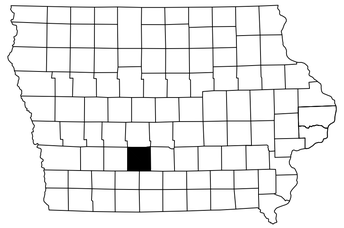
WWTP DISINFECTION IMPROVEMENTS

CITY OF EARLHAM IOWA

765 NE 6TH ST

EARLHAM, IA 50072



PROJECT COUNTY LOCATION

IOWA ONE CALL

1-800-292-8989

CALL 2 WORKING DAYS BEFORE YOU DIG !

THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENTS/CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.



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CIVIL ENGINEER

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Signature: Date

Printed or typed name: SHANE D. OYLER

License Number: 20225

My License Renewal Date is: DECEMBER 31, 2026

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ELECTRICAL ENGINEER

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Signature: Date

Printed or typed name: MITCHELL FRAZIER

License Number: 21996

My License Renewal Date is: DECEMBER 31, 2027

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Signature: Date

Printed or typed name: JOSEPH D. APPEL

License Number: 19355

My License Renewal Date is: DECEMBER 31, 2026

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WWTP DISINFECTION IMPROVEMENTS

CITY OF EARLHAM

BIDDING AND CONSTRUCTION

ISSUE DATE: 11/11/2026

PROJECT NUMBER: 2240015400

G000

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GENERAL NOTES

1. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL: 1-800-292-8989, NOT LESS THAN 48 HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.
2. TRAFFIC AND PEDESTRIAN CONTROL: PROVIDE BARRICADES, FENCING, AND OTHER DEVICES TO KEEP UNAUTHORIZED PERSONNEL FROM PROJECT SITE. PROTECT THE CONCRETE PAVEMENT DURING INITIAL CURE, AND PROTECT OR DELINEATE THE WORK AREA AS DIRECTED BY THE OWNER.
3. KEEP INTERFERENCE WITH TRAFFIC TO A MINIMUM. DO NOT BLOCK EXISTING SITE ROADWAYS UNLESS APPROVED BY OWNER.
4. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLEY THE RESPONSIBILITY OF THE CONTRACTOR
5. FOR ALL WORK NOT SPECIFIED IN THE CONTRACT DOCUMENTS, THE MOST RECENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS FOR PUBLIC IMPROVEMENTS SHALL APPLY.
6. NO WORK SHALL BE PERFORMED BEYOND THE PROJECT LIMITS WITHOUT PRIOR AUTHORIZATION FROM THE OWNERS REPRESENTATIVE.
7. ALL OPEN EXCAVATIONS SHALL BE PROTECTED
8. MINIMIZE DUST SPREADING FROM ALL WORK AND STAGING AREAS.
9. ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT SPECIFICALLY CALLED OUT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED WITHOUT PRIOR APPROVAL.
10. REPAIR OR REPLACE DAMAGE TO EXISTING FACILITIES (TILE, UTILITIES, FENCES, ETC.) DESIGNATED TO REMAIN AT NO ADDITIONAL EXPENSE TO THE OWNER.
11. WORK WHICH DOES NOT CONFORM TO THE REQUIREMENTS OF THE CONTRACT WILL BE CONSIDERED UNACCEPTABLE. UNACCEPTABLE WORK, WHETHER THE RESULT OF POOR WORKMANSHIP, USE OF DEFECTIVE MATERIALS, DAMAGE THROUGH CARELESSNESS, OR ANY OTHER CAUSE, FOUND TO EXIST PRIOR TO THE FINAL ACCEPTANCE OF THE WORK, SHALL BE REMOVED AND REPLACED IN AN ACCEPTABLE MANNER, AS REQUIRED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
12. CONTRACTOR TO PROVIDE ENGINEER WITH PLANS INDICATING FIELD CHANGES TO INCORPORATE INTO AS-BUILTS.
13. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.
14. ALL VEHICULAR AND PEDESTRIAN CONTROL SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE STANDARDS IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION.
15. COORDINATE WITH THE INDEPENDENT TESTING LABORATORY FOR TESTING AS IDENTIFIED IN THE PROJECT SPECIFICATIONS. REFER TO SPECIFICATION SECTION 01 4000 QUALITY REQUIREMENTS FOR ADDITIONAL REQUIREMENTS.

SITE GENERAL NOTES

1. THE MOST RECENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) SHALL APPLY TO ALL SITE WORK PERFORMED ON THIS PROJECT EXCEPT AS MODIFIED HEREIN.
2. DEMOLITION: REMOVE OBSTRUCTIONS TO PERMIT INSTALLATION OF NEW CONSTRUCTION. REMOVE AND DISPOSE OF OBSTRUCTIONS TO A MINIMUM DEPTH OF 12 INCHES BELOW EXPOSED SUBGRADE OR PROPOSED SUBGRADE ELEVATION, WHICHEVER IS LOWER. FILL DEPRESSIONS CAUSED BY DEMOLITION OPERATIONS WITH SATISFACTORY SOIL MATERIAL. PLACE FILL MATERIAL IN HORIZONTAL LAYERS NOT EXCEEDING A LOOSE DEPTH OF 8 INCHES, AND COMPACT EACH LAYER TO A DENSITY EQUAL TO ADJACENT ORIGINAL GROUND OR SPECIFIED FILL REQUIREMENTS.
3. SAWCUT FULL DEPTH AND REMOVE EXISTING PAVEMENT AS SHOWN ON DRAWINGS AND REQUIRED FOR THE PROPOSED CONSTRUCTION AND DISPOSE OF OFFSITE.
4. CONTRACTOR IS RESPONSIBLE FOR RESTORING AND/OR REPAIRING ALL AREAS DISTURBED BY CONSTRUCTION AS PART OF THE PROJECT.
5. HYDRAULIC SEEDING: ALL DISTURBED AREAS ON THE SITE NOT TO BE PAVED OR LANDSCAPED TO RECIEVE HYDRAULIC SEEDING. HYDRAULIC SEEDING MATERIALS AND INSTALLATION SHALL MEET SUDAS SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR PREPARING SEEDBED, APPLYING HYDRAULIC SEEDING, AND FIRST AND SECOND APPLICATIONS OF FERTILIZER.
6. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY AND PERMANENT SEEDING AND LANDSCAPING.
7. SEED MIXTURE: SUDAS TYPE 1 SEED MIXTURE (PERMANENT LAWN MIXTURE) OR APPROVED EQUAL.
8. TOPSOIL: STRIP, STOCKPILE, AND RESPREAD TOPSOIL IN ALL AREAS TO BE SEEDED. THE DEPTH OF TOPSOIL SHALL BE A MINIMUM OF 6" AFTER NATURAL SETTLEMENT AND SHALL CONFORM SMOOTHLY TO THE ADJACENT LINES, GRADES, AND ELEVATIONS. PROVIDE ADDITIONAL TOPSOIL AS REQUIRED.

TRAFFIC AND PEDESTRIAN CONTROL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL VEHICULAR AND PEDESTRIAN TRAFFIC DURING CONSTRUCTION AND PROVIDE ADEQUATE TRAFFIC AND PEDESTRIAN CONTROL AND SIGNAGE.
2. CONTRACTOR TO INSTALL AND MAINTAIN ORANGE CONSTRUCTION FENCE AROUND ALL AREAS OF ACTIVE CONSTRUCTION. CONTRACTOR SHALL ASSUME PEDESTRIAN TRAFFIC WILL BE IN THE AREA THROUGHOUT THE PROJECT DURATION.

DEMOLITION NOTES

1. REMOVAL REQUIREMENTS SHOWN ON THE PLANS SHOULD BE CONSIDERED MINIMUM REMOVAL AND REPLACEMENT REQUIREMENTS. CONTRACTORS SHALL ADJUST REMOVAL LIMITS AND DIMENSIONS AS REQUIRED BY CONSTRUCTION MEANS AND METHODS AND ACTUAL SITE CONDITIONS. CONTRACTORS SHOULD FACTOR ADDITIONAL ANTICIPATED REMOVAL AND REPLACEMENT REQUIREMENTS INTO THEIR BIDS AS ADDITIONAL COMPENSATION REQUESTS FOR ADJUSTED OR EXPANDED REMOVAL LIMITS WILL NOT BE APPROVED.
2. CONTRACTOR SHALL REPLACE AT NO COST TO THE OWNER ALL STREETS, DRIVES, SIDEWALKS, CURB AND GUTTER, SIGNS, PAVEMENT MARKINGS, LIGHTS, FENCES AND ALL OTHER SURFACE STRUCTURES NOT SCHEDULED TO BE REMOVED DURING THE COURSE OF THE WORK THAT ARE DAMAGED BY THE CONTRACTOR.
3. ALL LANDSCAPING INCLUDING TREES, SHRUBS, PERENNIALS NOT CALLED OUT TO BE REMOVED OR APPROVED FOR REMOVAL BY CONSTRUCTION REPRESENTATIVE SHALL BE PROTECTED AND REPLACED AT NO COST TO THE OWNER IF DAMAGED DURING CONSTRUCTION.

EXCAVATION NOTES

1. EXCAVATE TRENCH AND PROVIDE PIPE BEDDING AND BACKFILL MATERIAL PER IOWA SUDAS SPECIFICATIONS OR AS SHOWN ON THE DRAWINGS.
2. STRIP, STOCKPILE, AND RESPREAD A MINIMUM OF 6" OF TOPSOIL IN ALL SEED AREAS DISTURBED BY CONSTRUCTION. DISTURBED AREAS SHALL BE LEFT IN SMOOTH CONDITIONS READY FOR FINAL SEEDBED PREPARATION. GRADE ALL DISTURBED AREAS TO DRAIN AS PONDING OF WATER WILL NOT BE ACCEPTABLE.
3. CONTRACTOR IS RESPONSIBLE FOR ALL TRENCH AND FILL SETTLEMENT FOR THE PROJECT'S ONE YEAR WARRANTY PERIOD. CONTRACTOR SHALL PROVIDE ADDITIONAL FILL MATERIAL AND IS RESPONSIBLE FOR RESEEDING OF ALL SETTLEMENT AREAS AFTER SITE RESTORATION HAS BEEN COMPLETED.

GRADING NOTES

1. MATCH EXISTING GRADES FOR ALL PAVEMENT REPLACEMENT AND OTHER AREAS DISTURBED BY CONSTRUCTION.
2. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.
3. ALL EXCESS EXCAVATED SOIL AND GRANULAR MATERIAL SHALL BE PROPERLY DISPOSED OF OFF SITE BY CONTRACTOR.
4. KEEP ADJACENT STREETS FREE FROM SOIL AND DEBRIS GENERATED BY THE PROJECT. CLEAN SOIL AND DEBRIS FROM THE ADJACENT STREETS ON A DAILY BASIS.
5. DO NOT PLACE, SPREAD, OR COMPACT ANY FILL MATERIAL DURING UNFAVORABLE WEATHER CONDITIONS AND DO NOT RESUME COMPACTION OPERATIONS UNTIL MOISTURE CONTENT AND DENSITY OF IN-PLACE FILL MATERIAL ARE WITHIN SPECIFIED LIMITS.
6. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY. PLACE FILL MATERIAL OF LOW PLASTICITY COHESIVE SOILS WITHIN -2% TO +3% OF OPTIMUM MOISTURE CONTENT. FOR GRANULAR MATERIAL, THE ACCEPTABLE RANGE IS -3% TO +3% OF OPTIMUM MOISTURE CONTENT.
7. PLACE SOIL FILL MATERIAL IN MAXIMUM 6" LOOSE LIFTS, COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM D698.
8. USE TYPE "A" COMPACTION ON SUBGRADE AND SUBBASE PER IOWA DOT STANDARD SPECIFICATIONS.
9. IN THE PAVING AREAS, SCARIFY AND RECOMPACT SUBGRADE TO 95% STANDARD PROCTOR DENSITY PER ASTM D698.
10. PLACE ANY GRANULAR MATERIAL BENEATH PAVING COMPACTED ACCORDING TO IOWA DOT SPECIFICATIONS.
11. SCARIFY SUBGRADE TO MINIMUM DEPTH OF 4" WHERE TOPSOIL IS SCHEDULED OR WHERE EQUIPMENT USED FOR HAULING AND SPREADING TOP SOIL HAS CAUSED COMPACTED SUBSOIL.

EROSION CONTROL NOTES

1. STORM WATER POLLUTION PREVENTION PLAN (SWPP): THE CONSTRUCTION SITE WILL NOT EXCEED ONE (1) ACRE OF DISTURBED GROUND. AS SUCH, STORMWATER POLLUTION PREVENTION PLAN (SWPP) AND GENERAL PERMIT #2 WILL NOT BE REQUIRED FOR CONSTRUCTION.
2. USE ALL AVAILABLE MEANS TO MINIMIZE THE AMOUNT OF SOIL EROSION CAUSED BY THE WORK OF THE PROJECT. PROVIDE EROSION, SEDIMENT, DUST, AND OTHER CONTROLS AS REQUIRED AND IN ACCORDANCE WITH APPLICABLE PROVISIONS OF SUDAS SECTION 9040.
3. CONTRACTOR SHALL STILL COMPLY WITH APPLICABLE IOWA DNR, US EPA AND LOCAL REGULATIONS DEALING WITH STORMWATER RUNOFF AND EROSION CONTROL. AT A MINIMUM, CONTRACTOR SHALL PREVENT SOIL EROSION AND SEDIMENTATION FROM MIGRATING FROM THE PROJECT SITE.
4. PROVIDE CONCRETE WASHOUT FACILITIES AS NEEDED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ADJACENT PROPERTIES AND ROADWAYS FREE FROM SOIL, GRANULAR MATERIAL, DEBRIS, AND OTHER MATERIALS FROM CONSTRUCTION ACTIVITIES. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED ONTO ROADWAYS MUST BE REMOVED IMMEDIATELY.
6. IF ADDITIONAL AREAS WILL BE DISTURBED, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TOTAL DISTURBED AREAS. IF GREATER THAN ONE ACRE, CONTRACTOR SHALL DEVELOP A SWPP AND OBTAIN PERMITS PRIOR TO DISTURBING ADDITIONAL AREAS.

UTILITY NOTES

1. THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THE DRAWINGS ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SHIVE-HATTERY, INC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SHIVE-HATTERY, INC. AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF, EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION AND DEPTHS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTION CONTRACTOR(S).
2. LOCATING ALL PUBLIC AND PRIVATE UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH IOWA SUDAS STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. ALL OPEN EXCAVATIONS SHALL BE PROTECTED WITH SAFETY FENCE, BARRIERS OR BARRICADES IN ACCORDANCE WITH OSHA.
6. CONTRACTOR TO IMPLEMENT TEMPORARY SHORING OR SUPPORT AT ALL UTILITY CROSSINGS AS REQUIRED BY CONTRACTORS MEANS AND METHODS. ALL DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

PAVEMENT GENERAL NOTES

1. ALL PROPOSED PAVEMENT PATCHES AND REPLACEMENT SHOWN ON PLANS ARE APPROXIMATE AND SHOULD BE CONSIDERED MINIMUM REMOVAL EXTENTS. EXTEND AND ADJUST PAVEMENT PATCHES AS REQUIRED BY CONSTRUCTION WITH PRIOR APPROVAL BY OWNER'S REPRESENTATIVE.
2. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING. ANY PONDING ON PAVEMENT PATCHES OR ADJACENT TO PATCHES WILL BE CONSIDERED UNACCEPTABLE AND SHALL BE REPLACED. IT IS THE CONTRACTORS RESPONSIBILITY TO IDENTIFY AREAS OF POTENTIAL PONDING EVEN IF PROPOSED GRADES ARE SHOWN ON THE DRAWINGS.
3. SALVAGE ALL SIGNS WITHIN THE CONSTRUCTION LIMITS AND REINSTALL IN THE SAME LOCATION AND CONDITION AFTER CONSTRUCTION. ANY SIGNS OR POLES DAMAGED DURING THE COURSE OF WORK TO BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE OWNER.
4. USE TYPE "A" COMPACTION ON SUBGRADE AND SUBBASE, TYPE "A" COMPACTION PER IOWA DOT STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGE CONSTRUCTION.
5. PAVEMENT JOINTING: PROVIDE IDOT 'TYPE C' JOINTS AT A MAXIMUM SPACING OF 14 FEET FOR PAVEMENT AND 8 FEET FOR SIDEWALKS OR AS SHOWN ON PLANS.
6. PROVIDE IDOT 'TYPE DW' JOINTS AT END OF DAY PAVING.
7. PROVIDE 'TYPE RD' JOINTS TO TIE INTO EXISTING PAVING.
8. SAW CUTTING TO BE COMPLETED A MAXIMUM OF 24 HOURS FROM CONCRETE PLACEMENT. RANDOM CRACKING CAUSED BY DELAYED SAW CUTTING MAY REQUIRE REMOVAL AND REPLACEMENT.
9. CONTRACTOR TO PROVIDE OWNERS REPRESENTATIVE WITH A POURING SEQUENCE AND JOINTING PLAN FOR APPROVAL PRIOR TO BEGINNING PAVING OPERATIONS. JOINT LOCATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND SHALL BE ADJUSTED IN THE FIELD AND ON THE CONTRACTORS JOINTING PLAN TO MATCH EXISTING JOINT PATTERNS AND CONSTRUCTION SEQUENCING.
12. GRANULAR SUBBASE: CRUSHED STONE GRANULAR SUBBASE MATERIAL SHALL BE PROVIDED AND PLACED ACCORDING TO IOWA DOT SPECIFICATIONS.

SURFACE RESTORATION NOTES

1. ALL DISTURBED AREAS NOT PAVED OR GRANULAR SURFACED ON THE SITE SHALL RECEIVE 6" TOPSOIL. SCARIFY AREAS TO RECEIVE TOPSOIL TO A MINIMUM DEPTH OF 4". REMOVE ALL STONES, WOOD AND OTHER DEBRIS LARGER THAN 2" FROM AREAS TO RECEIVE TOPSOIL. DO NOT COMPACT TOPSOIL.
2. ALL DISTURBED AREAS NOT SHOWN TO RECEIVE PAVING OR GRANULAR SURFACING ON THE SITE SHALL BE HYDRAULICALLY SEEDED.

CONTRACTOR STAGING

1. COORDINATE ALL REQUIRED STAGING AREAS WITH FACILITY AND OWNER'S REPRESENTATIVE.

PROCESS PIPING AND SITE PIPING NOTES

1. ALL PIPELINES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS (RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY). SEE SUDAS DETAIL 5010.101 FOR THRUST BLOCK DETAILS. PROVIDE ALL BENDS (HORIZONTAL AND VERTICAL) AS REQUIRED TO MEET THE GRADES AND ALIGNMENT INDICATED ON THE DRAWINGS.
2. ALL BURIED CONNECTIONS TO STRUCTURES, INCLUDING BUT NOT LIMITED TO VALVE VAULTS, WET WELLS, TANKS, AND BUILDINGS SHALL HAVE SLEEVE TYPE FLEXIBLE CONNECTIONS WITHIN 3 TO 4 FEET FROM STRUCTURES. ALL SLEEVE TYPE COUPLINGS ON PRESSURE LINES SHALL BE RESTRAINED SOLID SLEEVE.
3. PROVIDE CAST OR DUCTILE IRON WALL CASTINGS FOR ALL PIPE PENETRATIONS MADE THROUGH CONCRETE FOUNDATIONS, WALLS AND SLABS. ALL WALL CASTINGS SHALL HAVE WATERSTOPS. WHERE MECHANICAL SEALS ARE SHOWN ON THE DRAWINGS FOR WALL PENETRATIONS, PROVIDE EPOXY COATED STEEL WALL SLEEVE WITH SEEP RING.
4. MINIMUM COVER OF 5 FEET IS REQUIRED ON ALL LIQUID CARRYING PIPES, UNLESS OTHERWISE NOTED BY PIPE ELEVATIONS. TRENCH INSULATION SHALL BE USED WHERE DEPTH OF COVER IS LESS THAN 5 FEET.
5. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTER, FITTINGS, AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE CONNECTION. CONTRACTOR SHALL VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. TEST PITS SHALL BE USED AS REQUIRED TO LOCATE EXISTING PIPING.
6. ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLITION MATERIALS.
8. WHERE POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTE WATER OR SLUDGE PIPELINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTER WATER OR SLUDGE PIPELINE SHALL BE MAINTAINED, WHERE A WATERLINE MUST CROSS UNDER A WASTEWATER OR SLUDGE PIPELINE, FOLLOW SEPARATION AND CONSTRUCTION REQUIREMENTS IN SUDAS SECTION 5010.3.06.C.
9. ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO ANY TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED, DAMAGE TO ANY SUCH STRUCTURES CAUSED BY OR RESULTING FROM THE CONTRACTORS OPERATIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE WORK SHALL BE COORDINATED THROUGH THE OWNER.
10. ALL PROCESS PIPING PIPES SHALL BE ADEQUATELY RESTRAINED AND SUPPORTED IN ACCORDANCE WITH SPECIFICATION SECTION 40 0507.
11. AFTER INSTALLATION, ALL LIQUID PROCESS PIPELINES SHALL BE TESTED IN ACCORDANCE WITH SUDAS SECTION 5030 AND/OR SECTION 4060. PIPING IN PRESSURE SERVICE SHALL BE PRESSURE TESTED AT A TEST PRESSURE OF 50 PSI
12. ALL PIPING SHALL BE CLEANED IN ACCORDANCE WITH SUDAS SECTION 5030 AND/OR 4060.
13. ALL EQUIPMENT AND PIPING LAYOUT DIMENSIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH EQUIPMENT PROVIDED, AND/OR EXISTING CONDITIONS.

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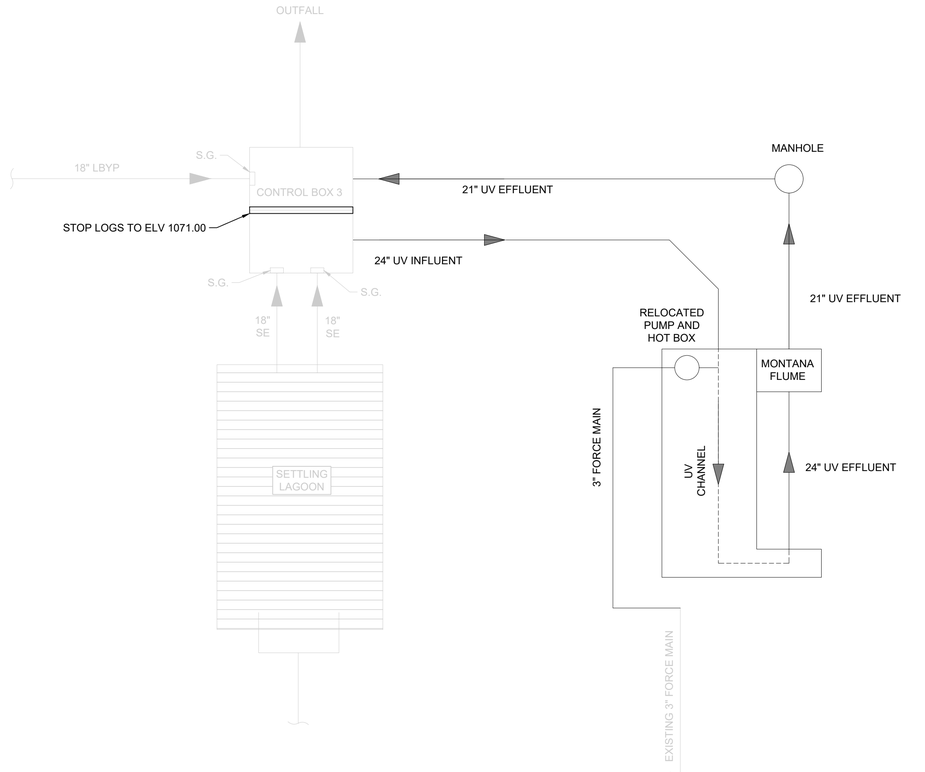
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CITY OF EARLHAM

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PROJECT NUMBER	2240015400
FIELD BOOK	-

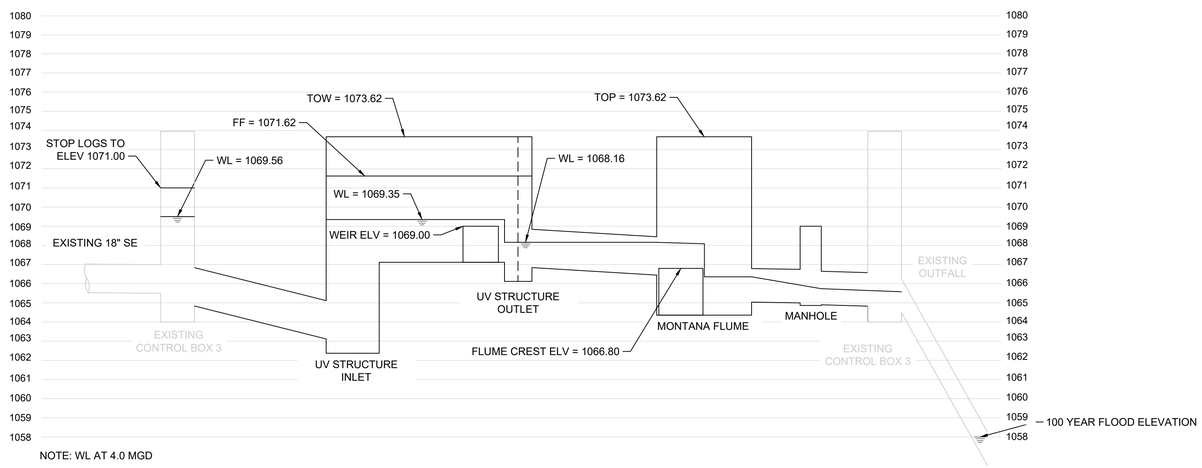
GENERAL NOTES

C001

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B3 PROCESS FLOW DIAGRAM
NTS



NOTE: WL AT 4.0 MGD

B4 HYDRAULIC PROFILE
NTS

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WWTP DISINFECTION IMPROVEMENTS

CITY OF EARLHAM
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PROCESS DIAGRAM & HYDRAULIC PROFILE

C002

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EXISTING CONTROL BOX 3

60" SW-301 MANHOLE

UV FACILITY SEE SHEET C102

1073

1074

1072

1071

1070

1069

1068

(3) #3/0 AND #6 GND IN 2"C FOR HP-A

200A DISCONNECT

200A METER

150kVA UTILITY TRANSFORMER

200A DISCONNECT

NORTH

0 20 40 80

SCALE IN FEET

SITE PLAN

C101

WWTP DISINFECTION IMPROVEMENTS

CITY OF EARLHAM

DRAWN BY	MAA
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RELOCATE COMPOSITE SAMPLER

REMOVE AND DISPOSE PUMP FOUNDATION, SEE DETAIL C3 ON SHEET C501

RELOCATE EXISTING BOOSTER PUMP AND HOT BOX TO UV FACILITY SEE DETAILS ON SHEET C501

IE = 1065.50

PLUG AND ABANDON EXISTING FORCE MAIN, REMOVE AND DISPOSE AS NEEDED WITHIN CONSTRUCTION LIMITS

PROTECT EXISTING DRAIN TILE

PROPOSED UV FACILITY AND ASSOCIATED PIPING

REMOVE EXISTING CONDUIT

NORTH

0 2.5 5 10

SCALE IN FEET

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WWTP DISINFECTION IMPROVEMENTS

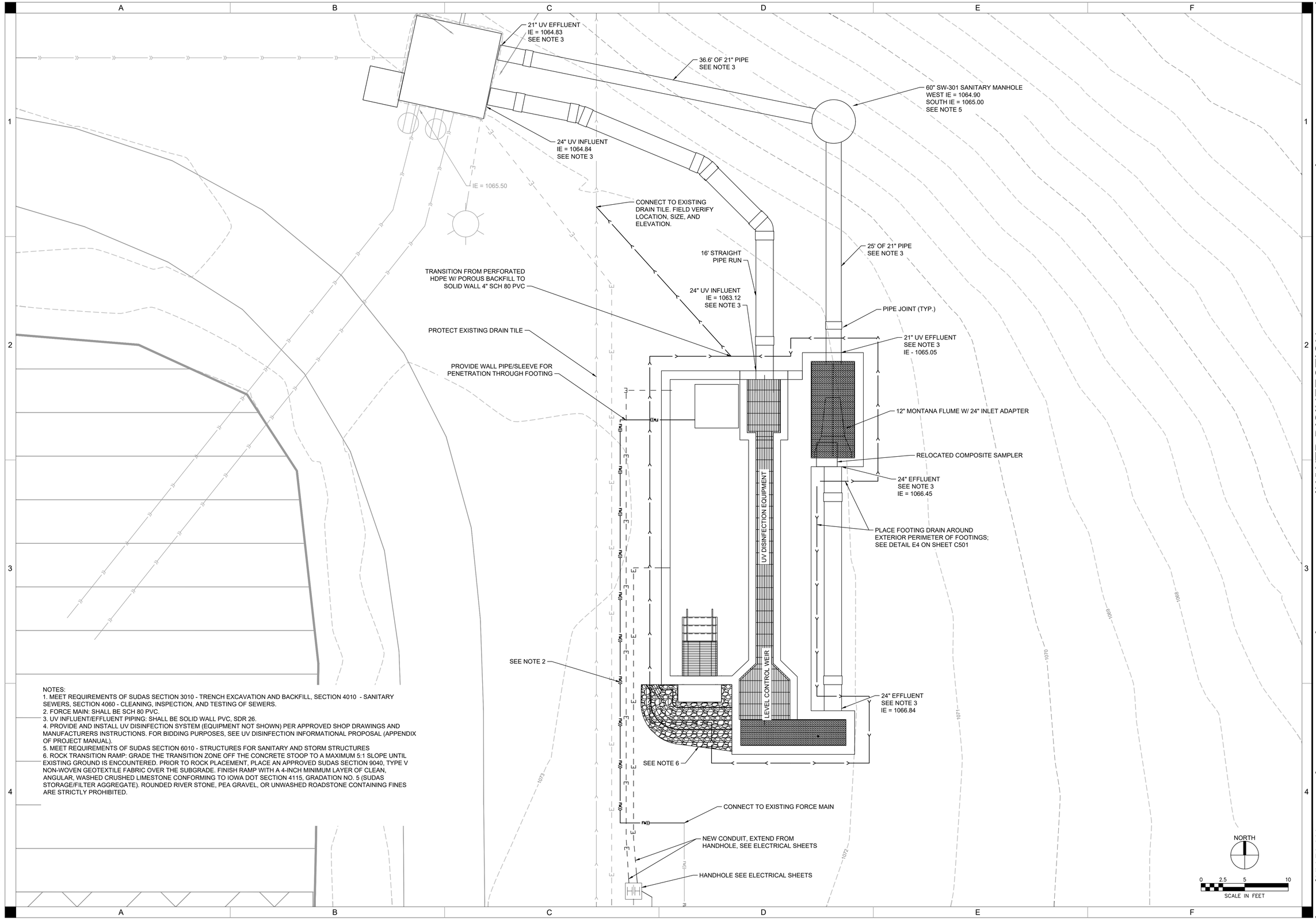
CITY OF EARLHAM
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DEMO PLAN

C102

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NOTES:
1. MEET REQUIREMENTS OF SUDAS SECTION 3010 - TRENCH EXCAVATION AND BACKFILL, SECTION 4010 - SANITARY SEWERS, SECTION 4060 - CLEANING, INSPECTION, AND TESTING OF SEWERS.
2. FORCE MAIN: SHALL BE SCH 80 PVC.
3. UV INFLUENT/EFFLUENT PIPING: SHALL BE SOLID WALL PVC, SDR 26.
4. PROVIDE AND INSTALL UV DISINFECTION SYSTEM (EQUIPMENT NOT SHOWN) PER APPROVED SHOP DRAWINGS AND MANUFACTURERS INSTRUCTIONS. FOR BIDDING PURPOSES, SEE UV DISINFECTION INFORMATIONAL PROPOSAL (APPENDIX OF PROJECT MANUAL).
5. MEET REQUIREMENTS OF SUDAS SECTION 6010 - STRUCTURES FOR SANITARY AND STORM STRUCTURES
6. ROCK TRANSITION RAMP: GRADE THE TRANSITION ZONE OFF THE CONCRETE STOOP TO A MAXIMUM 5:1 SLOPE UNTIL EXISTING GROUND IS ENCOUNTERED. PRIOR TO ROCK PLACEMENT, PLACE AN APPROVED SUDAS SECTION 9040, TYPE V NON-WOVEN GEOTEXTILE FABRIC OVER THE SUBGRADE. FINISH RAMP WITH A 4-INCH MINIMUM LAYER OF CLEAN, ANGULAR, WASHED CRUSHED LIMESTONE CONFORMING TO IOWA DOT SECTION 4115, GRADATION NO. 5 (SUDAS STORAGE/FILTER AGGREGATE). ROUNDED RIVER STONE, PEA GRAVEL, OR UNWASHED ROADSTONE CONTAINING FINES ARE STRICTLY PROHIBITED.

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WWTP DISINFECTION IMPROVEMENTS

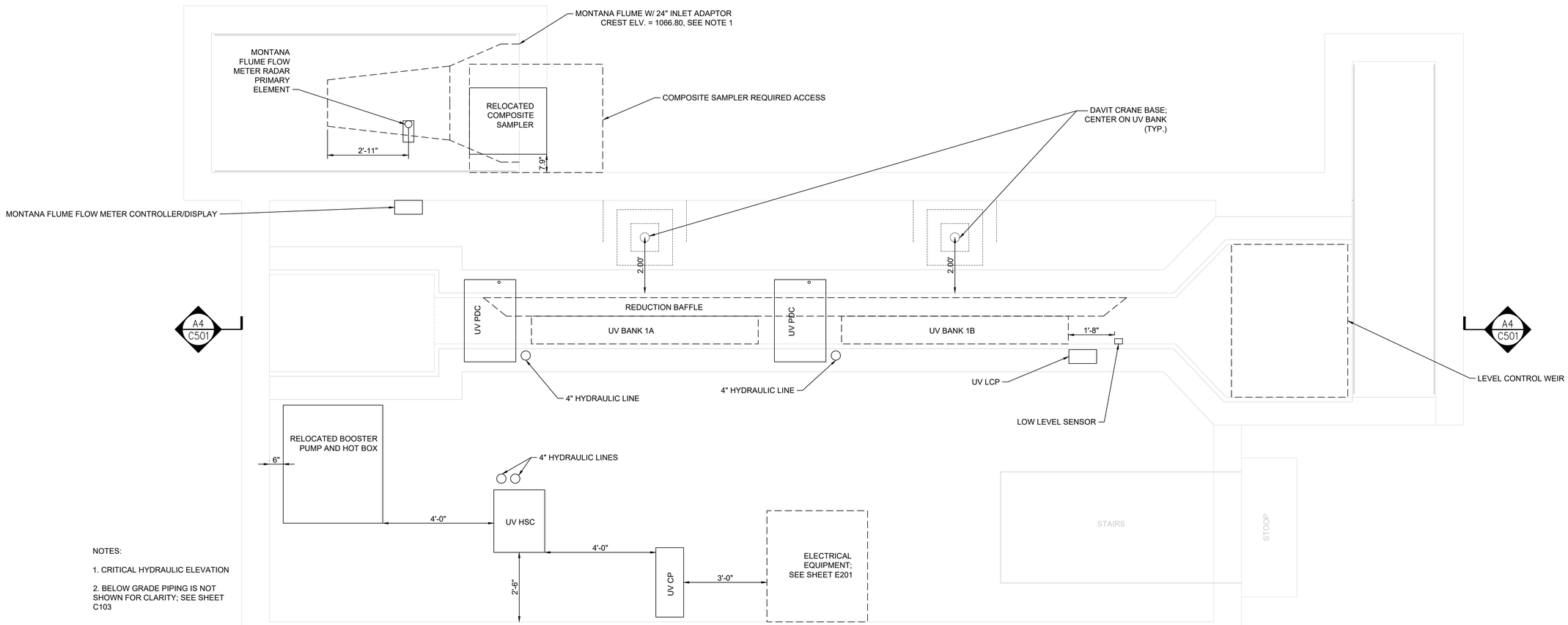
CITY OF EARLHAM
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UV PLAN

C103

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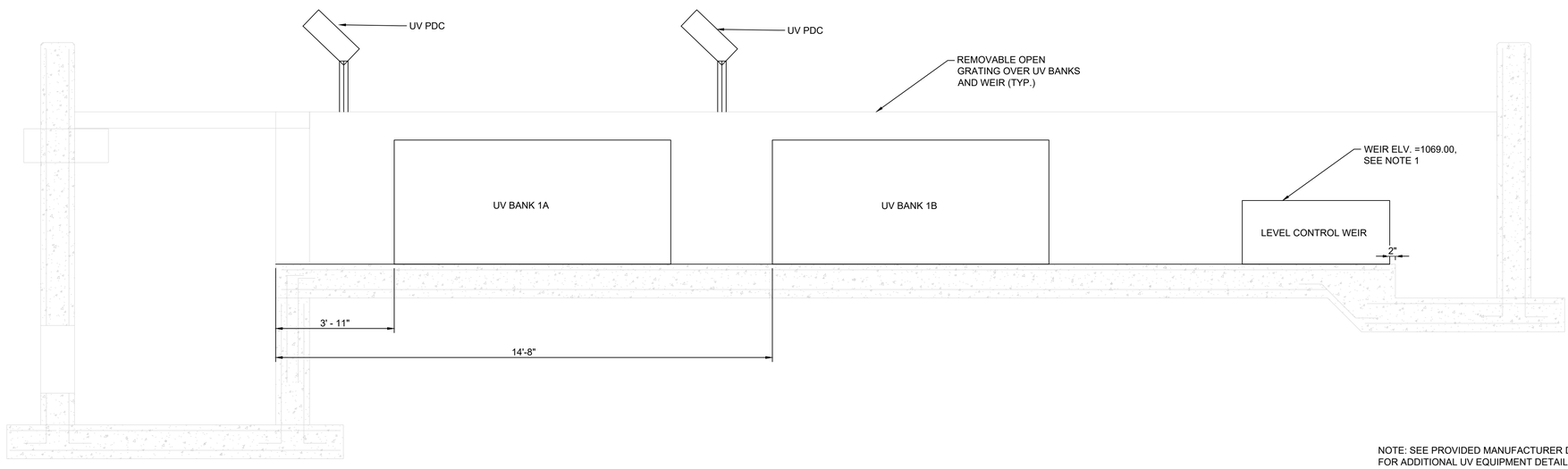
1. CRITICAL HYDRAULIC ELEVATION

2. BELOW GRADE PIPING IS NOT SHOWN FOR CLARITY; SEE SHEET C103

NOTE: SEE PROVIDED MANUFACTURER DRAWINGS FOR ADDITIONAL UV EQUIPMENT DETAILS

A3 UV PLAN DETAIL

NOT TO SCALE



NOTES:

1. CRITICAL HYDRAULIC ELEVATION

2. BELOW GRADE PIPING IS NOT SHOWN FOR CLARITY; SEE SHEET C103

NOTE: SEE PROVIDED MANUFACTURER DRAWINGS FOR ADDITIONAL UV EQUIPMENT DETAILS

A4 UV SECTION DETAIL

NOT TO SCALE

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WWTP DISINFECTION IMPROVEMENTS

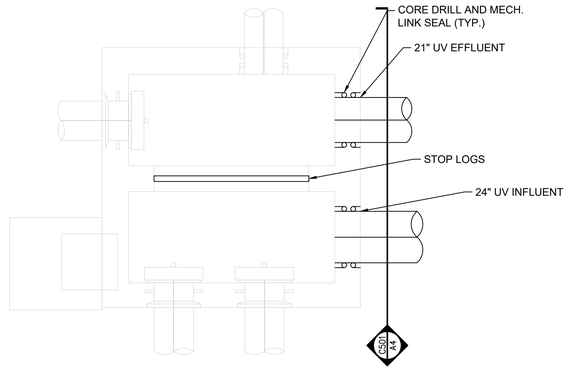
CITY OF EARLHAM
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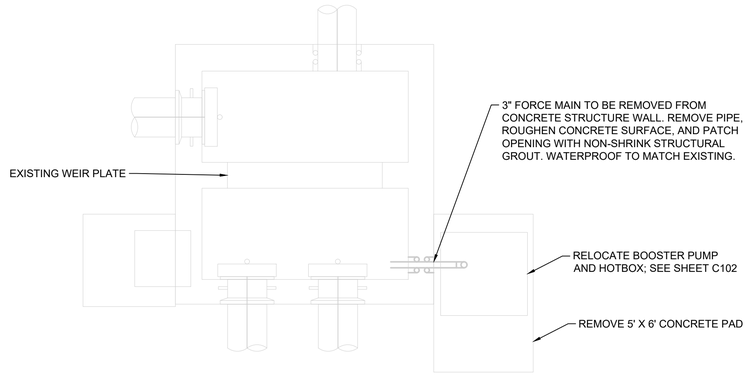
UV DETAILS

C501

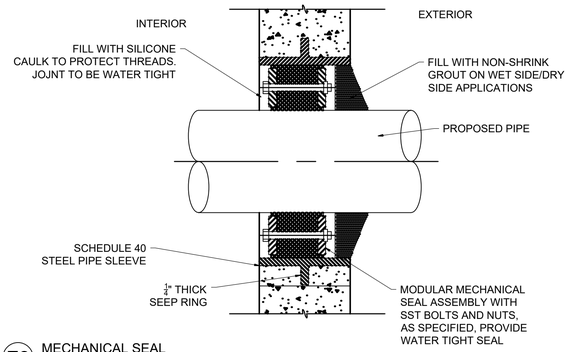
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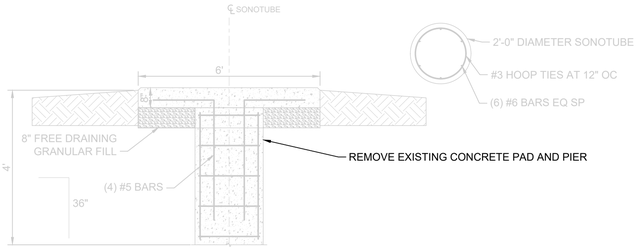
A2 CONTROL BOX 3 MODIFICATIONS - TOP VIEW
NOT TO SCALE

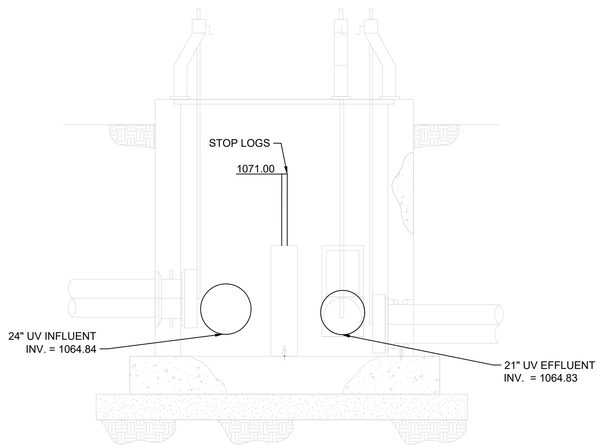


C2 EXISTING BOOSTER PUMP PAD DEMO DETAIL
NOT TO SCALE



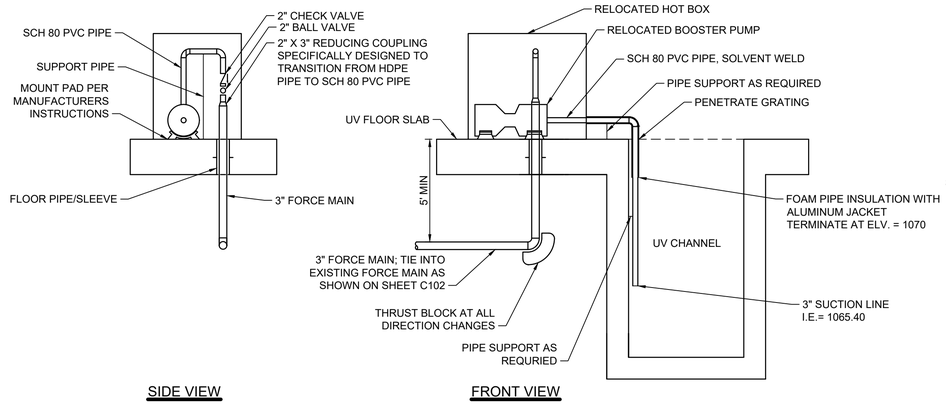
E2 MECHANICAL SEAL
NOT TO SCALE



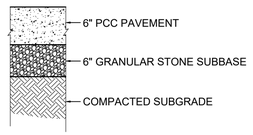


A4 CONTROL BOX 3 MODIFICATIONS - SIDE VIEW
NOT TO SCALE

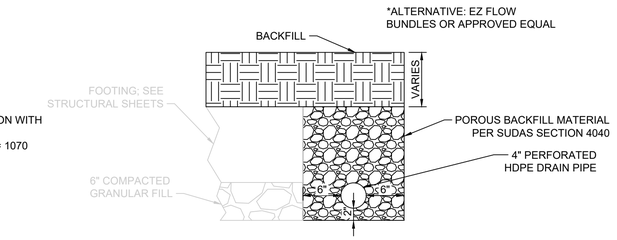
C3 EXISTING BOOSTER PUMP PAD DEMO CROSS SECTION
NOT TO SCALE



C4 RELOCATED BOOSTER PUMP & HOTBOX DETAIL
NOT TO SCALE



F3 6" PCC PAVEMENT SIDEWALK
NOT TO SCALE



E4 FOOTING DRAIN
NOT TO SCALE

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DETAILS

C502

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ABBREVIATIONS

	A		M
@	AT	MAX	MAXIMUM
ADD	ADDENDUM	MECH	MECHANICAL
AHJ	AUTHORITY HAVING JURISDICTION	MEP	MECHANICAL, ELECTRICAL, PLUMBING
ALT	ALTERNATE	MEZZ	MEZZANINE
ARCH	ARCHITECT (URAL)	MFR	MANUFACTURER
	B	MIN	MINIMUM
B/	BOTTOM OF	MISC	MISCELLANEOUS
BLDG	BUILDING		
BOT	BOTTOM		N
BP	BASE PLATE		
BRG	BEARING	N/A	NOT APPLICABLE
BTWN	BETWEEN	NIC	NOT IN CONTRACT
		NTS	NOT TO SCALE
	C		
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED		O
CIP	CAST-IN PLACE	OC	ON CENTER
CJ	CONSTRUCTION/CONTROL JOINT	OD	OUTSIDE DIAMETER
CL	CENTER LINE	OFCI	OWNER FURNISHED-CONTRACTOR INSTALLED
CLR	CLEAR (ANCE)	OFOI	OWNER FURNISHED-OWNER INSTALLED
CMU	CONCRETE MASONRY UNIT		
COL	COLUMN	OPP	OPPOSITE HAND
CONC	CONCRETE	OH	OVERHEAD
CONN	CONNECT (ION) (ED) (OR)		
CONT	CONTINUOUS		P
COORD	COORDINATE	PAF	POWDER ACTUATED FASTENER
CFSF	COLD FORMED STEEL FRAMING	PC	PRECAST CONCRETE
		PL	PLATE
	D	PREFAB	PREFABRICATED
DBE	DECK BEARING ELEVATION	PRELIM	PRELIMINARY
DEG. °	DEGREE	PVC	POLYVINYL CHLORIDE
DEMO	DEMOLITION		
DIA, Ø	DIAMETER		Q
DIM	DIMENSION	QTY	QUANTITY
DN	DOWN		
DTL	DETAIL		R
DWG	DRAWING	R	RADIUS
		REF	REFER (ENCE)
	E	REINF	REINFORCE (D) (ING) (MENT)
(E)	EXISTING	REQD	REQUIRED
EA	EACH	REV	REVISION
EF	EACH FACE	RO	ROUGH OPENING
EJ	EXPANSION JOINT	RTU	ROOF TOP UNIT
ELEC	ELECTRIC / ELECTRICAL		
ELEV or EL	ELEVATION		S
EMBED	EMBEDDED	SCHED	SCHEDULE
EOR	ENGINEER OR RECORD	SEOR	STRUCTURAL ENGINEER OF RECORD
EQ	EQUAL	SIM	SIMILAR
EQUIP	EQUIPMENT	SJ	SAW CUT JOINT
ES	EACH SIDE	SLBB	SHORT LEG BACK TO BACK
EW	EACH WAY	SLOS	SHORT LEG OUTSTANDING
		SOG	SLAB ON GRADE
	F	SPEC	SPECIFICATIONS
FND	FOUNDATION	SS	STAINLESS STEEL
FF	FINISHED FLOOR	STA	STATION
FRP	FIBER REINFORCED POLYMER	STD	STANDARD
FTG	FOOTING	STL	STEEL
FV	FIELD VERIFY		
			T
	G	T&B	TOP AND BOTTOM
GA	GAGE or GAUGE	T&G	TONGUE AND GROOVE
GALV	GALVANIZED	T/	TOP OF
GC	GENERAL CONTRACTOR	TEMP	TEMPORARY
GL	GRID LINE	TRANS	TRANSVERSE
		TYP	TYPICAL
	H		
HORIZ	HORIZONTAL		U
HWS	HEADED WELDED STUDS	UNO	UNLESS NOTED OTHERWISE
	I		V
ID	INSIDE DIAMETER	VERT	VERTICAL
		VIF	VERIFY IN FIELD
	J		
JBE	JOIST BEARING ELEVATION		W
		W/	WITH
	L	W/O	WITHOUT
LF	LINEAR FOOT	WP	WORKING POINT
LLBB	LONG LEG BACK TO BACK	WWR	WELDED WIRE REINFORCEMENT
LLOS	LONG LEG OUTSTANDING		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LONG	LONGITUDINAL		
LVL	LAMINATED VENEER LUMBER		

DESIGN INFORMATION

1. CODES:
   A. INTERNATIONAL BUILDING CODE (IBC) 2021
   B. AMERICAN CONCRETE INSTITUTE - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318)
   C. AMERICAN INSTITUTE OF STEEL CONSTRUCTION - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360)
      ALLOWABLE STRENGTH DESIGN (ASD)
   D. AMERICAN SOCIETY OF CIVIL ENGINEERS AND STRUCTURAL ENGINEERING INSTITUTE (ASCE/SEI 7) - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   E. AMERICAN WELDING SOCIETY D1.1
   F. ACI 350-20 CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
2. DESIGN LOADS PER THE 2021 IBC (RISK CATEGORY III)
   A. DEAD LOADS
      STRUCTURE SELF WEIGHT AS SHOWN
   B. LIVE LOADS
      STATIC WATER LOAD — 62.4PSF x DEPTH OF WATER
3. SOILS INFORMATION
   NET ALLOWABLE SOIL BEARING PRESSURES:
   CONTINUOUS WALL FOOTINGS — 1500 PSF (ASSUMED)
   CONTRACTOR TO ARRANGE FOR TESTING OF BEARING PRESSURE TO MEET THESE ASSUMED BEARING PRESSURES BEFORE POURING CONCRETE FOUNDATIONS.
4. MINIMUM FROST PROTECTION DEPTH MEASURED FROM GRADE
   EXTERIOR FOOTING AT UNHEATED AREA — (-4'-0")

SUBMITTALS

1. CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL THE FOLLOWING SUBMITTALS FOR EACH MATERIAL INDICATED BELOW.
2. CONCRETE REINFORCING
   A. SUBMIT CONCRETE REINFORCEMENT SHOP DRAWINGS IN ACCORDANCE WITH ACI 315 FOR APPROVAL.
      a. DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING MANUAL", PUBLICATION SP-66 AND THE LATEST EDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
3. CAST-IN-PLACE CONCRETE
   A. SUBMIT CONCRETE MIX DESIGNS FOR EACH APPLICATION LOCATION INDICATED IN THE DRAWINGS.
   B. SUBMIT SHOP DRAWING OF EMBEDDED STEEL ELEMENTS AND CONNECTIONS.
4. SUBMIT STEEL STAIRS AND RAILING SHOP DRAWINGS FOR APPROVAL.
5. SUBMIT BAR GRATING MANUFACTURER AND LAYOUT FOR REVIEW.
6. SUBMIT ALUMINUM FLOOR PLATE MANUFACTURER AND LAYOUT FOR REVIEW.

FOUNDATIONS - SLAB ON GRADE

1. ALL ORGANIC MATERIAL AND UNACCEPTABLE FILL MATERIAL SHALL BE REMOVED FROM BENEATH THE SLAB ON GRADE. EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A HEAVY WEIGHTED VEHICLE OF ROLLER IN THE PRESENCE OF THE GEOTECHNICAL SPECIAL INSPECTION AGENCY. AREAS EXHIBITING RUTTING, PUMPING OR WEAKNESS SHALL BE REMOVED AND REPLACED WITH COMPACTED ACCEPTABLE FILL MATERIAL.
2. COMPACTION SHALL BE TESTED AND VERIFIED TO MEET 98% STANDARD PROCTOR MAXIMUM DRY DENSITY ACCORDANCE WITH ASTM D698. FOR RELATIVELY COHESIONLESS GRANULAR FILL WHICH HAS A PERCENT PASSING THE #200 SIEVE LESS THAN 10 PERCENT AND HAS ONLY A SLIGHT SENSITIVITY TO MOISTURE CHANGES, COMPACTION SHALL BE 75 PERCENT RELATIVE DENSITY IN ACCORDANCE WITH ASTM D4253 AND D4254. IF COMPACTION DOES NOT COMPLY, CONTRACTOR SHALL RECOMPACT AREA AND UNTIL TEST RESULTS ARE PASSING. AN AREA EXHIBITING WEAKNESS SUCH AS RUTTING OR PUMPING SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL.
3. CONCRETE SLAB ON GRADE SHALL BE PLACED ON A 6" WELL GRADED COMPACTED GRANULAR FILL SUB-BASE.
4. PLACE ALL SLABS ON GRADE WITH AN APPROVED JOINT PATTERN SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER OR AS SHOWN ON DRAWINGS. SEQUENCE OF CONSTRUCTION AND CONTROL JOINTS SHALL BE PLACED TO MINIMIZE SHRINKAGE CRACKS.
5. CONCRETE SLAB ON GRADES SHALL HAVE CONTROL JOINTS SAW CUT OR TOOLED . LOCATE JOINT ALONG COLUMN CENTER LINES WITH INTERMEDIATE JOINTS AT A MAXIMUM SPACING OF 36 TIMES THE SLAB THICKNESS, UNLESS NOTED OTHERWISE. SLAB JOINT PANELS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5:1. DO NOT STAGGER OR OFFSET JOINTS. PROVIDE ADDITIONAL JOINTS AT RE-ENTRANT CORNER. IF RE-ENTRANT CORNERS ARE UNAVOIDABLE, THEN ADDITIONAL REINFORCING COMPRISED OF (2) #4 BARS x 3'-0" SHALL BE PLACED IN THE CENTER OF THE SLAB DIAGONAL TO THE RE-ENTRANT CORNER CONDITION. PROVIDE SHOP DRAWING OF CONTROL JOINT PATTERN AND CORNER REINFORCING.
6. SAWCUT JOINTS AS SOON AS SURFACE WILL ALLOW WITHOUT EDGES RAVELING BUT PRIOR TO THE NEXT DAY AFTER THE POUR.
7. FLOOR FINISHES SHALL BE BROOM FINISHED FOR ALL EXTERIORS UNLESS NOTED OTHERWISE.
8. UTILITY TRENCH BACKFILL UNDER THE SLAB ON GRADE SHALL MEET THE SAME COMPACTION REQUIREMENTS AS THE ORIGINAL SUBGRADE LISTED ABOVE.
9. SLOPE SLABS TO DRAINS TO CREATE POSITIVE DRAINAGE. PROVIDE DEPRESSIONS WHERE INDICATED ON ARCHITECTURAL DRAWINGS, WHILE MAINTAINING THE THICKNESS OF THE CONCRETE SLAB.

GENERAL NOTES

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO SUPPLEMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THESE DRAWINGS AND THE SPECIFICATIONS NOTIFY THE ENGINEER OF ANY SUCH CONFLICTS.
2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ALL PROJECT DRAWINGS AND SPECIFICATIONS. REFER TO ALL DRAWINGS FOR THE COORDINATION OF THE WORK IN THIS PROJECT.
3. THE INTENT OF THESE PLANS AND NOTES IS TO PRESENT THE PROJECT REQUIREMENTS. MAJOR DETAILS HAVE BEEN SHOWN ON THE DRAWINGS. HOWEVER, CERTAIN MINOR DETAILS MUST BE WORKED OUT IN THE FIELD OR SHOP DRAWING PROCESS BY THE CONTRACTOR.
4. UNLESS NOTED OTHERWISE, DETAILS SHOWN ON DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
5. THE STRUCTURE IS DESIGNED TO BE STABLE AND SELF-SUPPORTING AFTER THE STRUCTURE IS FULLY ERECTED AND ALL CONNECTIONS ARE COMPLETED. UNLESS NOTED OTHERWISE, THE DRAWINGS DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURE AND SEQUENCING TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION TEMPORARY BRACING, GUYS AND TIE-DOWNS NECESSARY FOR THE ERECTION PROCESS.
6. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW THE APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.
7. CONTRACTOR'S CONSTRUCTION AND ERECTION SEQUENCE SHALL CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF THE STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
8. EXISTING CONDITIONS:
   A. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS RELATING TO EXISTING CONSTRUCTION AND EXISTING SERVICES ON SITE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING COLUMNS, WALLS, OPENINGS, ETC, WITH THE ARCHITECTURAL DRAWINGS PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT AND ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
   B. DURING CONSTRUCTION THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION (DISCOVERY). SUCH CONDITIONS MAY INTERFERE WITH THE NEW CONSTRUCTION OR REQUIRE PROTECTION AND/OR SUPPORT OF EXISTING WORK DURING CONSTRUCTION. IT MAY ALSO CONSIST OF DAMAGED OR DETERIORATION OF STRUCTURAL MATERIALS OR COMPONENTS WHICH COULD JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE(S). THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL DISCOVERIES WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE(S) PRIOR TO PROCEEDING WITH THE WORK RELATED TO SUCH DISCOVERIES.
   C. DURING THE CONSTRUCTION PROCESS, IT SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE INTEGRITY OF THE EXISTING STRUCTURE AND TO PROTECT IT FROM DAMAGE ANY PORTIONS THAT ARE TO REMAIN.
   D. CONTRACTOR SHALL INVESTIGATE THE SITE DURING EARTHWORK OPERATIONS FOR FILL MATERIAL OR BURIED STRUCTURES. IMMEDIATELY, NOTIFY THE ENGINEER IF ANY SUCH MATERIALS OR STRUCTURES ARE DISCOVERED.
9. STRUCTURAL COORDINATION
   A. MECHANICAL, ELECTRICAL OR PLUMBING LOADS, OPENINGS AND SUPPORT FRAMING ARE SHOWN FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL OBTAIN APPROVAL OF THE MECHANICAL, ELECTRICAL OR PLUMBING CONTRACTOR BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK.
   B. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL OPENINGS, HOLES AND SLEEVES THROUGH FOUNDATIONS AND OTHER STRUCTURAL ELEMENTS WITH THE MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS. NO OPENINGS SHALL PASS THROUGH STRUCTURAL MEMBERS UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
   C. EXCESS COST DUE TO VARIATION IN THE STRUCTURE TO ACCOMMODATE A SUBSTITUTION OR ALTERNATE MANUFACTURER(S) FROM THE LISTED BASIS OF DESIGN SHALL BE BORNE BY THE CONTRACTOR.
10. BEFORE SUBMITTING A BID, EACH BIDDER SHALL VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, CONSTRUCTION REQUIREMENTS, RESTRICTIONS, QUANTITIES AND EQUIPMENT NECESSARY TO COMPLETE THE WORK. THE BID SHALL INCLUDE ALL ITEMS REQUIRED TO COMPLETE THE WORK WITHIN THE EXISTING CONDITIONS. DISRUPTION OF THE OWNERS NORMAL ACTIVITIES AROUND THE CONSTRUCTION SITE SHALL BE KEPT TO A MINIMUM.
11. THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS AND OMISSIONS BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE BORNE BY THE RESPONSIBLE CONTRACTOR.
12. ANY ENGINEERING DESIGN PROVIDED BY OTHER AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT EXISTS.
13. CONTRACTOR SHALL COORDINATE WORK SCHEDULES WITH THE OWNER TO ESTABLISH CONSTRUCTION SEQUENCING AROUND ANY OCCUPIED AREAS. CONTRACTOR SHALL NOT PROCEED TO OCCUPIED AREAS UNTIL AUTHORIZED BY THE OWNER.
14. ALL ELEMENTS AND SURFACES DAMAGED BY DEMOLITION, BUT NOT SCHEDULED FOR REMOVAL SHALL BE REPAIRED AND REFINISHED TO MATCH THE ADJACENT SURFACES AT NO ADDITIONAL COST TO THE OWNER.
15. CONTRACTOR SHALL REMOVE ALL DEBRIS AND WASTE MATERIALS RESULTING FROM CONSTRUCTION FROM THE SITE, UNLESS NOTED OTHERWISE.
16. CONTRACTOR SHALL MINIMIZE CREATION OF DUST, DIRT AND WINDBORNE DEBRIS FROM BLOWING ACROSS THE SITE AND ONTO ADJACENT SITES.

CAST-IN-PLACE CONCRETE

1. ALL CONCRETE SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTES PUBLICATIONS: ACI 301, ACI 305.1, ACI 306.1, ACI 315, AND ACI 318 UNLESS NOTED OTHERWISE.
2. CONCRETE COMPRESSIVE STRENGTH (28 DAY)(F'c)
   FOOTINGS — 4000 PSI
   FOUNDATION WALLS — 4000 PSI
   SLAB ON GRADE — 4000 PSI
3. CONCRETE REINFORCEMENT STANDARDS:
   DEFORMED BARS — ASTM A615 — Fy = 60 KSI
   WELDED WIRE REINFORCEMENT (WWR) — ASTM A1064 — Fy = 65 KSI
4. ALL CONCRETE SHALL BE STONE AGGREGATE UNLESS NOTED OTHERWISE. SUBMIT MIX DESIGN AND DOCUMENTATION FOR APPROVAL PER ACI 318.
5. REINFORCEMENT PROTECTION
   A. CONCRETE PLACED AGAINST EARTH - 3"
   B. CONCRETE PLACED IN FORMS BUT EXPOSED TO WEATHER OR EARTH:
      a. BARS #5 AND SMALLER - 1 1/2"
      b. BARS LARGER THAN #5 - 2"
   C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
      a. SLABS, WALLS, AND JOISTS - 3/4"
      b. BEAMS, COLUMNS - 1 1/2"
6. WHERE REQUIRED, DOWELS SHALL MATCH THE SIZE, NUMBER AND SPACING OF THE MAIN REINFORCING UNLESS NOTED OTHERWISE.
7. ALL SPLICES, STANDARD HOOKS, AND DEVELOPMENT LENGTHS TO BE PER THE REFERENCED EDITION OF ACI 318. MAKE BARS CONTINUOUS AROUND CORNERS. ALL SPLICES SHALL BE BY CONTACT LAP.
8. ALL SPLICES SHALL BE A CLASS "B" TENSION SPLICE AS DEFINED IN ACI 318. PROVIDE LAP SPLICES LENGTHS AS FOLLOWS:

	4000 PSI	
BAR SIZE	TYPICAL	TOP BARS
#3	19"	25"
#4	25"	33"
#5	31"	41"
#6	37"	49"
#7	54"	71"
#8	62"	81"
#9	70"	91"
#10	79"	102"
#11	87"	114"

   LAP SPLICE LENGTHS GIVEN, ASSUME CLEAR SPACING BETWEEN BARS OF 2 BAR DIAMETERS, AND A MINIMUM CLEAR COVER OF 1 BAR DIAMETER. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" ON FRESH CONCRETE BENEATH THE BARS.
9. WALLS AND GRADE BEAMS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE, UNLESS APPROVED BY THE ENGINEER.
10. CONSTRUCTION JOINTS IN STRUCTURAL CONCRETE WORK MUST BE MADE AT CENTER OF SPAN OR AT CENTER OF SUPPORT WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN.
11. THERE SHALL BE NO ADDITIONAL OPENINGS LARGER THAN 10" IN CONCRETE WALLS AND SLABS NOT SHOWN. REFER TO CONCRETE OPENING DETAIL FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS.
12. REINFORCING STEEL SHALL BE SECURELY FASTENED INTO FORMS PRIOR TO POURING CONCRETE. WET SETTING OF REINFORCING STEEL WILL NOT BE ACCEPTED PER ACI.
13. CONCRETE MIX - FOOTINGS
    COARSE AGGREGATE — 100% PASSING 1" SIEVE
    FINE AGGREGATE — 100% PASSING 3/8" SIEVE
    WATER/CEMENT RATIO — 0.45
    SLUMP — 4" +/- 1"
    AIR CONTENT — 6% +/- 1.5%
14. CONCRETE MIX - FOUNDATIONS
    COARSE AGGREGATE — 100% PASSING 1" SIEVE
    FINE AGGREGATE — 100% PASSING 3/8" SIEVE
    WATER/CEMENT RATIO — 0.45
    SLUMP (NO WATER REDUCER) — 4" +/- 1"
    SLUMP (WITH WATER REDUCER) — 4" TO 8"
    AIR CONTENT — 6% +/- 1.5%
15. CONCRETE MIX - SLAB ON GRADE - EXTERIOR
    COARSE AGGREGATE — 100% PASSING 1" SIEVE
    FINE AGGREGATE — 100% PASSING 3/8" SIEVE
    WATER/CEMENT RATIO — 0.45
    SLUMP (WITH WATER REDUCER) — 4" TO 6"
    AIR CONTENT — 6% +/- 1.5% WITH BROOM FINISH

BAR GRATING

1. 1 1/2" x 3/16" ALUMINUM BAR GRATING SHALL HAVE MAIN BARS SPACED AT 1 3/16" OC AND CROSS BARS SPACED AT 4" OC.
2. GRATING MANUFACTURER SHALL COMPLY WITH ANSI/NAAMM, NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS STANDARD: NAAMM MBG531 METAL BAR GRATING MANUAL.
3. PLATES AND BARS FOR GRATING SHALL BE ALLOY 6063-T6.
4. ALL GRATING SHALL BE ALUMINUM IN ACCORDANCE WITH ASTM B221.
5. GRATING SHALL HAVE FULL BEARING ON STEEL FRAMING, 1 1/2" MINIMUM.
6. FASTEN BAR GRATING TO STRUCTURE WITH REMOVABLE SADDLE CLIPS OR G-CLIPS.
7. MECHANICALLY CUT BAR GRATING. DO NOT FLAME CUT.
8. FABRICATE PANELS WITH EDGE BANDING FULL HEIGHT OF GRATING.
9. MAXIMUM SPACING BETWEEN BAR GRATING PANELS SHALL NOT EXCEED 1/4".
10. PROVIDE EDGE BANDING AT ALL OPENINGS THAT INTERRUPT FOUR OR MORE BEARING BARS USING SAME MATERIAL AS BEARING BARS.
11. FOR REMOVABLE GRATING SECTIONS, PROVIDE BANDING WELDED TO THE ENTIRE PERIMETER OF EACH SECTION.

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WWTP DISINFECTION IMPROVEMENTS
CITY OF EARLHAM

DRAWN BY	JIH
APPROVED BY	JDA
ISSUED FOR	BIDDINMG AND CONSTRUCTION
ISSUE DATE	11/11/2026
PROJECT NUMBER	22400154O0
FIELD BOOK	-

STRUCTURAL GENERAL INFORMATION

S000

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STATEMENT OF SPECIAL INSPECTIONS

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THE STRUCTURAL COMPONENTS OF THIS PROJECT. IF APPLICABLE, IT INCLUDES REQUIREMENTS FOR SEISMIC RESISTANCE AND/OR REQUIREMENTS FOR WIND RESISTANCE. THIS STATEMENT OF SPECIAL INSPECTIONS ENCOMPASSES THE FOLLOWING DISCIPLINES:

[X] STRUCTURAL
[ ] ARCHITECTURAL
[ ] MECHANICAL / ELECTRICAL / PLUMBING
[ ] OTHER

THE SPECIAL INSPECTION COORDINATOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTIONS OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATIONS SHALL APPEAR BELOW THE AGENT ON THE SCHEDULE.

PE/SE	STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURE
PE/GE	GEOTECHNICAL ENGINEER - A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS
EIT	ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTS OF ENGINEERING EXAMINATION

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION

ACI-CFTT	CONCRETE FIELD TESTING TECHNICIAN - GRADE 1
ACI-CCI	CONCRETE CONSTRUCTION INSPECTOR
ACI-LTT	LABORATORY TESTING TECHNICIAN - GRADE 1 & 2
ACI-STT	STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION

AWS-CWI	CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI	CERTIFIED STRUCTURAL STEEL INSPECTOR

AMERICAN SOCIETY OF NON-DESTRUCTIVE TESTING (ASNT) INSPECTION

ASNT	NON-DESTRUCTIVE TESTING TECHNICIAN - LEVEL II OR III

INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION

ICC-RCSI	REINFORCED CONCRETE SPECIAL INSPECTOR
ICC-SWSI	STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR

NATIONAL INSTITUTE OF CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET)

*NICET-CT	CONCRETE TECHNICIAN - LEVELS I, II, III, & IV*
*NICET-ST	SOILS TECHNICIAN - LEVELS I, II, III & IV*
*NICET-GET	GEOTECHNICAL ENGINEERING TECHNICIAN - LEVEL I, II, III & IV*

CONTRACTOR'S RESPONSIBILITY REGARDING INSPECTIONS

1. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING A PRE-CONSTRUCTION MEETING (SCHEDULED AT LEAST 5 BUSINESS DAYS BEFORE START OF CONSTRUCTION). MEETING SHOULD INCLUDE ALL RESPONSIBLE PARTIES (A/E, SI'S, FIELD INSPECTOR). MEETING IS FOR ENTIRE PROJECT, NOT PHASE OF WORK.
2. PRE-CONSTRUCTION MEETING IS TO BE CONDUCTED BY THE CONTRACTOR WITH MEETING MINUTES TO BE TAKEN AND DISTRIBUTED TO ALL MEMBERS ATTENDING. MEETING MINUTES TO INCLUDE A SIGN-IN SHEET FOR ALL PARTIES.
3. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING INSPECTIONS AND TESTS. SUFFICIENT NOTICE AND LEAD TIME MUST BE ALLOWED FOR THE INSPECTION AND TESTING TO BE PERFORMED WITHOUT IMPENDING CONSTRUCTION OPERATIONS.
4. THE CONTRACTOR MUST COOPERATE WITH THE INSPECTIONS AND TESTING AGENCIES. SAFE ACCESS MUST BE PROVIDED TO ALL INSPECTION AND TEST TO BE PERFORMED. THIS MAY REQUIRE THE CONTRACTOR TO PROVIDE SCAFFOLDING, LADDERS OR LIFTS.
5. WHEN DEFICIENCIES ARE IDENTIFIED, THE CONTRACTOR MUST TAKE CORRECTIVE ACTIONS TO COMPLY WITH THE CONTRACT DOCUMENTS OR REMEDY THE DEFICIENCIES AS DIRECTED BY THE REGISTERED DESIGN PROFESSIONAL.
6. THE SPECIAL INSPECTION AND QUALITY ASSURANCE PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITY TO PERFORM QUALITY CONTROL.
7. THE CONTRACTOR IS RESPONSIBLE FOR TESTING SERVICES THAT ARE REQUIRED FOR MATERIAL SUBMITTALS AND THAT NOT PART OF THE SPECIAL INSPECTIONS PROGRAM (E.G. AGGREGATE TESTS, CONCRETE MIX DESIGNS, TESTING OF CONTROLLED FILL, MATERIALS, ETC.).

CONCRETE CONSTRUCTION	SERVICE	EXTENT	AGENT
1. INSPECT SIZE, SPACING, COVER, POSITIONING AND GRADE OF REINFORCING STEEL. VERIFY THAT REINFORCING BARS ARE FREE OF FORM OIL OR OTHER DELETERIOUS MATERIALS. INSPECT BAR LAPS AND MECHANICAL SPLICES. VERIFY THAT BARS ARE ADEQUATELY TIED AND SUPPORTED OF CHAIRS OR BOLSTERS.	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
2. INSPECT SIZE, POSITIONING AND EMBEDMENT OF ANCHOR RODS. INSPECT CONCRETE PLACEMENT AND CONSOLIDATION AROUND ANCHORS	FIELD INSPECTION	PERIODIC	
3. INSPECTION OF ANCHORS AND REINFORCING STEEL POST-INSTALLED IN HARDENED CONCRETE: PER RESEARCH REPORTS INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE DIMENSIONS, HOLE CLEANING PROCEDURES, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MINIMUM THICKNESS, ANCHOR EMBEDMENT AND TIGHTENING TORQUE	FIELD INSPECTION	PERIODIC OR AS REQUIRED BY THE RESEARCH REPORT ISSUED BY AN APPROVED SOURCE	ACI-CCI ICC-RCSI
4. REVIEW CONCRETE BATCH TICKETS AND VERIFY COMPLIANCE WITH APPROVED MIX DESIGN. VERIFY THAT WATER ADDED AT THE SITE DOES NOT EXCEED THAT ALLOWED BY THE MIX DESIGN	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
5. TEST CONCRETE COMPRESSIVE STRENGTH (ASTM C31 & C39), SLUMP (ASTM C143), AIR-CONTENT (ASTM C231 OR C173) AND TEMPERATURE (ASTM C1064).	FIELD INSPECTION	CONTINUOUS	ACI-CFTT ICC-STT
6. INSPECT PLACEMENT OF CONCRETE. VERIFY THAT CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.	FIELD INSPECTION	CONTINUOUS	ACI-CCI ICC-RCSI
7. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
8. INSPECTION OF FORMWORK FOR SHAPE, LINES, LOCATION AND DIMENSIONS	FIELD INSPECTION	PERIODIC	ACI-CCI ICC-RCSI
9. CONCRETE STRENGTH TESTING AND VERIFICATION OF COMPLIANCE WITH CONSTRUCTION DOCUMENTS	FIELD TESTING AND REVIEW OF LABORATORY REPORTS	PERIODIC	
10. PERFORM FLOOR FLATNESS AND/OR LEVELNESS TESTING (ASTM E1155) FOR ALL SLAB-ON-GRADE AND ELEVATED SLABS PER SPECIFICATION.	FIELD INSPECTION	CONTINUOUS	ACI-CCI ICC-RCSI

GENERAL SYMBOLS LEGEND

MASONRY
STEEL
MISCELLANEOUS
CONCRETE
EARTH
GRANULAR FILL
GROUT
EXISTING
CHANGE IN SLAB ELEVATION MARK
STRUCTURAL COLUMN DESIGNATION (E) - EXISTING (D) - DEMOLISHED (W10x49(E) BP2)
BASE PLATE MARK
PIER MARK (TOP ELEVATION) (P# (X'-X"))
FOOTING MARK (TOP ELEVATION) (F# (X'-X"))
SPAN DIRECTION MARK - ONE WAY
SPAN DIRECTION MARK - TWO WAY
OPENING
MOMENT FRAMING CONNECTION MARK
SHEAR SPLICE FRAMING CONNECTION MARK
MOMENT SPLICE FRAMING CONNECTION MARK
SHEAR TRANSFER MARK
UPPER ELEVATION (100'-0") / BRICK LEDGE STEP MARK (L) / LOWER ELEVATION (99'-0")
UPPER ELEVATION (100'-2") / WALL STEP MARK (W) / LOWER ELEVATION (100'-0")
UPPER ELEVATION (95'-0") / FOUNDATION STEP MARK / LOWER ELEVATION (97'-0")

GENERAL SYMBOLS LEGEND

VIEW NUMBER
A1 VIEW NAME 1/8" = 1'-0" (0 — 12")
DRAWING SCALE
N — NORTH ARROW
BUILDING SECTION MARK: SIM / A1 / A101 — VIEW NUMBER, SHEET NUMBER
DETAIL SECTION MARK: SIM / A1 / A101 — VIEW NUMBER, SHEET NUMBER
ELEVATION MARK: SIM / A1 / A101 — VIEW NUMBER, SHEET NUMBER
ENLARGED DETAIL MARK: A1 / A101 — VIEW NUMBER, SHEET NUMBER
A00 — KEYNOTE VALUE
01 RFI — REVISION NUMBER, REVISION TYPE
D.8 — EXISTING GRID BUBBLE
D.8 — NEW GRID BUBBLE
FIRST FLOOR 100'-0" — IDENTIFIED LEVEL NAME, ELEVATION MARK
100'-0" — SPOT ELEVATION MARK
A4/S104 — VIEW NUMBER / SHEET NUMBER OF CONTINUING VIEW
MATCHLINE

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL CONFORM TO THE REFERENCED EDITION OF THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS".
2. STRUCTURAL STEEL MATERIAL STANDARDS

WIDE FLANGE SECTIONS	ASTM A992	Fy = 50 KSI
ANGLES, CHANNELS & PLATES	ASTM A36	Fy = 36 KSI
STANDARD PIPE SECTIONS	ASTM A53, GR B	Fy = 35 KSI
CONNECTION PLATES AND ANGLES	ASTM A36	Fy = 36 KSI

3. STRUCTURAL STEEL CONNECTION STANDARDS:

HIGH STRENGTH BOLTS	*ASTM F3125*	*GRADE A325*
HEAVY HEX NUT	ASTM A563	
WASHERS	ASTM F436	
ANCHOR RODS	ASTM F1554	GRADE 36
HEADED WELDED STUDS	ASTM A108	TYPE B
WELDING ELECTRODES (CARBON STEEL)	AWS 5.1, E70XX	

4. WELDING SHALL BE IN ACCORDANCE WITH STRUCTURAL WELDING CODE, AWS D1.1, LATEST EDITION, AND SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY USING PROPER ELECTRODES FOR MATERIAL BEING WELDED. PROVIDE WELD SIZE IN ACCORDANCE WITH AISC SPECIFICATIONS, BUT NOT LESS THAN 3/16" FILLET, CONTINUOUS UNLESS OTHERWISE NOTED.
5. ALL HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH RCSC - "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 BOLTS." SEE DRAWINGS FOR BOLTS SIZES. USE 3/4" DIAMETER, A325 BOLTS UNLESS NOTED OTHERWISE.
6. ALL BOLTED CONNECTIONS ARE BEARING TYPE. PROVIDE STANDARD HOLES FOR BEARING TYPE CONNECTION WHICH ARE 1/16" WIDER DIAMETER THAN THE BOLT.
7. ALL EXTERIOR EXPOSURE STEEL FRAMING, AND CONNECTORS SHALL BE HOT DIPPED GALVANIZED. ITEMS INDICATED TO BE GALVANIZED SHALL BE HOT-DIP GALVANIZED IN COMPLIANCE WITH ASTM A123.
8. AFTER FABRICATION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS. STEEL SHALL BE HAND TOOLED CLEANED (SSPC-SP2) OR POWER TOOL CLEANED (SSPC-SP3).
9. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
10. MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC 303, "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."
11. DO NOT ENLARGE MISALIGNED BOLT HOLES BY BURNING OR THERMAL CUTTING. REAM HOLES THAT MUST BE ENLARGED TO INSTALL BOLTS.

FOUNDATIONS

1. ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND FOUNDATION WALLS UNTIL CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH.
2. FOOTING SHALL BE CENTERED UNDER WALLS AND COLUMNS UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL ACCOUNT FOR PUMPING OF WATER FROM THE EXCAVATION DUE TO SURFACE WATER, GROUND WATER AND SEEPAGE.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL SHEETING, SHORING AND CRIBBING REQUIRED TO SAFELY RETAIN THE EARTH BANK AROUND THE EXCAVATIONS.
5. ALL FOOTINGS SHALL BE PLACED ONTO FIRM UNDISTURBED SOIL OR ACCEPTABLE COMPACTED BACKFILL.
6. FOOTING ELEVATIONS SHOWN DESIGNATE THE MINIMUM DEPTH OF THE FOOTING WHERE THE ALLOWABLE SOIL BEARING IS EXPECTED. LOCALIZED AREAS OF UNACCEPTABLE SOILS OR POOR COMPACTION MAY BE DISCOVERED DURING THE EXCAVATION PROCESS REQUIRING OVEREXCAVATION AND BACKFILL WITH ACCEPTABLE FILL. FOOTING EXCAVATIONS SHALL BE LOWERED TO REACH SOIL MEETS THE DESIGN BEARING PRESSURE AND APPROVED BY THE GEOTECHNICAL SPECIAL INSPECTION AGENCY.
7. ACCEPTABLE BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED EIGHT (8) INCHES IN LOOSE THICKNESS.
8. FOR FOOTING AND FOUNDATIONS, THE SUBGRADE OR FILL MATERIAL SHALL BE COMPACTED AND VERIFIED TO MEET 98% STANDARD PROCTOR MAXIMUM DRY DENSITY ACCORDANCE WITH ASTM D698. FOR RELATIVELY COHESIONLESS GRANULAR FILL WHICH HAS A PERCENT PASSING THE #200 SIEVE LESS THAN 10 PERCENT AND HAS ONLY A SLIGHT SENSITIVITY TO MOISTURE CHANGES, COMPACTION SHALL BE 75 PERCENT RELATIVE DENSITY IN ACCORDANCE WITH ASTM D4253 AND D4254. IF COMPACTION DOES NOT COMPLY, CONTRACTOR SHALL RECOMPACT AREA AND UNTIL TEST RESULTS ARE PASSING. AN AREA EXHIBITING WEAKNESS SUCH AS RUTTING OR PUMPING SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL.
9. FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL SPECIAL INSPECTION AGENCY BEFORE CONCRETE IS PLACED. CONTRACTOR SHALL NOTIFY INSPECTION AGENCY WHEN EXCAVATION IS READY FOR TESTING. INSPECTION AGENCY SHALL PROVIDE A WRITTEN REPORT OF TEST RESULTS AND COMPLIANCE TO THE OWNER.
10. ACCEPTABLE SOIL SHALL BE DEFINED AS MEETING ASTM D2487 SOIL CLASSIFICATION GROUPS GW, GP, GM, SW, SP, SM OR A COMBINATION OF THESE TYPES.
11. UNACCEPTABLE SOILS SHALL BE DEFINED AS MEETING ASTM D2487 SOIL CLASSIFICATION GROUPS GC, SC, ML, MH, CL, CH, OL, OH, PT OR A COMBINATION OF THESE TYPES. GROUPS CL AND ML MAY BE ACCEPTABLE IF THE LIQUID LIMIT IS LESS THAN 45 AND THE PLASTICITY INDEX IS LESS THAN 20.
12. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADES BEFORE AND AFTER PLACING THE CONCRETE AND UNTIL SUCH SUBGRADE IS FULLY PROTECTED BY THE PERMANENT BUILDING ENCLOSURE AND THE SPACE IS CONDITIONED TO REMAIN ABOVE FREEZING.
13. CONCRETE FOOTINGS AND SLABS SHALL NOT BE PLACED ON OR AGAINST SUBGRADES CONTAINING FROST, SNOW OR ICE. FROZEN SUBGRADES SHALL BE COMPLETELY THAWED AND RECONDITIONED BEFORE CONCRETE MAY BE PLACED.
14. REPEATED HEAVY CONSTRUCTION TRAFFIC OVER EXPOSED SUBGRADE WILL CAUSE RUTTING AND PUMPING WHEN SOIL IS ABOVE THE OPTIMUM MOISTURE CONTENT. AVOID EXCESS CONSTRUCTION ACTIVITY ON WET SOILS. IF SUBGRADE IS ABOVE THE OPTIMUM MOISTURE CONTENT DURING CONSTRUCTION, THEN DRYING OF THE SOIL SHALL BE CONDUCTED BY DISKING, SCARIFICATION, AND AERATION.
15. SOILS WITH A MOISTURE CONTENT ABOVE THE OPTIMUM LEVEL SHALL BE REMOVED AND REPLACED WITH COMPACTED GRANULAR FILL.
16. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UNUSUAL SOIL CONDITIONS.
17. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF THE EXISTING FOUNDATIONS VARY FROM THAT SHOWN ON THE DRAWINGS.
18. CONTRACTOR SHALL VERIFY OPENINGS AND SLEEVES THROUGH FOUNDATION WALLS WITH THE MECHANICAL AND ELECTRICAL REQUIREMENTS. CHANGES IN SIZE, LOCATION AND NUMBER SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL BY THE ENGINEER.

SOILS	SERVICE	EXTENT	AGENT
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	FIELD INSPECTION	PERIODIC	PE/GE/EIT
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	FIELD INSPECTION	PERIODIC	PE/GE/EIT
3. PERFORM SIEVE TESTS (ASTM D422 & D1140) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL.	FIELD INSPECTION	PERIODIC	PE/GE/EIT
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	FIELD INSPECTION	PERIODIC	PE/GE/EIT

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WWTP DISINFECTION IMPROVEMENTS
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ISSUE DATE	11/11/2026
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FIELD BOOK	-

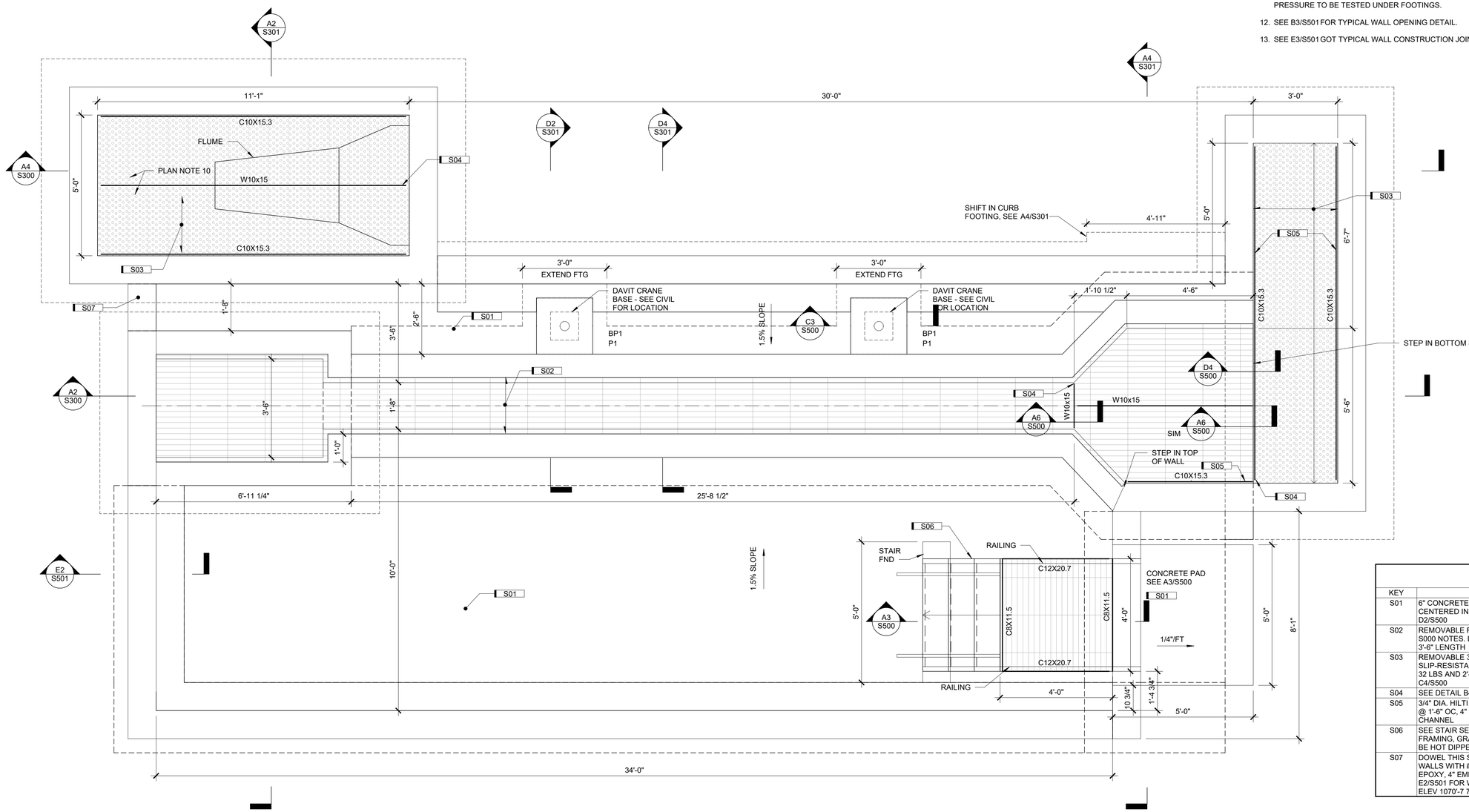
SPECIAL INSPECTIONS

S001

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PLAN NOTES

1. SEE SHEET S000 & S001 FOR GENERAL NOTES AND SHEET S002 FOR REQUIRED SPECIAL INSPECTIONS.
2. NORTH ARROW SHOWN IS FOR STRUCTURAL REFERENCE ONLY. SEE CIVIL DRAWINGS FOR ACTUAL BUILDING ORIENTATION.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS INDICATED
4. "SJ" INDICATES SAWCUT JOINT, "CJ" INDICATES CONSTRUCTION JOINT. PROVIDE SAWCUT JOINTS AS INDICATED IN NOTES ON S000. FOR SAWCUT AND CONSTRUCTION JOINTS SEE DETAIL E2/S500 .
5. PROVIDE CORNER BARS AT FOUNDATION CORNERS AND T-INTERSECTIONS PER DETAIL A2/S500.
6. SEE MEP DRAWINGS FOR ADDITIONAL LOCATION OF IN-SLAB PROCESS PIPING.
7. CONTRACTOR SHALL COORDINATE ALL FOUNDATION WALL AND SLAB BLOCK-OUT REQUIREMENTS WITH MEP CONTRACTORS.
8. SEE SPECIFICATIONS FOR XYPEX ADDED TO UV CONCRETE STRUCTURES. CURB WALLS DO NOT REQUIRE XPEX.
9. ALL STEEL FRAMING, CONNECTIONS AND ANCHORS SHALL BE GALVANIZED.
10. NO LIFTING HANDLES AT THE INTERIOR ENDS OF PANELS.
11. SEE SHEET S000 FOUNDATIONS AND FOUNDATIONS - SLAB ON GRADE FOR COMPACTING BACKFILL UNDER FOOTINGS AND SLABS. SEE SHEET S000 FOR ALLOWABLE SOIL BEARING PRESSURE TO BE TESTED UNDER FOOTINGS.
12. SEE B3/S501 FOR TYPICAL WALL OPENING DETAIL.
13. SEE E3/S501 GOT TYPICAL WALL CONSTRUCTION JOINT.



KEYNOTES

KEY	NOTE
S01	6" CONCRETE SLAB ON GRADE W/6X6 - W2.9XW2.9 WWF CENTERED IN SLAB OVER 6" GRANULAR SUB-BASE, DETAIL D2/S500
S02	REMOVABLE REMOVABLE ALUMINUM BAR GRATING, SEE S000 NOTES. LIMIT WEIGHT TO 27 LBS AND 2'-0" WIDTH BY 3'-6" LENGTH
S03	REMOVABLE 3/8" ALUMINUM 3003 OHIO GRATINGS ALGRIP SLIP-RESISTANT FLOOR PLATE OR EQUAL. LIMIT WEIGHT TO 32 LBS AND 2'-0" WIDTH BY 3'-0" LENGTH. SEE DETAIL C4/S500
S04	SEE DETAIL B4/S500. SIM AT FLOOR PLATE LOCATIONS.
S05	3/4" DIA. HILTI HIT-HY 200 V3 + HAS GALVANIZED ANCHORS @ 1'-6" OC, 4" MIN EMBEDMENT, BOLTED TO STEEL CHANNEL
S06	SEE STAIR SEE DETAILS A2, B2 AND D2/S501. STEEL STAIR FRAMING, GRATING, CONNECTIONS AND FASTENERS SHALL BE HOT DIPPED GALVANIZED.
S07	DOWEL THIS SHORT LENGTH OF CURB WALL TO ADJACENT WALLS WITH #5 BARS @ 12" OC, 1'-4" LONG, HILTI HIT-HY 200 EPOXY, 4" EMBEDMENT, CENTERED IN WALL EACH END, SEE E2/S501 FOR WALL REINFORCEMENT. BOTTOM OF WALL ELEV 1070'-7 7/16".

NORTH

A4 FOUNDATION PLAN
1/2" = 1'-0" 0 3'

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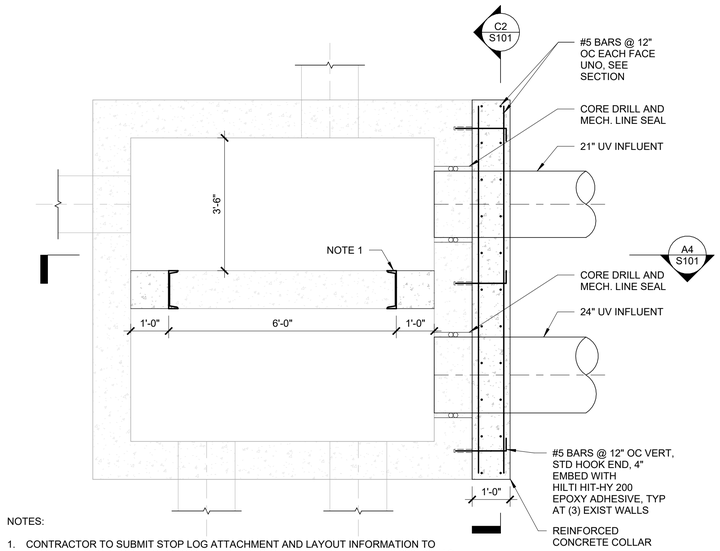
CITY OF EARLHAM

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FOUNDATION PLAN

S100

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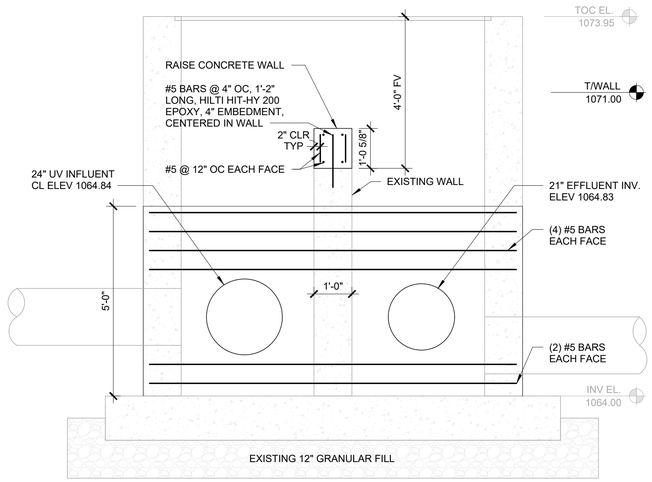


NOTES:

1. CONTRACTOR TO SUBMIT STOP LOG ATTACHMENT AND LAYOUT INFORMATION TO ENGINEER, STOP LOG ANCHORS SHALL BE 5/8"Ø GALVANIZED HILTI HIT-HY 200 V3 HAS ADHESIVE. 3 1/2" EMBEDMENT, 2 1/8" MINIMUM ANCHOR CONCRETE EDGE DISTANCE. COORDINATE WITH MANUFACTURER.

A2 EXISTING FLOW CONTROL BOX NO. 3 PLAN

1/2" = 1'-0" 0 3'

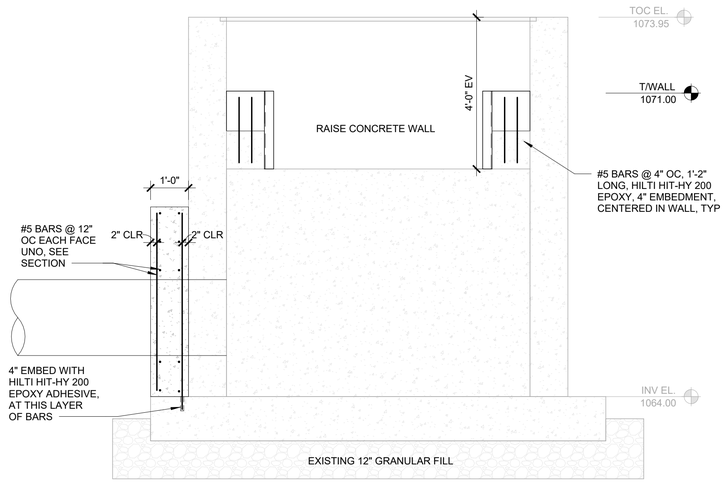


NOTES:

1. NOT ALL REINFORCEMENT SHOWN FOR CLARITY
2. SEE CIVIL SHEETS FOR OTHER INFORMATION.

C2 EXISTING FLOW CONTROL BOX NO. 3 SECTION DETAIL

1/2" = 1'-0" 0 3'



A4 EXISTING FLOW CONTROL BOX NO. 3 SECTION DETAIL

1/2" = 1'-0" 0 3'

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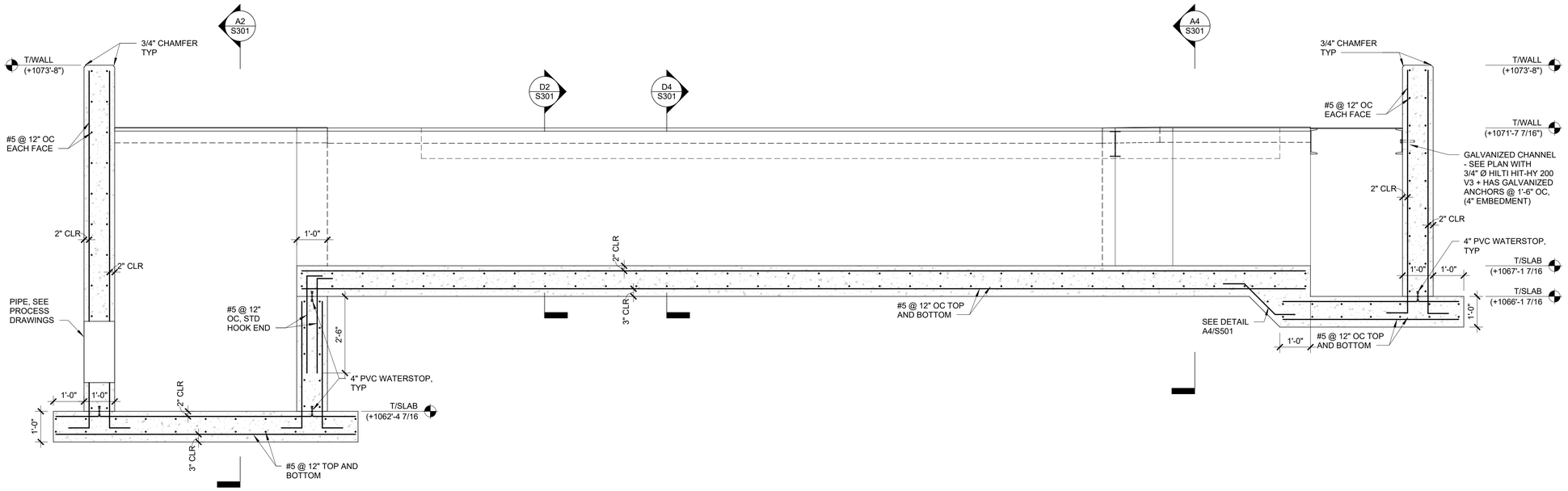
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FOUNDATION PLAN

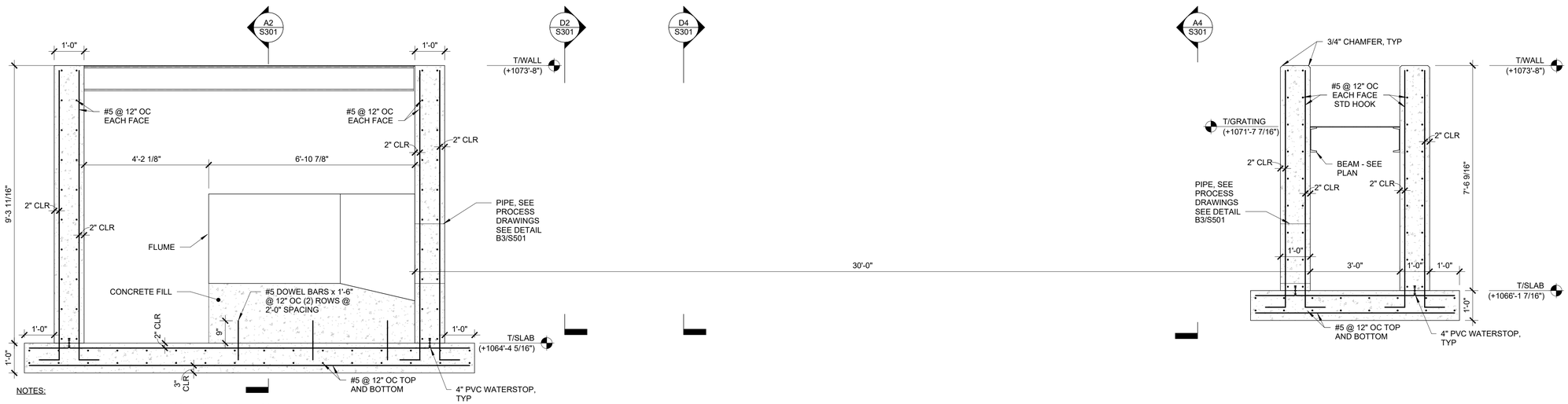
S101

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A2 UV CHANNEL LONGITUDINAL SECTION

1/2" = 1'-0" 0 3'



NOTES:

1. FLUME ELEVATION IS THE CRITICAL CONTROLLING POINT, COORDINATE WITH FLUME BEING PROVIDED.
2. EMBED FLUME IN CONCRETE FULL HEIGHT OF FLUME, COORDINATE WITH FLUME MANUFACTURER'S INSTRUCTIONS

A4 UV SECTION 1

1/2" = 1'-0" 0 3'

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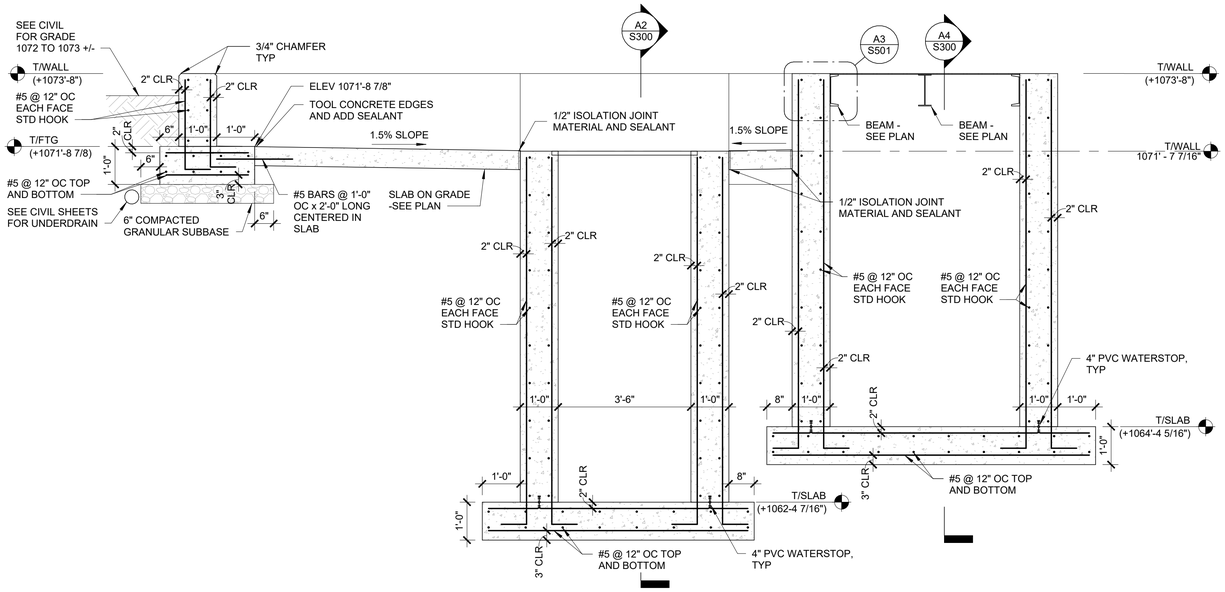
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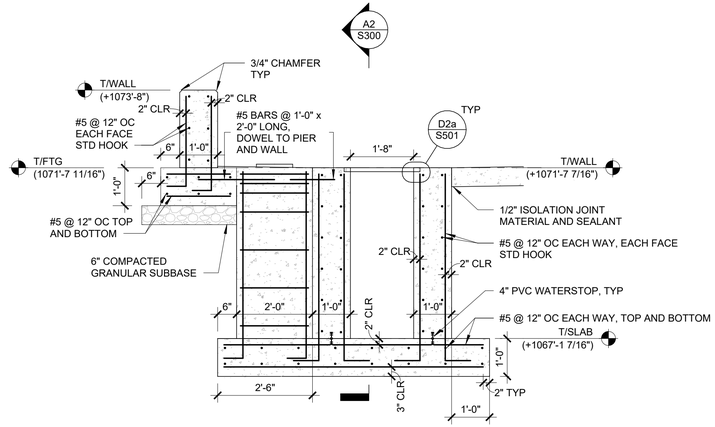
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S300

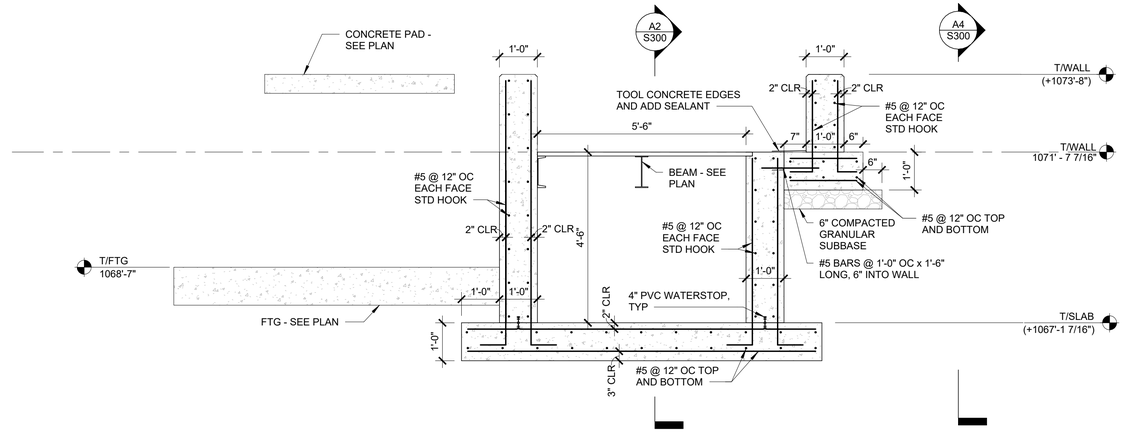
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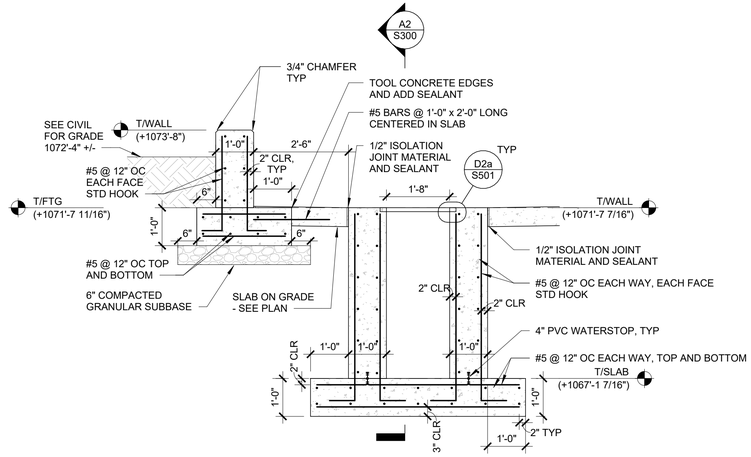
A2 UV SECTION 2
1/2" = 1'-0" 0 3'



D2 UV CHANNEL SECTION
1/2" = 1'-0" 0 3'



A4 UV SECTION 3
1/2" = 1'-0" 0 3'



D4 UV CHANNEL SECTION
1/2" = 1'-0" 0 3'

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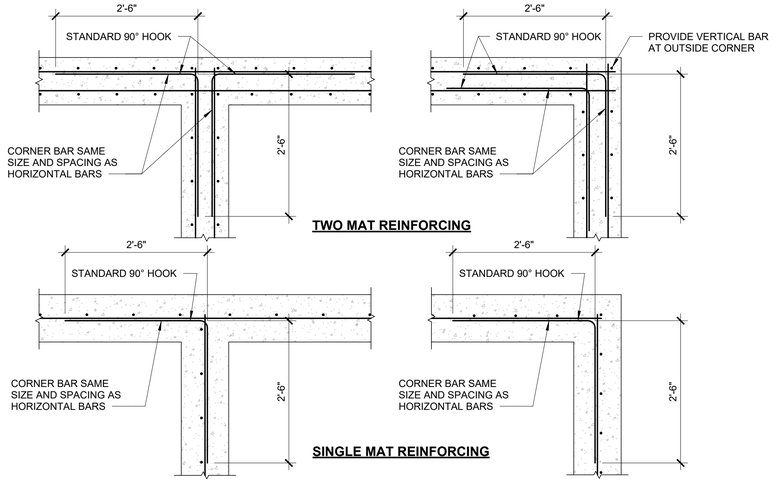
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SECTIONS

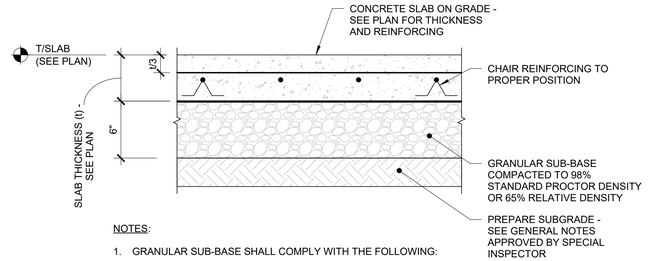
S301

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A2 TYPICAL WALL CORNER DETAILS

3/4" = 1'-0"

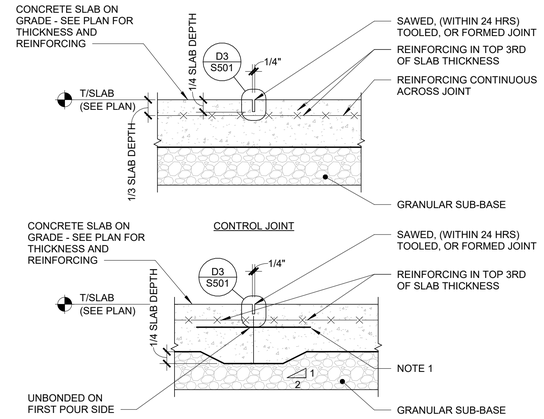


NOTES:

1. GRANULAR SUB-BASE SHALL COMPLY WITH THE FOLLOWING:
   - A. BE NATURALLY OR ARTIFICIALLY GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE, NATURAL OR CRUSHED SAND.
   - B. COMPLY WITH ASTM 2940.
   - C. BE UNIFORMLY GRADED WITH ALL AGGREGATE PASSING THE 1" SIEVE SIZE.

C2 TYPICAL SLAB ON GRADE SECTION

1 1/2" = 1'-0"



CONSTRUCTION JOINT (CNJ)

NOTES:

1. 4" SLAB: USE 1/2"Ø x 1'-6" SMOOTH DOWEL BAR @ 18" OC OR 1/4" x 4 1/2" x 4 1/2" DIAMOND LOAD PLATES @18" OC.
2. 5" TO 6" SLAB: USE 3/4"Ø x 1'-6" SMOOTH DOWEL BAR @ 12" OC OR 3/8" x 4 1/2" x 4 1/2" DIAMOND LOAD PLATES @ 18" OC.
3. GREATER THAN 6" SLAB: 1"Ø x 1'-6" SMOOTH DOWEL BAR @ 12" OC OR 3/8" x 4 1/2" x 4 1/2" DIAMOND LOAD PLATES @ 18" OC.

E2 TYPICAL CONTROL/CONSTRUCTION JOINT DETAILS

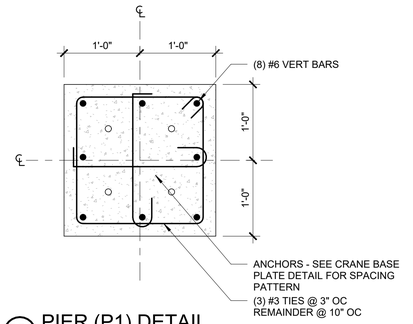
1 1/2" = 1'-0"

A3 CONCRETE STAIR DETAIL

3/4" = 1'-0"

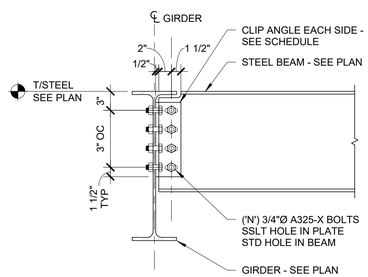
C3 TYPICAL PIER DETAIL

3/4" = 1'-0"



E3a PIER (P1) DETAIL

1" = 1'-0"



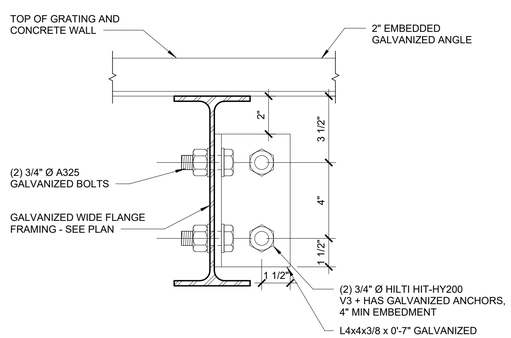
NOTES:

1. COPE BEAM AS REQUIRED FOR CLEARANCE.

DOUBLE ANGLE CONNECTION SCHEDULE		
BEAM	('N') # BOLTS	CLIP ANGLE SIZE
W8/W10	2	L4x3 1/2x5/16

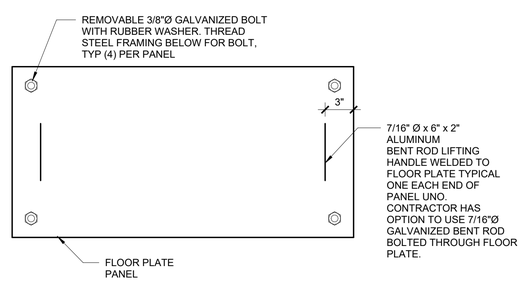
A6 TYPICAL SHEAR CONNECTION

1" = 1'-0"



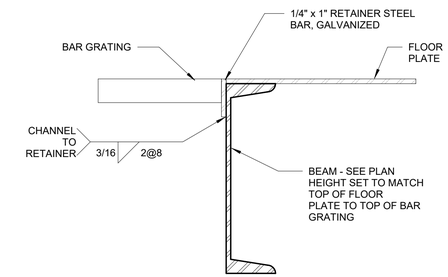
B4 BEAM CONNECTION DETAIL

3" = 1'-0"



C4 REMOVABLE FLOOR PLATE PANEL DETAIL

1 1/2" = 1'-0"



D4 FLOOR PLATE DETAIL 1

3" = 1'-0"

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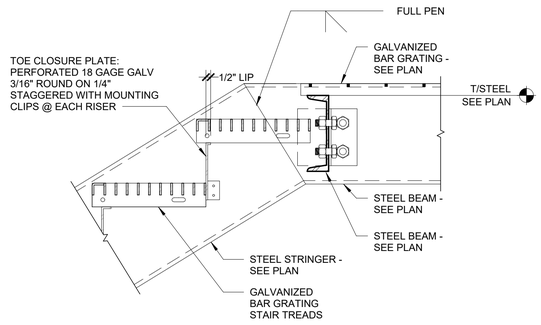
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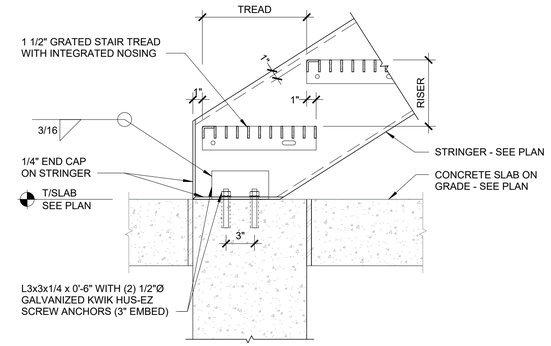
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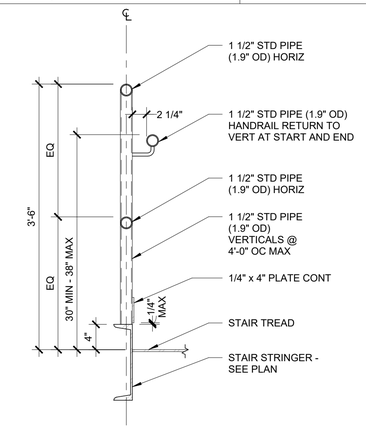
A2 STRINGER ATTACHMENT AT TOP CHANNEL

1 1/2" = 1'-0" 0 1'



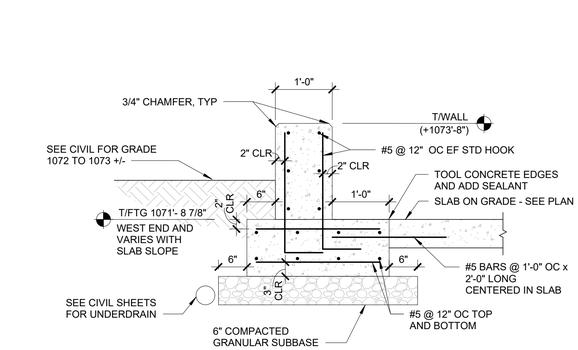
B2 STRINGER CONNECTION AT BASE

1 1/2" = 1'-0" 0 1'



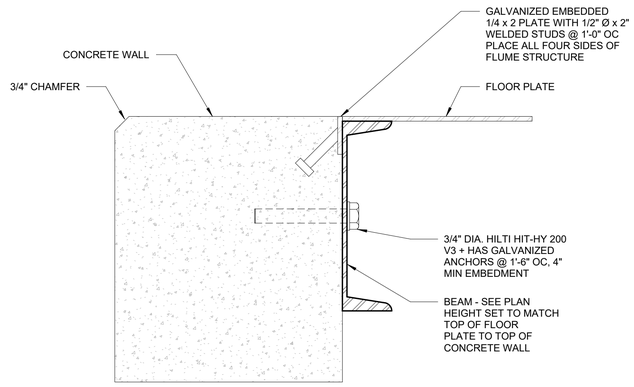
D2 STAIR GUARDRAIL DETAIL

1" = 1'-0" 0 1'-6"



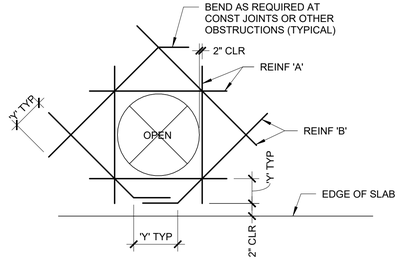
E2 CURB WALL SECTION

3/4" = 1'-0" 0 2'



A3 FLOOR PLATE DETAIL 2

3" = 1'-0" 0 6"



NOTES:

1. MINIMUM REINFORCING 'A' & 'B' AROUND ANY AND ALL OPENINGS SHALL BE #5 BAR.
2. Y = CLASS B LAP SPLICE FOR BAR SIZE USED.
3. MOVE REINFORCING MAX OF 2" TO CLEAR OPENING. CUT REMAINING BAR THROUGH OPENING. WHERE REINFORCING MUST BE CUT, ADD REINFORCING 'A' AT LEAST EQUAL IN AREA TO THAT WHICH WAS CUT AND EXTEND BEYOND OPENING DISTANCE 'Y'.
4. DIAGONAL BARS 'B' TO BE PLACED AT EACH FACE OF WALL WHERE TWO LAYERS OF REINFORCING ARE PROVIDED.

B3 TYPICAL WALL OPENING REINFORCING DETAIL

1" = 1'-0" 0 1'-6"



D2a BAR GRATING SUPPORT DETAIL

3" = 1'-0" 0 6"

D3 TYPICAL CONTROL/CONSTRUCTION JOINT DETAILS

1 1/2" = 1'-0" 0 1'

NOTES:

1. RUN REINFORCING CONTINUOUS THROUGH JOINT.
2. STOP KEYWAY AND WATERSTOPS IN VERTICAL JOINTS 6" BELOW EXPOSED TOP OF WALL.
3. S = 6", W = 5 1/2" FOR WALLS AND SLABS 18" THICK OR MORE.
4. S = 6", W = 3 1/2" FOR WALLS AND SLABS LESS THAN 18" THICK UNLESS NOTED OTHERWISE ON DRAWINGS.

E3 TYPICAL WALL CONSTRUCTION JOINT

3/4" = 1'-0" 0 2'

A4 STEP FOOTING DETAIL

1" = 1'-0" 0 1'-6"

NOTES:

1. VERIFY ANCHOR LOCATIONS WITH CRANE MANUFACTURER.

B4 DAVIT CRANE BASE PLATE DETAIL, (BP1)

1 1/2" = 1'-0" 0 1'

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CITY OF EARLHAM

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DETAILS

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ELECTRICAL SYMBOLS LEGEND

GENERAL

SYMBOL	DESCRIPTION
	CONDUIT CONCEALED IN WALL OR OVERHEAD
	CONDUIT CONCEALED BELOW FLOOR
	CONDUIT TRANSITION UP
	CONDUIT TRANSITION DOWN
	CONDUIT STUBBED OUT
	BRANCH CIRCUIT HOME RUN
	CABLE TRAY (TYPE DENOTED)
	CONDUIT SLEEVE (SIZE DENOTED)
E#	KEYNOTE (SEE SCHEDULE)
0000	SPECIALTY EQUIPMENT TAG
	SURFACE MOUNTED DEVICE (J-BOX SHOWN AS EXAMPLE)

POWER

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
FB	FLOOR BOX
FB	POKE-THROUGH FLOOR BOX
WB	WALL BOX
	DUPLEX RECEPTACLE - CEILING MOUNTED
	SPECIAL RECEPTACLE (CEILING, WALL, AND FLOOR MOUNTED)
E E	DIRECT POWER CONNECTION - WALL AND EQUIPMENT
HH	HANDHOLE
J J	JUNCTION BOX
	SIMPLEX RECEPTACLE
	SPLIT DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE PLUG LOAD CONTROL
	DOUBLE DUPLEX RECEPTACLE PLUG LOAD CONTROL
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	DOUBLE DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	SURFACE MOUNTED RECEPTACLE, VARIES PER TYPE
	EMERGENCY POWER OFF
$MX	MOTOR HORSEPOWER RATED SWITCH
	PUSH BUTTON

##" XX ##" XX ##" XX

EXAMPLE RECEPTACLE TAG

##" - MOUNTING HEIGHT AS INDICATED.
IF OMITTED, 18" OR ABOVE COUNTER

XX - INDICATES RECEPTACLE CONFIGURATION:

- AC - ABOVE COUNTER (COORDINATE HEIGHT)
- GFI - GROUND FAULT CIRCUIT INTERRUPTER
- HZ - HORIZONTALLY MOUNTED
- IG - ISOLATED GROUND
- OC - OCCUPANCY CONTROLLED
- USB - INTEGRAL USB CHARGER
- WR - WEATHER RESISTANT
- WP - WEATHER RESISTANT WITH IN-USE COVER

	BRANCH PANEL WITH CLEARANCE (SURFACE OR RECESS MOUNTED)
	ELECTRICAL EQUIPMENT (SWITCHBOARD, DISTRIBUTION PANEL)
	SPECIAL CABINET
	TRANSFORMER
	SURFACE RACEWAY
	UNDERFLOOR RACEWAY SYSTEM
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE
R	RELAY
	RECEPTACLE ON DROP CORD (DUPLEX SHOWN)
	RECEPTACLE ON CORD REEL (DUPLEX SHOWN)
	BUS DUCT WITH PLUG IN DISCONNECT (FUSED)
	ENCLOSED CIRCUIT BREAKER
P	POWER POLE

ELECTRICAL ABBREVIATIONS

A

A	AMPERE
AC	ABOVE COUNTER/ALTERNATING CURRENT
ACB	AIR CIRCUIT BREAKER
AF	AMPERE RATING OF FUSE
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
AL	ALUMINUM
ALT	ALTERNATE
AM	AMMETER
AS	AMMETER SWITCH
AT	AMPERE TRIP RATING
APPROX	APPROXIMATELY
ATC	AUTOMATIC TEMPERATURE CONTROL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE

B

BAS	BUILDING AUTOMATION SYSTEM
BD	BUS DUCT
BRKR	BREAKER
BLDG	BUILDING
B/M	BILL OF MATERIALS
BUZ	BUZZER

C

C	CONTRACTOR
CAB	CABINET
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CL	CENTERLINE
CLG	CEILING
COMM	COMMUNICATIONS CONNECT, CONNECTED,
CONN	CONNECTOR
CONC	CONCRETE
COND	CONDUCTOR
CONTR	CONTRACTOR
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CU	COPPER

D

DC	DIRECT CURRENT
DIA	DIAMETER
DIAG	DIAGRAM
DIM	DIMMER CONTROL
DISC	DISCONNECT
DIV	DIVISION
DN	DOWN
DP	DOUBLE POLE
DT	DOUBLE THROW
DWG	DRAWING

E

EC	ELECTRICAL CONTRACTOR
EL	ELEVATION
ELEC	ELECTRICAL
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EPO	EMERGENCY POWER OFF
ETM	ELAPSED (RUN) TIME METER
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXIST	EXISTING

F

F	FUSE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FDR	FEEDER
FF	FURNITURE FEED
FHP	FRACTIONAL HORSEPOWER
FL	FLOODLIGHT
FLR	FLOOR
FLUOR	FLUORESCENT
FMC	FLEXIBLE METAL CONDUIT
FREQ	FREQUENCY

G

GC	GENERAL CONTRACTOR
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND, GROUNDING CONDUCTOR
GR	GROUND ROD
GW	GROUND WELL

H

HGT	HEIGHT
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HZ	HERTZ, FREQUENCY IN CYCLES PER SECOND

I

IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
INTCONN	INTERCONNECTION

J

JB	JUNCTION BOX
JCT	JUNCTION

K

K	KEY OPERATED
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT-HOUR

L

LG	LENGTH
LIM	LIMIT
LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
LPS	LOW PRESSURE SODIUM
LTG	LIGHT, LIGHTING
LV	LOW VOLTAGE
LVSS	LOW VOLTAGE SURGE SUPPRESSION

M

MAN	MANUAL
MATL	MATERIAL
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	MANHOLE
MIC	MICROPHONE
MLO	MAIN LUGS ONLY
MTG	MOUNT, MOUNTED, MOUNTING
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MVA	MEGAVOLT-AMPERE
MVAR	MEGAVOLT-AMPERE REACTIVE
MW	MEGAWATT
MWH	MEGAWATT-HOUR

N

NC	NORMALLY CLOSED
NF	NON-FUSED
NIC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NO	NORMALLY OPEN
NTS	NOT TO SCALE

O

OCB	OIL CIRCUIT BREAKER
OPR	OPERATOR, OPERATED
OL	THERMAL OVERLOAD PROTECTION

P

P	PILOT
PB	LIGHT PUSHBUTTON
PC	PHOTOCELL
PF	POWER FACTOR
PFM	POWER FACTOR METER
PNL	PANEL
PRI	PRIMARY
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLVINYLCHLORIDE, PVC CONDUIT
PWR	POWER

R

R	RELAY
RC	REMOTE CONTROL
RECPT	RECEPTACLE
REF	REFER, REFERENCE
REQD	REQUIRED
RGS	RIGID GALVANIZED STEEL CONDUIT

S

SA	SURGE ARRESTER
SCHD	SCHEDULE
SCHM	SCHEMATIC
SP	SINGLE POLE
SPKR	LOUDSPEAKER
ST	SINGLE THROW
STA	STATION
STBY	STANDBY
SUBSTA	SUBSTATION
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYNC	SYNCHRONIZE, (ING), (ACTION)
SYS	SYSTEM

T

T/	TOP OF
TB	TERMINAL BOARD
TC	TIMECLOCK
TCC	TEMPERATURE CONTROL CONTRACTOR
TDCD	TIME DELAY CLOSE ON DENERGIZATION
TDCE	TIME DELAY CLOSE ON ENERGIZATION
TDOD	TIME DELAY OPEN ON DENERGIZATION
TDOE	TIME DELAY OPEN ON ENERGIZATION
TEL	TELEPHONE
TEMP	TEMPERATURE
TERM	TERMINAL
TSP	TWISTED SHIELDED PAIR
TSTAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL

U

UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UNG	UNGROUNDED
UPS	UNINTERRUPTIBLE POWER SUPPLY

V

V	VOLTS
VA	VOLT-AMPERE
VAR	VOLT-AMPERE REACTIVE
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
VS	VOLTMETER SWITCH

W

W	WATTS
W/	WITH
W/O	WITHOUT
WH	WATT-HOUR
WP	WEATHERPROOF

X

XDCR	TRANSDUCER
XFMR	TRANSFORMER
XFR	TRANSFER
XMIT	TRANSMIT, TRANSMITTER
XP	EXPLOSION PROOF

ELECTRICAL

1. ALL WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE - LATEST EDITION ADOPTED BY THE STATE, THE STATE AMENDMENTS, LOCAL/MUNICIPAL CODES AND ORDINANCES, AND THE AUTHORITY HAVING JURISDICTION. THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
2. IT IS THE INTENT OF THESE DOCUMENTS TO COMPLY WITH THE APPLICABLE CODES. WHERE DISCREPANCIES OCCUR, NOTIFY THE ENGINEER/ARCHITECT IN WRITING FOR INTERPRETATION. CORRECT ANY INSTALLATION THAT FAILS TO COMPLY WITH THE CODES AND STANDARDS AT NO ADDITIONAL COST TO THE OWNER.
3. CONTRACTOR SHALL PROVIDE ALL WORK NECESSARY INCLUDING ALL LABOR, MATERIALS, PERMITS, TAXES, FEES, INSPECTIONS, HARDWARE, AND COST FOR INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
4. ALL MATERIALS FURNISHED BY THE CONTRACTOR SHALL BE NEW, COMPLETE WITH MANUFACTURER 'S GUARANTEE OR WARRANTY AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL).
5. COORDINATE ELECTRICAL INSTALLATION WITH ALL TRADES PRIOR TO INSTALLATION. IF ELECTRICAL WORK INSTALLED INTERFERES WITH OTHER TRADES AFTER INSTALLATION, THE CONTRACTOR SHALL MAKE ALL NECESSARY CHANGES TO CORRECT THE CONDITION AT NO ADDITIONAL COST TO THE OWNER.
6. DRAWINGS ARE DIAGRAMMATIC. ALL DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE, AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION THIS CONTRACTOR SHALL ADJUST CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
7. ALL ELECTRICAL PANELS WITH ANY BRANCH CIRCUIT/LOAD REVISIONS (DEMOLITION OR NEW WORK) SHALL HAVE A NEW TYPED UPDATED CIRCUIT DIRECTORY CARD INSTALLED INSIDE THE DOOR OF THE ELECTRICAL PANEL. THE CONTRACTOR SHALL VERIFY THAT ALL UNUSED CIRCUIT BREAKERS ARE TURNED 'OFF' AND PROPERLY INDICATED AS 'SPARE' ON THE NEW CIRCUIT DIRECTORY CARD. THE CONTRACTOR SHALL INSTALL FILLER PLATES WHERE BREAKERS ARE REMOVED AS PART OF THIS PROJECT OR HAVE BEEN REMOVED PREVIOUSLY.
8. NO ENERGIZED CONDUCTORS SHALL BE EXPOSED AT ANYTIME EXCEPT WHEN THE IMMEDIATE AREA IS UNDER THE SUPERVISION OF A QUALIFIED ELECTRICIAN.
9. WHERE CONDUIT IS SURFACE MOUNTED TO A WALL AND RUN VERTICALLY DOWN TO A SWITCH/OUTLET BOX, UTILIZE 1-HOLE OR 2-HOLE CONDUIT STRAPS.
10. THE CONTRACTOR SHALL KEEP THE WORK AREA CLEAN OF ALL DEBRIS ON A DAILY BASIS. ALL NEW MATERIALS AWAITING INSTALLATION SHALL BE KEPT IN AREAS DESIGNATED BY THE OWNER.
11. THESE DRAWINGS SHALL NOT BE SCALED TO OBTAIN DIMENSIONS. REFER TO DIMENSIONED ARCHITECTURAL FLOOR PLANS. IF THE DIMENSIONS CANNOT BE DETERMINED BY THE INFORMATION GIVEN, CONTRACTOR SHALL CONTACT THE ENGINEER FOR ADDITIONAL INFORMATION.
12. PERIODIC SITE OBSERVATION BY THE ENGINEER IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHOULD NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK, BUT RATHER PERIODIC IN AN EFFORT TO GUARD THE OWNER AGAINST DEFECTS OR DEFICIENCIES IN THE WORK OF THE CONTRACTOR.
13. THE INFORMATION CONTAINED ON THE ELECTRICAL DRAWINGS IS IN ITSELF INCOMPLETE AND VOID UNLESS USED IN CONJUNCTION WITH ALL OTHER DISCIPLINE DRAWINGS, THE SPECIFICATIONS, TRADE PRACTICES, OR APPLICABLE STANDARDS, CODES, ETC., AND SHALL BE CONSIDERED THE CONTRACT DOCUMENTS AND WITH ALL THEREIN BY REFERENCE, WHICH THE CONTRACTOR CERTIFIES KNOWLEDGE OF BY SIGNING THE CONTRACT.
14. CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY, UNRELIEVED BY REVIEW OF SHOP DRAWINGS OR PERIODIC OBSERVATION OF CONSTRUCTION, FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS, FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED ON THE JOB SITE AND BETWEEN INDIVIDUAL DRAWINGS OR SETS OF DRAWINGS FOR FABRICATION PROCESSES AND CONSTRUCTION TECHNIQUES (INCLUDING EXCAVATION, SHORING, SCAFFOLDING, BRACING, ERECTION, FORM WORK, ETC.), FOR COORDINATION OF THE VARIOUS TRADES, AND FOR SAFE CONDITIONS ON THE JOB SITE. VARIATIONS IN FIELD CONDITIONS RELATIVE TO THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ENGINEER AS SOON AS THEY ARE FOUND. WORK SHALL NOT PROGRESS UNTIL WRITTEN PERMISSION FROM THE ENGINEER IS OBTAINED.

ELECTRICAL DEMOLITION

1. LIGHT LINES INDICATE EXISTING WALLS AND EQUIPMENT TO REMAIN. DASHED LINES INDICATE WALLS, EQUIPMENT, AND ELECTRICAL ITEMS TO BE REMOVED.
2. COORDINATE PATCHING REQUIREMENTS FOR UNUSED OPENINGS WITH THE GENERAL CONTRACTOR. GENERAL CONTRACTOR SHALL PATCH ALL UNUSED OPENINGS. PATCHWORK SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
3. COORDINATE DISPOSAL OF ALL ITEMS NOT REQUESTED AS SALVAGE BY THE OWNER.
4. DRAWINGS DO NOT IDENTIFY ALL OUTLETS, SWITCHES, CABLING, OR EQUIPMENT TO BE REMOVED. CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE PRIOR TO BIDDING AND INCLUDE LABOR AND MATERIAL NECESSARY FOR REQUIRED DEMOLITION IN THEIR BID.
5. WIRING SHALL BE REMOVED BACK TO SERVING PANEL. INSTALLATION OF NEW CONDUCTORS IN EXISTING CONDUITS WILL BE PERMITTED AS DESCRIBED IN THE DIVISION 26 SPECIFICATIONS.

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WWTP DISINFECTION IMPROVEMENTS
CITY OF EARLHAM

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN BY	ZAA
APPROVED BY	MLF
ISSUED FOR	BIDDING AND CONSTRUCTION
ISSUE DATE	11/11/2026
PROJECT NUMBER	2240015400
FIELD BOOK	---

ELECTRICAL GENERAL INFORMATION

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RELOCATE EXISTING COMPOSITE SAMPLER. REMOVE RECEPTACLES AND CONDUITS BACK TO NEW HANDHOLE. COORDINATE ANY OUTAGES WITH OWNER. SEE E201 FOR RELOCATION

RELOCATE EXISTING HOT BOX, BOOSTER PUMP, HEATER, AND COMBINATION MOTOR STARTER. COORDINATE OUTAGE OF SCREEN CLEANING WITH OWNER. SEE E201 FOR RELOCATION

REMOVE EXISTING 480V CONDUCTORS TO MOTOR STARTER BACK TO HP-A. REMOVE 120V CONTROLS CONDUCTORS BACK TO EXISTING HANDHOLE SOUTH. REMOVE CONDUIT

REMOVE CONDUIT SECTION. REMOVE ALL EXISTING CONDUCTORS BACK TO SOURCE, EXCEPT (2)#10 WITH #10GND THAT WILL BE REPURPOSED FOR BOOSTER PUMP MOTOR STARTER CONTROLS

NORTH

0 5 10 20

SCALE IN FEET

A3 ENLARGED DEMOLITION PLAN

PROVIDE LIGHT FIXTURE ON EXISTING POLE FACING NEW UV AREA. ADD WATERPROOF SPLICE TO EXISTING LIGHT FIXTURE CIRCUIT ON POLE AND PROVIDE (2)#12 WITH #12GND IN 3/4"C. REPLACE SPLICES WITH WATERPROOF SPLICES AT POLETOP AND JUNCTION BOX ON POLE

S1

PROVIDE (2)#10 WITH #10GND IN 3/4"C FOR CONTROLS TO BOOSTER PUMP. SPLICE TO EXISTING CONDUCTORS IN HANDHOLE.

PROVIDE (3)#4 WITH #6GND IN 1"C FROM PANEL HP-A TO HP-B. EXTEND EXISTING CONDUIT

SEE E201 FOR CONTINUATION

PROVIDE 13"X24"X18" HANDHOLE. EXTEND EXISTING CONDUITS INTO HANDHOLE.SEE DETAIL D4/E501. ANY SPLICES IN HANDHOLES SHALL BE WATERPROOF

EXTEND EXISTING 1" CONDUIT INTO HANDHOLE

NORTH

0 5 10 20

SCALE IN FEET

C3 ENLARGED POWER PLAN

A3 E101

C3 E101

REPURPOSE (2)#10 WITH #10GND IN EXISTING CONDUIT TO FEED CONTROLS TO BOOSTER PUMP MOTOR STARTER

PROVIDE (3)#4 WITH #6GND IN EXISTING 1"C FROM PANEL HP-A TO HP-B

BLOWER BUILDING

FINE SCREEN BUILDING

FLOW SPLITTING CHAMBER

SCREEN CONTROL PANEL

FINE SCREEN BUILDING

S1

MBBR BASINS

MBBR BASINS

PANEL RP-A

PANEL HP-A

EXISTING CIRCUITS TO BE REMOVED FOR HOTBOX HEATER AND COMPOSITE SAMPLER FED FROM RP-A

EXISTING CIRCUITS TO BE REMOVED FOR BOOSTER PUMP IS FED FROM HP-A

SPLICE REPURPOSED CONDUCTORS TO CONTROLS CONDUCTORS IN EXISTING HANDHOLE. ANY SPLICES IN HANDHOLES SHALL BE WATERPROOF

NORTH

0 20 40 80

SCALE IN FEET

A4 ELECTRICAL SITE PLAN

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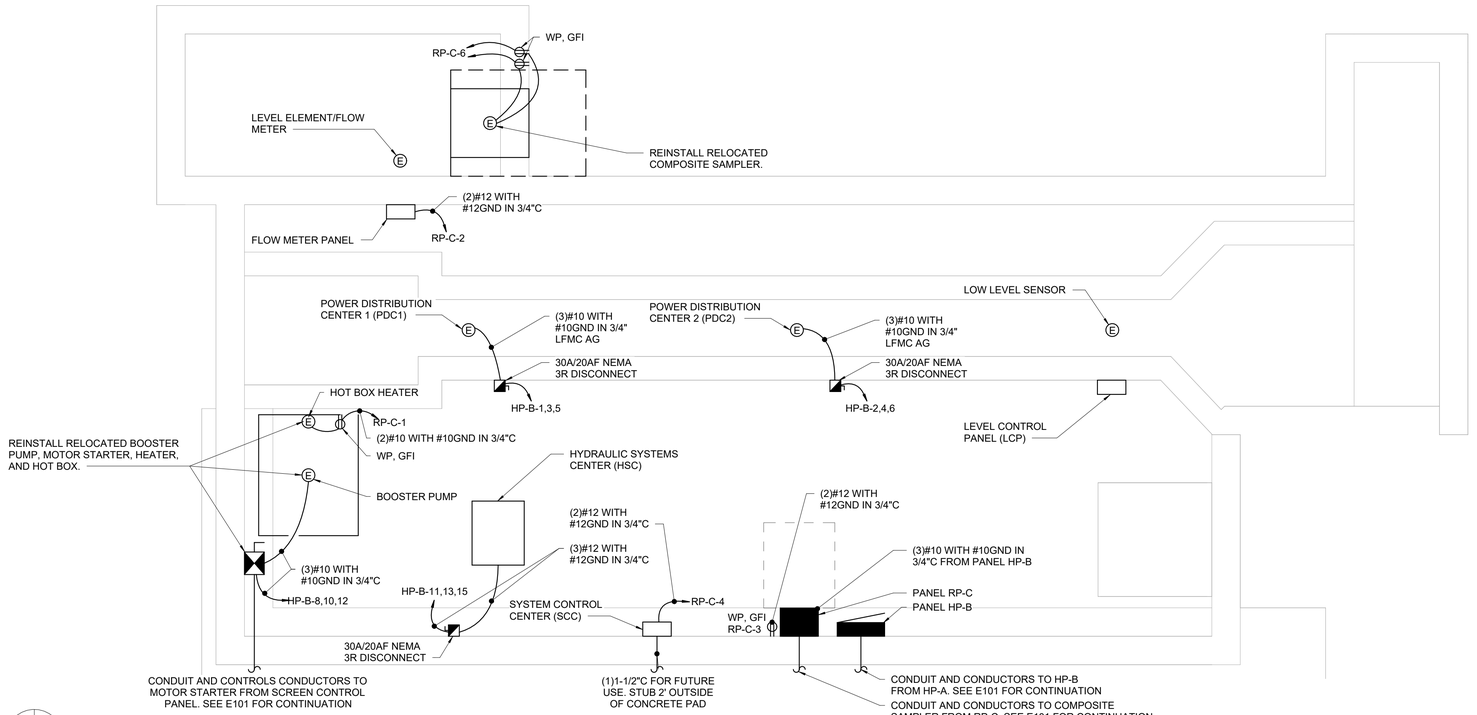
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CITY OF EARLHAM

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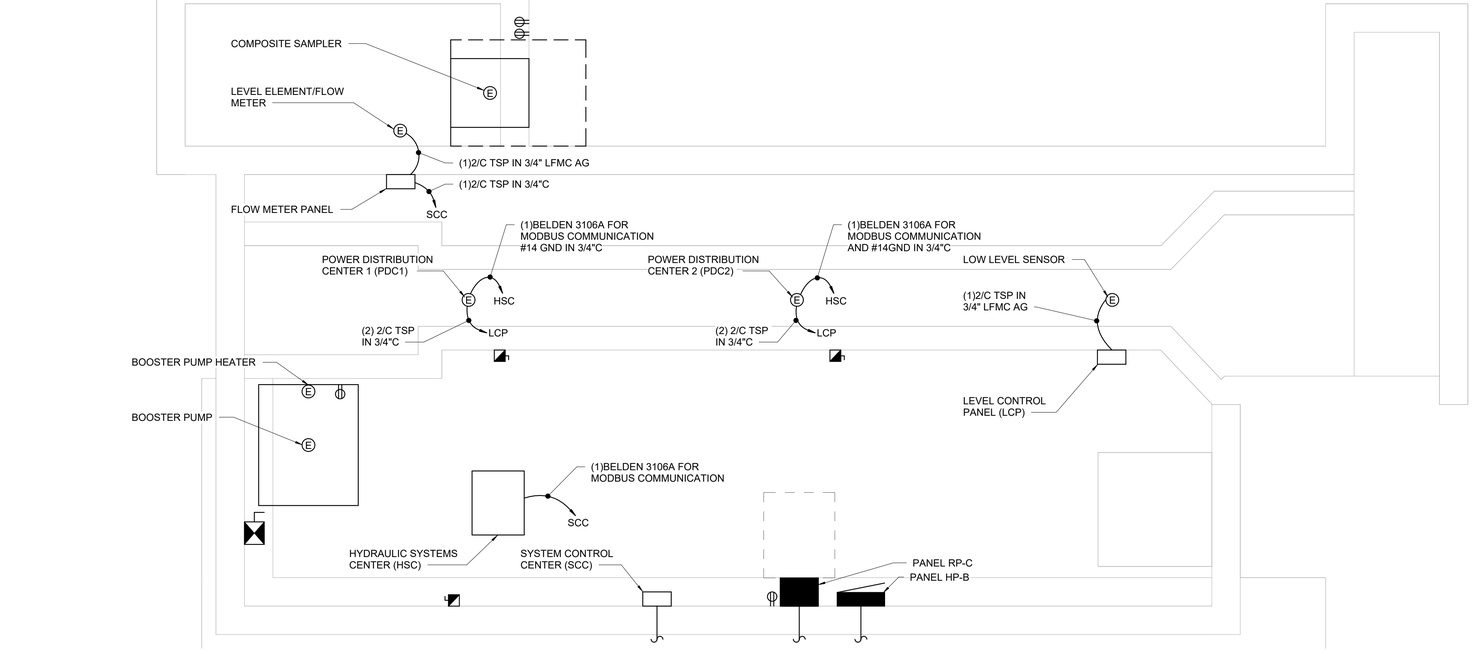
ELECTRICAL SITE PLAN

E101



A2 ELECTRICAL ENLARGED UV - POWER PLAN

3/8" = 1'-0" 0 4'



A4 ELECTRICAL ENLARGED UV - CONTROLS PLAN

3/8" = 1'-0" 0 4'

GENERAL NOTES:

1. PROVIDE STAINLESS STEEL SUPPORTS FOR ALL EQUIPMENT.
2. CONDUITS BETWEEN EQUIPMENT IN UV AREA SHALL BE INSTALL UNDER SLAB
3. NO CONDUIT PENETRATIONS SHALL BE MADE TO WALLS OF FLOW CHAMBER

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CITY OF EARLHAM
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ENLARGED PLANS

E201

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BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
HP-A	480Y/277	3	3	200 A	200 A	14kA
						MOUNTING: SURFACE
ROOM: MBBR PAD						ENCLOSURE: NEMA 3R
FED FROM: EXISTING PANEL						FEED:

LOAD	NOTE	POLE	BKR	CKT #	A	B	C	CKT #	BKR	POLE	NOTE	LOAD
RP-A	--	2	100 A	1	0.0 / 0.0			2				
				3		0.0 / 0.0		4	20 A	3	--	B-104
MBBR CONTROLLER	--	3	100 A	5			0.0 / 0.0	6				
				7	0.0 / 0.0			8				
				9		0.0 / 0.0		10	20 A	3	--	B-105
SPARE	1	3	20 A	11			0.0 / 0.0	12				
				13	0.0 / 0.0			14				
				15		0.0 / 0.0		16	20 A	3	--	SPARE
SPACE	--	1	--	17			0.0 / 0.0	18				
SPACE	--	1	--	19	0.0 / 9.7			20				
SPACE	--	1	--	21		0.0 / 9.7		22	60 A	3	2	HP-B
SPACE	--	1	--	23			0.0 / 8.8	24				
					TOTAL LOAD:	9734.7 VA	9734.7 VA	8784.7 VA				
					TOTAL AMPS:	35.7 A	35.7 A	31.7 A				

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
MOTORS	3,907.4 VA	125%	4,884.2 VA	CONNECTED LOAD:	28254.1 VA
Spare	1,900 VA	100%	1,900 VA	ESTIMATED DEMAND:	29231.0 VA
LIGHTING	19,952.6 VA	100%	19,952.6 VA	CONNECTED CURRENT:	34.0 A
EQUIPMENT	2,494.1 VA	100%	2,494.1 VA	ESTIMATED DEMAND CURRENT:	35.2 A
MTR	0 VA	0%	0 VA		
R	0 VA	0%	0 VA		

NOTES:
1. RENAME BREAKER SPARE AFTER FEED TO BOOSTER PUMP HAS BEEN REMOVED
2. PROVIDE SIEMENS BQD BREAKER

BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
RP-A	240/120	1	3	100 A	100 A	18kA
						MOUNTING: SURFACE
ROOM: MBBR PAD						ENCLOSURE: NEMA 3R
FED FROM: HP-A						FEED:

LOAD	NOTE	POLE	BKR	CKT #	A	B	CKT #	BKR	POLE	NOTE	LOAD
SITE LIGHTING NORTH	2	1	20 A	1	0.2 / 0.0		2				
SITE LIGHTING SOUTH		1	20 A	3		0.0 / 0.0	4	100 A	2		SPARE
SPARE	1	1	20 A	5	0.0 / 0.2		6	20 A	1		RECEPTACLE BELOW
SPARE	1	1	20 A	7		0.0 / 0.0	8	20 A	1		SPARE
SPARE	2	1	20 A	9	0.0 / 0.0		10	20 A	1		SPARE
SPARE		1	20 A	11		0.0 / 0.0	12	20 A	1		SPARE
SPARE		1	20 A	13	0.0 / 0.0		14	20 A	1		SPARE
SPARE		1	20 A	15		0.0 / 0.0	16	20 A	1		SPARE
SPARE		1	20 A	17	0.0 / 0.0		18	20 A	1		SPARE
SPARE		1	20 A	19		0.0 / 0.0	20	20 A	1		SPARE
SPACE		1	--	21	0.0 / 0.0		22	--	1		SPACE
SPACE		1	--	23		0.0 / 0.0	24	--	1		SPACE
					TOTAL LOAD:	400.0 VA	0.0 VA				
					TOTAL AMPS:	3.3 A	0.0 A				

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
Spare	400 VA	100%	400 VA	CONNECTED LOAD:	400.0 VA
				ESTIMATED DEMAND:	400.0 VA
				CONNECTED CURRENT:	1.7 A
				ESTIMATED DEMAND CURRENT:	1.7 A

NOTES:
1. RENAME BREAKERS SPARE AFTER FEED TO HOT BOX HEATER AND COMPOSITE SAMPLER HAS BEEN REMOVED
2. MOVE EXISTING SITE LIGHTING LOAD TO BREAKER RP-A-1

BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
RP-C	240/120	1	3	60 A	30 A	18kA
	BASIS OF DESIGN: SQUARE D MINI POWER ZONE MPUB5S40F					MOUNTING: SURFACE
ROOM: UV						ENCLOSURE: NEMA 3R
FED FROM: HP-B						FEED:

LOAD	NOTE	POLE	BKR	CKT #	A	B	CKT #	BKR	POLE	NOTE	LOAD
BOOSTER PUMP HEATER		1	20 A	1	1.5 / 0.2		2	20 A	1		FLOW METER PANEL
RECEPTACLE		1	20 A	3		0.2 / 0.2	4	20 A	1		SCC
SPARE	--	1	20 A	5	0.0 / 0.2		6	20 A	1		COMPOSITE SAMPLER
COMPOSITE SAMPLER	--	1	20 A	7		0.6 / 0.0	8	20 A	1	--	SPARE
SPARE	--	1	20 A	9	0.0 / 0.0		10	20 A	1	--	SPARE
SPACE	--	1	--	11		0.0 / 0.0	12	--	1	--	SPACE
SPACE	--	1	--	13	0.0 / 0.0		14	--	1	--	SPACE
SPACE	--	1	--	15		0.0 / 0.0	16	--	1	--	SPACE
					TOTAL LOAD:	1899.6 VA	1020.0 VA				
					TOTAL AMPS:	15.8 A	8.5 A				

LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
HVAC - HEATING	1,299.6 VA	100%	1,299.6 VA	CONNECTED LOAD:	2919.6 VA
Spare	600 VA	100%	600 VA	ESTIMATED DEMAND:	2919.6 VA
EQUIPMENT	480 VA	100%	480 VA	CONNECTED CURRENT:	12.2 A
RCPT	540 VA	100%	540 VA	ESTIMATED DEMAND CURRENT:	12.2 A

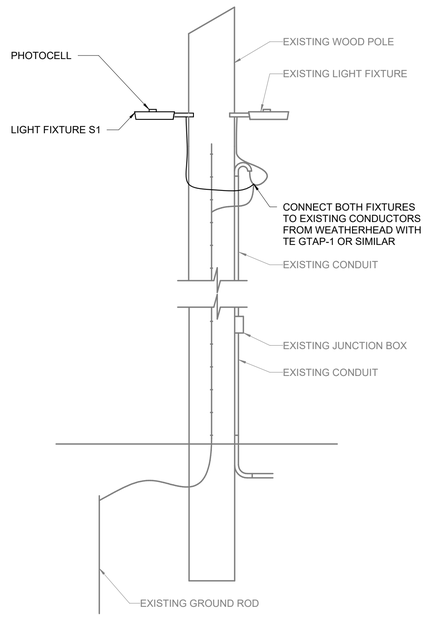
NOTES:

BRANCH PANEL NAME	VOLTAGE	PHASE	WIRE	BUS SIZE	MAIN OCP	AIC RATING
HP-B	480Y/277	3	3	100 A	60 A	14kA
						MOUNTING: SURFACE
ROOM: UV						ENCLOSURE: NEMA 3R
FED FROM: HP-A						FEED:

LOAD	NOTE	POLE	BKR	CKT #	A	B	C	CKT #	BKR	POLE	NOTE	LOAD
PDC 1	--	3	20 A	1	3.3 / 3.3			2				
				3		3.3 / 3.3		4	20 A	3	--	PDC 2
				5			3.3 / 3.3	6				
RP-C	--	2	20 A	7	1.0 / 1.3			8				
				9		1.0 / 1.3		10	20 A	3	--	BOOSTER PUMP
HSC	--	3	20 A	11			0.8 / 1.3	12				
				13	0.8 / 0.0			14	--	1	--	SPACE
				15		0.8 / 0.0		16	--	1	--	SPACE
SPACE	--	1	--	17			0.0 / 0.0	18	--	1	--	SPACE
					TOTAL LOAD:	9734.7 VA	9734.7 VA	8784.7 VA				
					TOTAL AMPS:	35.7 A	35.7 A	31.7 A				

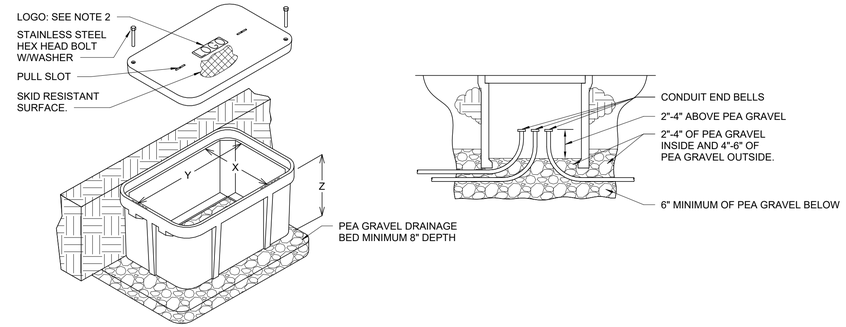
LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATED DEMAND (VA)	PANEL TOTALS	
LIGHTING	19,952.6 VA	100%	19,952.6 VA	CONNECTED LOAD:	28254.1 VA
MOTORS	3,907.4 VA	125%	4,884.2 VA	ESTIMATED DEMAND:	29231.0 VA
Spare	1,900 VA	100%	1,900 VA	CONNECTED CURRENT:	34.0 A
EQUIPMENT	2,494.1 VA	100%	2,494.1 VA	ESTIMATED DEMAND CURRENT:	35.2 A
MTR	0 VA	0%	0 VA		
R	0 VA	0%	0 VA		

NOTES:



NOTE:
LIGHT FIXTURE S1 BASIS OF DESIGN: MCGRAW EDISON GLEON SA3-A-830-U-T3R-BK-BCP

C4 POLE MOUNTED LIGHT FIXTURE DETAIL
NOT TO SCALE



IN-GRADE HANDHOLE NOTES:

1. IN-GRADE HANDHOLE INSTALLATION ONLY ALLOWED IN GRASS/TURF AREAS.
2. ALL IN-GRADE HANDHOLES BASIS OF DESIGN:
   A. BOX SIZE OF 13"X24"X18". P/N PG1324BA18 WITH COVER P/N PG1324CA00XX
   B. BOX SIZE OF 24"X36"X18". P/N PG2436BA18 WITH COVER P/N PG2436CA00XX
   C. BOX SIZE OF 30"X48"X18". P/N PG3048BA18 WITH COVER P/N PG3048WA00XX
   D. ALL ELECTRICAL COVERS SHALL BE LABELED, ELECTRIC.
3. IN-GRADE HANDHOLE REQUIRING DEPTHS GREATER THAN 18 INCHES SHALL BE APPROVED BY OWNER.
4. INSTALLATION OF IN-GRADE HANDHOLE SHALL BE PER MANUFACTURERS INSTRUCTIONS.
5. SWEEP CONDUITS UP THROUGH THE PEA GRAVEL BASE AND THE OPEN BOTTOM OF THE BOX. CONDUITS SHALL STOP APPROXIMATELY 2" TO 4" ABOVE THE GRAVEL. CUTTING OF HOLES IN THE BOXES IS NOT ALLOWED WITHOUT PRIOR APPROVAL.
6. ALL BOXES ARE RATED FOR TIER 8 LOADING MINIMUM.
7. PROVIDE END BELLS FOR ALL CONDUITS.
8. IN-GRADE HANDHOLE BOX SIZES SHALL BE AS FOLLOWS.
   A. FOUR OR LESS CONDUITS ALL 2" OR SMALLER SHALL BE 13"X24"X18" BOX.
   B. MORE THAN FOUR CONDUITS REGARDLESS OF SIZE, SHALL BE 24"X36"X18" BOX.
   C. BOX SIZE OF 30"X48"X18" SHALL BE USED WHERE SHOWN ON DRAWINGS.

D4 ELECTRICAL HANDHOLE DETAIL
1/8" = 1'-0" 0 12'

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ELECTRICAL SCHEDULES AND DETAILS

E501

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