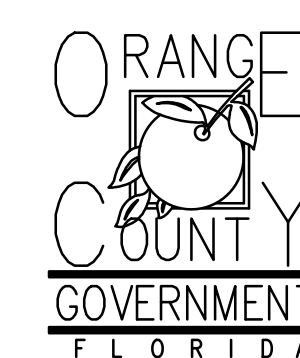


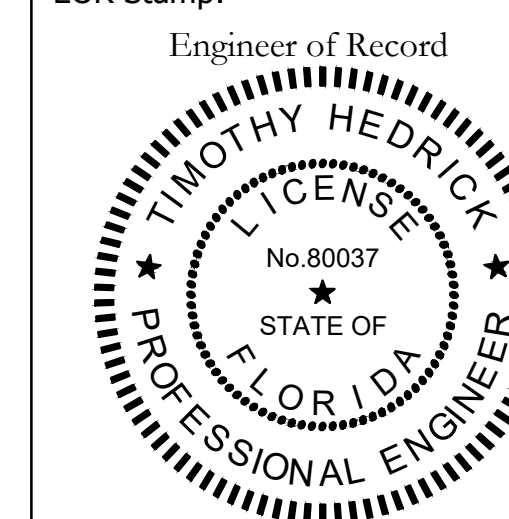
Client:



Consultants:



EOR Stamp:



Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:  
Fire Station 81  
901 S ECONLOCKHATCHEE  
TR, ORLANDO, FL 32825

Issuance:  
**100% Design  
Documents**

#	Date	Description

Date:  
**11.23.2018**

Project Number:  
**16.OC.043**

Drawn By: <b>ME</b>	Checked By: <b>MKS</b>
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**ELECTRICAL  
PANEL  
SCHEDULES  
AND DETAILS**

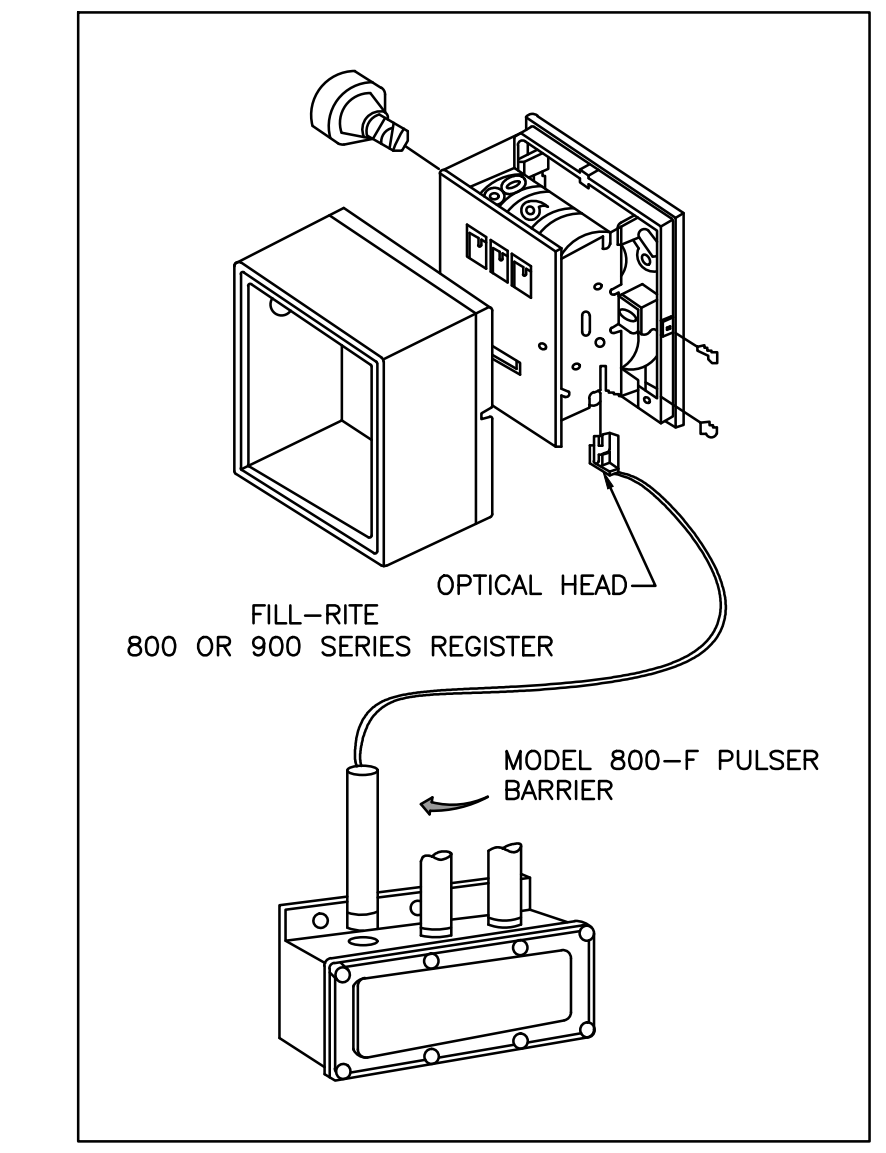
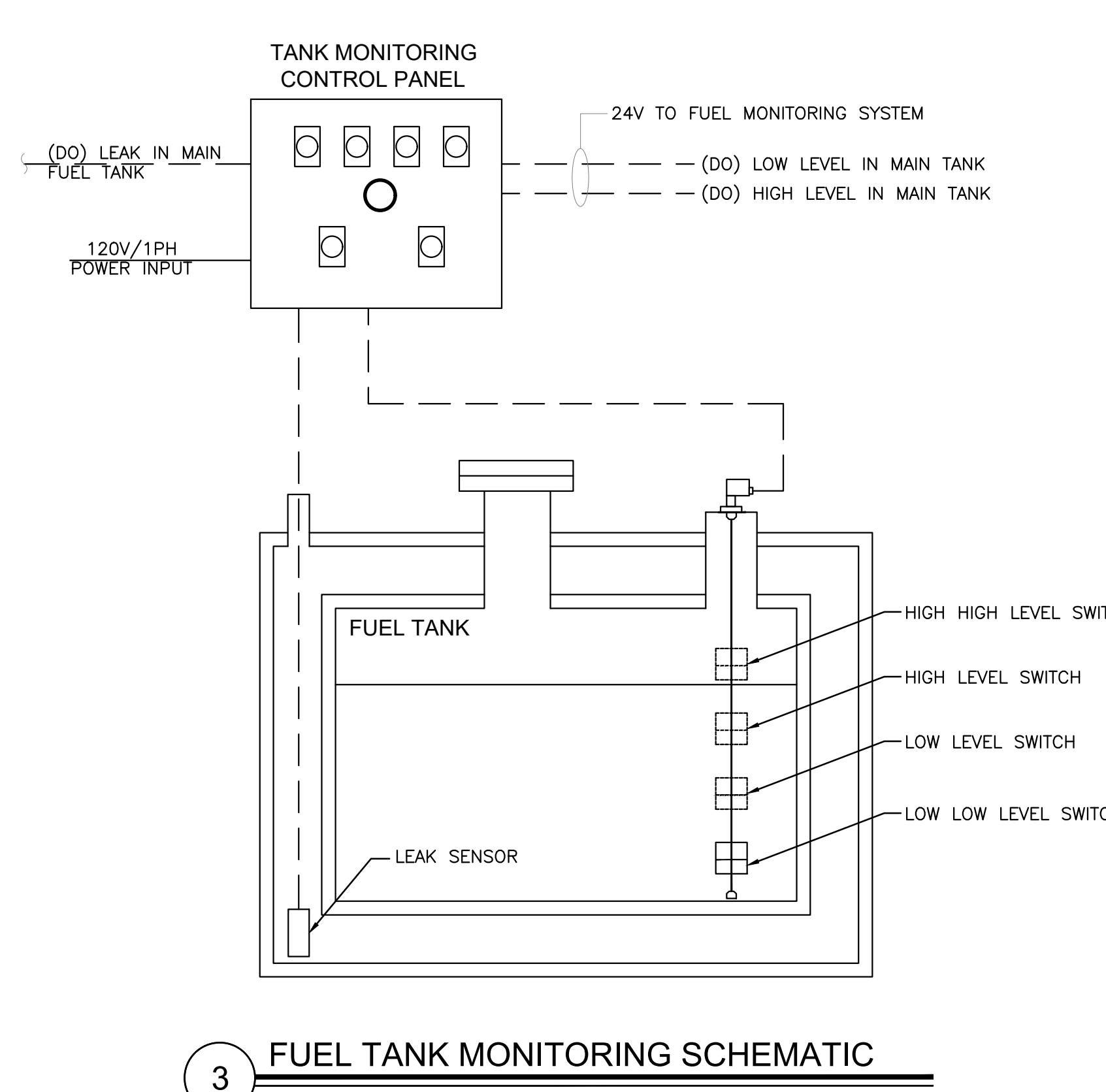
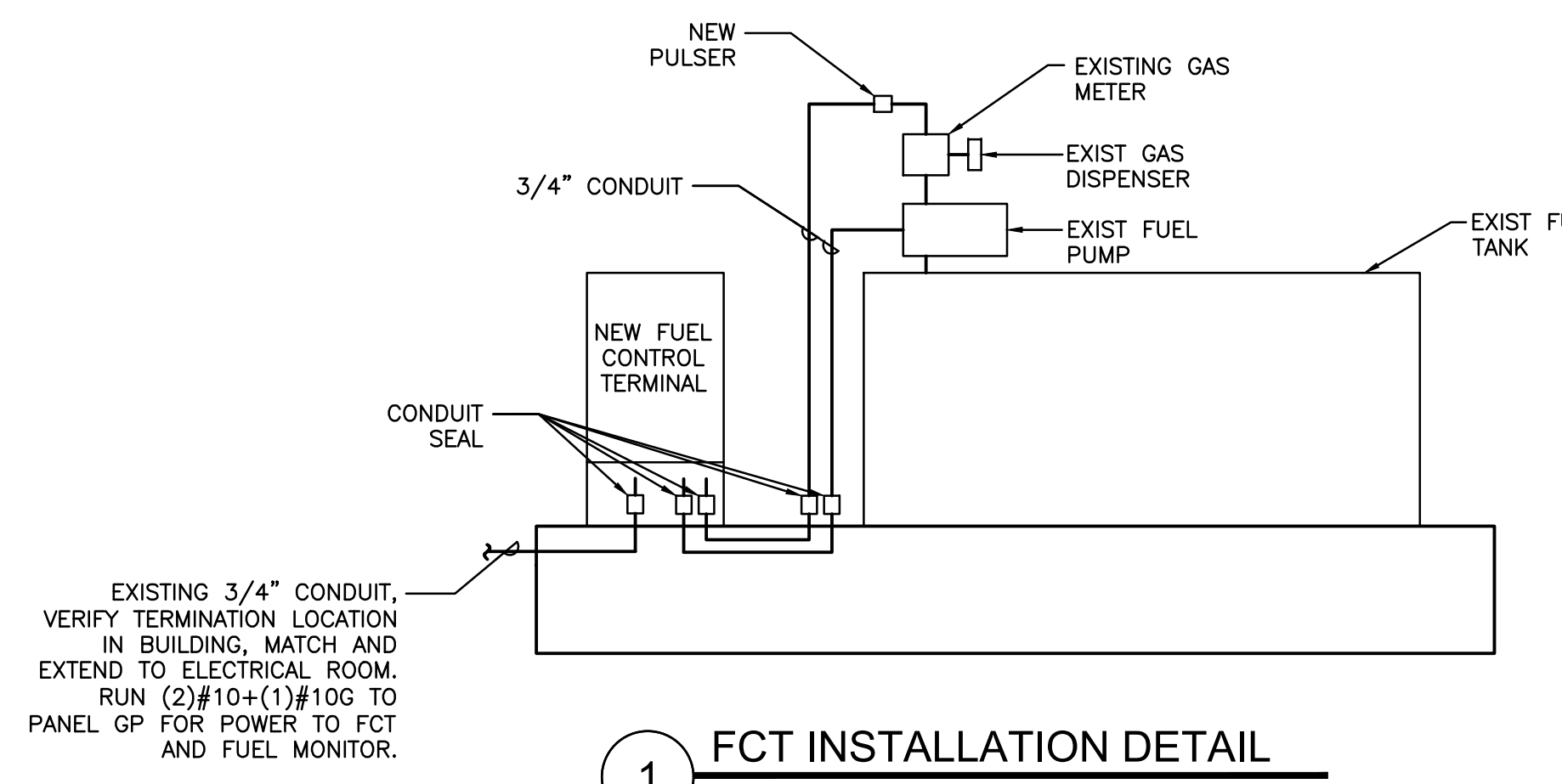
Sheet No.:

**81-E201**

EXISTING PANEL GP															
LOCATION: ELEC RM					MAIN: 125A MLO					CONN. LOAD: 33.9 KVA					
VOLTAGE: 120V/208V					SYSTEM: 3Ø, 4W					FEED: TOP					
TRIM: SURFACE					BUS RATING: 125A					GROUND BUS: YES COPPER					
CKT	LOAD SERVED	Ø	PHASE	NEUT	Ø	BKR	Ø	L1	L2	L3	Ø	BKR	Ø	LOAD SERVED	CKT
1	EXISTING LOAD							800						LIGHTS	2
3	EXISTING LOAD							800							4
5	EXISTING LOAD							1500						MONITOR	6
7								1500							8
9	EXISTING LOAD							1500						EXISTING LOAD	10
11								1500							12
13	EXISTING LOAD							1500						EXISTING LOAD	14
15								1500							16
17	GAS PUMP							2250						EXISTING LOAD	18
19								2250							20
21	FCT & FUEL MONITOR	3/4"	#10	#10	20/1	N		840						SPACE	22
23	SPACE													SPACE	24
25	SPACE													TVSS	26
27	SPACE														28
29	SPACE														30

LOADS (N VA )				CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0
LIGHTING	2000	1.25	2500	NON-SEASONAL MOTORS	4500	1.0	4500	REMAINING NON-CONTINUOUS LOADS	2744.1	1.0	2744.1			
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0			
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	33.9	KVA	94.3	AMPS		
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	34.4	KVA	95.7	AMPS		
AIR CONDITIONING	0	1.0	0					OVERALL DEMAND FACTOR	1.01					



**INSTALLATION**

- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
- (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
- PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
- (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP.2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
- REPLACE THE REGISTER COVER AND RESET BOX.
- INSTALL THE BARRIER INTO THE JUNCTION BOX.
- CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
- CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

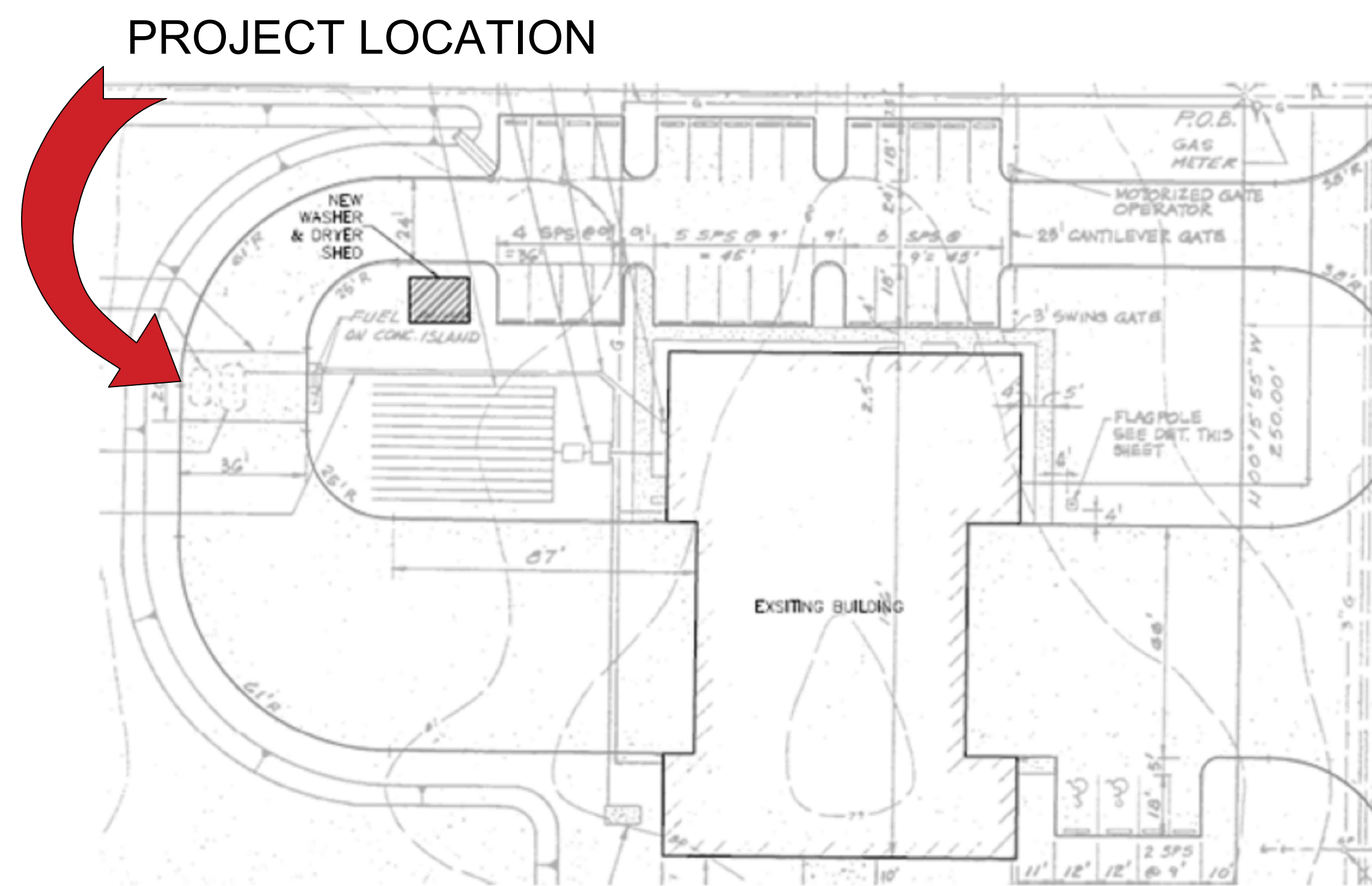
CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

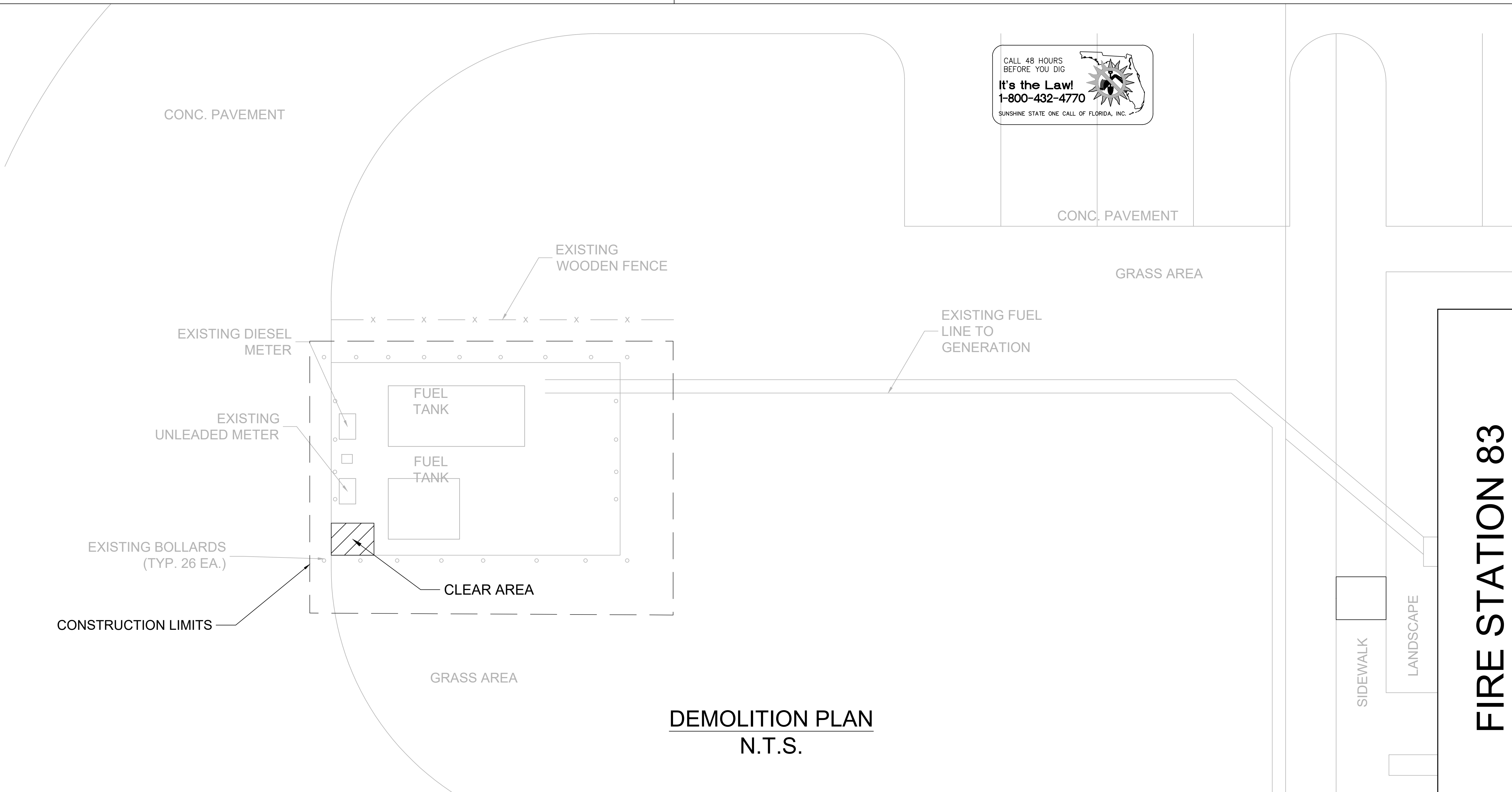


**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016

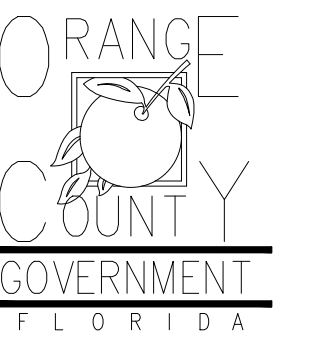


**LOCATION MAP**  
N.T.S.



**DEMOLITION PLAN**  
N.T.S.

Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 83  
11950 E LAKE UNDERHILL  
RD, ORLANDO, FL 32825

Issuance:

**Permit  
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

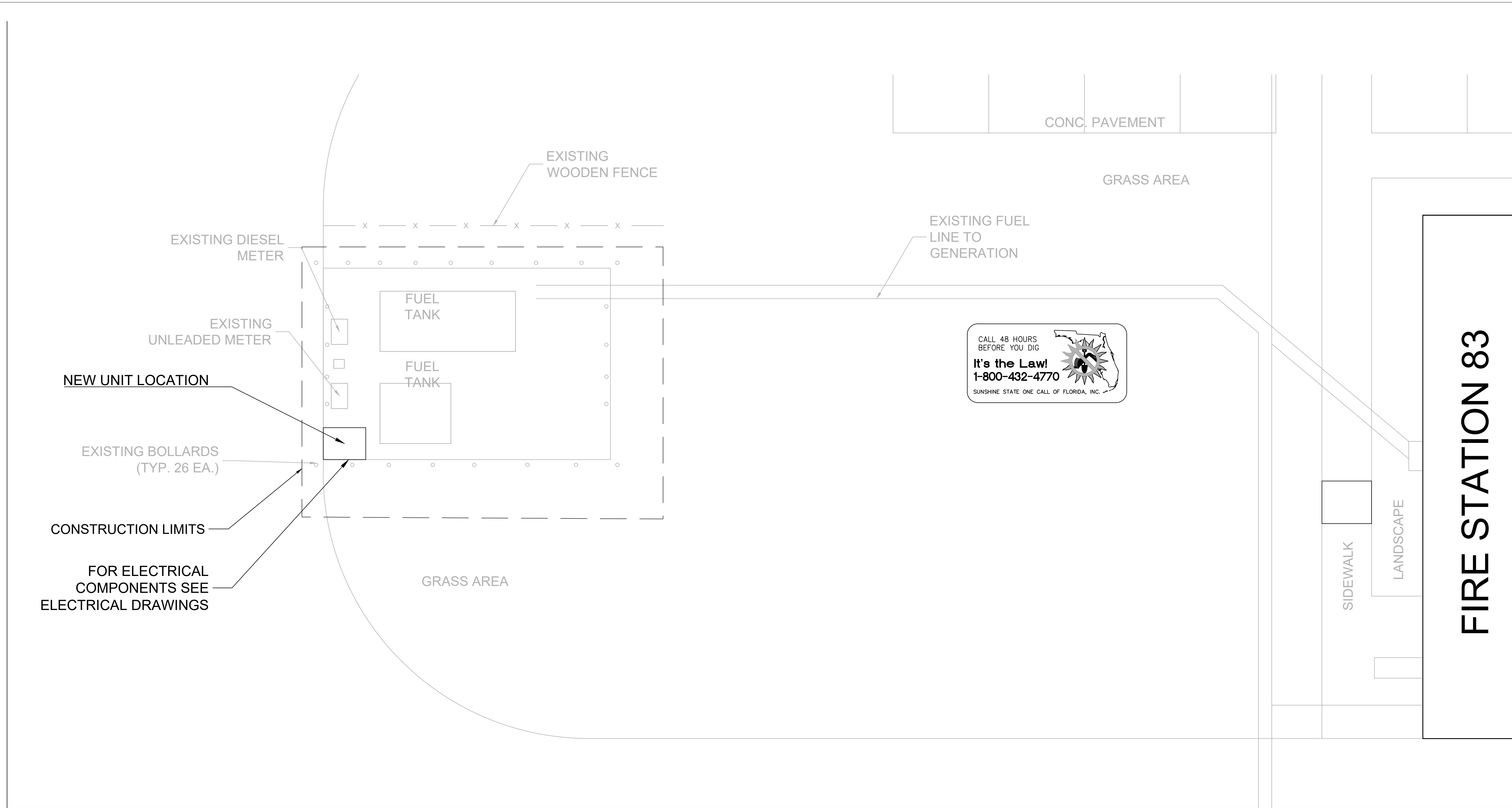
D.D.

**Civil Demo  
Plan**

Sheet No.:

**83-C100**





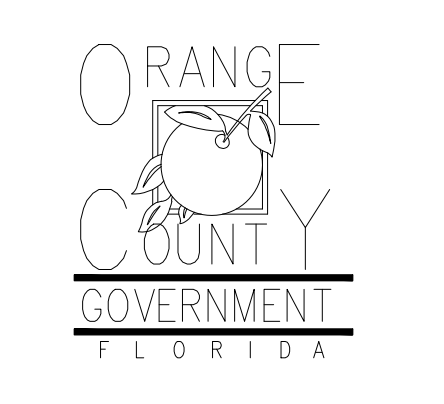
**SITE PLAN**  
N.T.S.

**PROJECT SPECIFIC NOTES - CIVIL**

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING FOR INSTALLATION OF CONCRETE PAD TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:



Consultants:



EOR Stamp:  
Engineer of Record

Project:  
**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 83  
11950 E LAKE UNDERHILL RD, ORLANDO, FL 32825

Issuance:  
**Permit Documents**

Revisions:

#	Date	Description

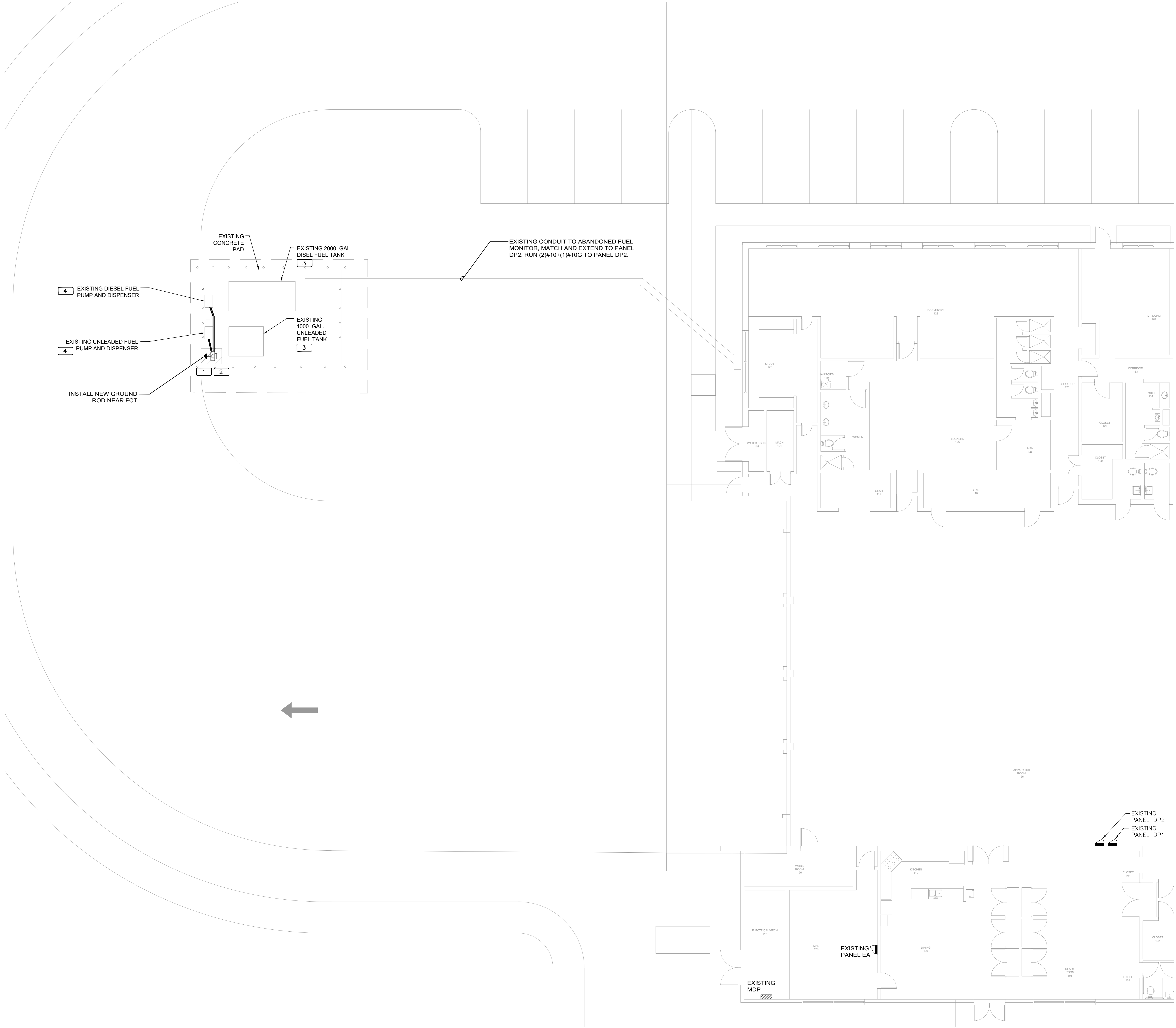
Date:  
11.23.2018

Project Number:  
16.OC.043

Drawn By: **S.D.H.**      Checked By: **D.D.**

**Civil Site Plan**

Sheet No.:  
**83-C200**



**GENERAL NOTES**

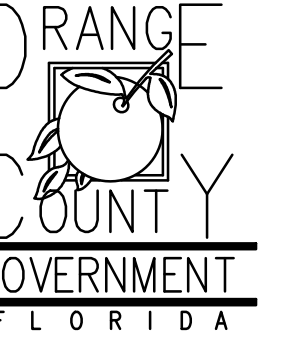
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

1. NEW FUEL CONTROL UNIT (FCT), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE. CONNECT POWER TO LINE SIDE FEED INSIDE DIESEL FUEL DISPENSER.
2. NEW FUEL MONITOR, BASIS OF DESIGN OMTECH PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION. CONNECT POWER TO LINE SIDE FEED INSIDE UNLEADED FUEL DISPENSER.
3. PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
4. PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



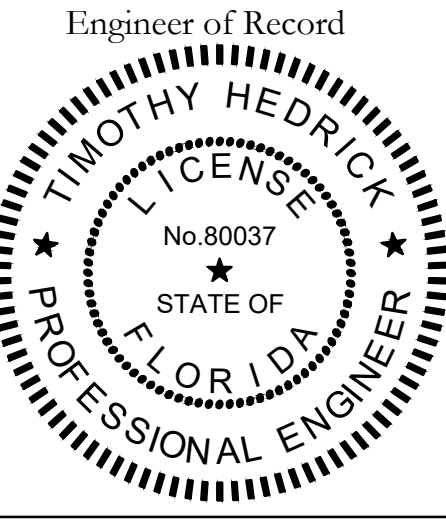
Client:



Consultants:



EOR Stamp:



Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

**Fire Station 83  
11950 E LAKE UNDERHILL  
RD, ORLANDO, FL 32825**

Issuance:

**100% Design  
Documents**

Revisions:

#	Date	Description

Date:

**11.23.2018**

Project Number:

**16.OC.043**

Drawn By:

**ME**

Checked By:

**SP**

**ELECTRICAL  
POWER PLAN**

Sheet No.:

**83-E101**

**1 FIRE STATION 83 SITE PLAN - NEW POWER PLAN**

Scale: 1/8" = 1'-0"

North Arrow



UPDATED: 10/11/2017 10:15 am  
ISSUED FOR: APPROVAL

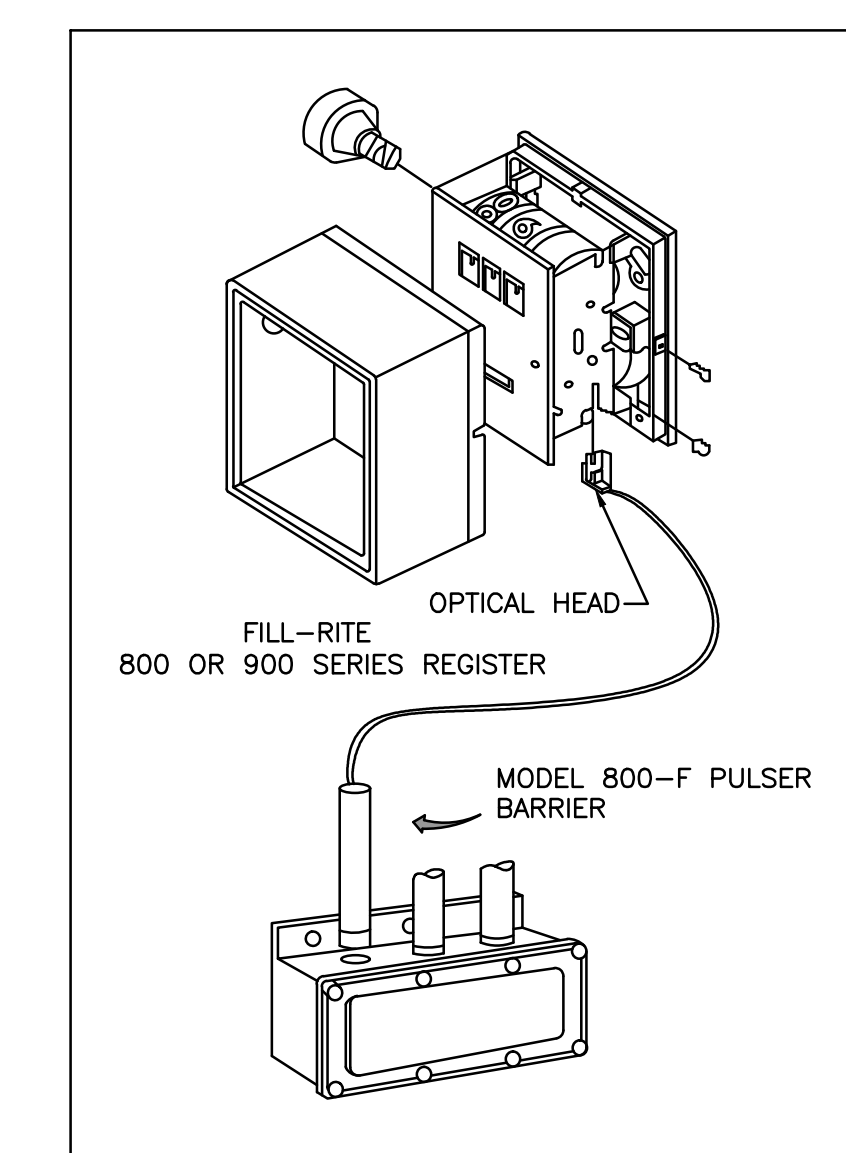
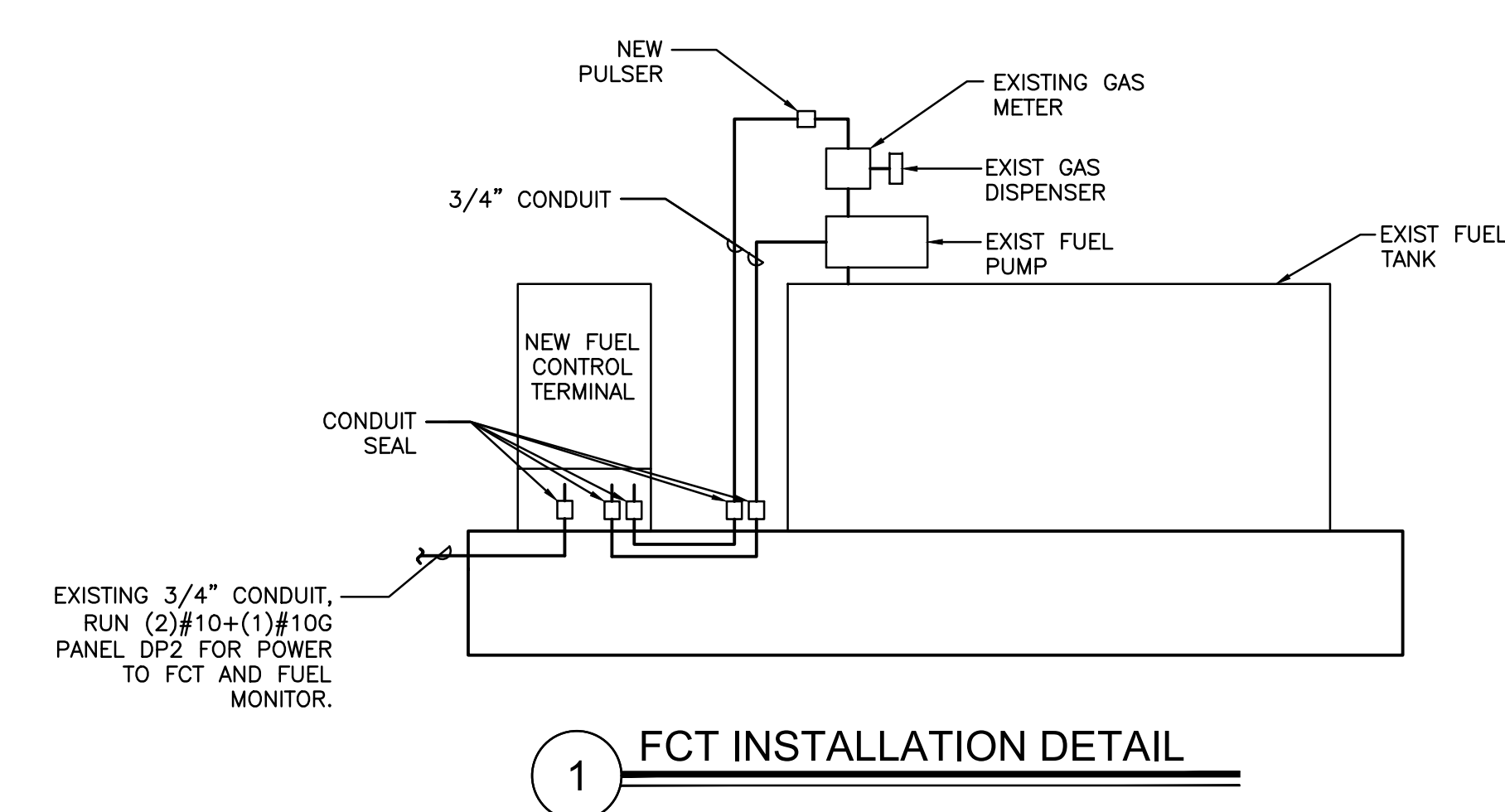
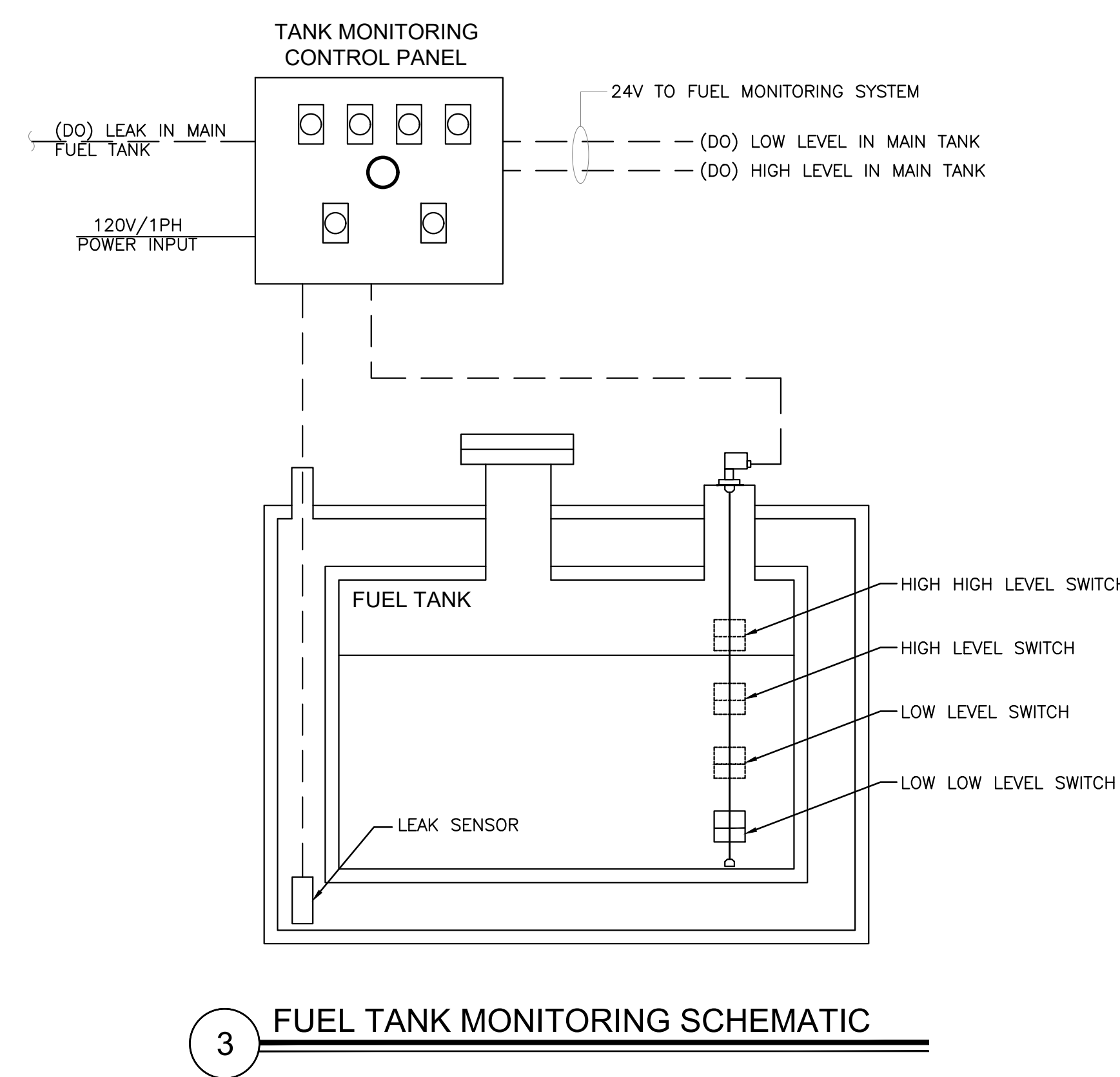
**EXISTING PANEL DP2**

LOCATION: ELEC RM      MAIN: 250A MLO      CONN. LOAD: 47.9 KVA  
VOLTAGE: 120V/208V      SYSTEM: 3Ø, 4W      FEED: TOP  
TRIM: SURFACE      BUS RATING: 250A      GROUND BUS: YES      COPPER

CKT	LOAD SERVED	COND	PHASE	NEUT	ØND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	ØND	LOAD SERVED	CKT
1	AIR HANDLER NORTH				3Ø/2	A	2450				A	3Ø/2					COMPRESSOR SOUTH	2
3						A	2450				A							4
5	COMPRESSOR NORTH				3Ø/2	A	2450				A	2Ø/2					AIR HANDLER SOUTH	6
7						A	18500											8
9	SPARE				3Ø/2							2Ø/1					SPARE	10
11												R	2Ø/1				RECEPT II	12
13	TRAILER CORD DROP				2Ø/1	R	200				R	2Ø/1					RECEPT III	14
15	RECEPT ABOVE PANEL				2Ø/1	R	200				R	2Ø/1					SHORE POWER RESCUE	16
17	CORD DROP SHORE POWER				2Ø/1	R	200				R	2Ø/1					KRONOS TIMER	18
19	CORD DROP SHORE POWER CHIEF				2Ø/1	R	500				L	15/1					KITCHEN UNDERCOUNTER LIGHTS	20
21	CORD DROP SHORE POWER SQUAD				2Ø/1	R	600				R	2Ø/1					MICROWAVE RECEPT	22
23	CORD DROP E83				2Ø/1	R	200				N	2Ø/1					FIRE ALARM	24
25	UNIT HEATER				125/3	H	5500				N	2Ø/1					SHORE POWER MONITOR	26
27						H	5500				N	2Ø/1					SHORE POWER MONITOR	28
29						H	5500				N	2Ø/1					SHORE POWER MONITOR	30
31	SPACE																SPACE	32
33	SPACE																SPACE	34
35	SPACE																SPACE	36
37	FCT & FUEL MONITOR	3/4"	#10	#10	2Ø/1	N	1000				SF	10Ø/3					SUBFEED PANEL B	38
39	SPACE										SF							40
41	SPACE										SF							42

INTERRUPT RATING: 26823 24167 19467 FROM:

LOADS (IN VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0	
LIGHTING	200	1.25	250	NON-SEASONAL MOTORS	1900	1.0	1900	REMAINING NON-CONTINUOUS LOADS	3900	1.0	3900	
RECEPTS TO 10 KVA	7400	1.0	7400	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	47.9	KVA	133.1	AMPS
SPACE HEATING	16500	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	31.5	KVA	87.4	AMPS
AIR CONDITIONING	18000	1.0	18000					OVERALL DEMAND FACTOR	0.66			



- INSTALLATION**
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
  - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
  - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2, ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

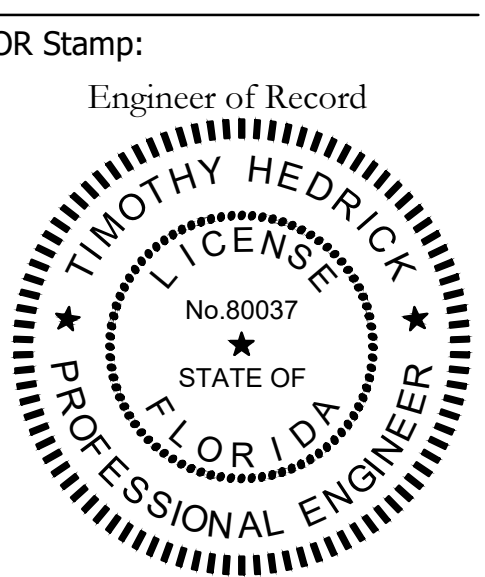
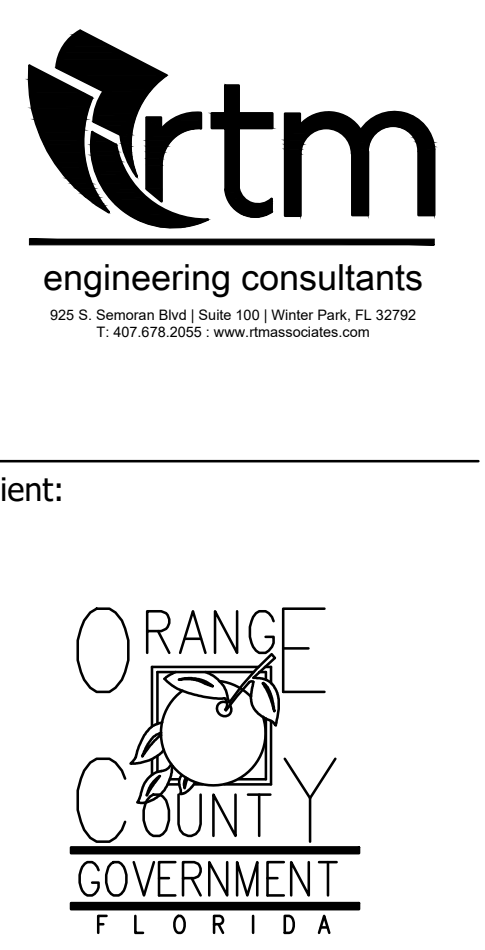
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES, THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

**2 PULSER INSTALLATION DETAIL**



Project:  
**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 83  
11950 E LAKE UNDERHILL RD, ORLANDO, FL 32825

Issuance:  
**100% Design Documents**

Revisions:

#	Date	Description

Date:  
11.23.2018

Project Number:  
16.OC.043

Drawn By: ME      Checked By: SP

**ELECTRICAL PANEL SCHEDULES AND DETAILS**

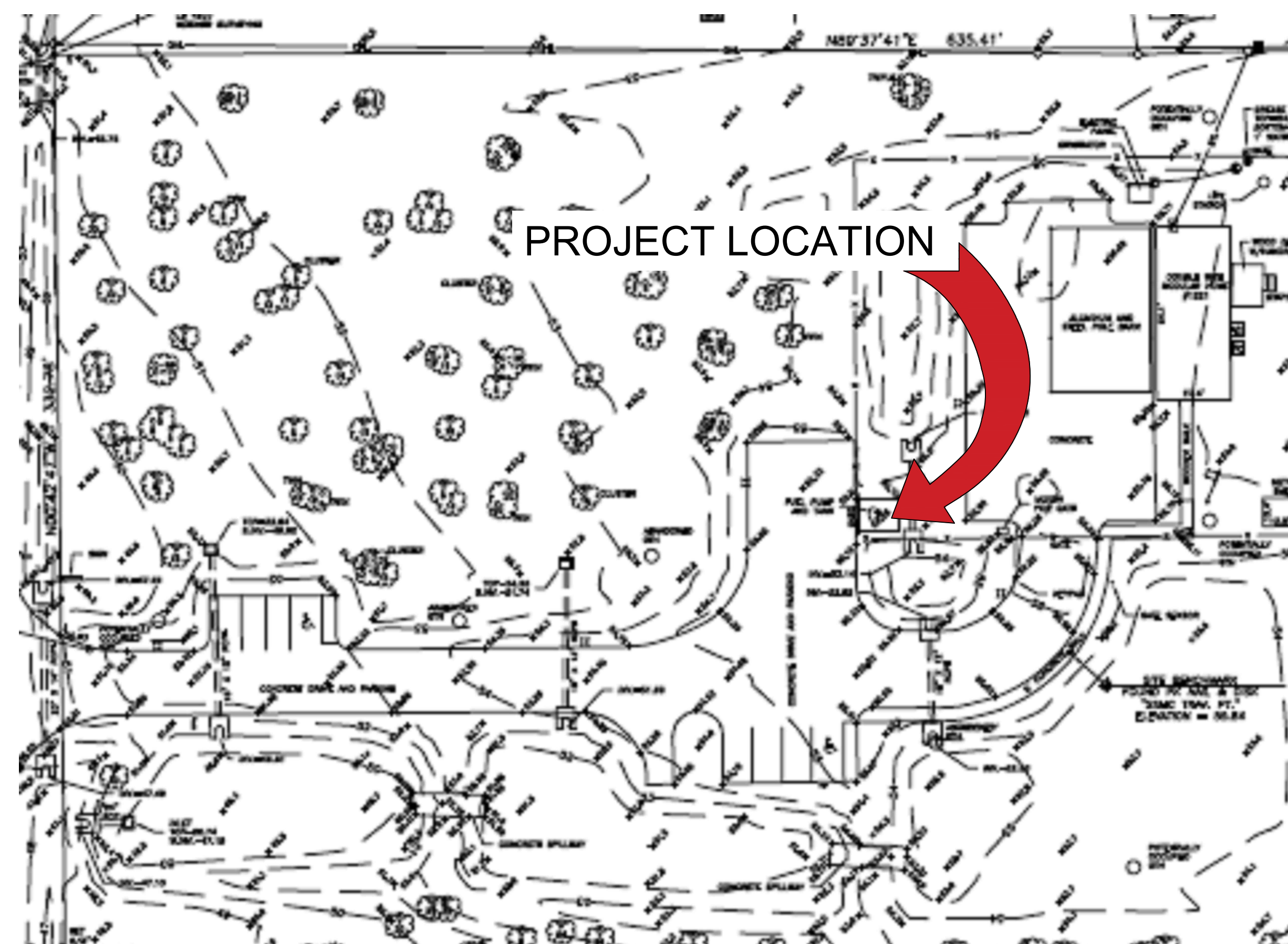
Sheet No.:  
**83-E201**





**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016



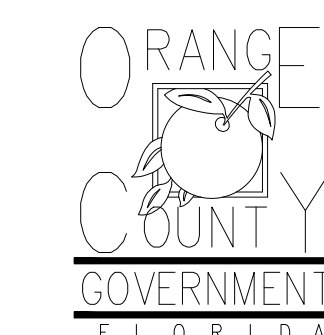
**LOCATION MAP**  
N.T.S.

**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
15. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 84  
1221 N Fort Christmas Road  
Christmas, FL 32709

Issuance:

**100% Design  
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

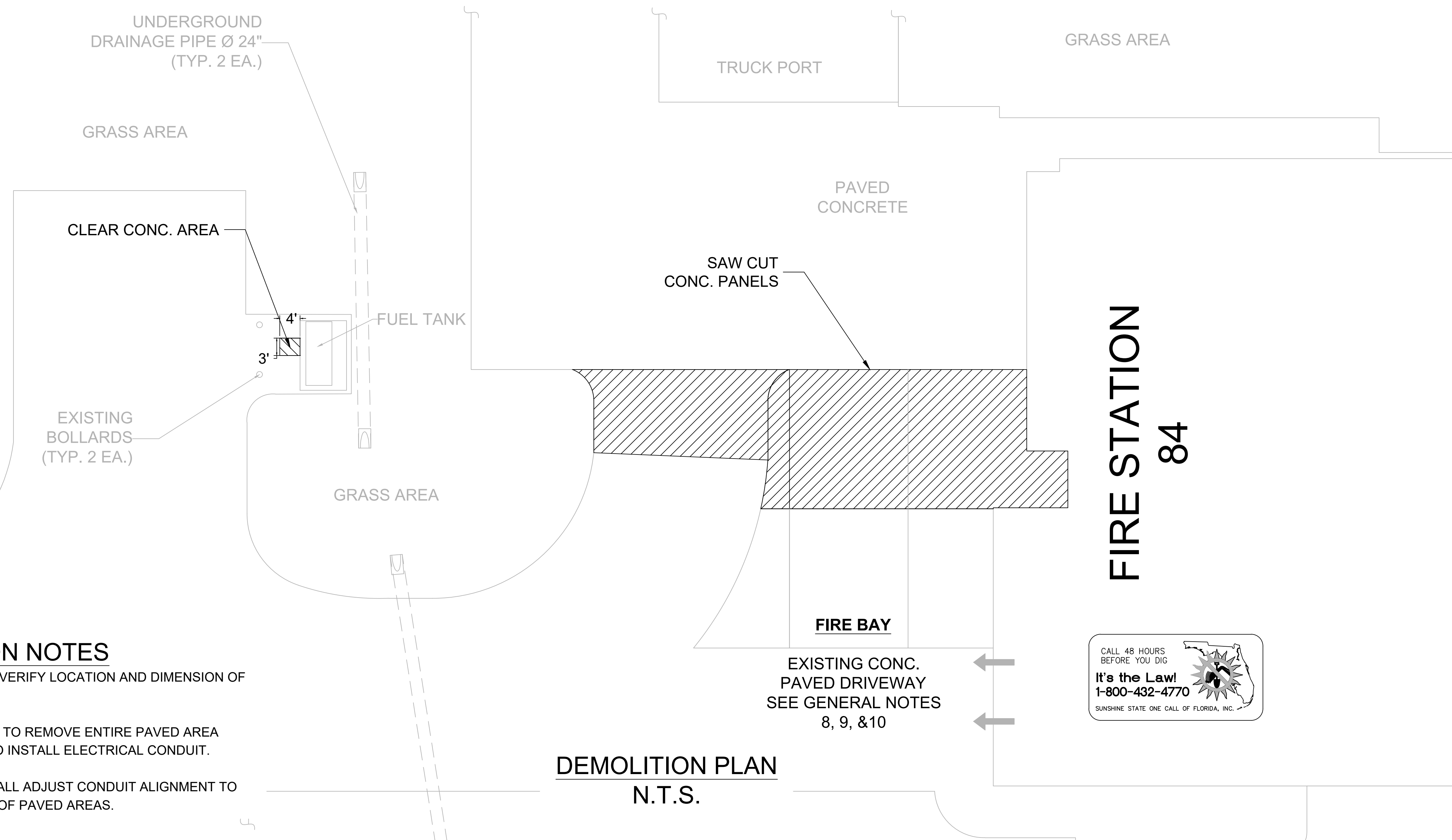
Checked By:

D.D.

**Civil Demo  
Plan**

Sheet No.:

**84-C100**



**DEMOLITION NOTES**

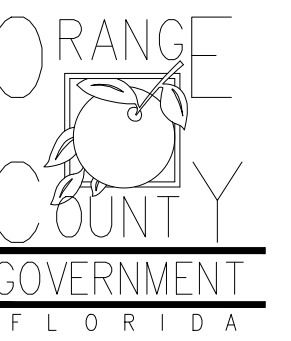
1. CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
2. OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
3. CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.

**DEMOLITION PLAN**  
N.T.S.





Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:  
Fire Station 84  
1221 N Fort Christmas Road  
Christmas, FL 32709

Issuance:  
**100% Design  
Documents**

Revisions:

#	Date	Description

Date:  
11.23.2018

Project Number:  
16.OC.043

Drawn By:  
**S.D.H.**

Checked By:  
**D.D.**

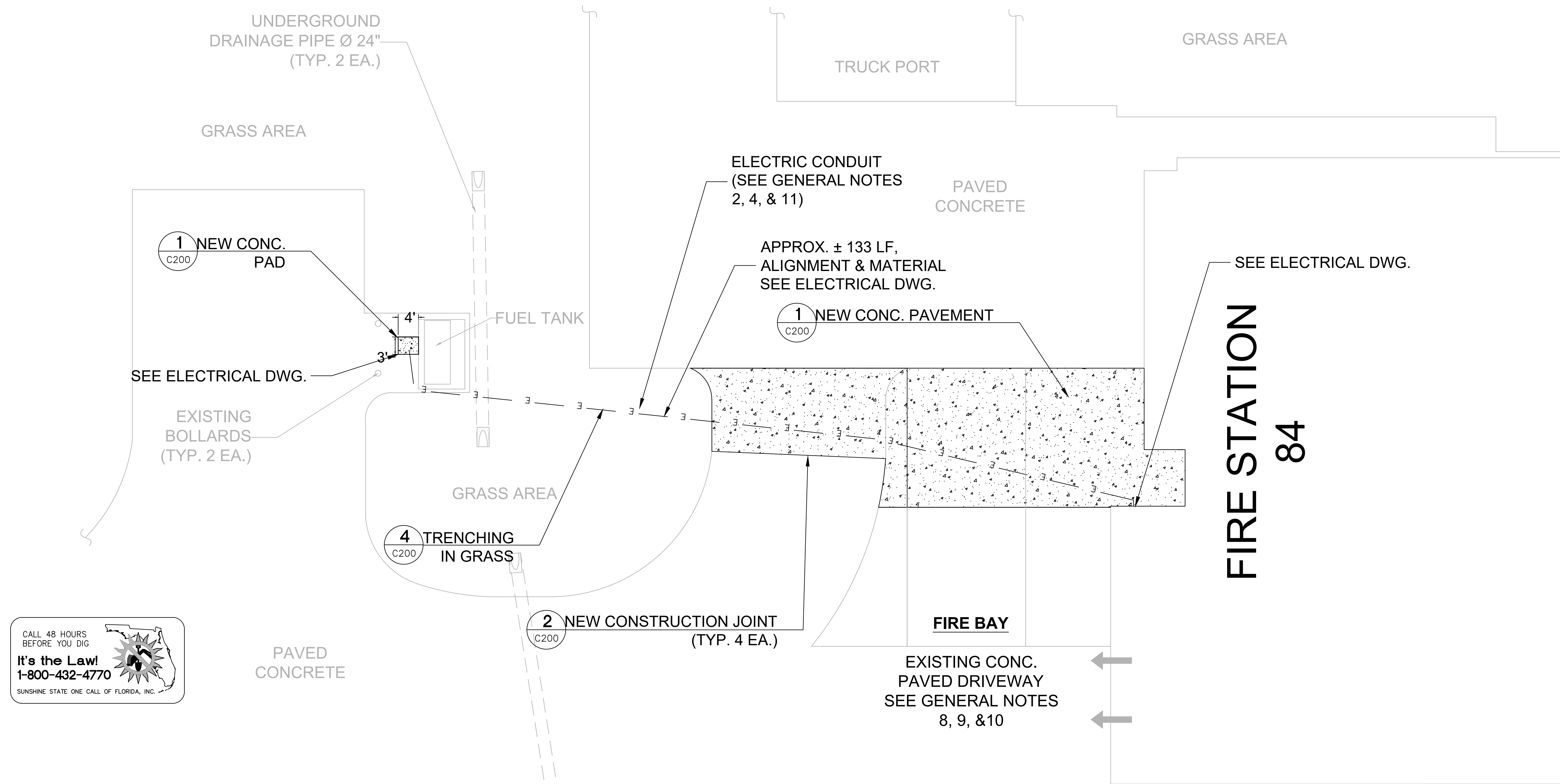
Civil Site Plan

Sheet No.:

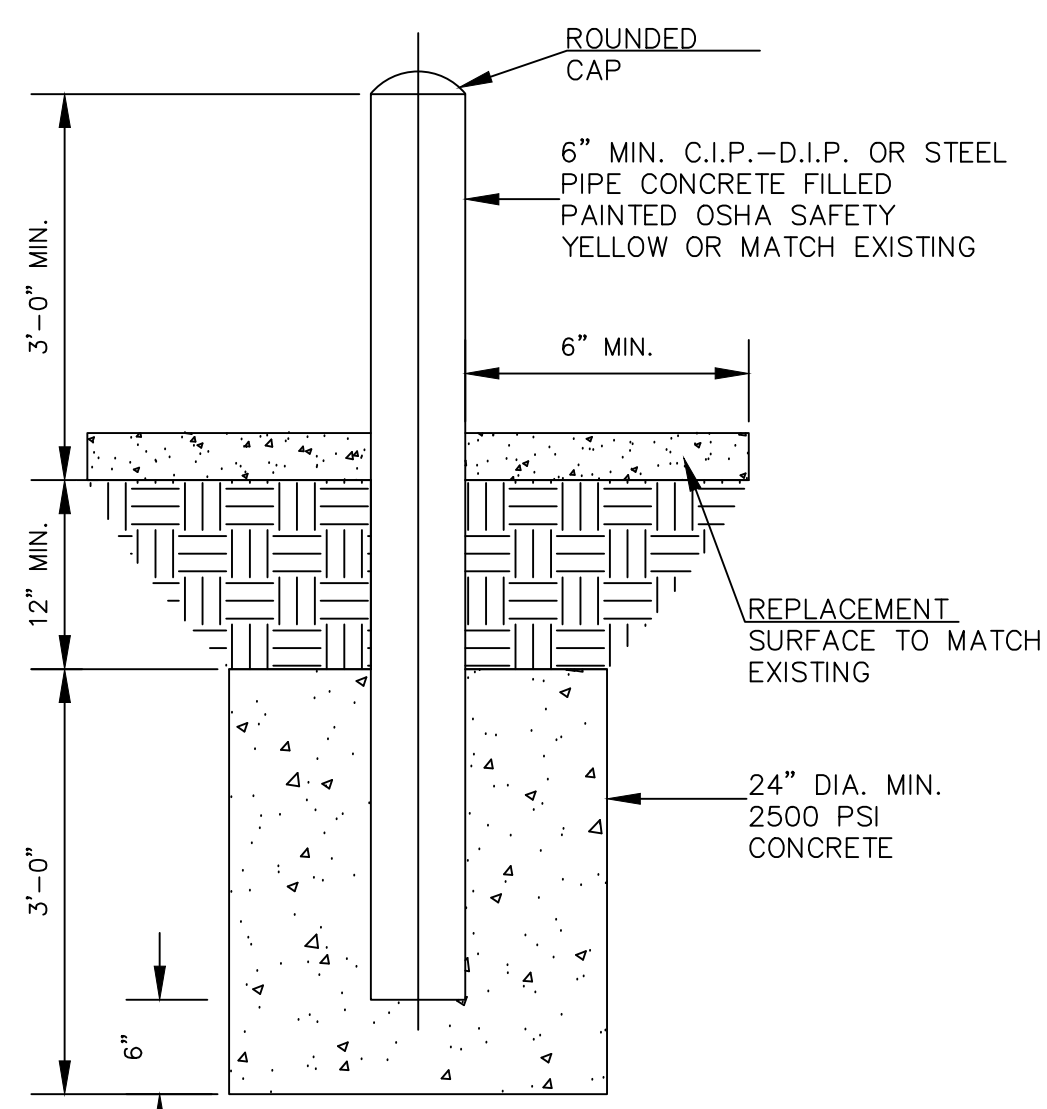
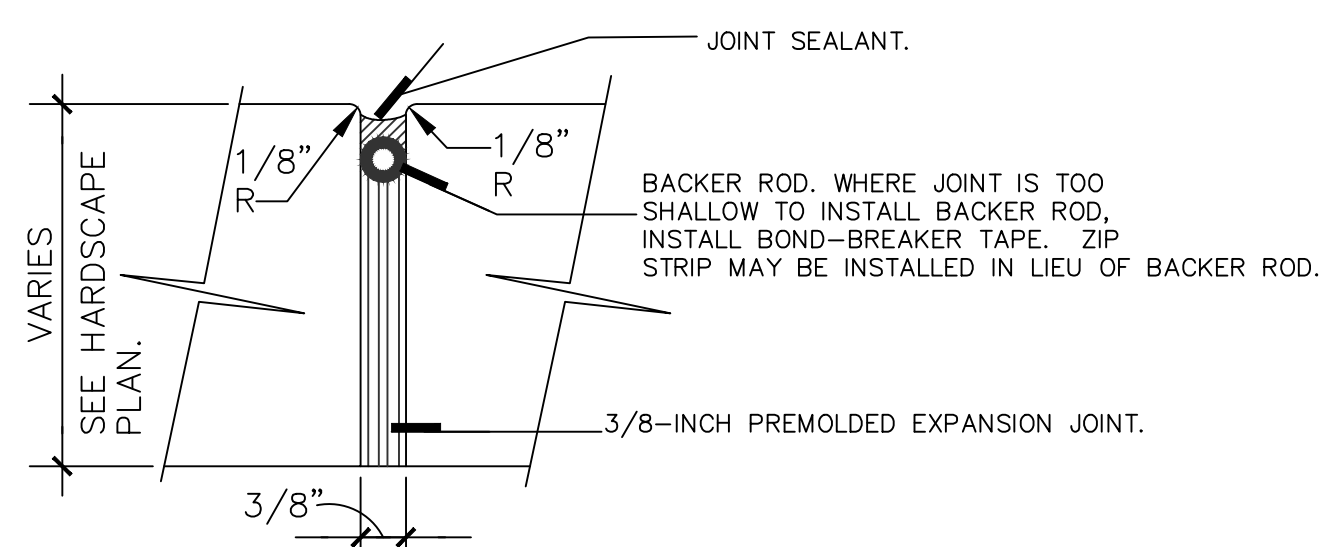
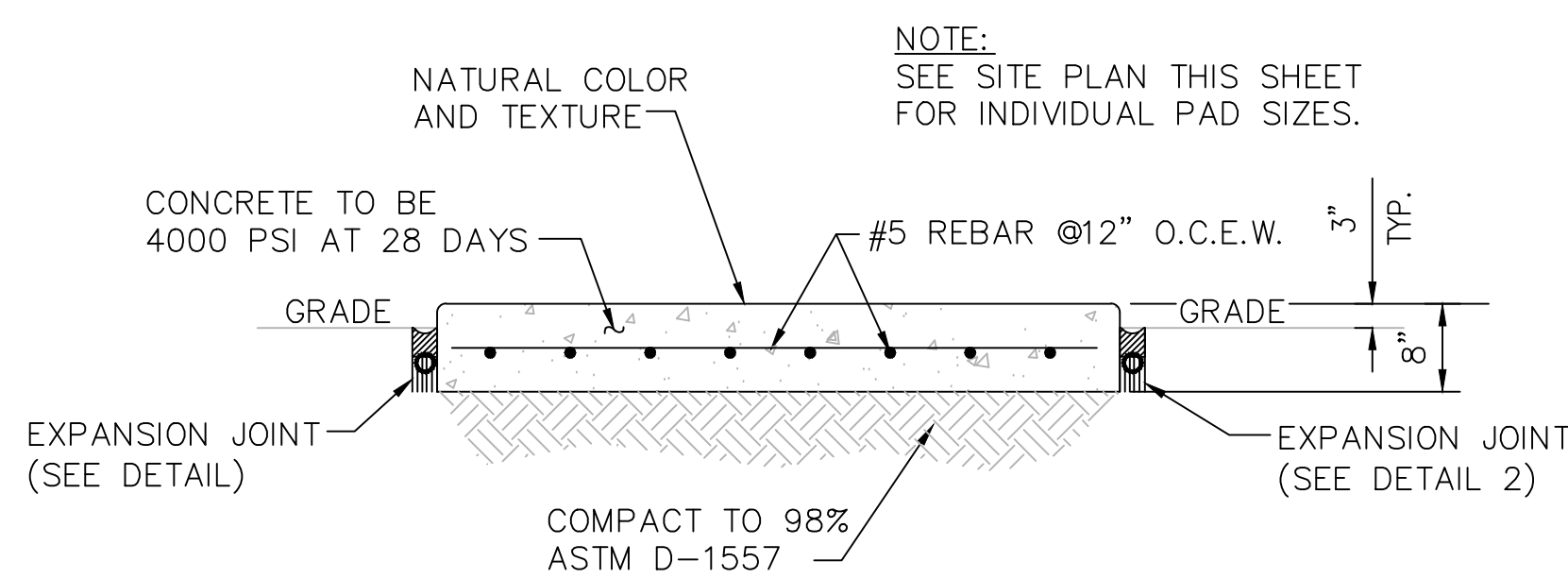
84-C200

**PROJECT SPECIFIC NOTES - CIVIL**

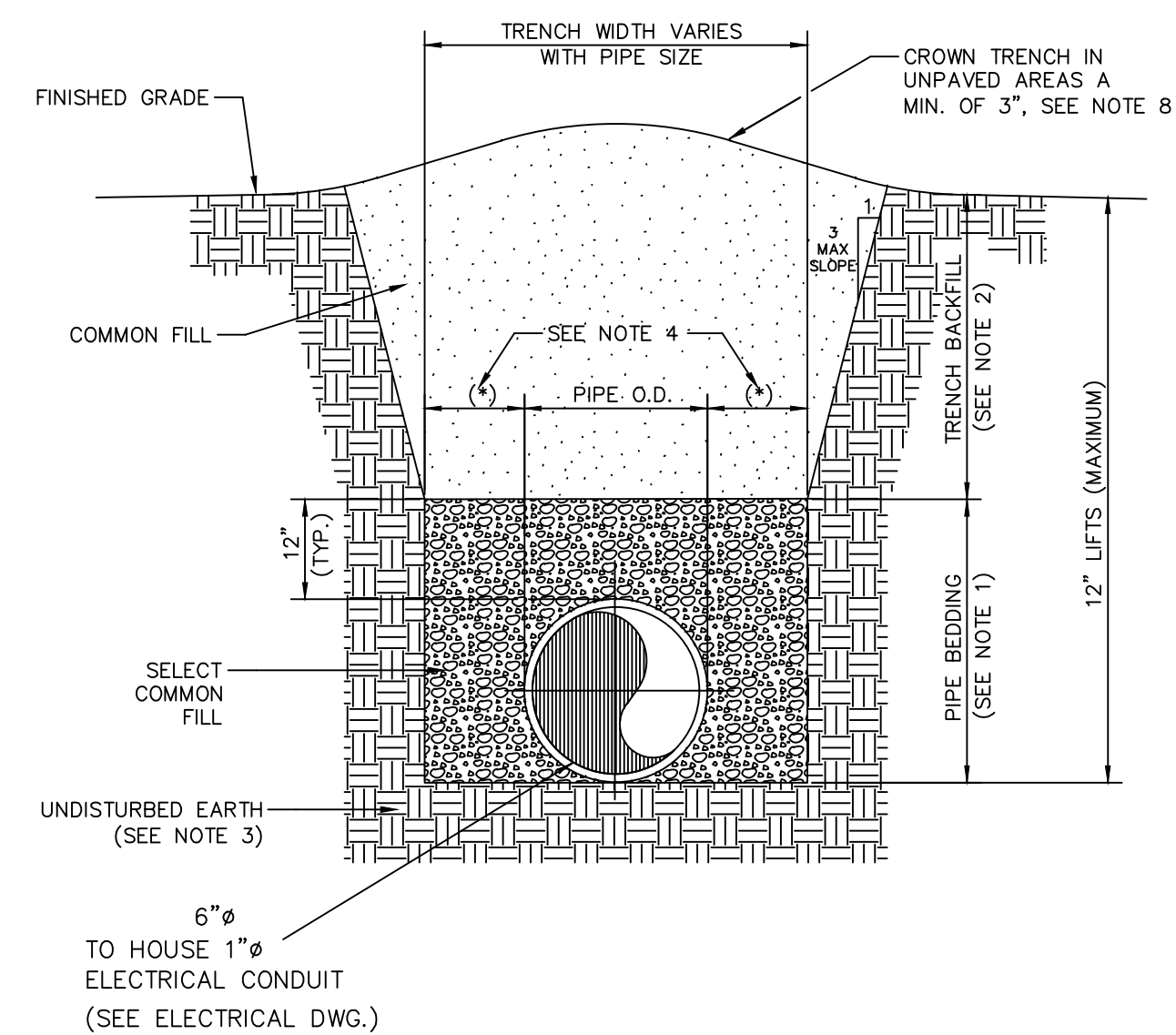
1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
7. CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
9. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



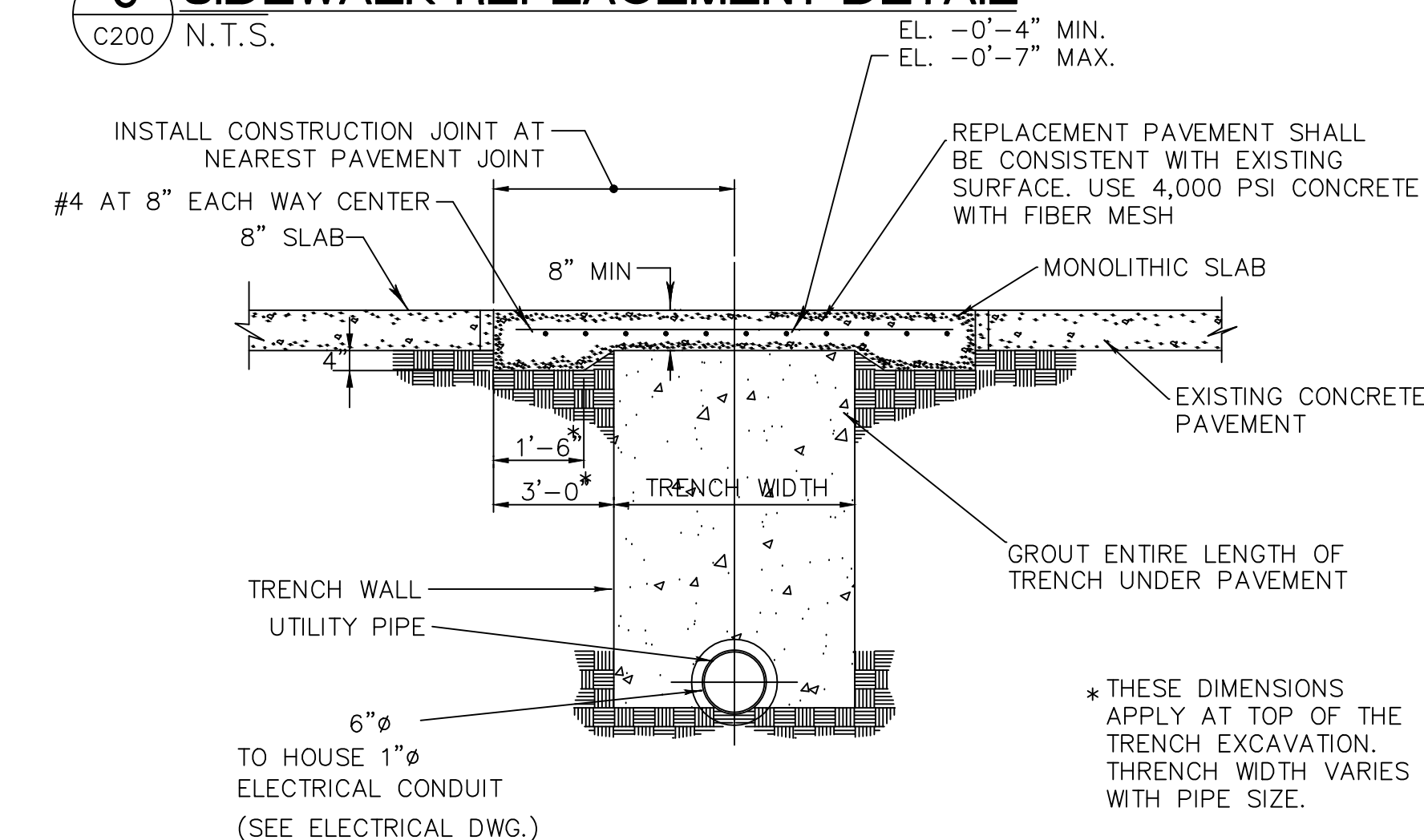
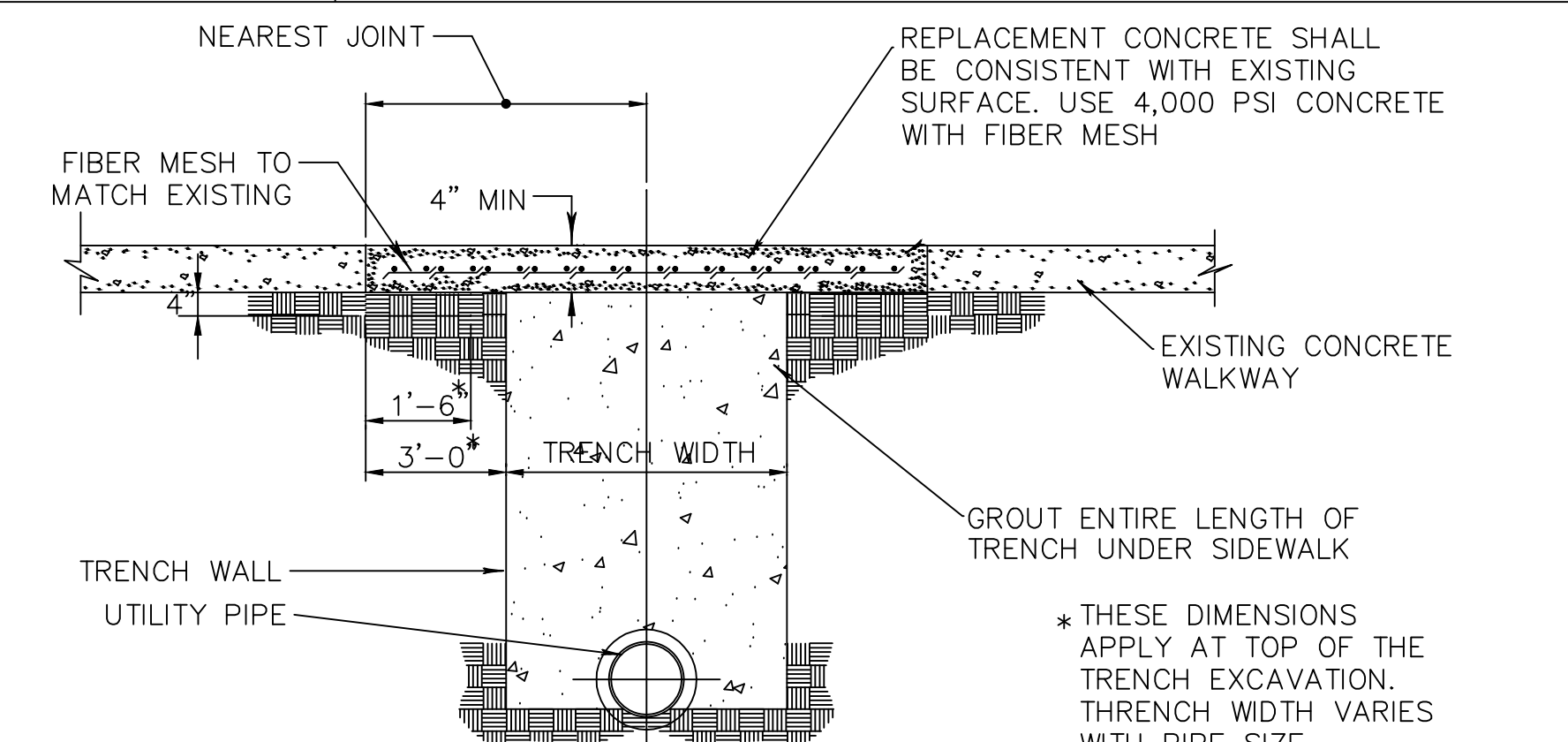
**SITE PLAN  
N.T.S.**



- NOTES:
1. INSTALL BOLLARD STRAIGHT, PLUMB, AND IN LINE WITH EXISTING.
  2. BOLLARD TO BE SAME MATERIAL, SIZE, AND COLOR AS EXISTING.
  3. BOLLARD INSTALLED WITH SAME HEIGHT, INTERVAL, AND SEPARATION FROM EXISTING CURB.



- NOTES:
1. INITIAL BACKFILL AND HAUNCHING: SELECT COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 95% (98% UNDER PAVEMENT) OF THE MAXIMUM DENSITY AS PER AASHTO T-180.
  3. PIPE BEDDING UTILIZING SELECT COMMON FILL OR BEDDING ROCK IN ACCORDANCE WITH TYPE A BEDDING AND TRENCHING DETAIL MAY BE REQUIRED AS DIRECTED BY UTILITIES.
  4. 1" MAX. (12" MIN.) FOR PIPE DIAMETER LESS THAN 24" AND 24" MAX (12" MIN) FOR PIPE DIAMETER 24" AND LARGER.
  5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
  6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
  7. FINAL RESTORATION IN IMPROVED AREAS SHALL BE IN COMPLIANCE WITH ALL APPLICABLE REGULATIONS OF GOVERNING AGENCIES. SURFACE RESTORATION WITHIN ORANGE COUNTY RIGHT-OF-WAY SHALL COMPLY WITH REQUIREMENTS OF RIGHT-OF-WAY UTILIZATION REGULATIONS AND ROAD CONSTRUCTION SPECIFICATIONS.



**MISCELLANEOUS DETAILS  
N.T.S.**



**GENERAL NOTES**

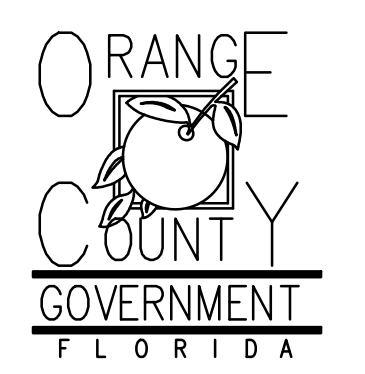
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



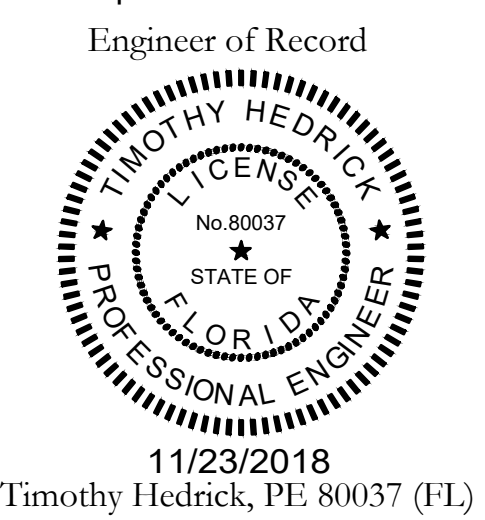
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Consultants:



EOR Stamp:



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 84  
1221 N Fort Christmas Road  
Christmas, FL 32709

Issuance:

**100% Design  
Documents**

Revisions:

#	Date	Description

Date:  
11.23.2018

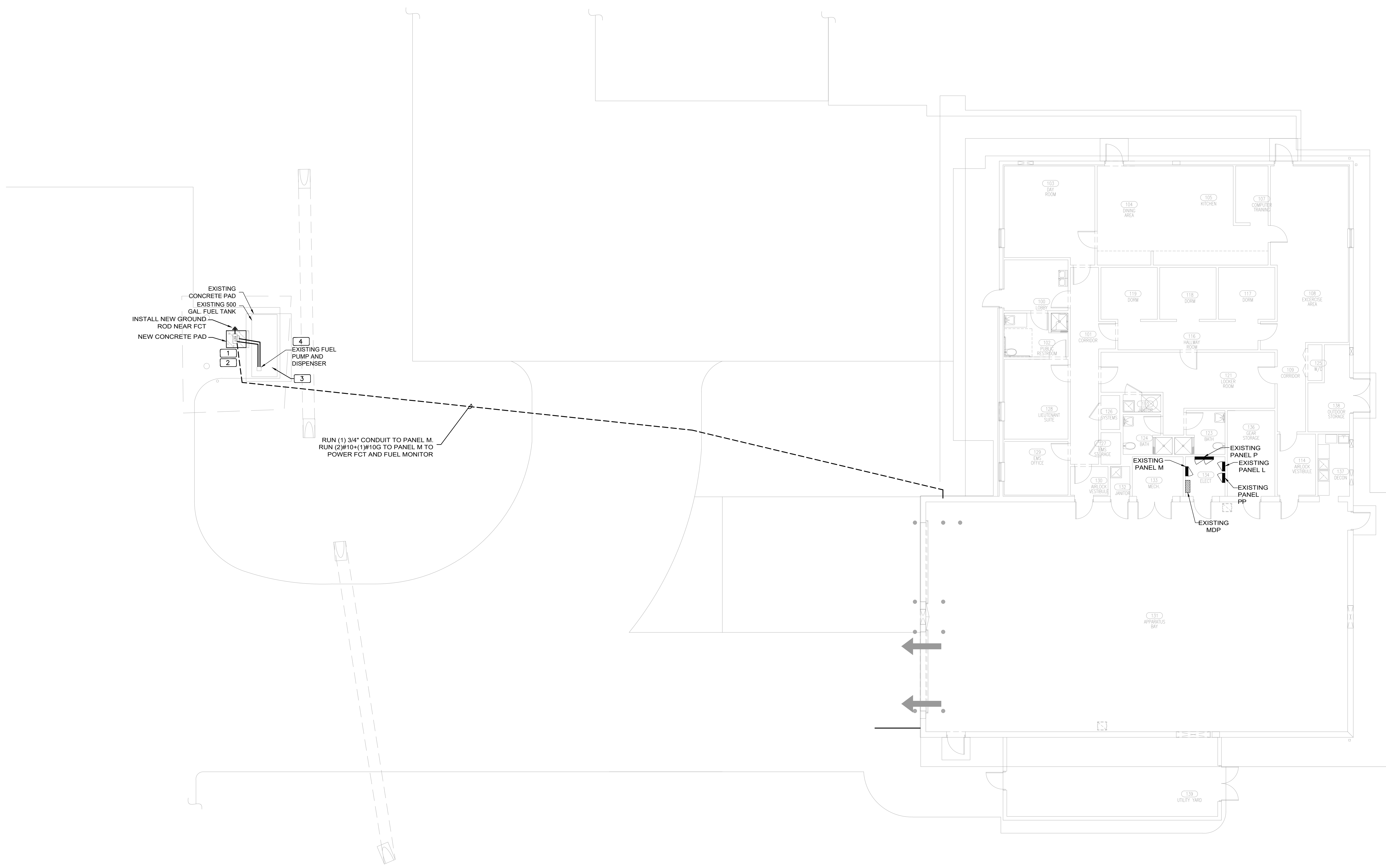
Project Number:  
16.OC.043

Drawn By: ME	Checked By: SP
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**ELECTRICAL  
POWER PLAN**

Sheet No.:

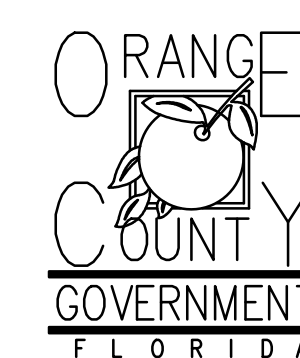
**84-E101**



1 FIRE STATION 84 SITE PLAN - NEW POWER PLAN NORTH  
0 4' 8' 16' 24'  
1/8" = 1'-0"



Client:

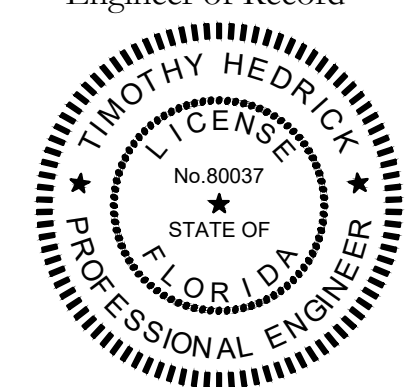


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

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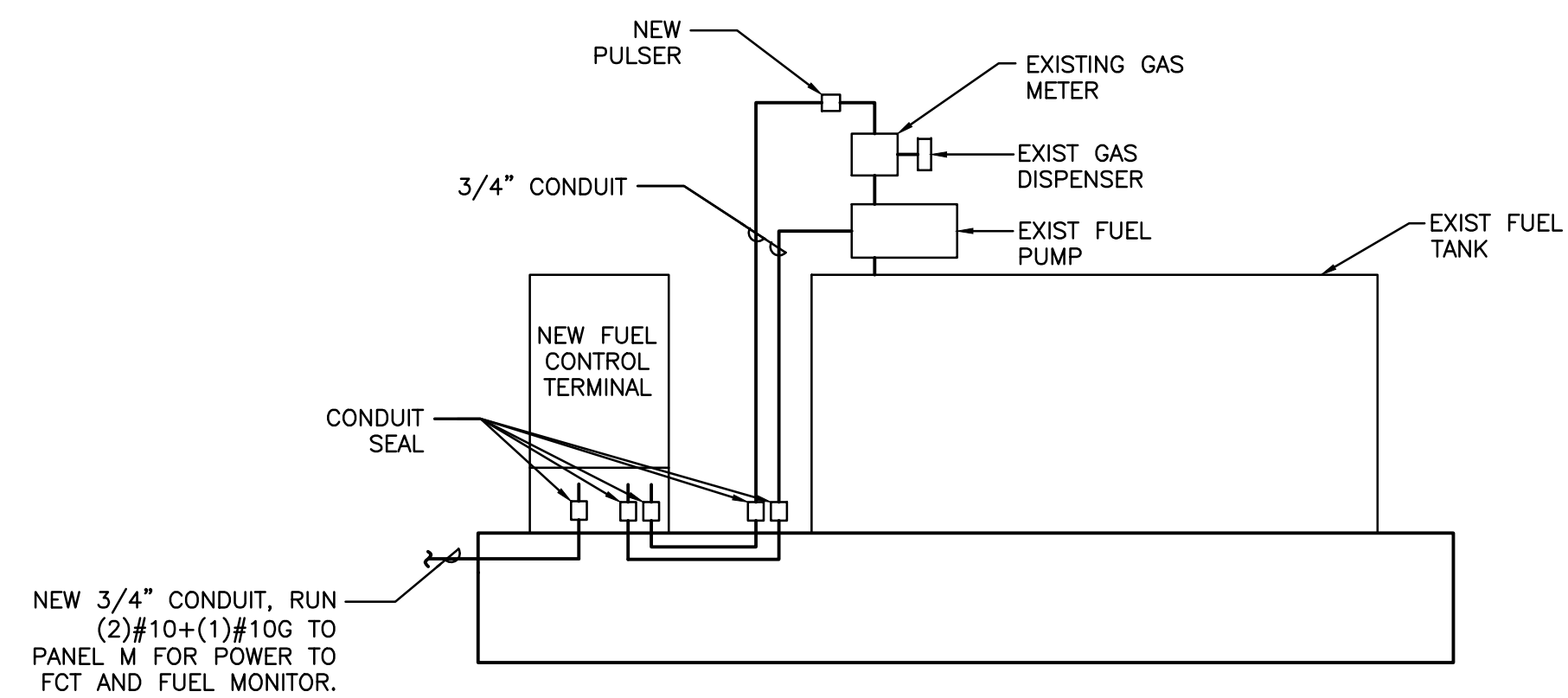
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**ELECTRICAL  
PANEL  
SCHEDULES  
AND DETAILS**

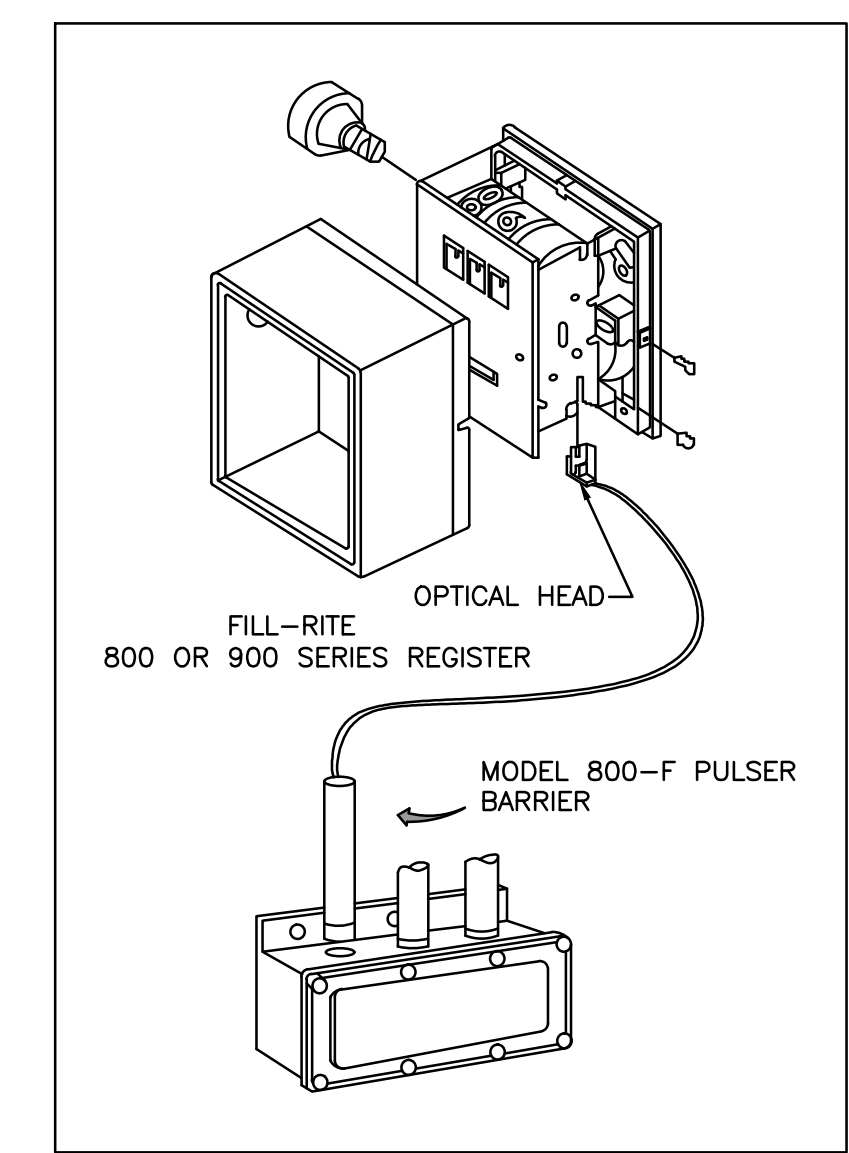
Sheet No.:

**84-E201**

EXISTING PANEL M		LOCATION: ELEC RM		MAIN: 225A MLO		CONN. LOAD: 48.8 KVA												
VOLTAGE: 120V/208V		SYSTEM: 3Ø, 4W		FEED: TOP		GROUND BUS: YES COPPER												
TRM: SURFACE		BUS RATING: 225A		GROUND BUS: YES COPPER														
CKT	LOAD SERVED	DNO	PHASE	NEUT	END	BKR/DMD	L1	L2	L3	DMD	BKR	DNO	PHASE	NEUT	END	LOAD SERVED	CKT	
1	HP-1					50/2	H	2750		N	20/3	3/4"	#10	#10	#10	FCT #FUEL MONITOR	2	
3							H	2750								SPACE	4	
5	HP-2					50/2	H									SPACE	6	
7							H	2750								SPACE	8	
9	AHU-1					60/2	A	4750								SPACE	10	
11							A	4750								SPACE	12	
13	AHU-2					60/2	A	4750								SPACE	14	
15							A	4750								SPACE	16	
17	EF-1					15/1	N		600							SPACE	18	
19	EF-2					15/1	N	600								SPACE	20	
21	EF-3					15/1	N	600								SPACE	22	
23	EF-4					15/1	N	600								SPACE	24	
25	EF-5					30/3	N	2000								SPACE	26	
27							N	2000								SPACE	28	
29							N		2000							SPACE	30	
31	EF-6					15/1	N	600								SPACE	32	
33	EXISTING LOAD					20/1	N	800								SPACE	34	
35	EXISTING LOAD					20/1	N	800								SPACE	36	
37	EXISTING LOAD					20/1	N	800								SURGE	38	
39	EXISTING LOAD					20/1	N	1667								SPACE	40	
41	EXISTING LOAD					20/1	N	800								SPACE	42	
INTERRUPT RATING:								1675/1811/13967		FROM:								
LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0							
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	1884.1	1.0	1884.1							
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0							
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	48.8	KVA	135.7	AMPS						
SPACE HEATING	11000	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	37.8	KVA	105.1	AMPS						
AIR CONDITIONING	19000	1.0	19000					OVERALL DEMAND FACTOR	0.77									



**1 FCT INSTALLATION DETAIL**



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
  - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
  - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

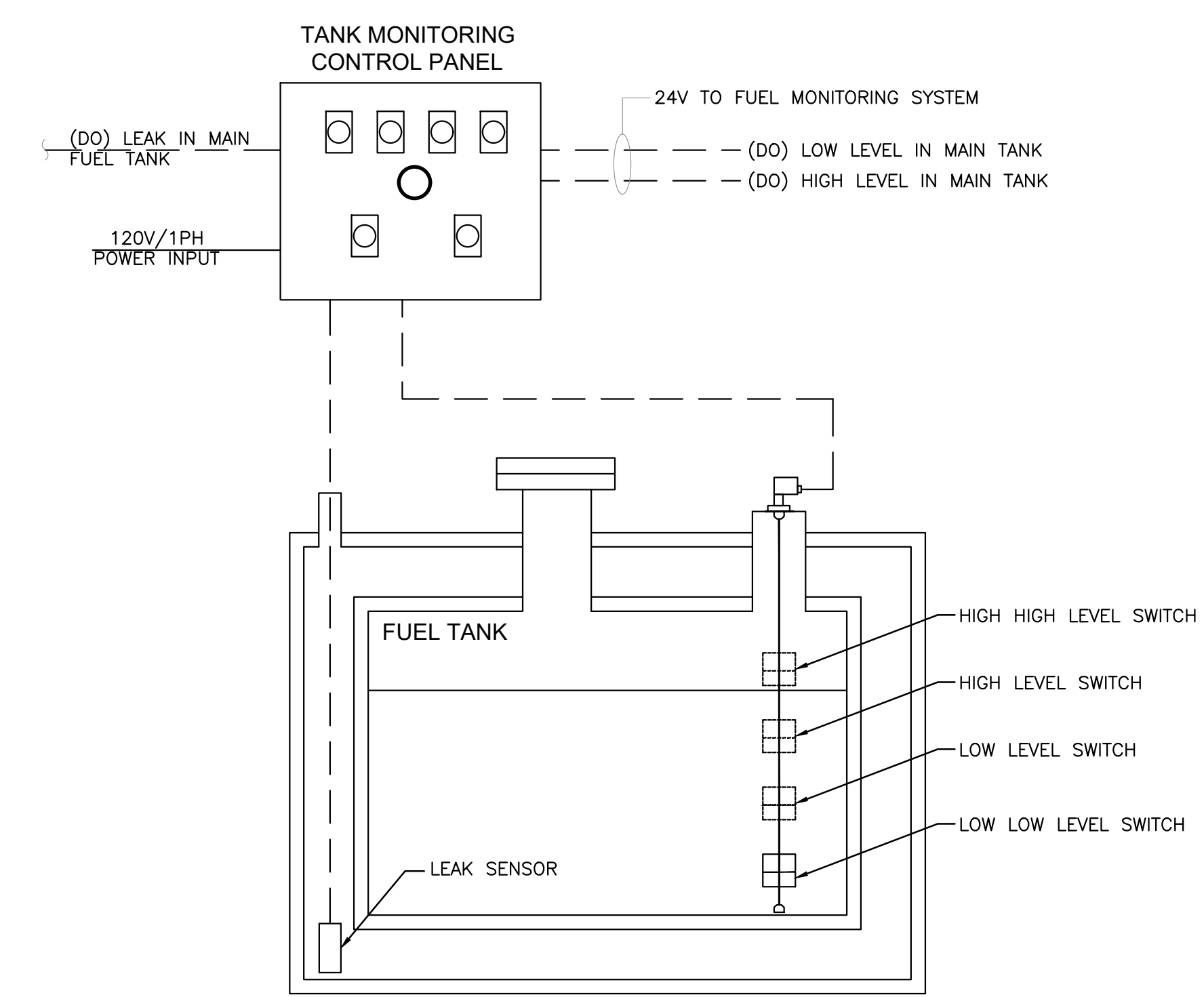
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

**2 PULSER INSTALLATION DETAIL**



**3 FUEL TANK MONITORING SCHEMATIC**



Client:



Consultants:

FOR Stamp:

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 86  
3202 BABBIT AVE, ORLANDO,  
FL 32833

Issuance:

**100% Design  
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

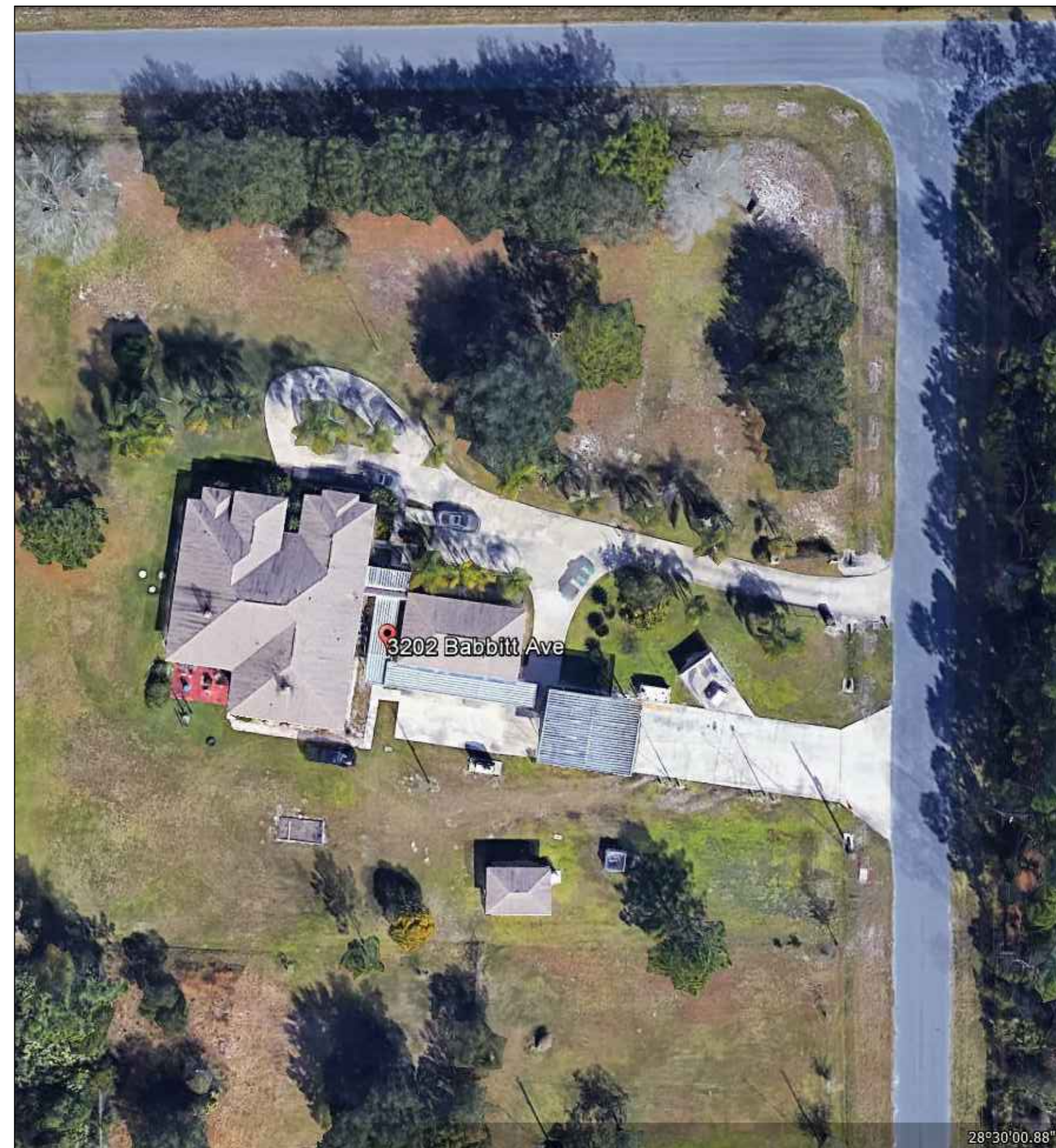
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Sheet No.:

**86-C100**

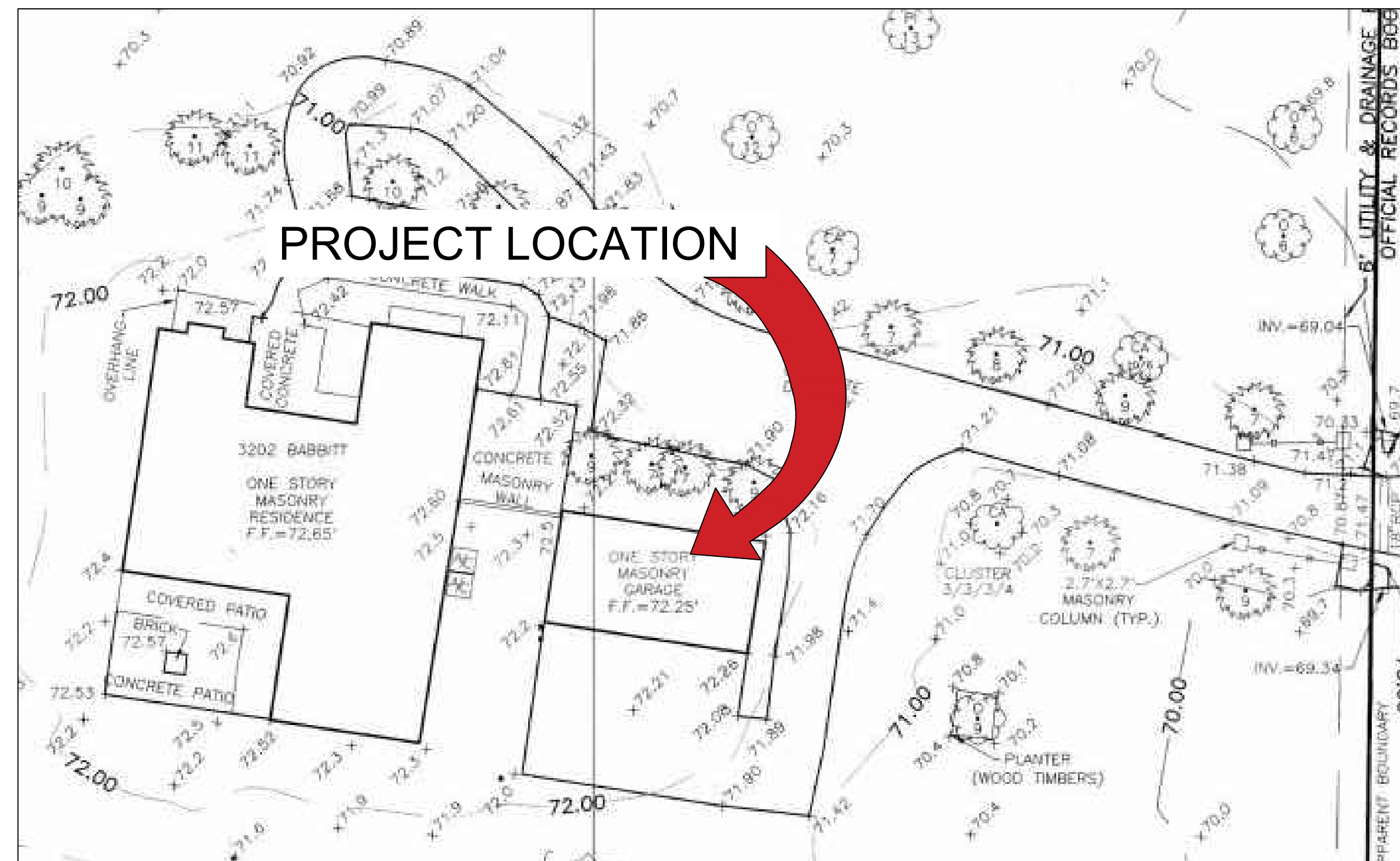
**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENTS TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
16. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.

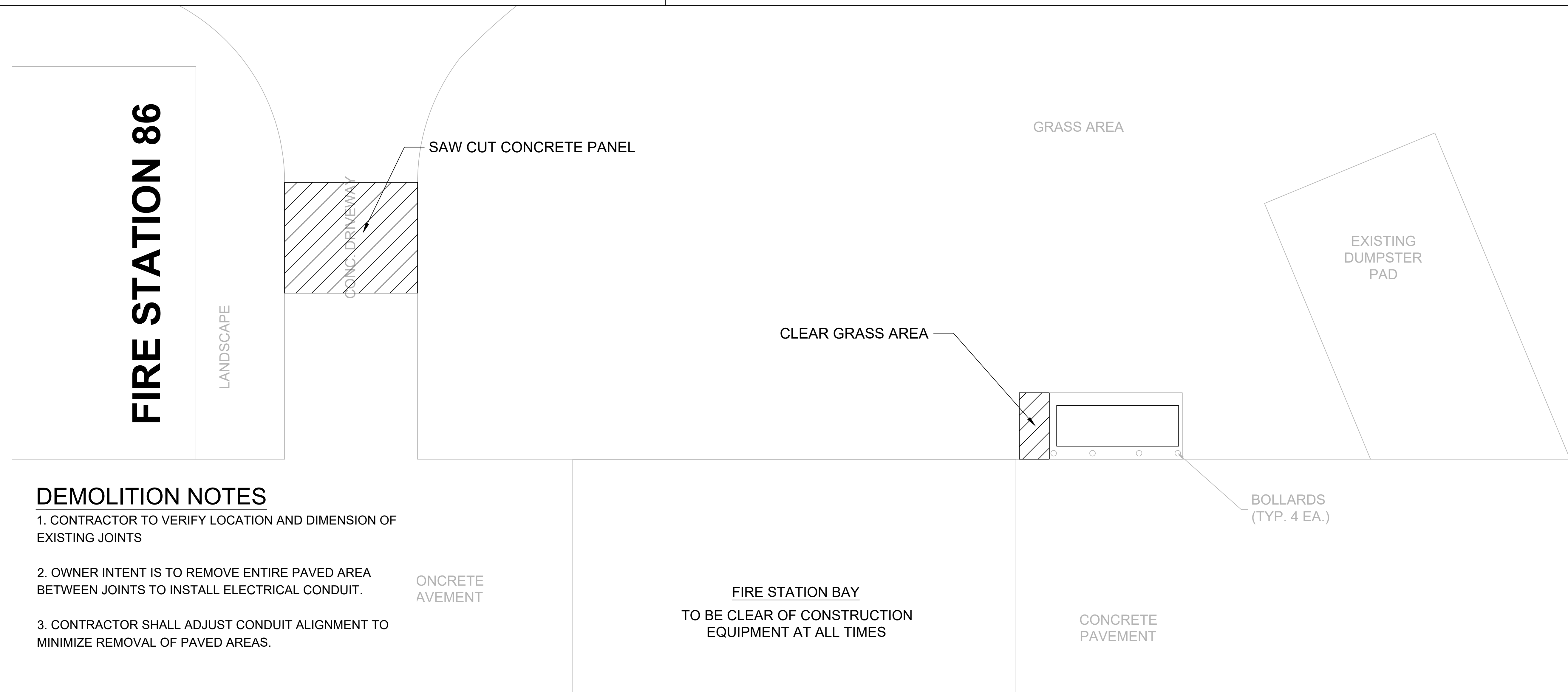


**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016



**LOCATION MAP**  
N.T.S.



**DEMOLITION NOTES**

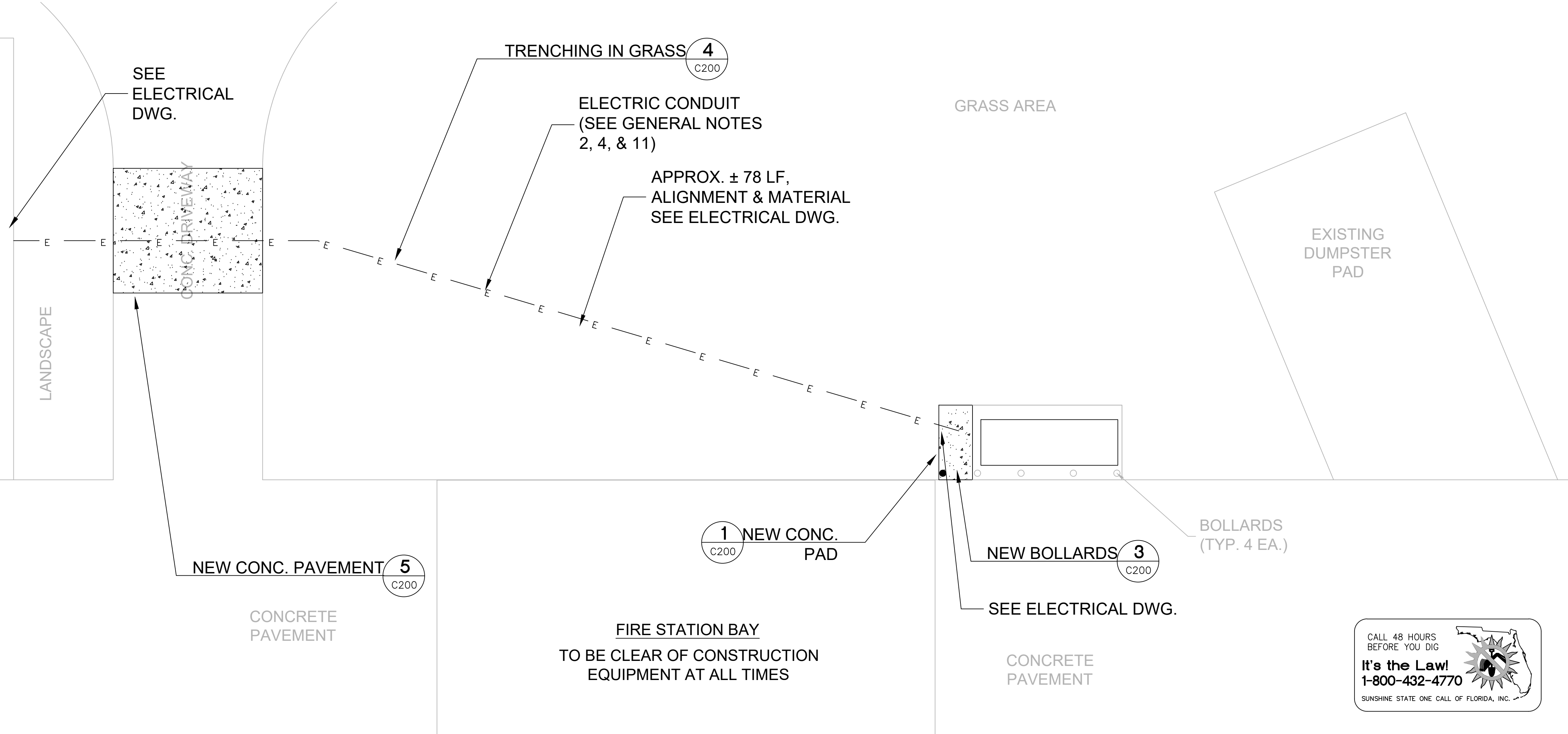
1. CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
2. OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
3. CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.

**DEMOLITION PLAN**  
N.T.S.





# FIRE STATION 86

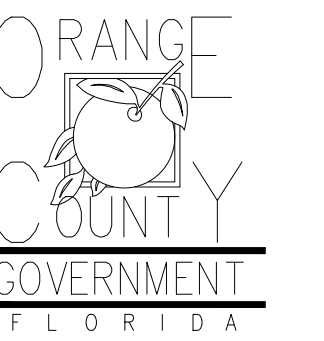


### PROJECT SPECIFIC NOTES - CIVIL

- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
- CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
- TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
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- INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:



Consultants:

EOR Stamp:

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 86  
3202 BABBIT AVE, ORLANDO, FL 32833

Issuance:  
**100% Design Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

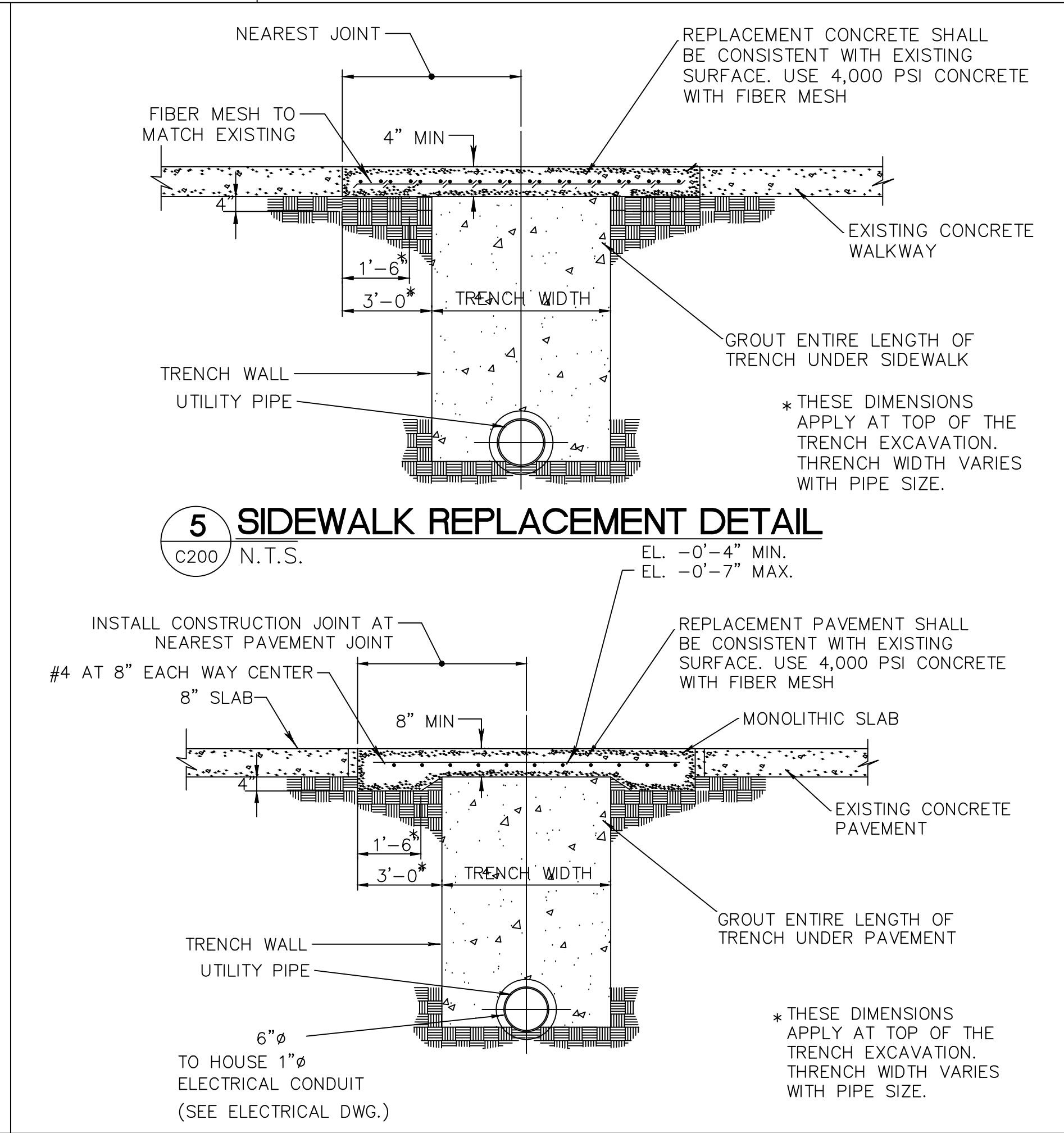
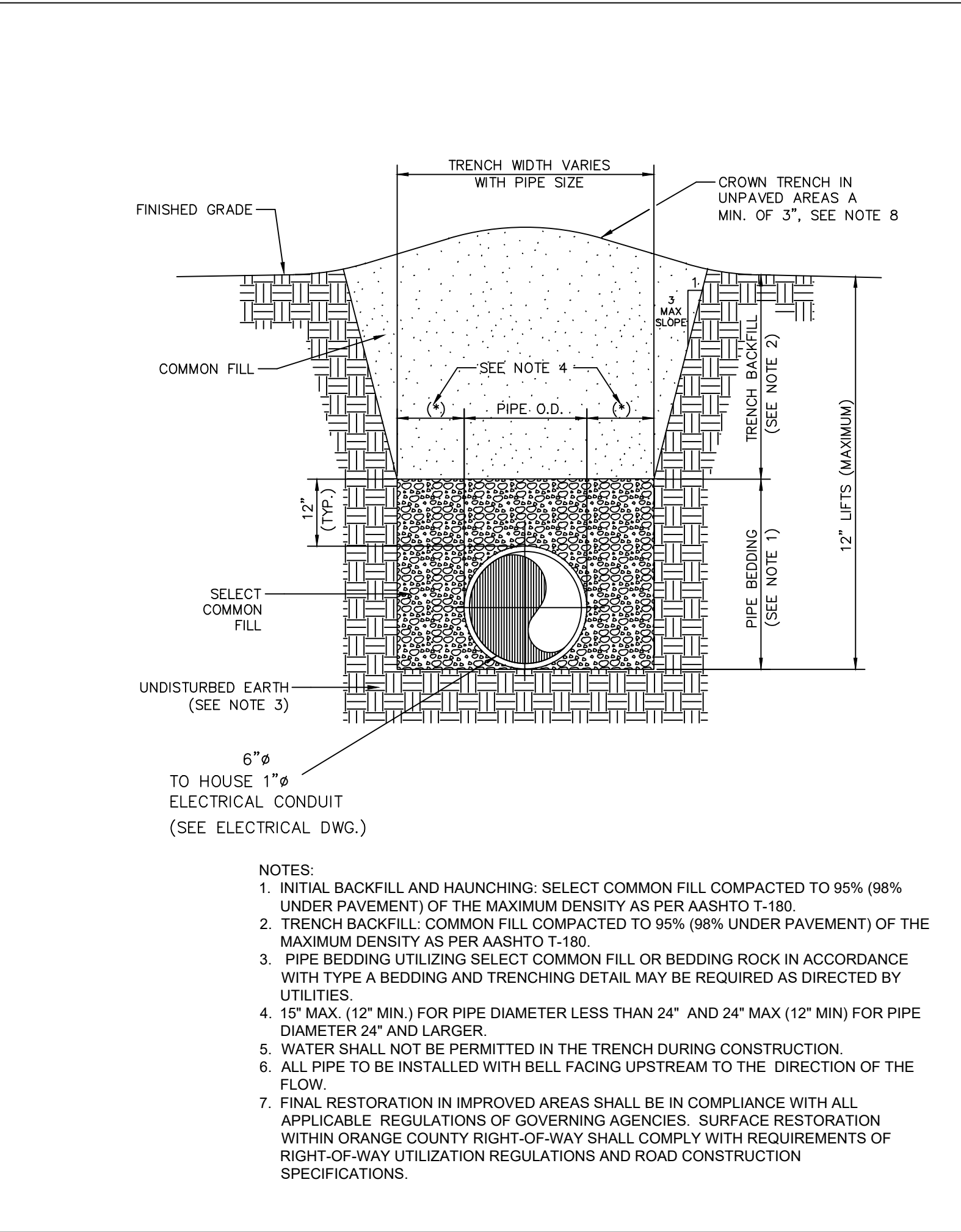
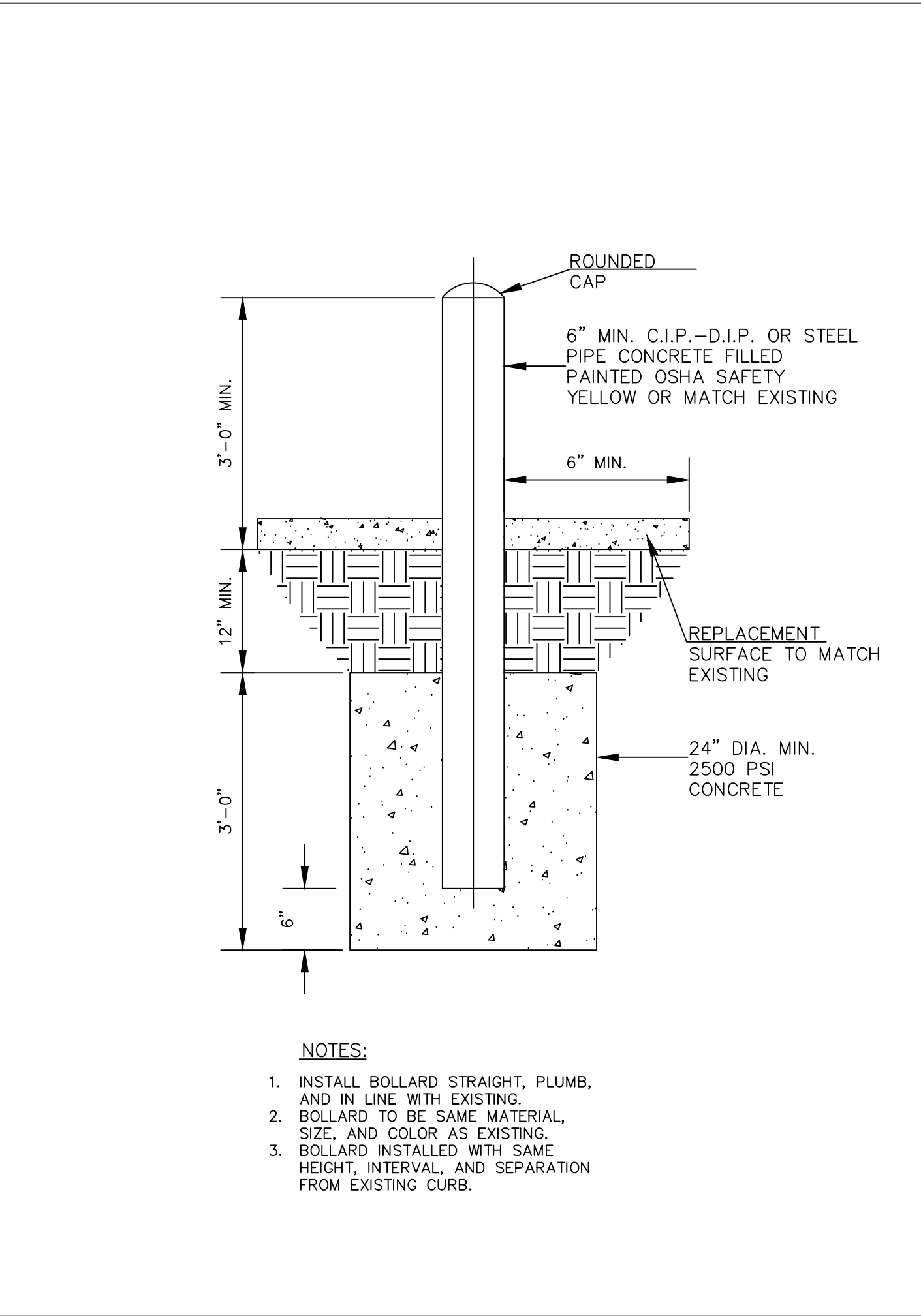
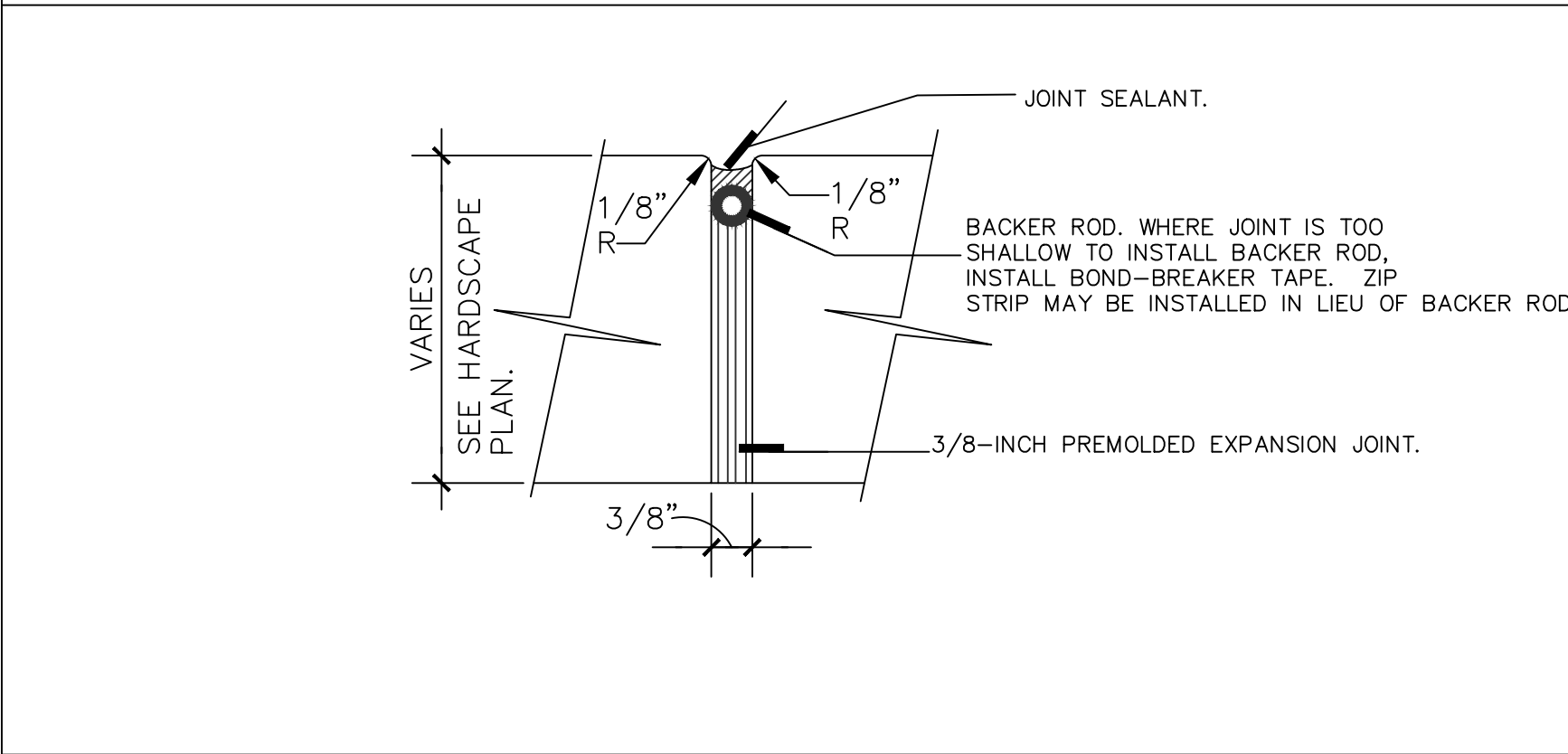
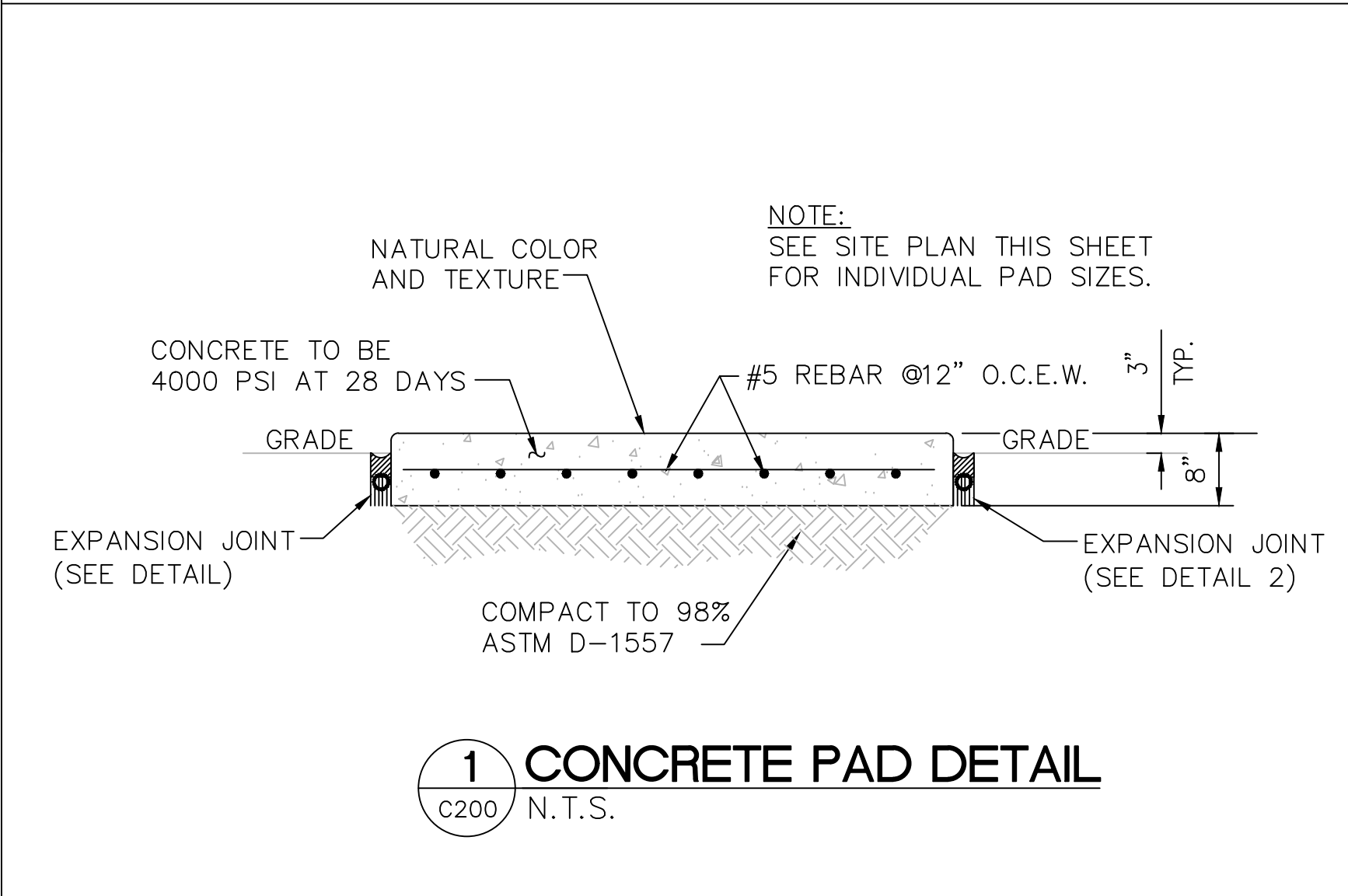
Checked By:

D.D.

Sheet No.:

86-C200

## SITE PLAN N.T.S.



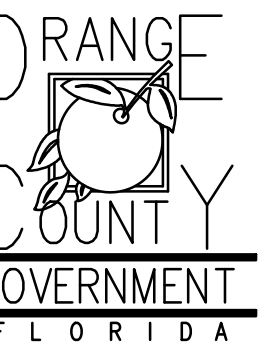
## MISCELLANEOUS DETAILS N.T.S.





105 S. Surfer Blvd | Suite 101 | Winter Park, FL 32792  
P: 407.678.2050 | www.rtmconsultants.com

Client:

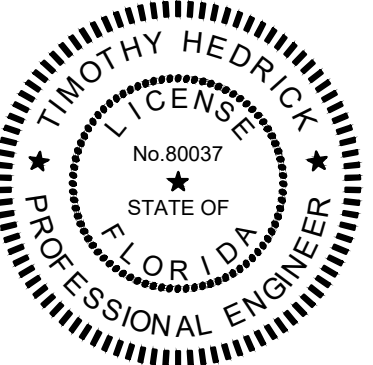


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018

Timothy Hedrick, PE 80037 (FL)

Project:

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ME

Checked By:

SP

**ELECTRICAL  
POWER PLAN**

Sheet No.:

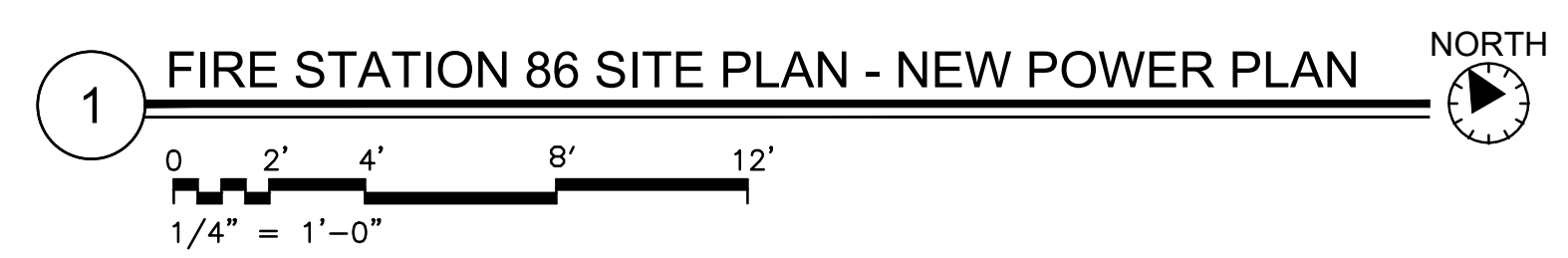
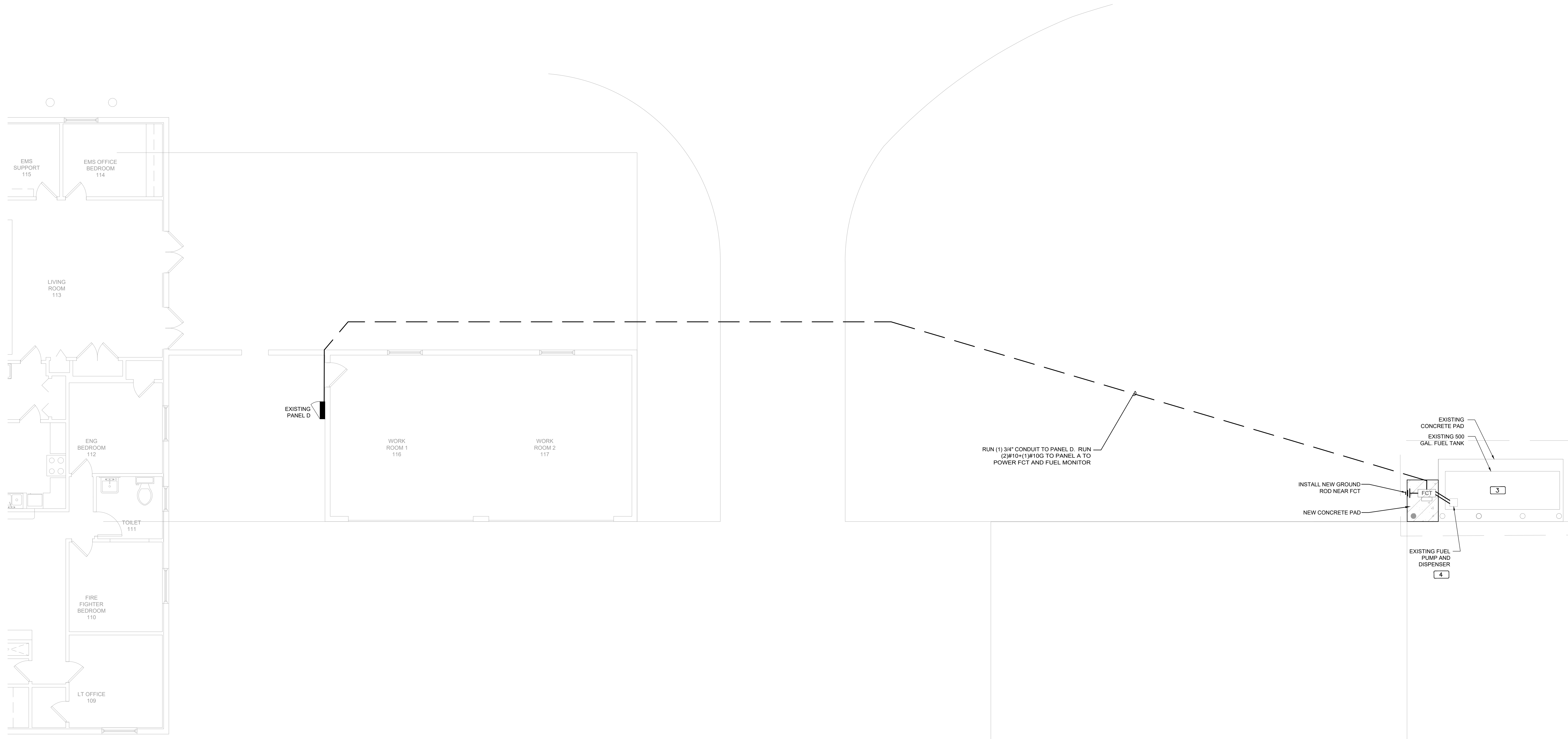
**86-E101**

**GENERAL NOTES**

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

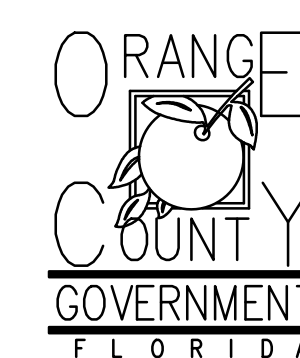
- 1 NEW FUEL CONTROL UNIT (FCT), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F, SEE 2/E201 FOR MORE INFORMATION.



**1 FIRE STATION 86 SITE PLAN - NEW POWER PLAN**



Client:

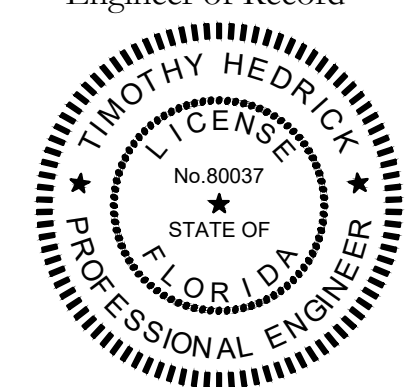


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:  
Fire Station 86  
3202 BABBITT AVE, ORLANDO,  
FL 32833

Issuance:

**100% Design  
Documents**

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

**ELECTRICAL  
PANEL  
SCHEDULES  
AND DETAILS**

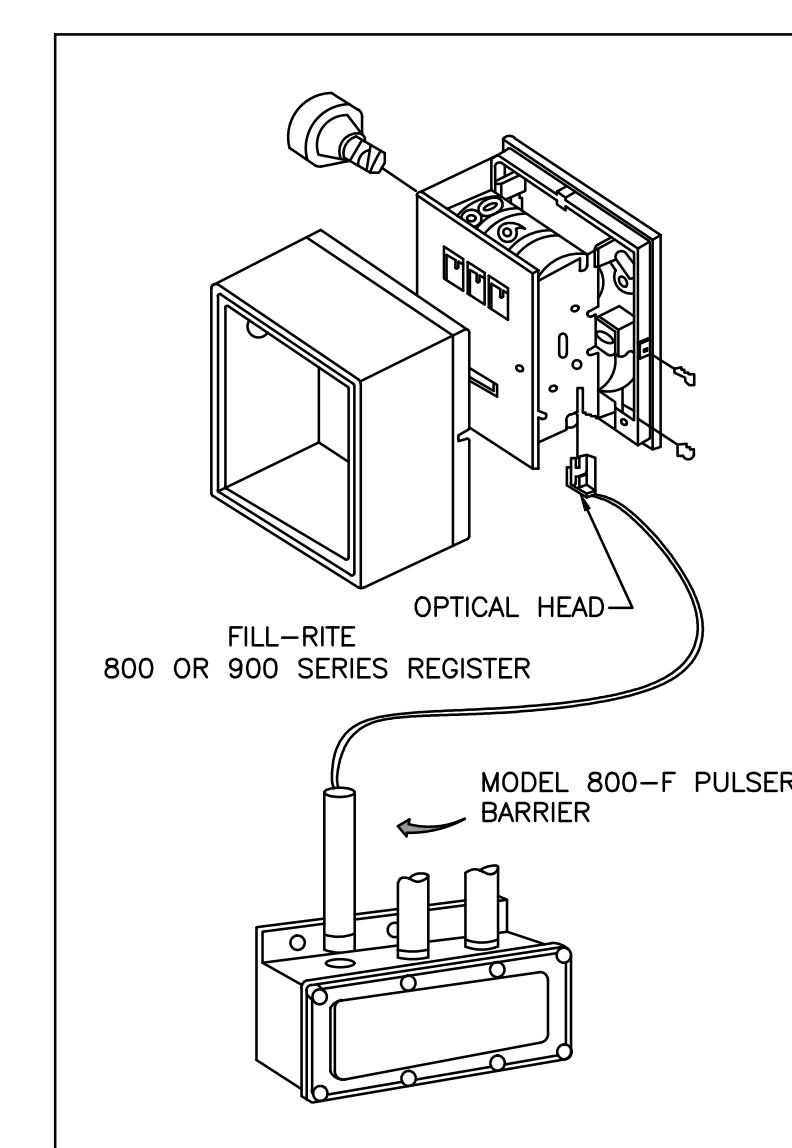
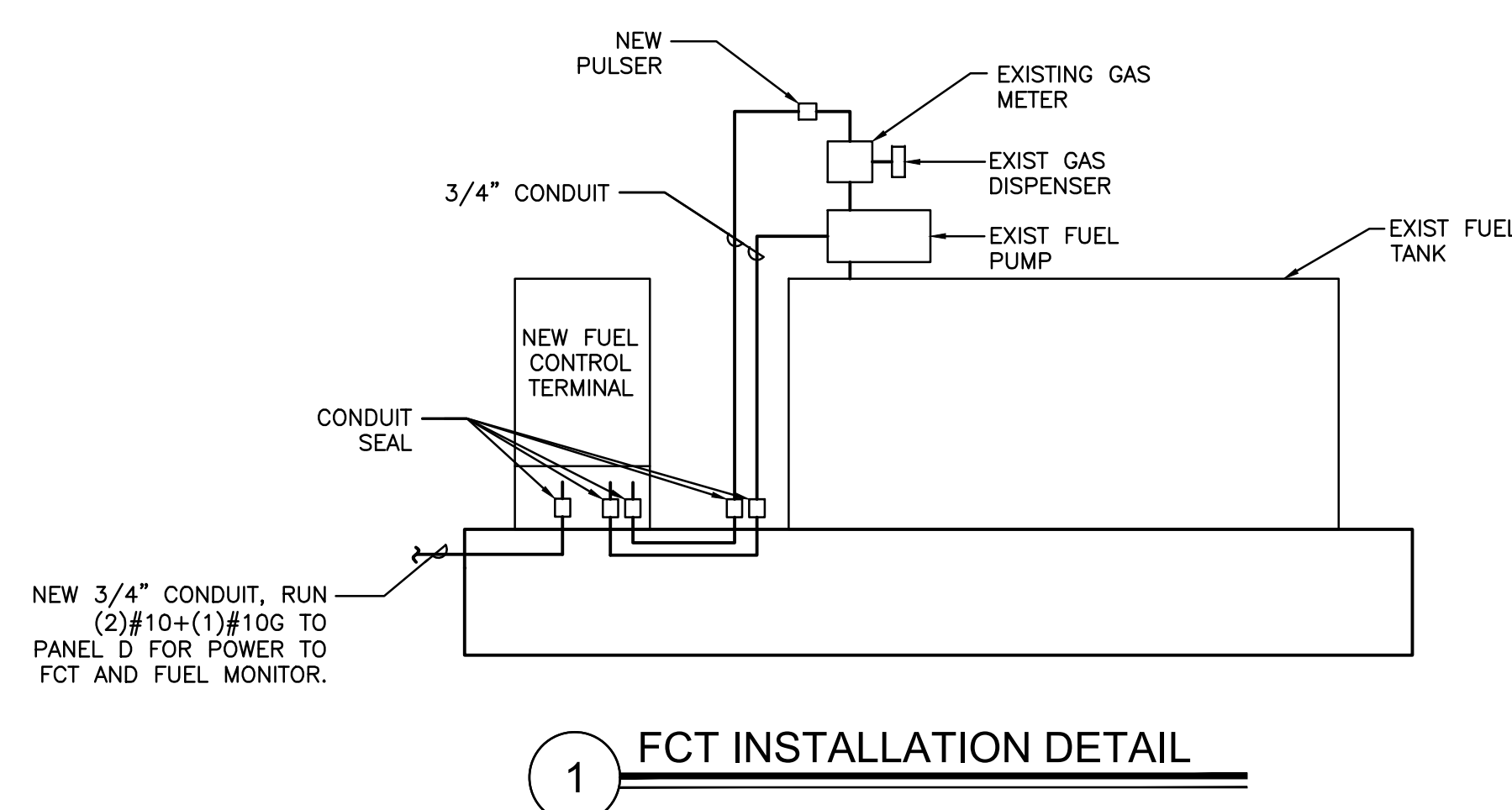
Sheet No.:

**86-E201**

UPDATED: 11/13/2018 2:51 pm		EXISTING PANEL D																	
ISSUED FOR: APPROVAL		LOCATION: ELEC RM						MAIN: 100A MLO						CONN. LOAD: 20.1 KVA					
		VOLTAGE: 120V/208V						SYSTEM: 3Ø, 4W						FEED: TOP					
		TRIM: SURFACE						BUS RATING: 100A						GROUND BUS: YES COPPER					
CKT	LOAD SERVED	COND	PHASE	NEUT	GRD	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GRD	LOAD SERVED	CKT	
1	EXISTING LOAD				3Ø/2	N	2250	800				N	20/1					EXISTING LOAD	2
3	EXISTING LOAD						2250	800				N	20/1					EXISTING LOAD	4
5	EXISTING LOAD						20/1	800				N	20/1					EXISTING LOAD	6
7	EXISTING LOAD						20/1	800				N	20/1					EXISTING LOAD	8
9	EXISTING LOAD						15/1	800				N	20/1					EXISTING LOAD	10
11	EXISTING LOAD						3Ø/2											SPARE	12
13								2250											14
15	FUEL PUMP						20/1					N	15/2					EXISTING LOAD	16
17	EXISTING LOAD						20/1					N							18
19	FCT & FUEL MONITOR	3/4"			#10	#10	20/1	N	840										20
21																			22
23																			24

LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	0	20140	1.0	20140		
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	0	0	1.0	0		
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	20.1	KVA	55.9	AMPS		
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	20.1	KVA	55.9	AMPS		
AIR CONDITIONING	0	1.0	0					0					1.00



INSTALLATION

- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
- (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
- PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
- (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
- REPLACE THE REGISTER COVER AND RESET BOX.
- INSTALL THE BARRIER INTO THE JUNCTION BOX.
- CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
- CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

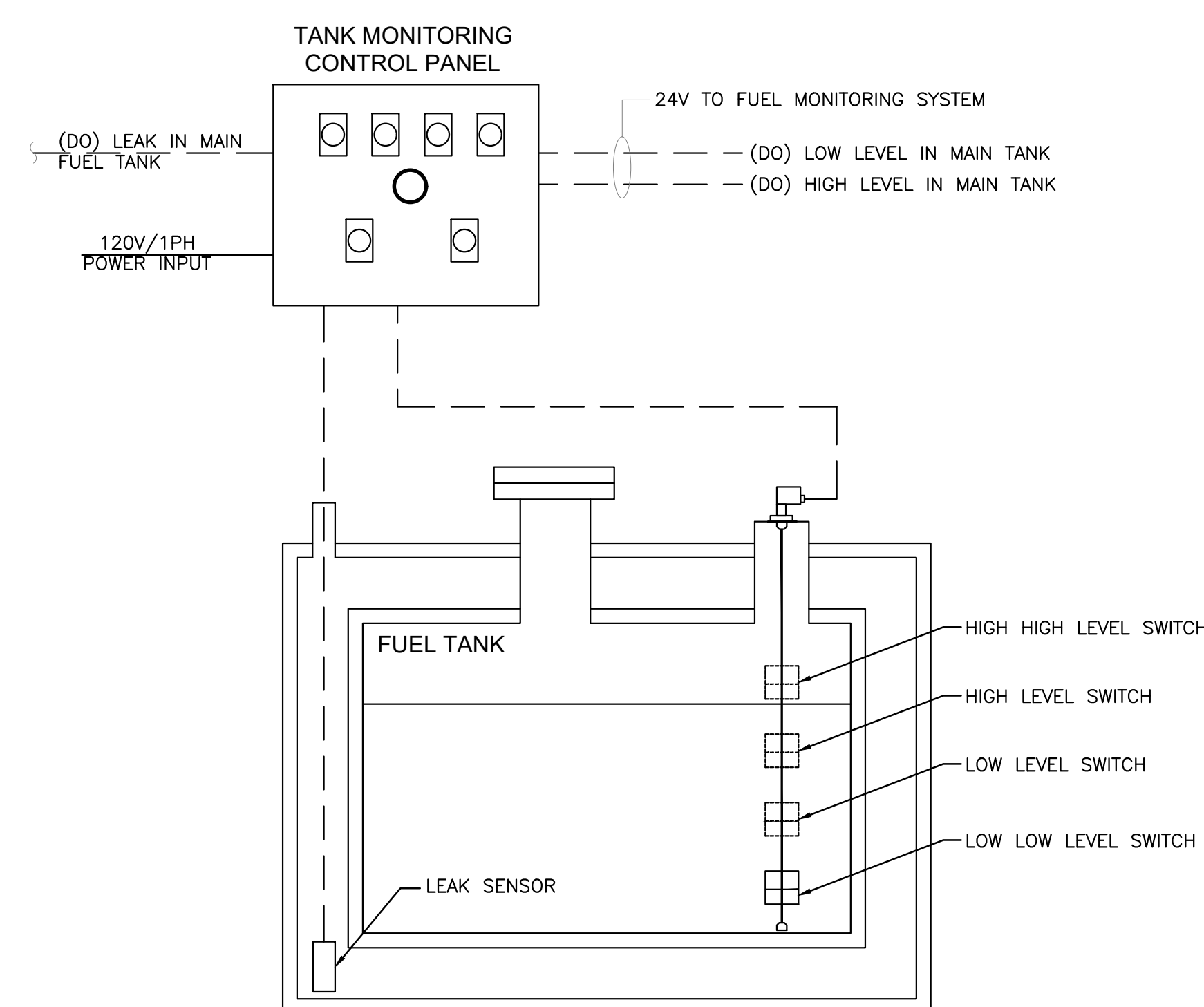
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

**2 PULSER INSTALLATION DETAIL**



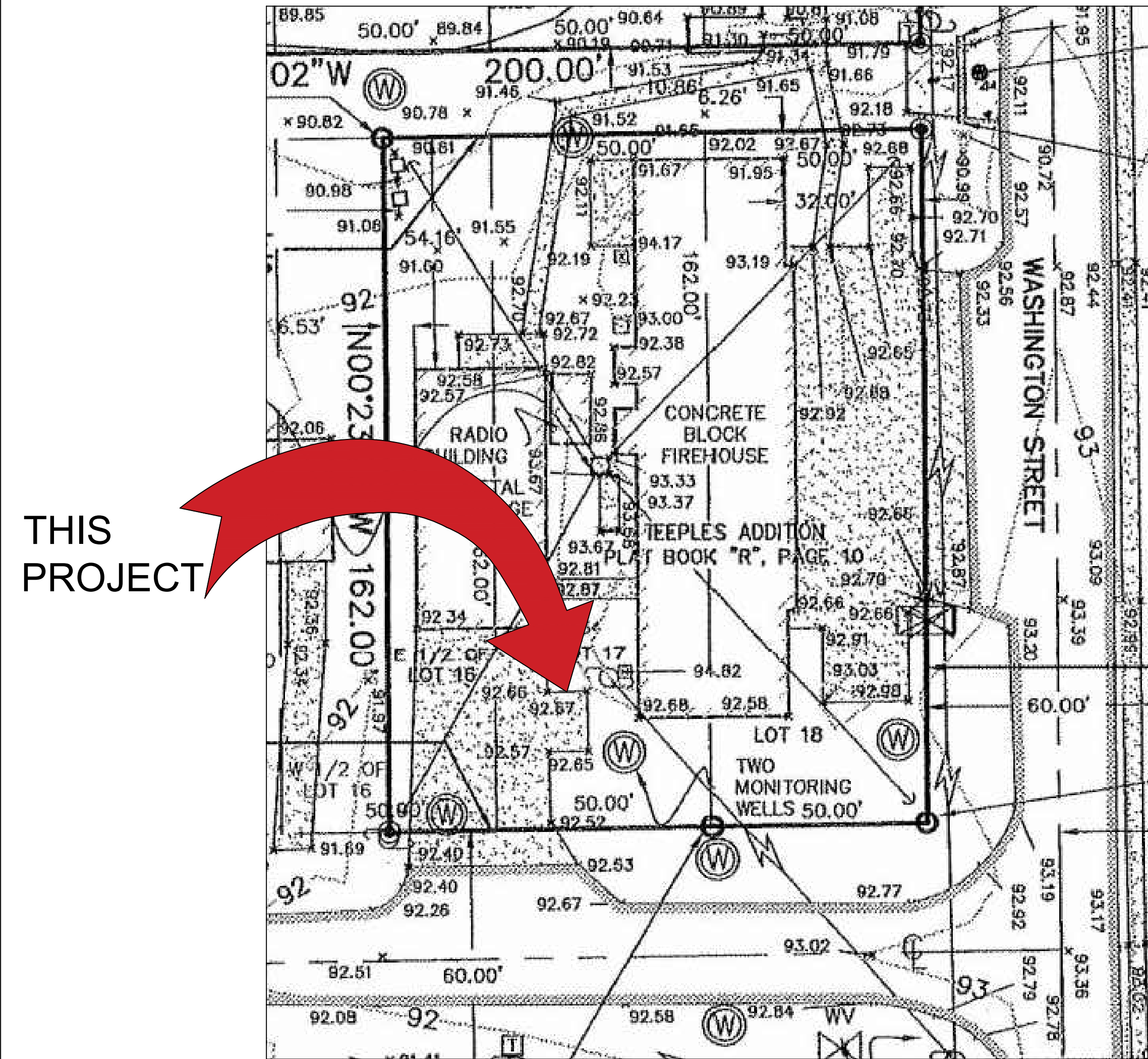
**3 FUEL TANK MONITORING SCHEMATIC**



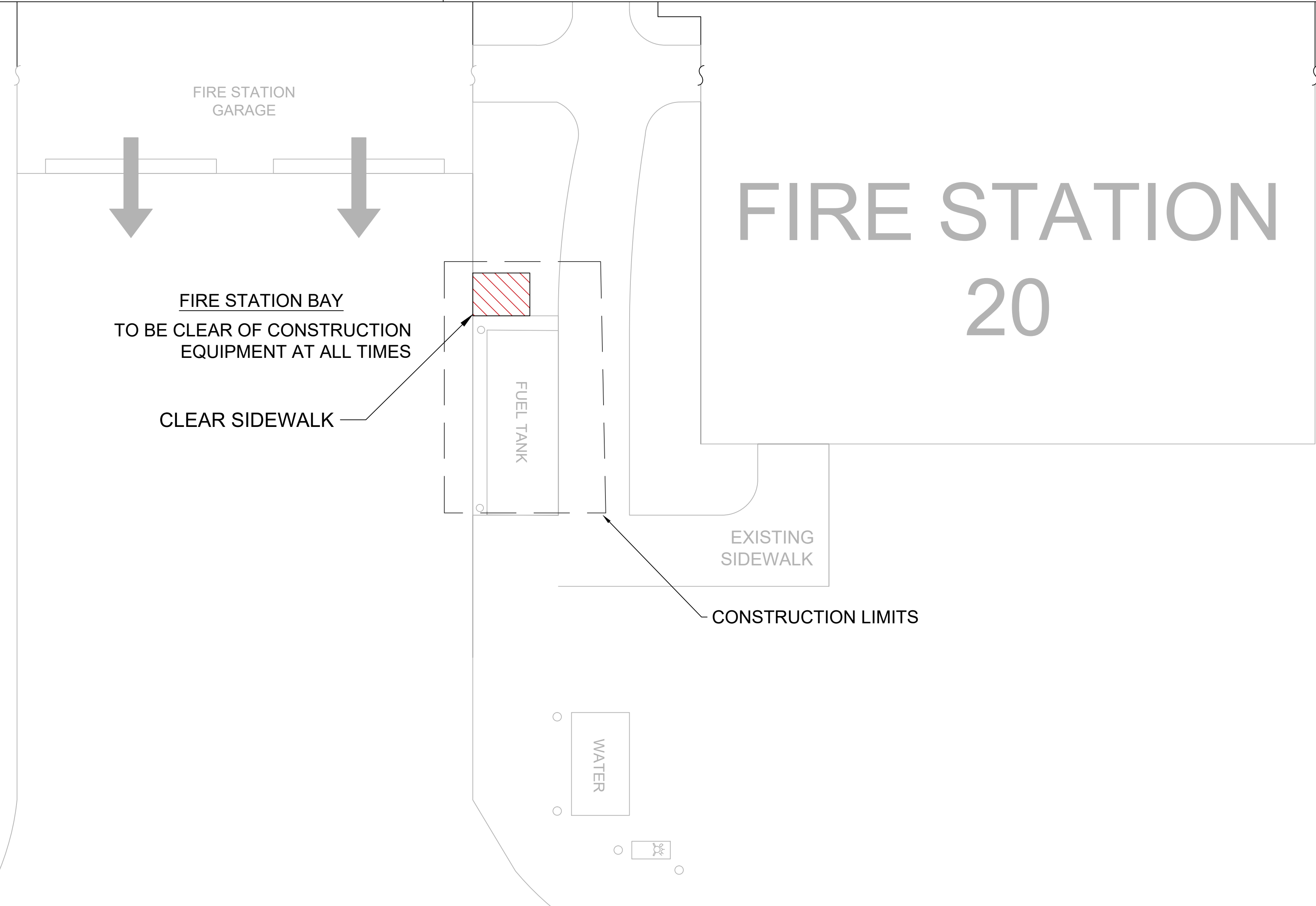


**EXISTING CONDITIONS**  
N.T.S.

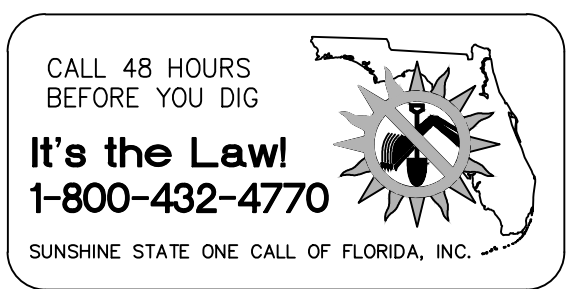
FROM GOOGLE EARTH 2016



**LOCATION MAP**  
N.T.S.



**DEMOLITION PLAN**  
N.T.S.

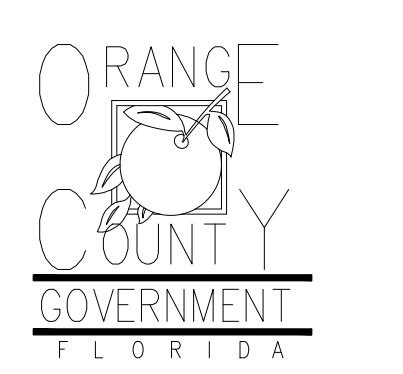


**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:

Fire Station 20  
3200 WASHINGTON ST,  
ZELLWOOD, FL 32798

Issuance:

**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

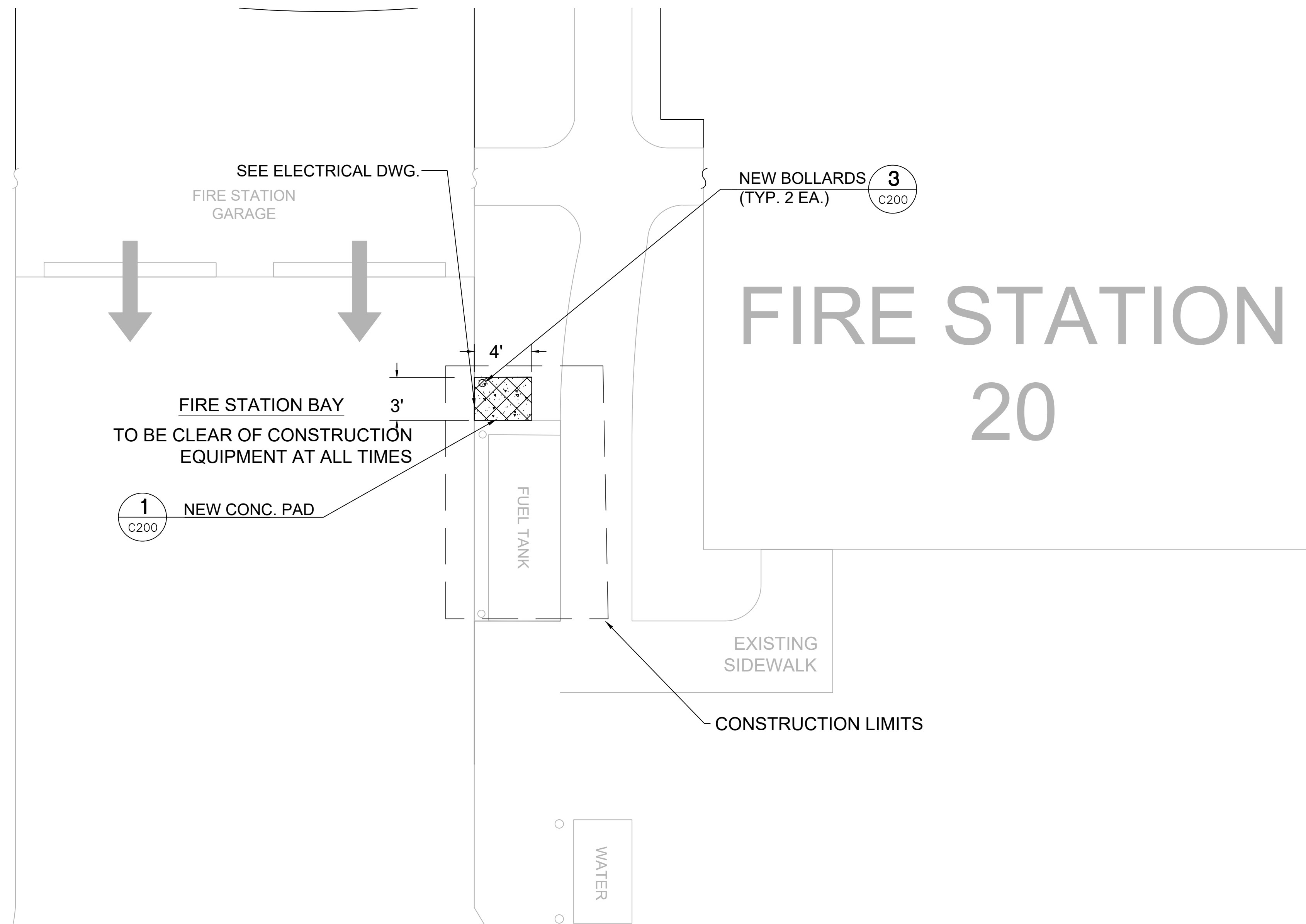
D.D.

**Civil Demo Plan**

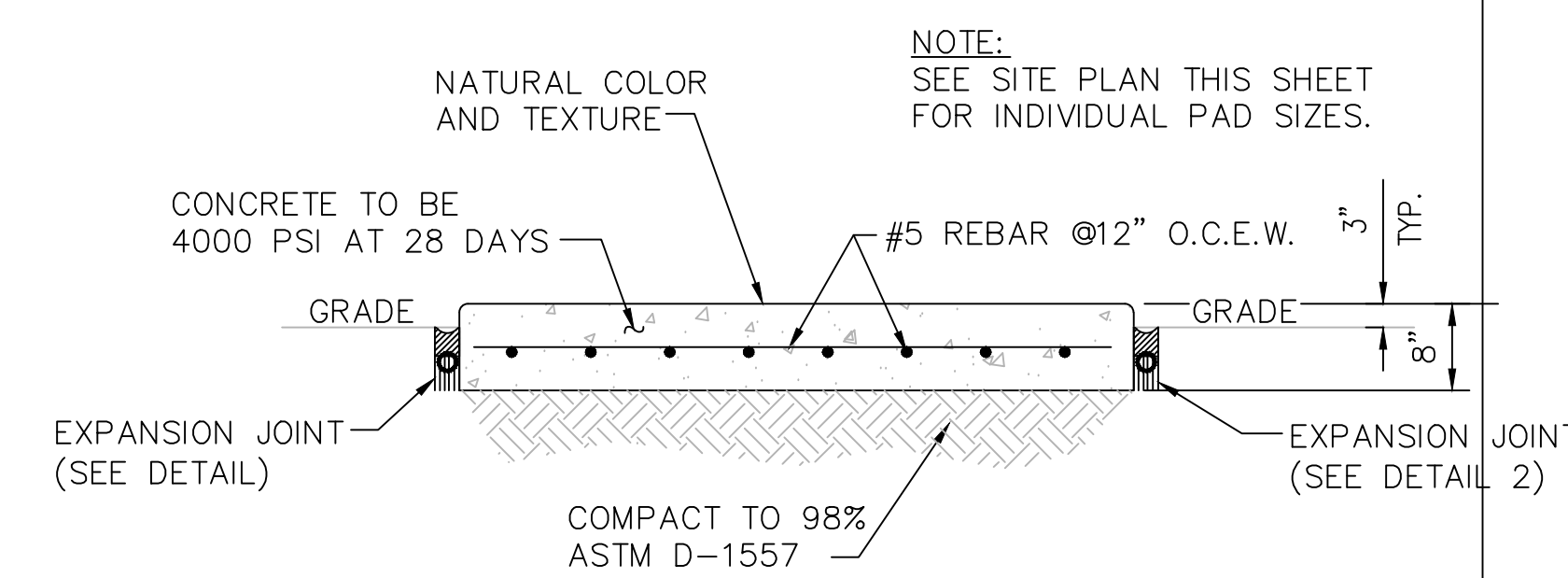
Sheet No.:

20-C100

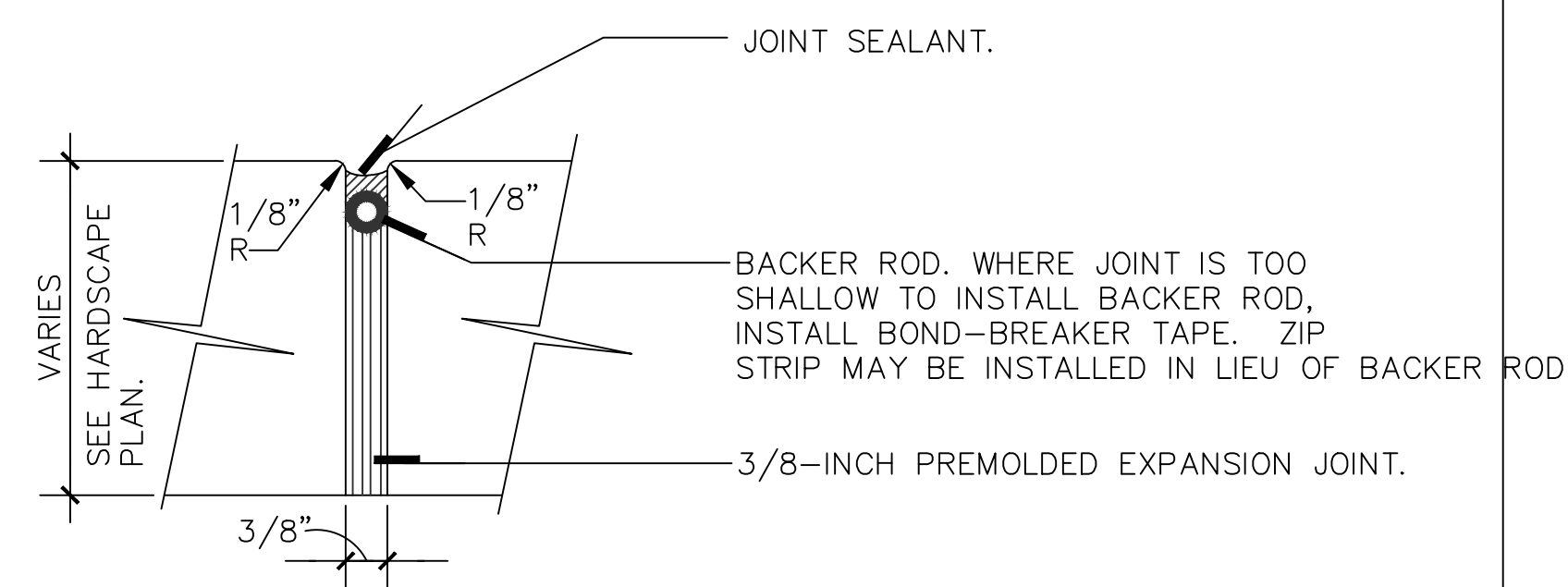




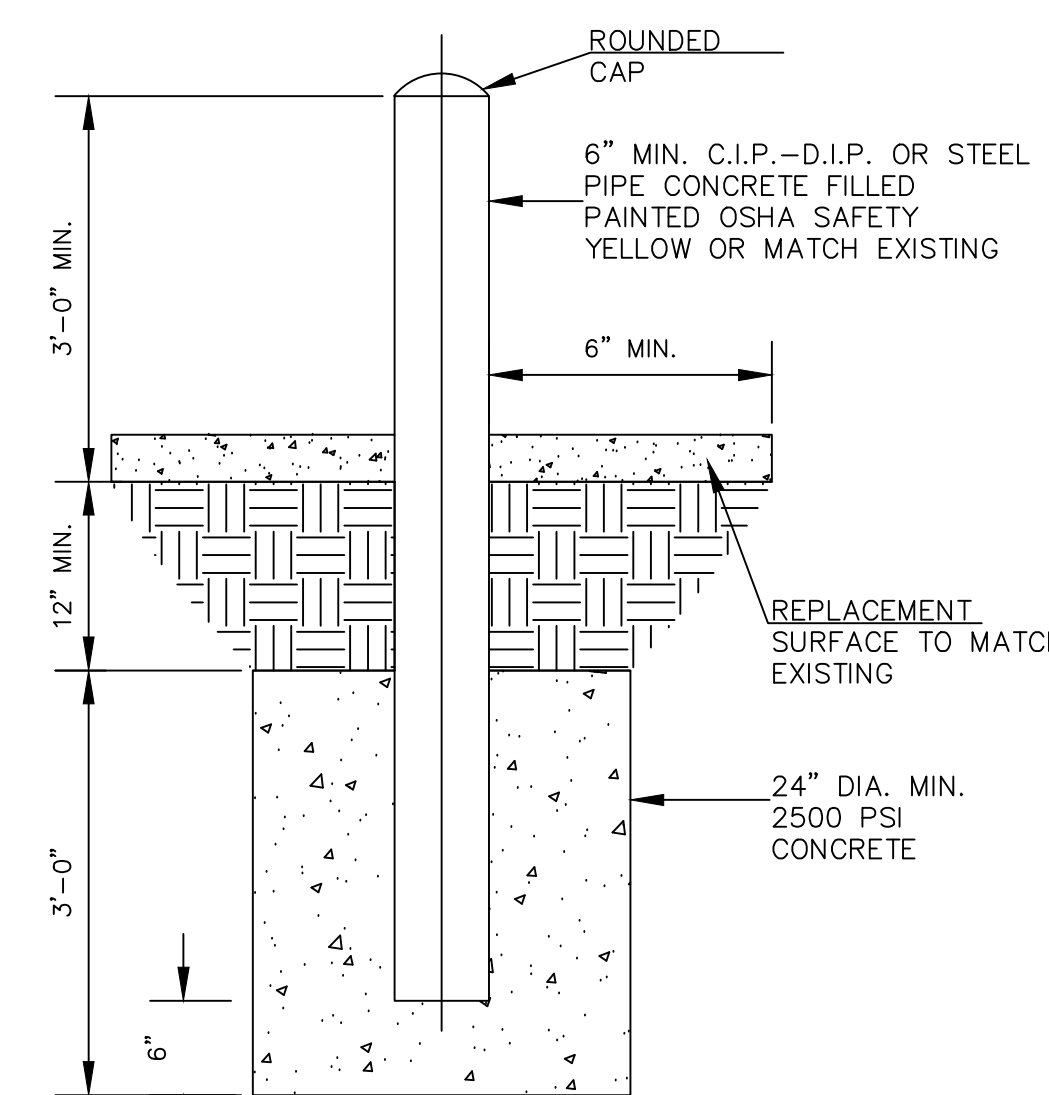
**SITE PLAN**  
N.T.S.



**1 CONCRETE PAD DETAIL**  
C200 N.T.S.



**2 EXPANSION JOINT DETAIL**  
C200 N.T.S.



- NOTES:**
1. INSTALL BOLLARD STRAIGHT, PLUMB, AND IN LINE WITH EXISTING.
  2. BOLLARD TO BE SAME MATERIAL, SIZE, AND COLOR AS EXISTING.
  3. BOLLARD INSTALLED WITH SAME HEIGHT, INTERVAL, AND SEPARATION FROM EXISTING CURB.

**3 BOLLARD DETAIL**  
C200 N.T.S.

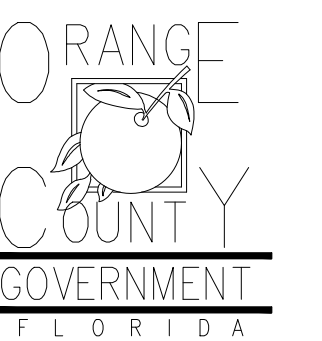
**MISCELLANEOUS DETAILS**  
N.T.S.

**PROJECT SPECIFIC NOTES - CIVIL**

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:

Fire Station 20  
3200 WASHINGTON ST,  
ZELLWOOD, FL 32798

Issuance:

**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Site Plan**

Sheet No.:

20-C200



**GENERAL NOTES**

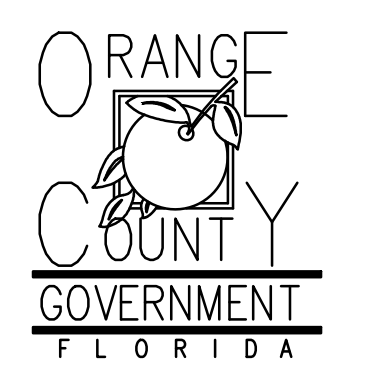
1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



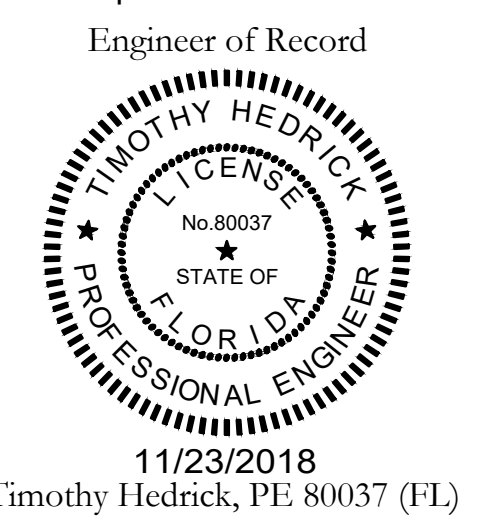
Client:



Consultants:



EOR Stamp:



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:  
Fire Station 20  
3200 WASHINGTON ST,  
ZELLWOOD, FL 32798

Issuance:  
**100% Design  
Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:  
11.23.2018

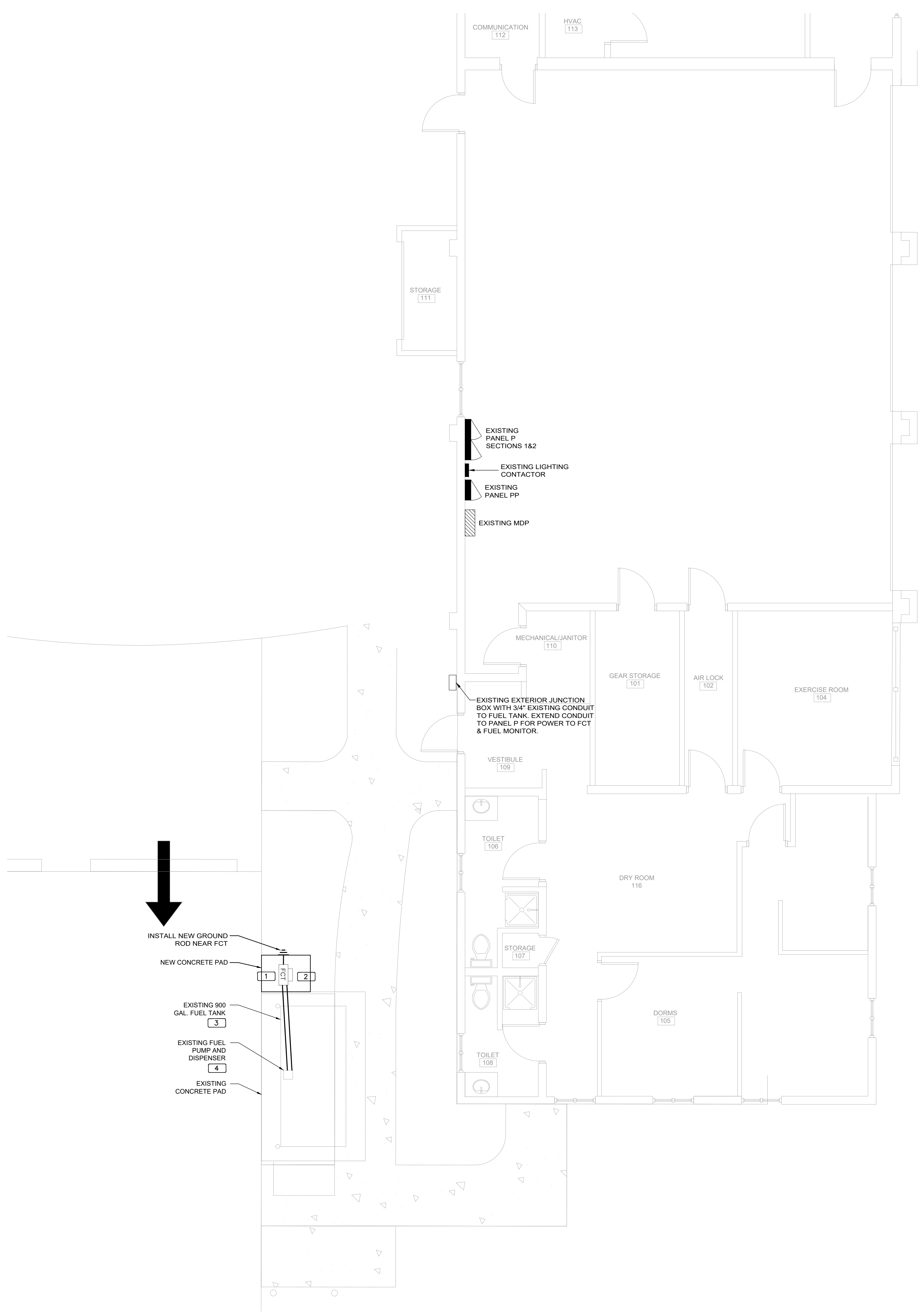
Project Number:  
16.OC.043

Drawn By: ME  
Checked By: SP

**ELECTRICAL  
POWER PLAN**

Sheet No.:

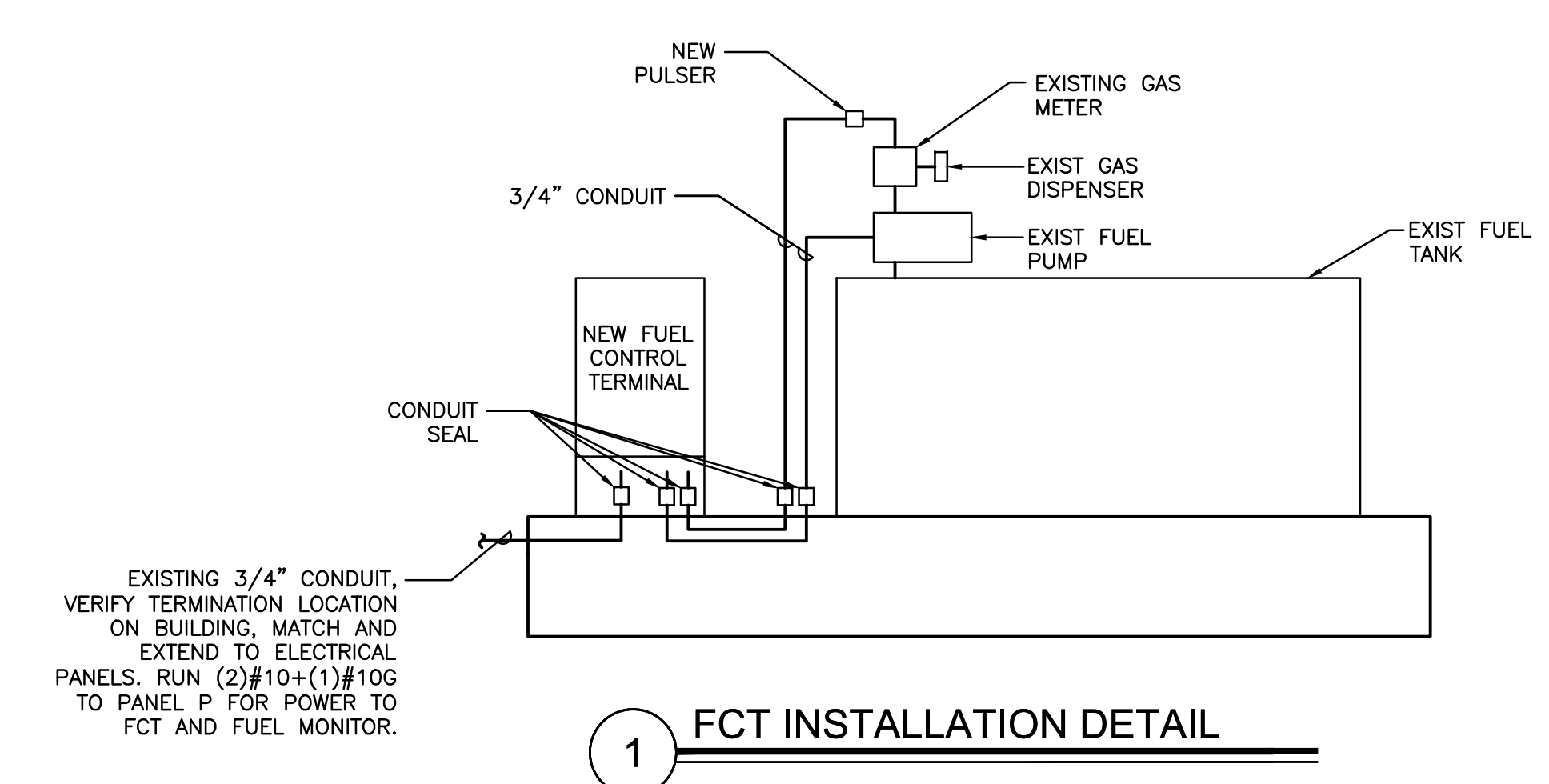
**20-E101**



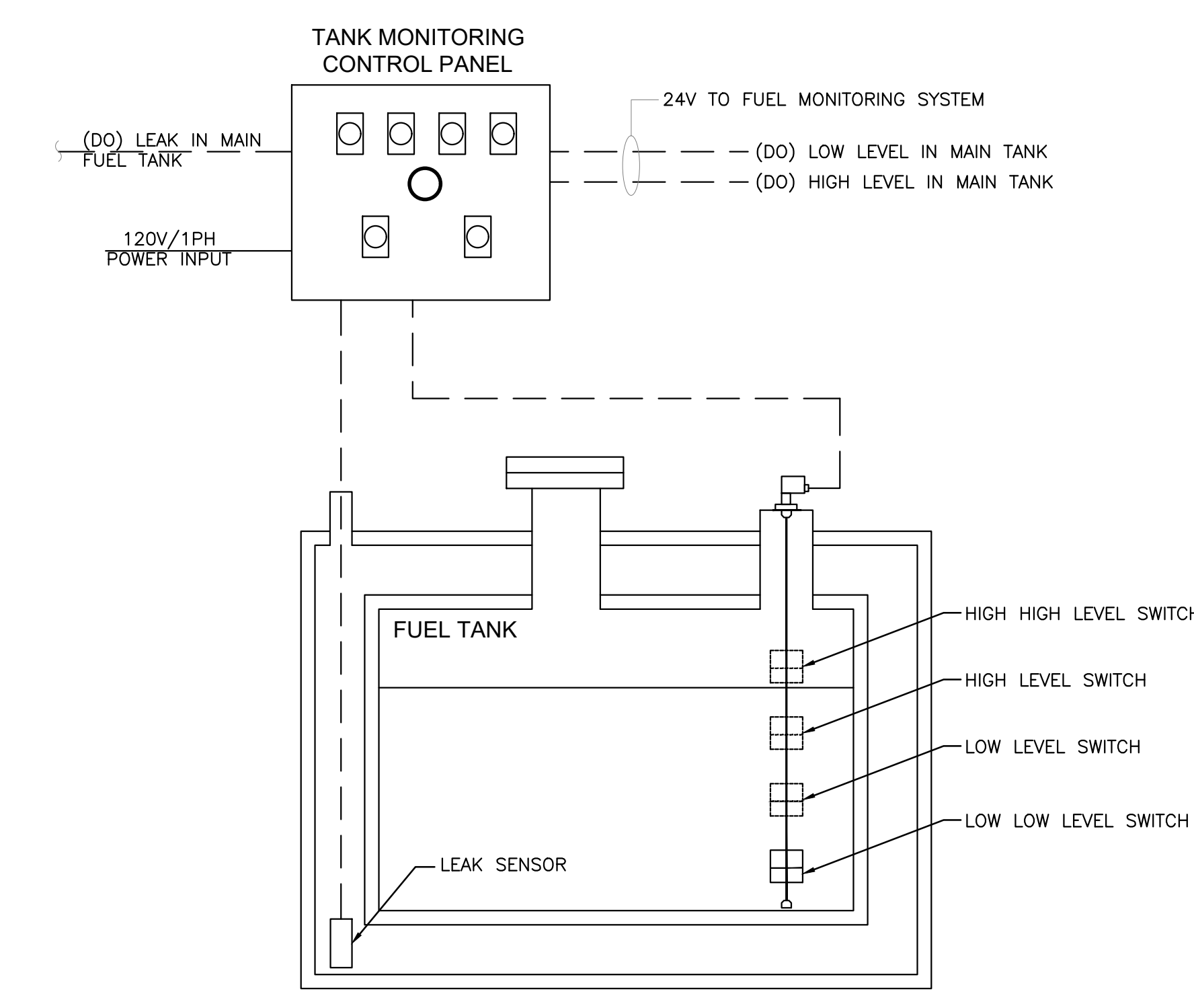
**1 FIRE STATION 20 SITE PLAN - NEW POWER PLAN** NORTH  
0 2' 4' 8' 12'  
1/4" = 1'-0"



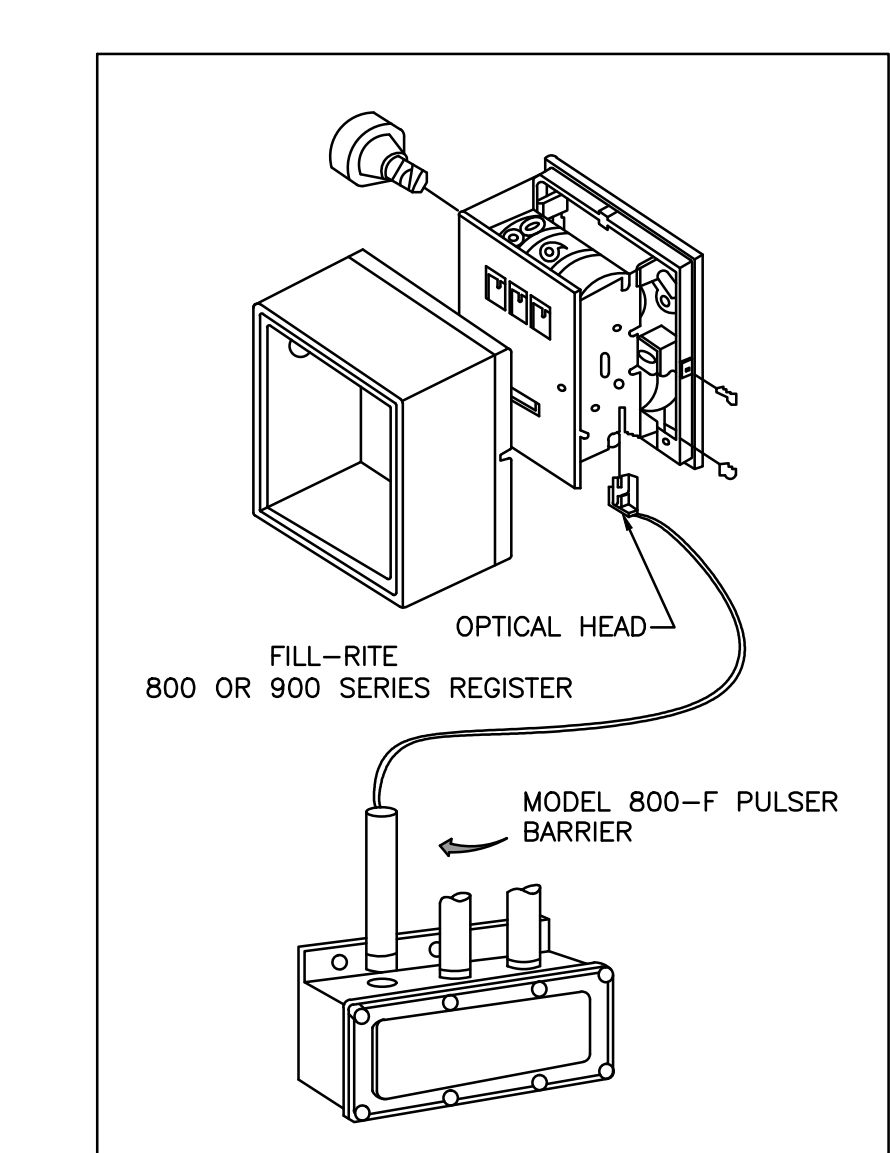
EXISTING PANEL P SECTION 1															EXISTING PANEL P SECTION 2																										
LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE MAIN: 400A MLO SYSTEM: 3# 4W BUS RATING: 400A FEED: TOP GROUND BUS: YES COPPER CONN. LOAD: 97.1 KVA															LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE MAIN: 400A MLO SYSTEM: 3# 4W BUS RATING: 400A FEED: TOP GROUND BUS: YES COPPER CONN. LOAD: 45.4 KVA																										
CKT	LOAD SERVED	COND	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	CKT	CKT	LOAD SERVED	COND	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	CKT				
1	BUNK ROOM RECEPTACLE					20/1	R	1000				R	30/1					30A SHORE LINE - BAY 1	2	4.3	LT. OFFICE RECEPTACLE				20/1	R	1000										FIRST ALERT LIGHTING (SOUTH)	44			
3	BUNK ROOM RECEPTACLE					20/1	R	800				R	30/1					30A SHORE LINE - BAY 3	4	4.5	TV AMP				20/1	R	400										FIRST ALERT LIGHTING (NORTH)	46			
5	LOCKER AREA RECEPTACLE					20/1	R	2500				N	30/2					EXISTING LOAD	6	4.7	COMM. ROOM RECEPTACLE				20/1	R	1000											EXISTING LOAD	48		
7	BUNK ROOM RECEPTACLE					20/1	R	1000				N						EXISTING LOAD	8	4.9	EMS RECEPTACLE				20/1	R	1000											EXISTING LOAD	50		
9	BUNK ROOM RECEPTACLE					20/1	R	2250				N	30/2					EXISTING LOAD	10	5.1	RECEPTABLES				20/1	R	1000											EXTERIOR LIGHTING	52		
11	EXERCISE ROOM RECEPTACLE					20/1	R	1000				N						EXISTING LOAD	12	5.3	RECEPTABLES				20/1	R	1000											EXISTING LOAD	54		
13	EXERCISE ROOM RECEPTACLE					20/1	R	1000				N	30/2					EXISTING LOAD	14	5.5	DAYROOM RECEPTACLE				20/1	R	1000												EXISTING LOAD	56	
15	EXERCISE/HALL RECEPTACLE					20/1	R	800				N						GENERATOR JACKET HEATER	16	5.7	GENERATOR JACKET HEATER				30/2	R	2250												EXISTING LOAD	58	
17	BATHROOM GFI					20/1	R	1000				M	20/1					BAY 1 DOOR	18	5.9	RECEPTABLES				20/1	R	1000												EXHAUST FANS (RM 106,108,119)	60	
19	WASHING MACHINE					20/1	R	1000				M	20/1					BAY 2 DOOR	20	6.1	RECEPTABLES				20/1	R	1000												FCT	62	
21	TRANSCEIVER					20/1	R	1000				M	20/1					BAY 3 DOOR	22	6.3	RECEPTABLES				20/1	R	1000													FUEL MONITOR	64
23	APPARATUS BAY GFI					20/1	R	1000				K	20/1					MICROWAVE	24	6.5	EXISTING LOAD				20/1	N	1000												EXISTING LOAD	66	
25	APPARATUS BAY GFI					20/1	R	1000				K	20/1					ICE MACHINE	26	6.7	FIRST ALERT CONTROL PANEL				20/1	R	1000													EXISTING LOAD	68
27	DRDP CORD					20/1	R	1000				K	20/1					DISHWASHER	28	6.9	LT. OFFICE RECEPTACLE				20/1	R	1000													BUNK/EXERCISE LIGHTING	70
29	DRDP CORD - ENGINE					20/1	R	1000				K	20/1					REFRIGERATOR	30	7.1	EXISTING LOAD				20/1	N	1000												SOUTH WING LIGHTING	72	
31	FIRE ALARM					20/1	N	1000				K	20/1					REFRIGERATOR	32	7.3	EXISTING LOAD				20/1	N	600												SOUTH WING LIGHTING	74	
33	CHARGERS/HALL RECEPTACLE					20/1	R	600				K	20/1					KITCHEN GFI	34	7.5	EF-6				20/1	A	1000													BAY LIGHTING	76
35	FUEL PUMP					20/1	R	1000				K	20/1					KITCHEN GFI	36	7.7	EF-7				20/1	A	1000												EXISTING LOAD	78	
37	BATTERY CHARGER					20/1	R	800				K	20/1					KITCHEN GFI	38	7.9	EF-7				20/1	A	600												LIGHTING (RM 111,113,120)	80	
39	TV AMP					20/1	R	2500				K	30/1					KRONOS	40	8.1	GENERATOR GFI				20/1	R	400													KITCHEN LIGHTING	82
41	VOICE/DATA RECEPTABLES					20/1	R	1000				K	30/1					EXISTING LOAD	42	8.3	LIGHTING CONTROL (PHOTO)				20/1	R	500													DAYROOM LIGHTING	84
INTERRUPT RATING: 17800 18500 17400															INTERRUPT RATING: 15150 13250 17000																										
LOADS (IN VA )															LOADS (IN VA )																										
CONNECTED DEMAND MINIMUM															CONNECTED DEMAND MINIMUM																										
FACTOR FEEDER															FACTOR FEEDER																										
LIGHTING 7300 1.25 9125															NON-SEASONAL MOTORS 3000 1.0 3000																										
RECEPTS TO 10 KVA 10000 1.0 10000															LARGEST MOTOR 0 0.25 0																										
RECEPTS REMAINING 34900 0.5 17450															WATER HEATING 0 1.0 0																										
SPACE HEATING 0 0.0 0															KITCHEN EQUIP. 7400 0.65 4810																										
AIR CONDITIONING 4000 1.0 4000															REMAINING CONTINUOUS LOADS 0 1.25 0																										
															REMAINING NON-CONTINUOUS LOADS 30500 1.0 30500																										
															DEMAND LOADS 0 1.0 0																										
															TOTAL CONNECTED LOAD 97.1 KVA 269.7 AMPS																										
															MIN. FEEDER/PANEL CAP. 78.9 KVA 219.1 AMPS																										
															OVERALL DEMAND FACTOR 0.81																										



1 FCT INSTALLATION DETAIL



3 FUEL TANK MONITORING SCHEMATIC



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
  - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
  - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

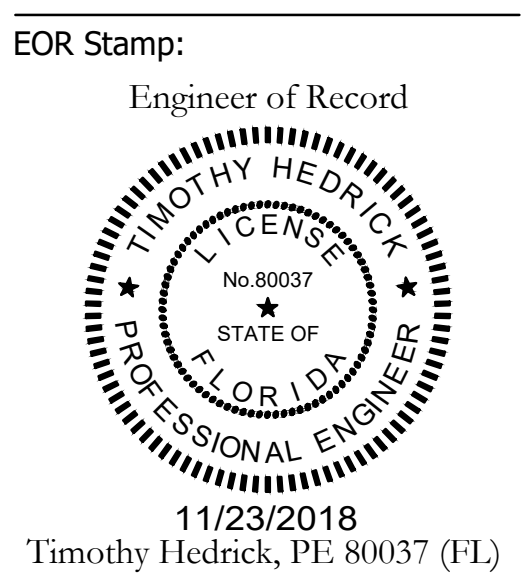
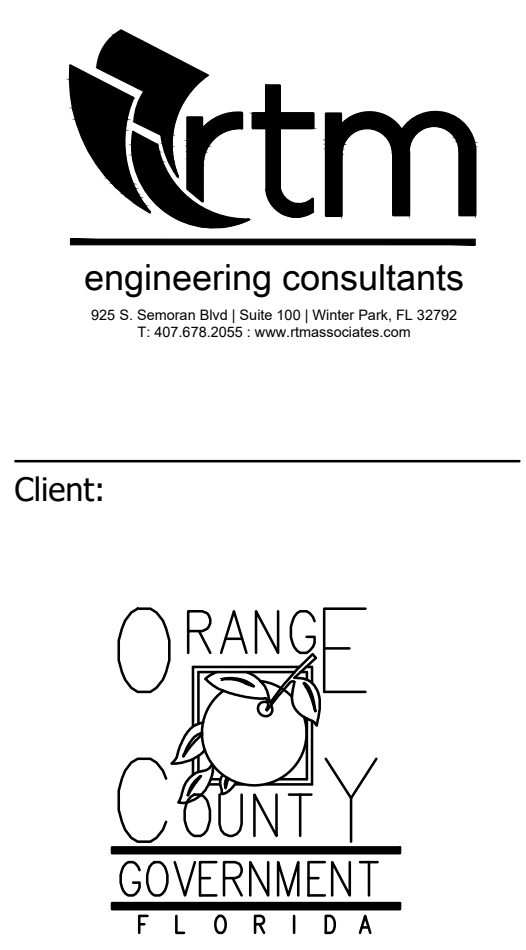
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

2 PULSER INSTALLATION DETAIL



Project:  
**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
 Fire Station 20  
 3200 WASHINGTON ST,  
 ZELLWOOD, FL 32798

Issuance:  
**100% Design Documents**  
 Add Alternate #1

#	Date	Description

Date:  
 11.23.2018

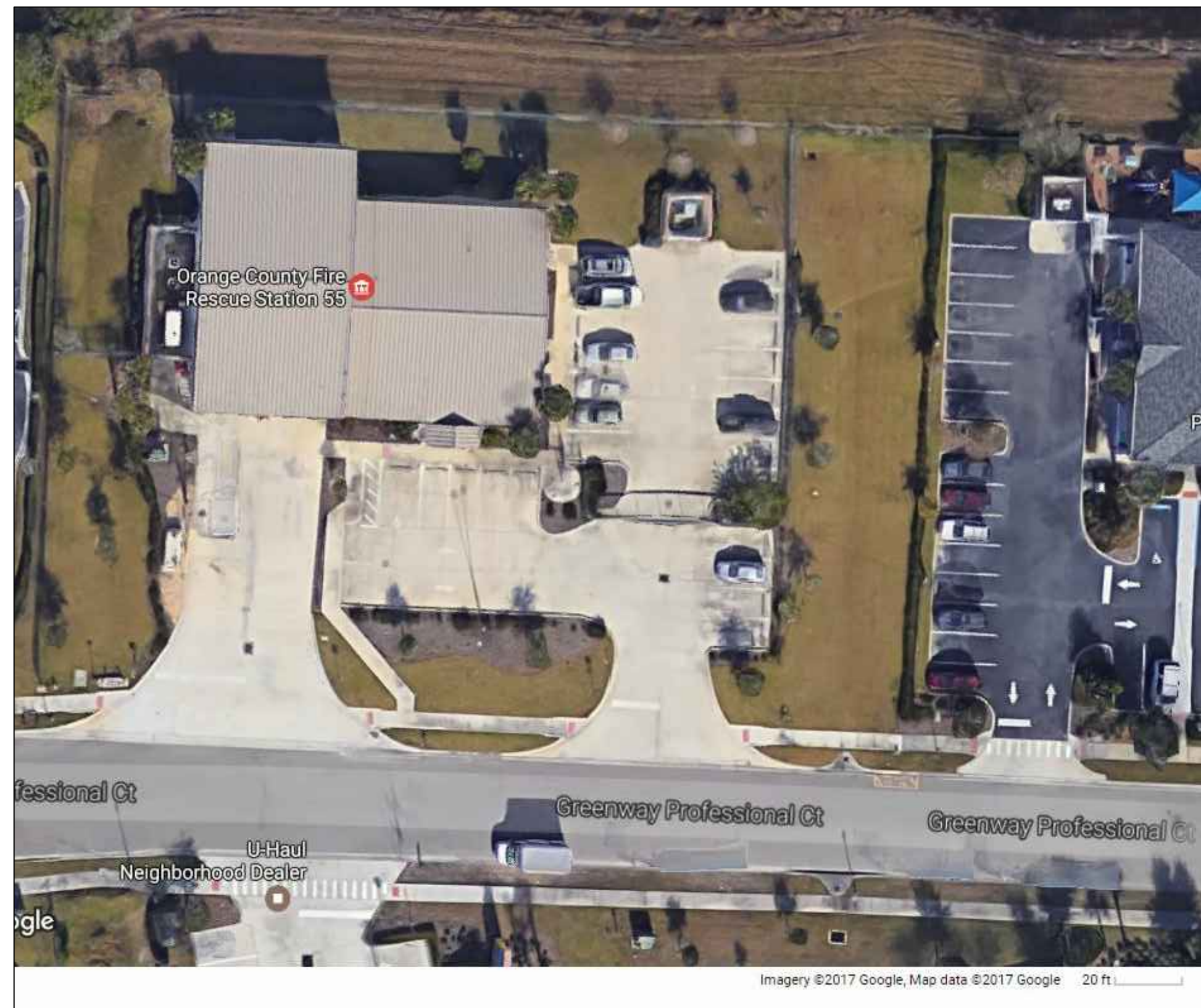
Project Number:  
 16.OC.043

Drawn By: ME  
 Checked By: SP

**ELECTRICAL PANEL SCHEDULES AND DETAILS**

Sheet No.:  
**20-E201**

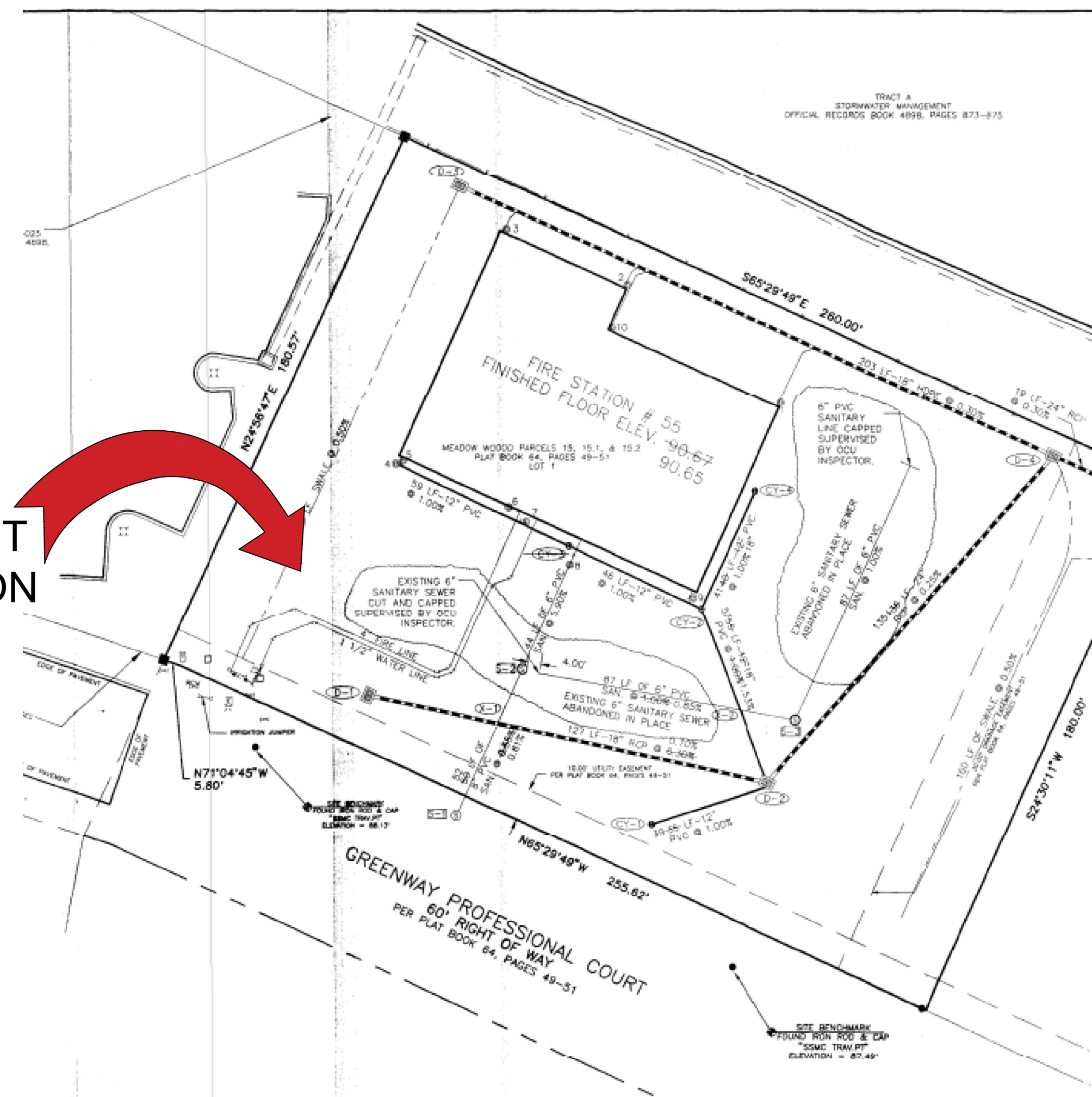




**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016

**PROJECT LOCATION**



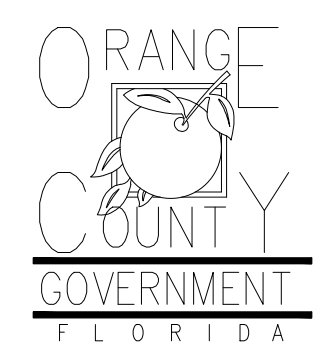
**LOCATION MAP**  
N.T.S.

**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
12. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
13. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:

Fire Station 55  
801 GREENWAY PROFESSIONAL CT,  
ORLANDO, FL 32824

Issuance:

**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

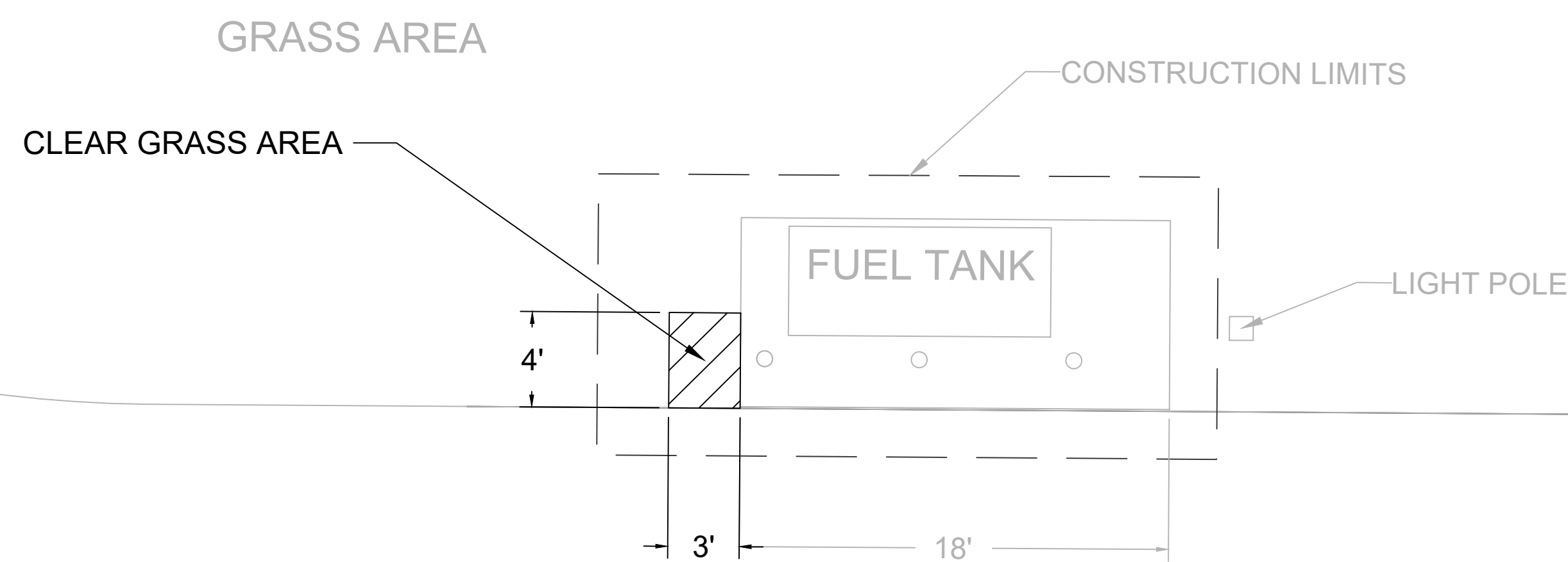
Checked By:

D.D.

**Civil Demo Plan**

Sheet No.:

55-C100



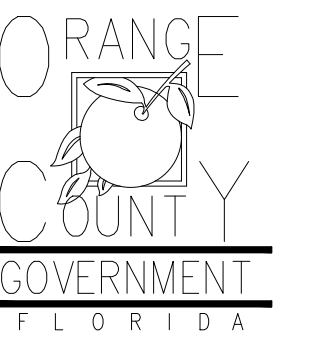
**DEMOLITION PLAN**  
N.T.S.

GREENWAY PROFESSIONAL CT.





Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 55  
801 GREENWAY  
PROFESSIONAL CT,  
ORLANDO, FL 32824

Issuance:

**Permit  
Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Site Plan**

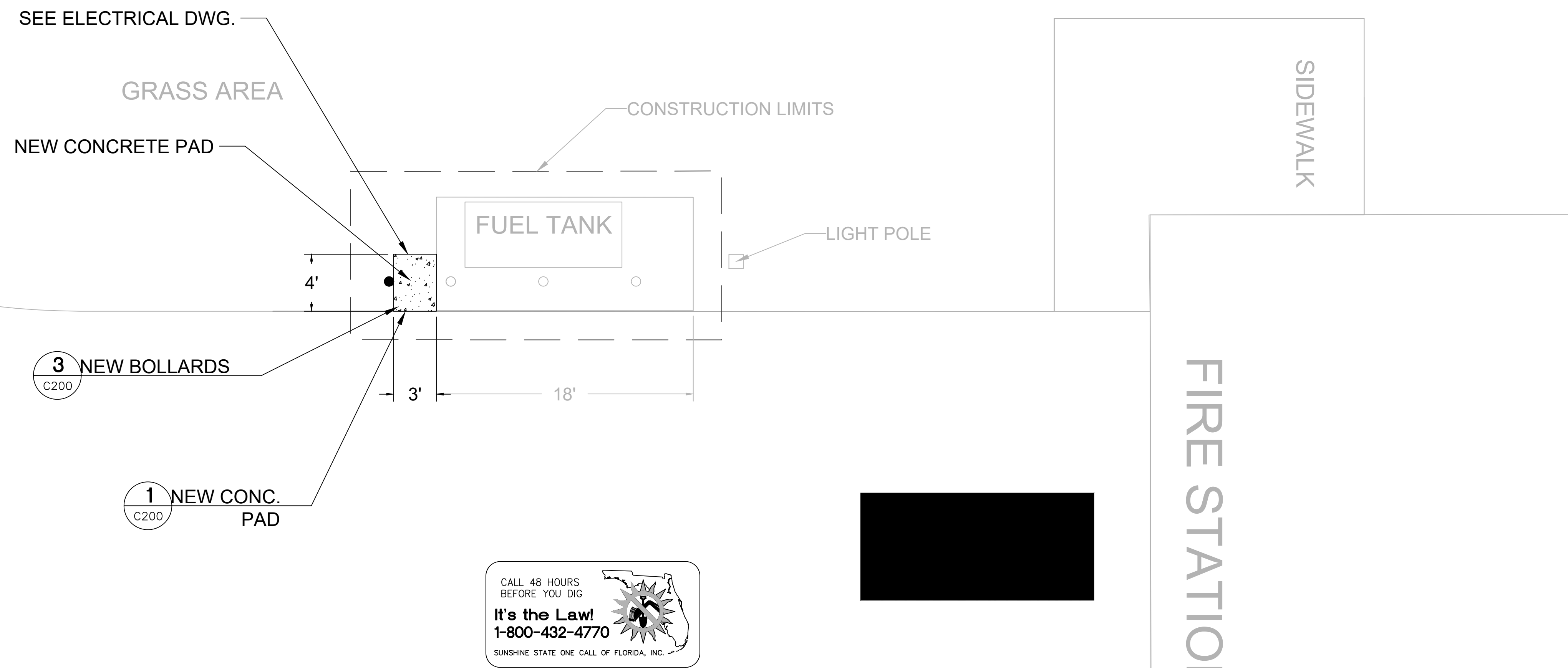
Sheet No.:

55-C200

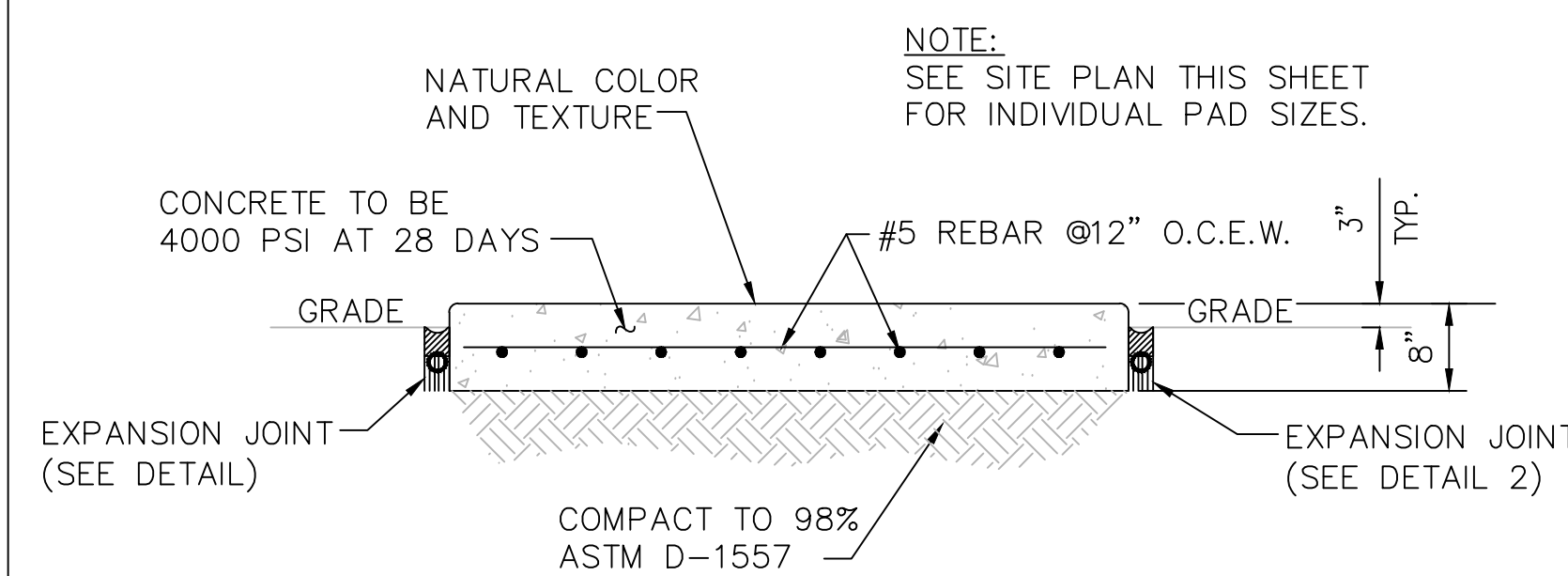
**PROJECT SPECIFIC NOTES - CIVIL**

1. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.

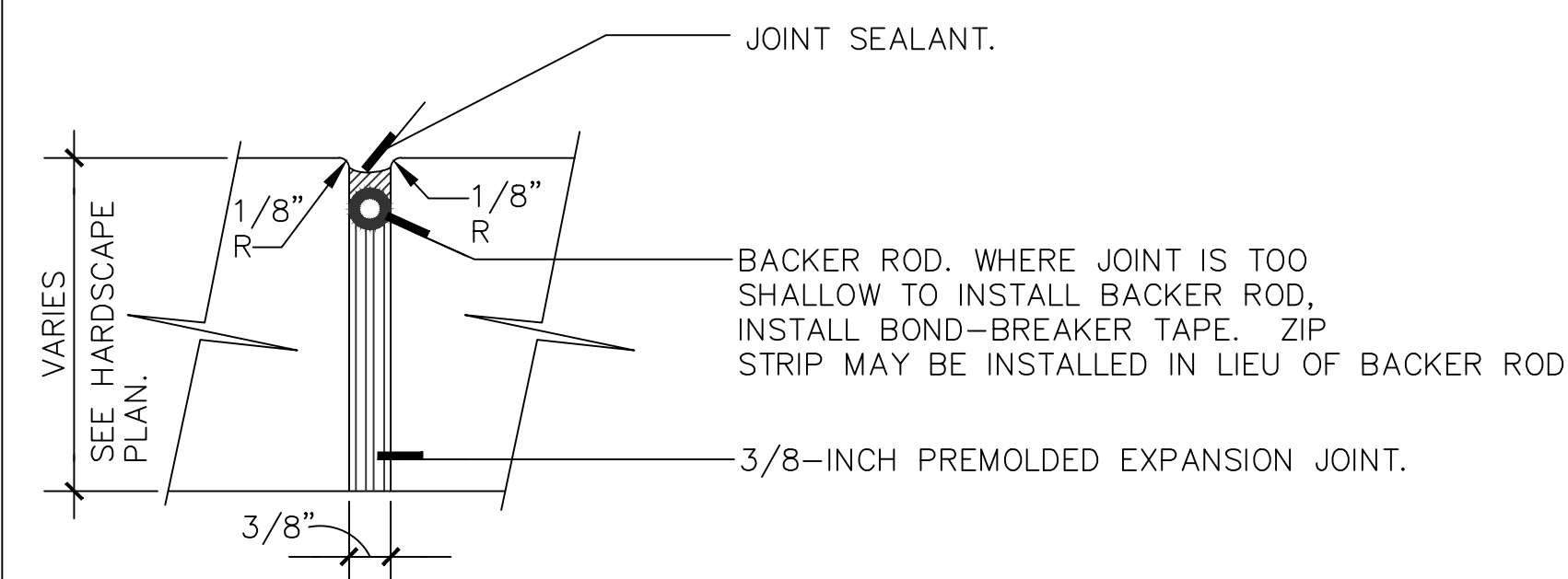
GREENWAY PROFESSIONAL CT.



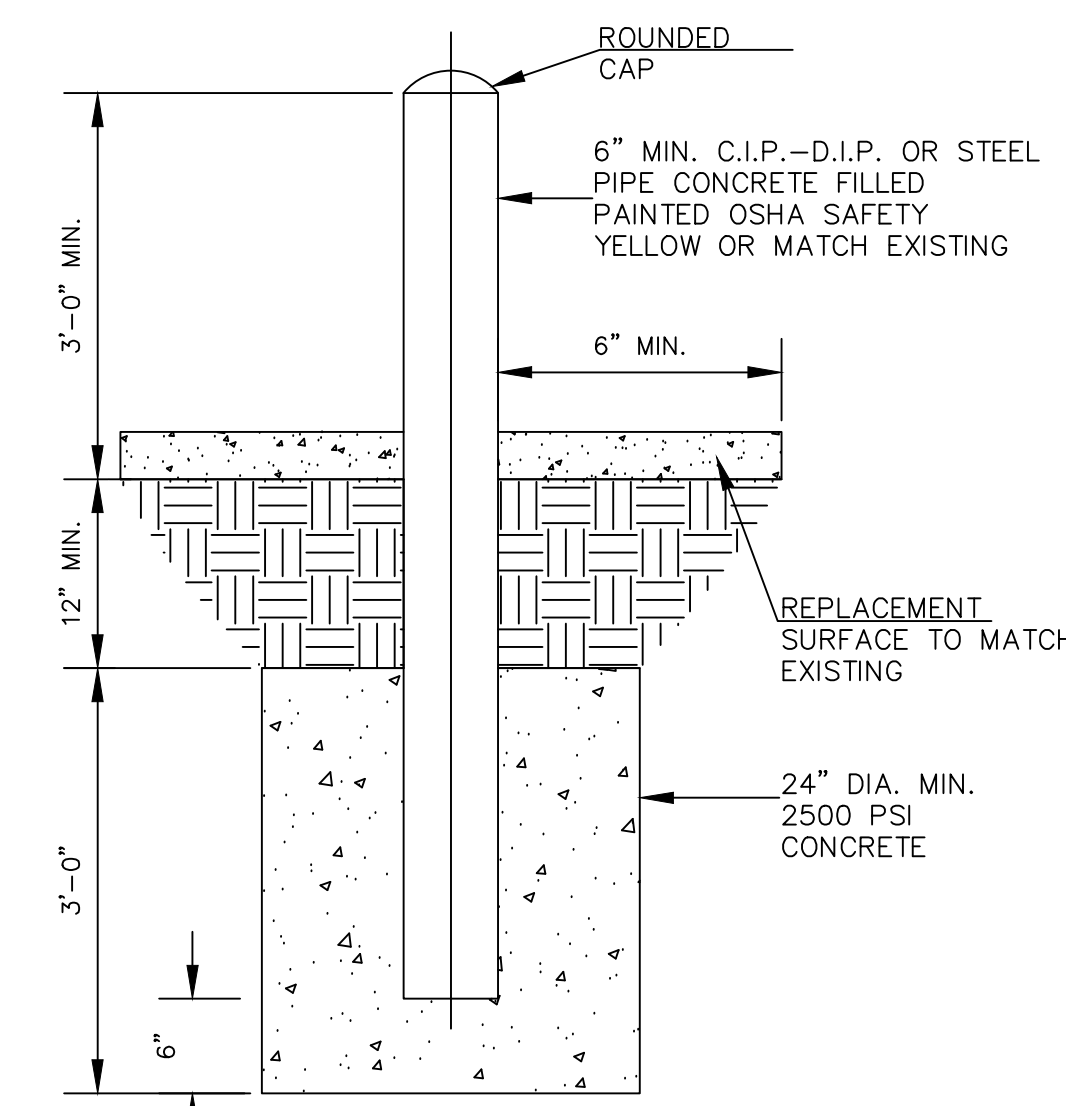
**SITE PLAN  
N.T.S.**



**1 CONCRETE PAD DETAIL**  
C200 N.T.S.



**2 EXPANSION JOINT DETAIL**  
C200 N.T.S.



**3 BOLLARD DETAIL**  
C200 N.T.S.

**MISCELLANEOUS DETAILS  
N.T.S.**







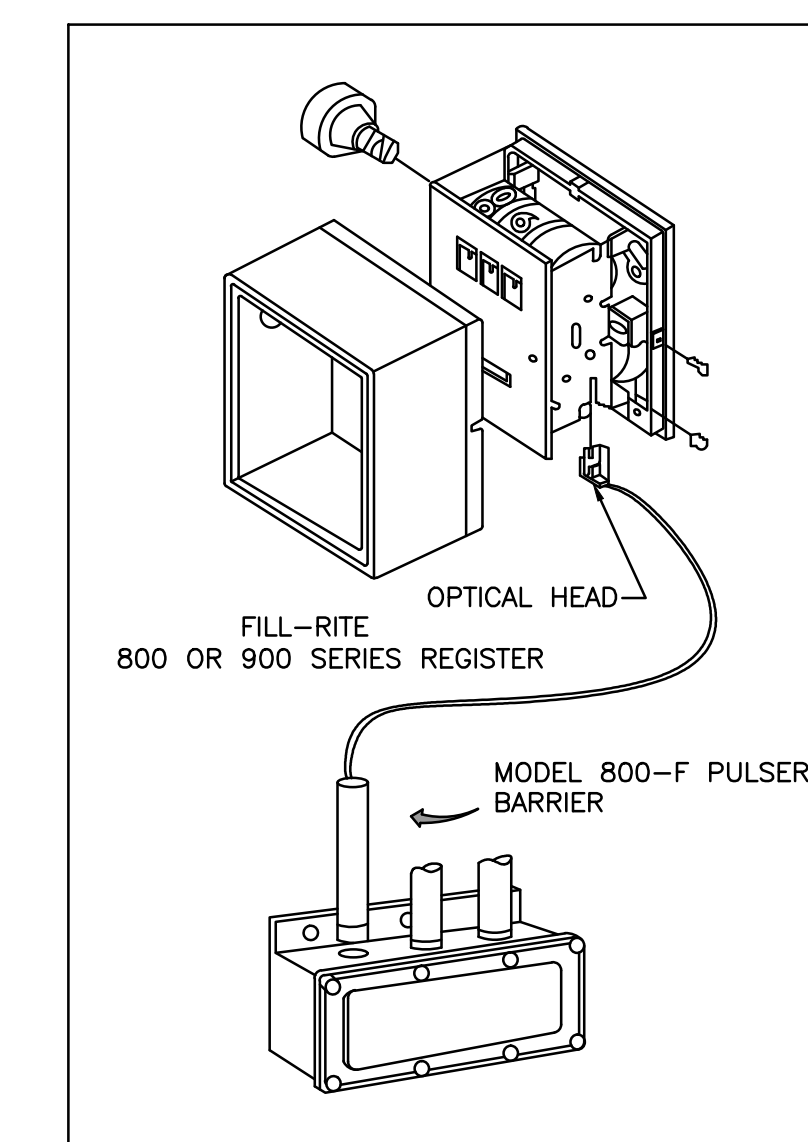
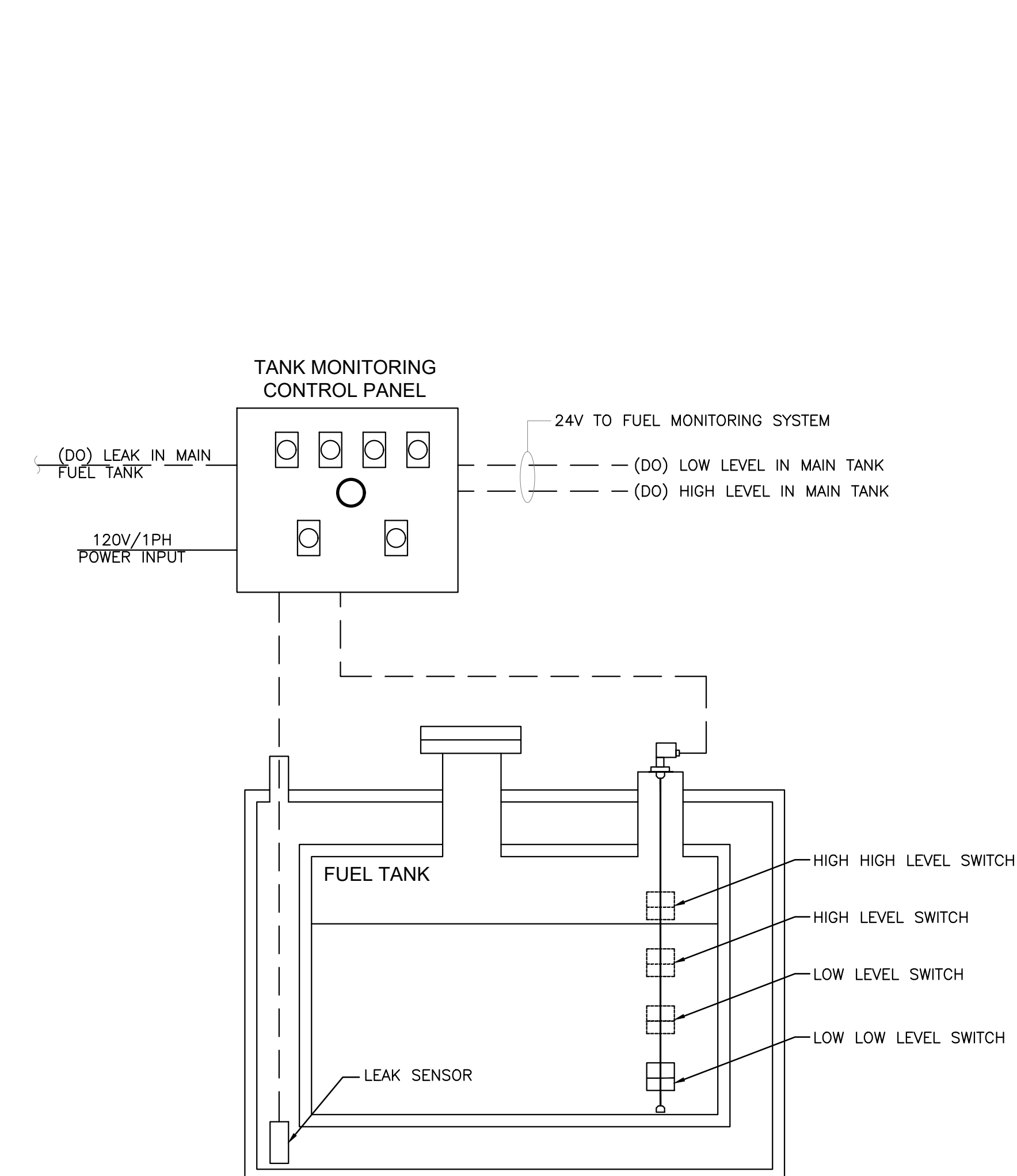
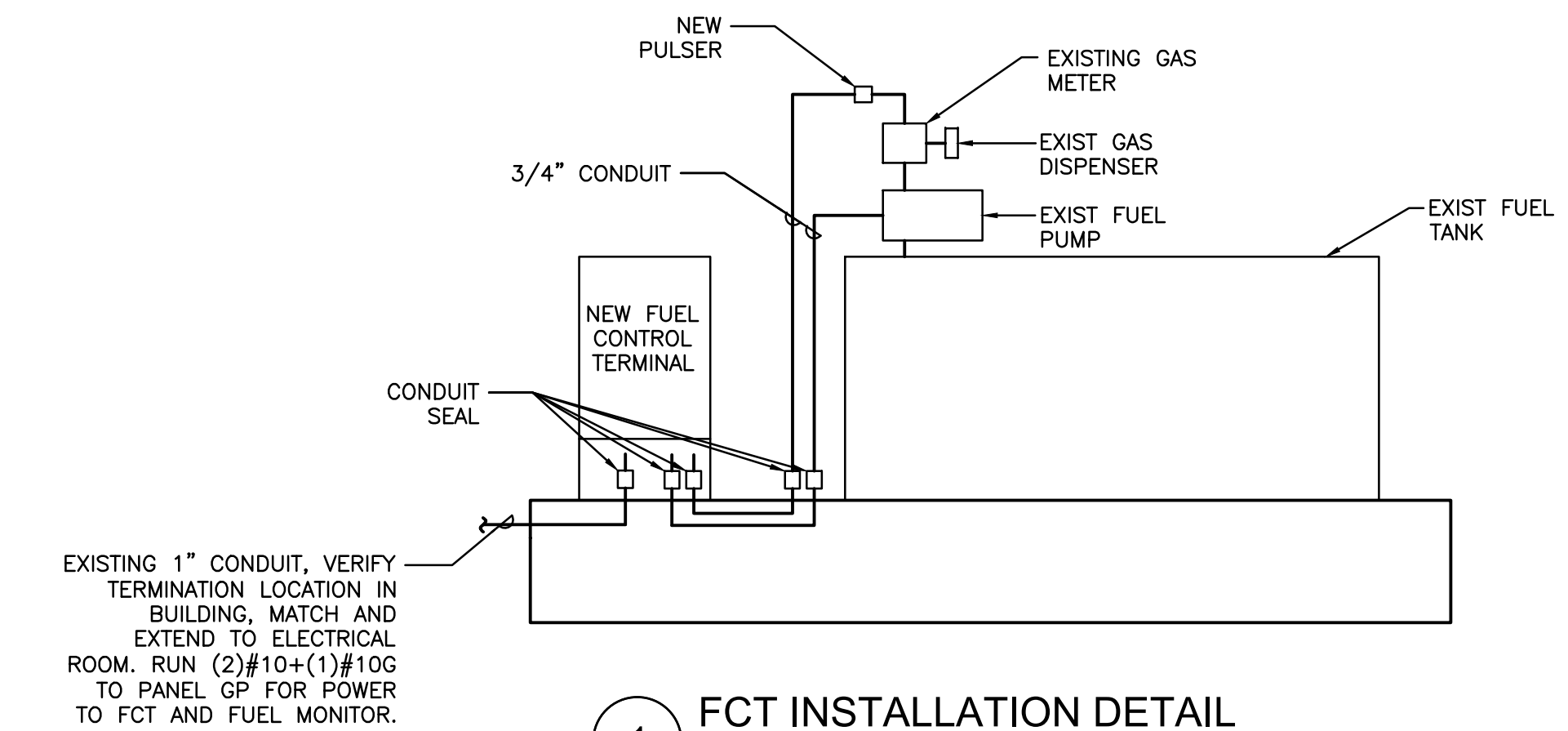
EXISTING PANEL GP																				
LOCATION: ELEC RM VOLTAGE: 120V/208V TRIM: SURFACE										MAIN: 125A MLO SYSTEM: 3A, 4W BUS RATING: 125A			CONN. LOAD: 30.8 KVA FEED: TOP GROUND BUS: YES COPPER							
CKT	LOAD SERVED	DNO	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	CKT		
1	GAS PUMP (FILL RITE)					30/2	N	2250	2250		N	30/3						TVSS	2	
3							N	2833											4	
5	DISPENSER					20/2	N	1500	1500		N	20/2							6	
7							N	1500			L	20/2						LIGHTS	8	
9	CARD READER					20/2	N	1500	1500		L	20/2							10	
11							N	1500	1500		N	20/2							12	
13	"						N	1500			N								14	
15	"						N	1000			N	20/1						EXISTING LOAD	16	
17	EXISTING LOAD					20/1	N	1000	1000		N	20/1							EXISTING LOAD	18
19	EXISTING LOAD					20/1	N	1000	1000		N	20/1							EXISTING LOAD	20
21	FCT & FUEL MONITOR	3/4"	#10	#10	20/1	N		840											22	
23	"																		24	
25	"																		26	
27	"																		28	
29	"																		30	

INTERRUPT RATING:				FROM:			
				11583	9923	9333	

LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR
LIGHTING	3000	1.25	3750	NON-SEASONAL MOTORS	0	1.0	0	0	27839	1.0	27839	0	1.0
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	0	0	1.0	0	0	0
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	0	0	1.0	30.8	85.7	AMPS
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	0	0	1.0	31.6	87.7	AMPS
AIR CONDITIONING	0	1.0	0										1.02



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER. (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW. (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP.2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

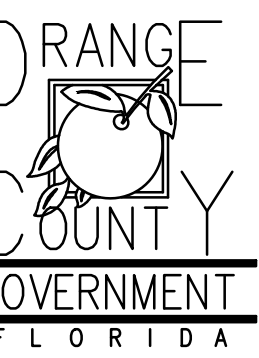
IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODW AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPM FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

Client:

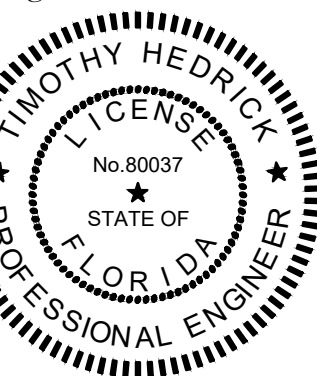


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018

Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 55  
801 GREENWAY  
PROFESSIONAL CT,  
ORLANDO, FL 32824

Issuance:

**100% Design  
Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

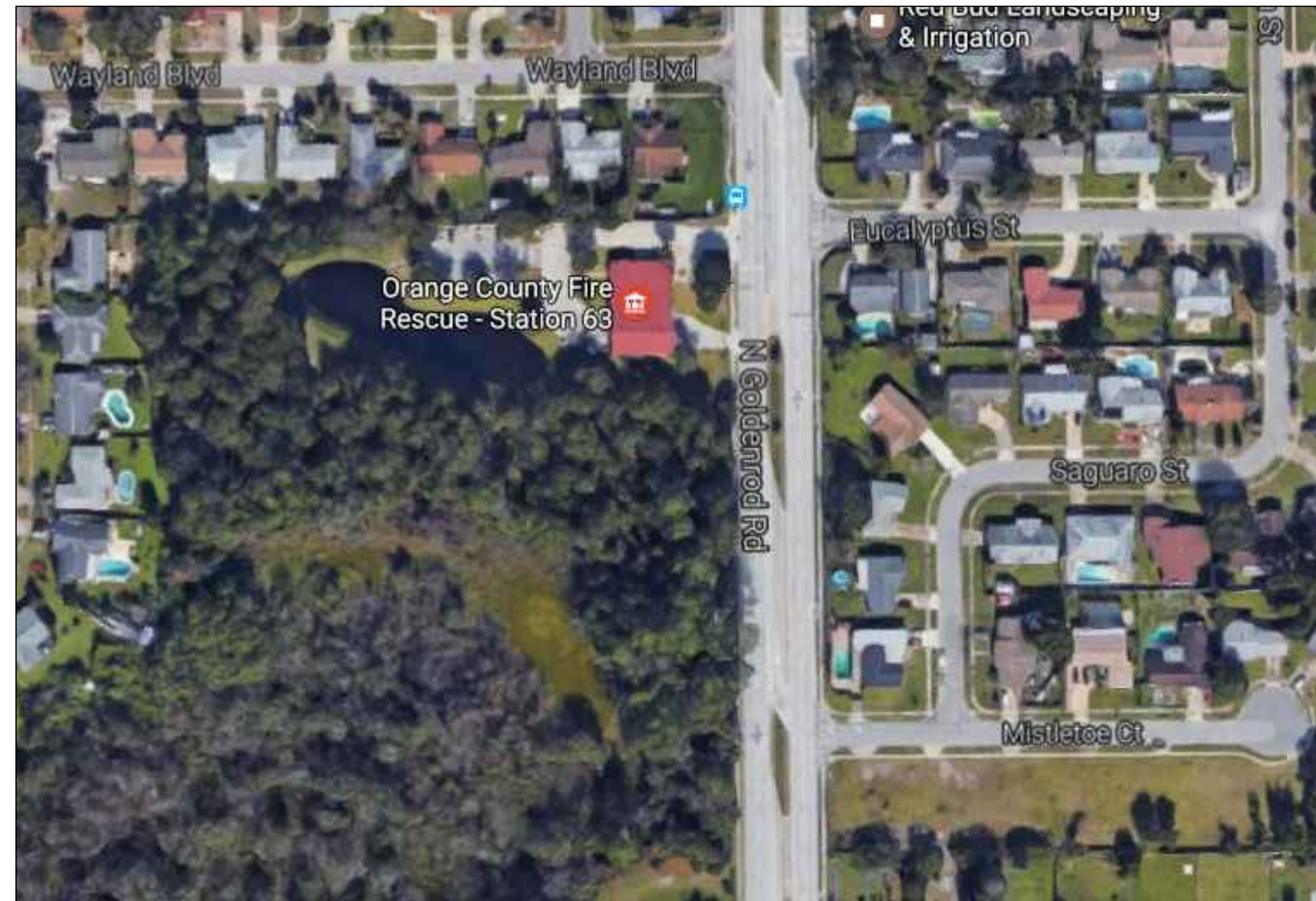
MKS

**ELECTRICAL  
PANEL  
SCHEDULES  
AND DETAILS**

Sheet No.:

**55-E201**





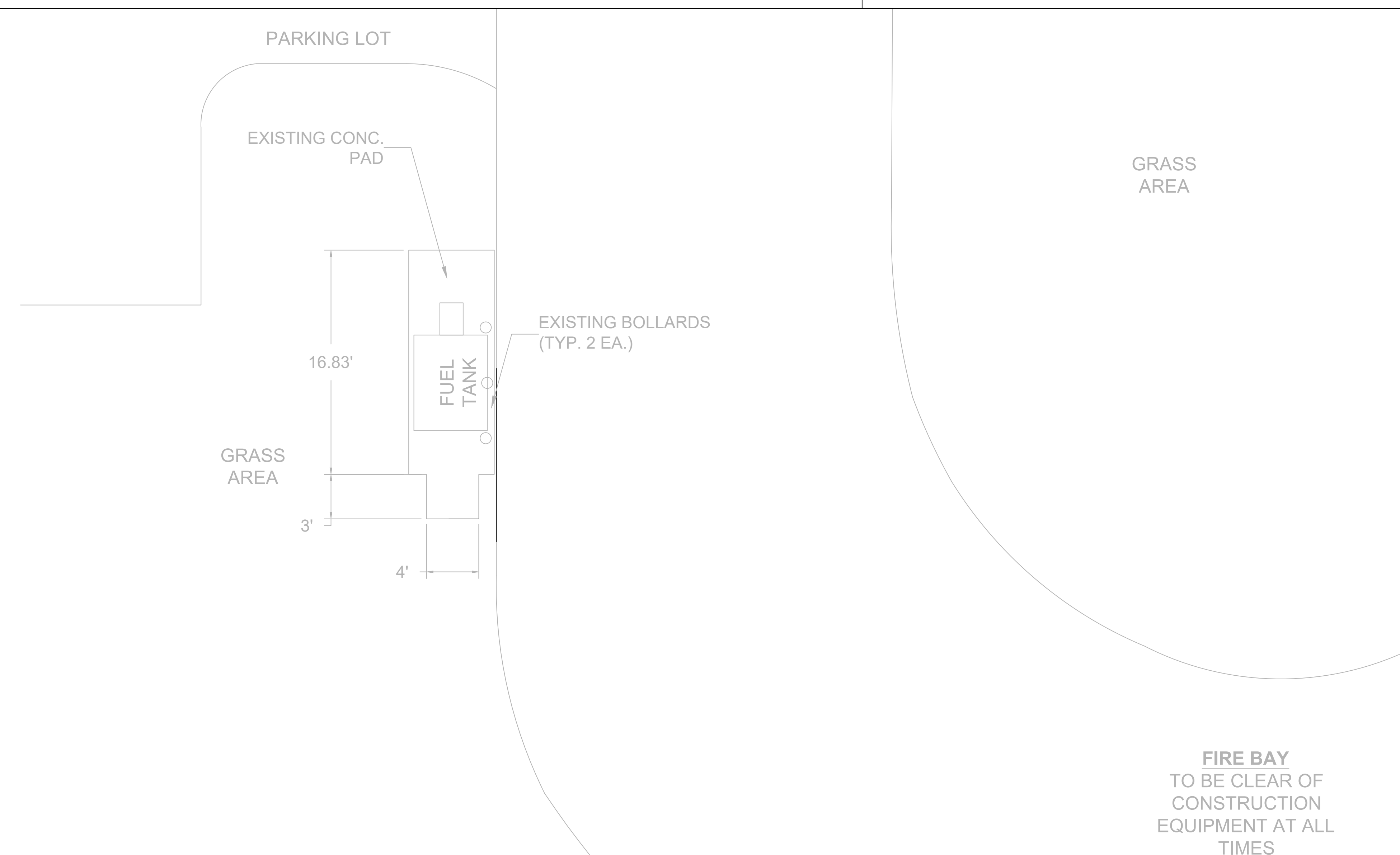
**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016



**PROJECT LOCATION**

**LOCATION MAP**  
N.T.S.



**DEMOLITION PLAN**  
N.T.S.

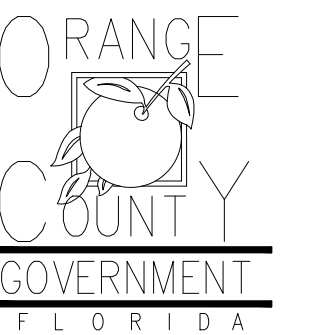
**FIRE STATION 63**

**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE .
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
16. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:

Fire Station 63  
2450 N GOLDENROD RD,  
WINTER PARK, FL 32807

Issuance:

**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

D.D.

**Civil Demo Plan**

Sheet No.:

63-C100







SEE ELECTRICAL DWG.

4 TRENCHING IN GRASS  
C200

APPROX. ± 108 LF,  
ALIGNMENT & MATERIAL  
SEE ELECTRICAL DWG.

ELECTRIC CONDUIT  
(SEE GENERAL NOTES  
2, 4, & 11)

FIRE BAY  
TO BE CLEAR OF  
CONSTRUCTION  
EQUIPMENT AT ALL  
TIMES

FIRE STATION 63

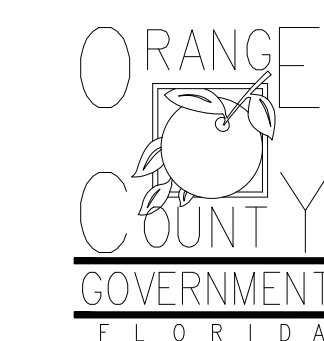
SEE ELECTRICAL DWG.

**PROJECT SPECIFIC NOTES - CIVIL**

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2. CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
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4. TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
5. SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
6. CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
7. CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
8. CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
9. INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 63  
2450 N GOLDENROD RD,  
WINTER PARK, FL 32807

Issuance:

**Permit  
Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

Checked By:

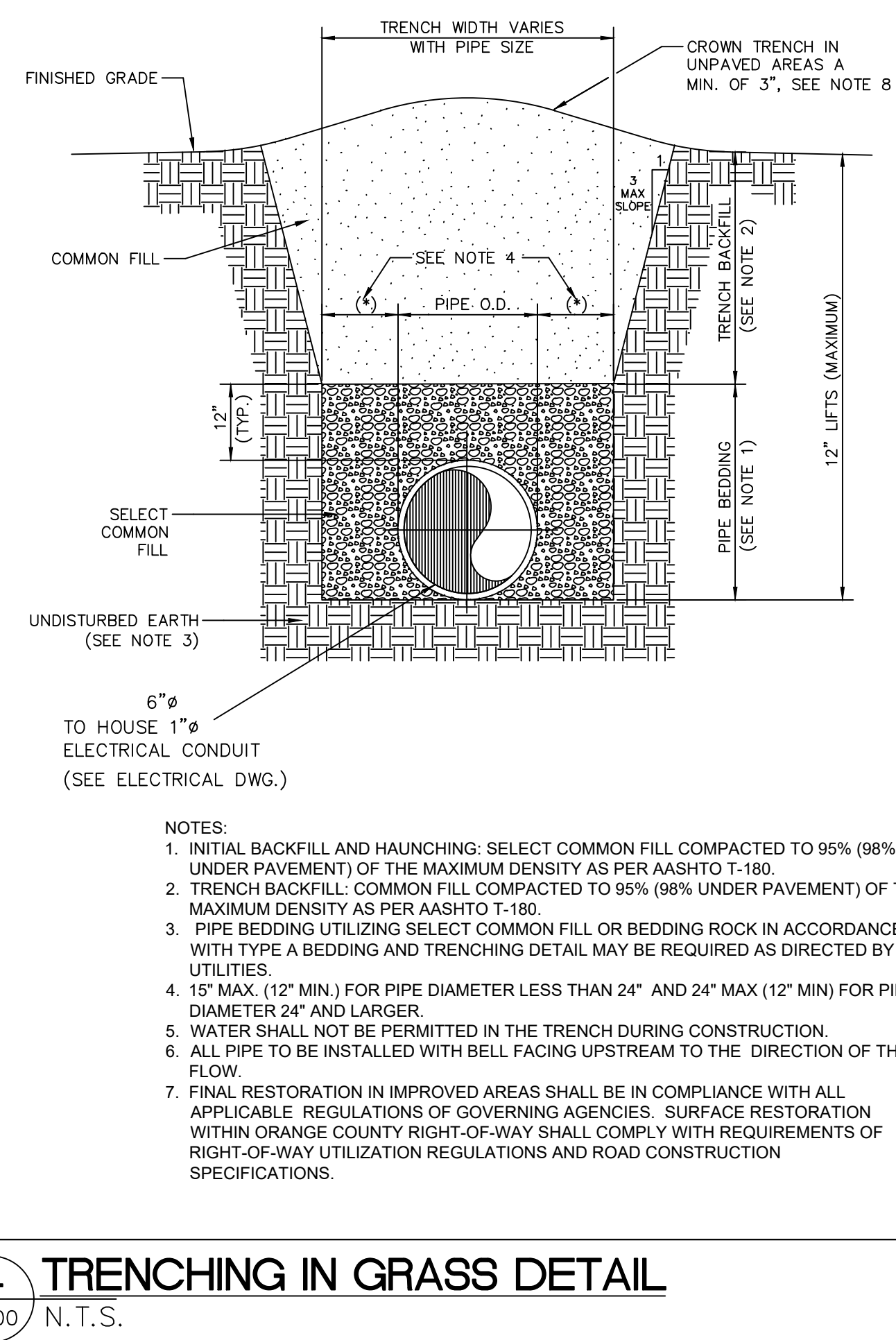
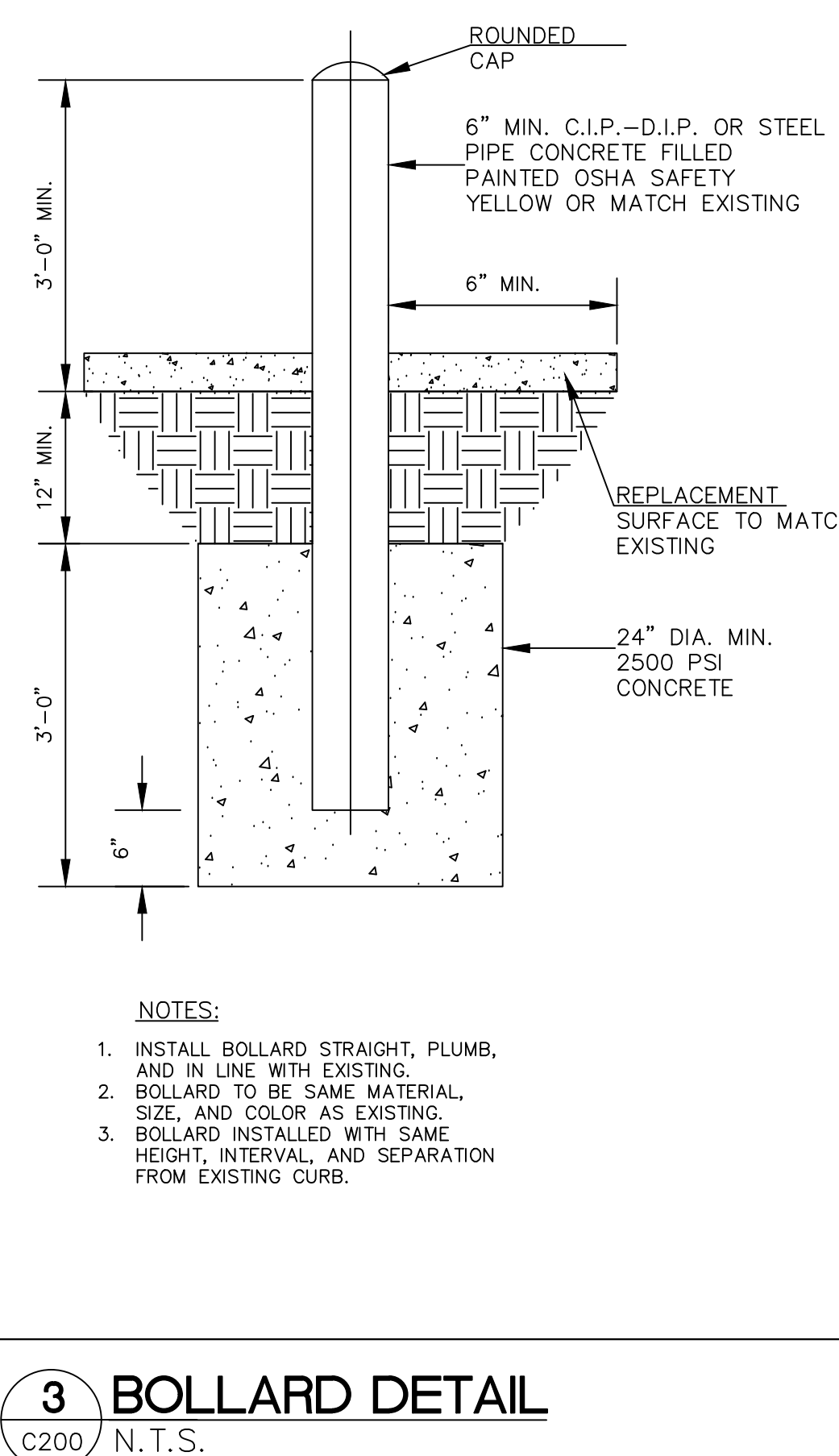
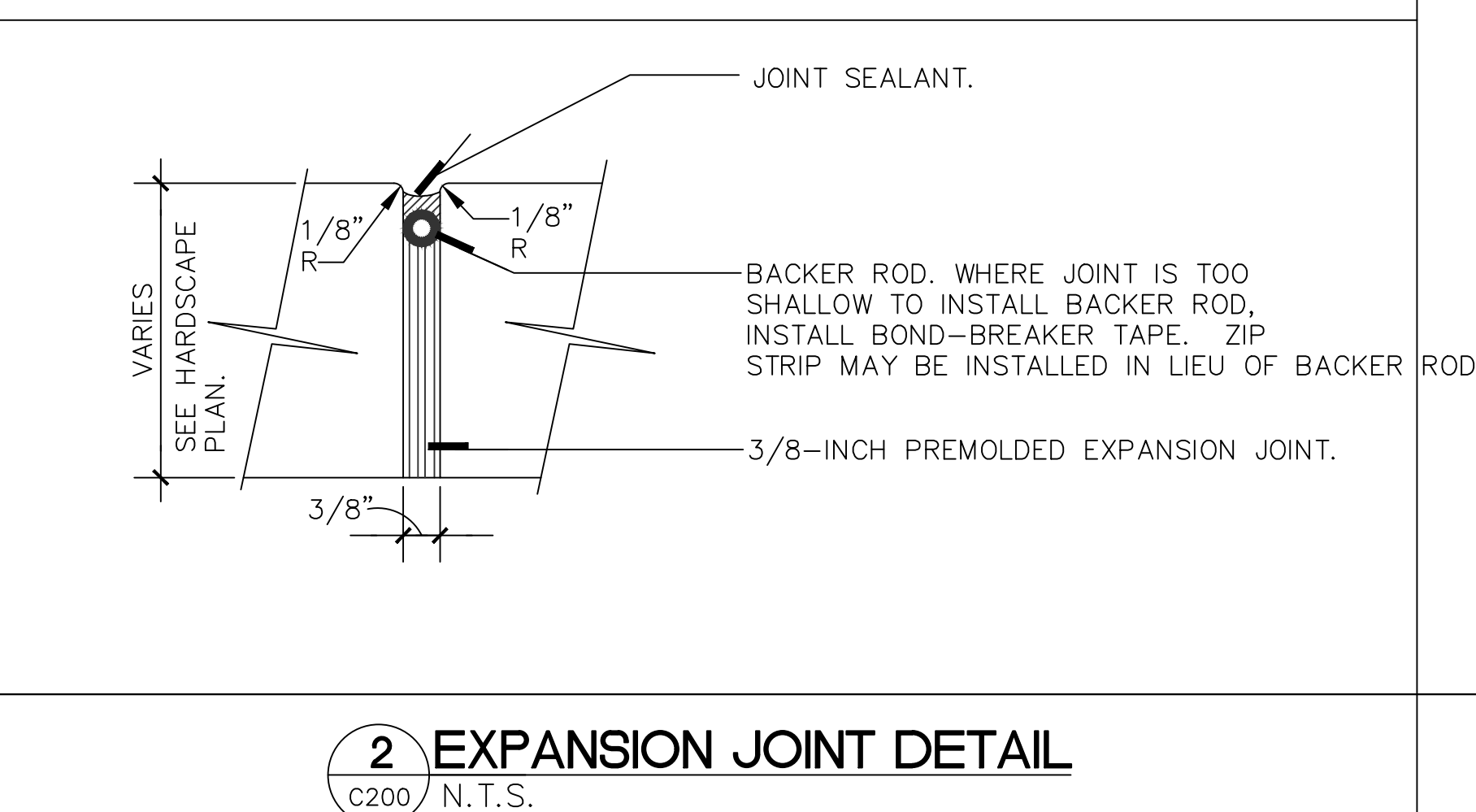
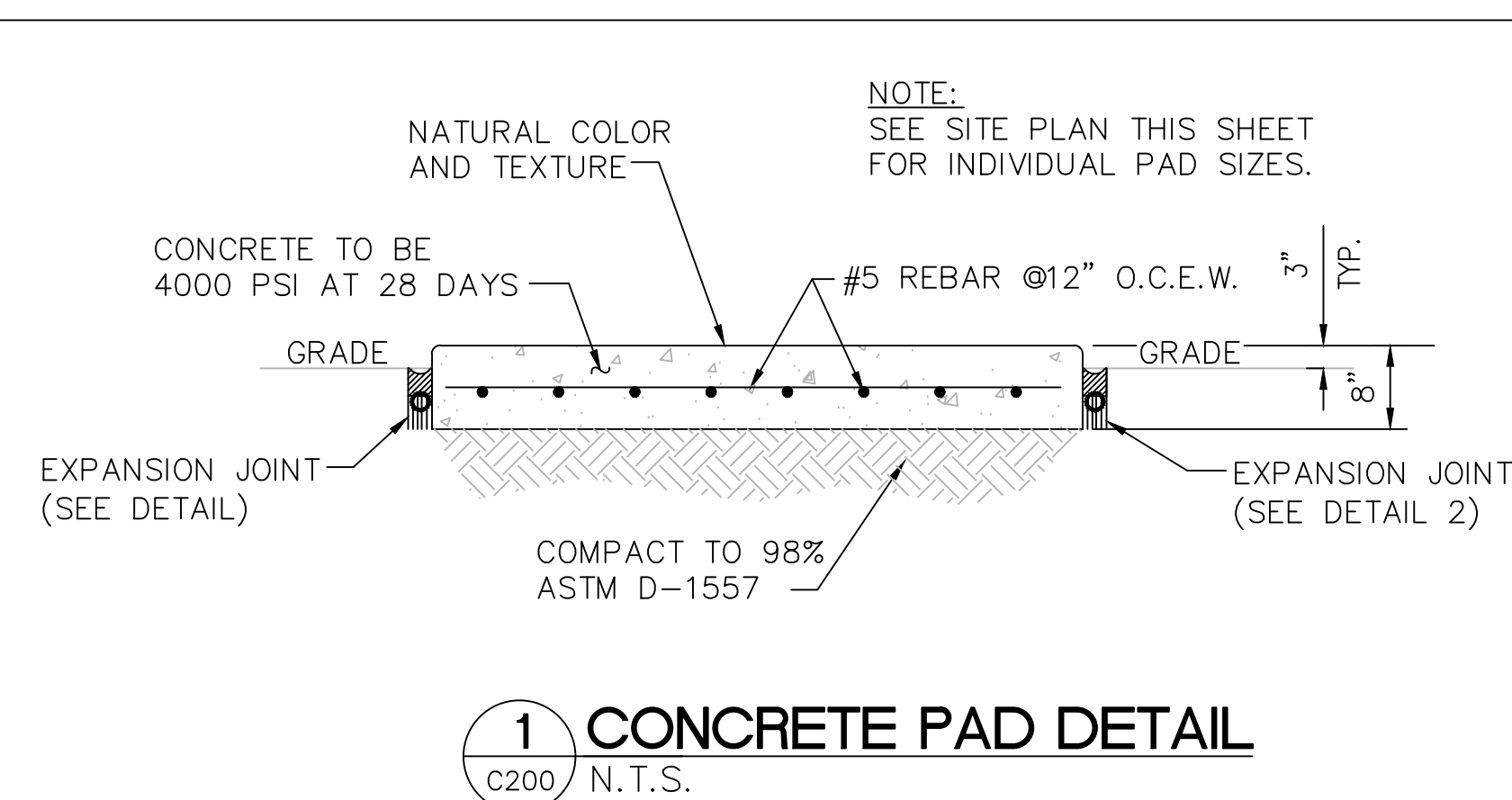
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**Civil Site Plan**

Sheet No.:

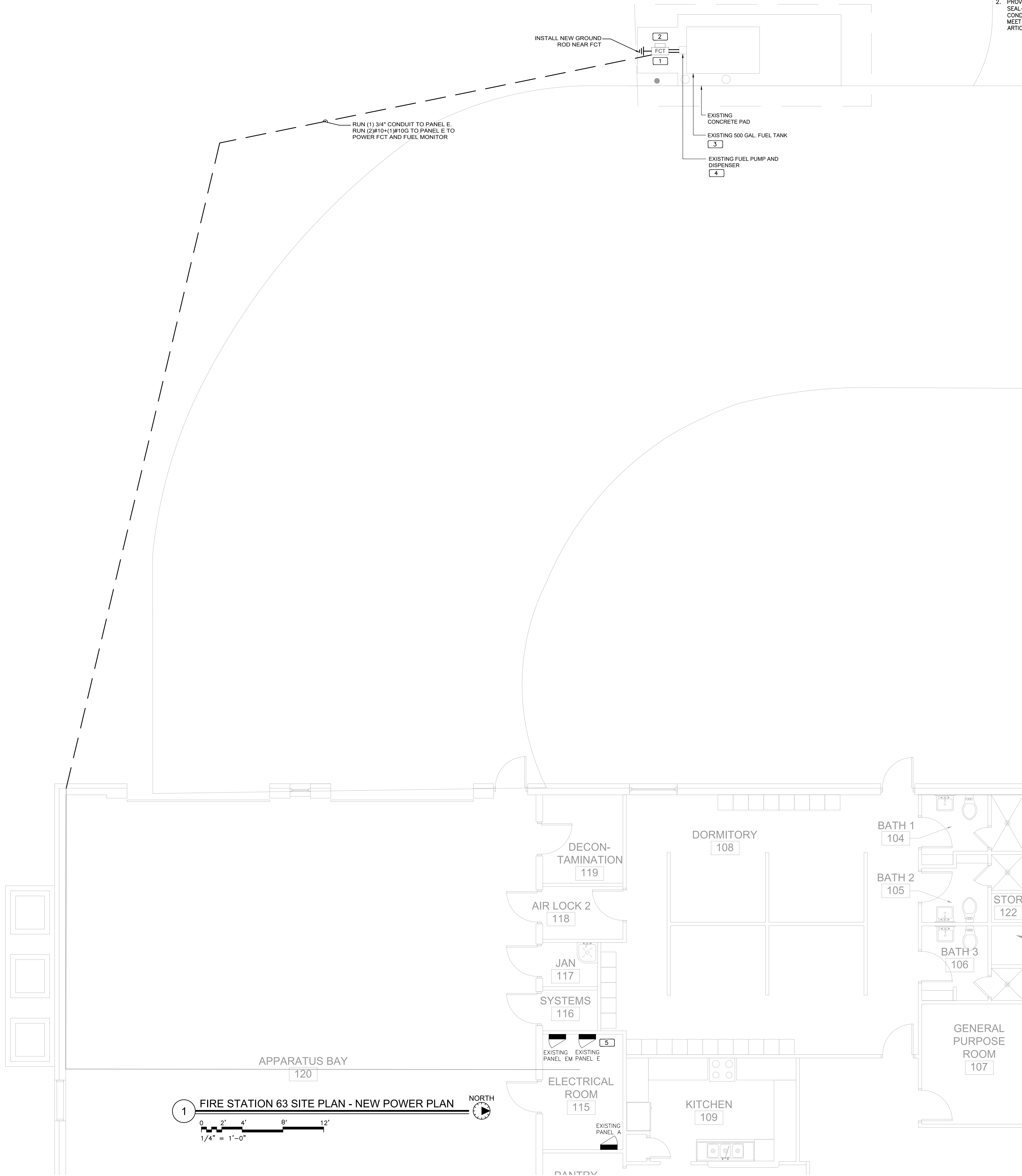
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**SITE PLAN  
N.T.S.**



**MISCELLANEOUS DETAILS  
N.T.S.**



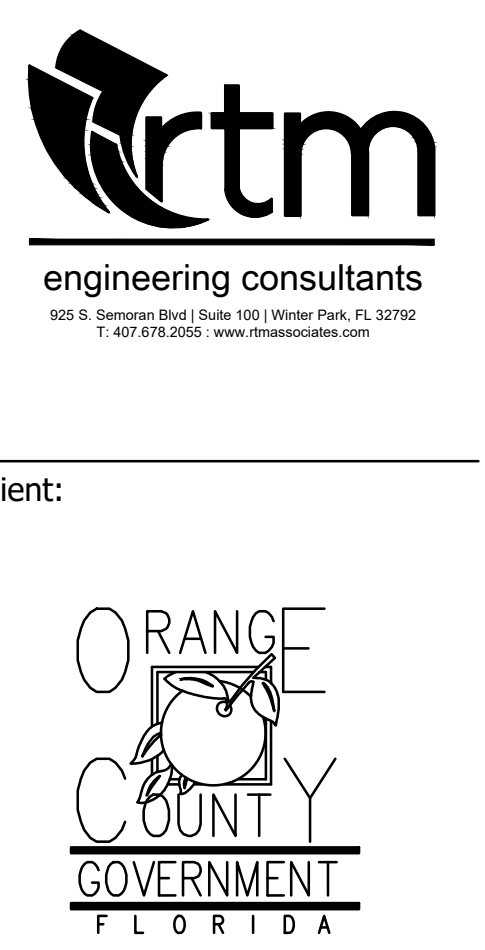


**GENERAL NOTES**

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

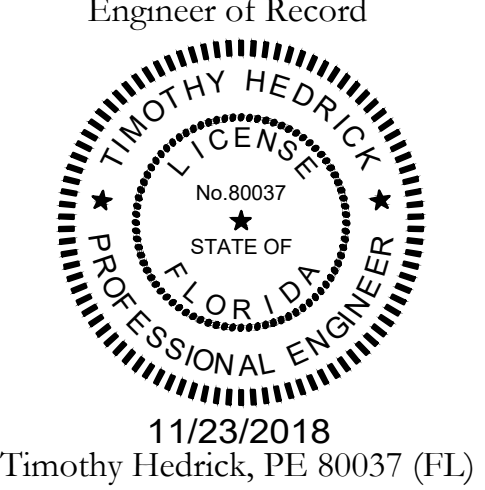
1. NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
2. NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
3. PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
4. PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.
5. RECONNECT 'FUEL MOTOR' CRICUIT #1 TO CRUCIOT #33 WITH A NEW SWITCH NEUTRAL BREAKER.



Client:



EOR Stamp:



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 63  
2450 N GOLDENROD RD,  
WINTER PARK, FL 32807

Issuance:  
**100% Design Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:  
11.23.2018

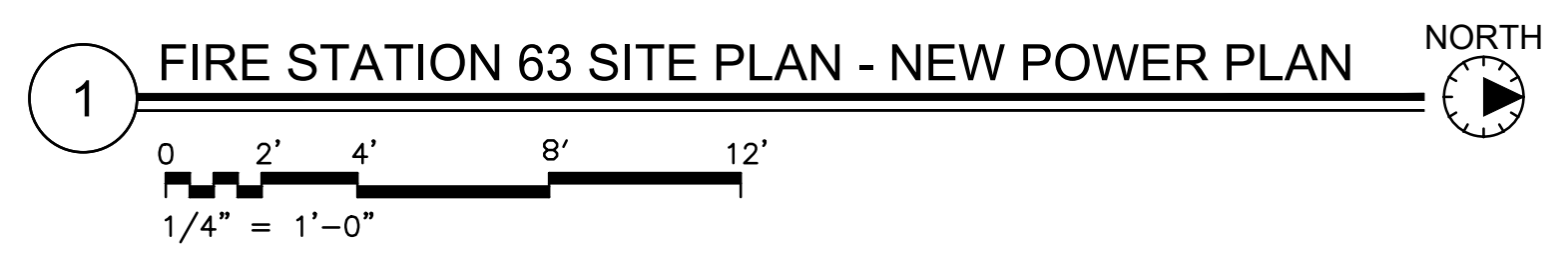
Project Number:  
16.OC.043

Drawn By: ME  
Checked By: SP

**ELECTRICAL POWER PLAN**

Sheet No.:

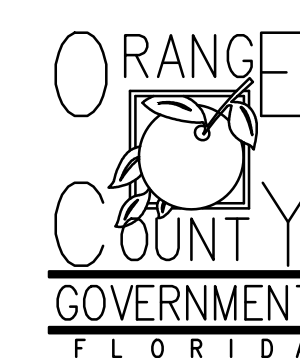
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1 FIRE STATION 63 SITE PLAN - NEW POWER PLAN



Client:

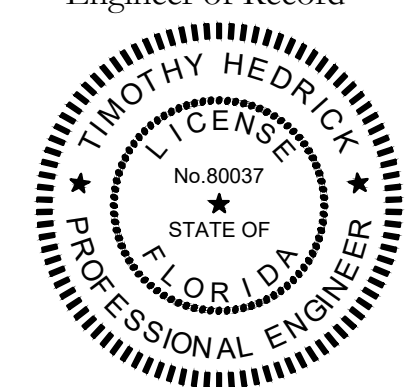


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:  
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Issuance:  
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Documents**  
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Date:  
11.23.2018

Project Number:  
16.OC.043

Drawn By: ME  
Checked By: SP

**ELECTRICAL  
PANEL  
SCHEDULES  
AND DETAILS**

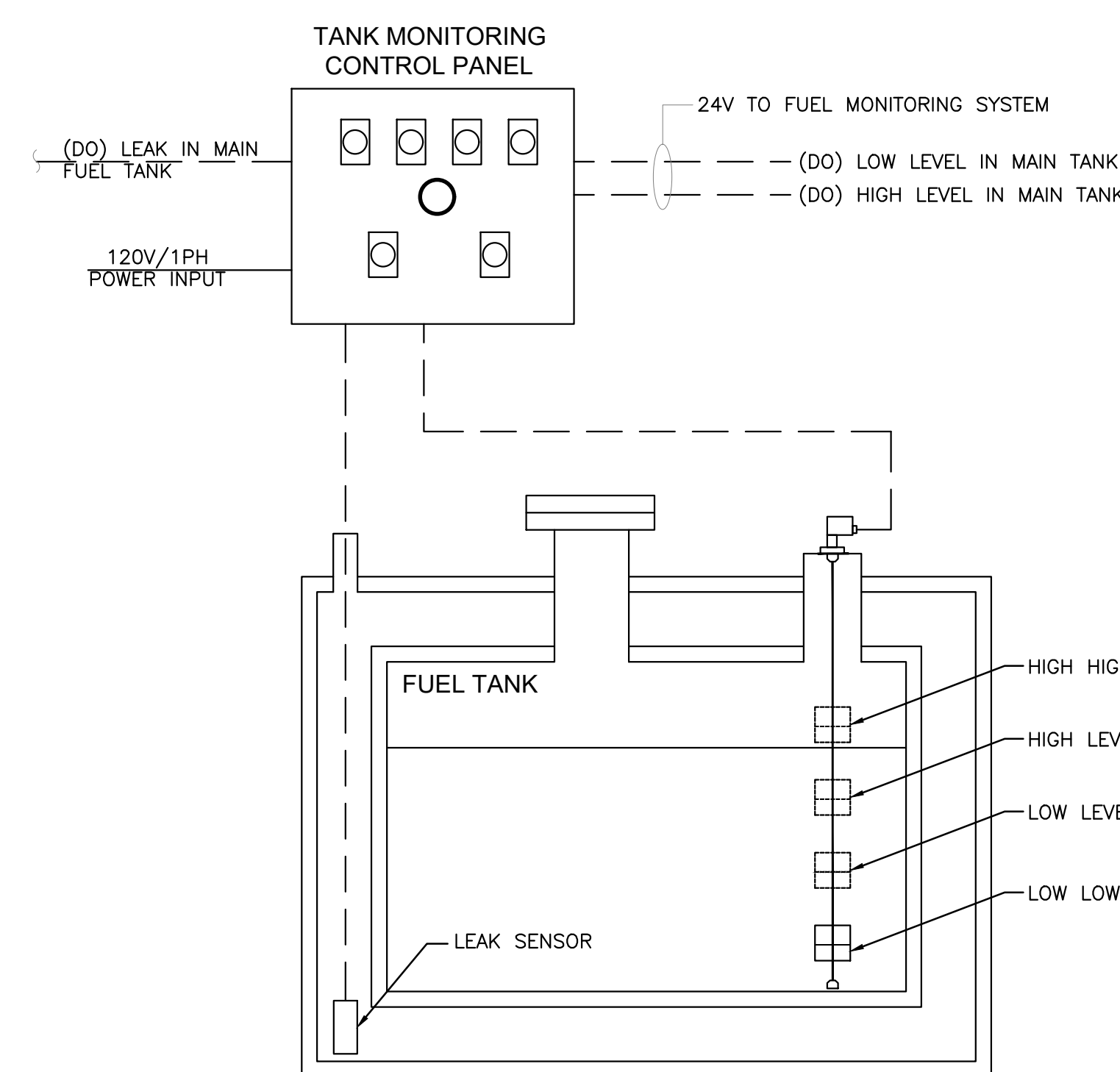
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**63-E201**

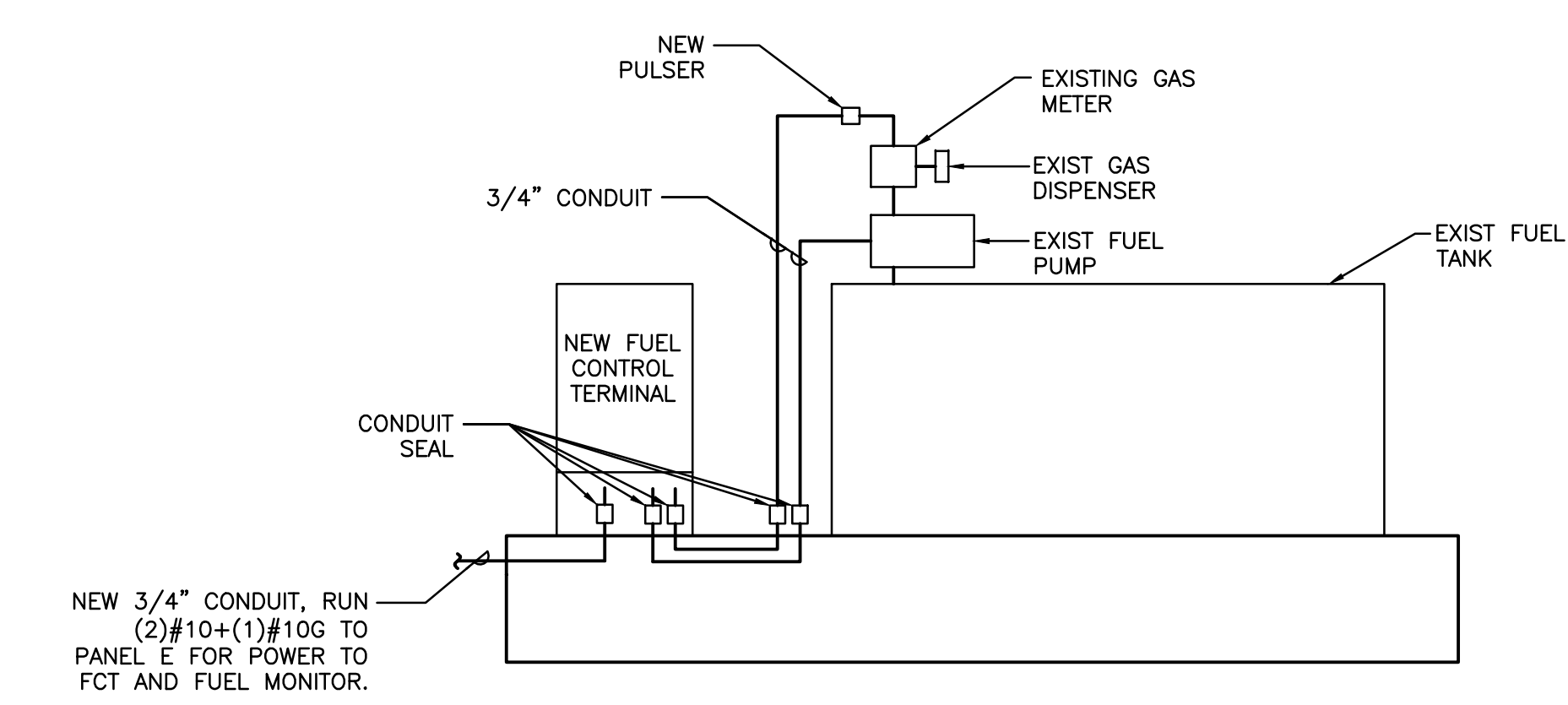
EXISTING PANEL E																		
LOCATION: ELEC RM					MAIN: 150A MCB					CONN. LOAD: 39 KVA								
VOLTAGE: 120V/208V					SYSTEM: 3A, 4W					FEED: TOP								
TRIM: SURFACE					BUS RATING: 200A					GROUND BUS: YES COPPER								
CKT	LOAD SERVED	DMD	PHASE	NEUT	DMD	BKR/DMD	L1	L2	L3	DMD	BKR/DMD	COND	PHASE	NEUT	DMD	LOAD SERVED	CKT	
1	FCT & FUEL MONITOR	3/4"	#10	#10	#10	20/1	N	800	800	N	20/1						EXISTING LOAD	2
3	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	4
5	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	6
7	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	8
9	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	10
11	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	12
13	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	14
15	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	16
17	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	18
19	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	20
21	SPARE	-	-	-	-	20/1	-	800	800	N	20/1						EXISTING LOAD	22
23	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	24
25	EXISTING LOAD					20/2	N	1300	1300	N	20/1						EXISTING LOAD	26
27	EXISTING LOAD						N	1300	1300	N	20/1						EXISTING LOAD	28
29	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	30
31	EXISTING LOAD					20/1	N	1000	1000	N	50/2						EXISTING LOAD	32
33	FUEL MOTOR (SWITCH NEUTRAL)					20/2	N	500	500	N							EXISTING LOAD	34
35	EXISTING LOAD						N	800	800	N	20/1						EXISTING LOAD	36
37	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	38
39	EXISTING LOAD					20/1	N	800	800	N	20/1						EXISTING LOAD	40
41	SPARE					20/1	-	800	800	N	20/1						EXISTING LOAD	42

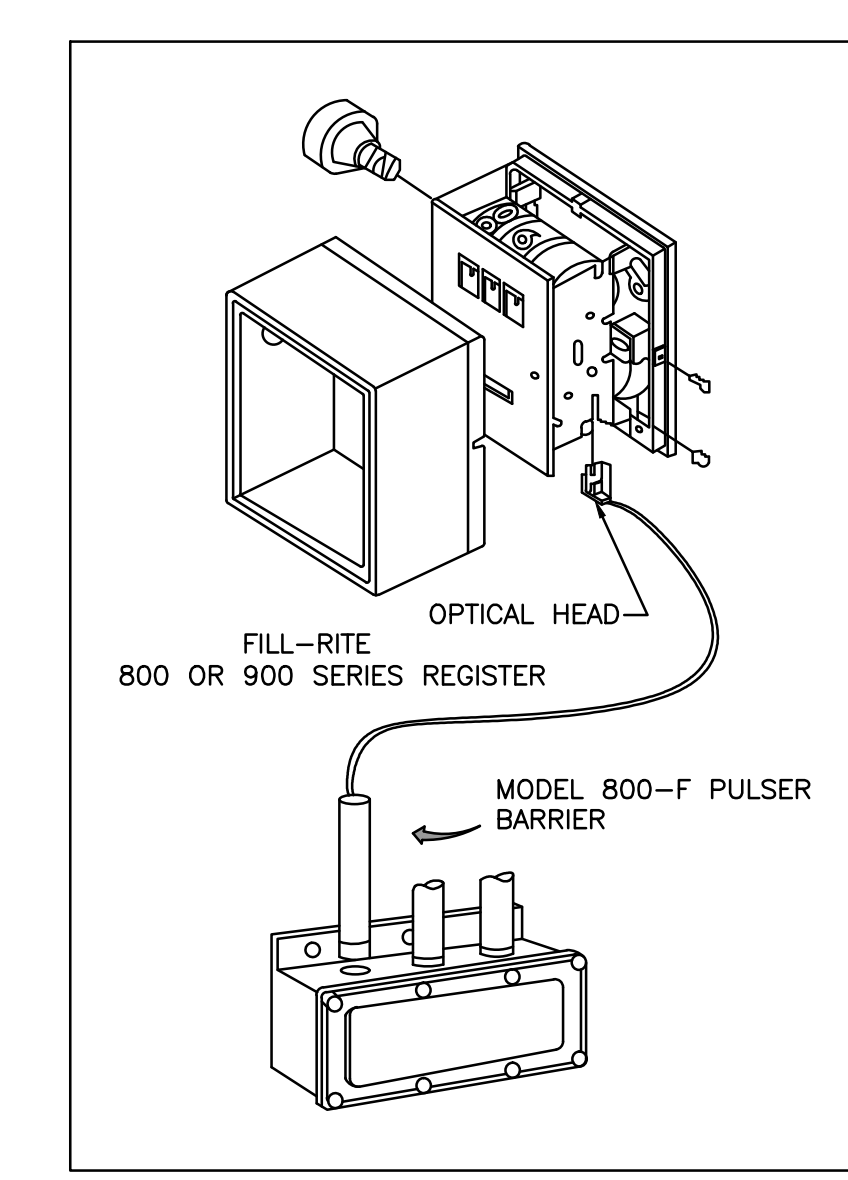
INTERRUPT RATING:				FROM:				
LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	0	1.0	0	
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	
AIR CONDITIONING	0	1.0	0					
				REMAINING CONTINUOUS LOADS	0	1.25	0	
				REMAINING NON-CONTINUOUS LOADS	39040	1.0	39040	
				DEMAND LOADS	0	1.0	0	
				TOTAL CONNECTED LOAD	39	KVA	108.4	AMPS
				MIN. FEEDER/PANEL CAP.	39	KVA	108.4	AMPS
				OVERALL DEMAND FACTOR	1.00			



**3 FUEL TANK MONITORING SCHEMATIC**



**1 FCT INSTALLATION DETAIL**



- INSTALLATION
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
  - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
  - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

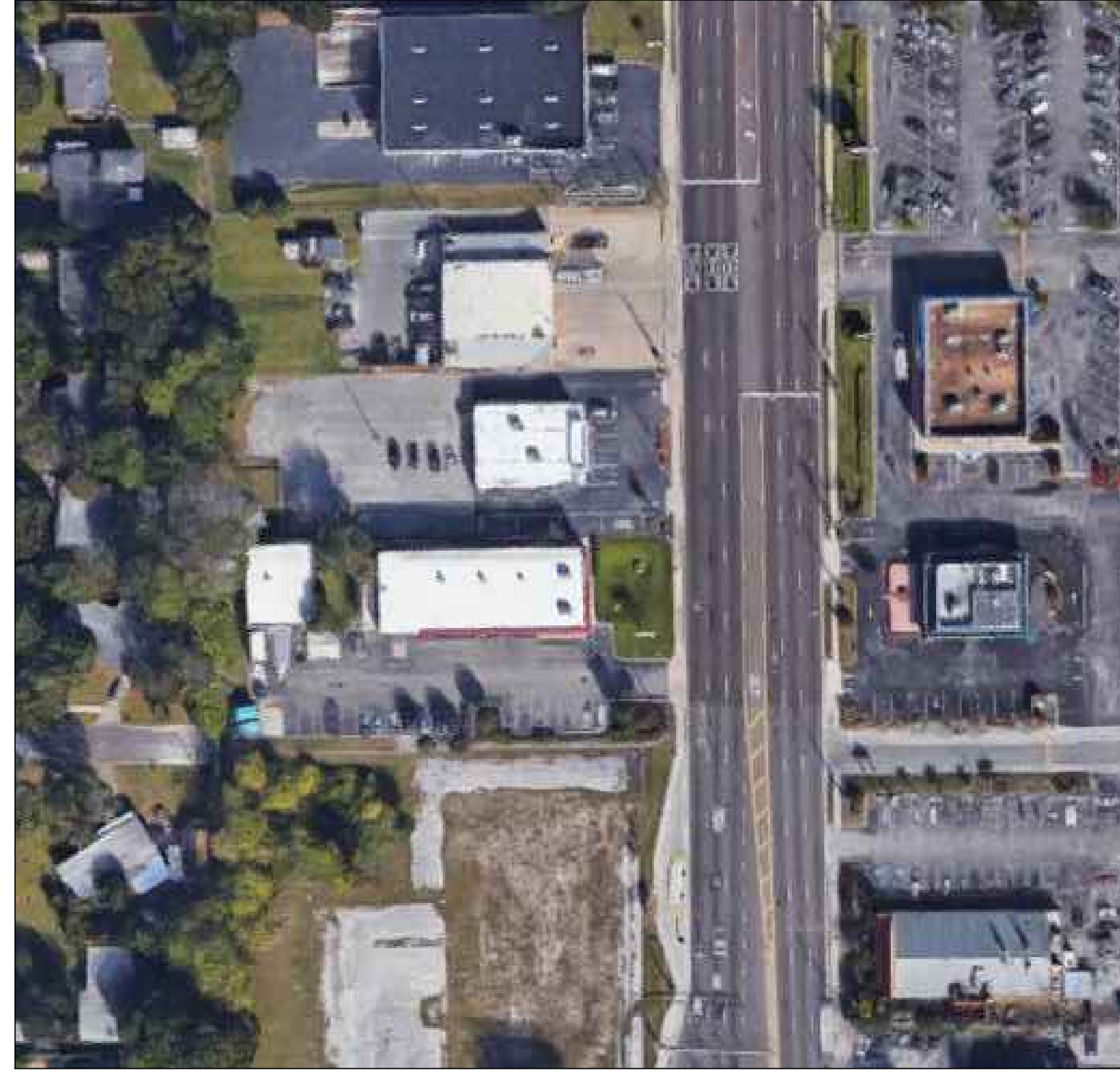
ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.

TELEPHONE 708-485-4200 FAX 708-485-7137

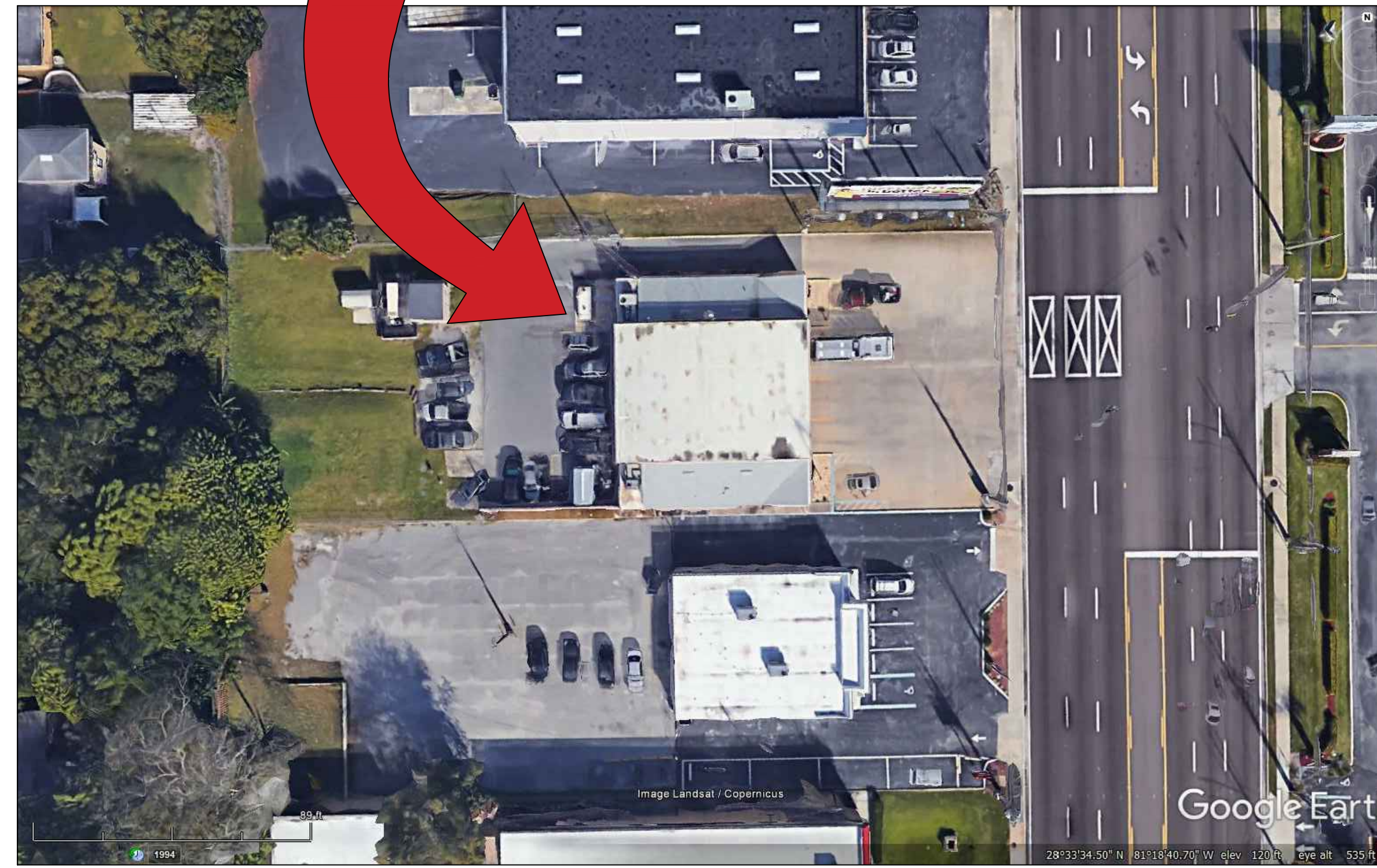
**2 PULSER INSTALLATION DETAIL**





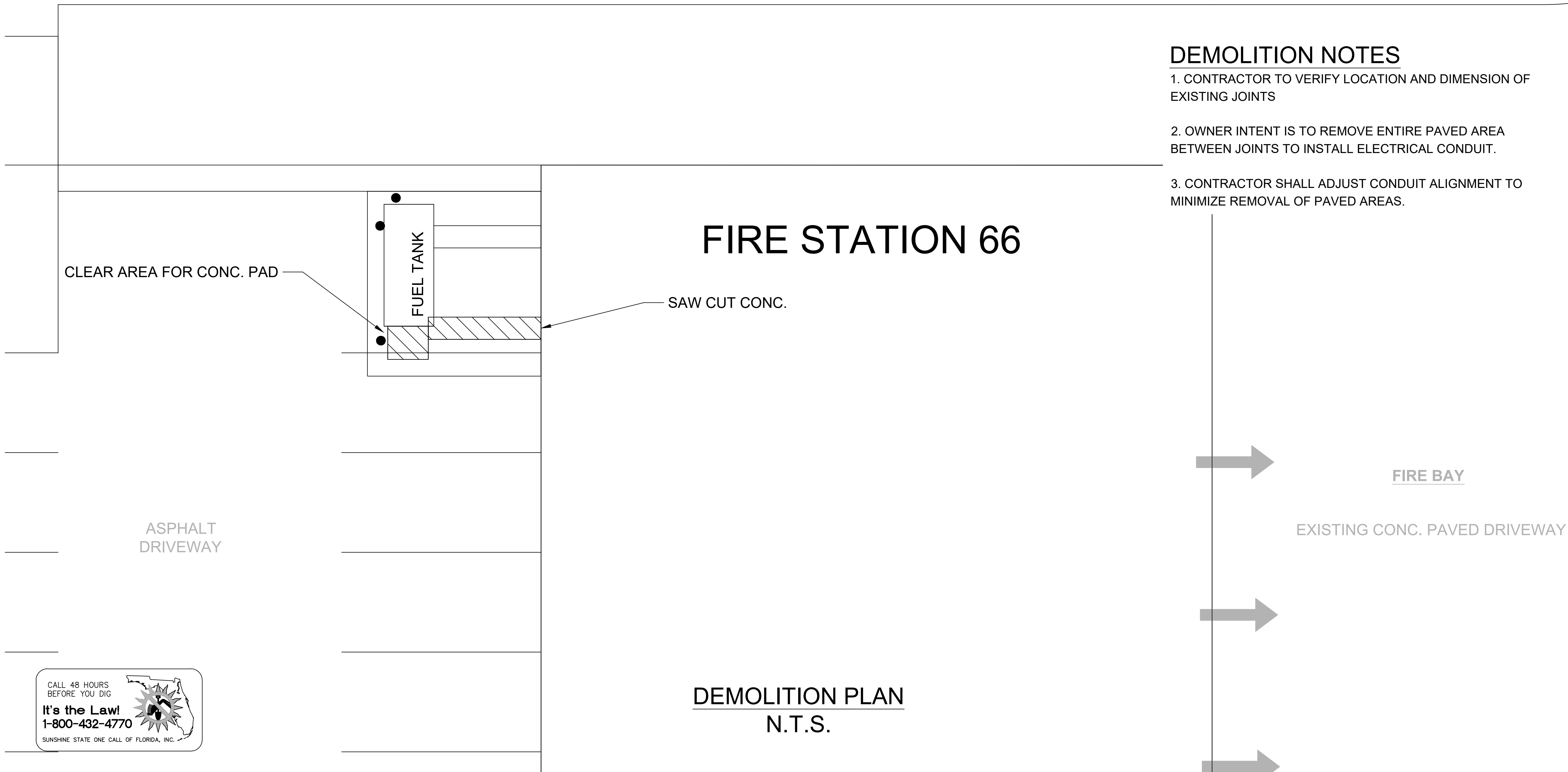
**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016



**PROJECT LOCATION**

**LOCATION MAP**  
N.T.S.



**DEMOLITION PLAN**  
N.T.S.

**DEMOLITION NOTES**

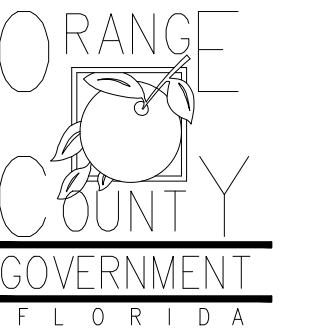
1. CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
2. OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
3. CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.

**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.
2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.
3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.
4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.
5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.
6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.
7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.
8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.
9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.
10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.
11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.
13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.
15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.
16. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:

Fire Station 66  
996 N SEMORAN BLVD,  
ORLANDO, FL 32807

Issuance:

**Permit**  
**Documents**  
Add Alternate #1

Revisions:

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Date:

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Drawn By:

S.D.H.

Checked By:

D.D.

**CIVIL DEMO PLAN**

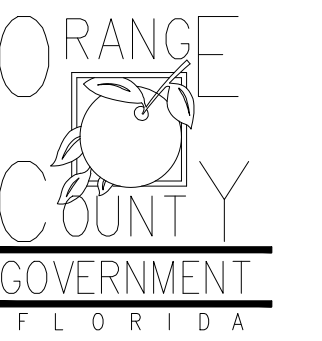
Sheet No.:

66-C100





Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
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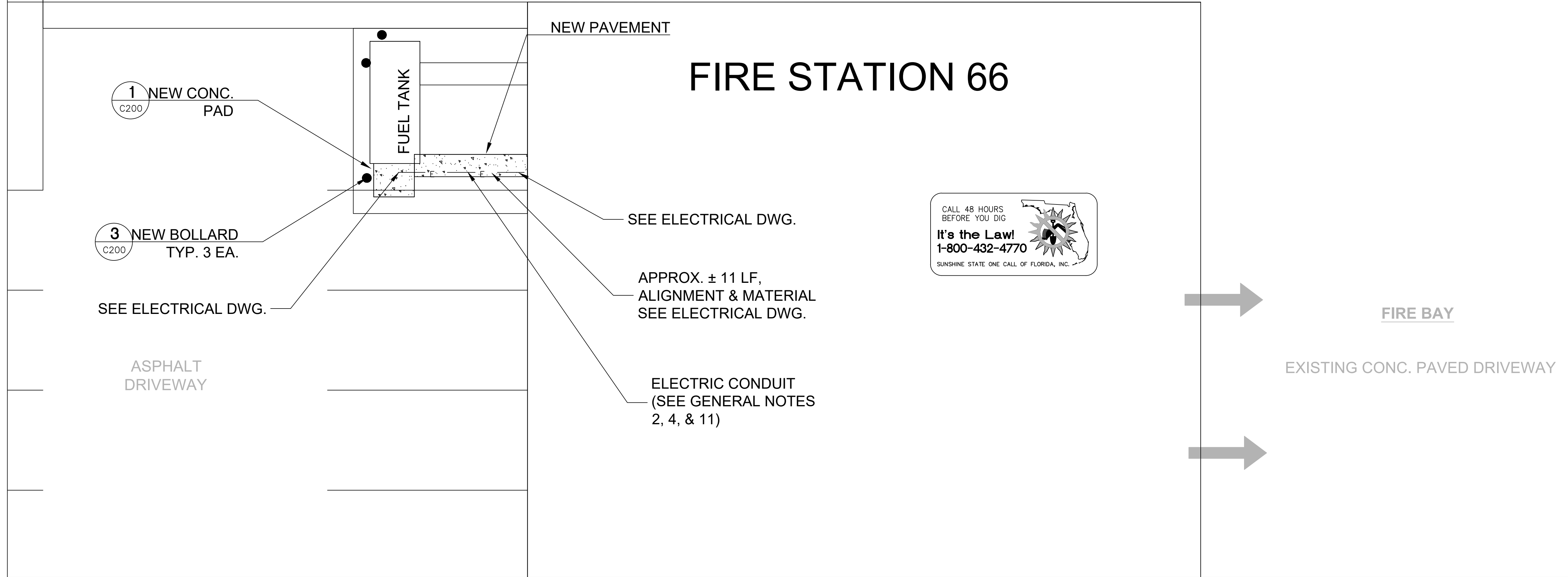
**CIVIL SITE PLAN**

Sheet No.:

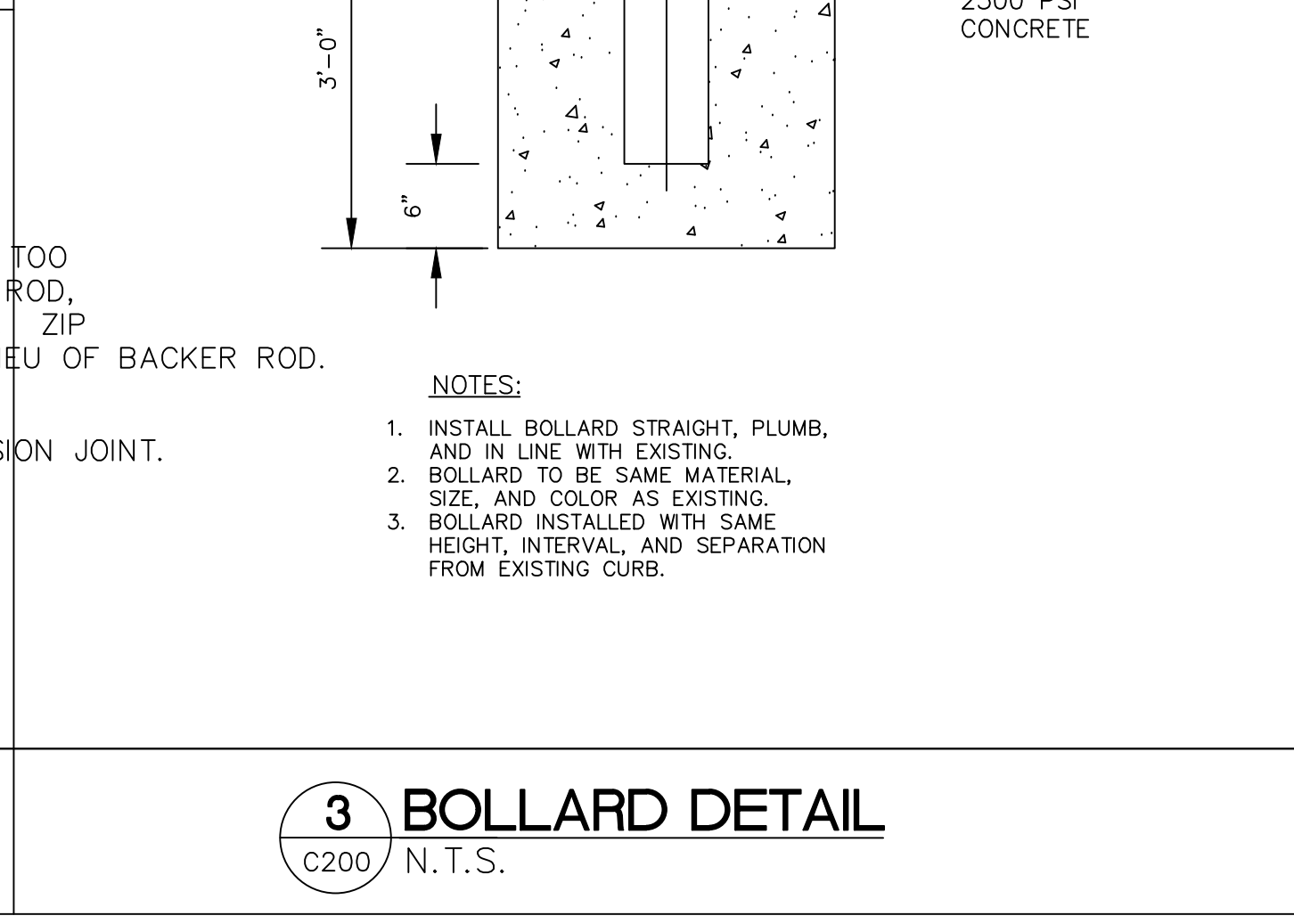
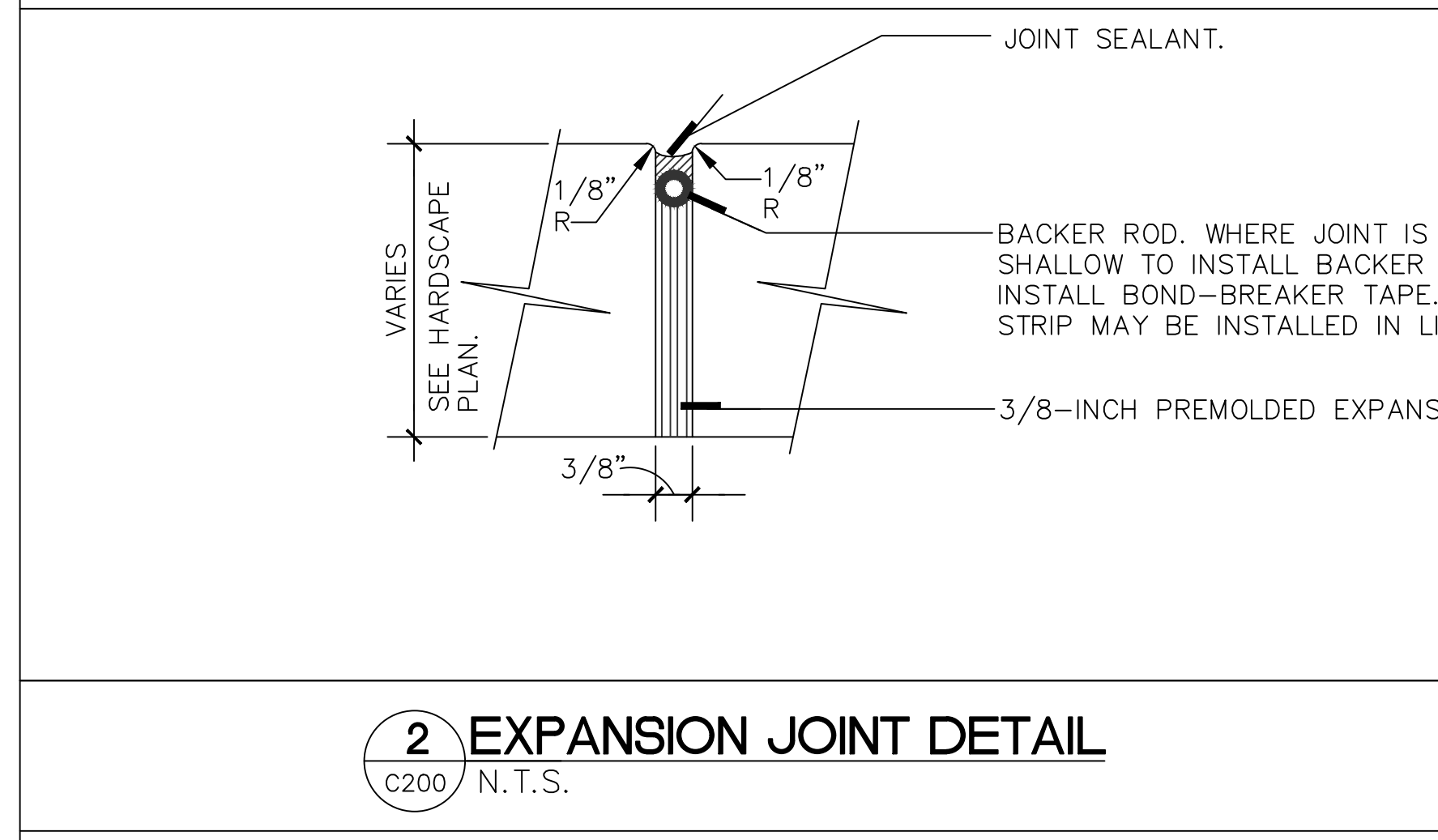
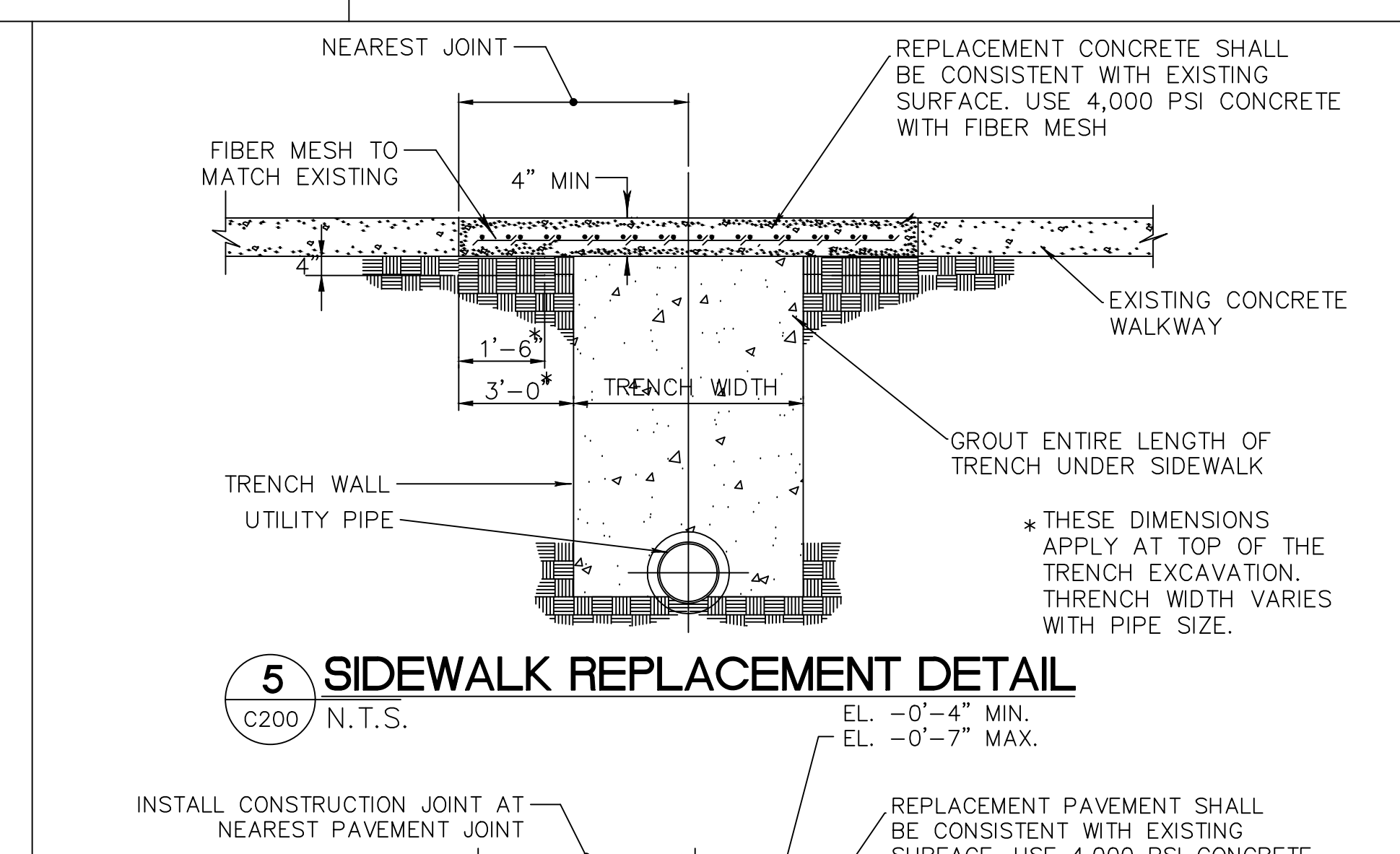
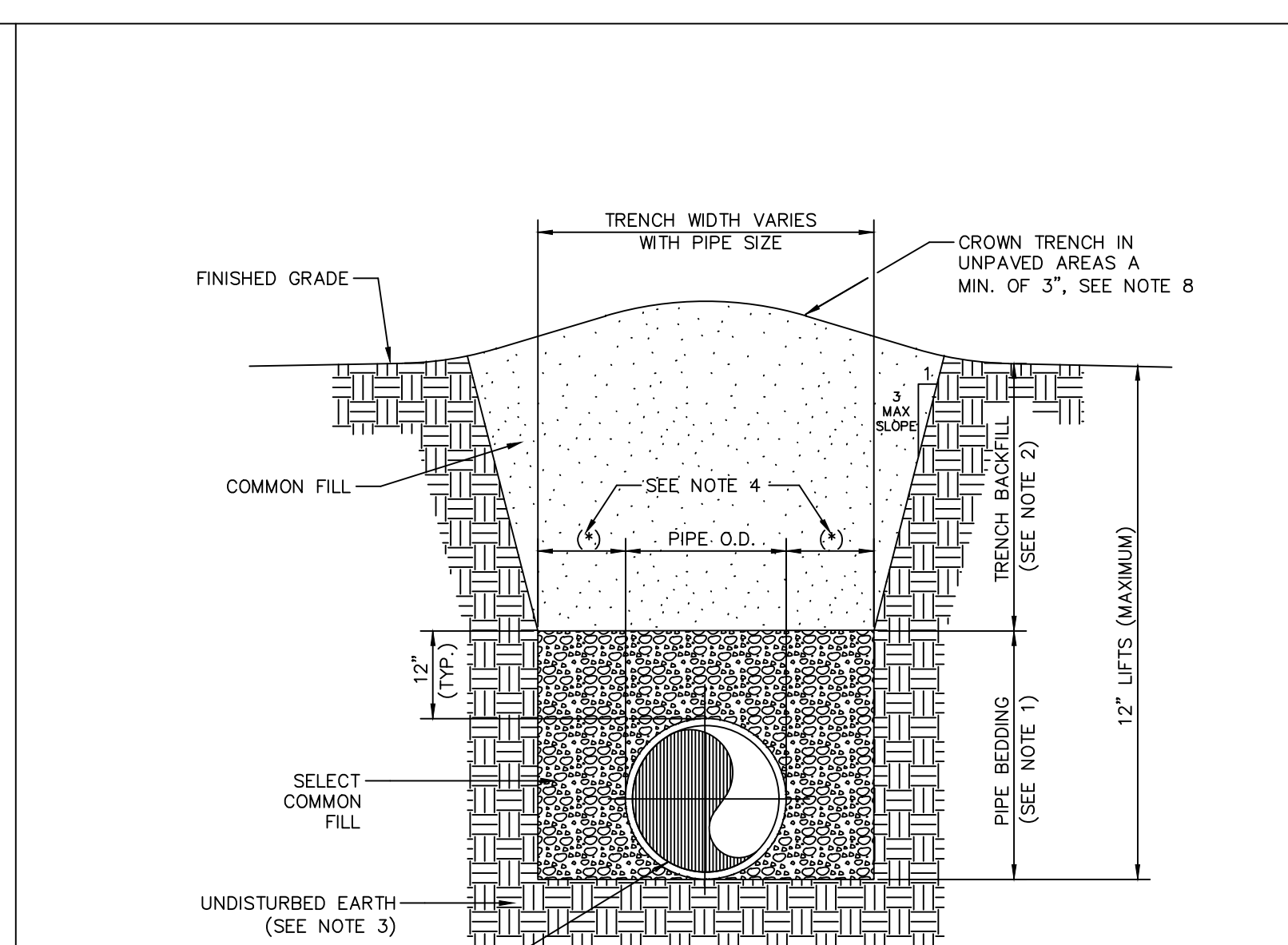
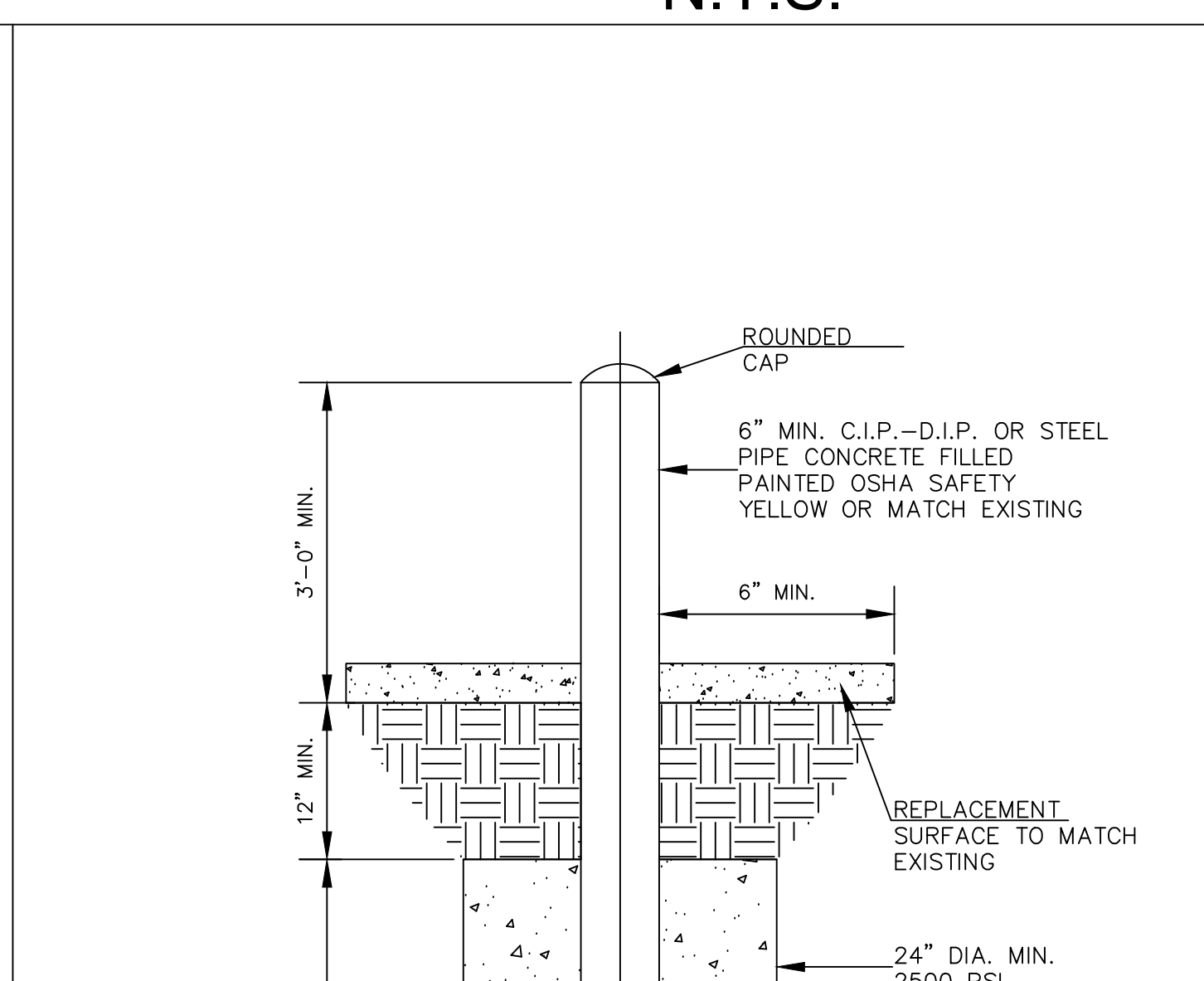
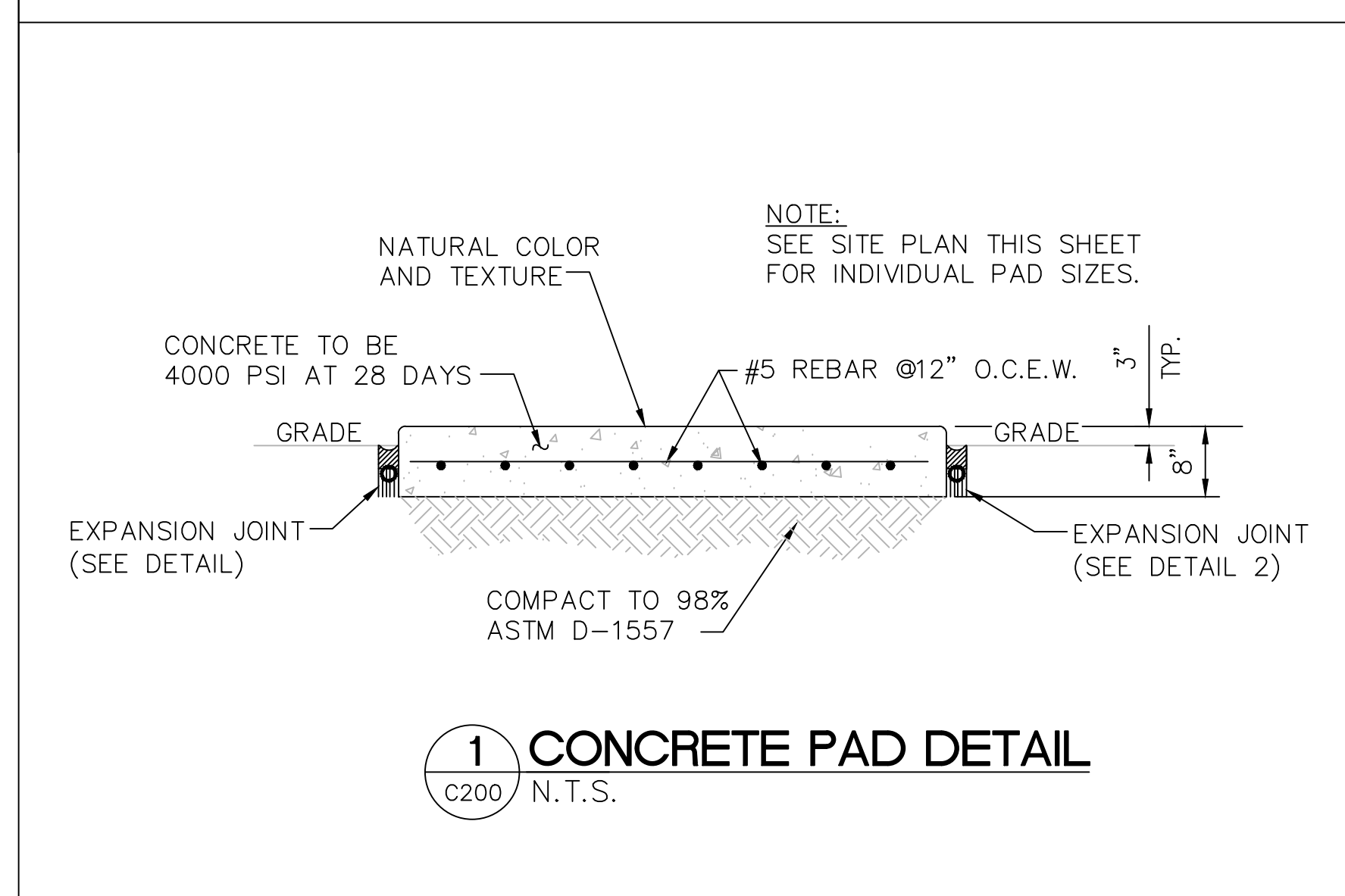
66-C200

**PROJECT SPECIFIC NOTES - CIVIL**

- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
- CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
- TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
- SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
- CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
- CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
- CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
- INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



**SITE PLAN  
N.T.S.**



**MISCELLANEOUS DETAILS  
N.T.S.**



**GENERAL NOTES**

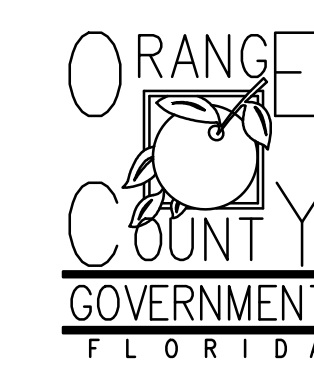
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2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

- 1 NEW FUEL CONTROL UNIT (FCT), BASIS OF DESIGN EJ WARD W4 IOT. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCT WITH HARDWARE PROVIDED WITH FCT. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



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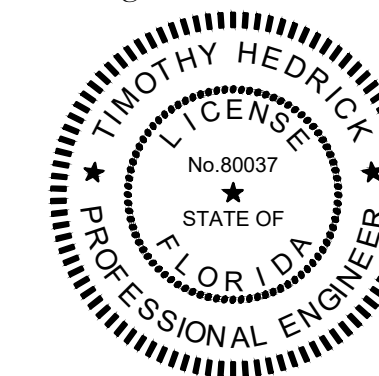


Consultants:



EOR Stamp:

Engineer of Record



11/23/2018  
Timothy Hedrick, PE 80037 (FL)

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ME

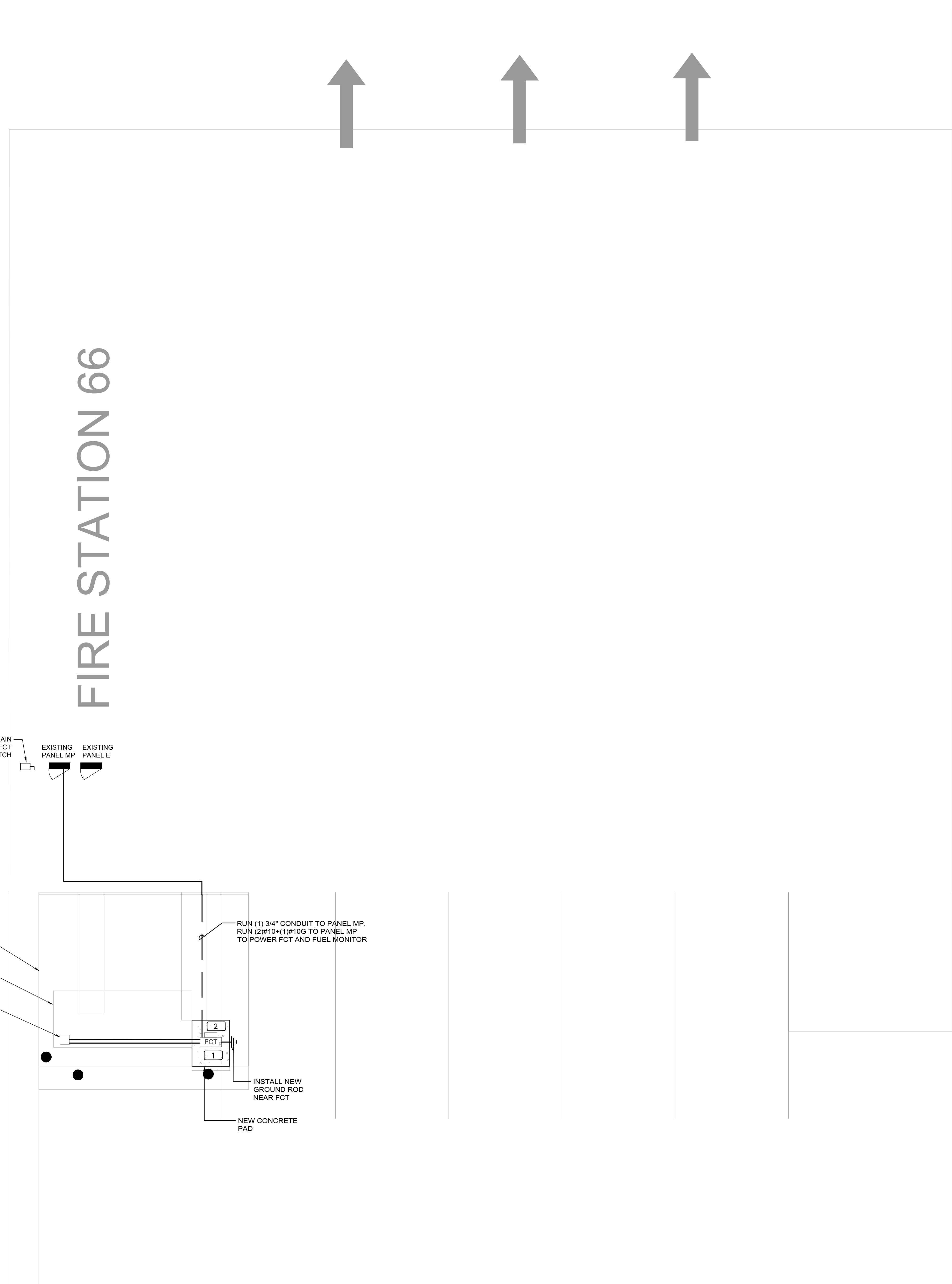
Checked By:

SP

**ELECTRICAL  
POWER PLAN**

Sheet No.:

**66-E101**



FIRE STATION 66

1 FIRE STATION 66 SITE PLAN - NEW POWER PLAN NORTH  
0 2' 4' 8' 12'  
1/4" = 1'-0"



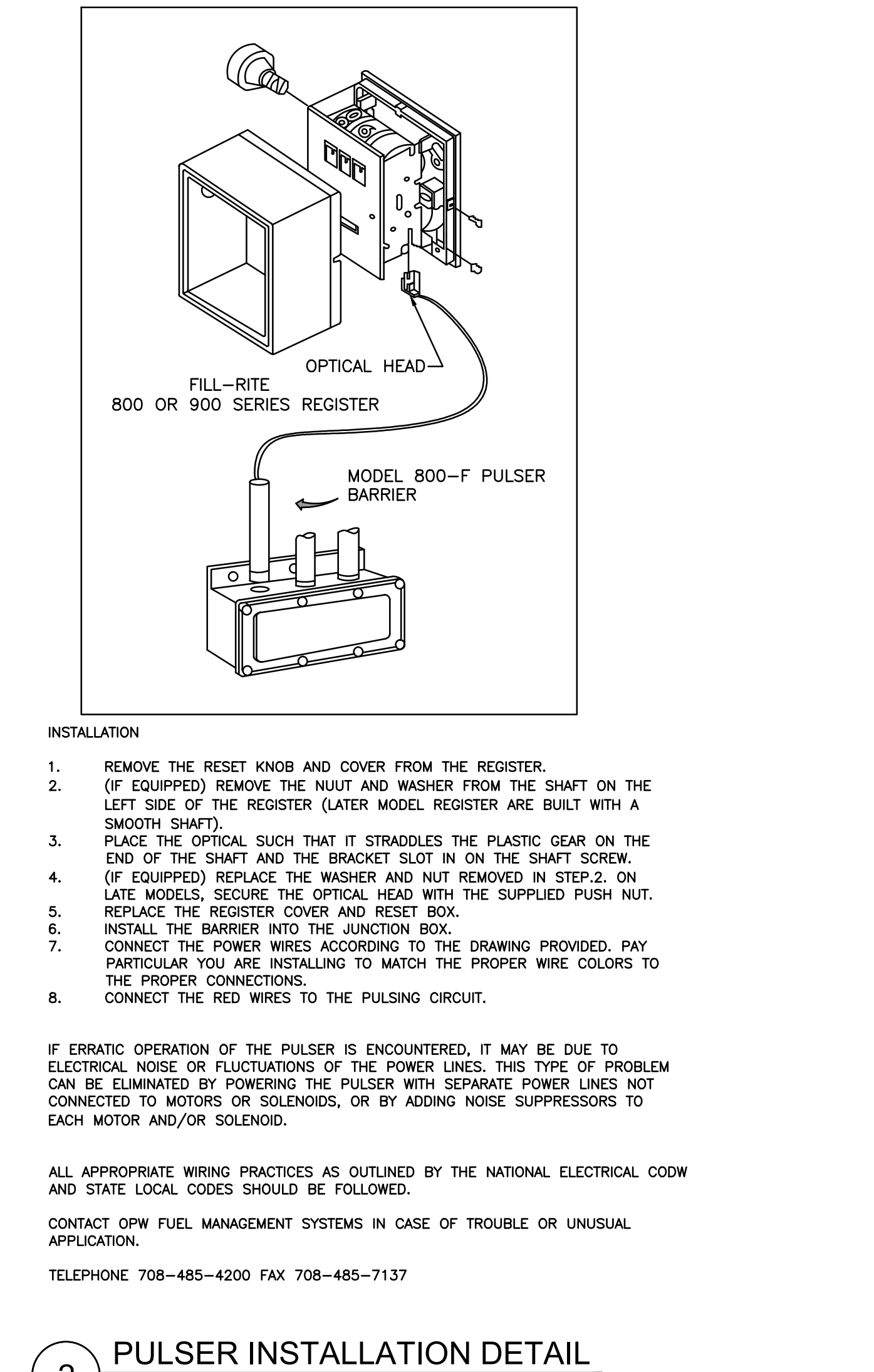
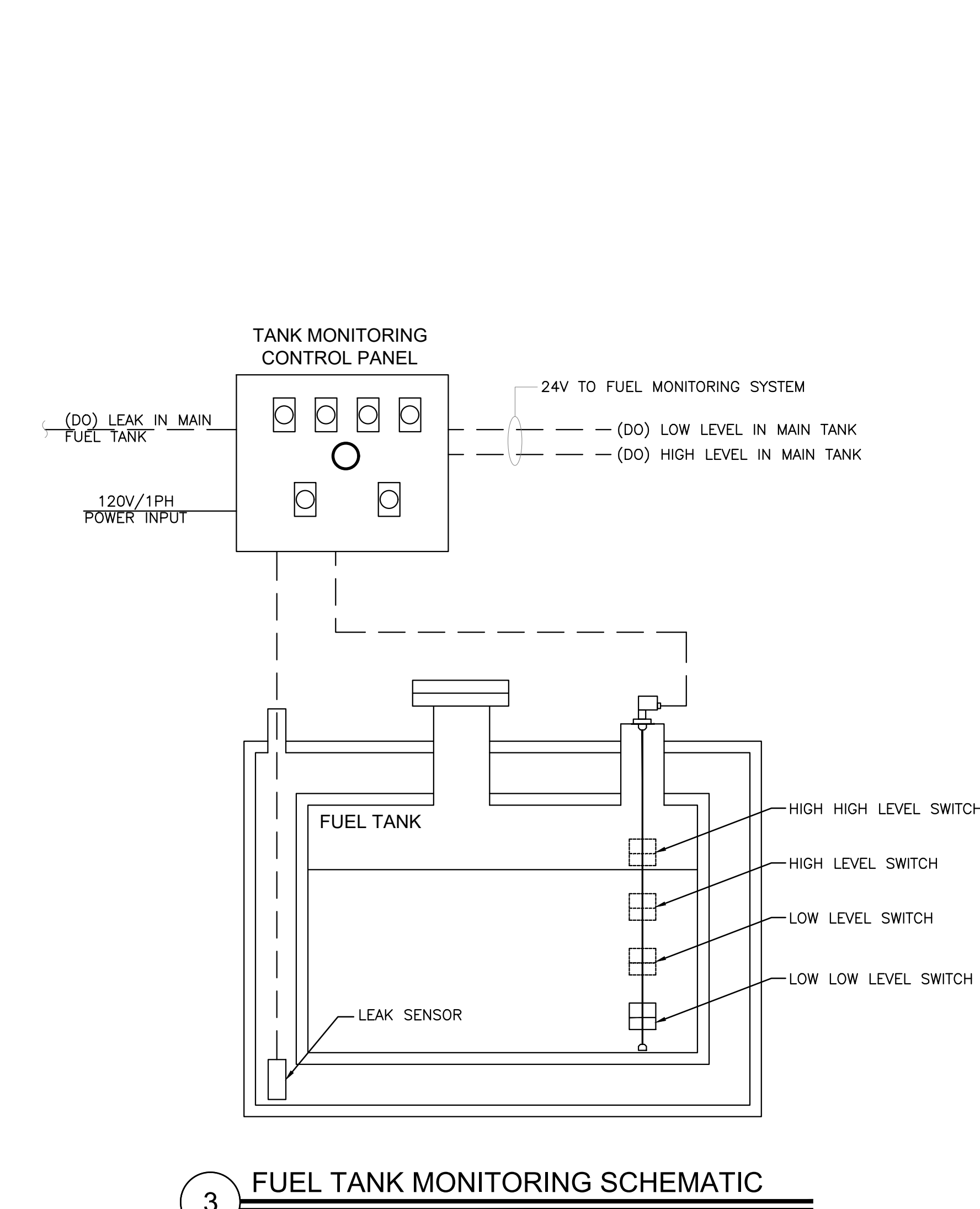
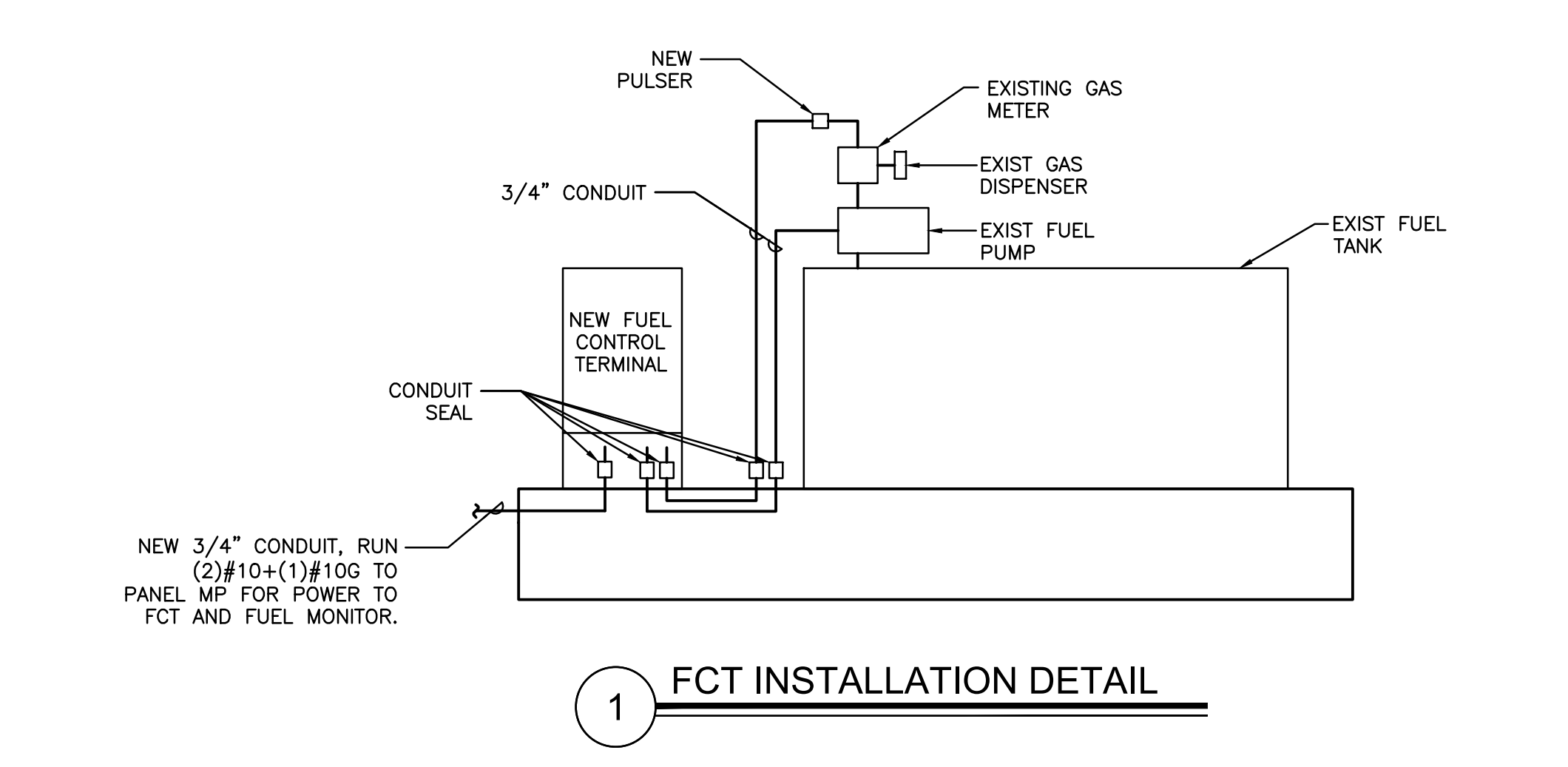
EXISTING PANEL MP																		
LOCATION: ELEC RM				MAIN: 200A MLO				CONN. LOAD: 65.6 KVA										
VOLTAGE: 120V/208V				SYSTEM: 3Ø, 4W				FEED: TOP				GROUND BUS: YES COPPER						
TRIM: SURFACE				BUS RATING: 200A														
CKT	LOAD SERVED	DNO	PHASE	NEUT	GND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	GND	LOAD SERVED	CKT
1	EXISTING LOAD					20/1	R	400			N	45/2					EXISTING LOAD	2
3	SPACE								4500		N							4
5	SPACE									400	L	20/1					BAY LIGHTS	6
7	EXISTING LOAD					40/2	N	3750			L	20/1					LIGHTING	8
9	SPACE							400	3750								SPACE	10
11	SPACE																SPACE	12
13	EXISTING LOAD					20/1	N	600									SPACE	14
15	EXISTING LOAD					60/2	N	4500									SPACE	16
17	SPACE								4500								SPACE	18
19	TIME CLOCK					20/1	N	500									SPACE	20
21	SPACE																SPACE	22
23	RECEPT					20/1	R		400								SPACE	24
25	SPACE							400			R	20/1					UPS RECEPT	26
27	SPACE							5000			N	45/3					PANEL A	28
29	SPACE																	30
31	FCT & FUEL MONITOR	3/4"	#10	#10	20/1	N	840	5000			N							32
33	SPACE										N	25/2					PANEL E	34
35	SPACE								10000		N							36
37	GENERATOR BATTERY CHARGER					20/1	R	500									SPACE	38
39	GENERATOR BLOCK HEATER					20/1	N	500									SPACE	40
41	SPACE																SPACE	42

INTERRUPT RATING:				FROM:			
				17050	28250	20300	

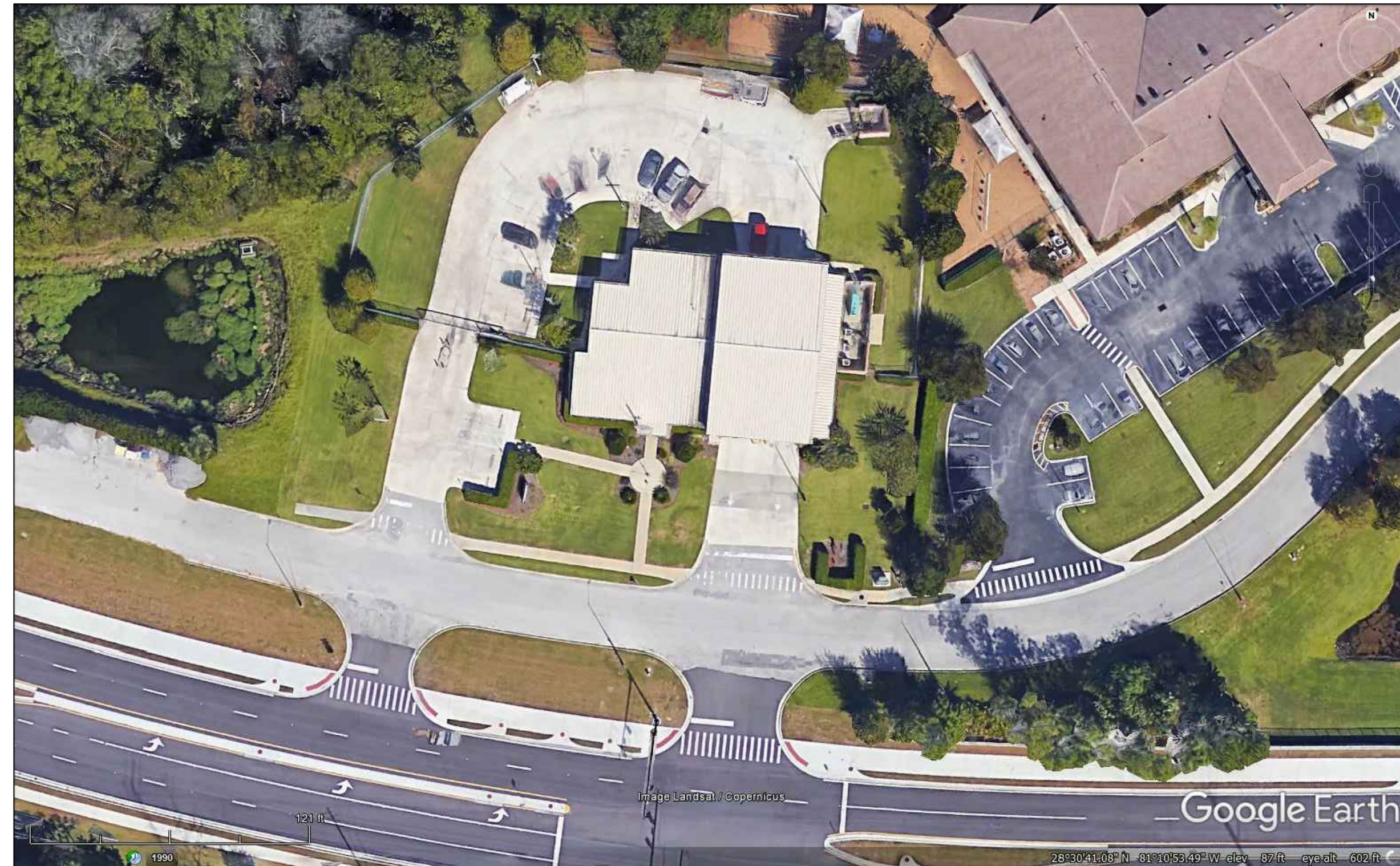
LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	0	1.25	0	
LIGHTING	800	1.25	1000	NON-SEASONAL MOTORS	0	1.0	0	REMAINING NON-CONTINUOUS LOADS	63100	1.0	63100	
RECEPTS TO 10 KVA	1700	1.0	1700	LARGEST MOTOR	0	0.25	0	DEMAND LOADS	0	1.0	0	
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	TOTAL CONNECTED LOAD	65.6	KVA	182.2	AMPS
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	MIN. FEEDER/PANEL CAP.	65.8	KVA	182.8	AMPS
AIR CONDITIONING	0	1.0	0					OVERALL DEMAND FACTOR	1.00			



Revisions:

#	Date	Description





**EXISTING CONDITIONS**  
N.T.S.

FROM GOOGLE EARTH 2016



**LOCATION MAP**  
N.T.S.

**GENERAL NOTES - CIVIL**

1. THIS PROJECT IS LOCATED WITHIN THE ORANGE COUNTY FIRE RESCUE STATION. TO WORK WITHIN THIS FIRE STATION CONTRACTOR HAS TO OBSERVE, FOLLOW AND ABIDE THOROUGHLY, METICULOUSLY AND STRICTLY TO EACH AND EVERY SECURITY RULES AND REGULATIONS CONCERNING SUCH AS BUT NOT LIMITED TO WORKERS WORKING HOURS, INGRESS AND EGRESS POINTS FOR CONTRACTOR PERSONNEL, VEHICLE AND EQUIPMENT.

2. TOPOGRAPHIC INFORMATION AS SHOWN ON DRAWINGS IS PROVIDED FOR INFORMATION PURPOSE ONLY. CONTRACTOR TO CALL SUNSHINE ONE CALL OF FLORIDA 1-800-432-4770 TO LOCATE UNDERGROUND UTILITIES AT LOCATIONS OF TRENCHING AND PAVEMENT CUT AS SHOWN ON DRAWINGS.

3. ORANGE COUNTY PROJECT MANAGER AND ENGINEER DO NOT ASSUME RESPONSIBILITY FOR ACCURACY OF LOCATION AND/OR DEPTH OF ABOVE GROUND UTILITIES.

4. ALIGNMENT OF UTILITIES IS SHOWN TO INDICATE INTENT OF ENGINEER TO CONNECT THESE LINES BETWEEN UTILITIES FOUND ON SITE.

5. CONTRACTOR TO VISIT SITE TO FAMILIARIZE HIMSELF WITH EXISTING FIELD CONDITIONS AND LOCATIONS OF EXISTING UTILITIES AND PROPOSED ALIGNMENT TO COMMERCIAL WASHER-DRYER AS SHOWN ON DRAWINGS. CONTRACTOR TO IMMEDIATELY NOTIFY ORANGE COUNTY PROJECT MANAGER IN WRITING ANY DISCREPANCY OBSERVED FOR PROPER CLARIFICATION.

6. CONTRACTOR TO OBTAIN NECESSARY CONSTRUCTION PERMITS FROM ORANGE COUNTY BUILDING DEPARTMENT AND POST PERMITS ON SITE FOR INSPECTION BY COUNTY INSPECTORS.

7. BEFORE COMMENCING WORK CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER SUCH AS BUT NOT LIMITED TO PHASE OF WORK, SCHEDULE, CREWS, EQUIPMENT WITH ANCILLARIES AND MAINTENANCE OF WORK AREA WITH PROPER BARRICADES FOR REVIEW AND APPROVAL.

8. DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FIRE STATION OPERATIONS AND SHALL TAKE CARE TO KEEP FIRE TRUCK EXITS CLEARED AT ALL TIME.

9. CONTRACTOR IS NOT ALLOWED TO PARK VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES OVERNIGHT WITHIN THE LIMITS OF THE FIRE STATION.

10. CONTRACTOR TO BRING INSIDE THE FIRE STATION VEHICLE, EQUIPMENT, MATERIALS AND ANCILLARIES IN QUANTITIES SUFFICIENT FOR EACH DAY OF WORK.

11. SAW CUTTING, TRENCHING, AND EXCAVATION FOR INSTALLATION OF UTILITIES LINES TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.

12. CONTRACTOR TO SAW CUT CONCRETE AND ASPHALT PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING UTILITIES LINES.

13. EXCESS EXCAVATED MATERIALS FROM TRENCHING AND/OR SAW CUTTING SHALL BE DISPOSED OFFSITE OR AS DIRECTED BY ORANGE COUNTY PROJECT MANAGER.

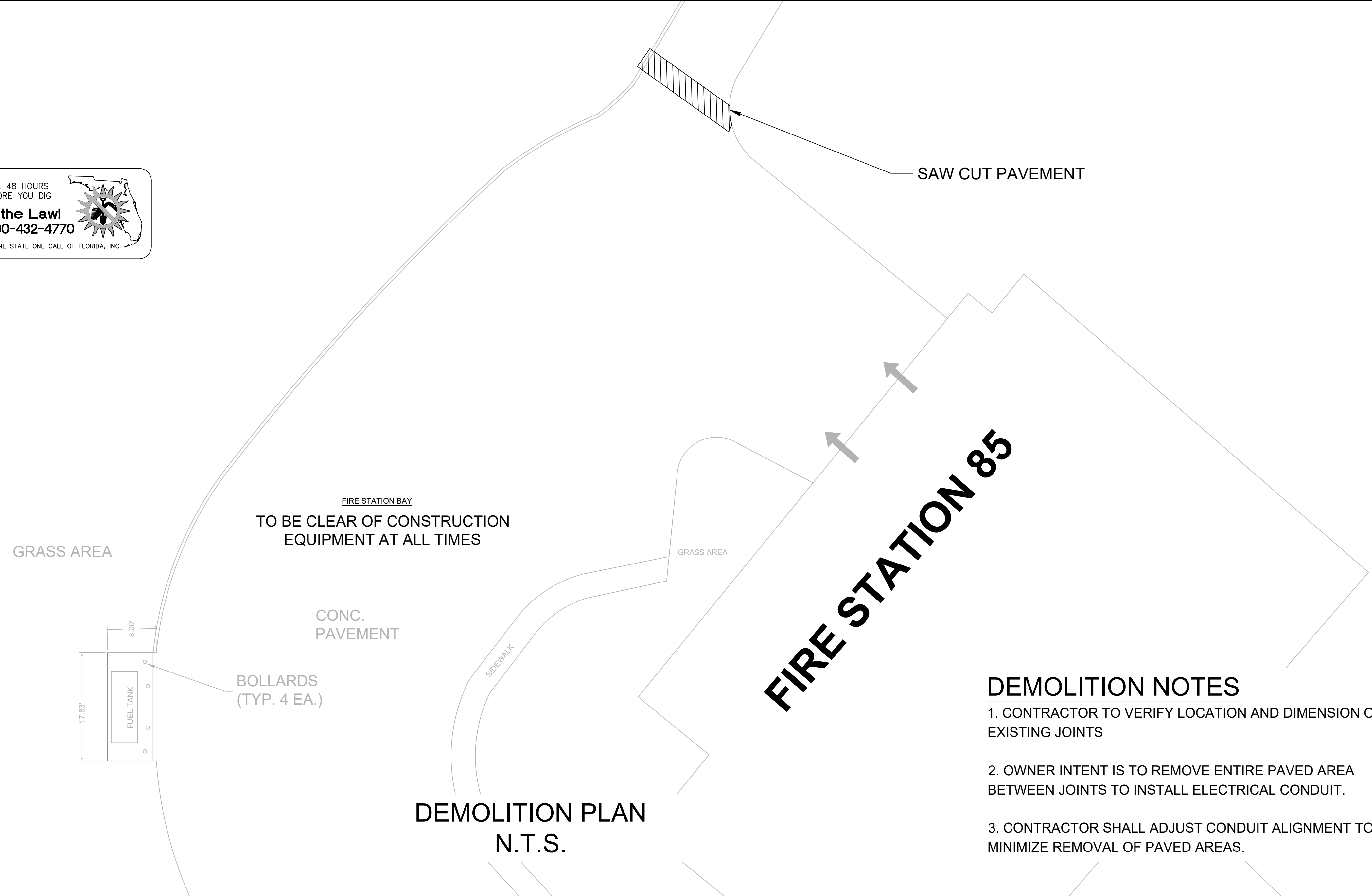
14. ALL EXISTING SODDED AREAS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH THE SAME TYPE OF SOD AT THE TIME OF JOB COMPLETION.

15. CONTRACTOR TO USE RAPID CURING CONCRETE TYPE III 4000 LBS FOR PAVED AREAS TO MATCH EXISTING CONDITIONS. SAW CUT EXPANSION JOINTS TO MATCH EXISTING PATTERN. PROTECT NEW CONCRETE AREA WITH STANDARD TRAFFIC PLATES.

16. AT THE END OF EACH DAY CONTRACTOR SHALL SECURELY PROTECT ANY CONSTRUCTION AREAS DISTURBED BY SAW CUTTING AND/OR TRENCHING AND REMOVE DEBRIS, TRASH AND OTHER CONSTRUCTION MATERIALS, AND MOVE EACH AND EVERY VEHICLE, EQUIPMENT, AND ANCILLARIES OUT OF THE FIRE STATION TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.

17. AT THE END OF CONSTRUCTION AND BEFORE CLOSE-OUT CONTRACTOR TO THOROUGHLY CLEAN JOB SITE OF DEBRIS, TRASH, OTHER CONSTRUCTION MATERIALS TO THE SATISFACTION OF ORANGE COUNTY PROJECT MANAGER.

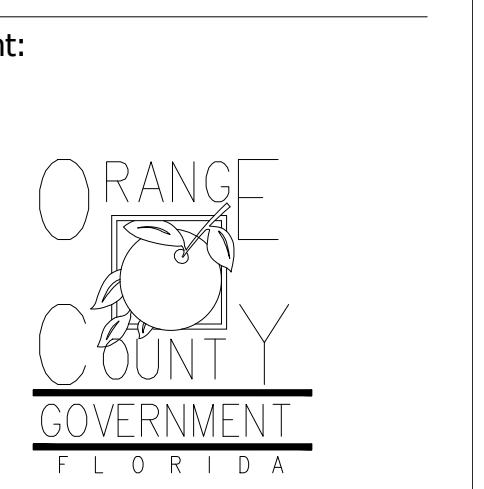
18. AT FINAL INSPECTION CONTRACTOR TO SUBMIT TO ORANGE COUNTY PROJECT MANAGER MARKED-UP DRAWINGS SHOWING ACTUAL ALIGNMENT AND DEPTH OF EACH AND EVERY UTILITIES LINE INSTALLED FOR ENGINEER TO RECORD ON AS-BUILT DRAWINGS.



**DEMOLITION PLAN**  
N.T.S.

**DEMOLITION NOTES**

1. CONTRACTOR TO VERIFY LOCATION AND DIMENSION OF EXISTING JOINTS
2. OWNER INTENT IS TO REMOVE ENTIRE PAVED AREA BETWEEN JOINTS TO INSTALL ELECTRICAL CONDUIT.
3. CONTRACTOR SHALL ADJUST CONDUIT ALIGNMENT TO MINIMIZE REMOVAL OF PAVED AREAS.



EOR Stamp:  
Engineer of Record

Project:  
**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 85  
13801 TOWNSEND DR,  
ORLANDO, FL 32828

Issuance:  
**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:  
11.23.2018  
Project Number:  
16.OC.043

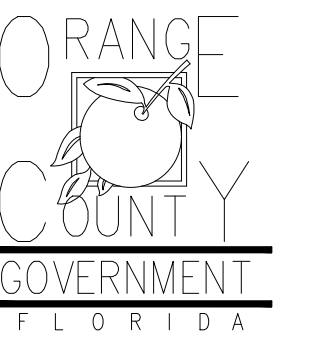
Drawn By:  
**S.D.H.**

Checked By:  
**D.D.**  
**CIVIL DEMO PLAN**

Sheet No.:  
**85-C100**



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE  
FUEL TANK  
AUTOMATION AND  
REPLACEMENT  
DESIGN**

Location:

Fire Station 85  
13801 TOWNSEND DR,  
ORLANDO, FL 32828

Issuance:

**Permit  
Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

S.D.H.

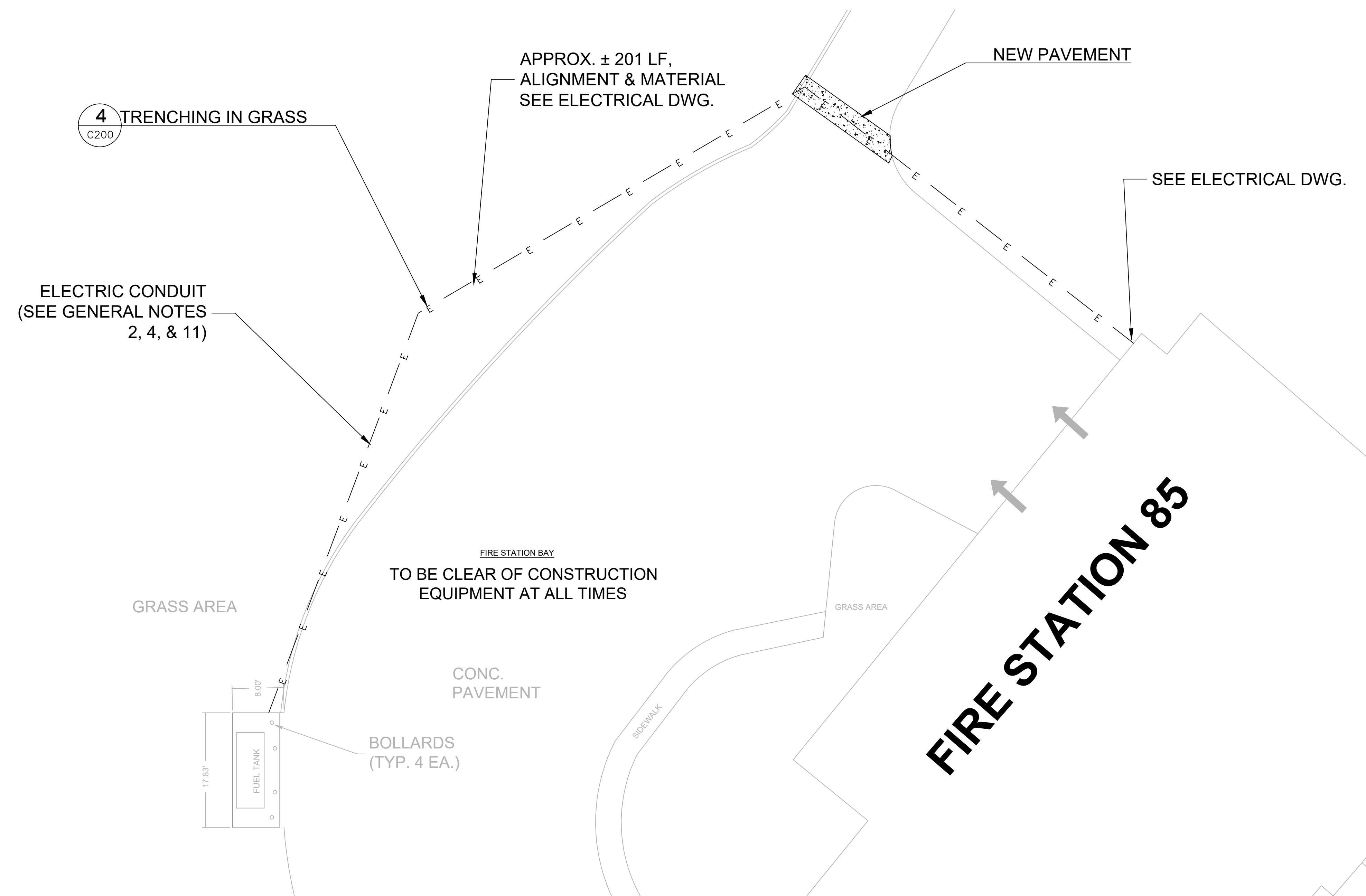
Checked By:

D.D.

**CIVIL SITE  
PLAN**

Sheet No.:

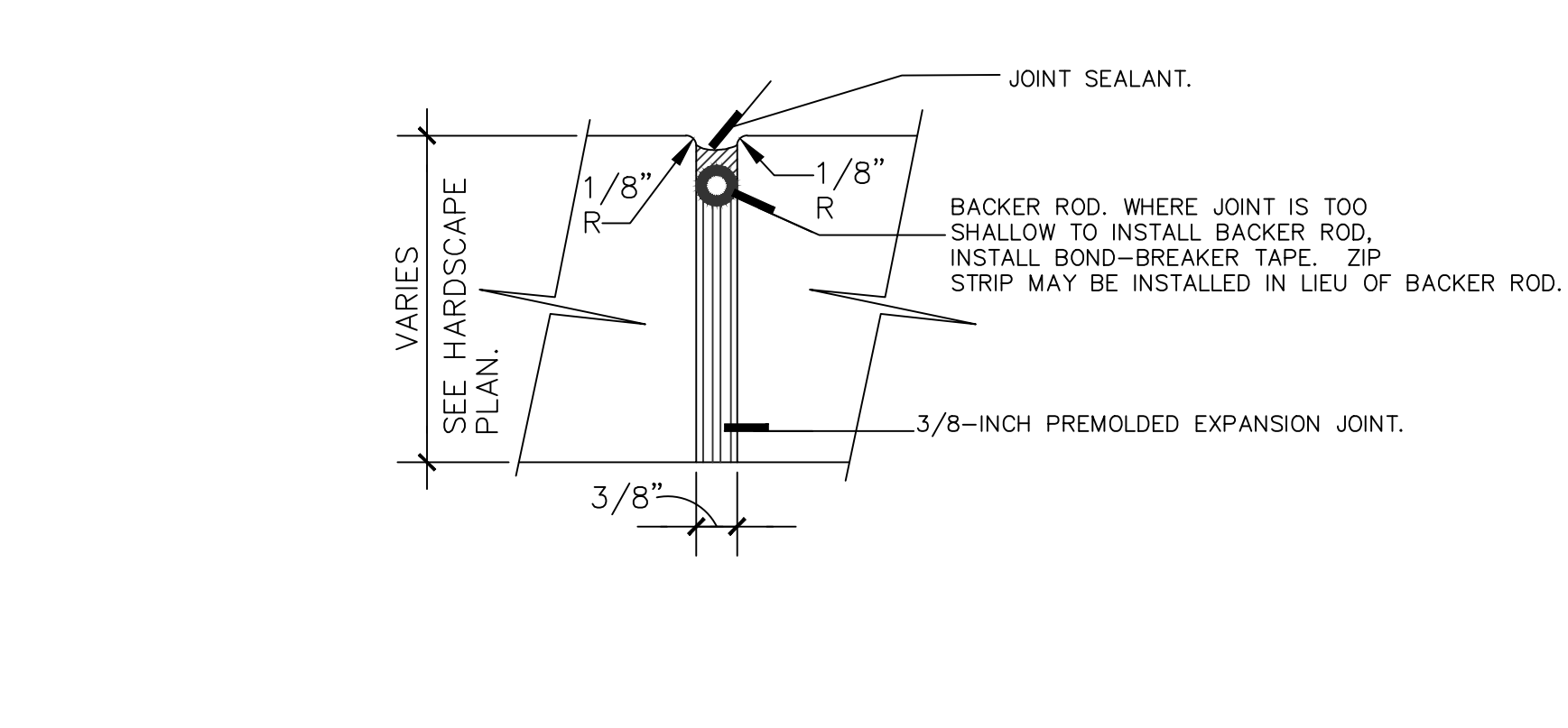
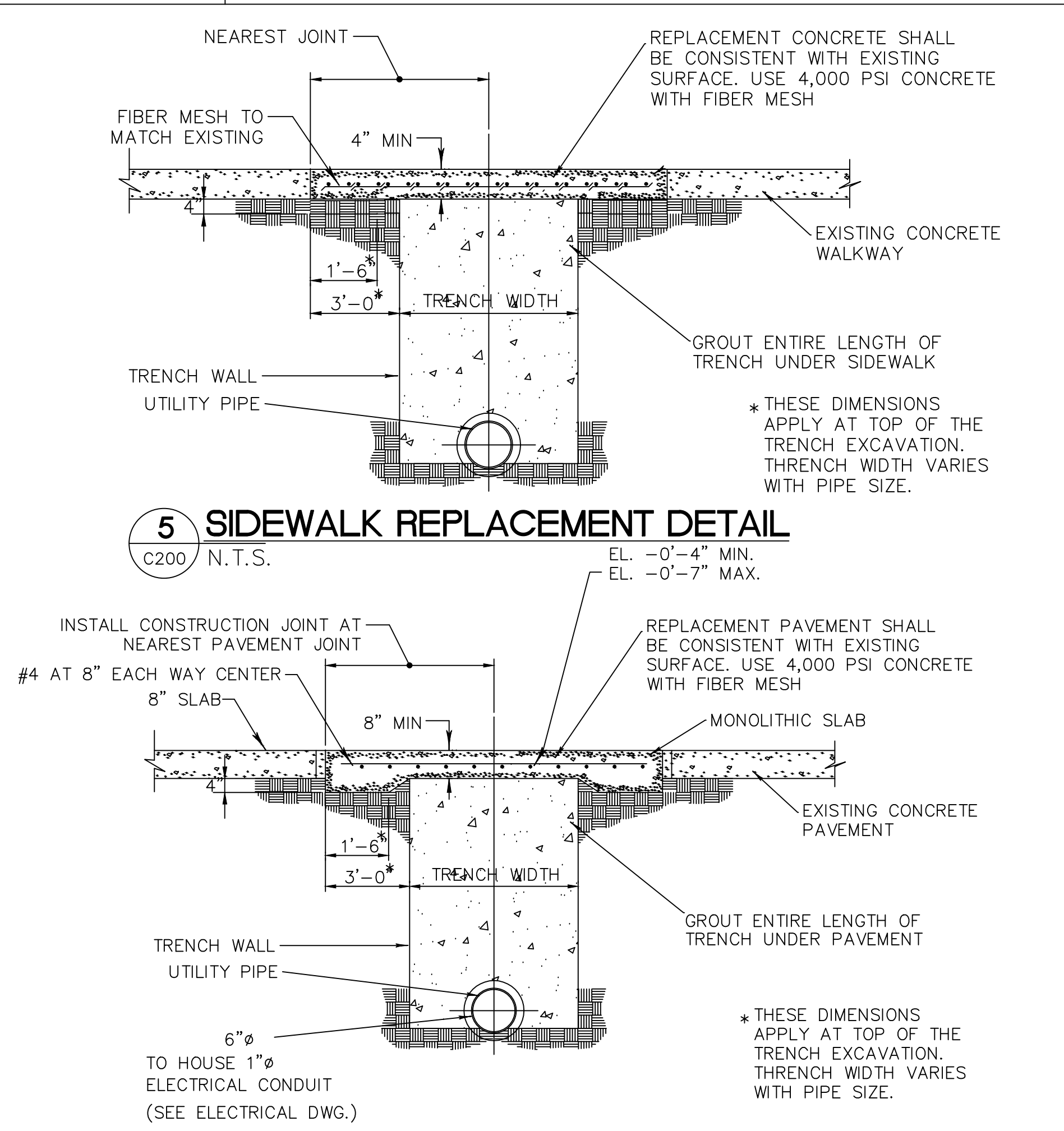
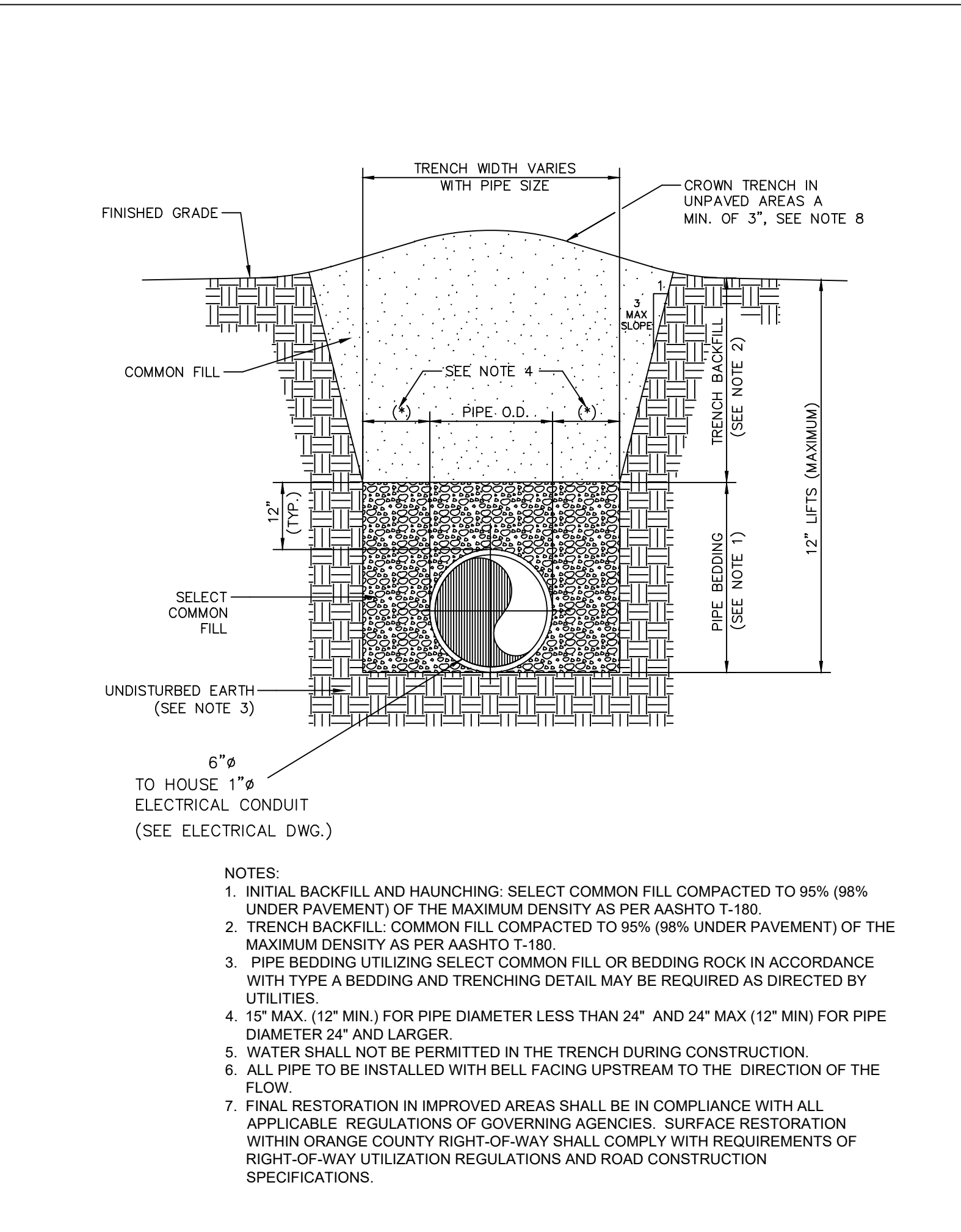
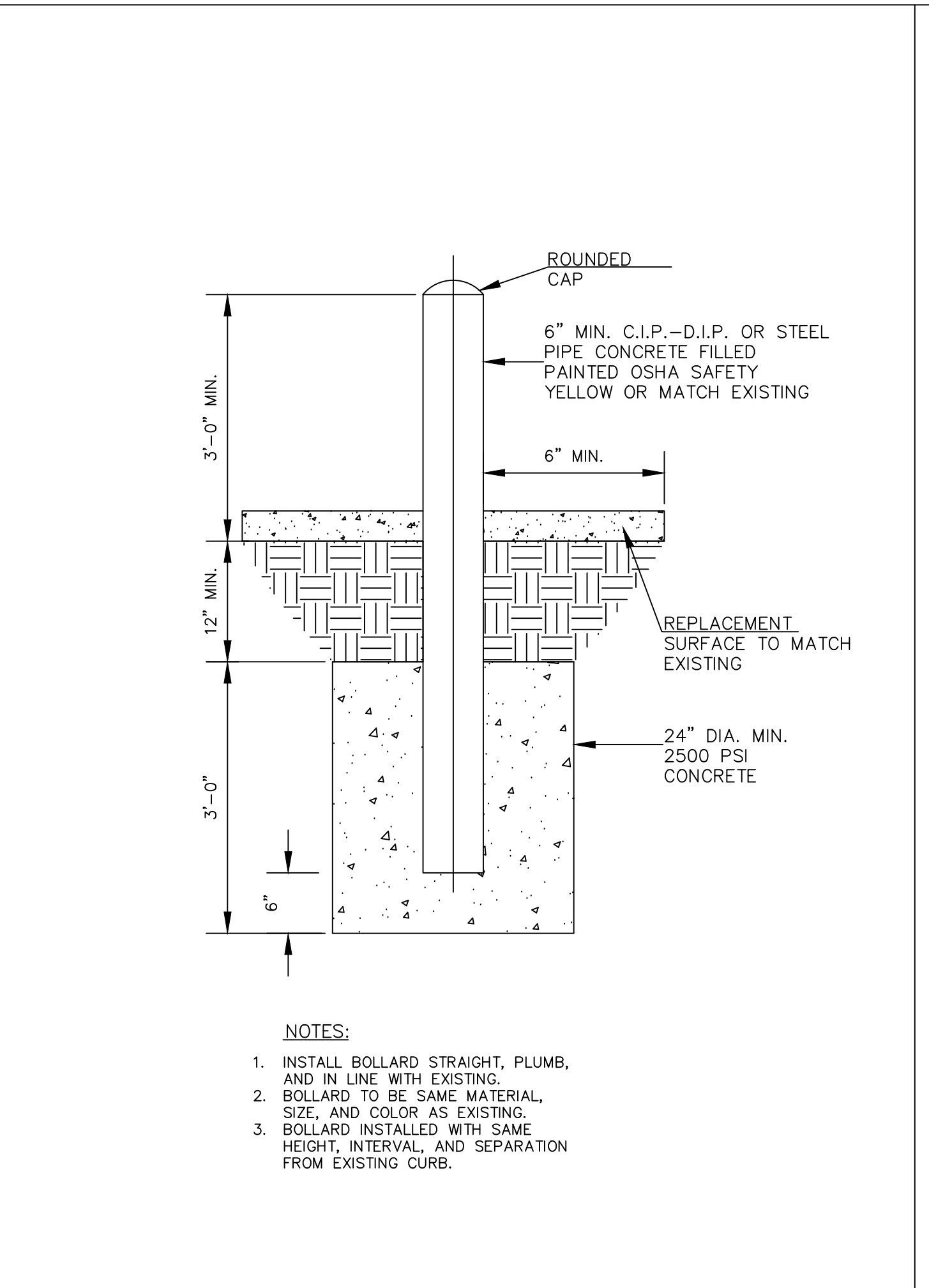
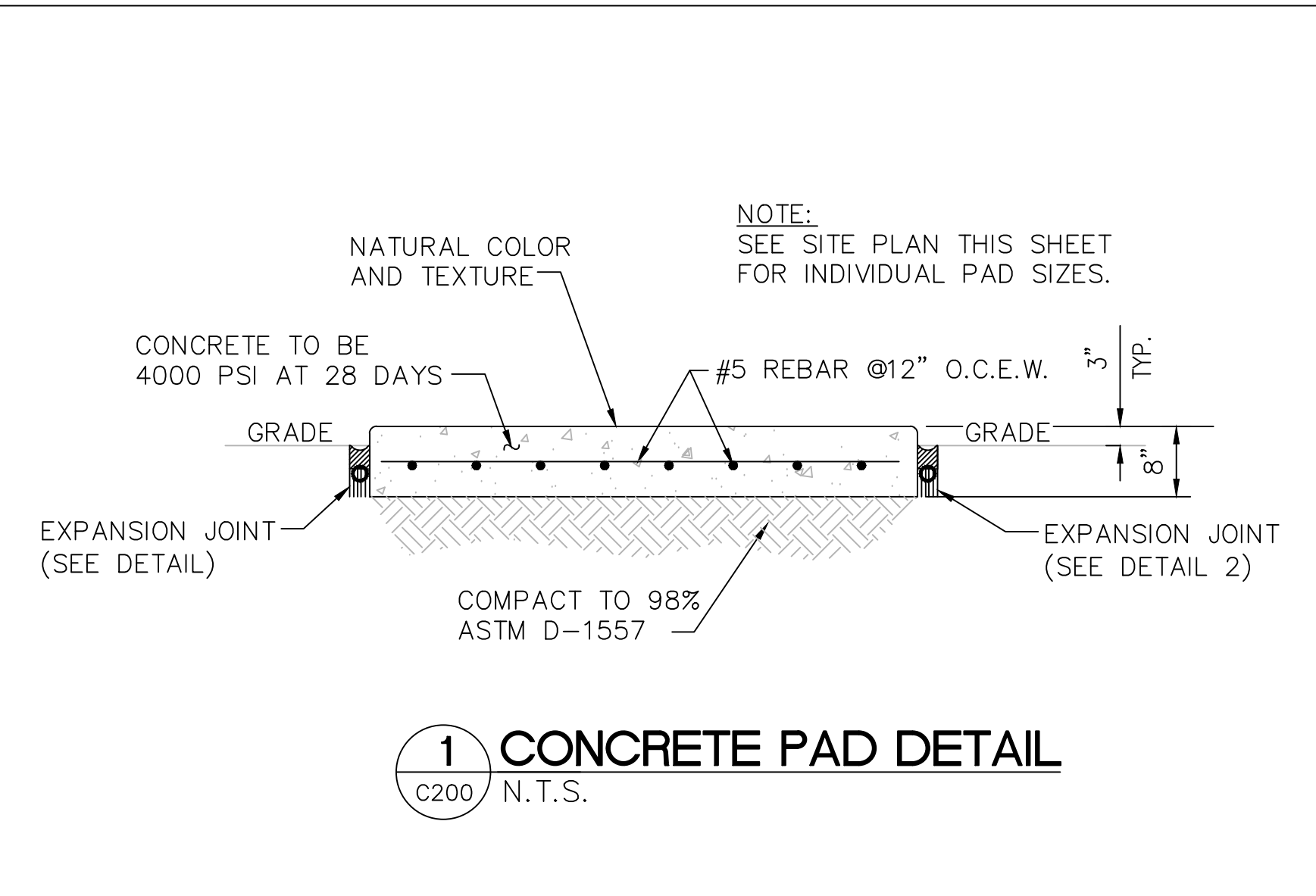
85-C200



- PROJECT SPECIFIC NOTES - CIVIL**
- DURING CONSTRUCTION CONTRACTOR SHALL INSURE MINIMUM DISTURBANCES TO FACILITY OPERATIONS AND SHALL TAKE CARE TO KEEP EXPOSED AREAS TO A MINIMUM TIME TO REDUCE DUST POLLUTION AND MINIMIZE TRAFFIC DETOUR.
  - CONTRACTOR TO MAINTAIN INLET BARRIERS AND SILT BARRIERS IN GOOD CONDITIONS TO PREVENT INTRODUCTION OF SUSPENDED MATERIALS CAUSED BY HIS CONSTRUCTION ACTIVITIES INTO VARIOUS STORM WATER PONDS FOUND AT THE FIRE STATION FACILITY.
  - CONTRACTOR SHALL BE RESPONSIBLE FOR THE CORRECTION OF ANY EROSION, SEDIMENTATION OR WATER QUALITY PROBLEMS WITHIN STORM WATER PONDS THAT RESULT FROM HIS CONSTRUCTION ACTIVITIES.
  - TO AVOID DAMAGES TO THE UNDERGROUND UTILITIES TRENCHING EQUIPMENT IS NOT ALLOWED TO OPERATE ON SODDED AREAS. CONTRACTOR TO HAND DUG UTILITIES TRENCH FOR LAYING CONDUITS
  - SAWCUTTING, TRENCHING AND EXCAVATION FOR INSTALLATION OF CONDUITS TO BE IN CONFORMANCE WITH ALIGNMENT AND DEPTH AS SHOWN ON DRAWINGS. FOR ANY SUBSTANTIAL DEVIATION IN ALIGNMENT CONTRACTOR TO SUBMIT IN WRITING TO ORANGE COUNTY PROJECT MANAGER FOR REVIEW AND APPROVAL BEFORE WORK.
  - CONTRACTOR TO SAW CUT CONCRETE PAVEMENT TO WIDTH AND DEPTH AS SHOWN ON DRAWINGS FOR LAYING CONDUITS.
  - CONTRACTOR TO USE CONCRETE TYPE III 3000 LBS TO BACKFILL UTILITY TRENCH AND TO REPAVE SAW CUT PAVEMENT AREAS TO MATCH EXISTING CONDITIONS.
  - CONTRACTOR TO INSTALL CONSTRUCTION JOINTS AND EXPANSION JOINTS AS SHOWN ON DRAWINGS. EXPANSION JOINTS SHALL FOLLOW EXISTING PATTERNS.
  - INSTALL AND CONNECT UTILITIES LINES SUCH AS POWER AT LOCATION AND DEPTH AS SHOWN ON ELECTRICAL DRAWINGS.



**SITE PLAN  
N.T.S.**



**MISCELLANEOUS DETAILS  
N.T.S.**

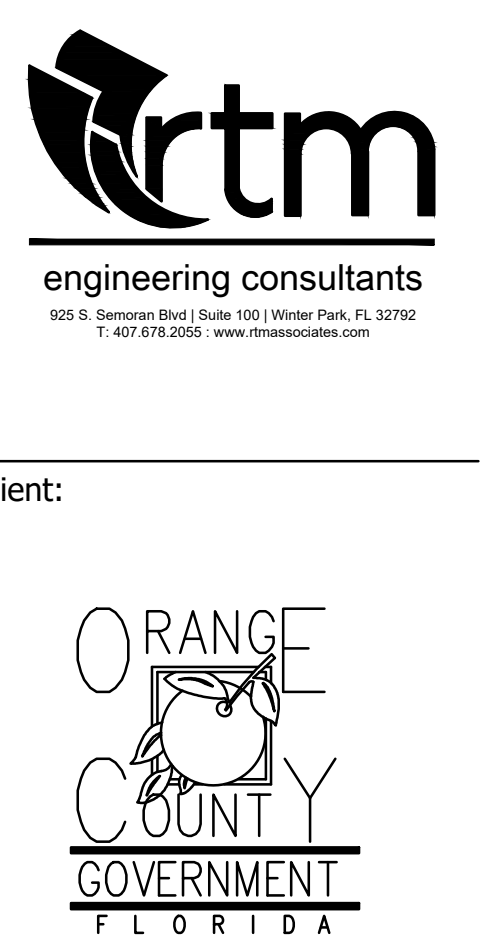


**GENERAL NOTES**

1. PAINT ALL CONDUIT ABOVE GROUND TO MATCH.
2. PROVIDE EXPLOSION PROOF SEAL-OFF'S AT EACH END OF ALL CONDUIT RUNS. INSTALLATION SHALL MEET REQUIREMENTS OF NEC ARTICLE 514.

**KEY NOTES**

- 1 NEW FUEL CONTROL UNIT (FCU), BASIS OF DESIGN EJ WARD W4 10T. PROVIDE FUEL CONTROL UNIT WITH INTEGRAL NETWORK SWITCH AND WITH 'BACKPACK' MOUNTING HARDWARE.
- 2 NEW FUEL MONITOR, BASIS OF DESIGN OMTech PROTEUS-K. MOUNT TO FCU WITH HARDWARE PROVIDED WITH FCU. SEE 3/E201 FOR MORE INFORMATION.
- 3 PROVIDE AND INSTALL NEW TANK FLOAT SYSTEM.
- 4 PROVIDE AND INSTALL NEW ELECTRONIC PULSER, BASIS OF DESIGN OPW MODEL 800-F. SEE 2/E201 FOR MORE INFORMATION.



EOR Stamp:  
Engineer of Record

Project:  
**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 85  
13801 TOWNSEND DR,  
ORLANDO, FL 32828

Issuance:  
**Permit Documents**  
Add Alternate #1

Revisions:

#	Date	Description

Date:  
**11.23.2018**

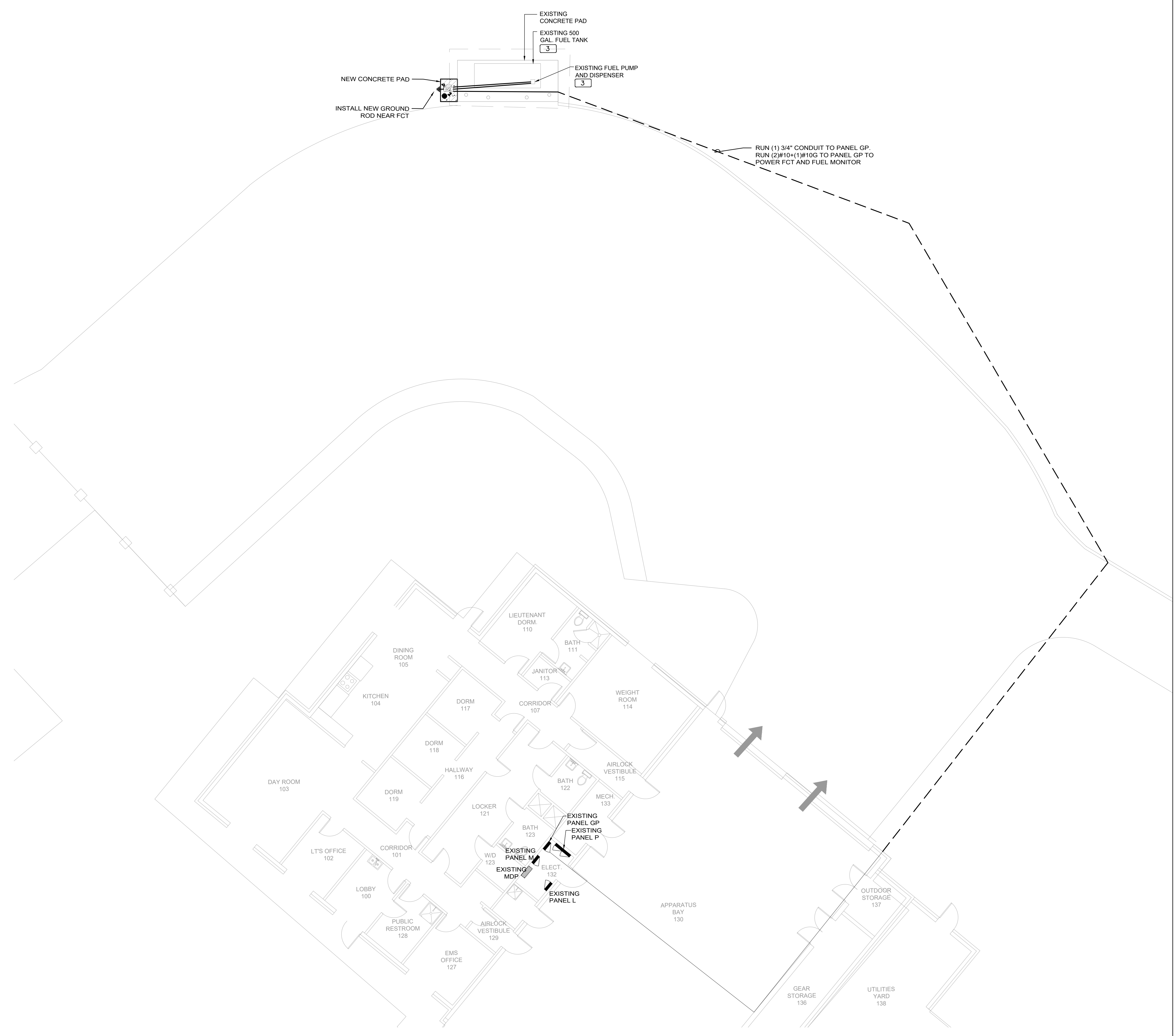
Project Number:  
**16.OC.043**

Drawn By: <b>ME</b>	Checked By: <b>SP</b>
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**ELECTRICAL POWER PLAN**

Sheet No.:

**85-E101**



**1 FIRE STATION 85 SITE PLAN - NEW POWER PLAN**

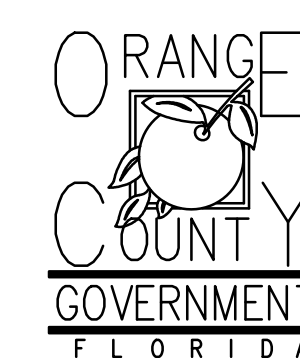
0 4' 8' 16' 24'

1/8" = 1'-0"

NORTH



Client:



Consultants:



EOR Stamp:

Engineer of Record

Project:

**OC FIRE RESCUE FUEL TANK AUTOMATION AND REPLACEMENT DESIGN**

Location:  
Fire Station 85  
13801 TOWNSEND DR,  
ORLANDO, FL 32828

Issuance:

**Permit Documents**

Add Alternate #1

Revisions:

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Date:

11.23.2018

Project Number:

16.OC.043

Drawn By:

ME

Checked By:

SP

**ELECTRICAL PANEL SCHEDULES AND DETAILS**

Sheet No.:

**85-E201**

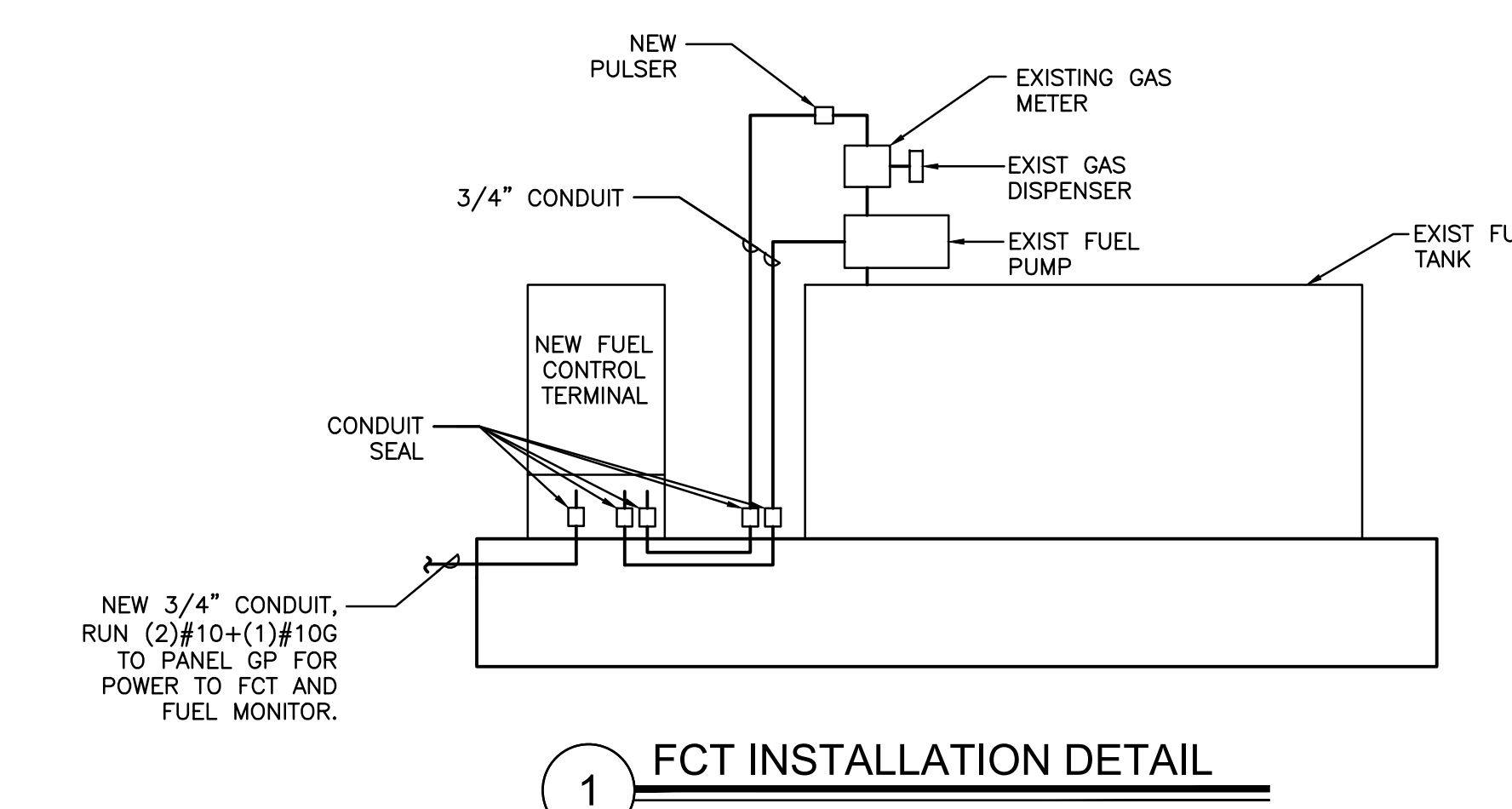
EXISTING PANEL GP																				
LOCATION: ELEC RM VOLTAGE: 120V/208V TRM: SURFACE						MAIN: 100A MLO SYSTEM: 3A 4W BUS RATING: 100A						CONN. LOAD: 22.8 KVA FEED: TOP GROUND BUS: YES COPPER								
CKT	LOAD SERVED	DNO	PHASE	NEUT	COND	BKR	DMD	L1	L2	L3	DMD	BKR	COND	PHASE	NEUT	COND	LOAD SERVED	CKT		
1	GAS PUMP					30/2	M	2250										LIGHTS	2	
3							M	2250												4
5	DISPENSER					30/2	N	1250										MONITOR	6	
7							N	1250												8
9	CARD READER (CURRENTLY OFF)					30/2	-	1250										EXISTING LOAD	10	
11							-	1250												12
13	SPARE					30/2	-	-										SPACE	14	
15							-	-										SPACE	16	
17	EXISTING LOAD					30/2	N	1250										SPACE	18	
19							N	1250										SPACE	20	
21	SPACE						-	-										SPACE	22	
23	FCT & FUEL MONITOR	1*	#8	#8	20/1	N				840								SPACE	24	
25	SPACE						-	-										SPACE	26	
27	SPACE						-	-										SPACE	28	
29	SPACE						-	-										SPACE	30	
31	SPACE						-	-										SPACE	32	
33	SPACE						-	-										SPACE	34	
35	SPACE						-	-										SPACE	36	
37	SPACE						-	-										SPACE	38	
39	SPACE						-	-										SUREGE SUPPRESSOR	40	
41	SPACE						-	-										SPACE	42	

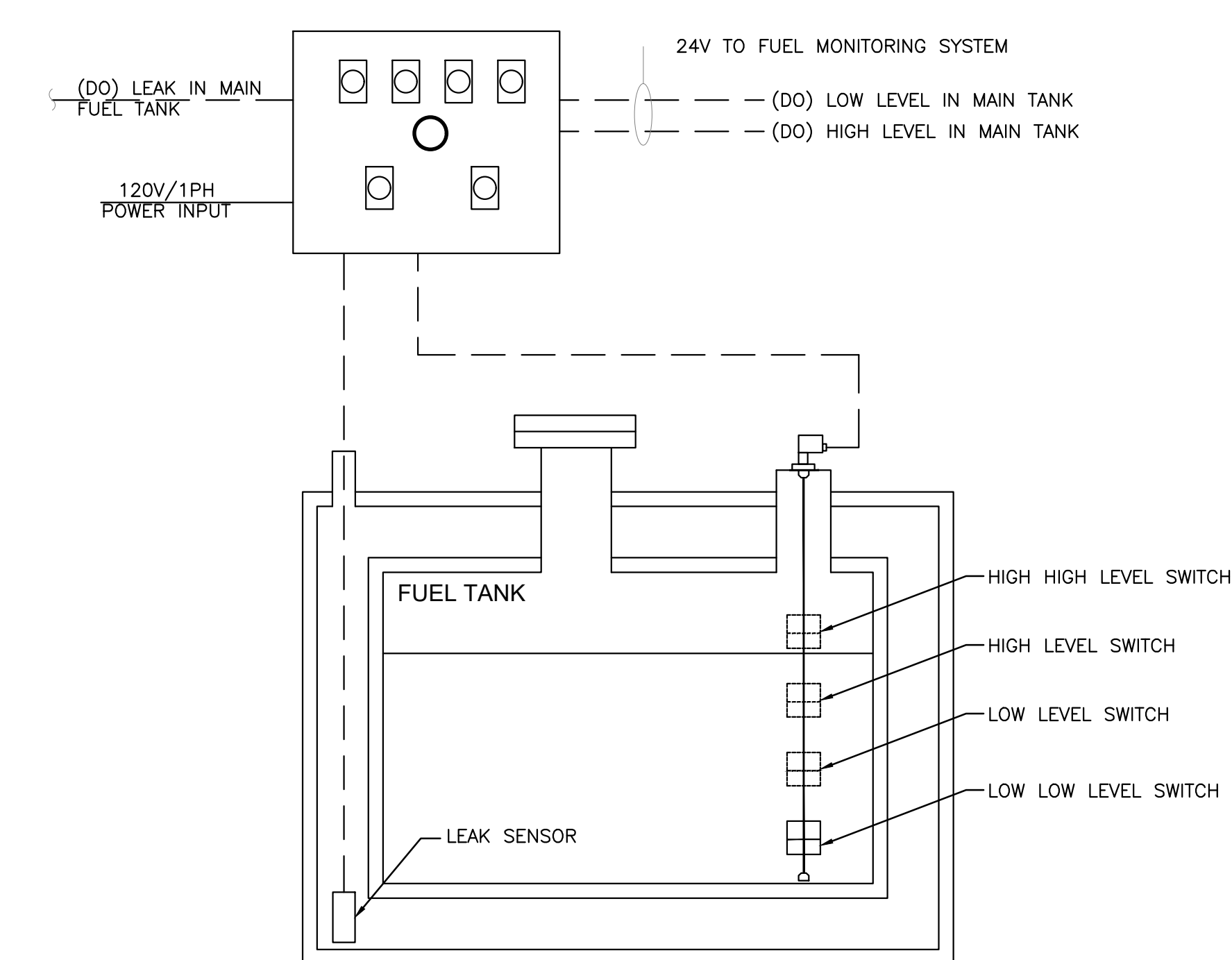
INTERRUPT RATING:				8917	6417	7507	FROM:			
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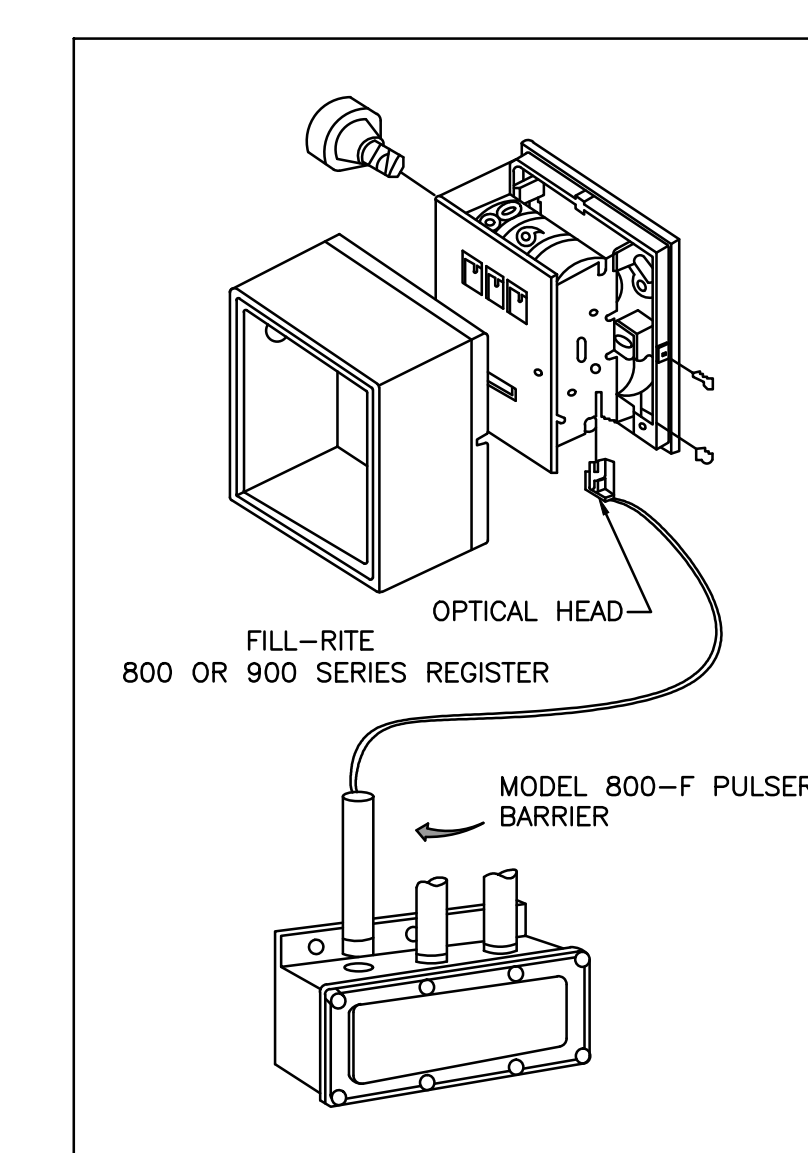
LOADS (N VA )	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	LOADS	CONNECTED	DEMAND FACTOR	MINIMUM FEEDER	REMAINING CONTINUOUS LOADS	REMAINING NON-CONTINUOUS LOADS	REMAINING DEMAND LOADS	TOTAL CONNECTED LOAD	MIN. FEEDER/PANEL CAP.	OVERALL DEMAND FACTOR
LIGHTING	0	1.25	0	NON-SEASONAL MOTORS	4500	1.0	4500	0	1.25	0	22.8 KVA	63.4	1.00
RECEPTS TO 10 KVA	0	1.0	0	LARGEST MOTOR	0	0.25	0	18341	1.0	18341	22.8 KVA	63.4	1.00
RECEPTS REMAINING	0	0.5	0	WATER HEATING	0	1.0	0	0	1.0	0	22.8 KVA	63.4	1.00
SPACE HEATING	0	0.0	0	KITCHEN EQUIP.	0	1.0	0	0	1.0	0	22.8 KVA	63.4	1.00
AIR CONDITIONING	0	1.0	0										



**1 FCT INSTALLATION DETAIL**



**3 FUEL TANK MONITORING SCHEMATIC**



- INSTALLATION**
- REMOVE THE RESET KNOB AND COVER FROM THE REGISTER.
  - (IF EQUIPPED) REMOVE THE NUT AND WASHER FROM THE SHAFT ON THE LEFT SIDE OF THE REGISTER (LATER MODEL REGISTER ARE BUILT WITH A SMOOTH SHAFT).
  - PLACE THE OPTICAL SUCH THAT IT STRADDLES THE PLASTIC GEAR ON THE END OF THE SHAFT AND THE BRACKET SLOT IN ON THE SHAFT SCREW.
  - (IF EQUIPPED) REPLACE THE WASHER AND NUT REMOVED IN STEP 2. ON LATE MODELS, SECURE THE OPTICAL HEAD WITH THE SUPPLIED PUSH NUT.
  - REPLACE THE REGISTER COVER AND RESET BOX.
  - INSTALL THE BARRIER INTO THE JUNCTION BOX.
  - CONNECT THE POWER WIRES ACCORDING TO THE DRAWING PROVIDED. PAY PARTICULAR YOU ARE INSTALLING TO MATCH THE PROPER WIRE COLORS TO THE PROPER CONNECTIONS.
  - CONNECT THE RED WIRES TO THE PULSING CIRCUIT.

IF ERRATIC OPERATION OF THE PULSER IS ENCOUNTERED, IT MAY BE DUE TO ELECTRICAL NOISE OR FLUCTUATIONS OF THE POWER LINES. THIS TYPE OF PROBLEM CAN BE ELIMINATED BY POWERING THE PULSER WITH SEPARATE POWER LINES NOT CONNECTED TO MOTORS OR SOLENOIDS, OR BY ADDING NOISE SUPPRESSORS TO EACH MOTOR AND/OR SOLENOID.

ALL APPROPRIATE WIRING PRACTICES AS OUTLINED BY THE NATIONAL ELECTRICAL CODE AND STATE LOCAL CODES SHOULD BE FOLLOWED.

CONTACT OPW FUEL MANAGEMENT SYSTEMS IN CASE OF TROUBLE OR UNUSUAL APPLICATION.  
TELEPHONE 708-485-4200 FAX 708-485-7137

**2 PULSER INSTALLATION DETAIL**