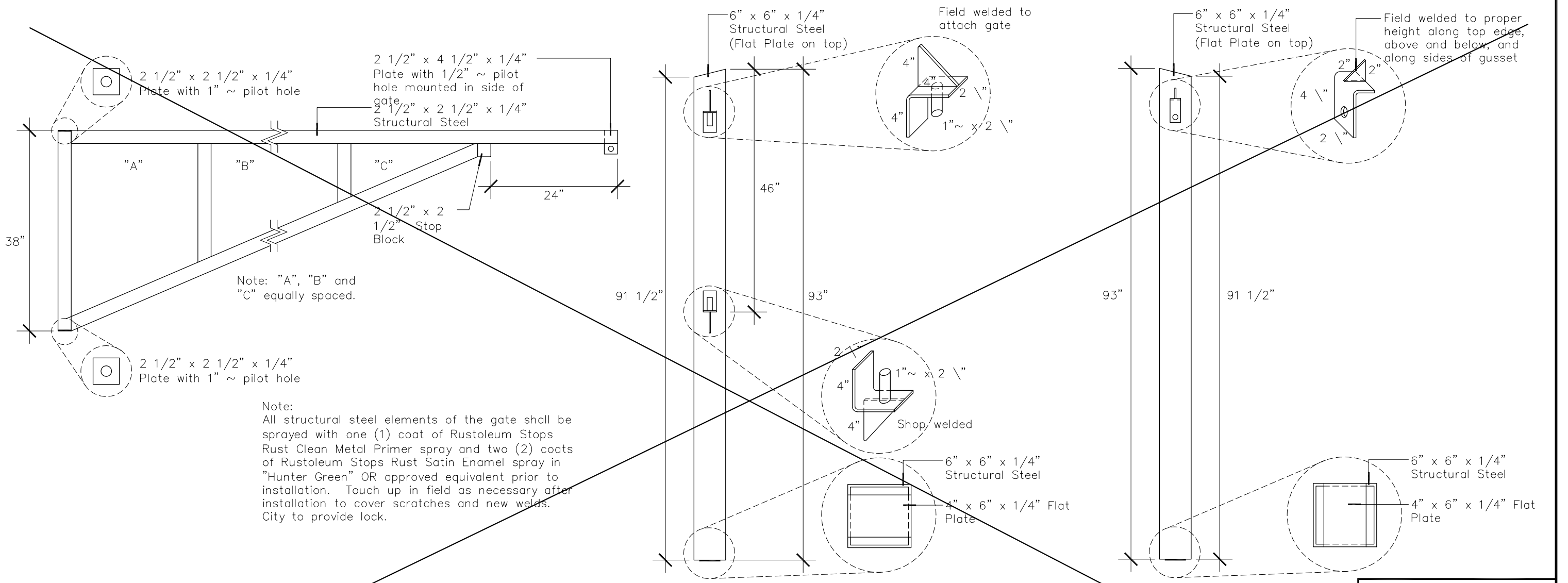
CITY OF TAMPA STANDARD DETAILS	
SCHEDULE OF CASTINGS	
STRUCTURE TYPE	
All Curb Inlets (Cover)	USF 1180 (85 lb.)
All Curb Inlets (Ring)	USF 1180
All Manholes (Cover)	USF Type AD (180 lb.)
All Manholes (Standard Ring)	USF 573
All Manholes (Inverted Ring)	USF 1175
Type T Grate Inlets	USF 6289
Type E Grate Inlets	USF 6286
Type H Grate Inlets	USF 6288
Grate Seats	USF 7100

CITY OF TAMPA STORMWATER DEPARTMENT
GENERAL NOTES AND SCHEDULE OF CASTINGS

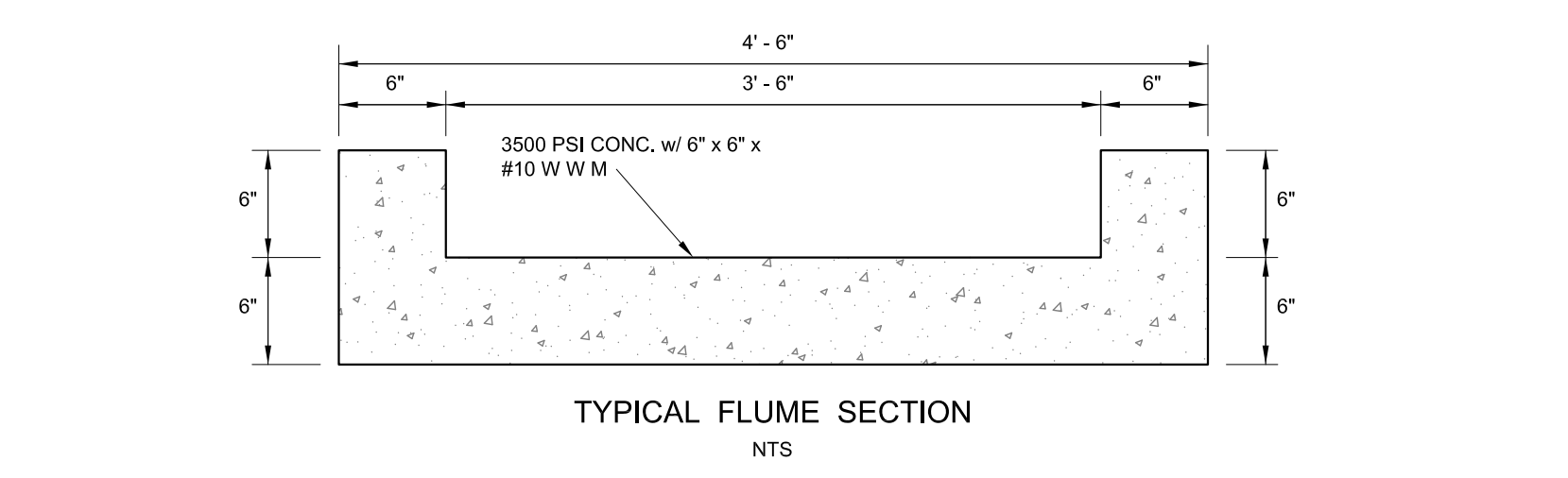
- ALL DRAINAGE STRUCTURES (MANHOLES, INLETS, OUTFALL STRUCTURES AND OTHERS) SHALL INCLUDE A 6" THICK COMPACTED #57 AGGREGATE FOUNDATION, WRAPPED COMPLETELY WITH FILTER FABRIC MEETING FDOT STANDARD SPECIFICATIONS 441-2.3.
- ALL PIPE JOINTS (ROUND, ELIPTICAL AND BOX CULVERTS) SHALL BE WRAPPED COMPLETELY WITH FILTER FABRIC MEETING FDOT STANDARD SPECIFICATIONS 441-2.3. FABRIC SHALL EXTEND ONE FOOT ONTO EACH PIPE SECTION (JOINT) AND SHALL OVERLAP A MINIMUM OF ONE FOOT CIRCUMFERENTIALLY. FABRIC SHALL BE HELD IN PLACE WITH RUST-PROOF METAL STRAPPING.



MANHOLE FRAMES AND COVER
NTS



26 FT. STEEL ACCESS GATE DETAIL
NTS



TYPICAL FLUME SECTION
NTS

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1	2/8/19	REVISIONS FOR CONTRACT / BID	4		

DES: HDM
DRN: TLD
CKD: HDM
DATE: 11/7/18

CITY OF TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division

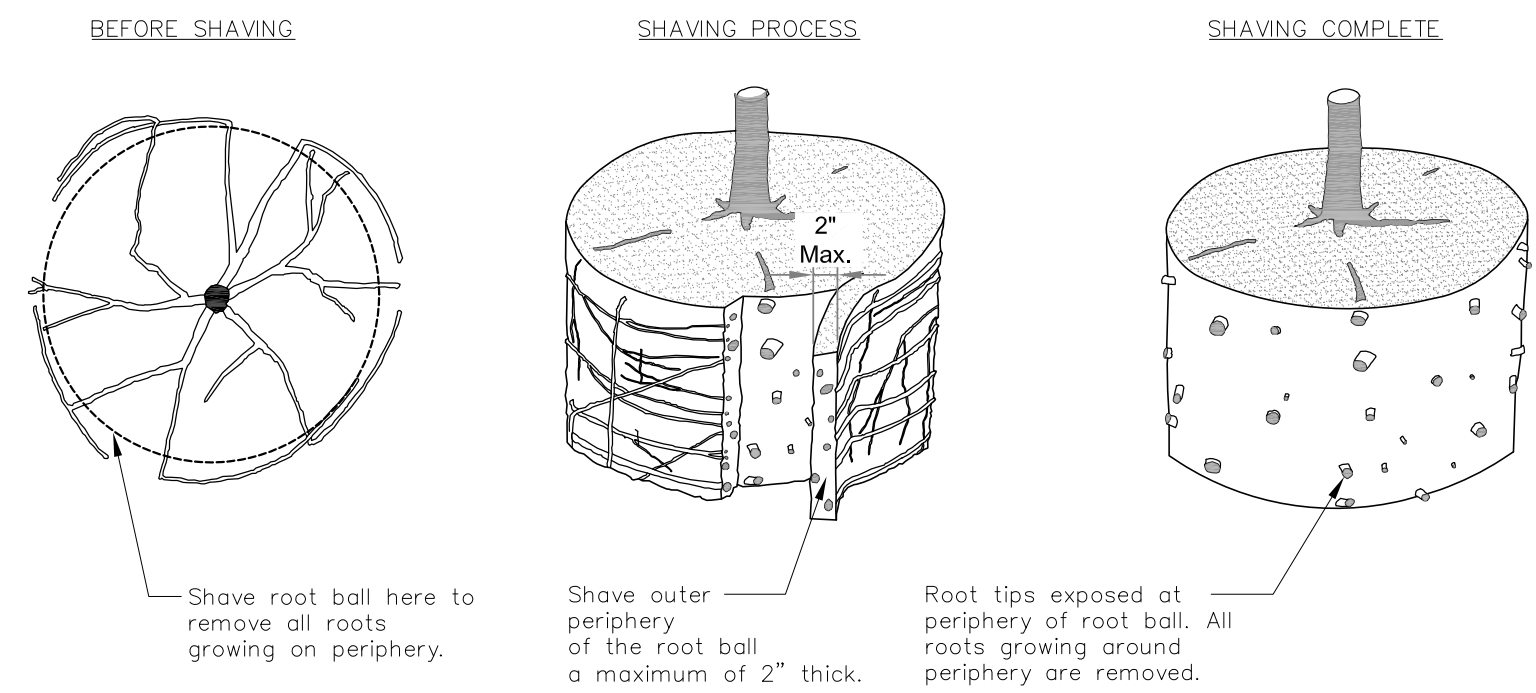
MPH
CIVIL CONSULTANTS, INC.

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Odessa, Florida 33556
Phone: 813.731.0052
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Florida CA No.: 30727

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P.E. # 42657

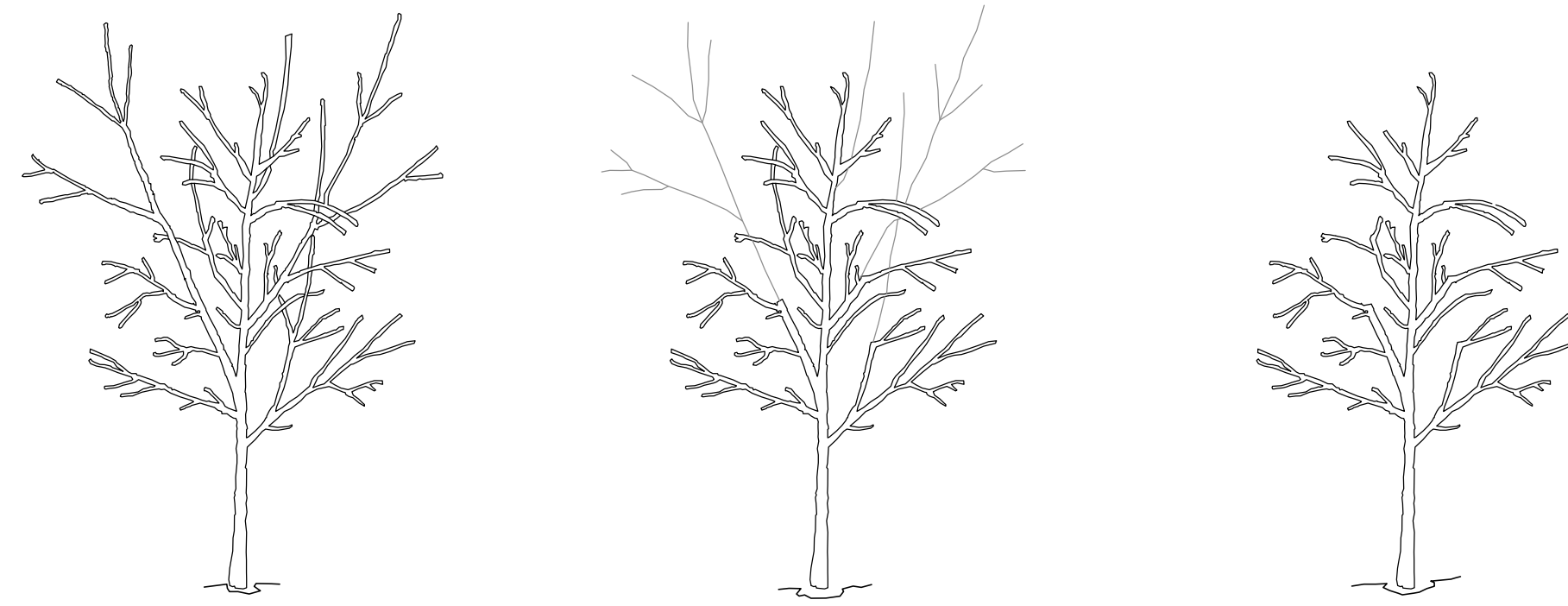
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- Notes:
- Shaving to be conducted using a sharp blade or hand saw eliminating no more than needed to remove all roots on the periphery of root ball.
 - Shaving can be performed just prior to planting or after placing in the hole.

ROOT BALL SHAVING CONTAINER DETAIL
NTS



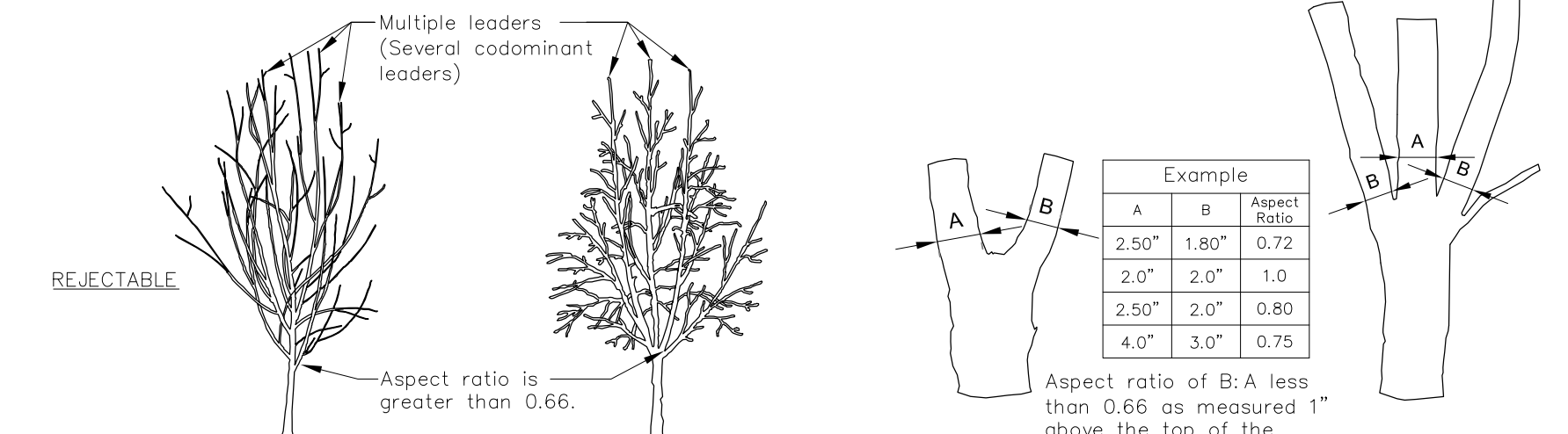
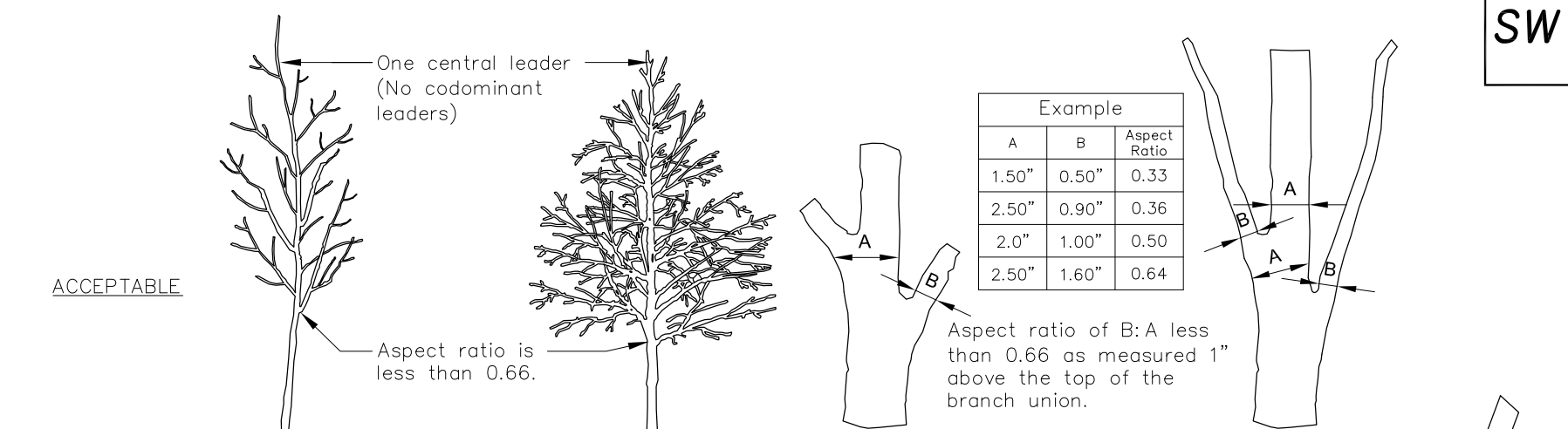
Before planting, tree has three codominant stems. The two that compete with the one in the center should be pruned to suppress their growth.

Two competing stems were reduced substantially, in this case removing about 70% of their foliage using reduction cuts.

After pruning, tree has only one dominant stem.

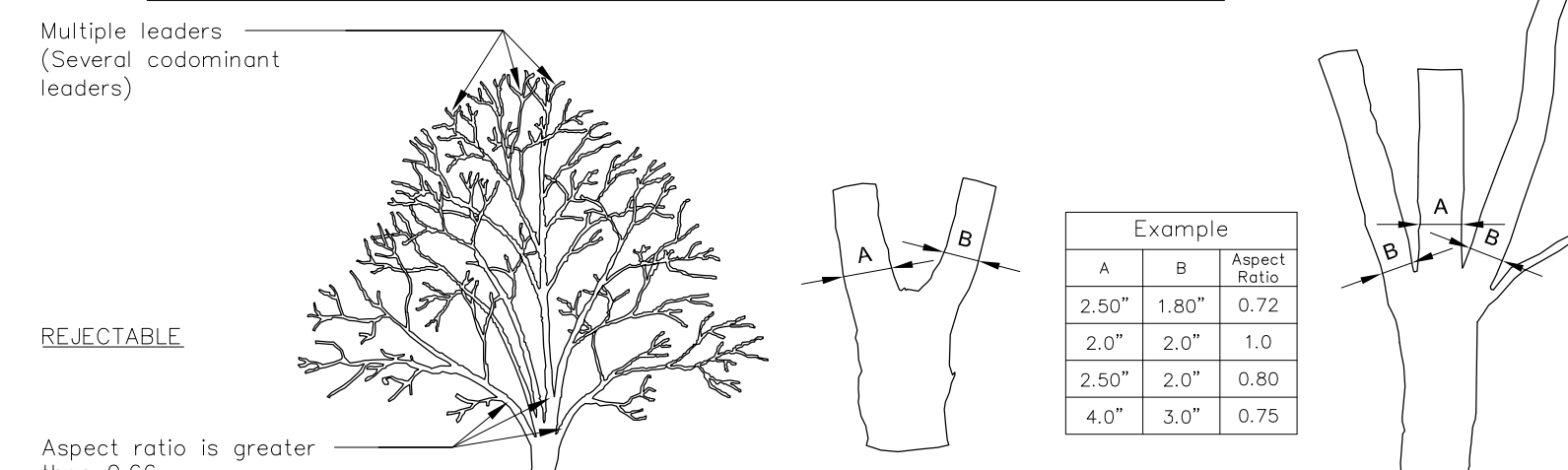
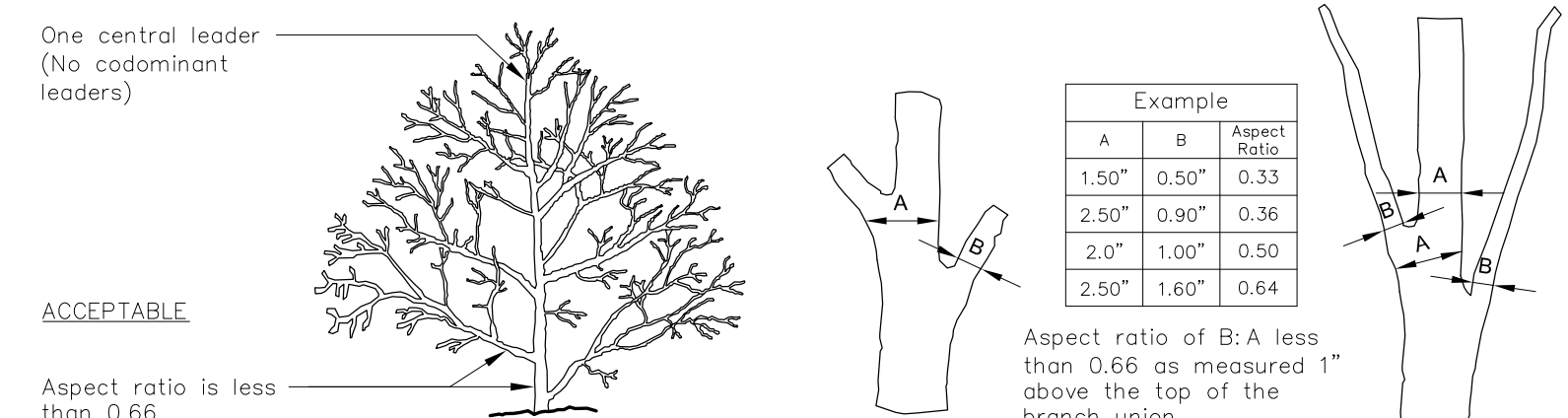
- Notes:
- All trees shown are rejectable unless they undergo recommended treatment.
 - Tree shall meet crown observation detail following correction.

CROWN CORRECTION DETAIL
NTS



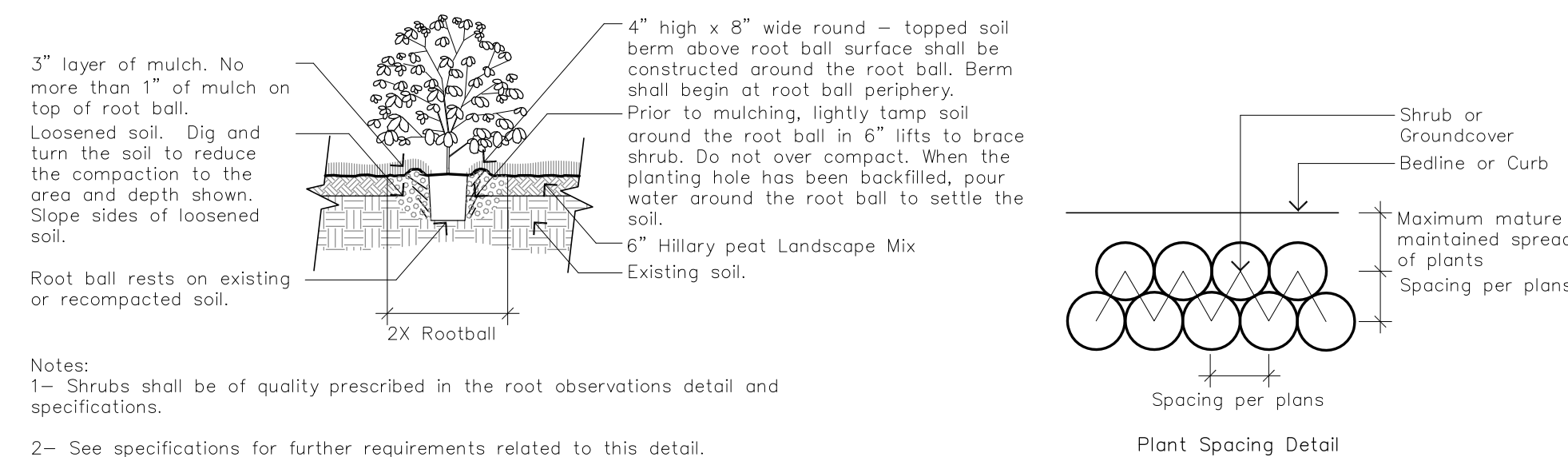
- Notes:
- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.
 - Any tree not meeting the crown observations detail may be rejected.

CROWN OBSERVATIONS - HIGH BRANCHED
NTS

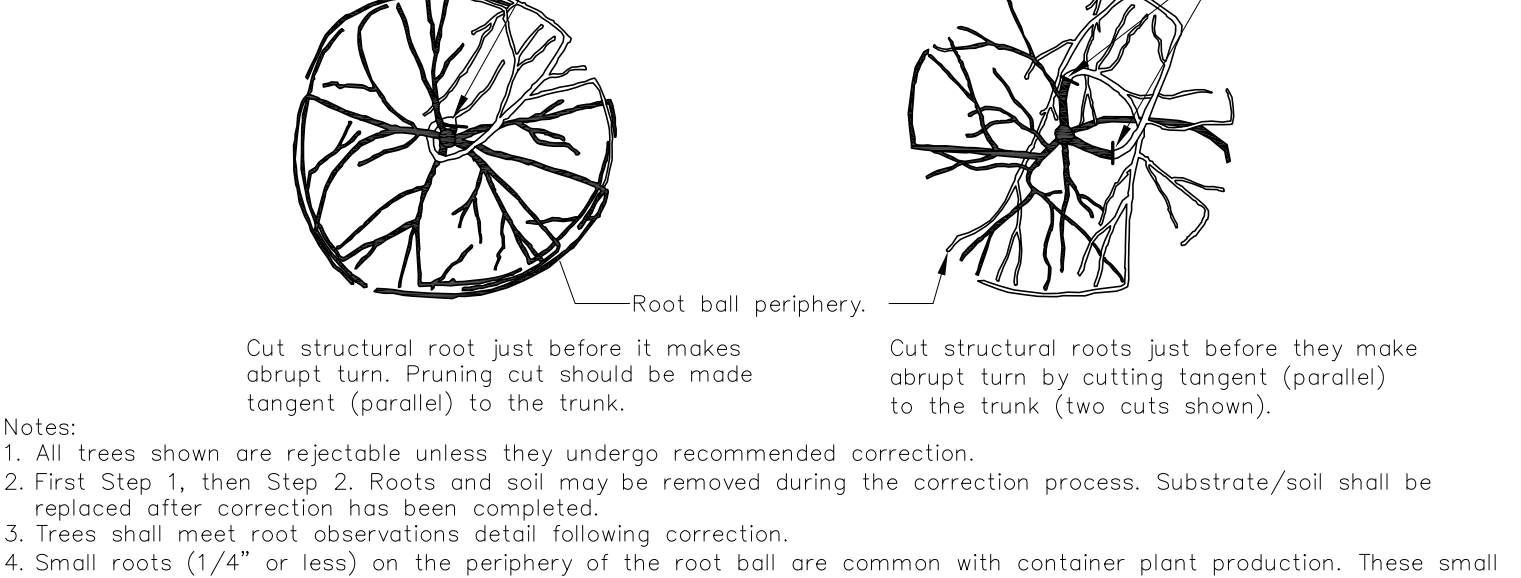
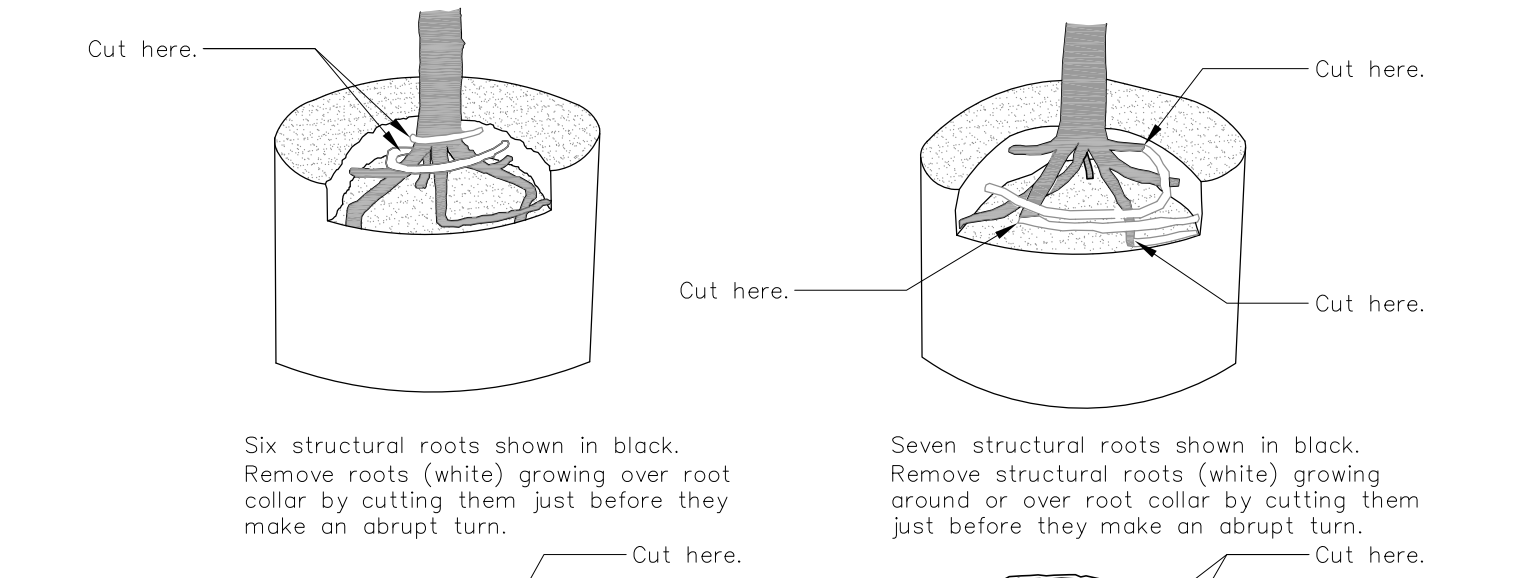
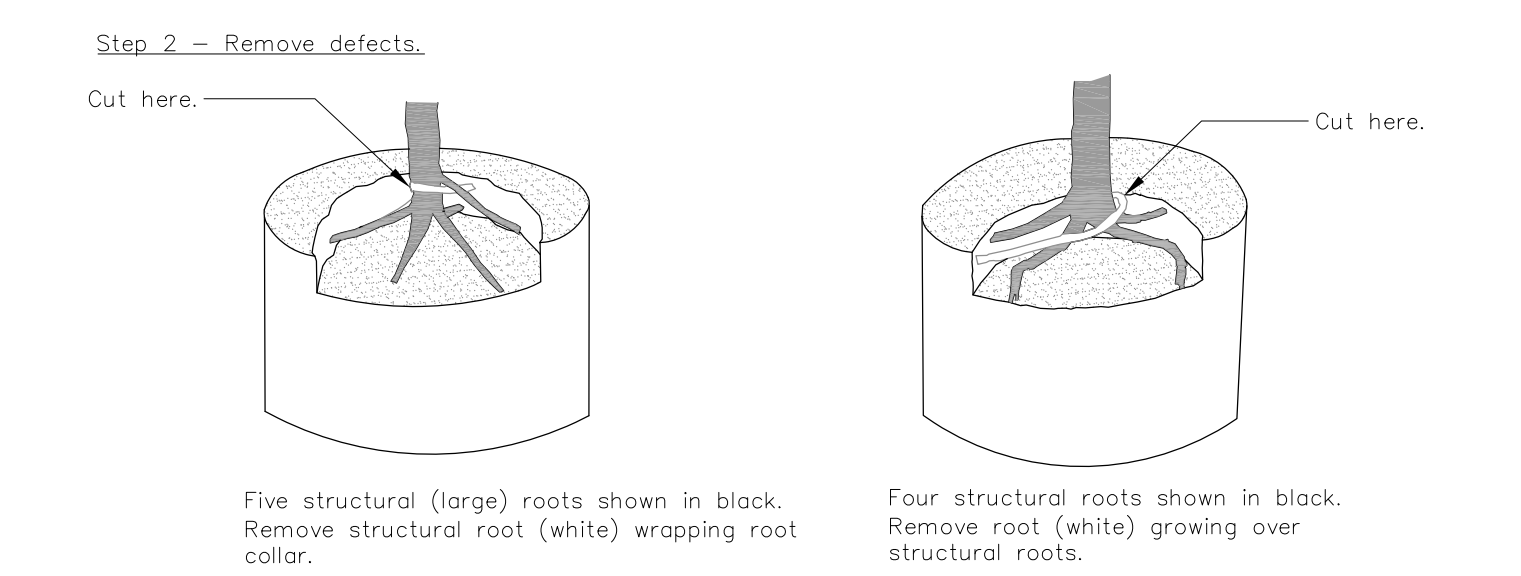
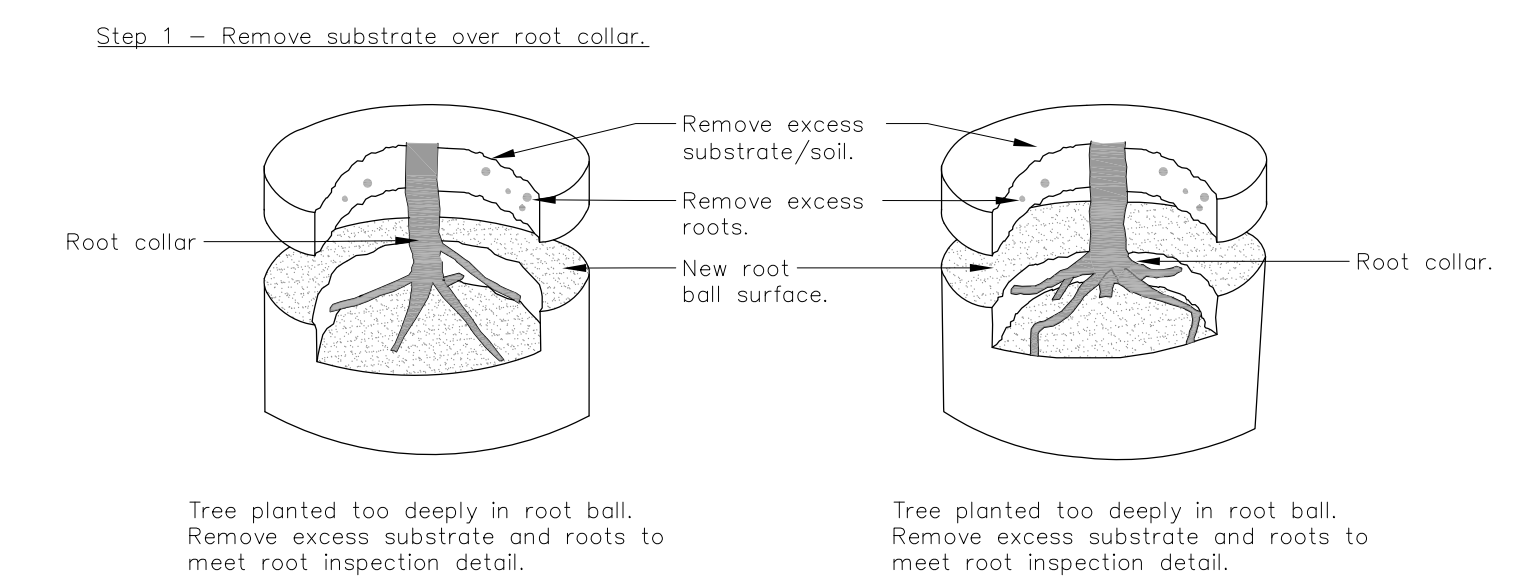


- Notes:
- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.
 - Any tree not meeting the crown observations detail may be rejected.

CROWN OBSERVATIONS - LOW BRANCHED
NTS



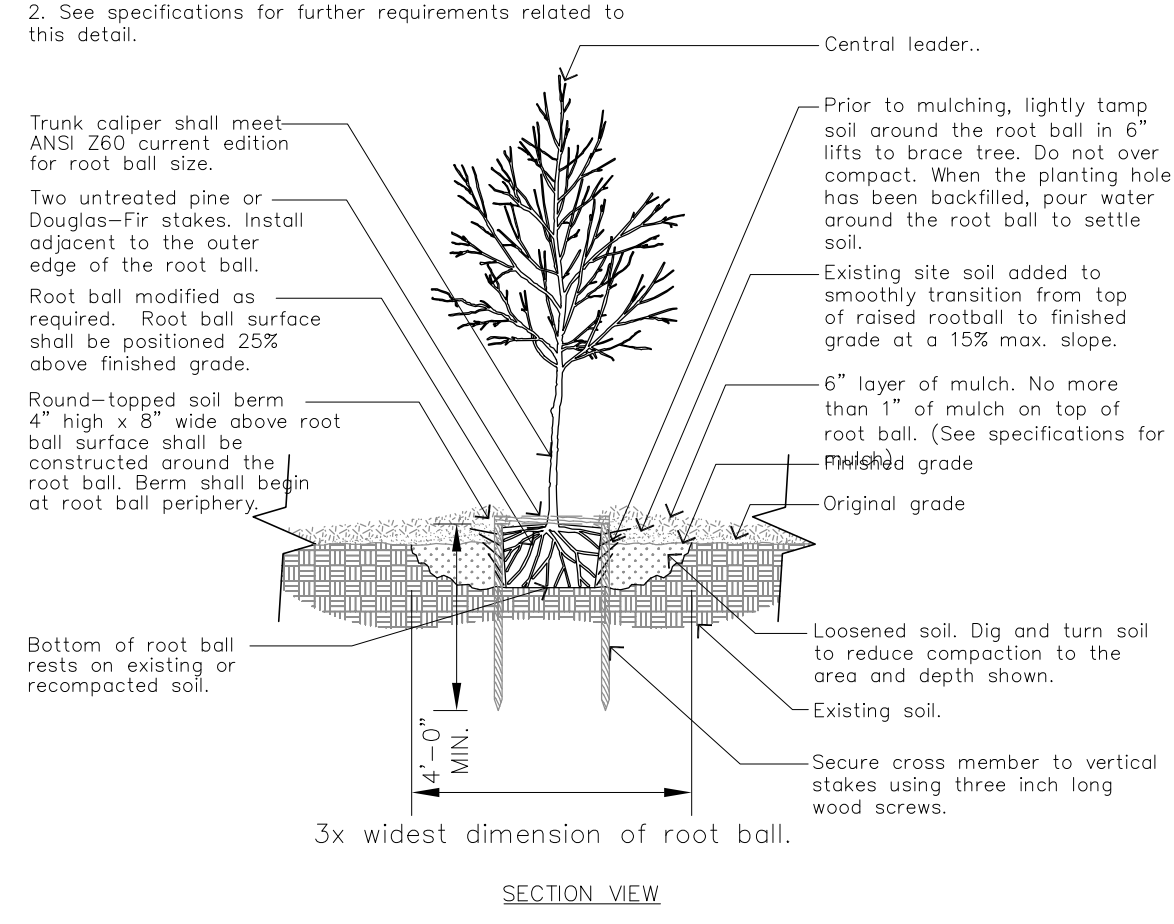
TYPICAL SHRUB / GROUNDCOVER PLANTING DETAIL
NTS



- Notes:
- All trees shown are rejectable unless they undergo recommended correction.
 - First Step 1, then Step 2. Roots and soil may be removed during the correction process. Substrate/soil shall be replaced after correction has been completed.
 - Trees shall meet root observations detail following correction.
 - Small roots (1/4" or less) on the periphery of the root ball are common with container plant production. These small roots are not defined as "defects" and can be addressed at the time of installation (See root ball shaving container detail).

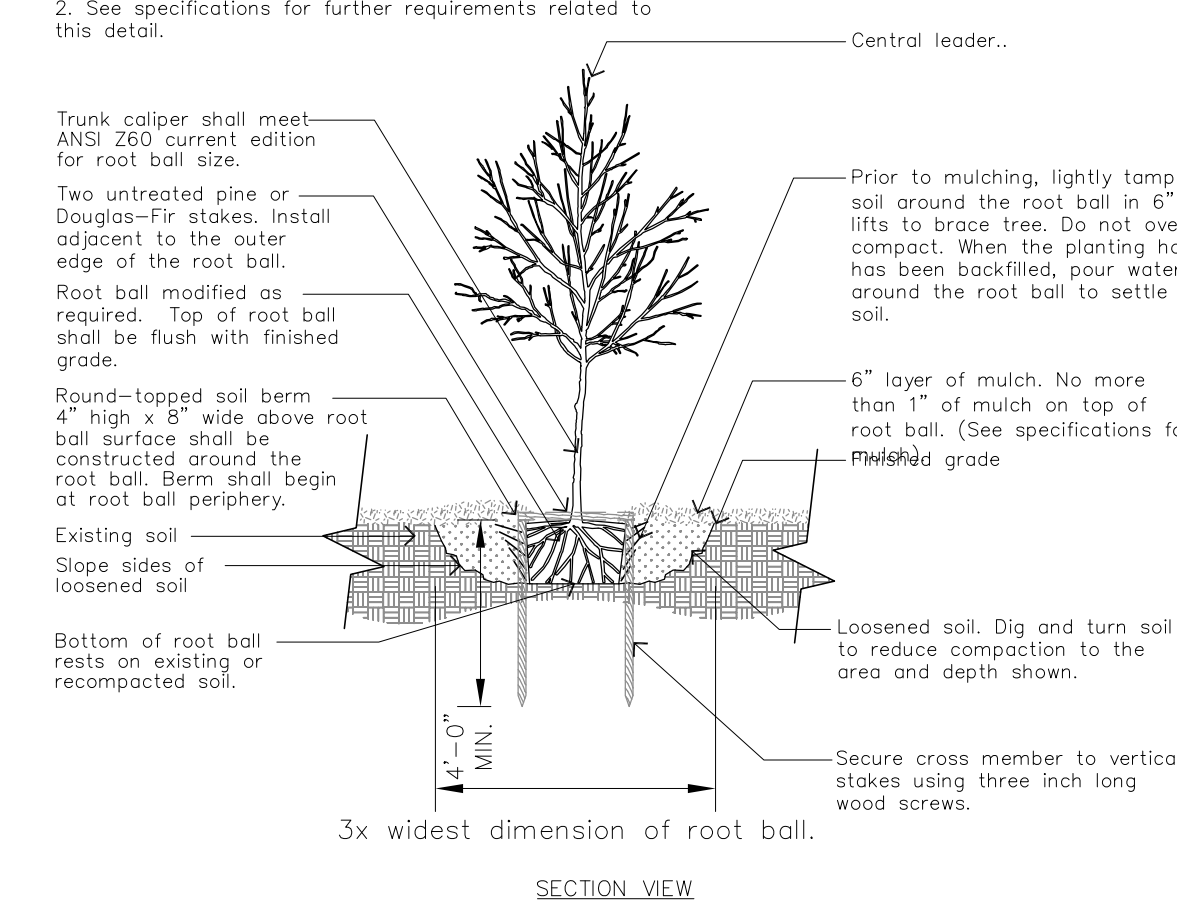
ROOT CORRECTION DETAIL - CONTAINER
NTS

- Notes:
- Trees shall be of quality prescribed in crown observations and root observations details and specifications.
 - See specifications for further requirements related to this detail.

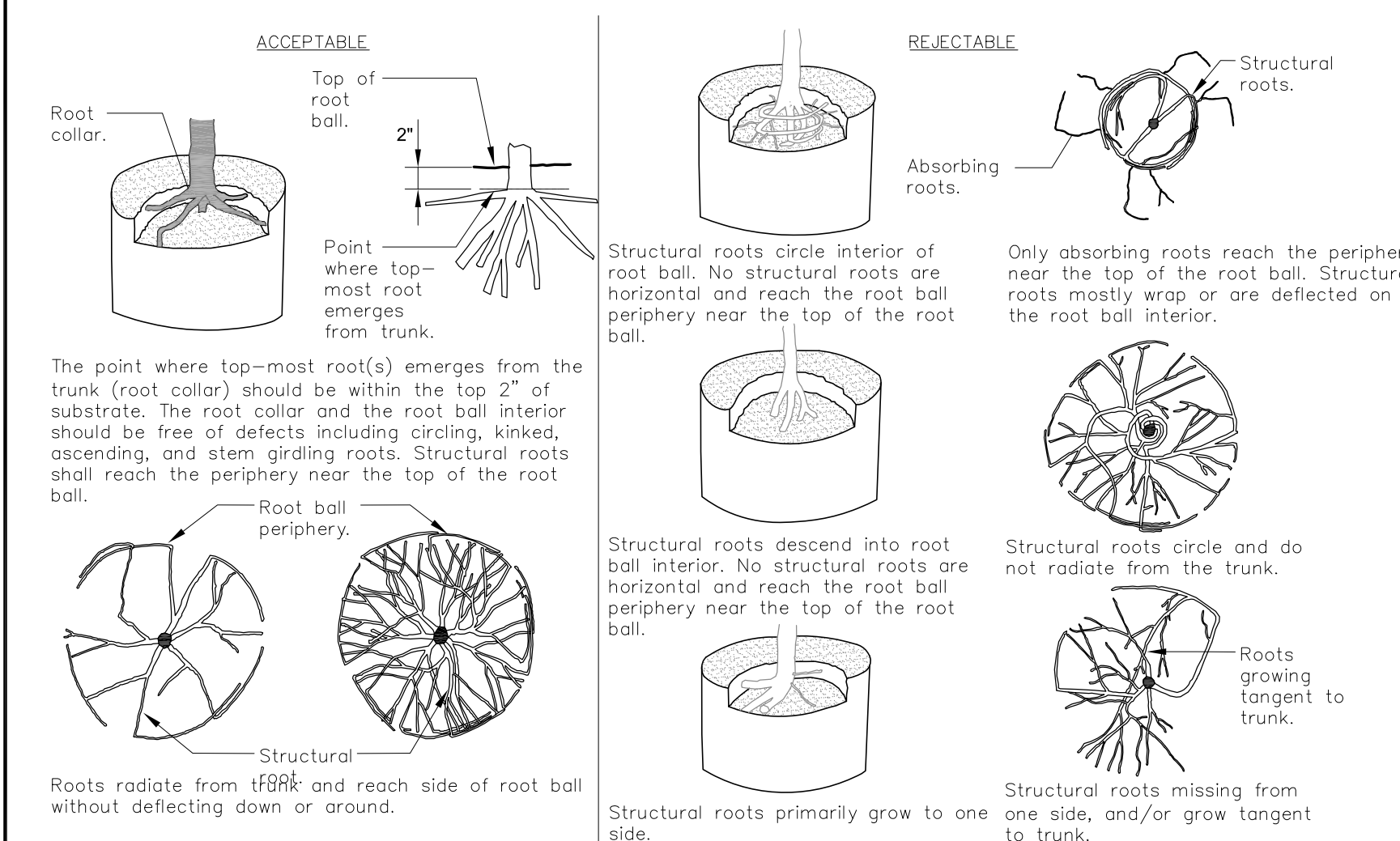


TYPICAL TREE PLANTING IN POORLY DRAINED SOIL
NTS

- Notes:
- Trees shall be of quality prescribed in crown observations and root observations details and specifications.
 - See specifications for further requirements related to this detail.



TYPICAL TREE PLANTING FOR UNDISTURBED SOIL
NTS



- Notes:
- Observations of roots shall occur prior to acceptance. Roots and substrate may be removed during the observation process. Substrate/soil shall be replaced after observation has been completed.
 - Small roots (1/4" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. (See root ball shaving container detail).
 - See specifications for observation process and requirements.

ROOT OBSERVATIONS DETAIL - CONTAINER
NTS

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1			4		

DES: HDM
DRN: TLD
CKD: HDM
DATE: 11/7/18

CITY of TAMPA
Department of Transportation
and Stormwater Services
Stormwater Engineering Division

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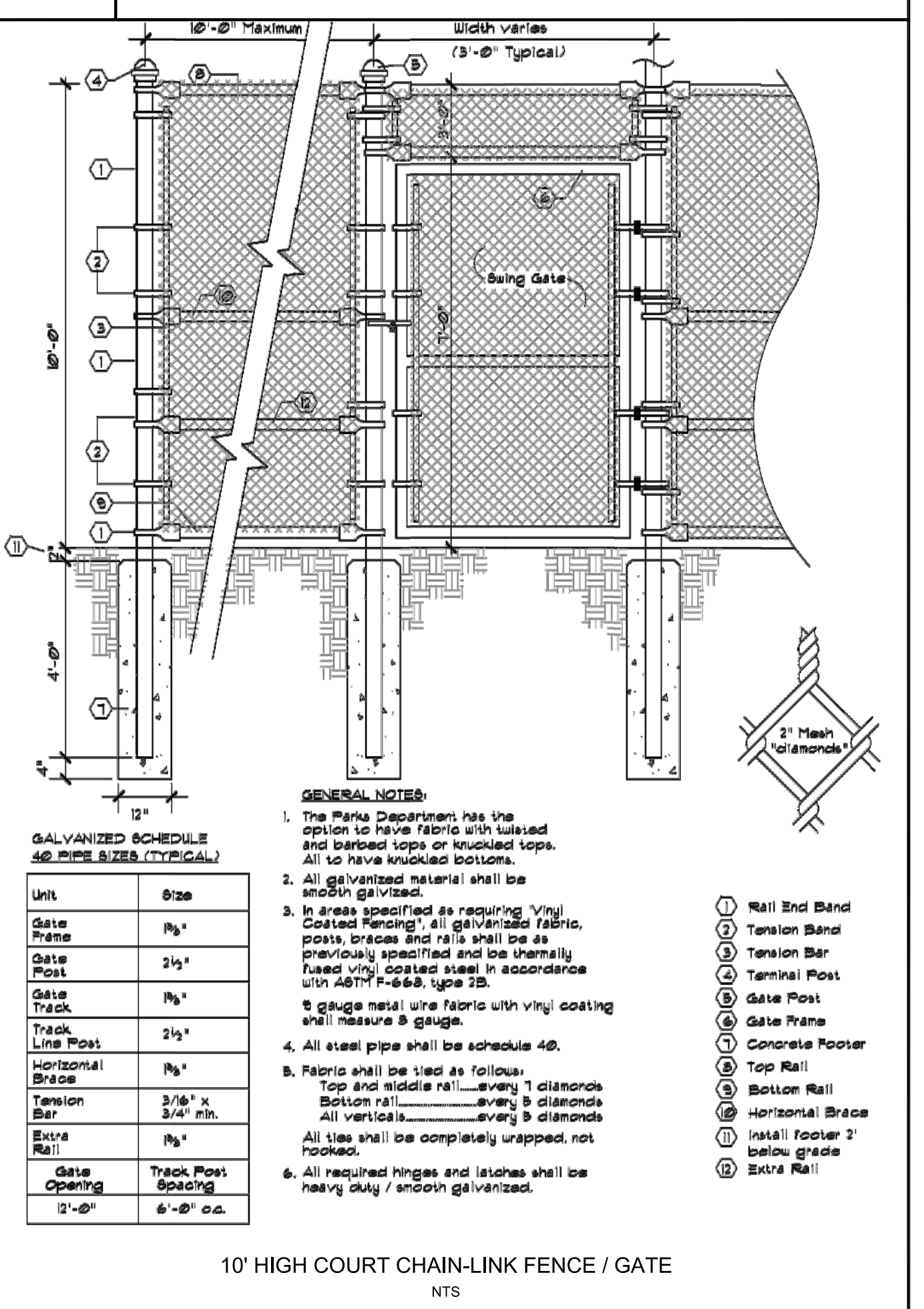
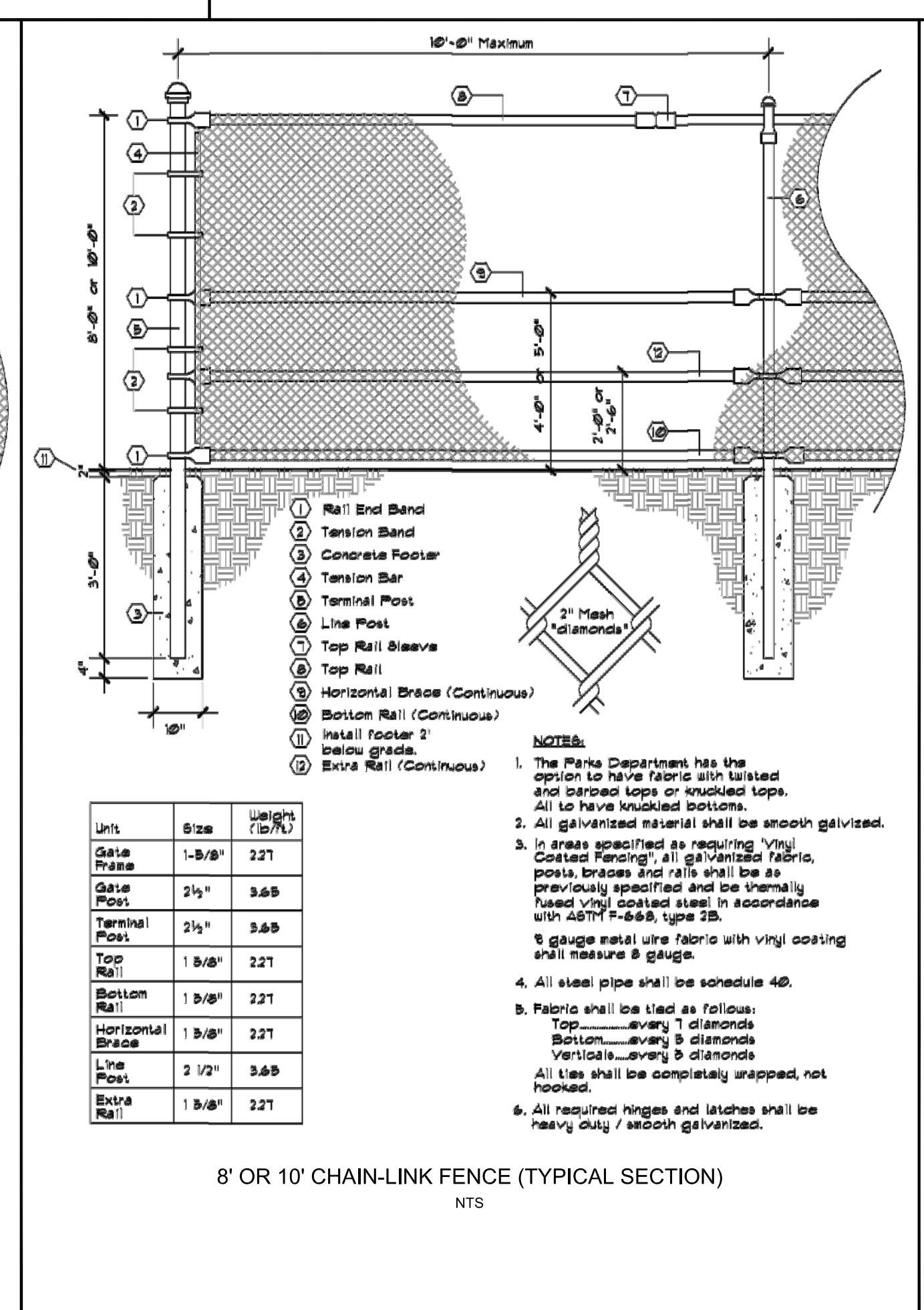
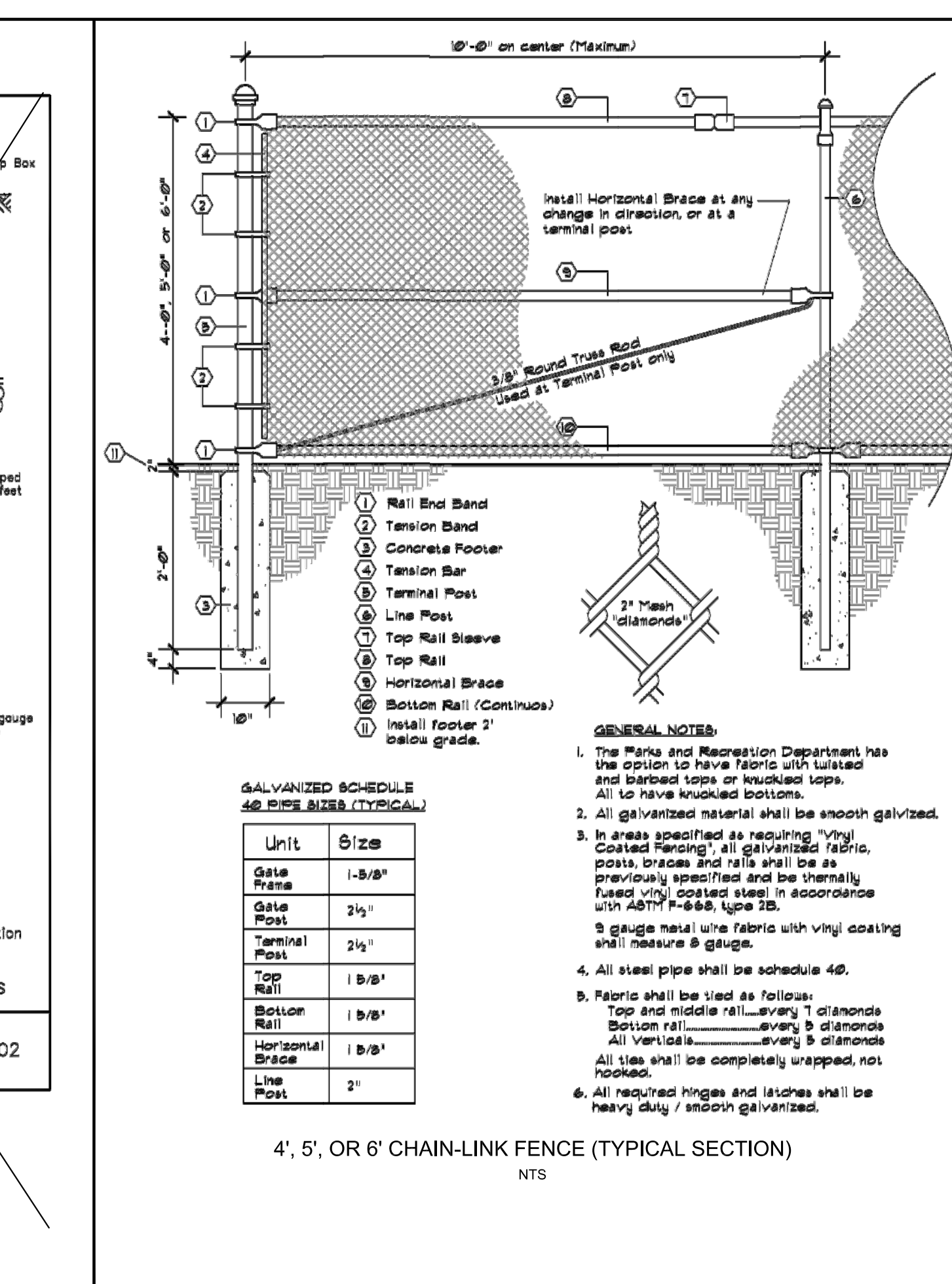
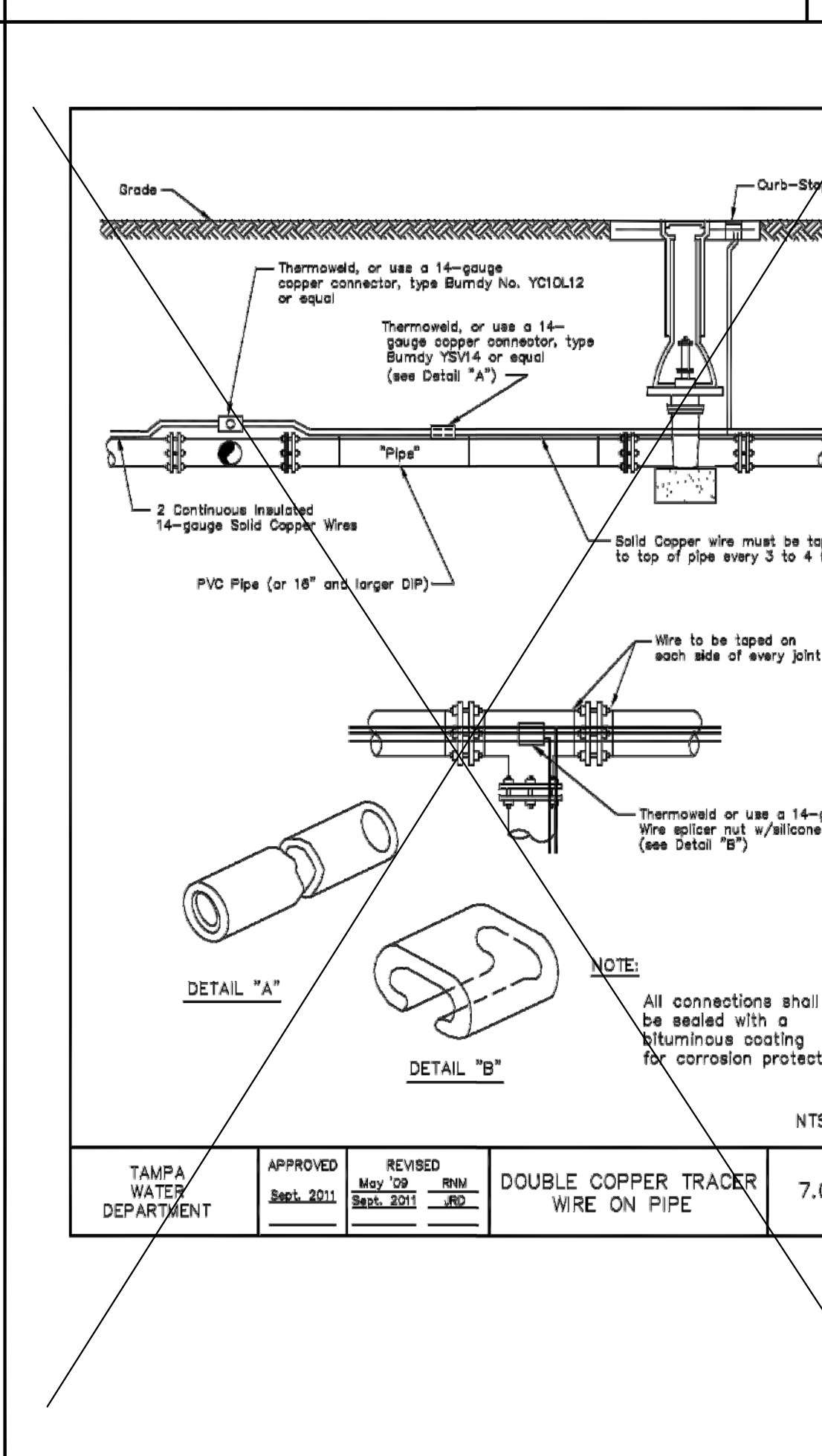
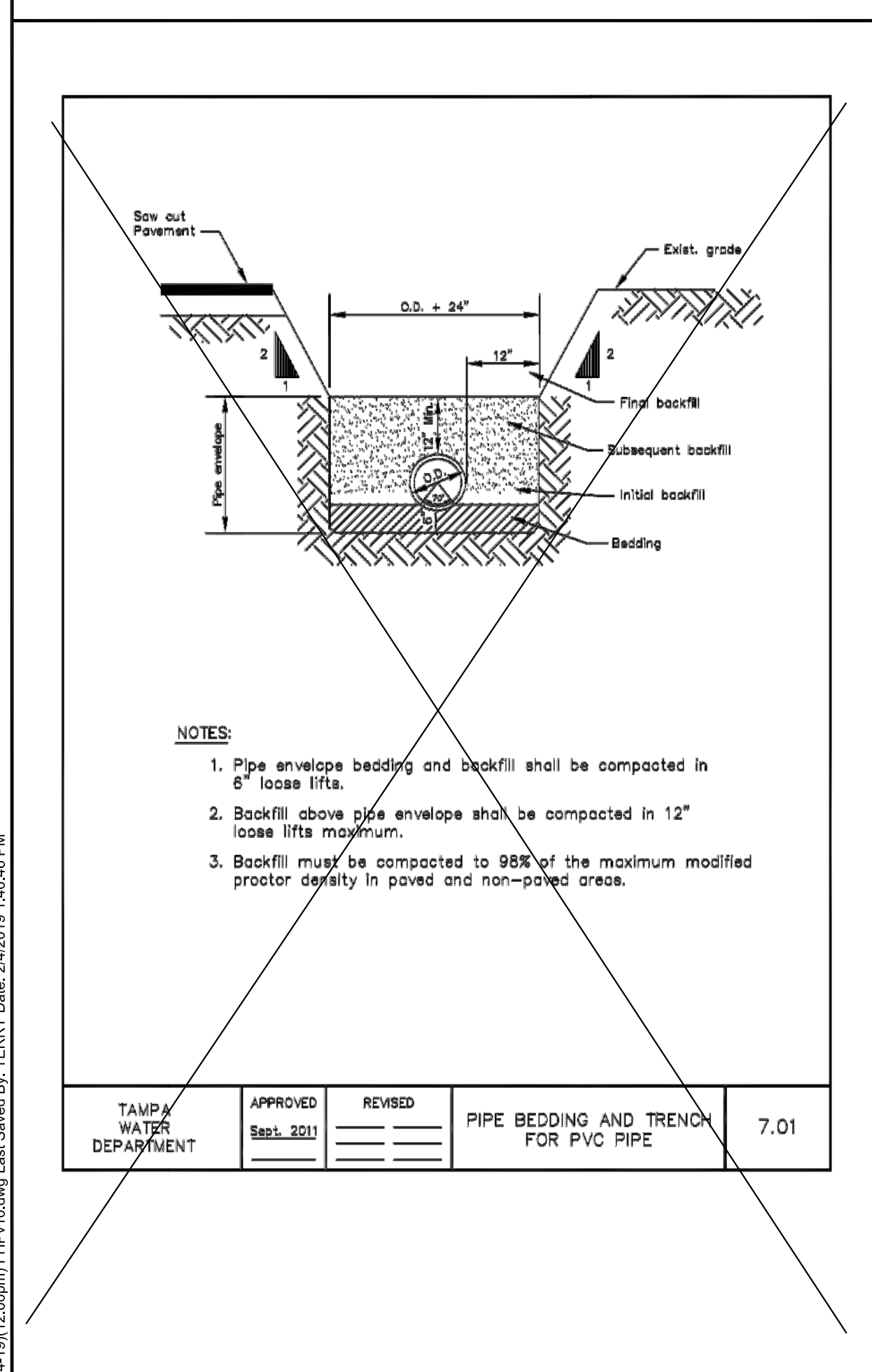
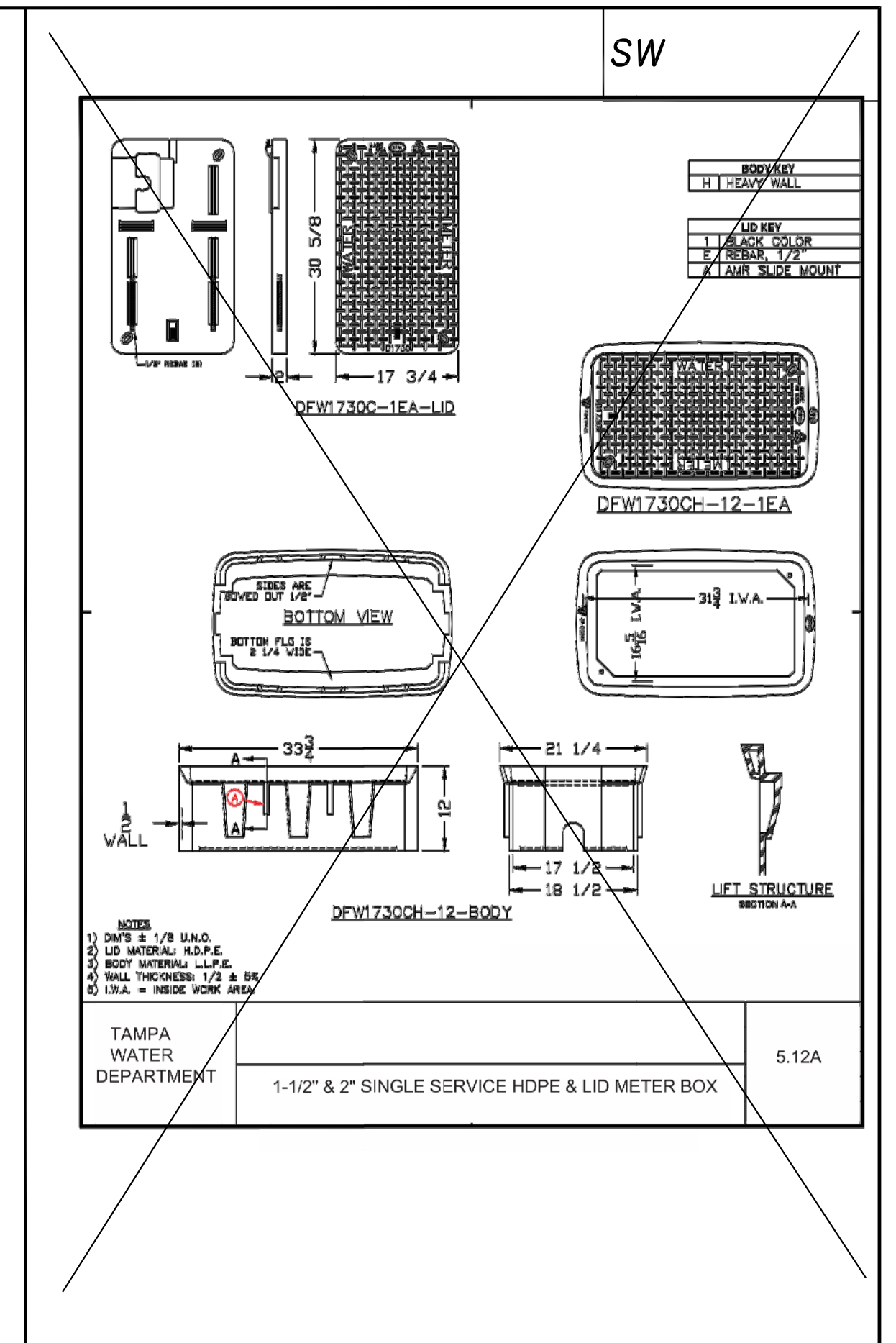
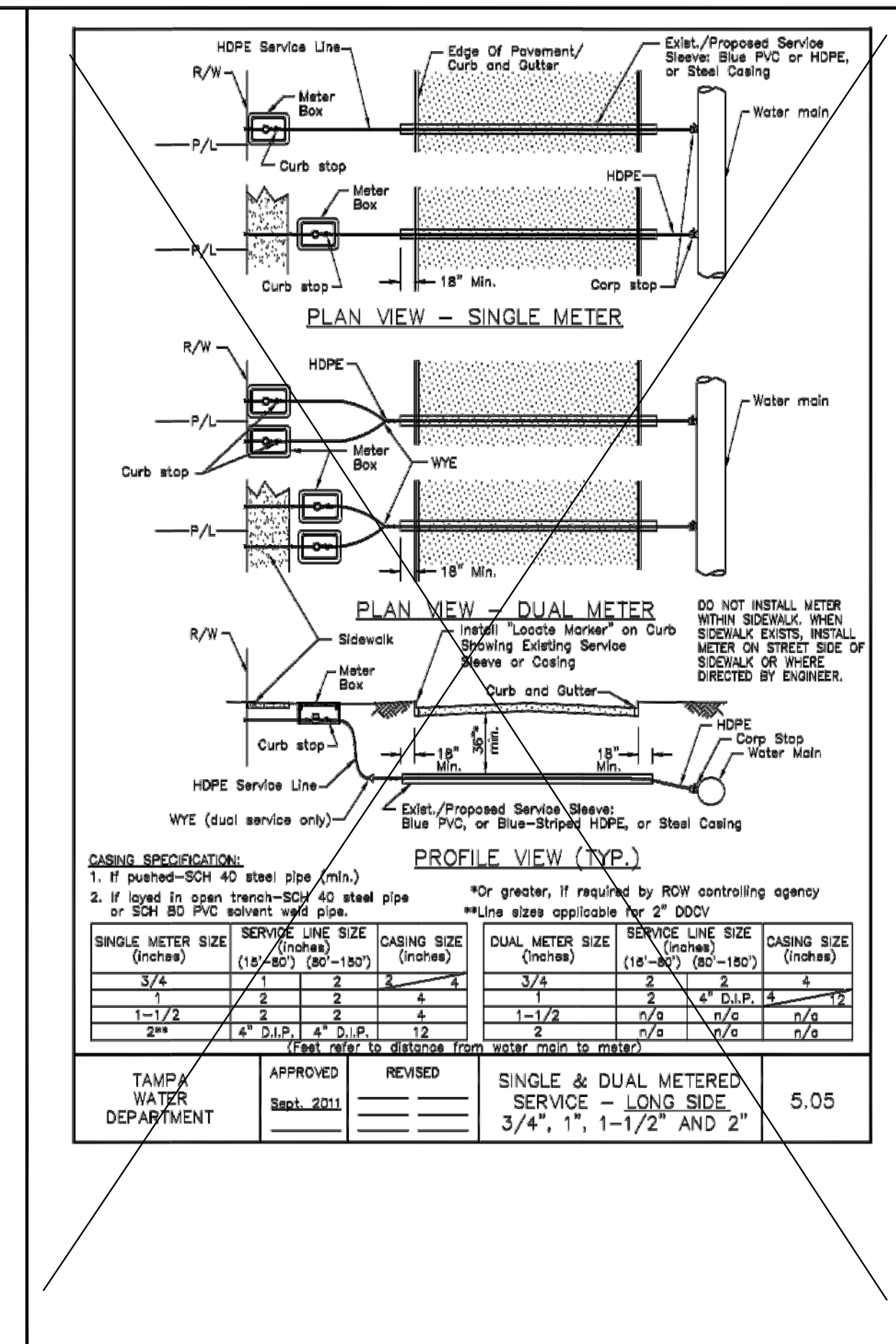
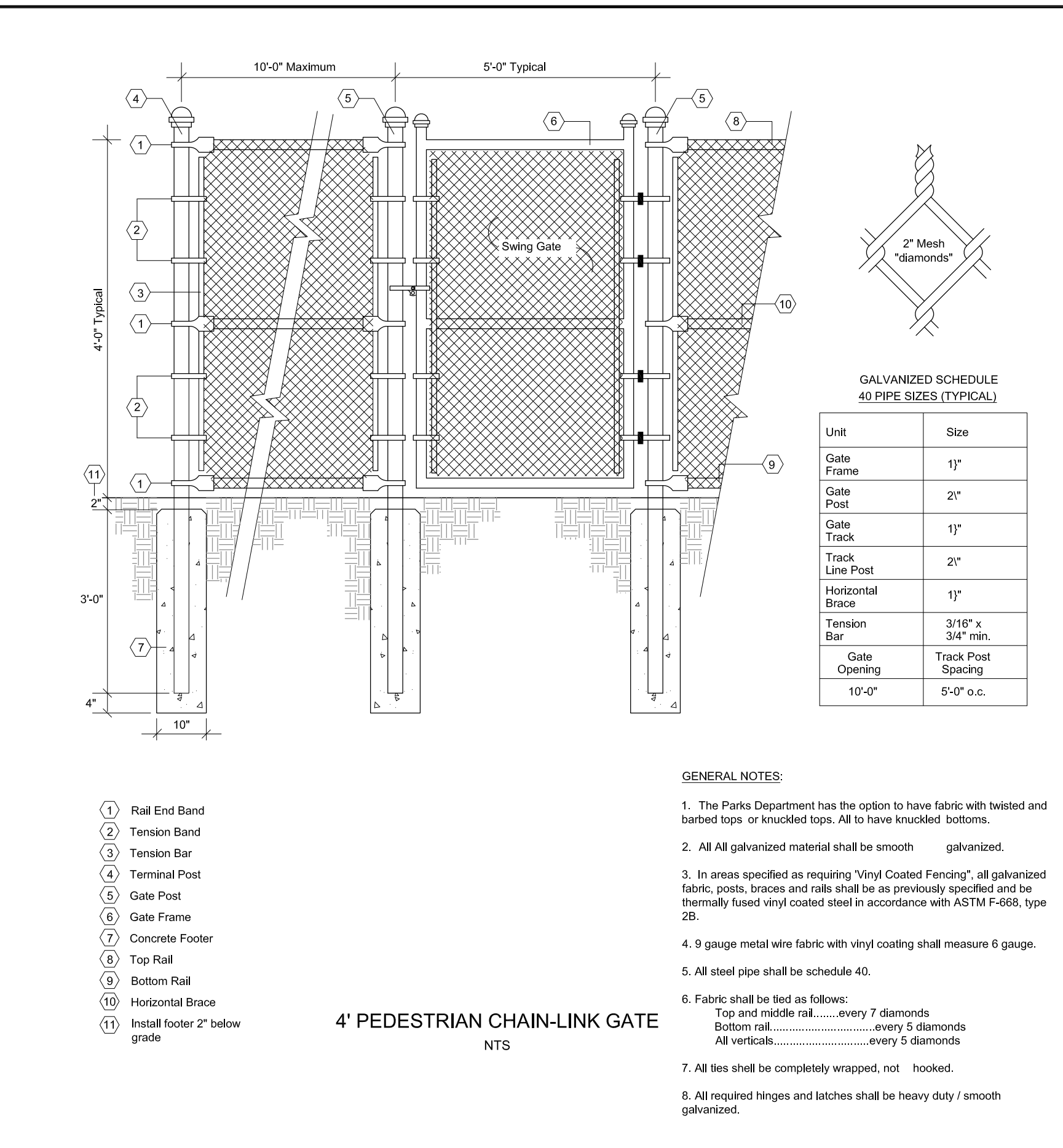
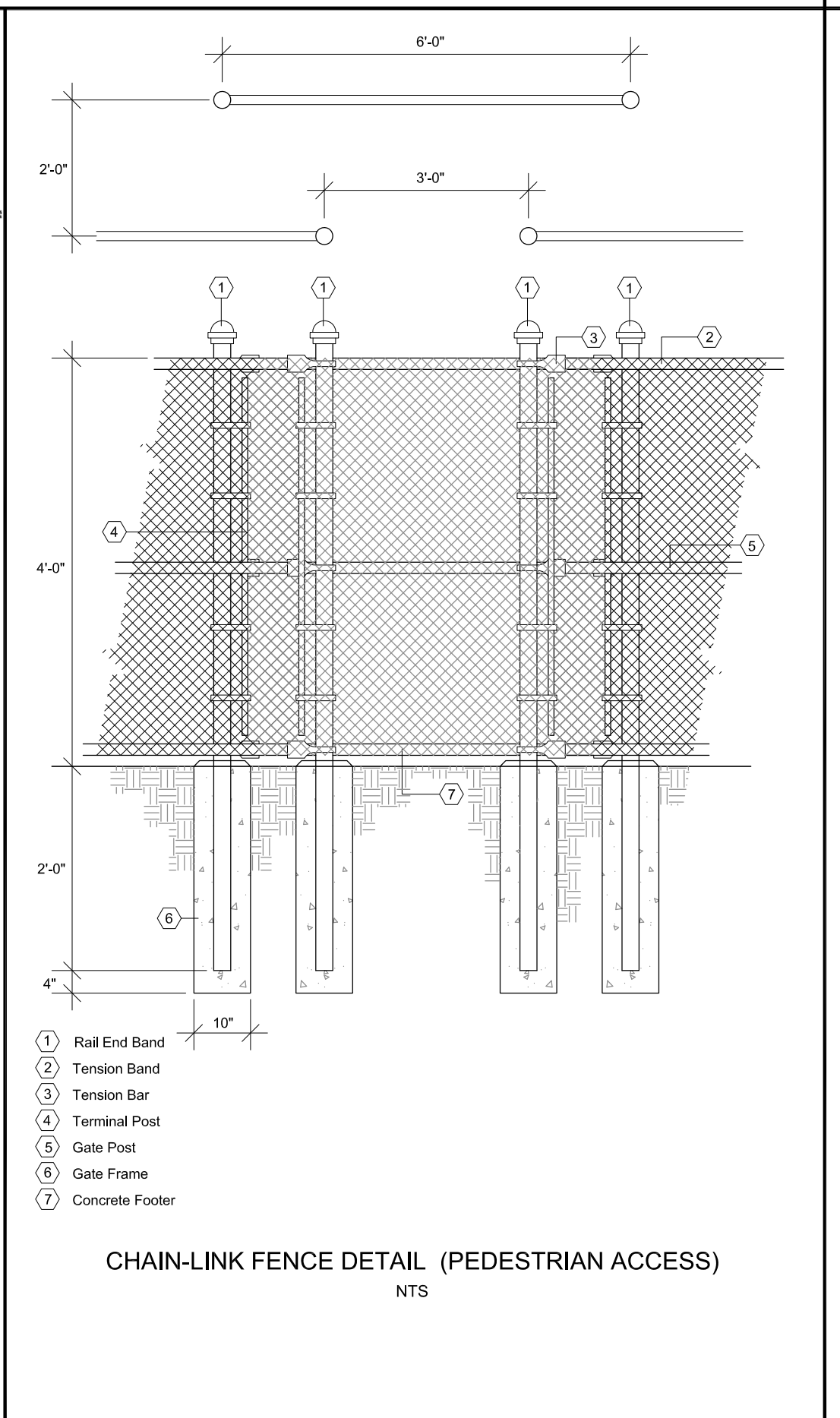
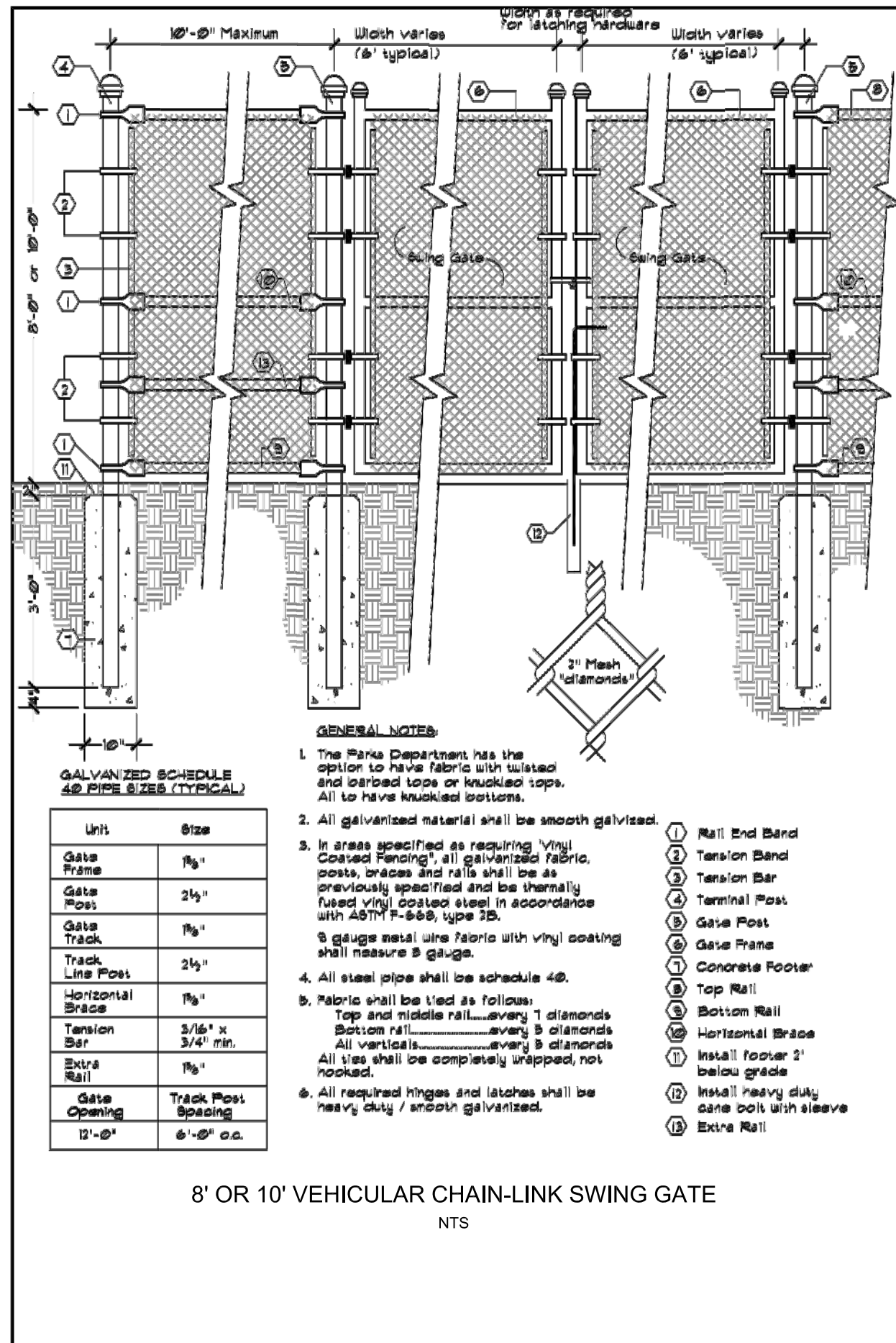
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Florida CA No.: 30727

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P.E. # 42657

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TAMPA WATER DEPARTMENT

APPROVED	REVISED	DATE	DESCRIPTION	NO.
Sept. 2011			PIPE BEDDING AND TRENCH FOR PVC PIPE	7.01

TAMPA WATER DEPARTMENT

APPROVED	REVISED	DATE	DESCRIPTION	NO.
Sept. 2011	May '09	Rev. 10/09	DOUBLE COPPER TRACER WIRE ON PIPE	7.02

TAMPA WATER DEPARTMENT

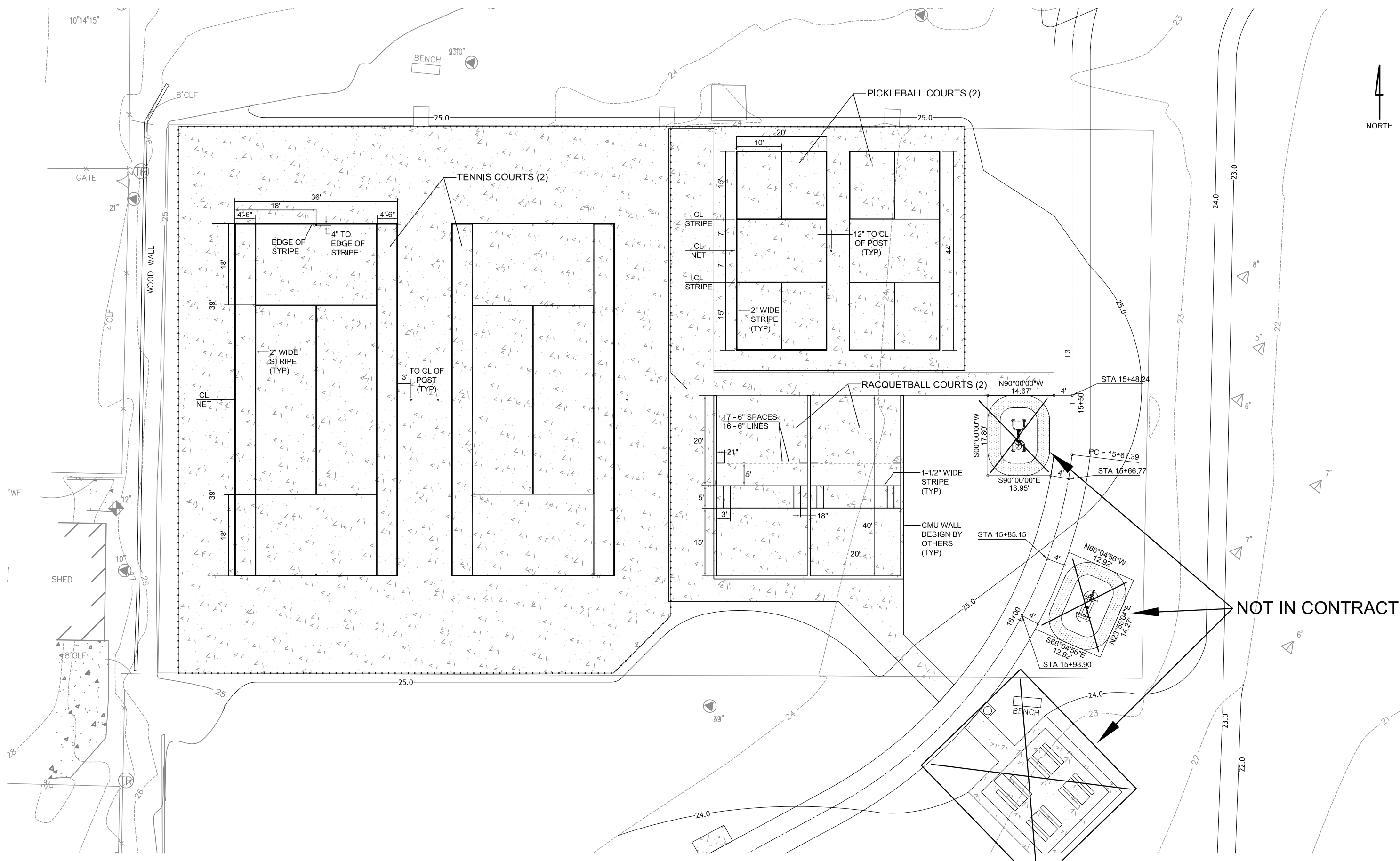
APPROVED	REVISED	DATE	DESCRIPTION	NO.
Sept. 2011			4', 5', OR 6' CHAIN-LINK FENCE (TYPICAL SECTION)	7.03

TAMPA WATER DEPARTMENT

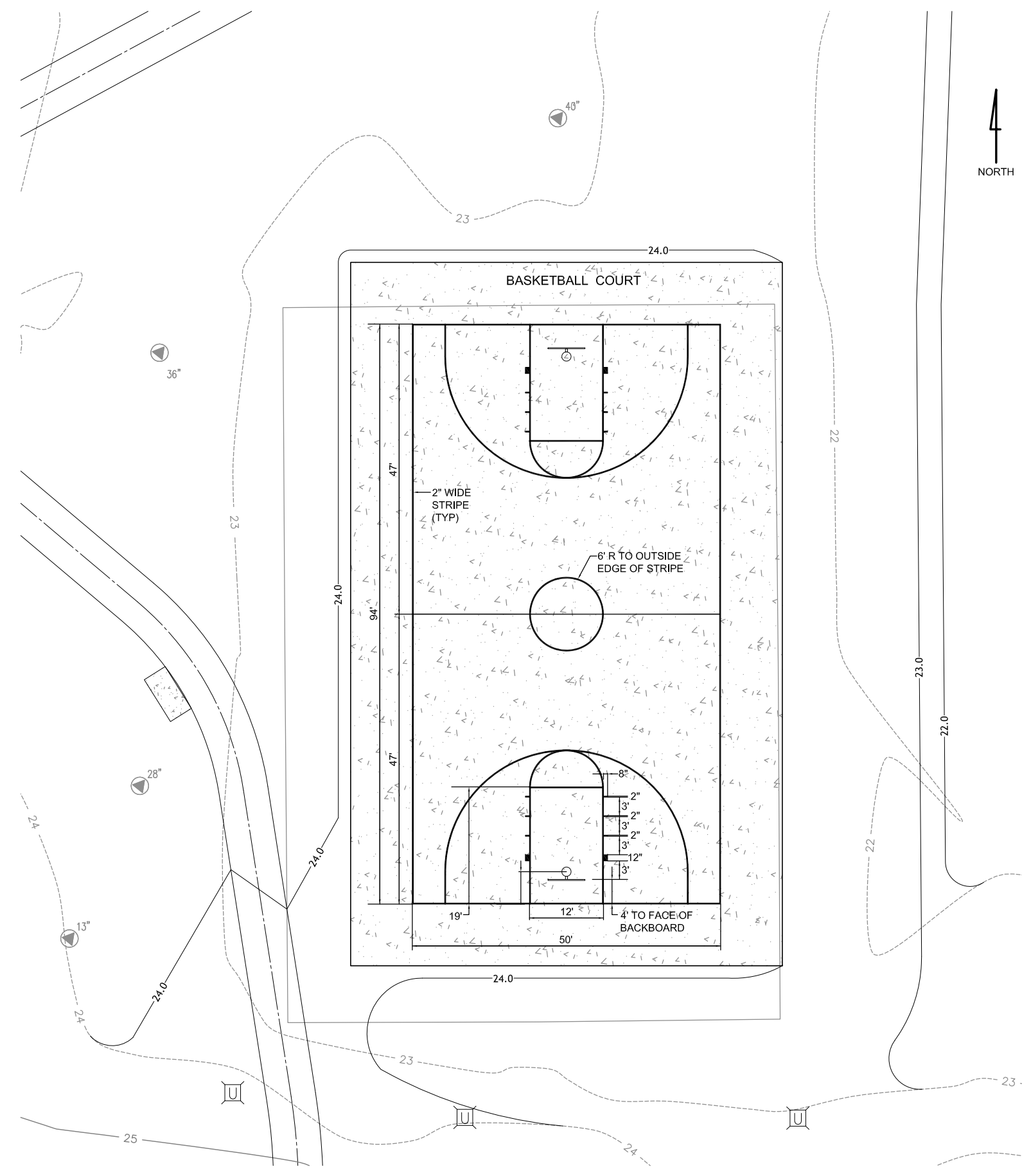
APPROVED	REVISED	DATE	DESCRIPTION	NO.
Sept. 2011			8' OR 10' CHAIN-LINK FENCE (TYPICAL SECTION)	7.04

TAMPA WATER DEPARTMENT

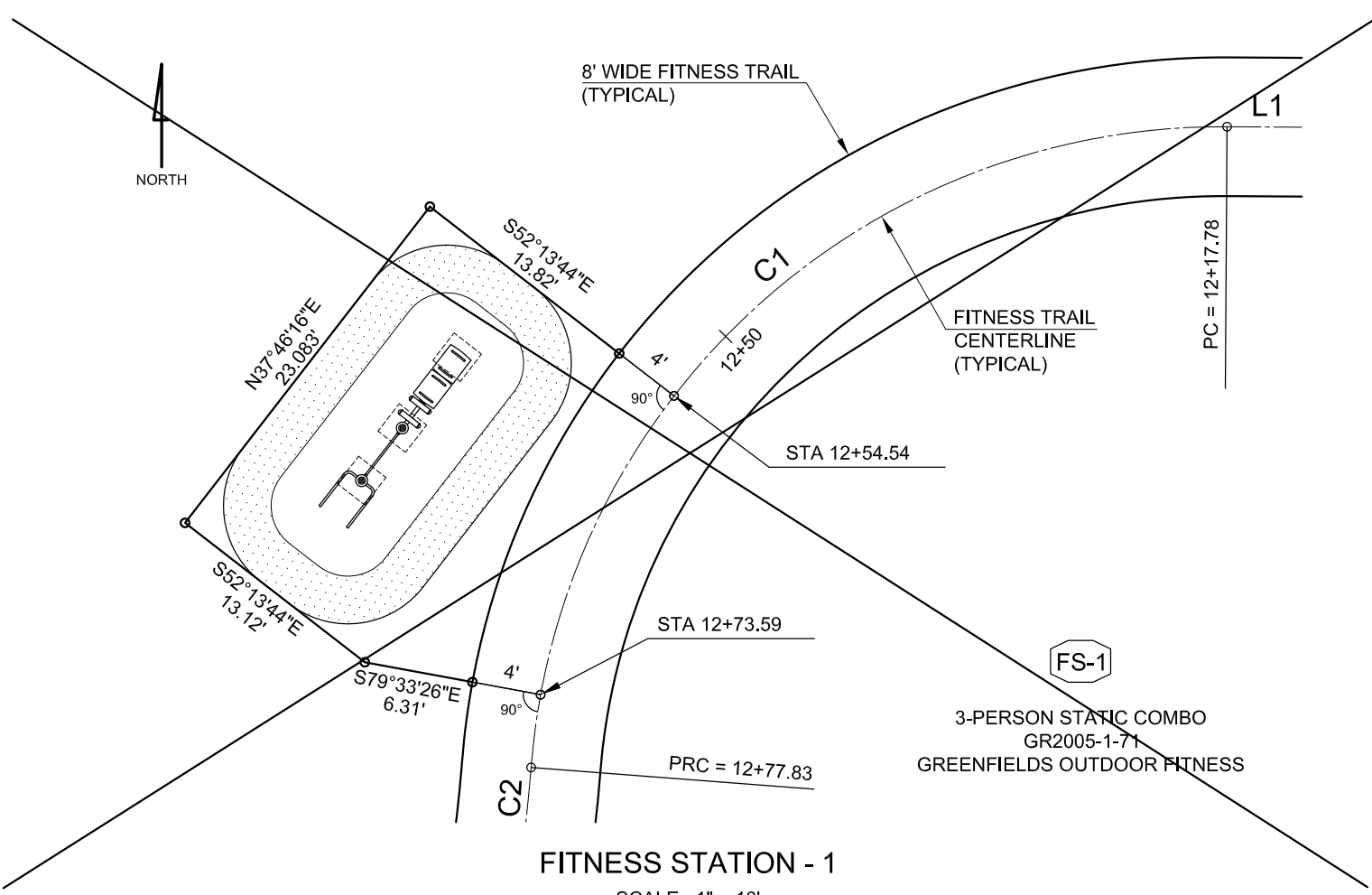
APPROVED	REVISED	DATE	DESCRIPTION	NO.
Sept. 2011			10' HIGH COURT CHAIN-LINK FENCE / GATE	7.05



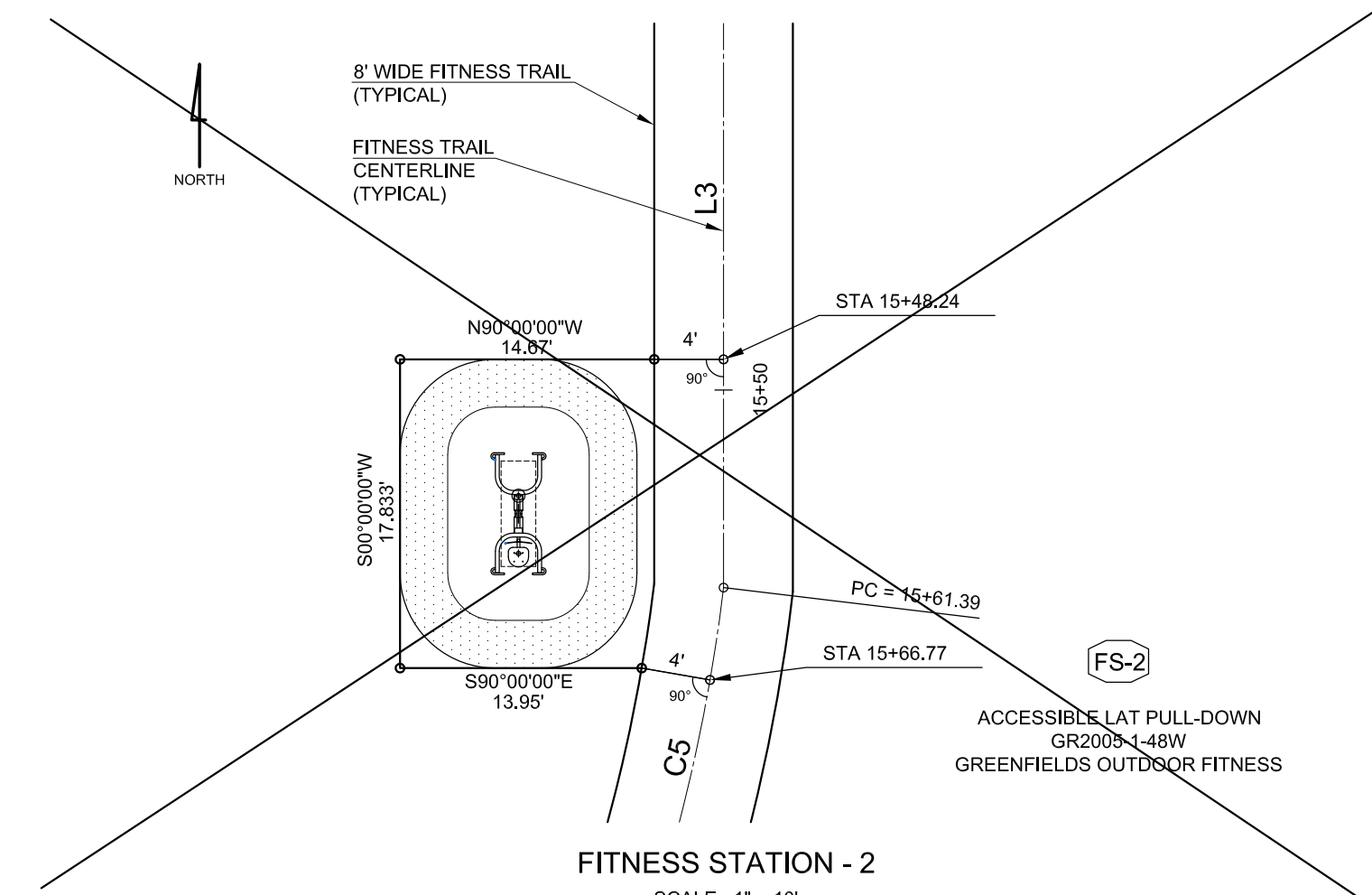
TENNIS / PICKLEBALL / RACQUETBALL COURT DETAILS
SCALE: 1" = 20'



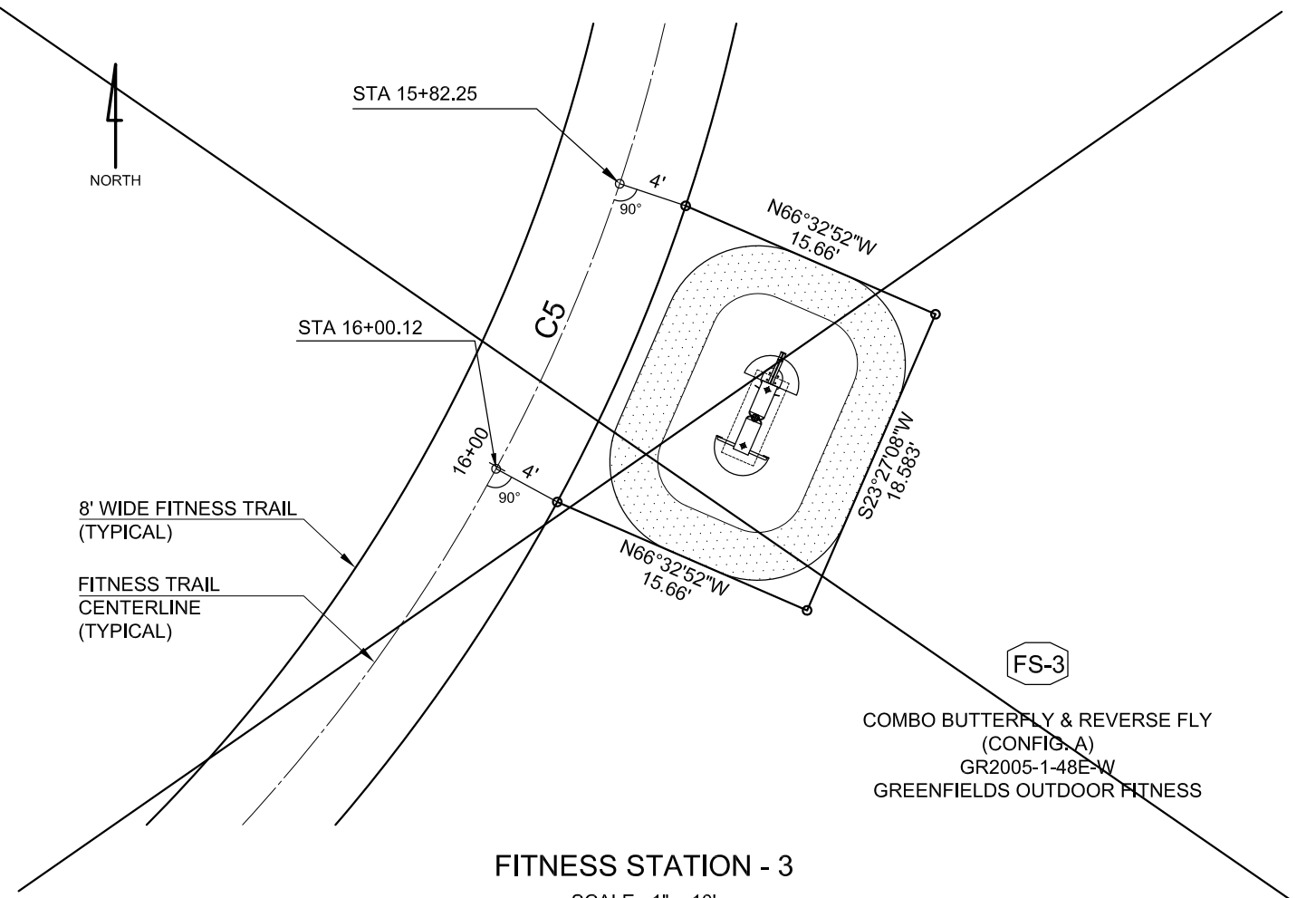
BASKETBALL COURT DETAILS
SCALE: 1" = 20'



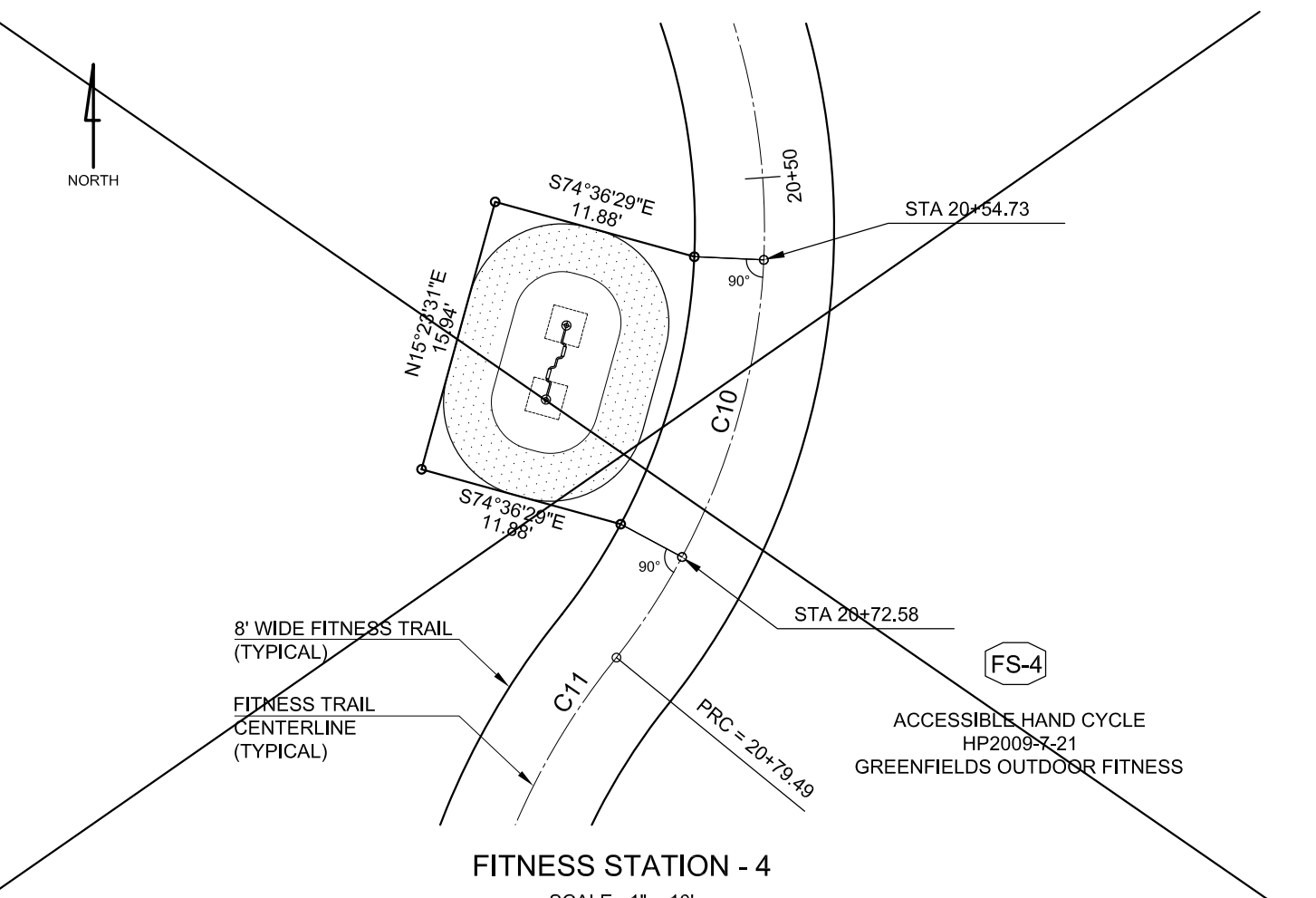
FITNESS STATION - 1
SCALE: 1" = 10'



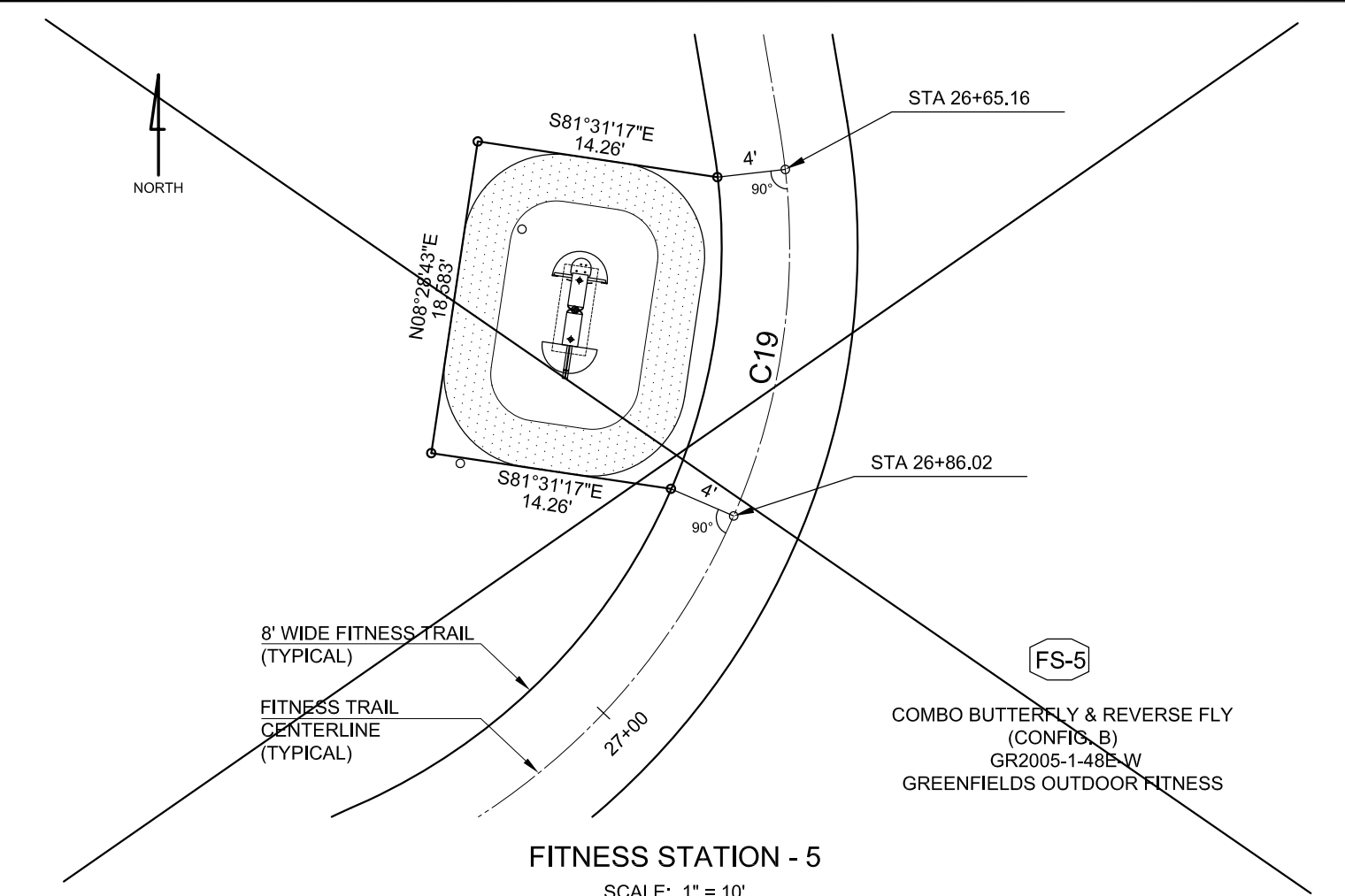
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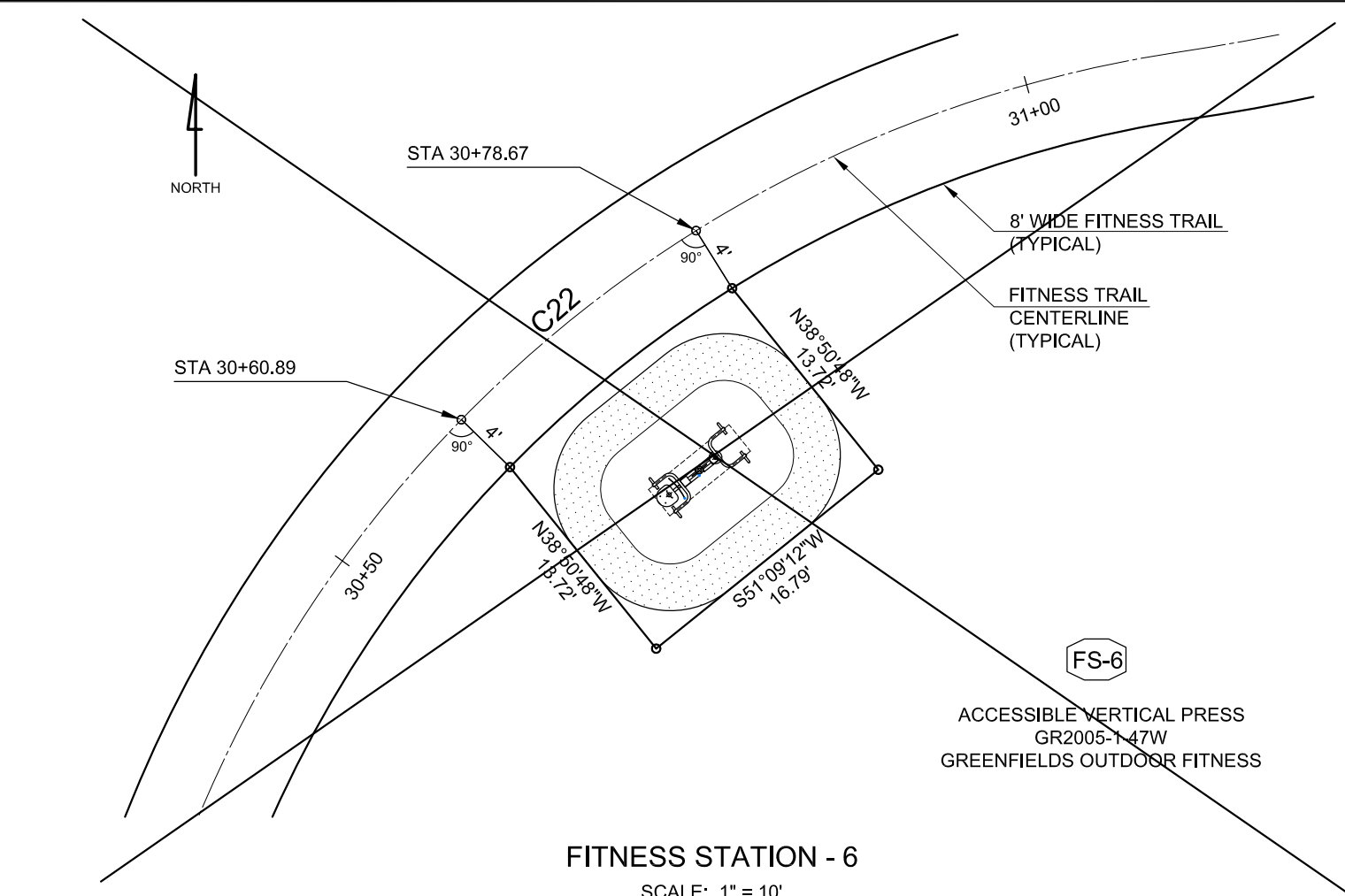
FITNESS STATION - 3
SCALE: 1" = 10'



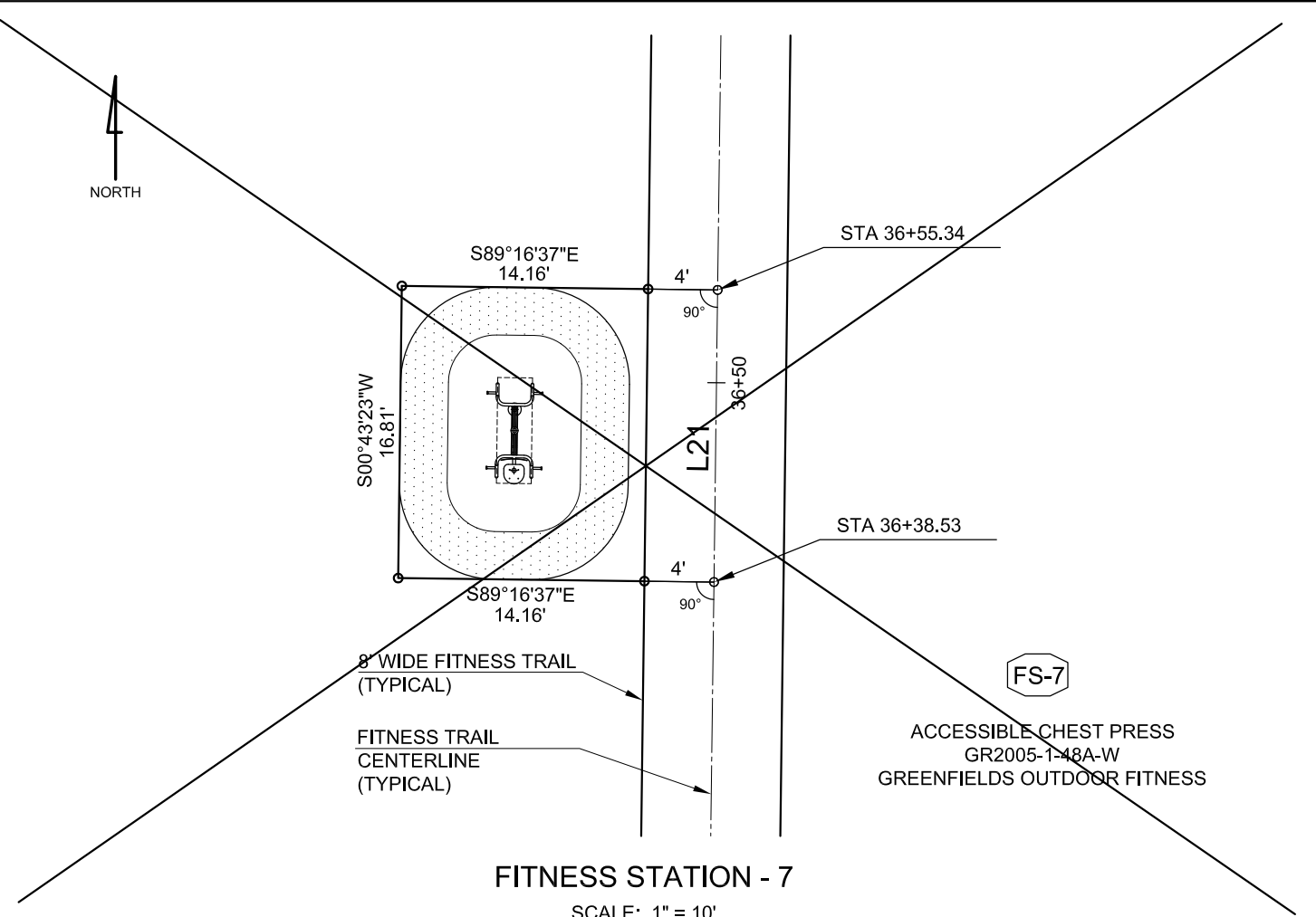
FITNESS STATION - 4
SCALE: 1" = 10'



FITNESS STATION - 5
SCALE: 1" = 10'



FITNESS STATION - 6
SCALE: 1" = 10'



FITNESS STATION - 7
SCALE: 1" = 10'

ENGINEER-OF-RECORD

H. DUANE MILFORD
P.E. # 42657

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1	2/8/19	REVISIONS FOR CONTRACT / BID	4		

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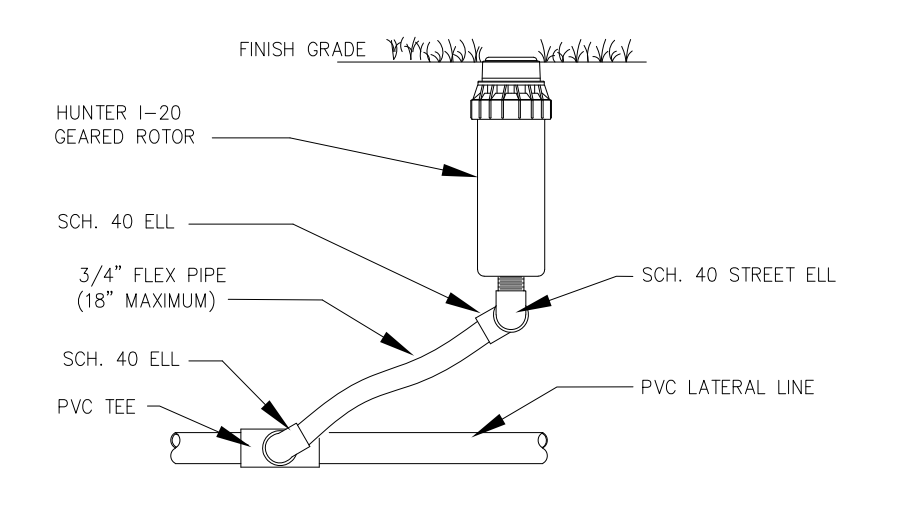
CITY of TAMPA
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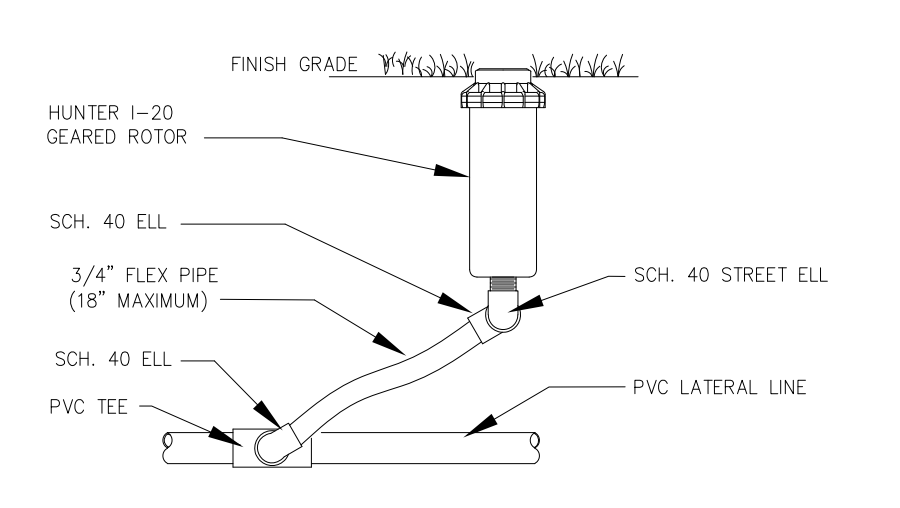
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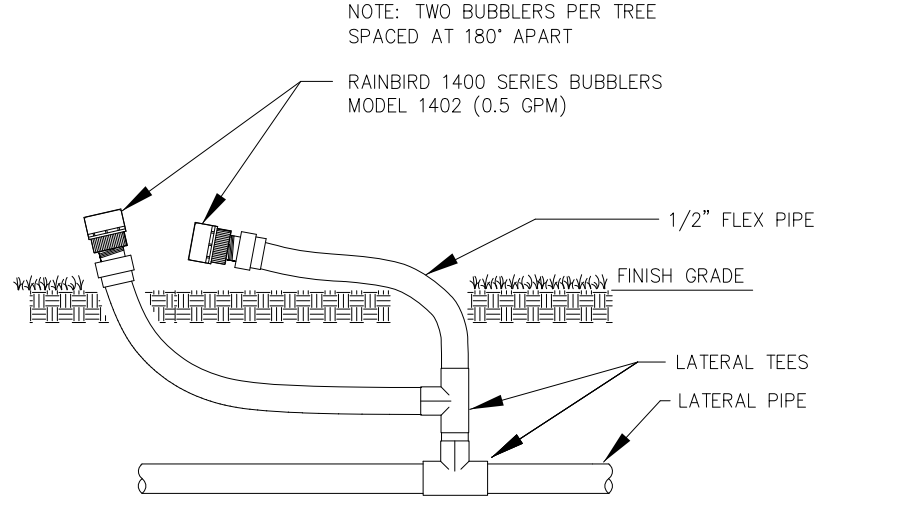
HUNTER I-40 GEAR ROTOR

NTS



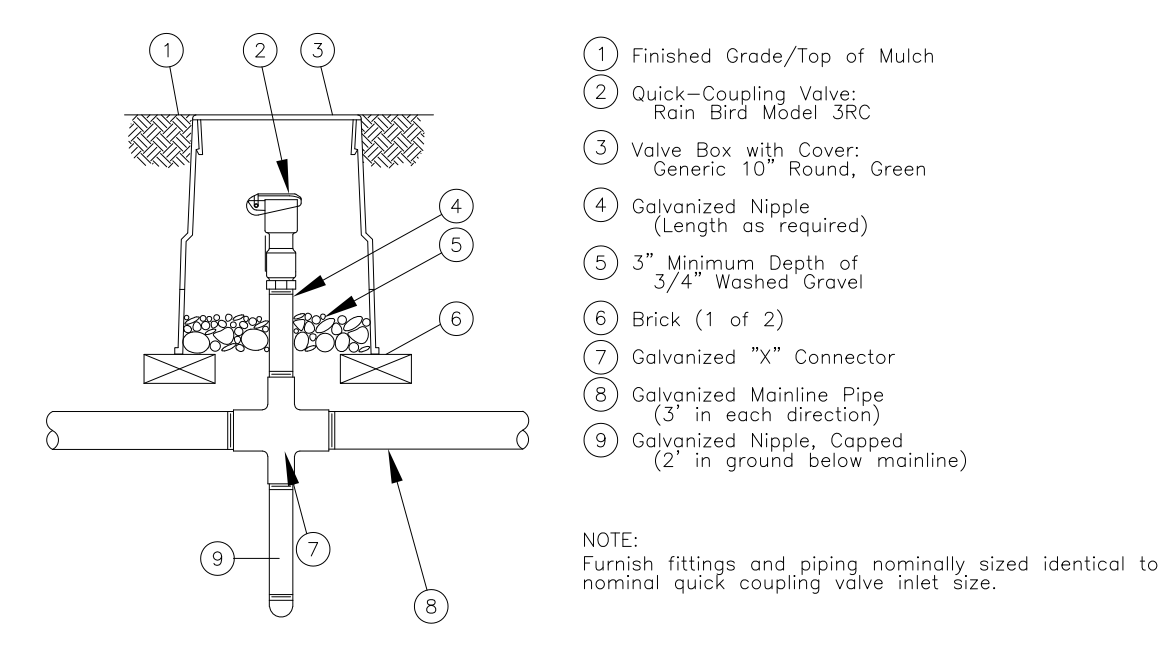
HUNTER I-20 GEAR ROTOR

NTS



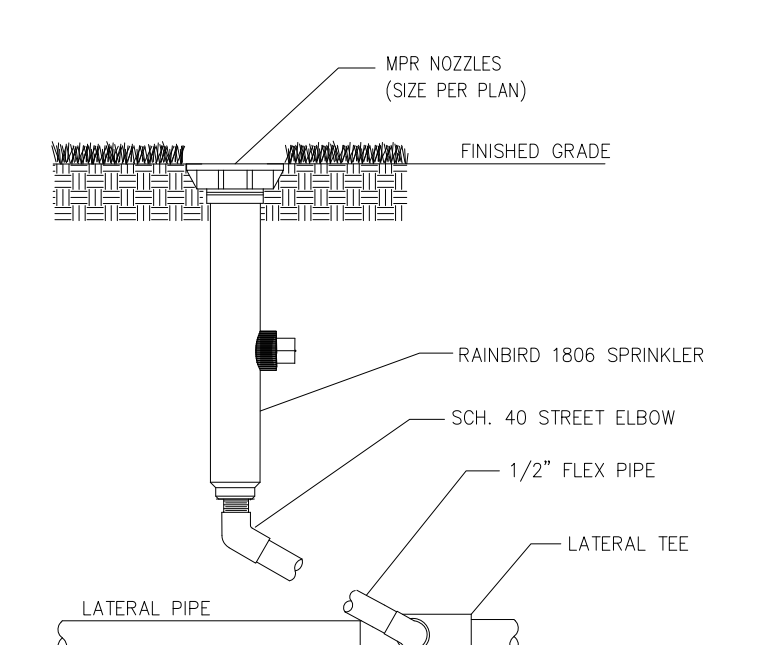
RAINBIRD 1400 SERIES BUBBLER

NTS



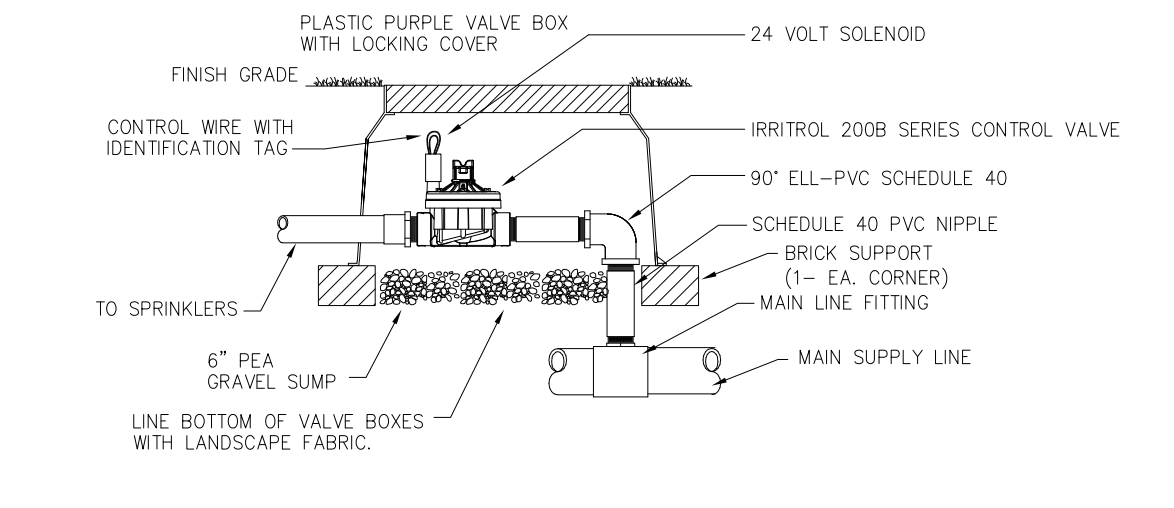
RAINBIRD QUICK COUPLER VALVE 3RC

NTS



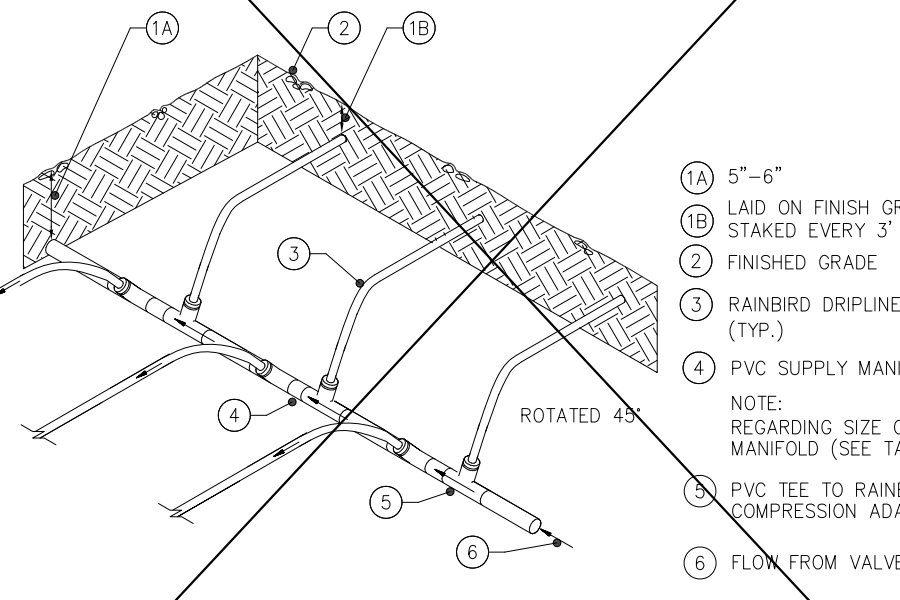
POP-UP SPRAY HEAD

NTS



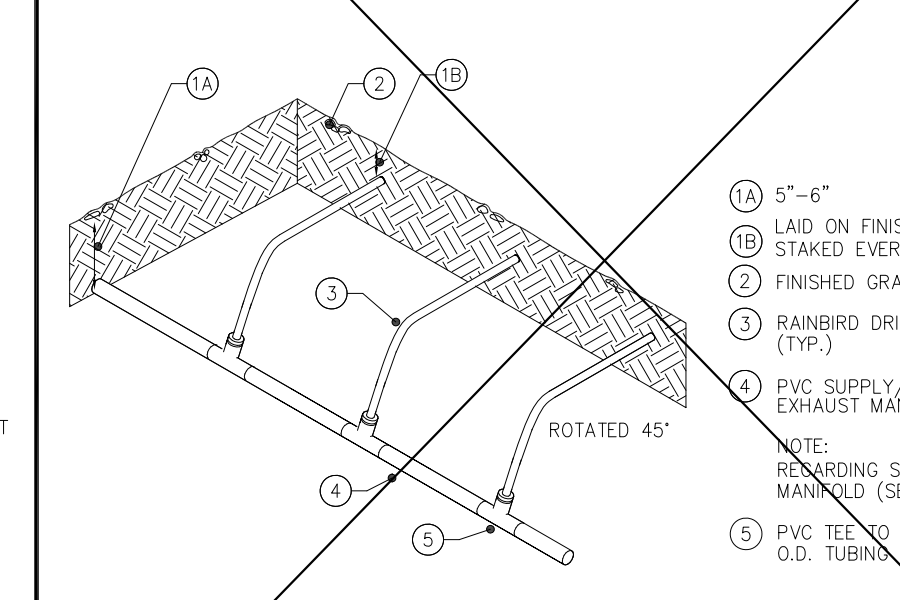
REMOTE CONTROL VALVE

NTS



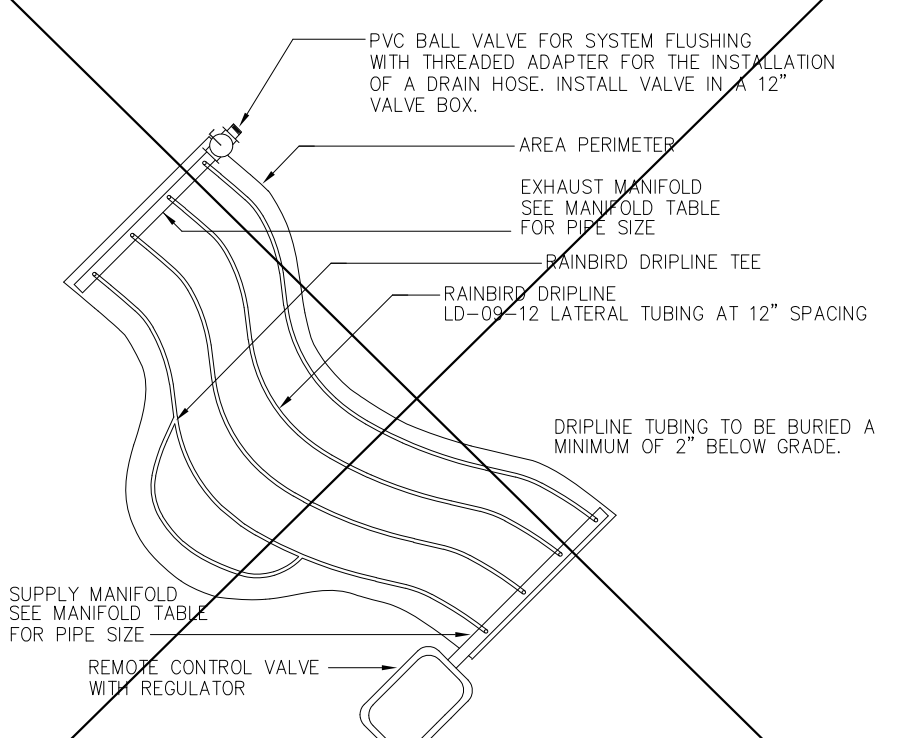
CENTER FEED SUPPLY MANIFOLD

NTS



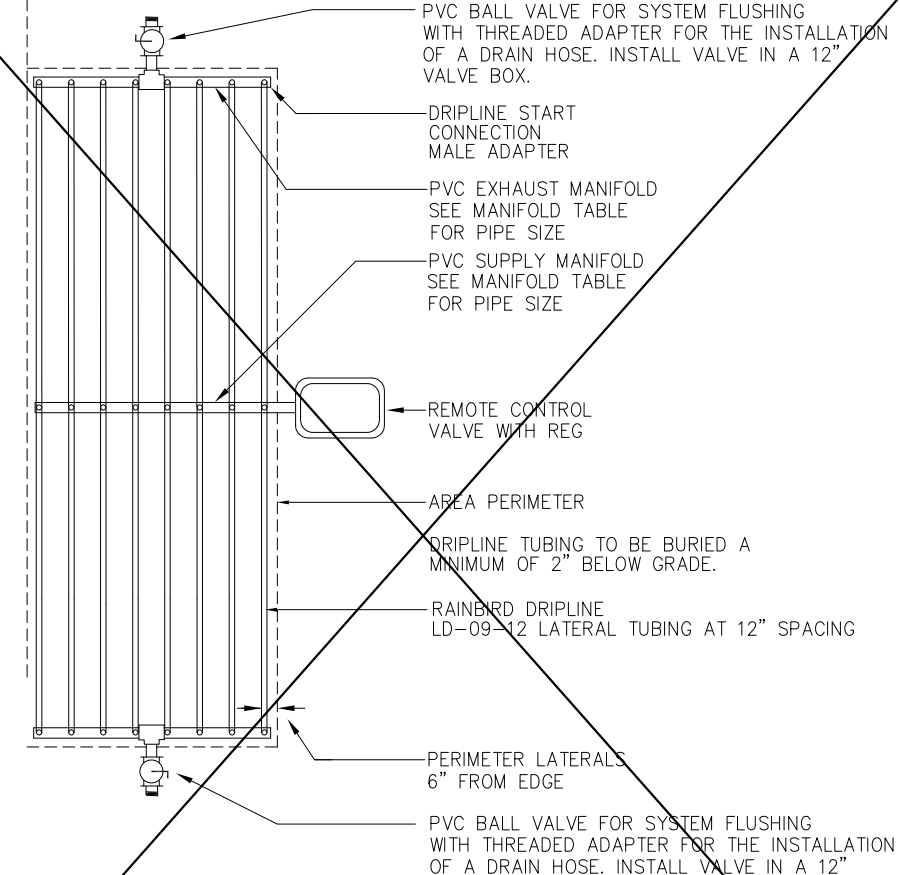
SUPPLY/EXHAUST MANIFOLD

NTS



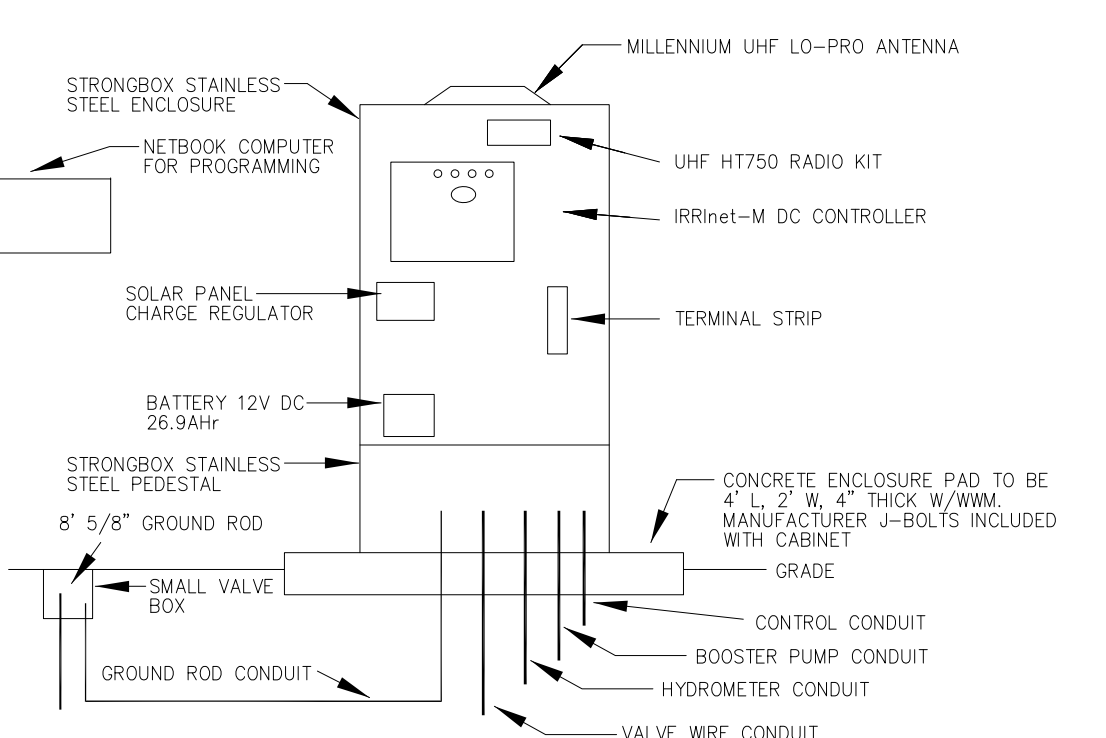
IRREGULAR AREAS: ODD CURVES

NTS



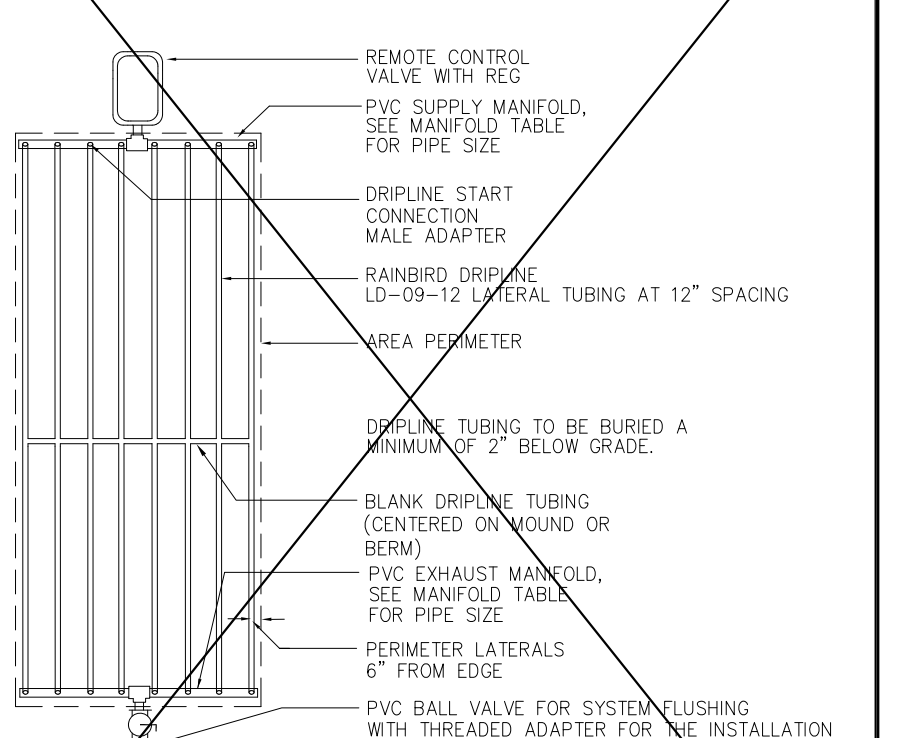
CENTER FEED LAYOUT

NTS



IRRINET-M DC CONTROLLER

NTS

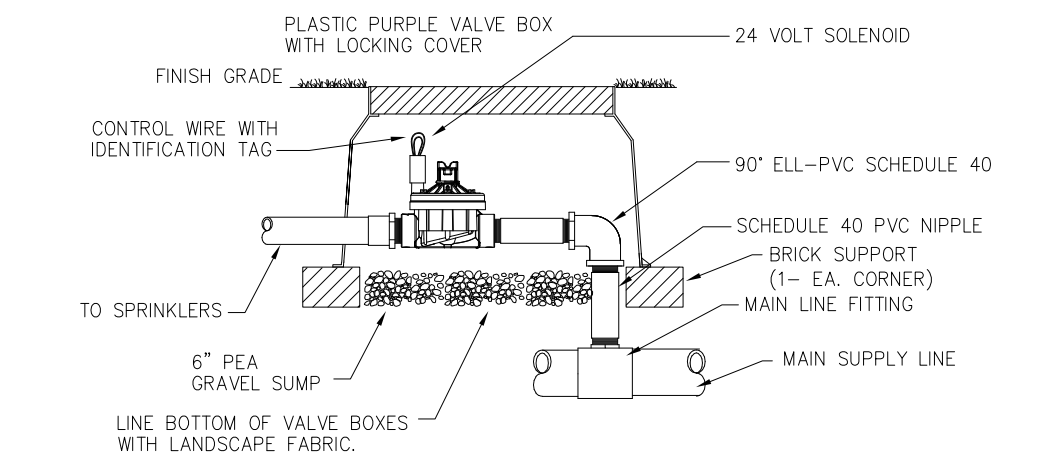


END FEED LAYOUT

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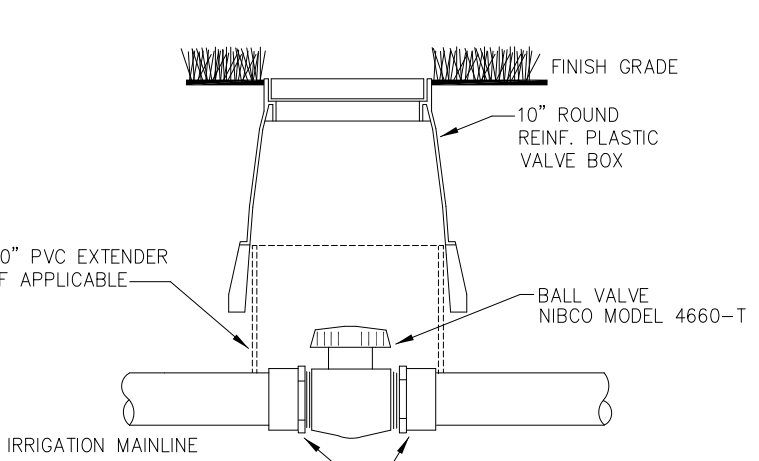
IRRIGATION ZONE DEMAND GALLONS PER MINUTE (GPM)	SUPPLY MANIFOLD PIPE SIZE END AND CENTER FEED	EXHAUST MANIFOLD PIPE SIZE W/END FEED SUPPLY LINE	EXHAUST MANIFOLD PIPE SIZE W/END FEED SUPPLY LINE (TWO EXHAUST MANIFOLDS REQUIRED)
0 - 6	3/4"	3/4"	3/4"
7 - 11	1"	1"	3/4"
12 - 19	1 1/4"	1 1/4"	1"
20 - 26	1 1/2"	1 1/2"	1 1/4"
27 - 42	2"	2"	1 1/4"
43 - 60	2 1/2"	2 1/2"	2"
61 - 90	3"	3"	2"

DRIPLINE SUPPLY AND EXHAUST MANIFOLD PIPE SIZE TABLE



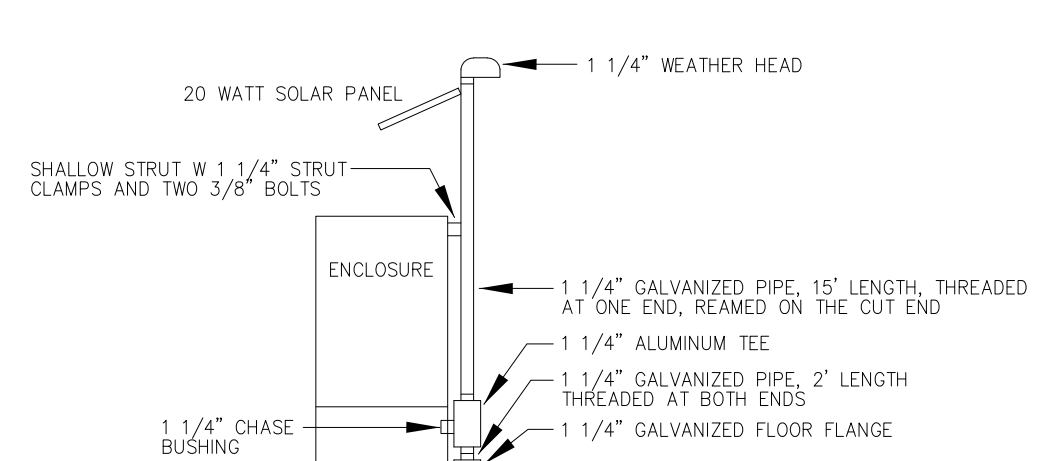
IRRITROL 200B SERIES CONTROL VALVE

NTS



ISOLATION BALL VALVE

NTS



SOLAR PANEL DETAIL FOR CONTROLLER

NTS

IRRINET-M DC CONTROLLER NOTES

1. CONTROLLER SHALL BE (AS NOTED IN DETAIL E ON THIS SHEET) A 12 STATION MOTOROLA DC IRRINET CONTROLLER ASSEMBLY WITH UHF HT750 EXTERNAL RADIO KIT (MODEL # IMDC-12-RX-S18P-AHT-SA-X). UNIT SHALL BE MOUNTED IN A STRONGBOX SB-18SS STAINLESS STEEL ENCLOSURE WITH PEDESTAL. ASSEMBLY SHALL INCLUDE UHF DOME ANTENNA KIT AND 12 STATION TERMINAL SET, SOLAREX MULTIMOUNT MODULE AND HARDWARE, CHARGE REGULATOR, STORAGE BATTERY, AND MAST AND WEATHERHEAD/HARDWARE FOR SOLAR PANEL INSTALLATION. INSTALLATION SHALL INCLUDE ASSEMBLY, HOT TEST (IN SHOP), RADIO PROGRAMMING AND OPTIMIZATION.

2. DC UNITS REQUIRE A VALVE COMMON FOR EVERY 6 VALVES.
3. CONTACT CENTRAL CONTROL SYSTEMS, LTD - MARJIE GIBBEL P.O. BOX 8683 WOODLAND, CA 95776-8683 PH 530-662-6841 FAX 530-662-3776 E-MAIL: CCS@CENTRALCONTROLSYSTEMS.COM FOR PURCHASE INFORMATION.

4. CONTROLLER TO BE LOCATED NEAR EXISTING WATER METER. CONFIRM WITH PARKS AND RECREATION IRRIGATION SUPERVISOR PRIOR TO INSTALLATION.

5. ALL WIRES NOT UNDER MAINLINE TO BE IN CONDUIT AND LOOSE.

6. WIRES BURIED UNDER MAINLINE ARE TO BE BUNDLED AND TAPED AT 20 FOOT INTERVALS.

7. DC CONTROLLER SHALL HAVE 6 WIRES AND 1 COMMON FOR EVERY 6 ZONES AND GROUNDED WITH GROUND RODS TO 10 MEGS.

IRRINET-M AC CONTROLLER NOTES

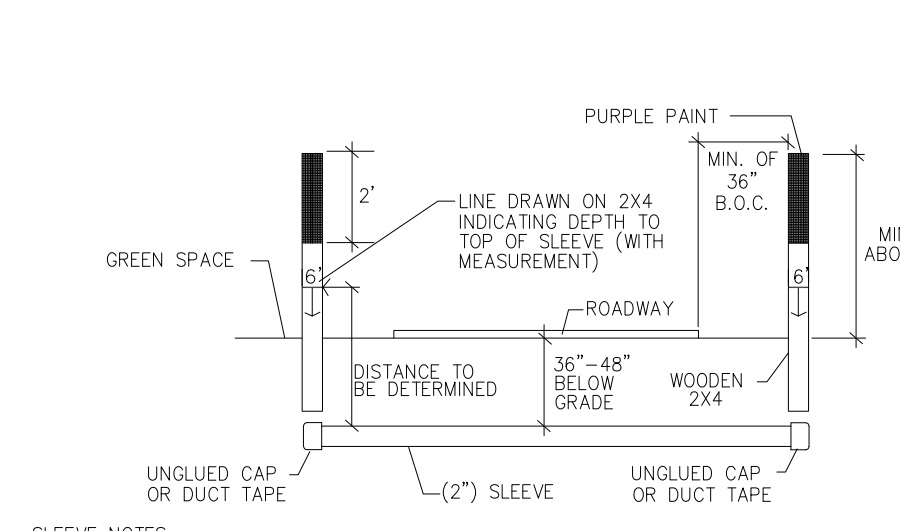
1. CONTROLLER SHALL BE (AS NOTED IN DETAIL E ON THIS SHEET) A 12 STATION MOTOROLA AC IRRINET CONTROLLER ASSEMBLY WITH UHF HT750 EXTERNAL RADIO KIT (MODEL # IMDC-12-RX-S18P-AHT-SA-X). UNIT SHALL BE MOUNTED IN A STRONGBOX SB-18SS STAINLESS STEEL ENCLOSURE WITH PEDESTAL. ASSEMBLY SHALL INCLUDE UHF DOME ANTENNA KIT AND 12 STATION TERMINAL SET, SOLAREX MULTIMOUNT MODULE AND HARDWARE, CHANGE REGULATOR, STORAGE BATTERY, AND MAST AND WEATHERHEAD/HARDWARE FOR SOLAR PANEL INSTALLATION. INSTALLATION SHALL INCLUDE ASSEMBLY, HOT TEST (IN SHOP), RADIO PROGRAMMING AND OPTIMIZATION.

2. CONTACT CENTRAL CONTROL SYSTEMS, LTD - MARJIE GIBBEL P.O. BOX 8683 WOODLAND, CA 95776-8683 PH 530-662-6841 FAX 530-662-3776 E-MAIL: CCS@CENTRALCONTROLSYSTEMS.COM FOR PURCHASE INFORMATION.

4. CONTROLLER TO BE LOCATED AS INDICATED ON PLANS. CONFIRM WITH PARKS AND RECREATION IRRIGATION SUPERVISOR PRIOR TO INSTALLATION.

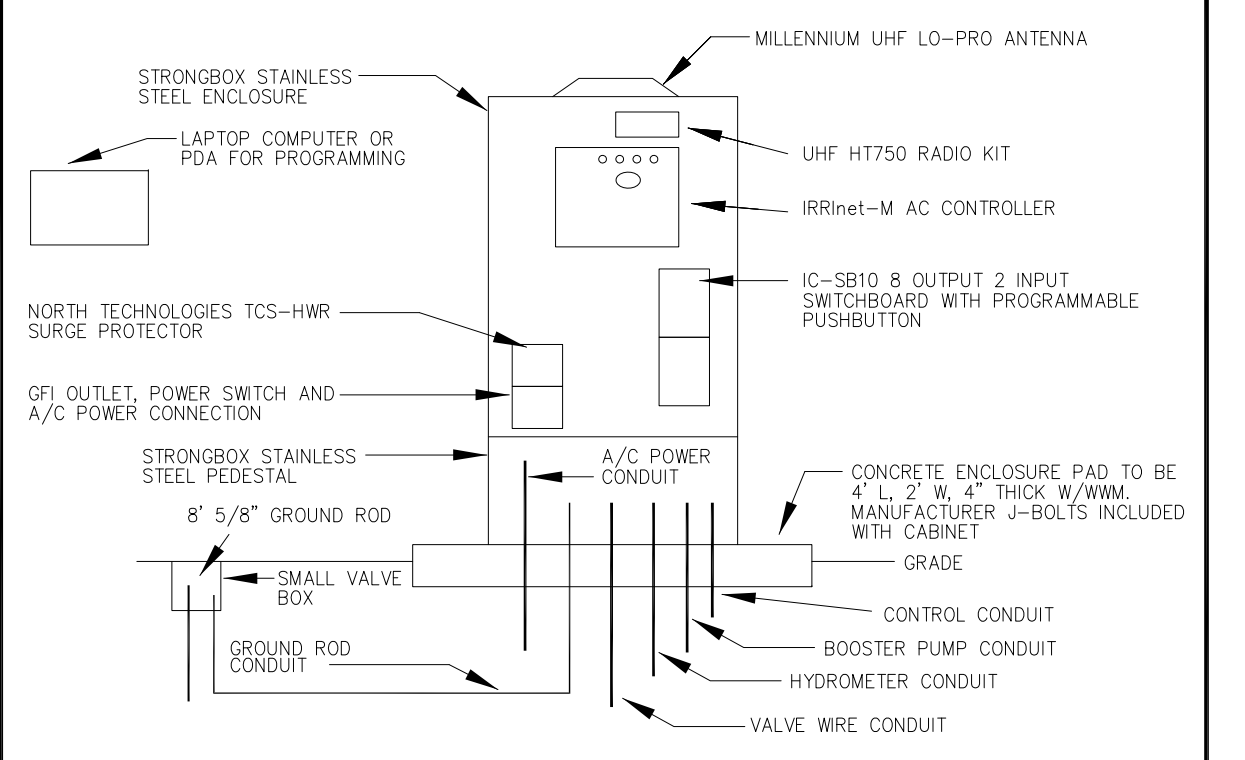
5. ALL WIRES NOT UNDER MAINLINE TO BE IN CONDUIT AND LOOSE.

6. WIRES BURIED UNDER MAINLINE ARE TO BE BUNDLED AND TAPED AT 20 FOOT INTERVALS.



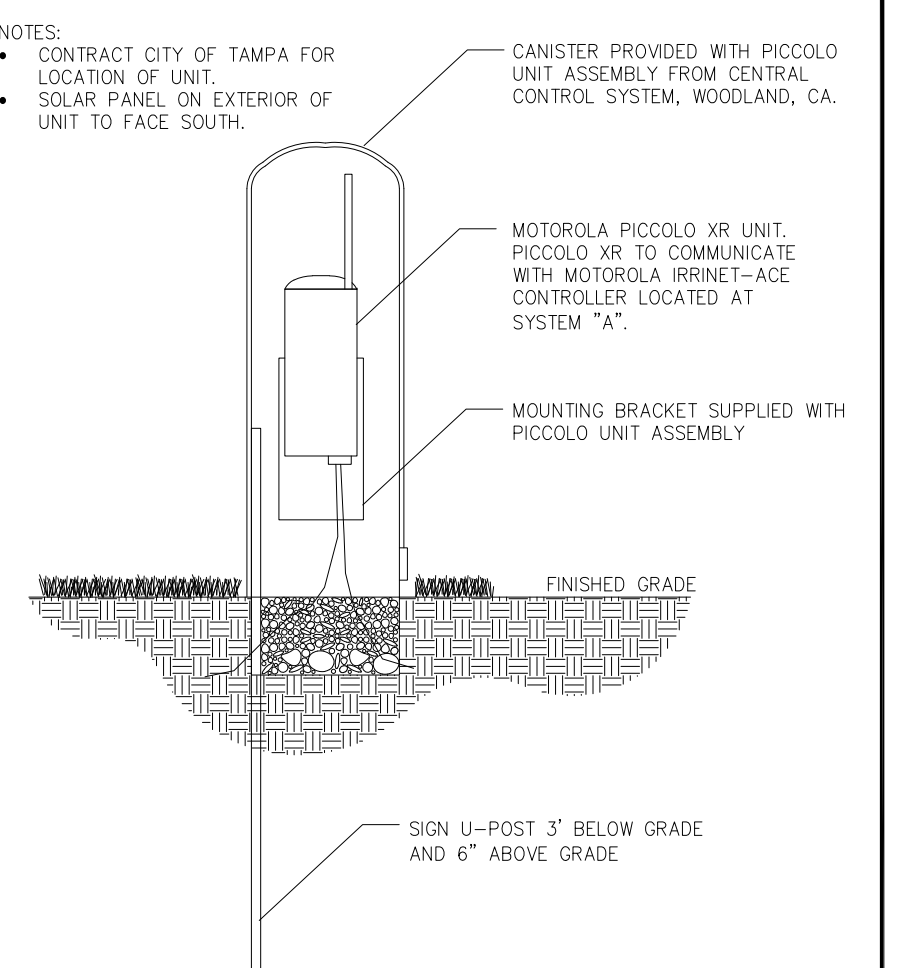
SLEEVE DETAIL

NTS



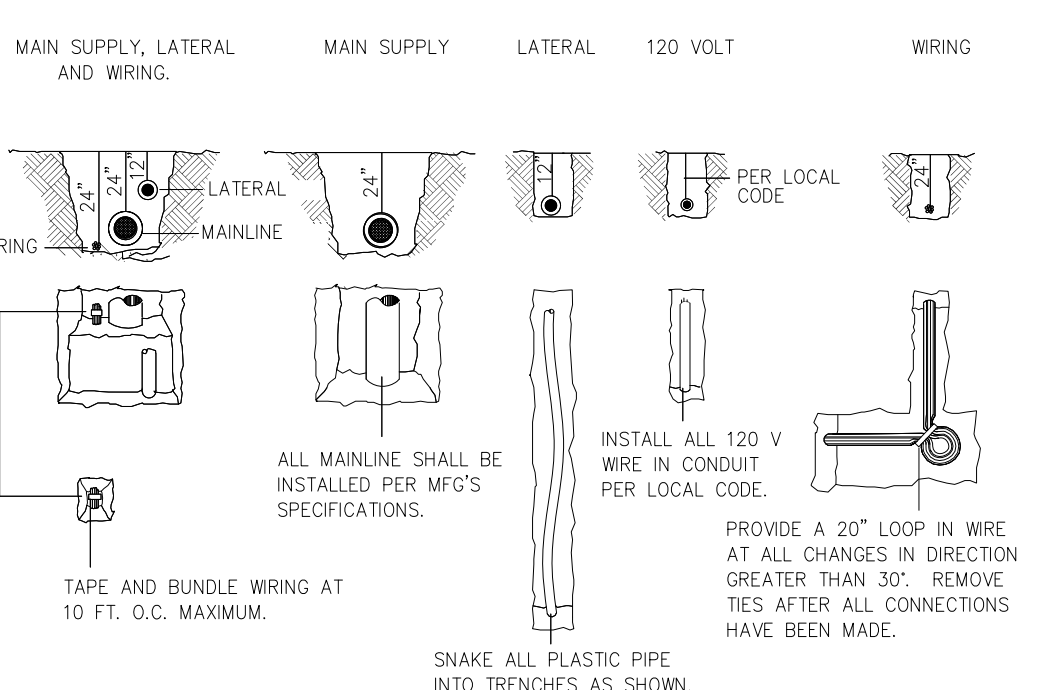
IRRINET-M AC CONTROLLER

NTS



MOTOROLA PICCOLO XR UNIT

NTS



TRENCH DETAIL

NTS

No.	DATE	REVISIONS	No.	DATE	REVISIONS
3			6		
2			5		
1			4		

DES: HDM
 DRN: TLD
 CKD: HDM
 DATE: 11/7/18

CITY of TAMPA
 Department of Transportation
 and Stormwater Services
 Stormwater Engineering Division

IRRIGATION DETAILS

MPH
 CIVIL CONSULTANTS, INC.

P.O. Box
 Odessa, Florida 33556
 Phone: 813.731.0052
 duane@mphcivil.com
 Florida CA No.: 30727

ENGINEER-OF-RECORD

H. DUANE MILFORD
 P.E. # 42657

SHEET
22
 OF
22

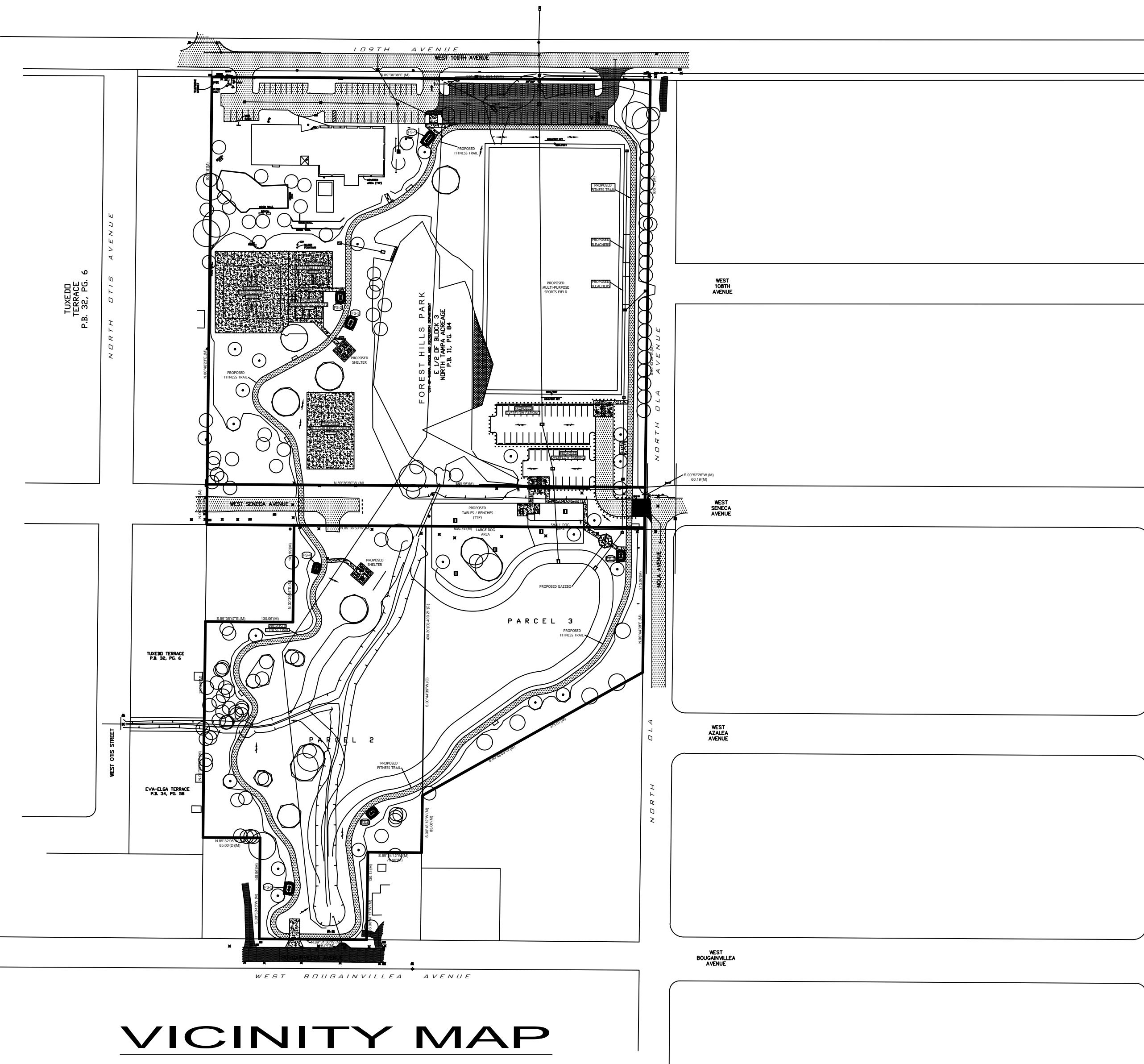
CITY OF TAMPA

FOREST HILLS PARK

724 WEST 109TH AVE., TAMPA, FL

NEW RACQUETBALL COURTS

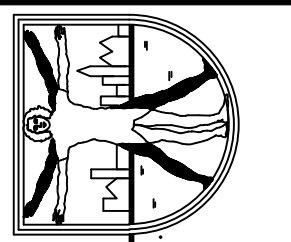
CONTRACT NUMBER: 18-D-61314



INDEX OF DRAWINGS

SHEET #	TITLE
CS	COVER SHEET
S1	STRUCTURAL NOTES
S2	STRUCTURAL FLOOR PLANS

NON-STRUCTURAL SHEET
 This sheet contains no structural information and is not covered by the the engineering seal. Specifically, all information on this sheet is for visual reference only.



The Structures Group, Inc.
 Dr. Nick M. Bradford, P.E. S.E. S.I.
 FL. Reg. #52585 CA 8956
 1714 N. Armenia Avenue, #B
 Tampa, FL 33607
 Phone (813) 677-3421
 email: structuresgroup@verizon.net
 www.Structures-Group.com

To the best of the engineer's knowledge, plans and specifications comply with the minimum requirements of The Florida Building Code, Section 1609(8th Ed. - 2017)

Plans and specifications have been designed to withstand the design wind speed designated on Sheet S-1 (Structural Notes) unless noted otherwise on this sheet.

These drawings are valid for 12 months after date they signed and sealed or until the requirements of the Building Code are changed.

All signed and sealed drawings are signed and sealed for the structural portions of the drawings only. All other information (Architectural, Electrical, Mechanical, Plumbing, Dimensional, etc.) are for visual reference only and are not covered under this seal.

It is the Contractor's responsibility to review all drawings before construction begins. The Engineer of Record is responsible for the structural integrity of this project only. Any discrepancy between field conditions, other design professionals' shop drawings, Contractor's building methods, and these construction documents must be brought to the attention of the Engineer of Record prior to the commencement of construction. When such discrepancies exist, Engineer of Record is not responsible for any related components once installed.

Contractor must verify all dimensions prior to start of any construction. Contractor must submit all shop drawing documents as specified in these drawings prior to the start of any construction and is solely responsible for related components if installed without appropriate shop drawing review and approval.

ADDITIONS/RENOVATIONS
 The Engineer of Record is responsible for the proposed changes to the original structure shown on these pages only. The Engineer of Record is not responsible for existing structural systems or components.

ELECTRONIC SIGNATURES
 An electronic signature by the Engineer of Record does not certify any non-structural information. Non-structural sheets (Mechanical, Electrical, Plumbing, Site, Building Sections, Elevations, Waterproofing, Architectural, Florida Product Approval, Dimensional, etc.) are not covered by Engineer of Record seal. Sheets that provide both structural and non-structural information are certified solely for the structural information presented on them. Non-structural sheets are denoted as such and are not covered in any way by this seal.

FOREST HILLS PARK
 724 WEST 109TH AVE
 RACQUETBALL COURTS
 CONTRACT NO: 18-D-61314
 FLORIDA

JOB NUMBER :	20180193
DATE :	AUGUST 28, 2018
DRAWN BY :	
SCALE :	

SHEET NUMBER
CS

SIGN & SEAL

1.0 GENERAL

- 1.1 STRUCTURAL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 6th Edition (2017) AS ADOPTED AND SUPPLEMENTED BY LOCAL REGULATIONS.
- 1.2 VERIFY ALL DIMENSIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES.
- 1.3 DO NOT SCALE DRAWINGS.
- 1.4 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR MISCELLANEOUS STEEL ITEMS NOT SHOWN HEREON.
- 1.5 SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ANCHORED, SUPPORTED AND EMBEDDED ITEMS WHICH AFFECT THE STRUCTURAL WORK. VERIFY DETAILS AND DIMENSIONS WITH EQUIPMENT PURCHASER.
- 1.6 COORDINATE SIZES AND LOCATIONS OF OPENINGS IN FLOORS AND ROOF WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL REQUIREMENTS.
- 1.7 NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER.
- 1.8 TOP OF SLAB AT GROUND LEVEL REFERENCE EL. 100'-0". SEE SITE PLAN FOR ACTUAL ELEVATION.
- 1.9 NO CHANGES IN CONSTRUCTION FROM THAT SHOWN IN THE APPROVED SHOP DRAWINGS SHALL BE MADE WITHOUT THE SPECIFIC WRITTEN APPROVAL OF THE ENGINEER.
- 1.10 SUBMITTALS SHALL CONFORM TO REQUIREMENTS OF CONTRACT DOCUMENTS, AND SHALL BE CHECKED AND MARKED "APPROVED" BY CONTRACTOR PRIOR TO SUBMITTAL. NON-CONFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- 1.11 SHOP DRAWINGS SHALL NOT BE REPRINTS OF CONTRACT DOCUMENTS.
- 1.12 THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES: THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYRS OR TIEDOWNS.
- 1.13 DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILLED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE PLANS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE KEYED IN AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
- 1.14 THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- 1.15 DESIGN DATA
 - 1.12.1 LIVE LOADS:

ROOFS	30 PSF
FLOOR	40 PSF
CORRIDOR /BALCONY	100 PSF
 - 1.12.2 DEAD LOADS

MEP	5 PSF
ROOF/FLOOR FRAMING	25 PSF
WIND VELOCITY	145 MPH (I = 1.0), EXP. C, PER FBC 6th Edition (2017) U.O.N.
- 1.16 ALLOWABLE SOIL PRESSURE 2500 PSF (CONTRACTOR TO CONFIRM WITH GEOTECHNICAL ENGINEER AND CONTACT EOR IF SOIL CONDITIONS ARE DIFFERENT)

2.0 FOUNDATIONS

- 2.1 PREPARE SITE & COMPACT BEARING SOIL IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT. PREPARED SPECIFICALLY FOR THIS PROJECT. ENGINEER ASSUMES NO RESPONSIBILITY FOR SETTLEMENT OR OTHER FOUNDATION ISSUES DUE TO FAILURE OF OWNER OR CONTRACTOR TO PERFORM THE NECESSARY GEOTECHNICAL INVESTIGATION.

3.0 REINFORCING

- 3.1 SUBMITTALS FOR REVIEW
 - 3.1.1 SHOP DRAWINGS: INDICATE BAR SIZES, SPACINGS, LOCATIONS, AND QUANTITIES OF REINFORCING STEEL AND WIRE FABRIC, BENDING AND CUTTING SCHEDULES, AND SUPPORTING AND SPACING DEVICES.
- 3.1.2 MANUFACTURER'S CERTIFICATE: CERTIFY THAT PRODUCTS MEET OR EXCEED SPECIFIED REQUIREMENTS.
- 3.2 PERFORM WORK IN ACCORDANCE WITH CRSI 63 AND MANUAL OF PRACTICE, ACI 301, ACI SP-66 AND ACI 318. MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.
- 3.3 REINFORCEMENT
 - 3.3.1 REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60, LATEST REVISION, WITH SUPPLEMENT (S1), MARKED "S".
 - 3.3.2 STIRRUP STEEL: ASTM A82.
 - 3.3.3 WELDED STEEL WIRE FABRIC: ASTM A185 PLAIN TYPE INSTALL ON BRICKS OR BOLSTERS AT MID-DEPTH OF SLAB.
- 3.4 ACCESSORIES
 - 3.4.1 TIE WIRE: MINIMUM 16 GAGE ANNEALED TYPES.
 - 3.4.2 CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS: SIZED AND SHAPED FOR STRENGTH AND SUPPORT OF REINFORCEMENT DURING CONCRETE PLACEMENT CONDITIONS INCLUDING LOAD BEARING PAD ON BOTTOM TO PREVENT VAPOR BARRIER PUNCTURE.
- 3.5 FABRICATION
 - 3.5.1 FABRICATE CONCRETE REINFORCING IN ACCORDANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND ASTM A184.
 - 3.5.2 LOCATE REINFORCING SPLICES NOT INDICATED ON DRAWINGS, AT POINT OF MINIMUM STRESS. REVIEW LOCATION OF SPLICES WITH ENGINEER. LENGTH OF LAP SPLICES AND BAR EMBEDMENT SHALL BE AS SHOWN IN TABLE, UNLESS OTHERWISE NOTED:

MINIMUM SPLICE LENGTH FOR DEFORMED BARS		3000 PSI		4000 PSI	
		CLASS A	CLASS B	CLASS A	CLASS B
T<12"	#6 OR LESS	44db	57db	38db	49db
	#7 OR MORE	55db	71db	47db	61db
T>12"	#6 OR LESS	57db	74db	50db	65db
	#7 OR MORE	71db	81db	61db	79db

- NOTES:
 "T" IS DEPTH OF CONCRETE UNDER BARS
- 3.5.3 PROVIDE STANDARD HOOKS AT DISCONTINUOUS ENDS OF TOP BARS.
 - 3.5.4 AT CHANGES IN DIRECTION OF CONCRETE WALLS AND TIE BEAMS, PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL STEEL.
 - 3.6 PLACEMENT
 - 3.6.1 PLACE, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. DO NOT DEVIATE FROM REQUIRED POSITION.
 - 3.6.2 DO NOT DISPLACE OR DAMAGE VAPOR BARRIER.
 - 3.6.3 ACCOMMODATE PLACEMENT OF FORMED OPENINGS.
 - 3.6.4 MAINTAIN CONCRETE COVER AS INDICATED ON DESIGN DRAWINGS.
 - 3.6.5 WHERE BEAM REINFORCING IS SHOWN CONTINUOUS, SPLICE BOTTOM BARS OVER SUPPORT AND TOP BARS AT CENTER OF SPAN.
 - 3.6.6 WHERE PIPING PENETRATES CONCRETE BEAMS, PLACE TWO #3 STIRRUPS @ 3" O.C. EACH SIDE OF PIPE, UNLESS OTHERWISE NOTED.

4.0 CIP CONCRETE

- 4.1 SUBMITTALS FOR REVIEW
 - 4.1.1 PRODUCT DATA: SUBMIT CONCRETE DESIGN MIXES FOR APPROVAL.
 - 4.1.2 SUBMITTALS AT PROJECT CLOSEOUT
 - 4.2.1 ACCURATELY RECORD ACTUAL LOCATIONS OF EMBEDDED UTILITIES AND COMPONENTS WHICH ARE CONCEALED FROM VIEW.
- 4.2 QUALITY ASSURANCE
 - 4.3.1 PERFORM WORK IN ACCORDANCE WITH ACI 301.
 - 4.3.2 MAINTAIN ONE COPY OF EACH DOCUMENT ON SITE.
 - 4.3.3 ACQUIRE CEMENT AND AGGREGATE FROM SAME SOURCE FOR ALL WORK.
 - 4.3.4 CONFORM TO ACI 305R WHEN CONCRETING DURING HOT WEATHER.
 - 4.3.5 CONFORM TO ACI 306R WHEN CONCRETING DURING COLD WEATHER.
- 4.3 CONCRETE MATERIALS
 - 4.4.1 CEMENT: ASTM C150, TYPE II - MODERATE.
 - 4.4.2 FINE AND COARSE AGGREGATES: ASTM C33.
 - 4.4.3 WATER: CLEAN AND NOT DETRIMENTAL TO CONCRETE.

GENERAL NOTES

- 4.5 ADMIXTURES
 - 4.5.1 AIR ENTRAINMENT: ASTM C260.
 - 4.5.2 CHEMICAL: ASTM C494 TYPE A-WATER REDUCING; TYPE B-RETARDING; TYPE C-ACCELERATING; TYPE D-WATER REDUCING AND RETARDING; TYPE E-WATER REDUCING AND ACCELERATING; TYPE F-WATER REDUCING, HIGH RANGE; TYPE G-WATER REDUCING, HIGH RANGE AND RETARDING.
- 4.5.3 FLY ASH: ASTM C618 CLASS A.
- 4.6 ACCESSORIES
 - 4.6.1 BONDING AGENT: POLYMER RESIN EMULSION OR POLYVINYL ACETATE.
 - 4.6.2 VAPOR RETARDER: 10 MIL THICK CLEAR POLYETHYLENE FILM TYPE RECOMMENDED FOR BELOW GRADE APPLICATION.
 - 4.6.3 NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS; CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 2,400 PSI IN 48 HOURS AND 7,000 PSI IN 28 DAYS. VIBROPRUF #11, BY LAMBERT CORPORATION OR APPROVED EQUAL.
- 4.7 CONCRETE MIX
 - 4.7.1 MIX CONCRETE IN ACCORDANCE WITH ACI 304. DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94.
 - 4.7.2 SELECT PROPORTIONS FOR NORMAL WEIGHT CONCRETE IN ACCORDANCE WITH ACI 301. PROVIDE CONCRETE TO THE CRITERIA AS FOLLOWS:

	28 DAY COMP. STRENGTH	SLUMP (+/- 1)	W/C RATIO (MAX.)	MAX. AGGREGATE
FOUNDATIONS	3000 PSI	5"	0.48	3/4"
SLABS ON GRADE	3000 PSI	4"	0.45	3/4"
BOND BEAMS	3000 PSI	5"	0.50	3/8"
FILLED CELLS (GROUT) ASTM C-476	3000 PSI	8" TO 11"	0.55	3/8"
CIP CONCRETE BEAMS/WALLS	3500 PSI	5"	0.48	3/4"
CIP CONCRETE COLUMNS	3500 PSI	5"	0.48	3/4"

- 4.7.3 SUBMIT DESIGN MIXES FOR APPROVAL AT LEAST ONE WEEK PRIOR TO CONCRETE POUR. DESIGN MIX SUBMITTALS MUST INDICATE PROPOSED LOCATION OR TYPE OF USE. FAILURE TO DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS.
- 4.7.4 USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY ENGINEER. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.
- 4.7.5 USE OF CALCIUM CHLORIDE PROHIBITED.
- 4.7.6 USE SET RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY ENGINEER.
- 4.7.7 ADD AIR ENTRAINING AGENT TO NORMAL WEIGHT CONCRETE MIX FOR WORK EXPOSED TO EXTERIOR. FLY ASH CONTENT NOT TO EXCEED 20 % OF CEMENTITIOUS MATERIAL BY WEIGHT.
- 4.8 VERIFY SITE CONDITIONS PRIOR TO PLACING CONCRETE.
- 4.9 VERIFY REQUIREMENTS FOR CONCRETE COVER OVER REINFORCEMENT.
- 4.10 PROVIDE CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS, UNLESS OTHERWISE NOTED:

LOCATION AND CONDITION:	MINIMUM COVER:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL BARS 3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER	#6 OR GREATER 2"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	#5 OR SMALLER 1-1/2"
1. SLABS, WALLS, AND JOISTS	#11 OR SMALLER 3/4"
2. BEAMS AND COLUMNS:	#14-#18 1-1/2"
(PRIMARY REINFORCEMENT, TIES, STIRRUPS, AND SPIRALS)	ALL BARS 1-1/2"

- 4.11 VERIFY THAT ANCHORS, SEATS, PLATES, REINFORCEMENT AND OTHER ITEMS TO BE CAST INTO CONCRETE ARE ACCURATELY PLACED, POSITIONED SECURELY, AND WILL NOT CAUSE HANDSHIP IN PLACING CONCRETE.
- 4.12 PREPARATION
 - 4.12.1 PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - 4.12.2 COORDINATE THE PLACEMENT OF JOINT DEVICES WITH ERECTION OF CONCRETE FORMWORK AND PLACEMENT OF FORM ACCESSORIES.
- 4.13 PLACING CONCRETE
 - 4.13.1 PLACE CONCRETE IN ACCORDANCE WITH ACI 304.
 - 4.13.2 NOTIFY ENGINEER MINIMUM 24 HOURS PRIOR TO COMMENCEMENT OF OPERATIONS TO ALLOW INSPECTION OF FORMWORK, REBAR REPLACEMENT AND CONFORMANCE WITH CONTRACT SPECIFICATIONS. DO NOT CALL FOR INSPECTION UNLESS ALL PREPARATIONS ARE COMPLETE. ENSURE REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED EXPANSION AND CONTRACTION JOINTS, AND ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
 - 4.13.3 INSTALL VAPOR RETARDER UNDER INTERIOR SLABS ON GRADE. LAP JOINTS MINIMUM 6 INCHES AND SEAL WATERTIGHT BY TAPING EDGES AND ENDS.
 - 4.13.4 REPAIR VAPOR RETARDER DAMAGED DURING PLACEMENT OF CONCRETE REINFORCING. REPAIR WITH VAPOR RETARDER MATERIAL; LAP OVER DAMAGED AREAS MINIMUM 6 INCHES AND SEAL WATERTIGHT.
 - 4.13.5 MAINTAIN RECORDS OF CONCRETE PLACEMENT. RECORD DATE, LOCATION, QUANTITY, AIR TEMPERATURE, AND TEST SAMPLES TAKEN.
 - 4.13.6 PLACE CONCRETE CONTINUOUSLY BETWEEN PREDETERMINED EXPANSION, CONTROL, AND CONTRACTION JOINTS.
 - 4.13.7 DO NOT INTERRUPT SUCCESSIVE PLACEMENT; DO NOT PERMIT COLD JOINTS TO OCCUR.
 - 4.13.8 SCREED SLABS ON GRADE LEVEL, MAINTAINING SURFACE FLATNESS OF MAXIMUM 1/4 INCH IN 10 FT.; PROVIDE FINAL FLOOR FINISH PER REQUIREMENTS SPECIFIED UNDER CONCRETE FINISHING.
- 4.14 CONCRETE FINISHING
 - 4.14.1 PROVIDE FORMED CONCRETE SURFACES TO BE LEFT EXPOSED CONCRETE WITH SACK RUBBED FINISH.
 - 4.14.2 FINISH CONCRETE FLOOR SURFACES IN ACCORDANCE WITH ACI 301.
 - 4.14.3 WOOD FLOAT SURFACES WHICH WILL RECEIVE CERAMIC TILE WITH FULL BED SETTING SYSTEM. STEEL TROWEL SURFACES WHICH WILL RECEIVE CARPETING, RESILIENT FLOORING OR THIN SET CERAMIC TILE.
 - 4.14.4 STEEL TROWEL SURFACES WHICH ARE SCHEDULED TO BE EXPOSED.
 - 4.14.5 PROVIDE NONSLIP BROOM FINISH TO EXTERIOR CONCRETE SLABS. PLACE FINISH PERPENDICULAR TO TRAFFIC FLOW.
 - 4.14.6 IN AREAS WITH FLOOR DRAINS, MAINTAIN FLOOR ELEVATION AT WALLS; PITCH SURFACES UNIFORMLY AS INDICATED ON DRAWINGS.
 - 4.14.7 FINISH INTERIOR SLABS ON GRADE ACCORDING TO THE FOLLOWING FF/FL METHODS FOR LOCATIONS INDICATED:
 - 4.14.8 SLAB SURFACES TO RECEIVE RESILIENT FLOORING, PAINT, OR OTHER THIN FILM COATING SYSTEM; SPECIFIED OVERALL VALUE, FF 36/FL25; MINIMUM LOCAL VALUE FF30/FL22.
 - 4.14.9 SLAB SURFACES TO RECEIVE CARPET; SPECIFIED OVERALL VALUE FF25/FL20; MINIMUM LOCAL VALUE FF25/FL20.
 - 4.15 CURING AND PROTECTION
 - 4.15.1 IMMEDIATELY AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY.
 - 4.15.2 MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
 - 4.15.3 CURE FLOOR SURFACES IN ACCORDANCE WITH ACI 308.
 - 4.15.4 PONDING: MAINTAIN 100 PERCENT COVERAGE OF WATER OVER FLOOR SLAB AREAS CONTINUOUSLY FOR 4 DAYS.
 - 4.15.5 SPRAYING: SPRAY WATER OVER FLOOR SLAB AREAS AND MAINTAIN WET FOR 7 DAYS.
 - 4.15.6 MEMBRANE CURING COMPOUND: APPLY CURING COMPOUND TO CONCRETE AS SOON AS FINAL FINISHING OPERATIONS ARE COMPLETE. APPLY ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. USE MEMBRANE CURING COMPOUNDS THAT WILL NOT AFFECT SURFACES TO BE COVERED WITH FINISH MATERIALS APPLIED DIRECTLY TO CONCRETE.
- 4.15.7 MOISTURE-RETAINING COVER: COVER CONCRETE SURFACES WITH MOISTURE-RETAINING COVER FOR CURING CONCRETE, PLACED IN WIDEST PRACTICAL WIDTH WITH SIDES AND ENDS LAPPED AT LEAST THREE INCHES (3") AND SEALED BY WATERPROOF TAPE OR ADHESIVE. IMMEDIATELY REPAIR ANY HOLES OR TEARS DURING CURING PERIOD USING COVER MATERIAL AND WATERPROOF TAPE.
- 4.15.8 CURING FORMED SURFACES: CURE FORMED SURFACE BY INCLUDING UNDERSIDES OF BEAMS, COLUMNS, SUPPORTED SLABS, AND OTHER SIMILAR SURFACES BY MOST CURING WITH FORMS IN PLACE FOR FULL CURING PERIOD OR UNTIL FORMS ARE REMOVED. IF FORMS ARE REMOVED, CONTINUE CURING BY MEMBRANE-CURING COMPOUND, MOISTURE-RETAINING COVER; OR WATER SPRAY AND MOISTURE-RETAINING COVER.

- 4.16 FIELD QUALITY CONTROL
 - 4.16.1 FIELD INSPECTION AND TESTING WILL BE PERFORMED IN ACCORDANCE WITH ACI 301. PROVIDE FREE ACCESS TO WORK AND COOPERATE WITH APPOINTED FIRM.
 - 4.16.2 SUBMIT PROPOSED MIX DESIGN OF EACH CLASS OF CONCRETE TO ENGINEER FOR REVIEW PRIOR TO COMMENCEMENT OF WORK.
 - 4.16.3 TESTS OF CEMENT AND AGGREGATES MAY BE PERFORMED TO ENSURE CONFORMANCE WITH SPECIFIED REQUIREMENTS.
 - 4.16.4 THREE CONCRETE TEST CYLINDERS WILL BE TAKEN FOR EVERY 75 OR LESS CU YDS OF EACH CLASS OF CONCRETE PLACED.
 - 4.16.5 ONE ADDITIONAL TEST CYLINDER WILL BE TAKEN DURING COLD WEATHER CONCRETING, CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
 - 4.16.6 ONE SLUMP TEST WILL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN.
 - 4.17 PATCHING
 - 4.17.1 ALLOW ENGINEER TO INSPECT CONCRETE SURFACES IMMEDIATELY UPON REMOVAL OF FORMS.
 - 4.17.2 EXCESSIVE HONEYCOMB OR EMBEDDED DEBRIS IN CONCRETE IS NOT ACCEPTABLE. NOTIFY ENGINEER UPON DISCOVERY.
 - 4.17.3 PATCH IMPERFECTIONS AS DIRECTED.
 - 4.18 DEFECTIVE CONCRETE
 - 4.18.1 DEFECTIVE CONCRETE: CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS, DIMENSIONS, TOLERANCES OR SPECIFIED REQUIREMENTS.
 - 4.18.2 REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE WILL BE DETERMINED BY THE ENGINEER.
 - 4.18.3 DO NOT PATCH, FILL, TOUCH-UP, REPAIR, OR REPLACE EXPOSED CONCRETE EXCEPT UPON EXPRESS DIRECTION OF ENGINEER FOR EACH INDIVIDUAL AREA.
 - 4.19 THE CONTRACTOR, AT HIS OPTION, MAY SUBSTITUTE SYNTHETIC FIBER REINFORCING IN LIEU OF WELDED WIRE FABRIC FOR CONCRETE SLABS ON GRADE. THE SYNTHETIC FIBER REINFORCING SHALL BE ADDED TO THE CONCRETE MIX AT A MINIMUM RATE OF 1.5 LBS OF FIBER PER CUBIC YARD OF CONCRETE, OR AS SPECIFIED BY THE FIBER MANUFACTURER FOR CONTROL OF SHRINKAGE AND TEMPERATURE CRACKING, WHICHEVER IS GREATER. HOWEVER, THE STRUCTURAL ENGINEER WILL NOT BE RESPONSIBLE FOR CRACKING OF ANY SLABS UTILIZING SYNTHETIC FIBERS IN LIEU OF WELDED WIRE FABRIC.

10.0 RETRO-FIT ANCHORS

- 10.1 ALL POST-INSTALLED ANCHORS SHALL BE EPOXY ADHESIVE TYPE WITH A307 OR A36 THREADED ROD, U.O.N. BRAND AND TYPE OF EPOXY ADHESIVE SHALL BE SIMPSON SET 22 EPOXY, OR HILTI HIT HY 150 EPOXY. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER OF RECORD. EVALUATION OF SUBSTITUTION REQUESTS WILL INVOLVE ADDITIONAL ENGINEERING TIME, AND POSSIBLE REDESIGN OF CONNECTIONS, WHICH WILL AFFECT OTHER TRADES.
- 10.2 INSTALLATION OF ANCHORS SHALL STRICTLY FOLLOW ALL MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS. ALL DRILLED HOLE PREPARATIONS REQUIRED TO ACHIEVE FULL DESIGN STRENGTH SHALL BE FOLLOWED.
- 10.3 NO LOAD SHALL BE APPLIED TO EPOXY ANCHORS PRIOR TO FULL CURE TIME SPECIFIED BY MANUFACTURER.
- 10.4 EMBEDMENT DEPTH OF ANCHORS SHALL BE A MINIMUM AS SPECIFIED ON DRAWINGS; OR IF NOT SHOWN ON DRAWING, EMBED DEPTH SHALL BE AS SPECIFIED BY EPOXY MANUFACTURER TO DEVELOP THE MAXIMUM PUBLISHED BOND STRENGTH.

12.0 STRUCTURAL STEEL

- 12.1 A CERTIFIED TESTING AGENCY SHALL BE ENGAGED TO PERFORM INDUSTRY STANDARD INSPECTIONS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.
- 12.2 FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE AISC "SPECIFICATIONS" FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", 9th EDITION OF THE ALLOWABLE STRESS DESIGN.
- 12.3 MATERIAL SPECIFICATIONS:
 - ALL STEEL SHALL BE PRODUCED DOMESTICALLY.
 - ROLLED SHAPES, PLATES AND BARS: ASTM A36 EXCEPT WIDE FLANGE SECTIONS SHALL BE ASTM A572.
 - PIPE: ASTM A53, TYPE E, GRADE B.
 - TUBES: ASTM A500 GRADE B.
 - ANCHOR BOLTS, RODS, NUTS AND WASHERS: ASTM A36
 - HEADED STUDS: ASTM A108 GRADE 1015 THROUGH 1020, COLD FINISHED CARBON STEEL, AWS D1.1, TYPE B.
 - BOLTED STRUCTURAL CONNECTIONS: UNLESS NOTED OTHERWISE ALL BOLTS SHALL BE 3/4"~ ASTM A325, TYPE N BOLTS INDICATED LESS THAN 5/8"~ SHALL BE ASTM A307.
 - WELDED CONNECTIONS: ELECTRODES - E70XX UNO (LOW HYDROGEN). FILLET WELDS SHALL BE 3/16" UNO.
- 12.4 HIGH-STRENGTH FIELD BOLTED CONNECTIONS SHALL BE INSTALLED, TIGHTENED, TESTED AND INSPECTED ACCORDING TO "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCS). CONNECTIONS SHALL NOT BE CLASSIFIED AS SLIP-CRITICAL (SC) UNLESS INDICATED ON PLANS AS SUCH. "SNUG-TIGHT" AS DEFINED IN THE SPECIFICATION IS SUFFICIENT FOR ALL BOLTED CONNECTIONS UNLESS THE BOLTS IN SUCH A CONNECTION ARE INDICATED AS SLIP CRITICAL (SC). SLIP CRITICAL BOLTS MUST BE FULLY TENSIONED PER SPECIFICATION.
- 12.5 BRACE AND MAINTAIN ALL STEEL IN ALIGNMENT UNTIL OTHER PARTS OF CONSTRUCTION NECESSARY FOR PERMANENT SUPPORT ARE COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TEMPORARY SHORING AS REQUIRED FOR THE STABILITY OF THE STEEL FRAME UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND BUILDING IS ENCLOSED.
- 12.6 ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF "THE STANDARD CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY.
- 12.7 GROUT FOR COLUMN BASE PLATES AND PRESET BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT. (5000 PSI MIN)
- 12.8 SUBMIT SHOP DRAWINGS INDICATING ALL SHOP AND ERECTION DETAILS INCLUDING PROFILES, SIZES, SPACING AND LOCATIONS OF STRUCTURAL MEMBERS, CONNECTION ATTACHMENTS, FASTENERS, LOADS AND TOLERANCES.
- 12.9 ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123. STRUCTURAL SHALL RECEIVE SHOP COAT OF PRIMER (COLOR AS DIRECTED BY ARCHITECT) EXCEPT AREAS THAT WILL RECEIVE SPRAY-ON FIRE PROTECTION SHOULD NOT BE PRIMED.

145 OPEN EXP C Allowable Stress Design

THIS PLAN HAS BEEN DESIGNED TO COMPLY WITH ALL PROVISIONS OF FBC-6TH(2017) INCLUSIVE OF ASCE 7-10 WIND PROVISIONS FOR A NOMINAL DESIGN 3-SECOND GUST OF 145 MPH (V_{ULT}) OR 112 MPH (V_{ASD}). AS DEFINED IN SECTION 1609, THIS STRUCTURE DOES MEET THE REQUIREMENTS FOR AN OPEN BUILDING AND AS SUCH HAS BEEN DESIGNED WITH AN INTERNAL PRESSURE COEFFICIENT OF +0.0 AND -0.0, UNADJUSTED FOR ZONES 1, 2 AND 3. DESIGN HAS UTILIZED A WIND IMPORTANCE FACTOR OF 1.00 FOR RISK CATEGORY II IN AN EXPOSURE C AREA WITH A MEAN ROOF HEIGHT OF 30 FEET AND COMPLIES WITH WIND SPEED MAPS AS ADOPTED BY THE LOCAL JURISDICTION.

ALL STRUCTURAL MEMBERS IN THIS BUILDING HAVE BEEN DESIGNED USING ALLOWABLE STRESS DESIGN METHODS. AS SUCH V_{ASD} HAS BEEN USED TO DEVELOP WIND PRESSURES.

ALL BUILDINGS WITHIN WINDBORNE DEBRIS AREAS (V_{ULT} > 130 MPH AND < 1 MILE OF COASTLINE, ALL AREAS WHERE V_{ULT} > 140 MPH) REQUIRE WIND DEBRIS IMPACT PROTECTION FOR ALL WINDOWS, DOORS AND BUILDING ENVELOP COMPONENTS.

DESIGN WIND PRESSURE (PSF)	
Ultimate Wind Speed	
145 MPH 3-sec. Gust	
+	-
50.0	50.0

- DESIGN PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF EXTERNAL AND INTERNAL PRESSURES) APPLIED NORMAL TO ALL SURFACES. COMPONENT MANUFACTURER SHALL USE THE HIGHER OF THE TWO NUMBERS FOR APPLICABLE SQUARE FOOTAGE.

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To the best of the engineer's knowledge, plans and specifications comply with the minimum requirements of The Florida Building Code, Section 1609(8th Ed. - 2017)

Plans and specifications have been designed to withstand the design wind speed designated on Sheet 5-1 (Structural Notes) unless noted otherwise on this sheet.

These drawings are valid for 12 months after date they signed and sealed or until the requirements of the Building Code are changed.

All signed and sealed drawings are signed and sealed for the structural portions of the drawings only. All other information (Architectural, Mechanical, Plumbing, Dimensional, etc...) are for visual reference only and are not covered under this seal.

It is the Contractor's responsibility to review all drawings before construction begins. The Engineer of Record is responsible for the structural integrity of this project only. Any discrepancy between field conditions, other design professionals' shop drawings, Contractor's building methods, and these construction documents must be brought to the attention of the Engineer of Record prior to the commencement of construction. When such discrepancies exist, Engineer of Record is not responsible for any related components once installed.

Contractor must verify all dimensions prior to start of any construction. Contractor must submit all shop drawing documents as specified in these drawings prior to the start of any construction and is solely responsible for related components if installed without appropriate shop drawing review and approval.

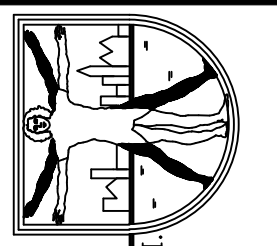
ADDITIONS/RENOVATIONS
 The Engineer of Record is responsible for the proposed changes to the original structure shown on these pages only. The Engineer of Record is not responsible for existing structural systems or components.

ELECTRONIC SIGNATURES
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FOREST HILLS PARK
724 WEST 109TH AVE
RACQUETBALL COURTS
CONTRACT NO: 18-D-61314
 FLORIDA

JOB NUMBER : 20180193
 DATE : AUGUST 28, 2018
 DRAWN BY :
 SCALE :

SHEET NUMBER
S1



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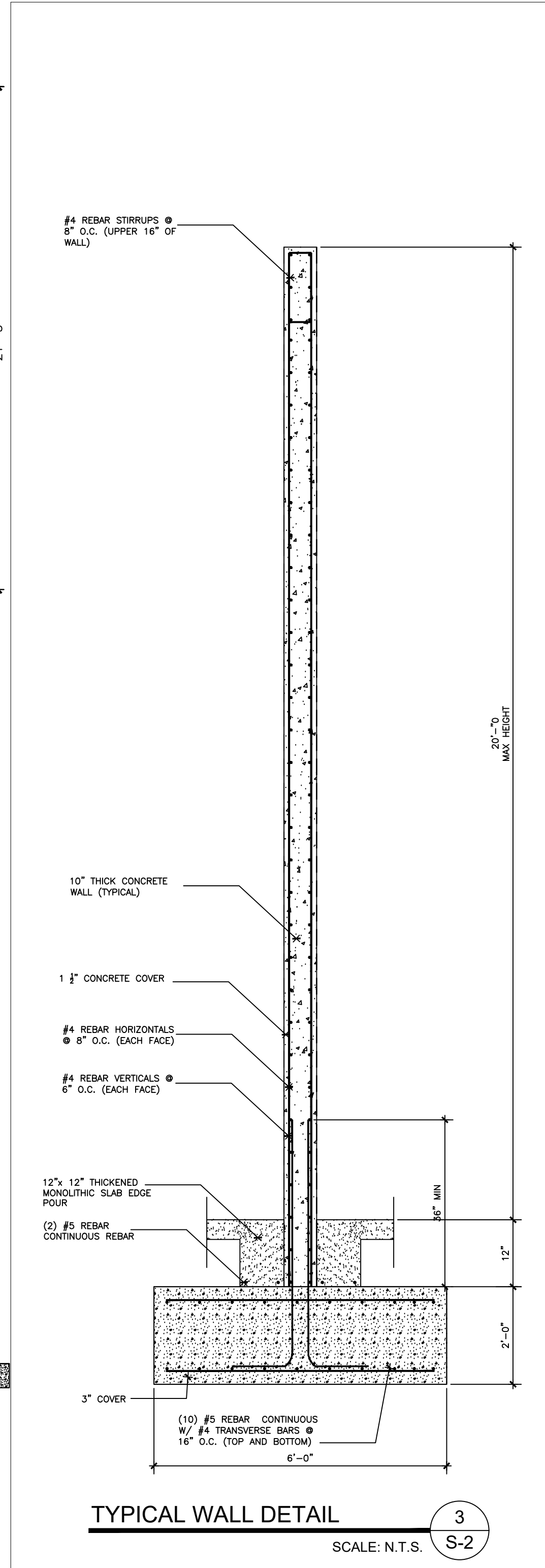
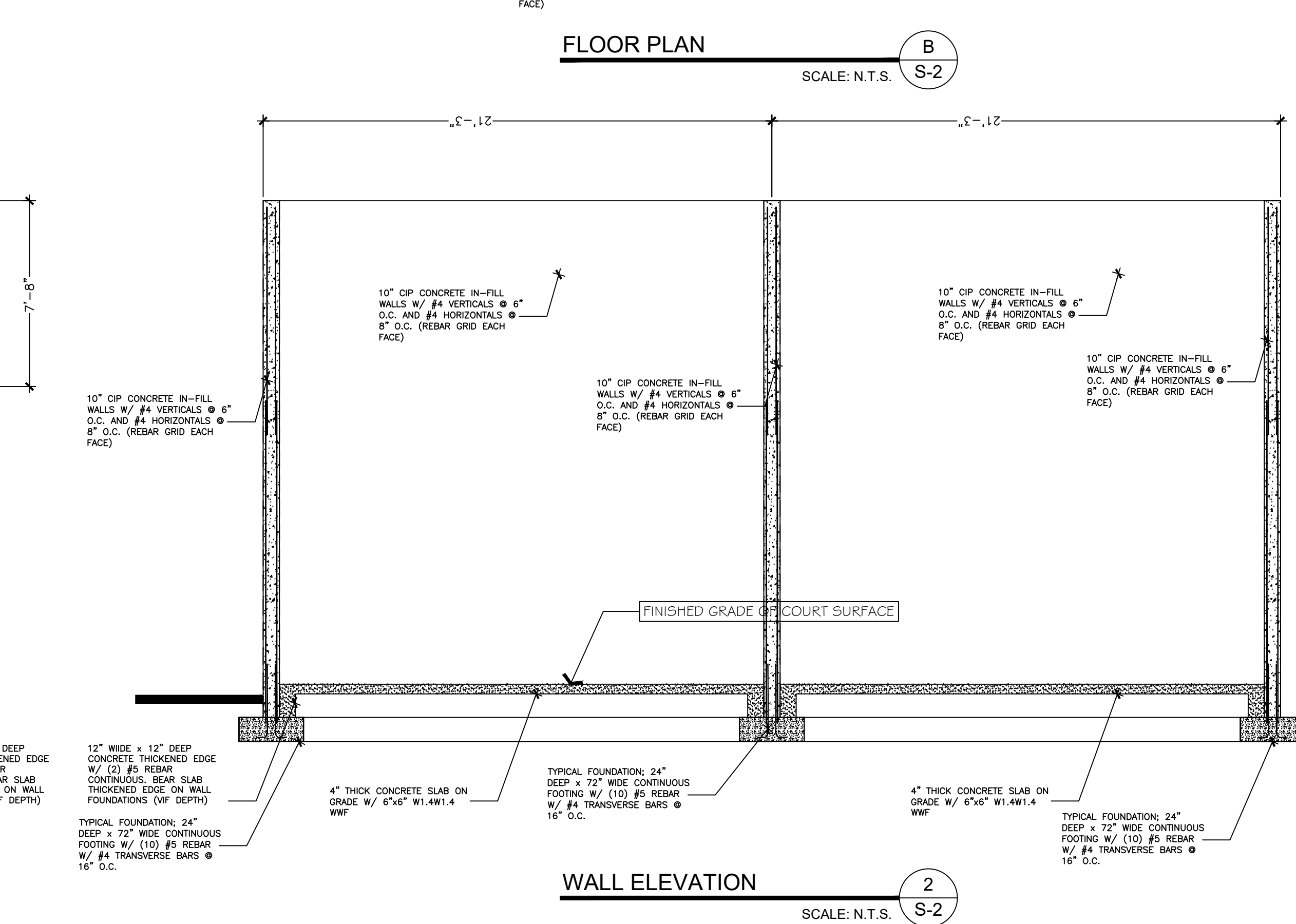
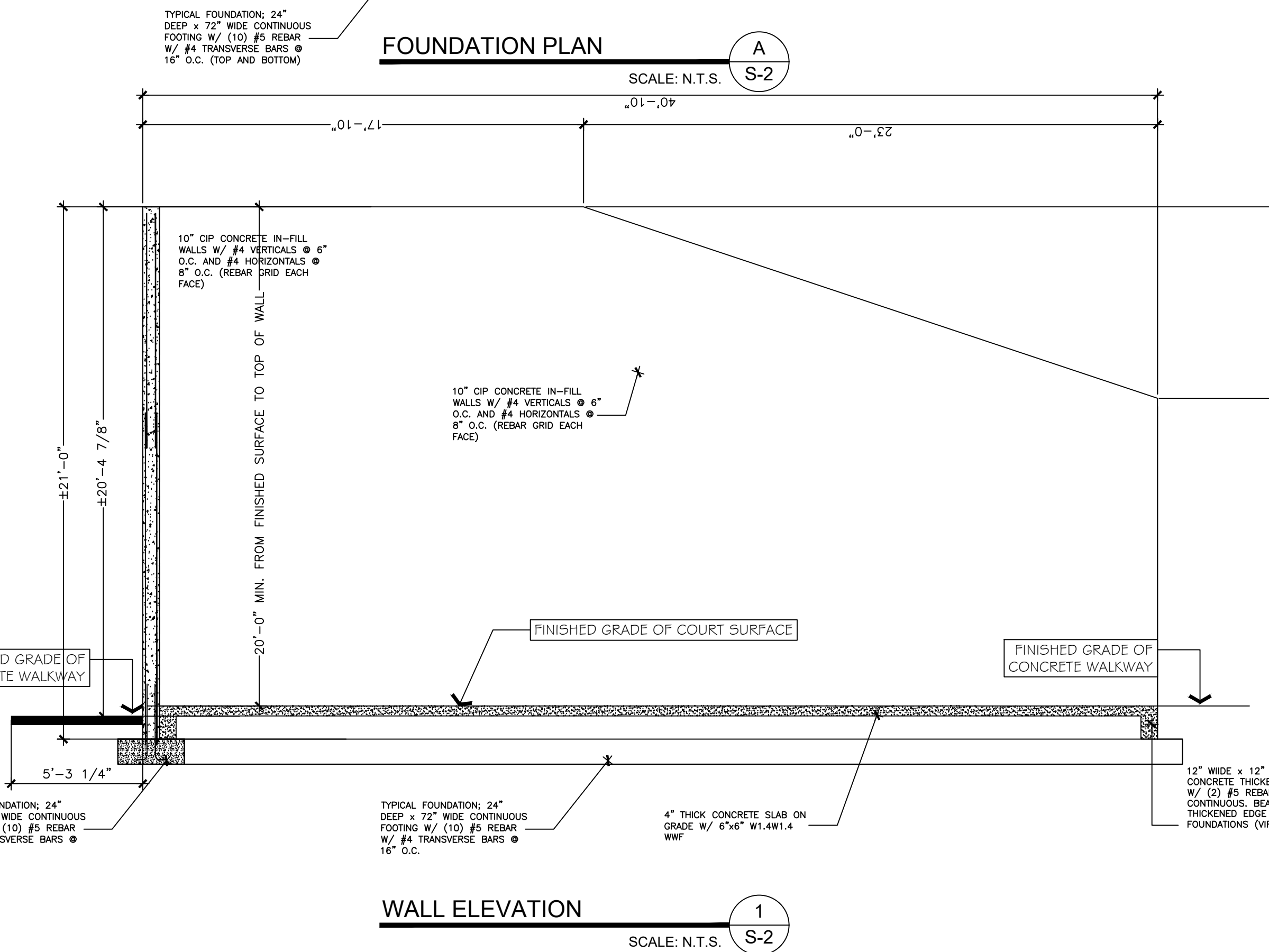
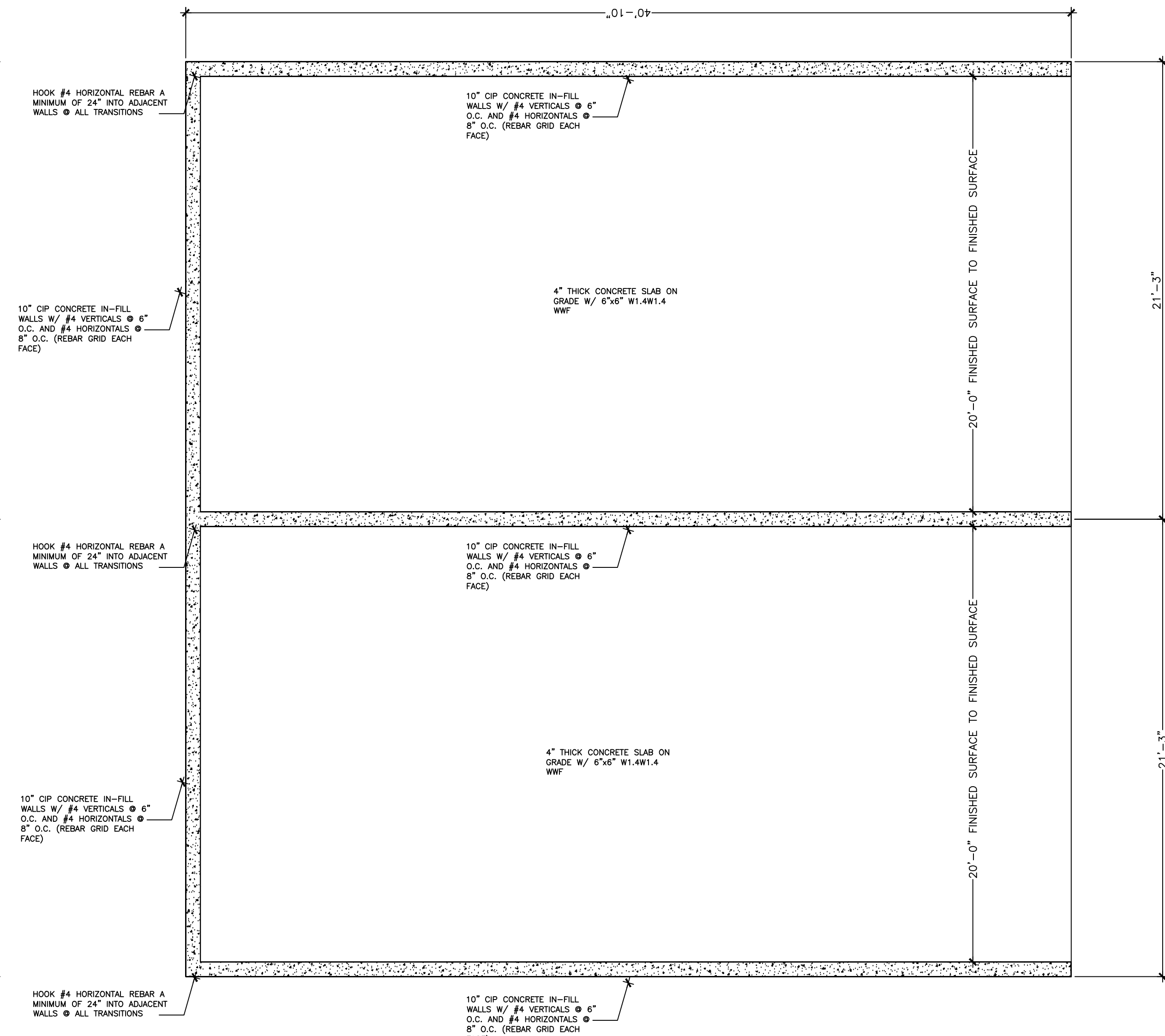
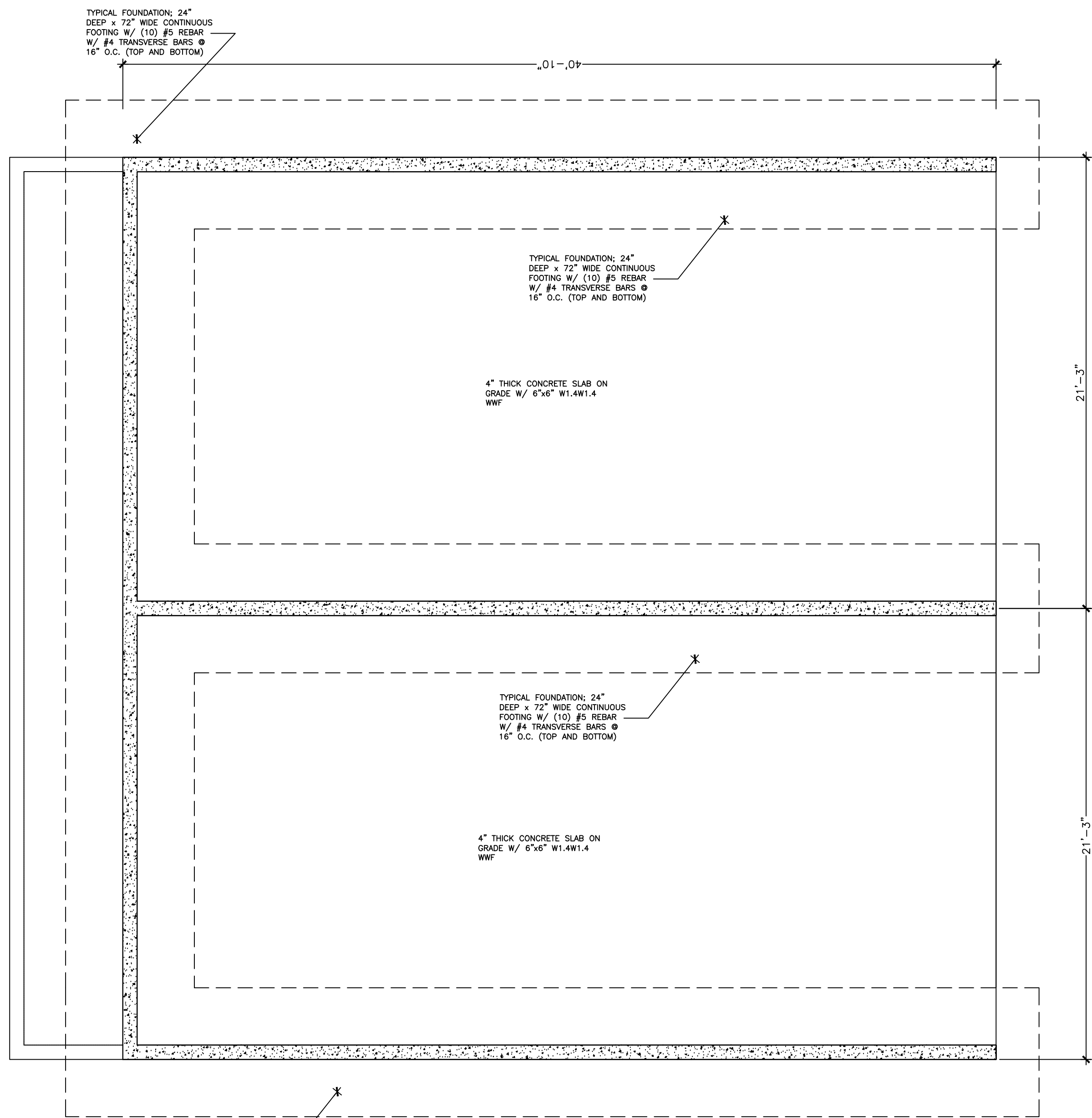
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SHEET NUMBER
S2
 LICENSE
 No 52585
 October 29, 2018
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER



20'-0" MAX HEIGHT