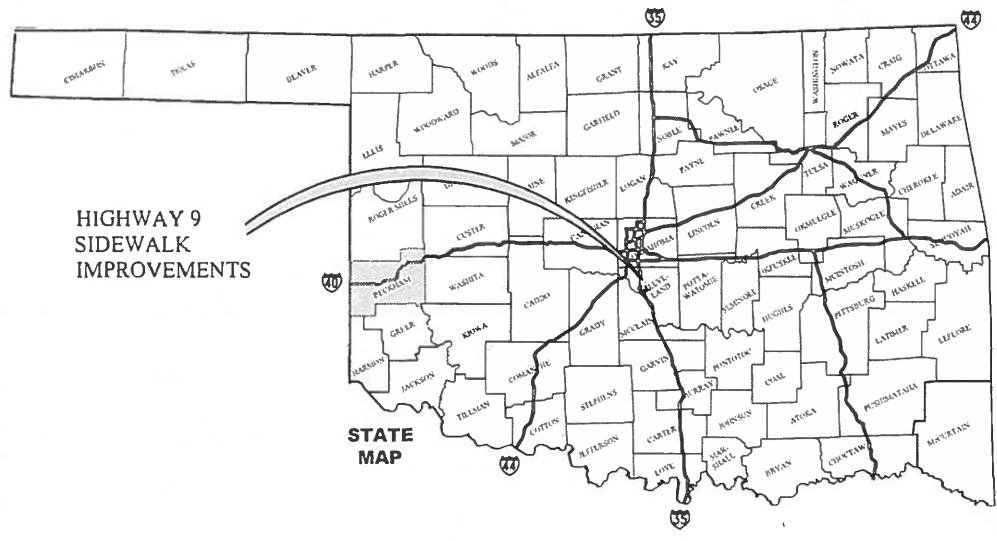


STATE OF OKLAHOMA CLEVELAND COUNTY

PLANS OF PROPOSED SIDEWALK IMPROVEMENTS

STATE HIGHWAY 9 CITY OF NORMAN

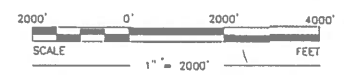
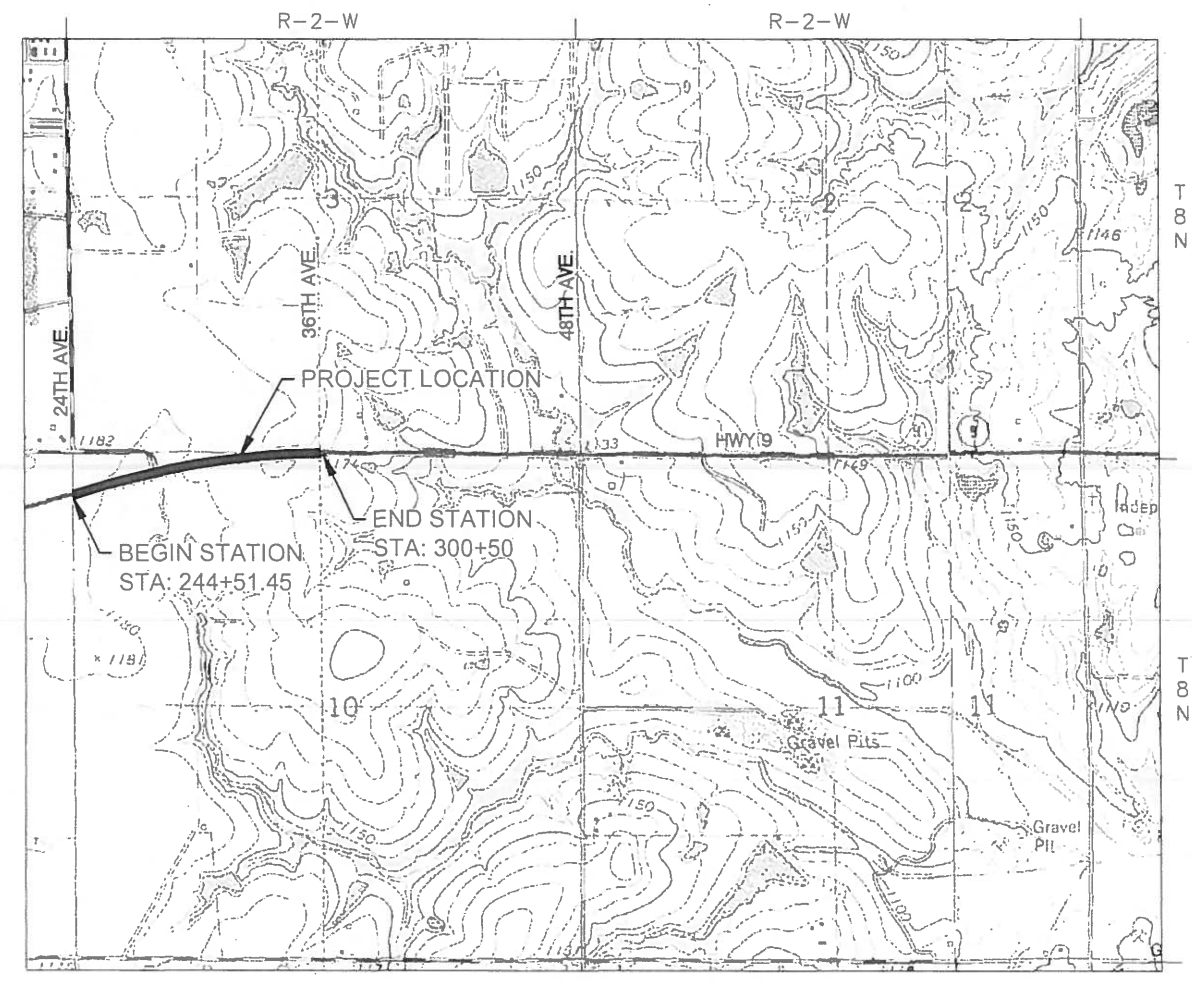
STATE JOB NO. 26879(04)
STP-114E(258)EH



SURVEY CONTROL DATA

- HORIZONTAL AND VERTICAL CONTROL:
HORIZONTAL CONTROL FOR THIS SURVEY IS THE OKLAHOMA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, (NAD 83 AND NAVD 88).
- BASIS OF BEARINGS:
NAD83, OKLAHOMA STATE PLANE SOUTH ZONE

CONVENTIONAL SYMBOLS		CONVENTIONAL SIGNS	
	PROPOSED ROAD		INTERSTATE HIGHWAY
	RAILROADS		U.S. HIGHWAY
	RANGE & TOWNSHIP		STATE HIGHWAY
	SECTION LINES		EXIST GUY POLE
	QUARTER SECTION LINES		EXIST IRON PIN
	FENCES		EXIST UTILITY POLE
	GROUND LINE		EXIST LIGHT POLE
	EXISTING ROADS		EXIST SIGN
	BASE LINE		EXIST CONTROLLER
	GRADE LINES		EXIST DRAINAGE MANHOLE
	TELEPHONE & TELEGRAPH		EXIST HYDRANT
	POWER LINES		EXIST GAS VALVE
	OIL WELLS		EXIST SEWER MANHOLE
	BUILDINGS		EXIST WATER VALVE
	DRAINAGE STRUCTURES - IN PLACE		EXIST POWER POLE
	DRAINAGE STRUCTURES - NEW		EXIST ELECTRIC RISER
	RIGHT-OF-WAY LINES - EXISTING		EXIST WATER METER
	RIGHT-OF-WAY LINES - NEW		EXIST TELEPHONE RISER
	RIGHT-OF-WAY MARKERS - IN PLACE		EXIST GAS RISER
	RIGHT-OF-WAY MARKERS - REMOVE & RESET		EXIST SS CLEANOUT
	RIGHT-OF-WAY MARKERS - NEW		PROPOSED MANHOLE
	CONTROLLED ACCESS		PROPOSED VALVE
	RIGHT-OF-WAY FENCE		PROPOSED FIRE HYDRANT



CONVENTIONAL SIGNS LEGEND

	INTERSTATE HIGHWAY
	U.S. HIGHWAY
	STATE HIGHWAY

Sheet List Table

Sheet Number	Sheet Title
1	TITLE SHEET
2	NOTES AND QUANTITIES
3	SUMMARY OF QUANTITIES
4	STORM WATER MANAGEMENT PLAN
5	PROF. 10+00.00 TO 15+00.00
6	PROF 15+00.00 TO 21+00.00
7	PROF 21+00.00 TO 27+00.00
8	PROF 27+00.00 TO 33+00.00
9	PROF 33+00.00 TO 39+00.00
10	PROF 39+00.00 TO 45+00.00
11	PROF 45+00.00 TO 51+00.00
12	PROF 51+00.00 TO 57+00.00
13	PROF 57+00.00 TO 63+00.00
14	PROF 63+00.00 TO 64+08.59
15	X-SEC 244+00 TO 253+50
16	X-SEC 254+00 TO 263+50
17	X-SEC 264+00 TO 273+50
18	X-SEC 274+00 TO 283+50
19	X-SEC 284+00 TO 293+50
20	X-SEC 294+00 TO 299+00
21	CIVIL DETAILS
22	CIVIL DETAILS

APPROVED BY: DATE 9/19/17

APPROVED BY: DATE 9/19/17

PREPARED BY:
CARDINAL ENGINEERING, INC.
CA NO. 7110, RENEWAL 06.30.18

M. JOSHUA RISLEY
REGISTERED PROFESSIONAL ENGINEER NO. 24102

08-04-2017
DATE

OKLAHOMA DEPARTMENT OF TRANSPORTATION	DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION
DATE APPROVED: _____ BY: _____ CHIEF ENGINEER	DATE APPROVED: _____ BY: _____ DIVISION ADMINISTRATOR

UTILITY LOCATION NUMBERS

STATE-WIDE 1-800-522-6543
OUT-OF-STATE 1-800-654-8249

THESE NUMBERS ARE TO BE USED FOR INFORMATION ON THE LOCATION OF ALL UNDERGROUND UTILITIES. CONTACT THESE NUMBERS PRIOR TO ANY EXCAVATION.

THE FOLLOWING STANDARDS WILL BE REQUIRED FOR THIS PROJECT.

- | | |
|----------|---------|
| SSS-1-1 | SPI-4-1 |
| TSC2-3-2 | ROI-3-1 |
| TFL-1-1 | |
| LECS-4-1 | |
| WCR-3-1 | |
| TWO-1-0 | |
| PCES-4-1 | |
| SMD-3-1 | |
| MFC-4-1 | |
| MJB-3-1 | |

ROADWAY LENGTH: _____ 5600 FT. _____ 1.10 MILES
BRIDGE LENGTH: _____ 0.00 FT. _____ 0.00 MILES
PROJECT LENGTH: _____ 1.10 MILES

EQUATIONS: NONE
EXCEPTIONS: NONE

0100 ROADWAY		PAY QUANTITIES		
ITEM No		DESCRIPTION	UNITS	QUANTITY
201(A)	0102	CLEARING AND GRUBBING (7)	LSUM	1
202(A)	0183	UNCLASSIFIED EXCAVATION (1) (7) (15)	CY	5228
205(A)	4229	TYPE A-SALVAGED TOPSOIL (7)	LSUM	1
221(C)	2801	TEMPORARY SILT FENCE (8) (9)	L.F.	5330
230(A)	2806	SOLID SLAB SODDING (3) (10)	SY	7892
231(A)	4567	TREES	EA	3
504(F)	6006	HANDRAILING	LF	530
510(A)	6333	RETAINING WALL	SY	232
601(A)	0297	TYPE I PLAIN RIPRAP	TON	11.25
609(A)	0300	CONCRETE CURB (6" BARRIER-INTEGRAL) (2) (5) (6)	LF	258
610(A)	0604	5" CONCRETE SIDEWALK (6)	SY	5886
610(A)	0605	6" CONCRETE SIDEWALK (6)	SY	667
610(I)	4610	TACTILE WARNING DEVICE-NEW	SF	6
611(A)	2657	MANHOLE (4' DIAMETER)	EA	1
612(A)	0641	MANHOLE ADJUST TO GRADE	EA	1
613(A)	0492	24" R.C. PIPE CLASS III (2)	LF	94
613(L)	5730	24" PREFAB. CULVERT END SECTION, ROUND	EA	2
611(G)	6002	INLET (SMD-TYPE 2)	EA	1
619(A)	0920	REMOVAL OF STRUCTURES & OBSTRUCTIONS (4) (12) (13)	LSUM	1
619(B)	4726	REMOVAL OF CURB AND GUTTER (13)	LF	258
619(B)	4727	REMOVAL OF CONCRETE PAVEMENT (13)	SY	1044
619(C)	0924	SAWING PAVEMENT	LF	430
631(A)	0210	(SP) REMOVABLE BOLLARD	EA	6
643	0500	WIRELESS SOLAR LIGHTING (14)	EA	182
829(A)	8200	(PL) PEDESTRIAN/CYCLIST COUNTER (18)	EA	1
880(I)	8905	CONSTRUCTION TRAFFIC CONTROL (17)	LSUM	1
882(A)	8306	PORT. CHANGEABLE MESSAGE SIGN (16)	SD	180

R.C. PIPE NOTE: BACKFILL MATERIAL WILL BE INSTALLED AS DESCRIBED BY THE CITY STANDARD SD 01 "STORM SEWER PIPE TRENCHING AND BEDDING"

PAY QUANTITY NOTES:

- (1) THE CONTRACTOR SHALL NOT WASTE ANY EXCESS EXCAVATION UNTIL ALL PLANNED EMBANKMENTS AND BACKFILLS ARE COMPLETED. EXCESS UNCLASSIFIED EXCAVATION MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL SHALL BE USED TO REDUCE ANY UNCLASSIFIED BORROW NEEDED. COST OF SECOND HANDLING SHALL BE INCLUDED IN OTHER ITEMS OF WORK. ANY REMAINING EXCESS EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF IN A MANNER APPROVED BY THE ENGINEER.
- (2) TO BE PAID PER FIELD MEASUREMENT OF THE WORK COMPLETED. SOME FINAL QUANTITIES MAY BE LESS THAN AND SOME MORE THAN THE QUANTITIES LISTED ON THE BID SCHEDULE. THE COST OF TRENCHING, BACKFILL, BEDDING, ETC. ARE TO BE INCLUDED IN THE COST PER LINEAR FOOT.
- (3) ALL NON PAVED NEWLY GRADED AREAS SHALL RECEIVE SOLID SLAB COVER AFTER FINAL GRADING.
- (4) INCLUDES REMOVAL OF ALL EXISTING CULVERTS, HEADWALLS, END TREATMENTS, AND DRAINAGE STRUCTURES TO BE REPLACED.
- (5) CONCRETE CURBS & GUTTERS SHALL BE CONSTRUCTED TO STANDARDS AS OUTLINED IN THE CITY OF NORMAN STANDARD SPECIFICATIONS AND CONSTRUCTION DRAWINGS, BUT MAY BE ALTERED AS DIRECTED BY THE ENGINEER.
- (6) INCLUDES CONCRETE, SUB-BASE COMPACTION TO 95% SPD, BACKFILL, EXPANSION JOINT FILLER, SEALERS, CONTROL CRACK JOINTS, FIBERMESH AND OTHER MISCELLANEOUS ITEMS NEEDED FOR CONSTRUCTION OF THIS PAY ITEM.
- (7) THE CONTRACTOR SHALL STRIP ALL OF THE AVAILABLE TOPSOIL WITHIN THE LIMITS OF CONSTRUCTION, ANY UNUSED TOPSOIL, STOCKPILE THE MATERIAL AND REPLACE THE TOPSOIL ON THE FINISHED SLOPES OF THE GRADING SECTION. ALL ADDITIONAL COSTS NOT COVERED IN OTHER ITEMS SHALL BE INCLUDED IN THE LUMP SUM TOPSOIL ITEM AS FOLLOWS
 EXCAVATION SECTIONS:
 THE VOLUME OF TOPSOIL IS INCLUDED IN THE UNCLASSIFIED EXCAVATION QUANTITIES. CONTRACTORS ARE TO INCLUDE ANY ADDITIONAL COSTS TO REMOVE, STOCKPILE AND REPLACE THE MATERIAL ON THE FINISHED GRADING SLOPES, IN THE LUMP SUM TOPSOIL.
 EMBANKMENT SECTIONS:
 DETERMINE THE AMOUNT OF TOPSOIL IN THESE AREAS AND INCLUDE ALL COSTS TO REMOVE, STOCKPILE AND REPLACE THE MATERIAL ON THE FINISHED GRADING SLOPES, IN THE LUMP SUM TOPSOIL ITEM.
- (8) ESTIMATED QUANTITY, TO BE USED FOR TEMPORARY EROSION AND SEDIMENT IN A MANNER APPROVED BY THE ENGINEER. SEE STD. TSC1-2 & TSC2-2. ITEM TO INCLUDE SEDIMENT REMOVAL.
- (9) TO BE USED FOR EROSION & SEDIMENT CONTROL IN A MANNER APPROVED BY THE ENGINEER.
- (10) PRICE BID TO INCLUDE COST OF WATERING. WATERING EST. AT 40 GALLONS PER SQ. YD. FOR ESTIMATING PURPOSES ONLY. CONTRACTOR WILL PROVIDE SUFFICIENT WATER TO PRODUCE ADEQUATE GRASS GROWTH AS APPROVED BY THE ENGINEER.
- (11) PAY ITEM FOR STAKING INCLUDES ALL STAKING REQUIRED TO CONSTRUCT THE PROJECT INCLUDING RIGHT-OF-WAY STAKING.
- (12) MATERIALS REMOVED SHALL NOT BE MEASURED FOR PAYMENT UNDER SEC. 202.06 UNCLASSIFIED EXCAVATION.
- (13) TO BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF BY HIM IN A MANNER APPROVED BY THE ENGINEER.
- (14) SOLARIGHT MODEL GFB OR APPROVED EQUAL.
- (15) PAYMENT FOR THIS ITEM WILL BE BASED ON PLAN QUANTITY ONLY. SEE SECTION 109.01B OF THE STANDARD SPECIFICATIONS
- (16) 90 CONSTRUCTION CALENDAR DAYS WERE USED TO COMPUTE THE SIGN DAY PAY ITEMS. THE AMOUNT OF CALENDAR DAYS USED TO COMPUTE THE SIGN DAY PAY ITEMS IS AN ESTIMATED QUANTITY ONLY, BASED ON THE CURRENT O.D.O.T. STANDARDS AND SUGGESTED CONSTRUCTION SEQUENCE FOR THIS PROJECT. THESE ESTIMATED SIGN DAY QUANTITIES MAY CHANGE AS THE PROJECTS CONSTRUCTION TRAFFIC CONTROL IS MODIFIED DURING CONSTRUCTION.
- (17) SEE DETAIL TA-3 ON SHEET 21 FOR TRAFFIC CONTROL DETAIL. CONTRACTOR TO REMOVE ALL EQUIPMENT, MATERIALS AND TRAFFIC CONTROL DEVICES FROM THE SHOULDER OVER NIGHT.
- (18) CONTRACTOR SHALL PROVIDE ECO-COUNTER URBAN POST MULTI PEDESTRIAN/BIKES WITH PYRO SENSOR (2 ZELT LOOPS). COUNTER TO BE SET AT 15 MINUTE DATA RECORDING INTERVALS. SEE SPECIAL PROVISION FOR PEDESTRIAN COUNTER.

0640 CONSTRUCTION		PAY QUANTITIES		
ITEM No		DESCRIPTION	UNITS	QUANTITY
220	2800	SWPPP DOCUMENTATION AND MANAGEMENT	LSUM	1
641	1399	MOBILIZATION	LSUM	1

0600 STAKING		PAY QUANTITIES		
ITEM No		DESCRIPTION	UNITS	QUANTITY
642(B)	0096	CONSTRUCTION STAKING LEVEL II (11)	LSUM	1

GENERAL

THIS PROJECT SHALL BE CONSTRUCTED WITHOUT CLOSING THE EXISTING ROAD TO LOCAL TRAFFIC AND WILL MAINTAIN THROUGH TRAFFIC.

CONTRACTOR SHALL CONTACT THE CITY OF NORMAN AT EARLIEST CONVENIENCE SHOULD ANY CIRCUMSTANCES FOUND DURING THE COURSE OF PROJECT COMPLETION NECESSITATE A VARIANCE FROM THE PLANS. VARIANCE FROM THE PLANS WILL BE REVIEWED BY THE CITY.

CONSTRUCTION OF ALL EROSION CONTROL MEASURES SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO THE INITIATION OF ANY LAND DISTURBING ACTIVITIES. INSPECTION OF THESE STRUCTURES MAY BE PERFORMED BY STATE AND MUNICIPAL AUTHORITIES. MAINTENANCE OF EROSION CONTROL MEASURES SHALL BE PERFORMED BY THE CONTRACTOR AT A SUFFICIENT INTERVAL TO ENSURE RETENTION OF SEDIMENTS.

THE CONTRACTOR SHALL NOTIFY THE ELECTRIC COMPANY OF ANY SHIELDING REQUIRED ON OVERHEAD POWER LINES THAT MAY CROSS THE WORK AREA. THE CONTRACTOR SHALL PROCEED WITH GREAT CARE TO AVOID ANY CONTACT WITH THE OVERHEAD POWER LINES.

ALL FLOWLINES THAT ARE TO BE FILLED SHALL BE THOROUGHLY TAMPED BEFORE CONSTRUCTION OR EXTENSION OF DRAINAGE STRUCTURES. ALL COST TO BE INCLUDED IN OTHER ITEM OF WORK.

IN ORDER TO ALLEVIATE DUST CONDITIONS DURING GRADING OPERATION AND BEFORE PAVEMENT WORK IS COMPLETED, THE CONTRACTOR SHALL SPRINKLE THE GRADING AT INTERVALS APPROVED BY THE ENGINEER. COST OF SPRINKLE TO BE INCLUDED IN PRICE BID FOR OTHER ITEMS OF WORK.

THE CONTRACTOR SHALL SCHEDULE OPERATIONS TO MINIMIZE POTENTIAL DROP-OFF HAZARDS AND SHALL SUBMIT A SEQUENCE OF CONSTRUCTION OPERATIONS TO THE RESIDENT ENGINEER FOR REVIEW BEFORE OPERATIONS BEGIN.

THE CONTRACTOR SHALL KEEP OPEN TRENCHES DRAINED. COST TO BE INCLUDED IN PRICE BID FOR UNCLASSIFIED EXCAVATION.

PRIOR TO FINAL ACCEPTANCE ALL EXPOSED CURB SURFACES SHALL BE CLEANED OF ALL DISCOLORATION SUCH AS ASPHALT STAIN, TIRE MARKS, OR OTHER DISFIGUREMENT.

ACCESS TO DRIVES AND INTERSECTING STREETS SHALL BE MAINTAINED AT ALL TIMES.

THE CONTRACTOR SHALL GIVE NOTICE TO THE CITY OF NORMAN, IN WRITING, FOURTEEN (14) CALENDAR DAYS BEFORE WORK BEGINS ON THE PROJECT.

THE FOLLOWING ITEMS WILL BE THE RESPONSIBILITY OF THE CITY OF NORMAN AND NOT A PART OF THIS CONTRACT:
 RIGHT-OF-WAY ACQUISITION
 UTILITY RELOCATION

EROSION CONTROL CONSTRUCTION NOTES

VEGETATIVE MULCHING: THE VEGETATIVE MULCH SHALL BE ANCHORED IN ACCORDANCE WITH THE 'MULCHING TILLER METHOD', AS SPECIFIED IN SEC. 233. 0(B)1 STANDARD SPECIFICATIONS.

Design			NOTES AND QUANTITIES
Drawn	JRA		
Checked	JRA		
Approved	WRS		
Squad			
STATE JOB NO. 26879(04)			Sheet No. <u> 2 </u>

SUMMARY OF DRIVEWAYS											
P&P SHEET	STATION	OFF:	DRIVE LENGTH (FT)	DRIVE WIDTH (FT)	RADIUS (FT)	S3 ASPHALT (PG 64-22 OK) (TON)	S5 ASPHALT (PG 70-28 OK) (TON)	TACK COAT (GAL)	PRIME COAT (GAL)	TBSC TYPE E (TONS)	6" PC CONCRETE DRIVE (SY)
4	27+66.25	LT	56.0	37.0	30.0	0.0	0.0	0.0	0.0	63.9	203.0
5	36+15.46	LT	30.8	26.0	30.0	0.0	0.0	0.0	0.0	41.6	132.0
6	40+39.76	LT	30.4	12.0	25.0	0.0	0.0	0.0	0.0	23.3	74.0
9	63+12.86	LT	30.0	62.0	50.0	0.0	0.0	0.0	0.0	81.3	258.0
TOTALS						0.0	0.0	0.0	0.0	210.1	667.0

SUMMARY OF REMOVALS						
P&P SHEET	STATION TO STATION		REMOVAL OF CONCRETE PAVEMENT (SY)	REMOVAL OF ASPHALT PAVEMENT (SY)	SAWING PAVEMENT (LF)	REMOVAL OF CURB & GUTTER (LF)
4	27+00.00	- 33+00.00	233.9	0.0	95.9	75.0
5	33+00.00	- 39+00.00	437.0	0.0	107.0	69.0
6	39+00.00	- 45+00.00	74.0	0.0	70.1	44.0
9	57+00.00	- 63+00.00	299.1	0.0	157.0	70.0
TOTALS			1044.0	0.0	430.0	258.0

SUMMARY OF EARTHWORK						
STATION TO STATION			TOTAL CUT VOLUME (C.Y.)	TOTAL FILL VOLUME +15% (C.Y.)	EXTRA CUT (C.Y.)	EXTRA FILL (C.Y.)
10+00.00	TO	15+00.00	94.9	469.3	0.0	374.4
15+00.00	TO	21+00.00	53.2	599.0	0.0	545.8
21+00.00	TO	27+00.00	279.8	25.6	254.2	0.0
27+00.00	TO	33+00.00	522.4	21.6	500.8	0.0
33+00.00	TO	39+00.00	1031.8	84.0	947.9	0.0
39+00.00	TO	45+00.00	392.6	31.3	361.3	0.0
45+00.00	TO	51+00.00	613.5	9.0	604.5	0.0
51+00.00	TO	57+00.00	157.4	136.9	20.6	0.0
57+00.00	TO	63+00.00	48.7	640.4	0.0	591.7
63+00.00	TO	64+08.59	0.2	16.0	0.0	15.8
TOTAL			3194.5	2033.0	2689.3	1527.7

SUMMARY OF SIDEWALK				
STATION TO STATION			SIDEWALK (5') (L.F.)	SIDEWALK (10') (L.F.)
10+00.00	TO	14+19.89	80.0	419.9
14+19.89	TO	20+95.15		675.3
20+95.15	TO	27+15.02		619.9
27+15.02	TO	32+95.36		464.8
32+95.36	TO	38+03.30		447.1
38+03.30	TO	44+38.97		622.0
44+38.97	TO	50+56.92		618.0
50+56.92	TO	55+27.31		470.4
55+27.31	TO	62+55.95		728.6
62+55.95	TO	63+72.67		5.2
TOTAL				5071.1

SUMMARY OF EROSION CONTROL						
P&P SHEET	STATION TO STATION		SLAB SOD (SY)	TEMP. SILT FENCE (LF)	TEMP. SILT DIKE (LF)	TEMP. INLET SEDIMENT FILTER (EACH)
1	10+00.00	- 15+00.00	986.0	435.1	0.0	0.0
2	015+00.00	- 21+00.00	1113.5	584.3	0.0	0.0
3	021+00.00	- 27+00.00	509.5	685.0	0.0	1.0
4	027+00.00	- 33+00.00	591.6	474.7	0.0	0.0
5	033+00.00	- 39+00.00	1589.6	529.6	0.0	1.0
6	039+00.00	- 45+00.00	583.9	535.2	0.0	0.0
7	045+00.00	- 51+00.00	512.1	599.4	0.0	0.0
8	051+00.00	- 57+00.00	730.8	841.2	0.0	0.0
9	057+00.00	- 63+00.00	1275.4	645.5	0.0	0.0
10	063+00.00	- 64+08.59	0.0	0.0	0.0	0.0
TOTALS			7892.4	5330.0	0.0	2.0

NOTE: QUANTITIES SHOWN ARE BASED UPON PER SHEET VOLUME ESTIMATES. CONTRACTOR WILL BE PAID FOR ACTUAL VOLUMES OF UNCLASSIFIED EXCAVATION PERFORMED. CONTRACTOR SHOULD SEQUENCE THEIR OPERATIONS SUCH THAT THE FILL VOLUMES WILL BE AVAILABLE FROM MATERIAL EXCAVATED WITHIN THE PROJECT EXTENTS FOR ALL PHASES OF THE PROJECT.

Design	
Drawn	JRA
Checked	JRA
Approved	WRS
Squad	

SUMMARY OF QUANTITIES

STORM WATER MANAGEMENT PLAN

SITE DESCRIPTION

PROJECT LIMITS: NORTH SIDE OF STATE HIGHWAY 9 BETWEEN 24TH AVE. SE AND 36TH AVE. SE

PROJECT DESCRIPTION: NEW 10' WIDE SIDEWALK WITH ASSOCIATED GRADING, CURB RAMPS AND RETAINING WALLS.

SUGGESTED SEQUENCE OF EROSION CONTROL ACTIVITIES:
INSTALL TEMPORARY SILT FENCE, INLET SEDIMENT FILTER AND STABILIZED CONSTRUCTION EXIT. INSTALL RIPRAP. PERMANENT SODDING.

SOIL TYPE: GROUP D

TOTAL AREA OF THE CONSTRUCTION SITE: 3.06 ACRES

ESTIMATED AREA TO BE DISTURBED: 2.95 ACRES

OFFSITE AREA TO BE DISTURBED: 0.11 ACRES
 (FOR CONTRACTOR USE)

TOTAL IMPERVIOUS AREA PRE-CONSTRUCTION: 0.082 ACRES

TOTAL IMPERVIOUS AREA POST-CONSTRUCTION: 1.21 ACRES

POST-CONSTRUCTION RUNOFF COEFFICIENT OF THE SITE: 0.56

LATITUDE & LONGITUDE OF CENTER OF PROJECT: 35°11'22"N , 97°23'51"W

PROJECT WILL DISCHARGE TO:

NAME OF RECEIVING WATERS: _____

SENSITIVE WATERS OR WATERSHEDS: YES NO

303(d) IMPAIRED WATERS: YES NO

IF YES, LIST IMPAIRMENT: _____

LOCATED IN A TMDL: YES NO

LAKE THUNDERBIRD TMDL: YES NO

MS4 ENTITY YES NO

IF YES, LOCATION: _____

NOTE:
 THIS SHEET SHOULD BE USED IN CONJUNCTION WITH A DRAINAGE MAP THAT ILLUSTRATES THE DRAINAGE PATTERNS/PATHWAYS AND RECEIVING WATERS FOR THIS PROJECT. THIS SHEET SHOULD ALSO BE USED WITH THE EROSION CONTROL SUMMARIES, PAY ITEMS, & NOTES.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- TEMPORARY SEEDING
- PERMANENT SODDING, SPRIGGING OR SEEDING
- VEGETATIVE MULCHING SOIL
- RETENTION BLANKET/PRESERVATION OF EXISTING VEGETATION

NOTE: TEMPORARY EROSION CONTROL METHODS MUST BE USED ON ALL DISTURBED AREAS WHERE CONSTRUCTION ACTIVITIES HAVE CEASED FOR OVER 14 DAYS. METHODS USED WILL BE AS SHOWN ON PLANS, OR AS DIRECTED BY THE ENGINEER.

STRUCTURAL PRACTICES:

- STABILIZED CONSTRUCTION EXIT
- TEMPORARY SILT FENCE
- TEMPORARY SILT DIKES
- TEMPORARY FIBER LOG
- DIVERSION, INTERCEPTOR OR PERIMETER DIKES
- DIVERSION, INTERCEPTOR OR PERIMETER SWALES
- ROCK FILTER DAMS
- TEMPORARY SLOPE DRAIN
- PAVED DITCH W/ DITCH LINER PROTECTION
- TEMPORARY DIVERSION CHANNELS
- TEMPORARY SEDIMENT BASINS
- TEMPORARY SEDIMENT TRAPS
- TEMPORARY SEDIMENT FILTERS
- TEMPORARY SEDIMENT REMOVAL
- RIP RAP
- INLET SEDIMENT FILTER
- TEMPORARY BRUSH SEDIMENT BARRIERS
- SANDBAG BERMS
- TEMPORARY STREAM CROSSINGS

OFFSITE VEHICLE TRACKING:

- HAUL ROADS DAMPENED FOR DUST CONTROL
- LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- EXCESS DIRT ON ROAD REMOVED DAILY

NOTES:

THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE FOLLOWING:

MAINTENANCE AND INSPECTION:
 ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER FROM THE BEGINNING OF CONSTRUCTION UNTIL AN ACCEPTABLE VEGETATIVE COVER IS ESTABLISHED. INSPECTION BY THE CONTRACTOR AND ANY NECESSARY REPAIRS SHALL BE PERFORMED ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH AS RECORDED BY A NON-FREEZING RAIN GAUGE TO BE LOCATED ON SITE. POTENTIALLY ERODIBLE AREAS, DRAINAGEWAYS, MATERIAL STORAGE, STRUCTURAL DEVICES, CONSTRUCTION ENTRANCES AND EXITS ALONG WITH EROSION AND SEDIMENT CONTROL LOCATIONS ARE EXAMPLES OF SITES THAT NEED TO BE INSPECTED.

WASTE MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF CONSTRUCTION WASTE MATERIAL IS REQUIRED BY THE CONTRACTOR. MATERIALS INCLUDE STOCKPILES, SURPLUS, DEBRIS AND ALL OTHER BY-PRODUCTS FROM THE CONSTRUCTION PROCESS. PRACTICES INCLUDE DISPOSAL, PROPER MATERIALS HANDLING, SPILL PREVENTION AND CLEANUP MEASURES. CONTROLS AND PRACTICES SHALL MEET THE REQUIREMENTS OF ALL FEDERAL, STATE AND LOCAL AGENCIES.

HAZARDOUS MATERIALS:

PROPER MANAGEMENT AND DISPOSAL OF HAZARDOUS WASTE MATERIALS IS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL REGULATIONS TO ENSURE CORRECT HANDLING, DISPOSAL, SPILL PREVENTION AND CLEANUP MEASURES. EXAMPLES INCLUDE BUT ARE NOT LIMITED TO: PAINTS, ACIDS, CLEANING SOLVENTS, CHEMICAL ADDITIVES, CONCRETE CURING COMPOUNDS AND CONTAMINATED SOILS.

GENERAL NOTES:

THE FOLLOWING SECTIONS OF THE 2009 ODOT STANDARD SPECIFICATIONS SHOULD BE NOTED:

- 103.05 BONDING REQUIREMENTS
- 104.10 FINAL CLEANING UP
- 104.12 CONTRACTOR'S RESPONSIBILITY FOR WORK
- 104.13 ENVIRONMENTAL PROTECTION
- 106.08 STORAGE AND HANDLING OF MATERIAL
- 107.01 LAWS, RULES AND REGULATIONS TO BE OBSERVED
- 107.20 STORM WATER MANAGEMENT
- 220 MANAGEMENT OF EROSION, SEDIMENTATION AND STORM WATER POLLUTION PREVENTION AND CONTROL
- 221 TEMPORARY SEDIMENT CONTROL

IN ADDITION:

"ODEQ GENERAL PERMIT (OKR10) FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES WITHIN THE STATE OF OKLAHOMA." ODEQ, WATER QUALITY DIVISION, SEPTEMBER 13, 2017.

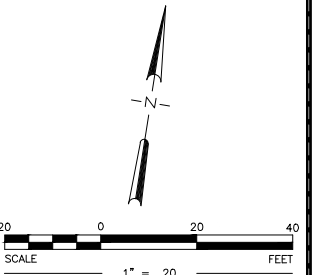
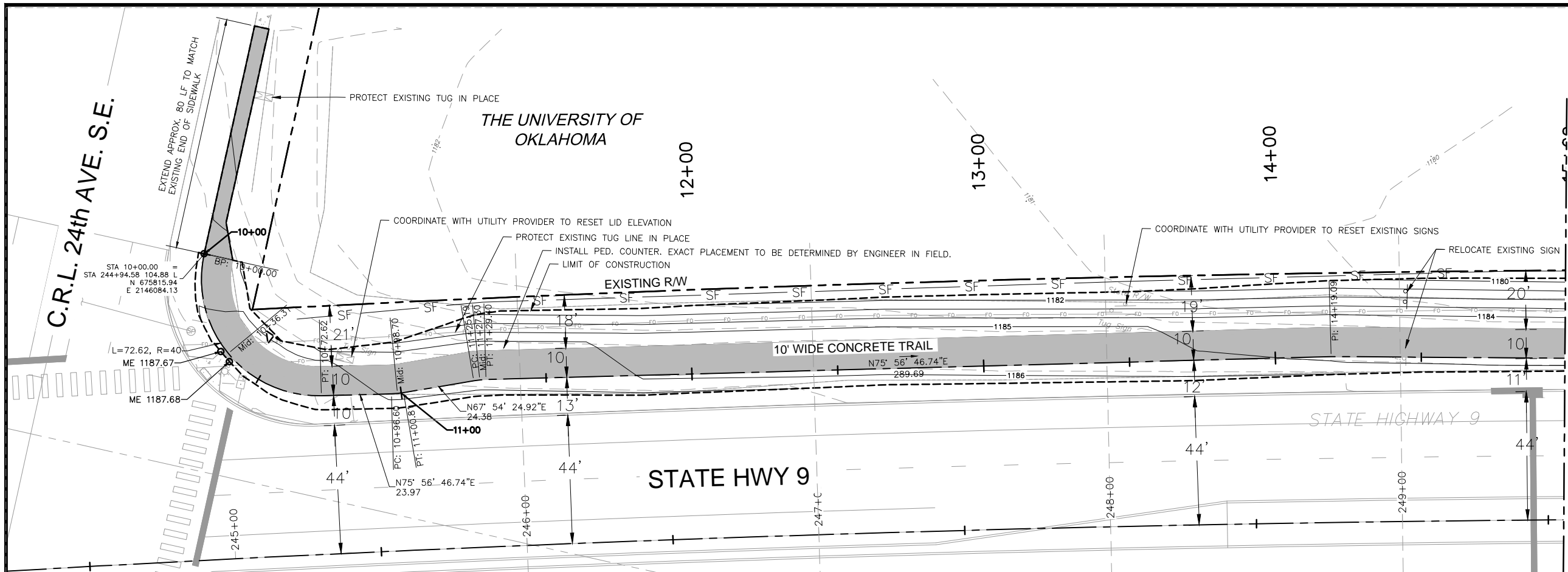
REVISED 08 / 18 / 2017

Design		
Drawn	JRA	
Checked	JRA	
Approved	WRS	
Squad		

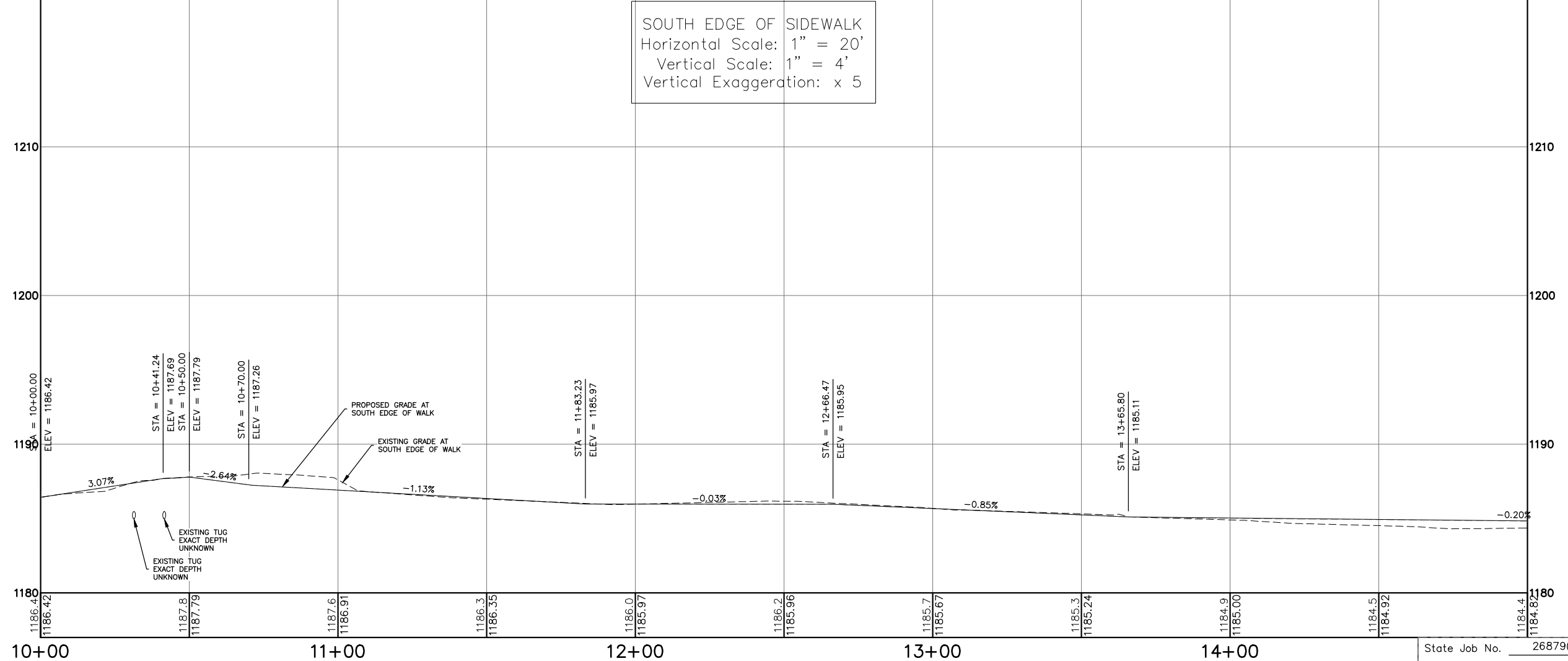
STORM WATER MANAGEMENT PLAN

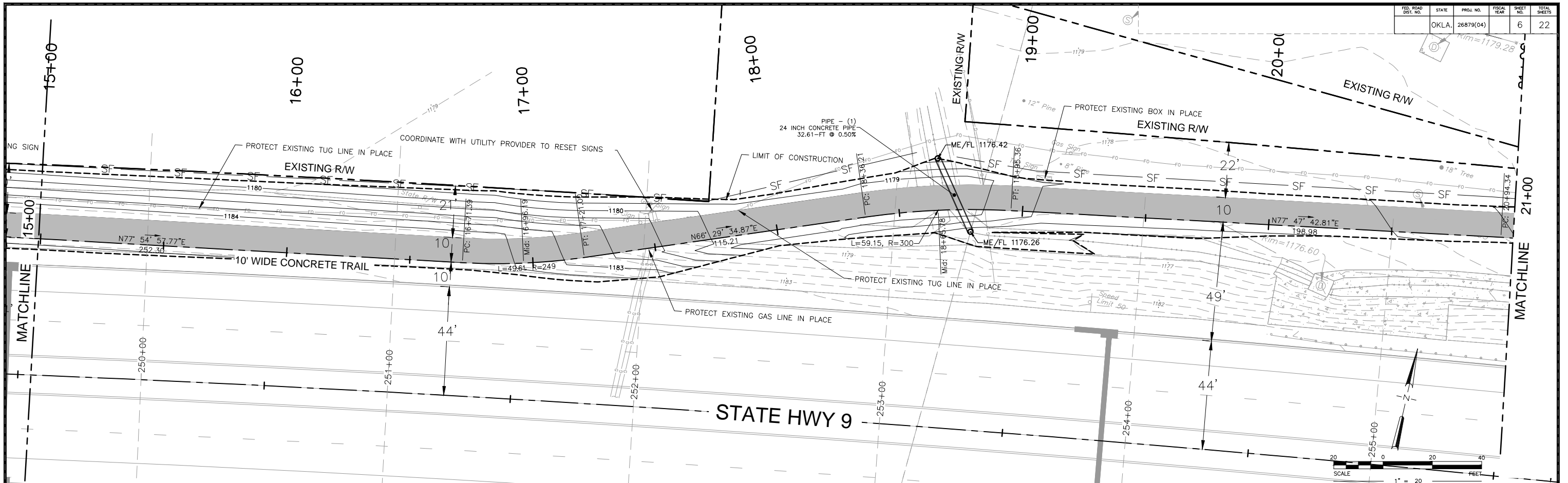
STATE JOB NO. 26879(04)

Sheet No. 4

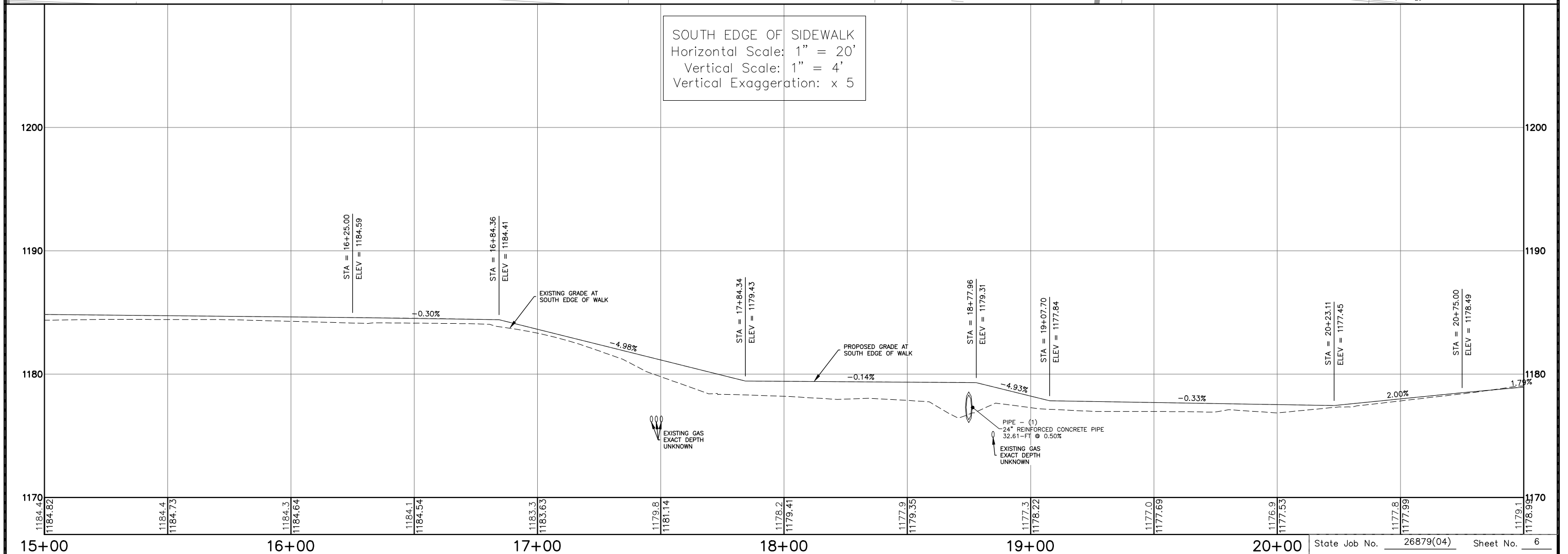


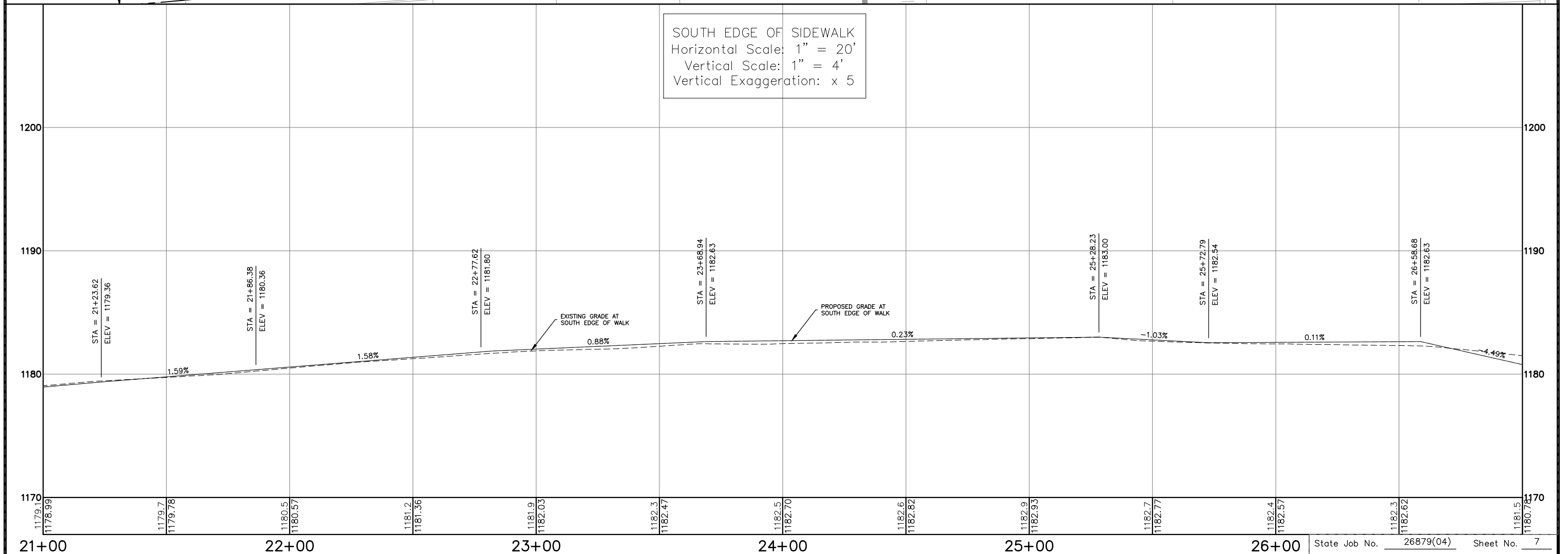
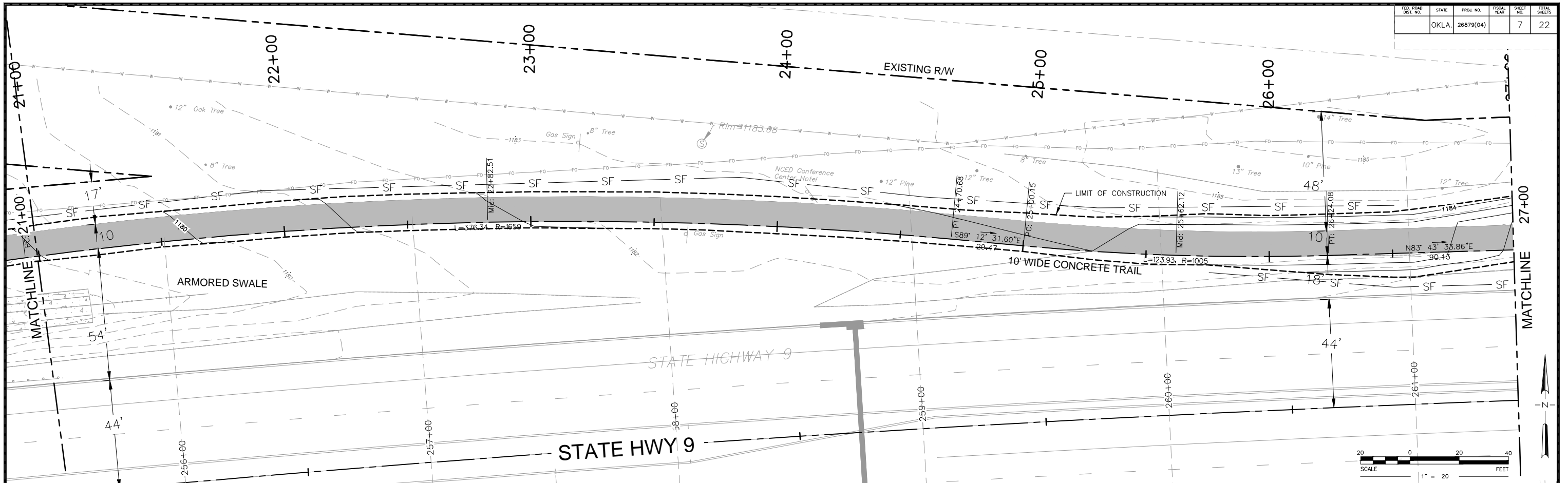
SOUTH EDGE OF SIDEWALK
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'
 Vertical Exaggeration: x 5



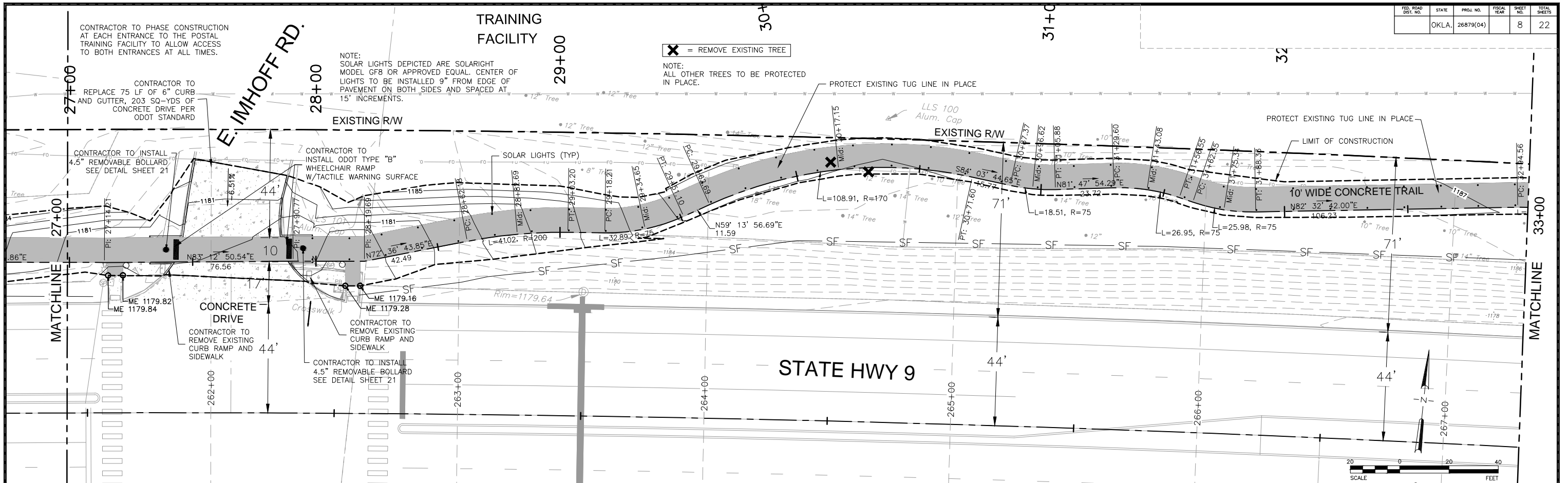


SOUTH EDGE OF SIDEWALK
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'
 Vertical Exaggeration: x 5

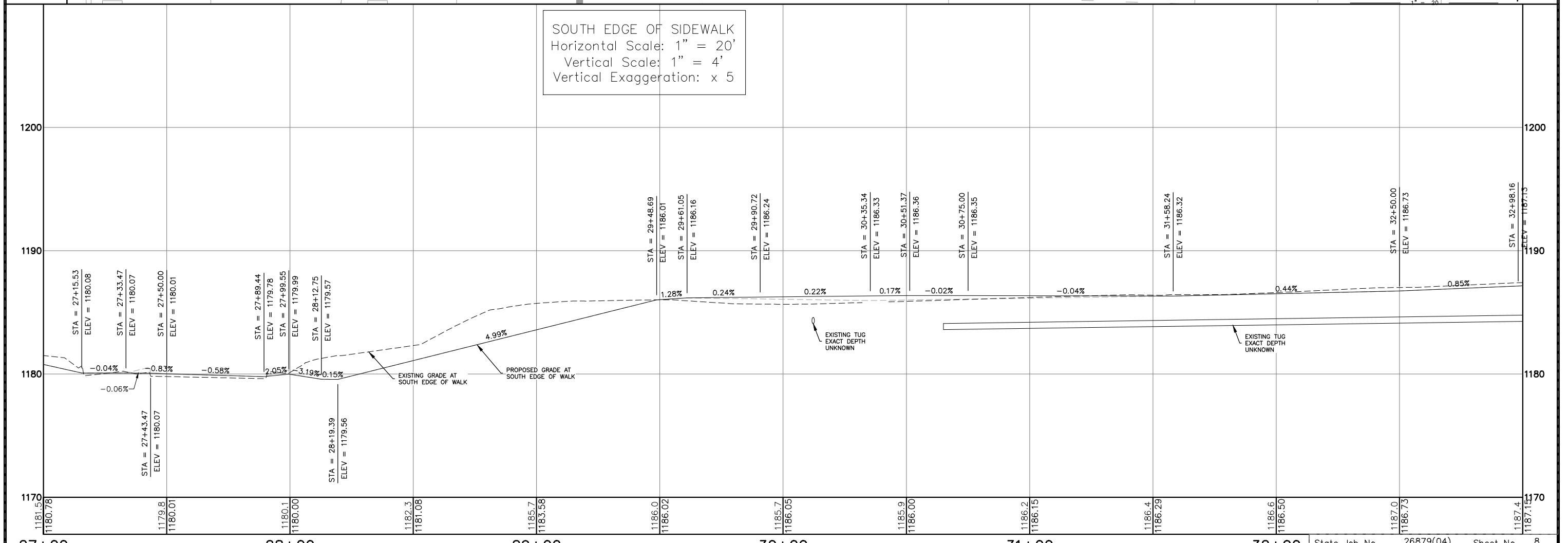


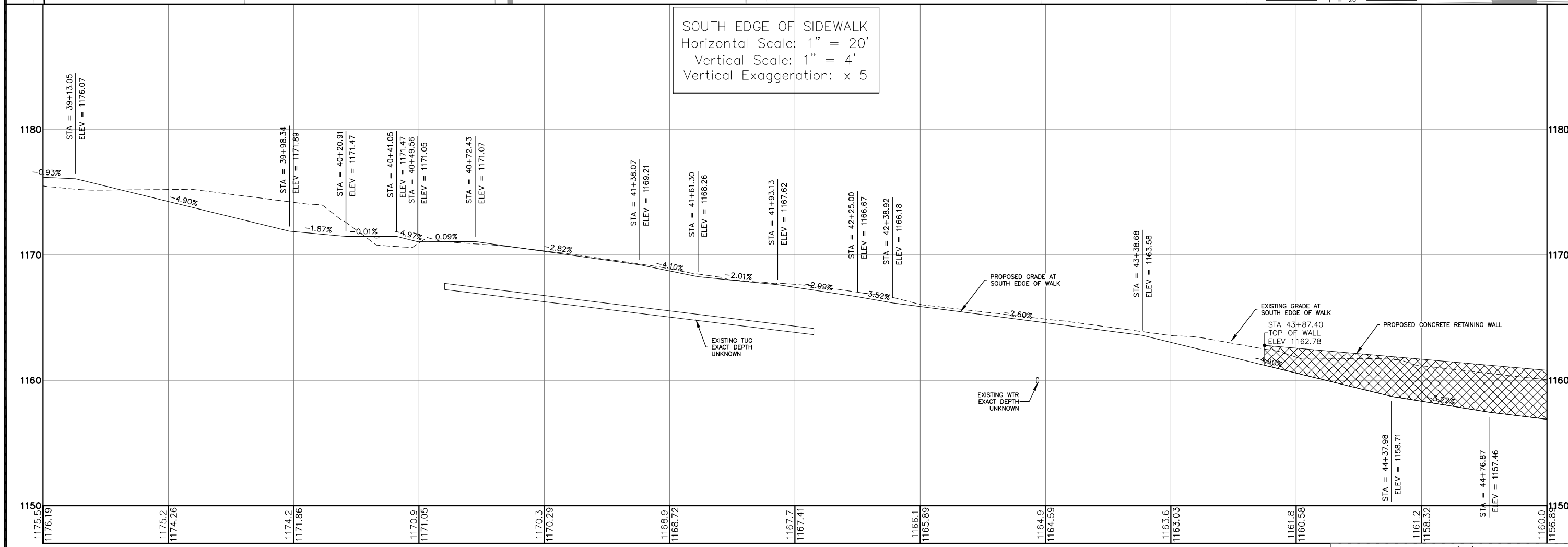
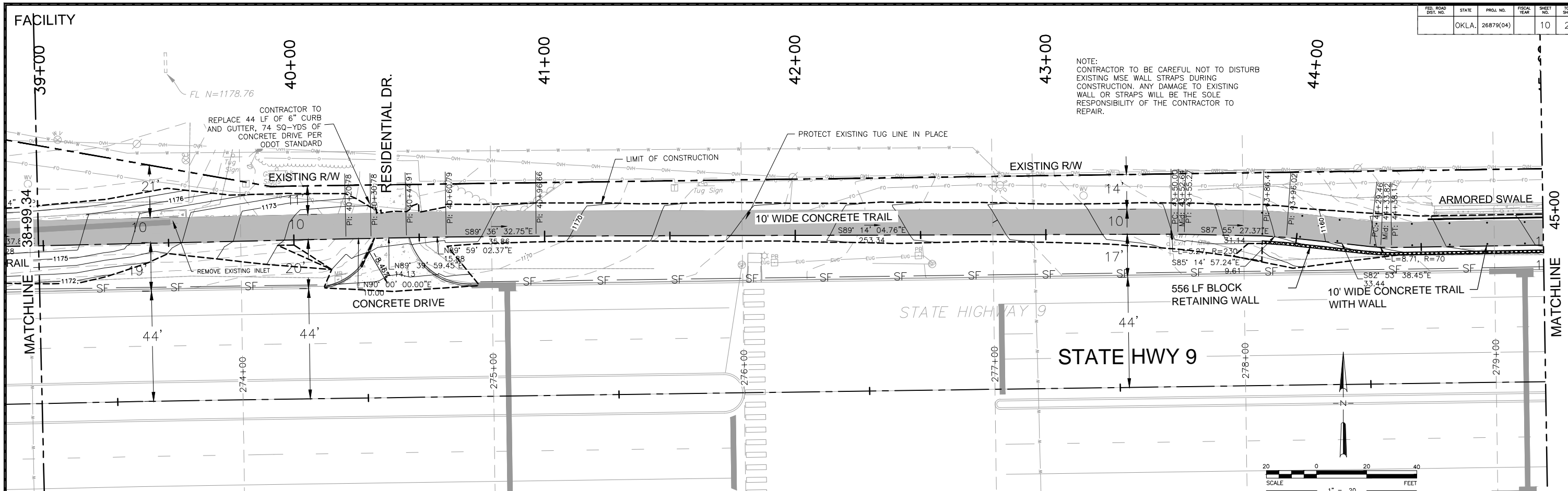


SOUTH EDGE OF SIDEWALK
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'
 Vertical Exaggeration: x 5



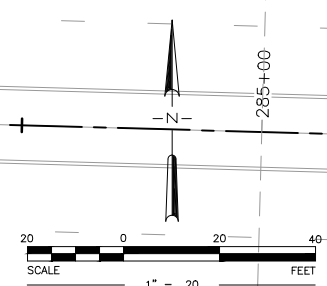
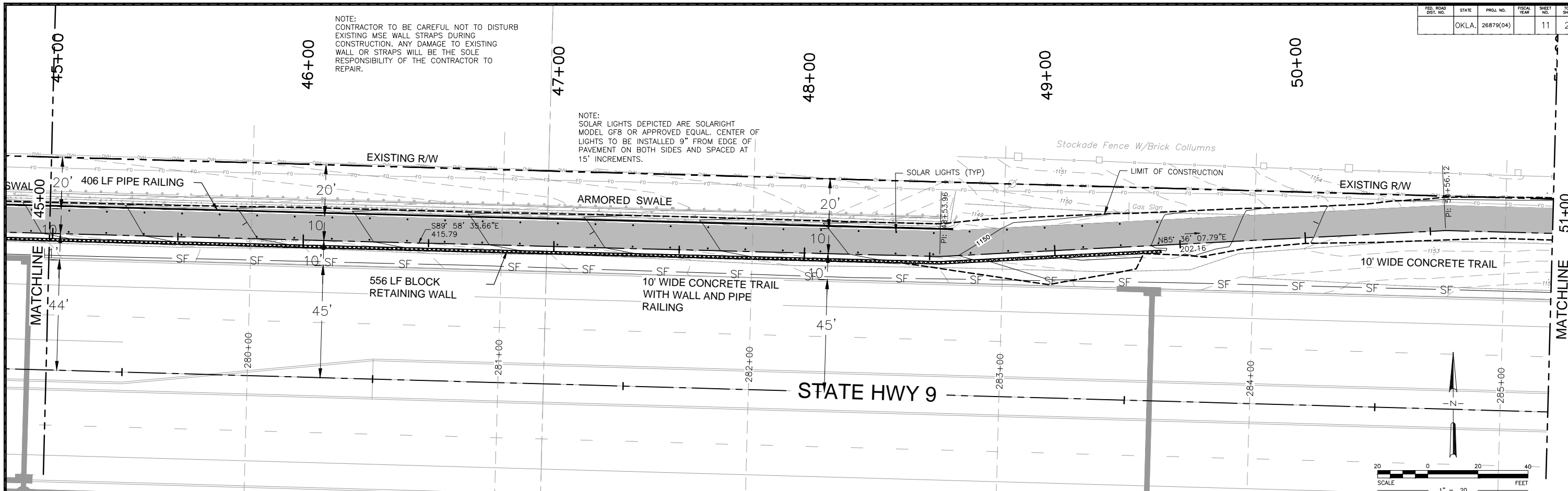
SOUTH EDGE OF SIDEWALK
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'
 Vertical Exaggeration: x 5



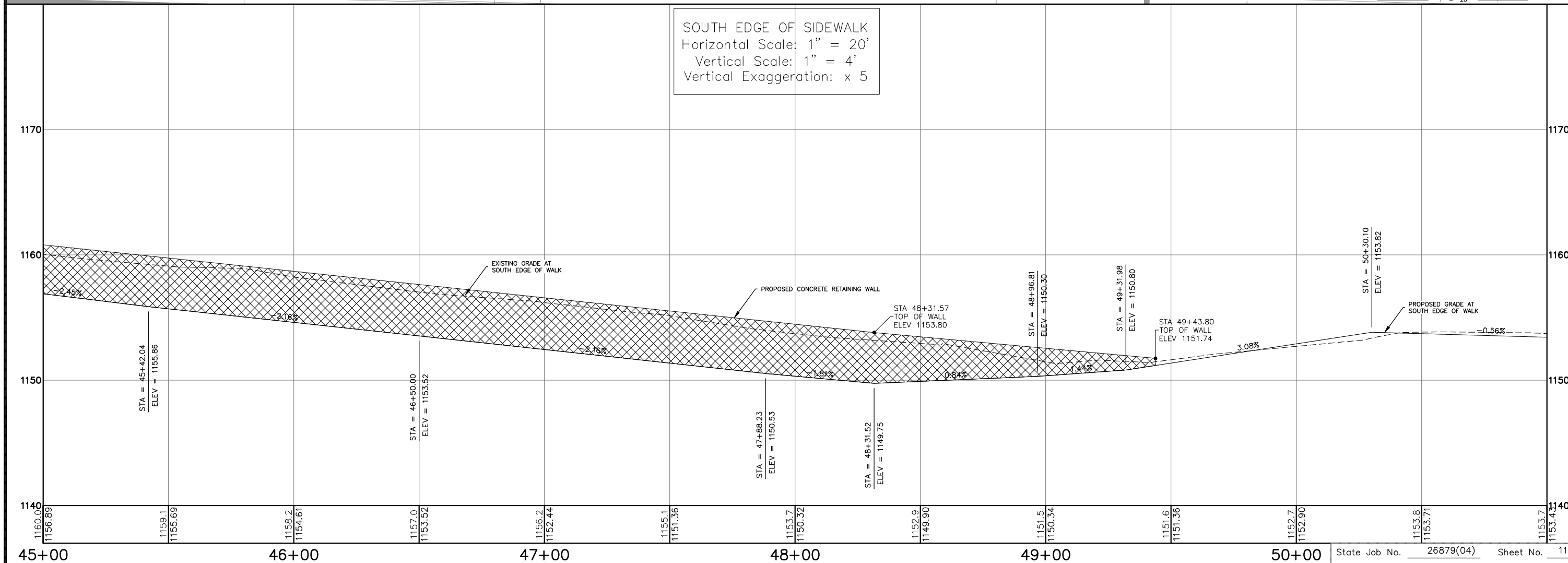


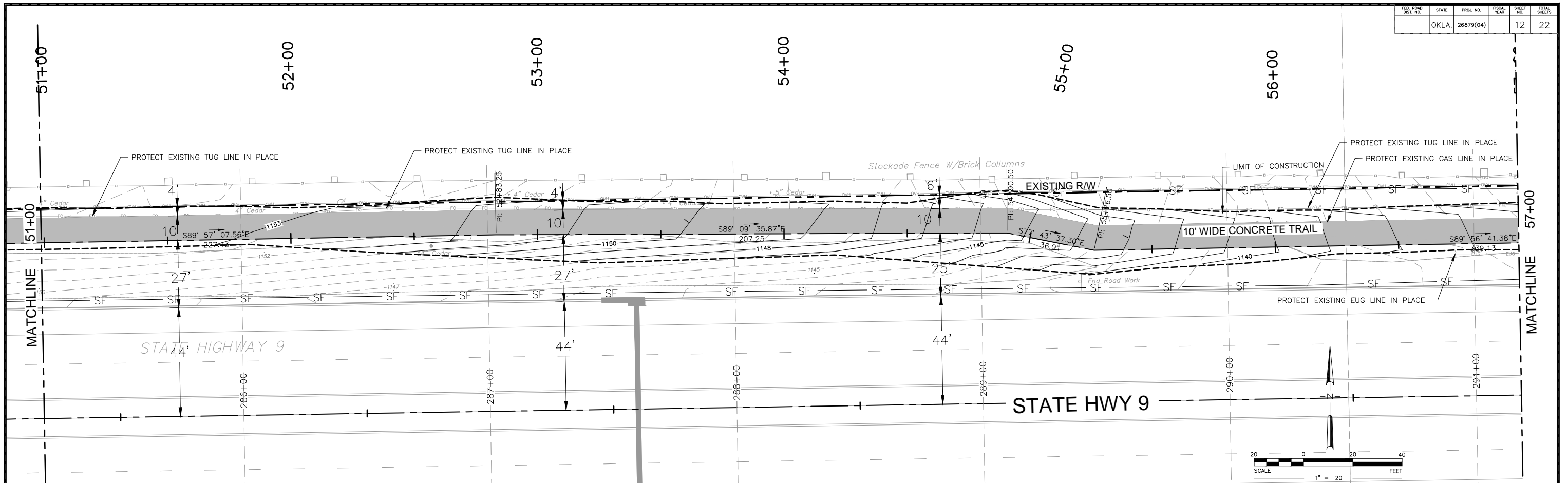
NOTE:
CONTRACTOR TO BE CAREFUL NOT TO DISTURB EXISTING MSE WALL STRAPS DURING CONSTRUCTION. ANY DAMAGE TO EXISTING WALL OR STRAPS WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

NOTE:
SOLAR LIGHTS DEPICTED ARE SOLARIGHT MODEL GF8 OR APPROVED EQUAL. CENTER OF LIGHTS TO BE INSTALLED 9" FROM EDGE OF PAVEMENT ON BOTH SIDES AND SPACED AT 15' INCREMENTS.

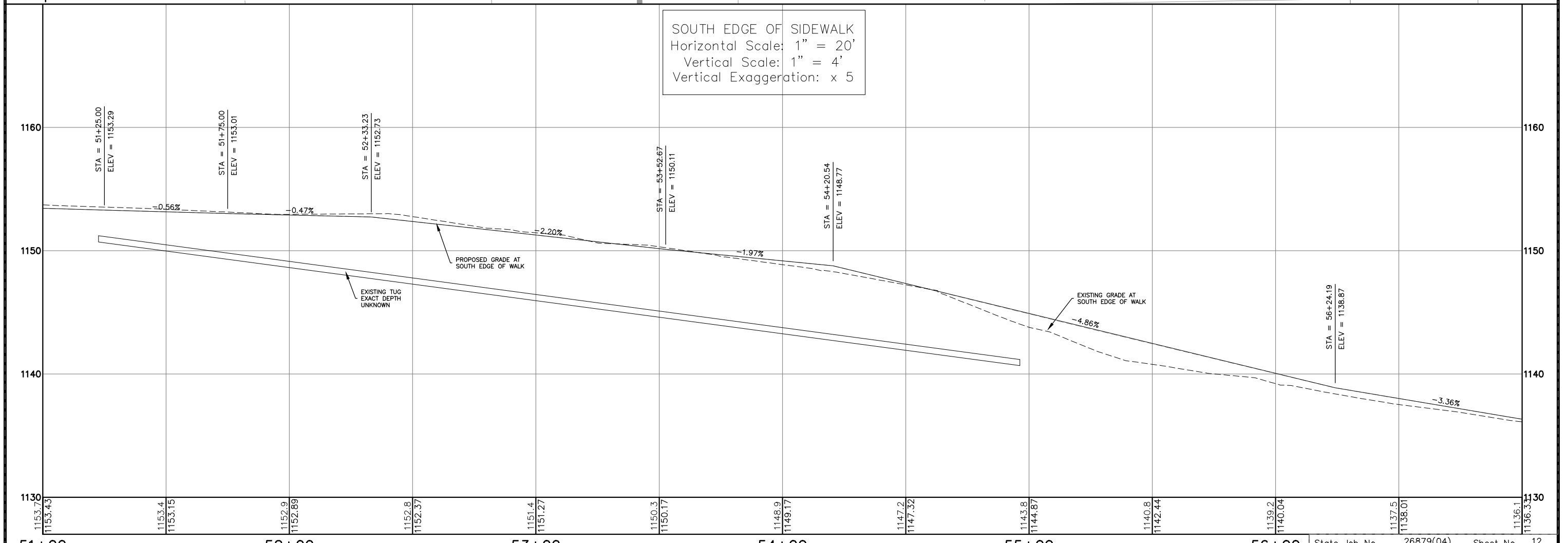


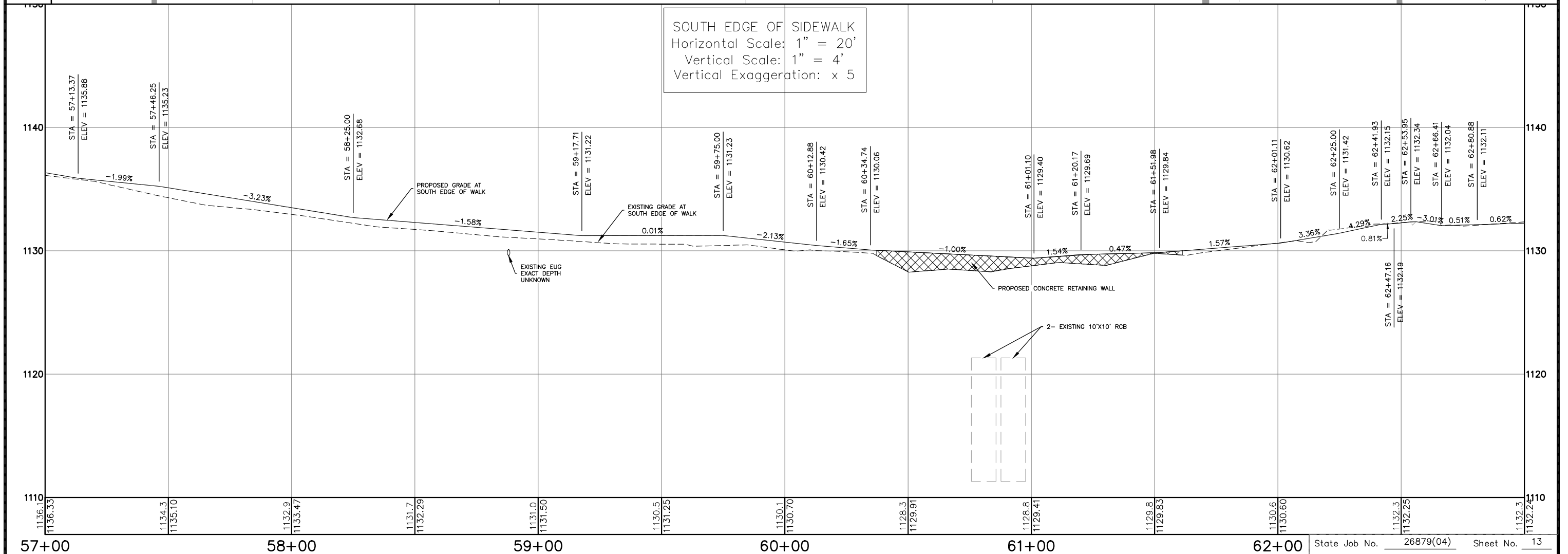
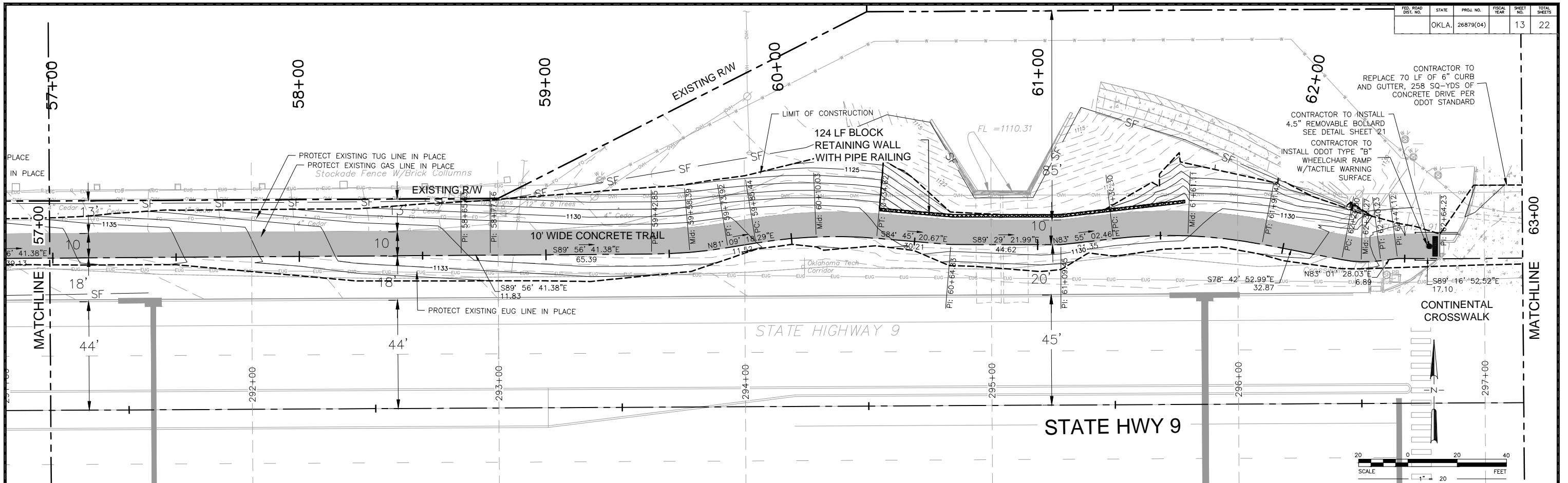
SOUTH EDGE OF SIDEWALK
Horizontal Scale: 1" = 20'
Vertical Scale: 1" = 4'
Vertical Exaggeration: x 5

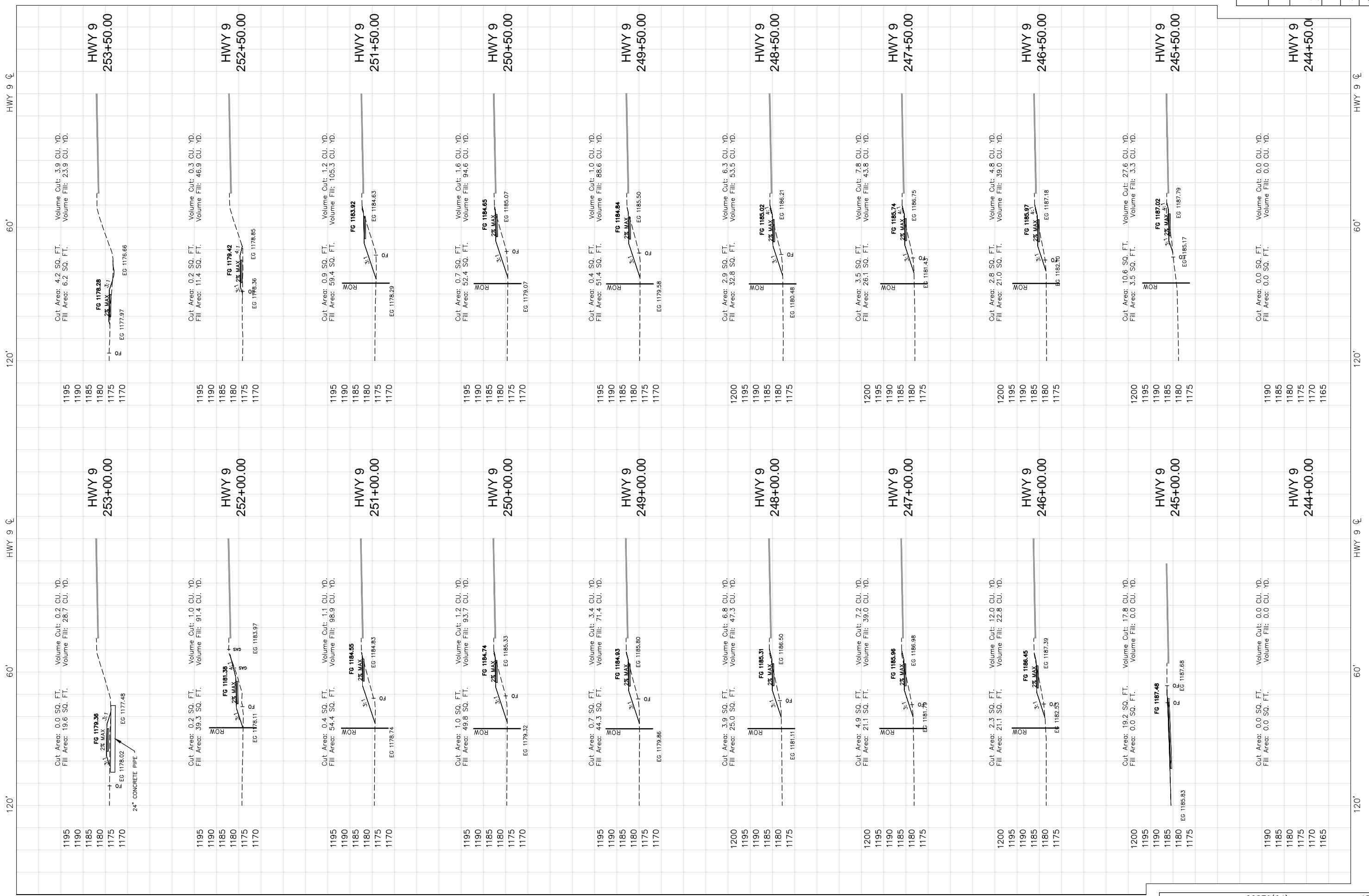


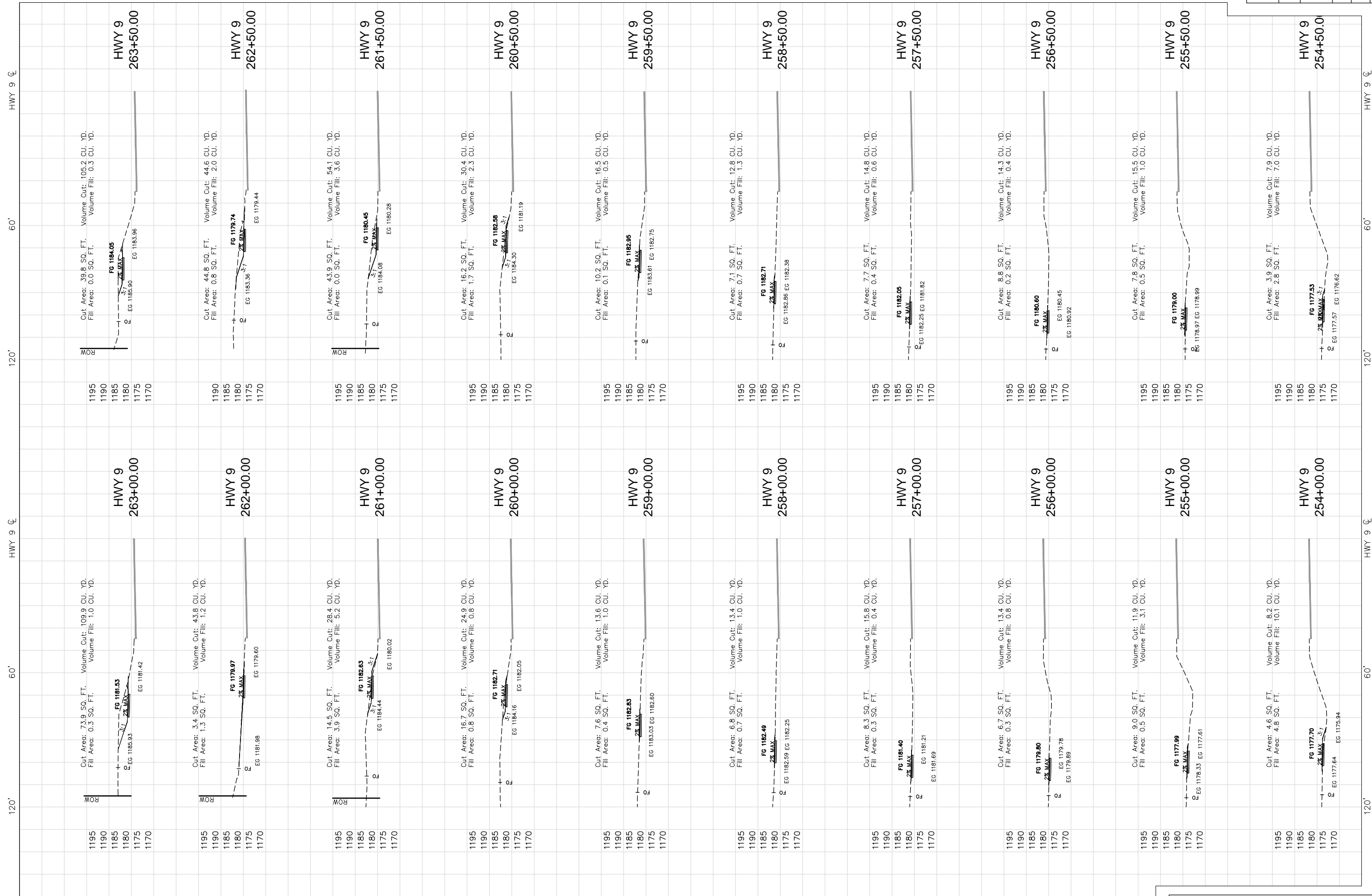


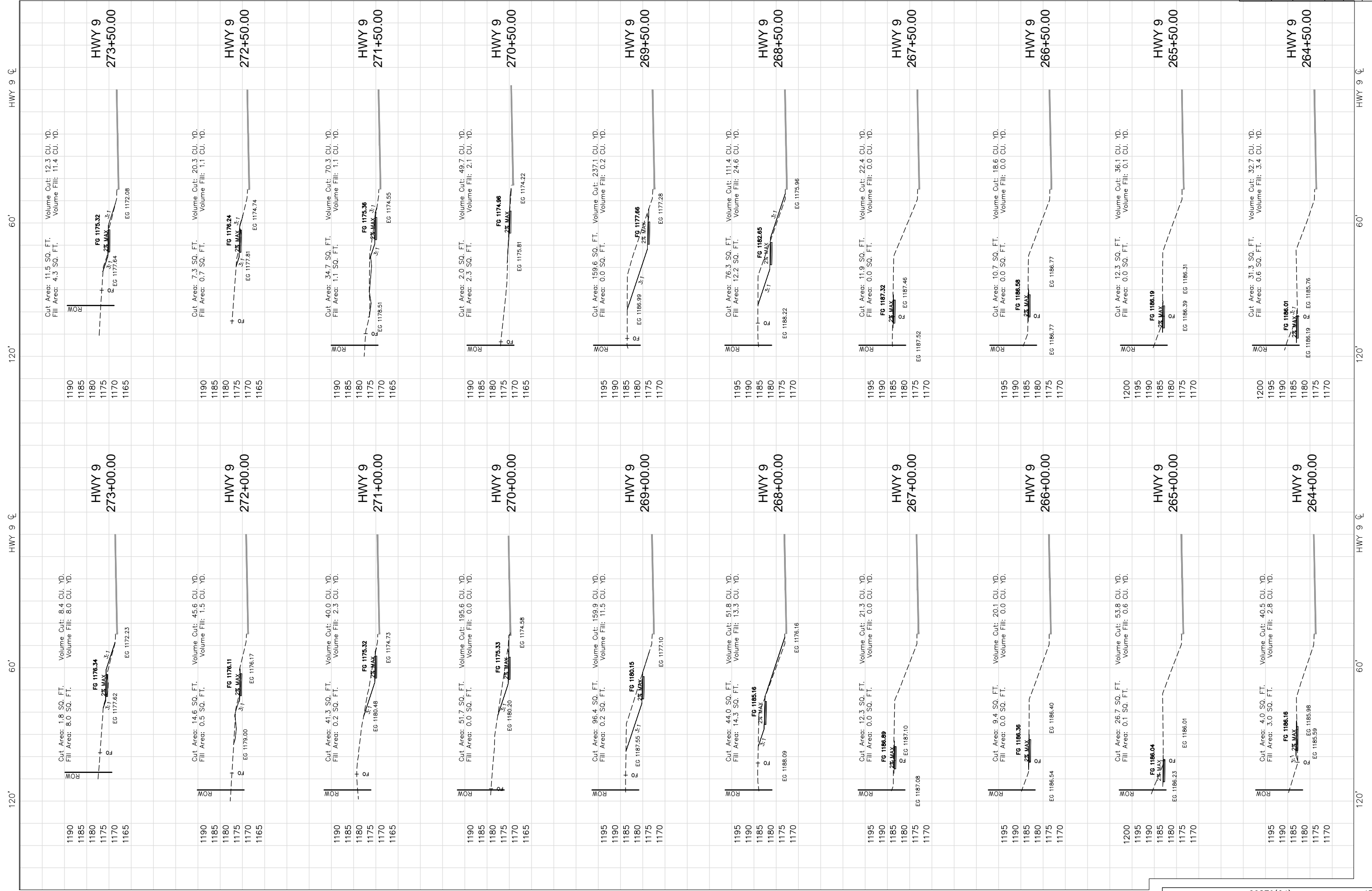
SOUTH EDGE OF SIDEWALK
 Horizontal Scale: 1" = 20'
 Vertical Scale: 1" = 4'
 Vertical Exaggeration: x 5

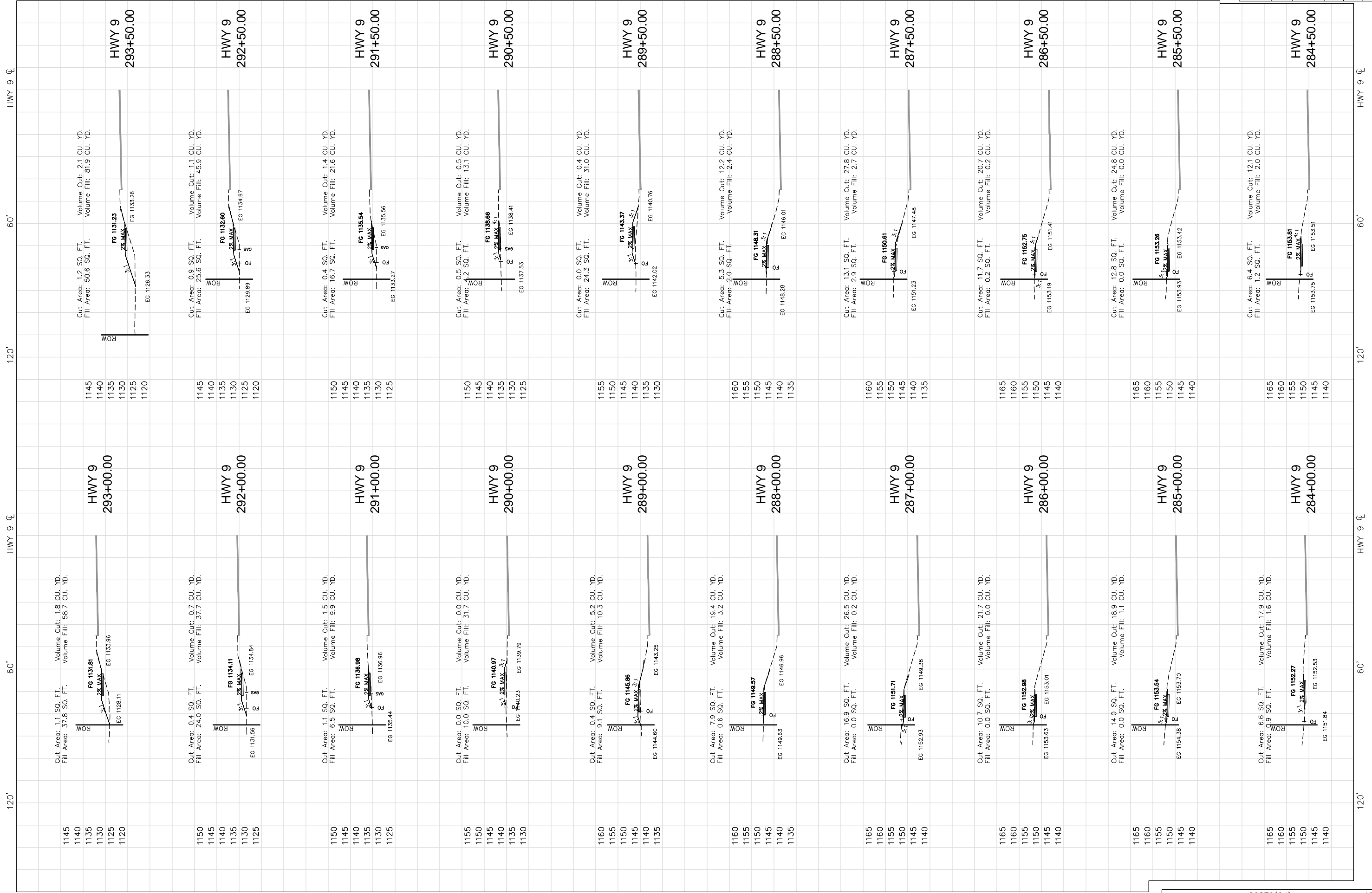


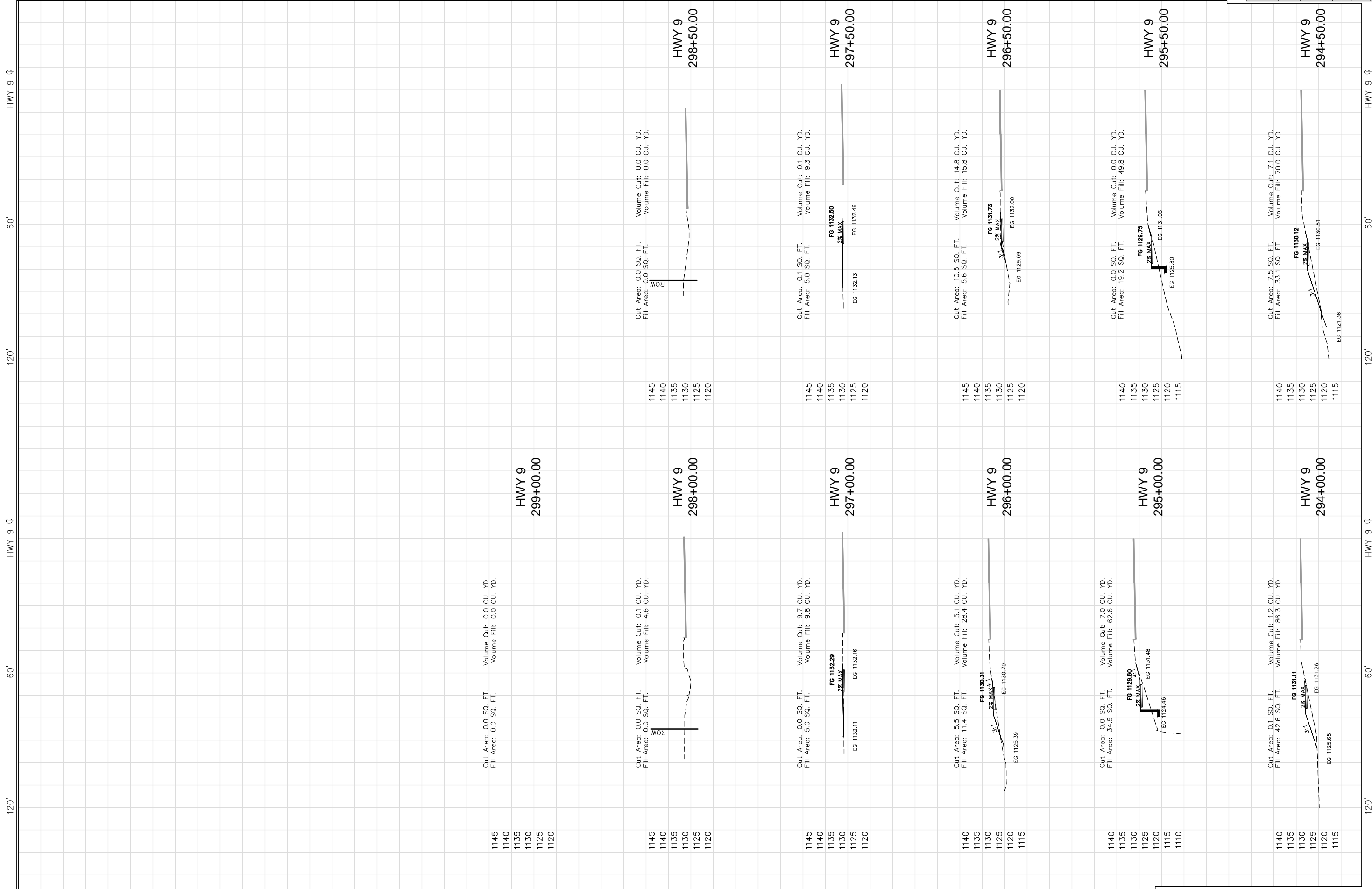


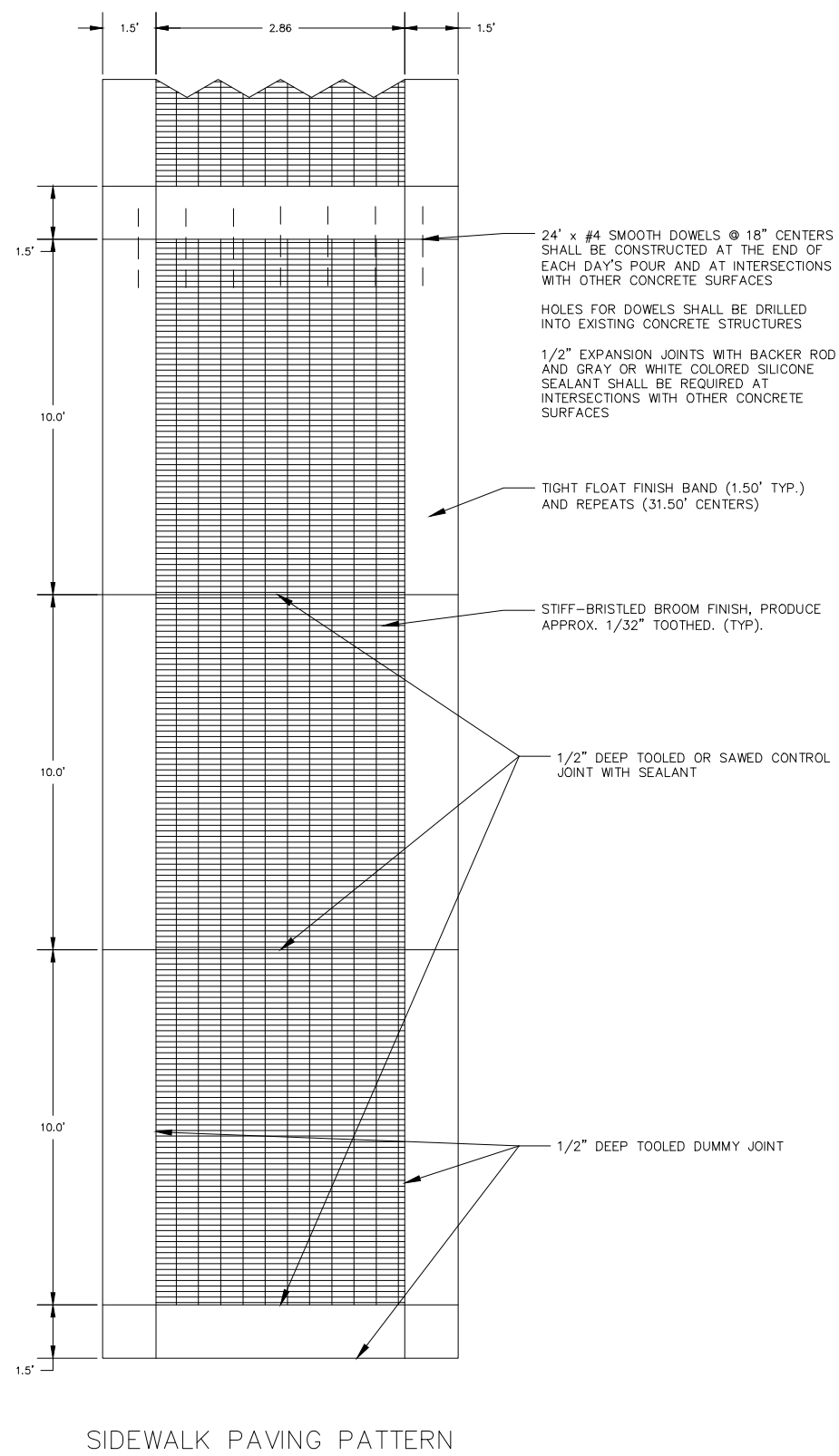




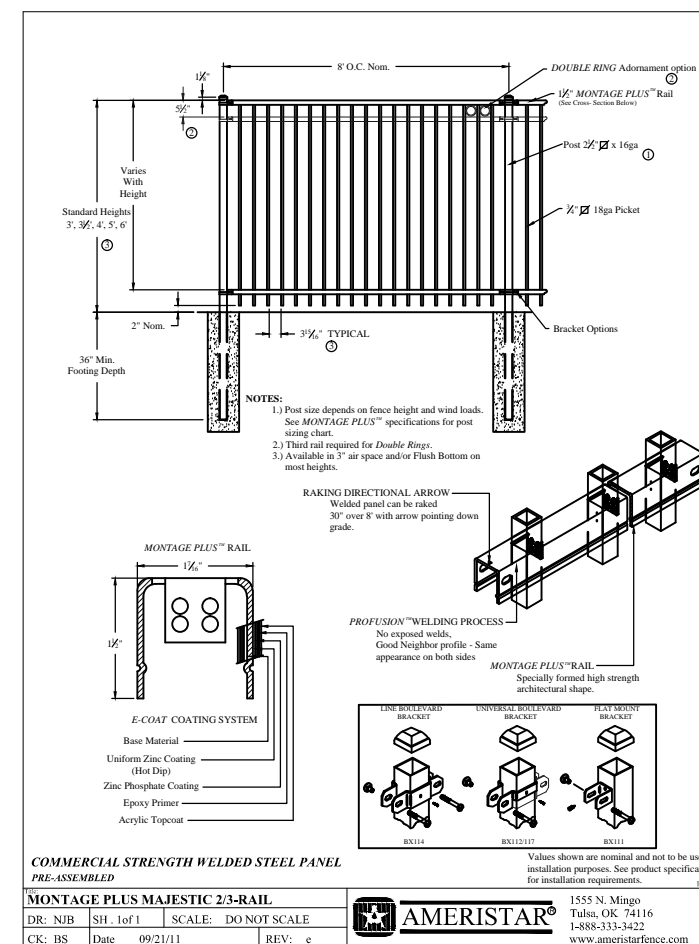
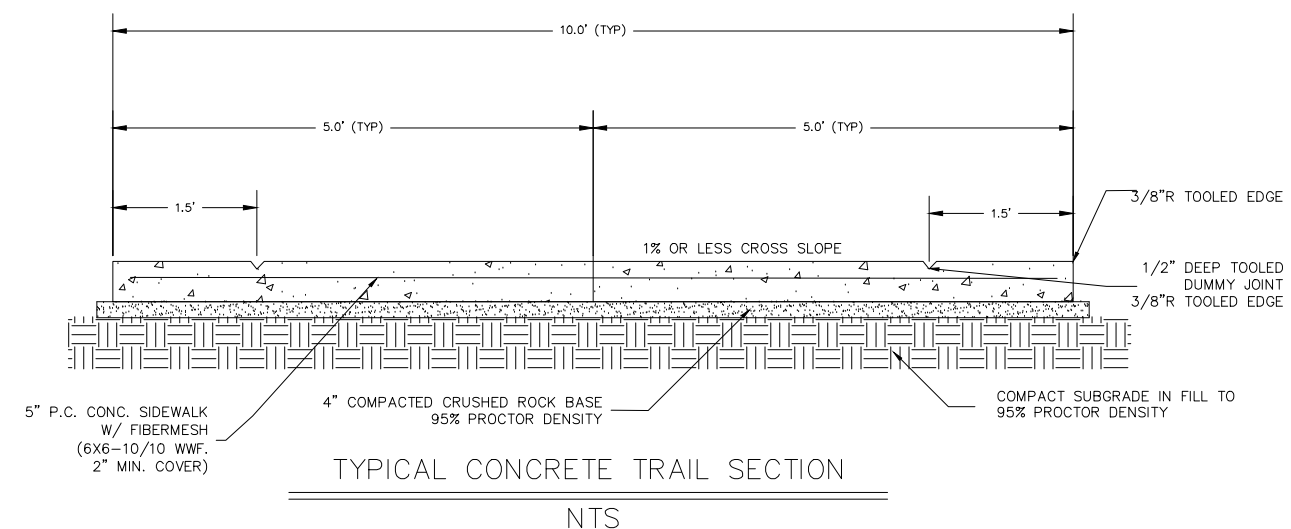









SIDEWALK PAVING PATTERN



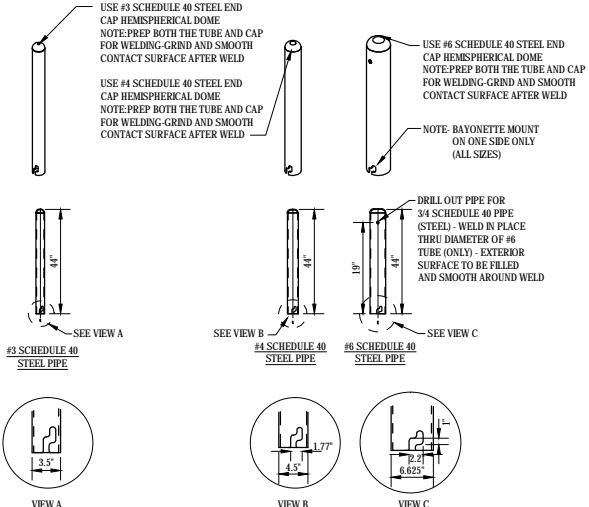
- NOTE:
- 1) MAXIMUM HEIGHT OF 42 INCHES
 - 2) MAXIMUM CLEARANCE BETWEEN RAILS IS 4 INCHES
 - 3) HANDRAIL MUST CONTAIN TOP RAIL
 - 4) PRE-MANUFACTURED HANDRAIL - SEE ATTACHED SKETCH
 - i) COMMERCIAL STRENGTH WELDED STEEL PANEL
 - ii) SHALL BE INSTALLED TO MANUFACTURER'S SPECIFICATIONS
 - iii) PRE-MANUFACTURED HANDRAIL
 1. AMERISTAR MONTAGE PLUS MAJESTIC 2/3
 2. OTHER APPROVED EQUAL

Design	
Drawn	JRA
Checked	JRA
Approved	WRS
Squad	

CIVIL DETAILS



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FAX: (800) 817-7194
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USE #3 SCHEDULE 40 STEEL END CAP HEMISPHERICAL DOME
NOTE: PREP BOTH THE TUBE AND CAP FOR WELDING, GRIND AND SMOOTH CONTACT SURFACE AFTER WELD

USE #4 SCHEDULE 40 STEEL END CAP HEMISPHERICAL DOME
NOTE: PREP BOTH THE TUBE AND CAP FOR WELDING, GRIND AND SMOOTH CONTACT SURFACE AFTER WELD

NOTE: BAYONETTE MOUNT ON ONE SIDE ONLY (ALL SIZES)

DRILL OUT PIPE FOR #4 SCHEDULE 40 PIPE (STEEL) - WELD IN PLACE THRU DIAMETER OF #6 TUBE (ONLY) - EXTERIOR SURFACE TO BE FILLED AND SMOOTH AROUND WELD

SEE VIEW A
SEE VIEW B
SEE VIEW C


#3 SCHEDULE 40 STEEL PIPE
#4 SCHEDULE 40 STEEL PIPE
#6 SCHEDULE 40 STEEL PIPE

VIEW A
VIEW B
VIEW C

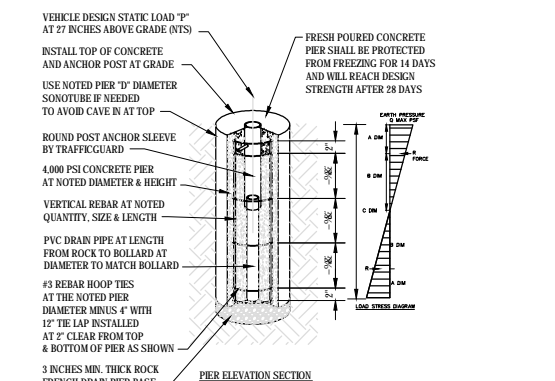
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info REFERENCE NUMBER 4209-0243.

ROUND POST TWIST-IN
AC800(FTH) 96" 11F5: -7, 1 5F8= FCI B81CQJ1HK-Q4H-1" C8R2: CCIH: #5B7-CF QM4A 838F-B

4209-0243
REVISION DATE 04/06/2016
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VEHICLE DESIGN STATIC LOAD "P" AT 27 INCHES ABOVE GRADE (NTS)

INSTALL TOP OF CONCRETE AND ANCHOR POST AT GRADE

USE NOTED PIER "D" DIAMETER SONOTUBE IF NEEDED TO AVOID CAVE IN AT TOP

FRESH POURED CONCRETE PIER SHALL BE PROTECTED FROM FREEZING FOR 14 DAYS AND WILL REACH DESIGN STRENGTH AFTER 28 DAYS

ROUND POST ANCHOR SLEEVE BY TRAFFICGUARD

4,000 PSI CONCRETE PIER AT NOTED DIAMETER & HEIGHT

VERTICAL REBAR AT NOTED QUANTITY, SIZE & LENGTH

PVC DRAIN PIPE AT LENGTH FROM ROCK TO BOLLARD AT DIAMETER TO MATCH BOLLARD

#3 REBAR HOOP TIES AT THE NOTED PIER DIAMETER MINUS 4" WITH 12" TIE LAP INSTALLED AT 2" CLEAR FROM TOP & BOTTOM OF PIER AS SHOWN


3 INCHES MIN. THICK ROCK FRENCH DRAIN PIER BASE

PIER ELEVATION SECTION

NOTES:
1. THIS IS A GUIDELINE FOR ESTIMATING. SITE SPECIFIC CONDITIONS SHOULD BE VERIFIED.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
4. DO NOT SCALE DRAWING.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info REFERENCE NUMBER 4209-0244.

ROUND POST TWIST-IN
AC800(FTH) 96" 11F5: -7, 1 5F8= FCI B81CQJ1HK-Q4H-1" C8R2: CCIH: #5B7-CF QM4A 838F-B

4209-0244
REVISION DATE 04/06/2016
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DESIGN AND CONSTRUCTION DATA SCHEDULE

- THE DESIGN LOAD IS A STATIC LOAD "P" LOCATED AT 27 INCHES ABOVE GRADE THAT SHOULD CAUSE FAILURE OF THE BOLLARD.
- THE EARTH PRESSURE VALUE IS SHOWN AT DESIGN LOAD AND THE OWNER SHOULD VERIFY THAT THE EARTH IS ADEQUATE TO WITHSTAND THE NOTED EARTH DESIGN PRESSURE.
- ANCHORAGE SYSTEMS BY OTHERS THAN TRAFFICGUARD MAY CAUSE PREMATURE FAILURE OF THE BOLLARD BY ROTATION OF ANCHORAGE AT DESIGN LOAD.

DESIGN FORMULA: EARTH PRESSURE MAXIMUM $Q_{max} = 3888 P / DB(A-B)$

DESIGN LOAD P	BOLLARD		EARTH "Q" MAX.	PIER HT. "C" MIN.	VERT. REBAR LENGTH	REBAR QTY	HOOP TIES	PIER CONCRETE	FRENCH DRAIN	PIER "D"
	Out Dia.	In Dia.								
600 #	1.510"	1.620"	992 PSF	42 INCH	38 INCH	3	6 EA.	6 Cu Ft	1.2 CF	8"
1200 #	2.440"	2.064"	1984 PSF	42 INCH	38 INCH	3	6 EA.	6 Cu Ft	1.2 CF	8"
3000 #	3.500"	3.068"	2204 PSF	42 INCH	38 INCH	4	6 EA.	6 Cu Ft	0.5 CF	18"
6000 #	4.500"	4.026"	4408 PSF	42 INCH	38 INCH	4	6 EA.	6 Cu Ft	0.5 CF	18"
6000 #	4.500"	4.026"	2667 PSF	54 INCH	50 INCH	4	7 EA.	8 Cu Ft	0.5 CF	18"
10000 #	5.563"	5.047"	4444 PSF	54 INCH	50 INCH	4	7 EA.	8 Cu Ft	0.5 CF	18"
10000 #	5.563"	5.047"	3000 PSF	60 INCH	56 INCH	4	8 EA.	9 Cu Ft	0.5 CF	18"
10000 #	5.563"	5.047"	2975 PSF	66 INCH	62 INCH	4	9 EA.	10 Cu Ft	0.5 CF	18"
15000 #	6.625"	6.065"	3750 PSF	72 INCH	68 INCH	4	9 EA.	11 Cu Ft	0.5 CF	18"
15000 #	6.625"	6.065"	3195 PSF	78 INCH	72 INCH	4	9 EA.	12 Cu Ft	0.5 CF	18"
15000 #	6.625"	6.065"	3240 PSF	60 INCH	56 INCH	8	8 EA.	25 Cu Ft	1.8 CF	30"
15000 #	6.625"	6.065"	3333 PSF	54 INCH	50 INCH	8	7 EA.	32 Cu Ft	1.8 CF	36"

NOTE: CONCRETE, FORM, ROCK, PVC DRAIN AND REBAR PROVIDED BY OTHERS

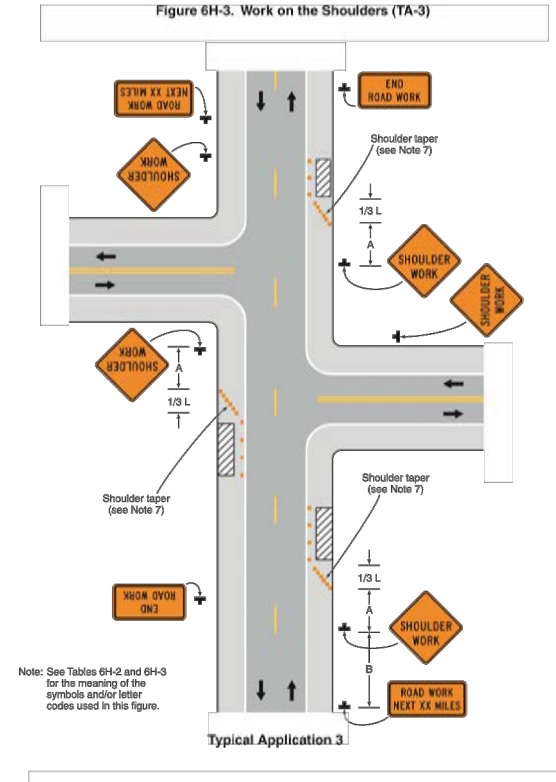
NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADetails.com/info REFERENCE NUMBER 4209-0248.

ROUND POST TWIST-IN
AC800(FTH) 96" 11F5: -7, 1 5F8= FCI B81CQJ1HK-Q4H-1" C8R2: CCIH: #5B7-CF QM4A 838F-B

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2009 Edition Page 639

Figure 6H-3. Work on the Shoulders (TA-3)



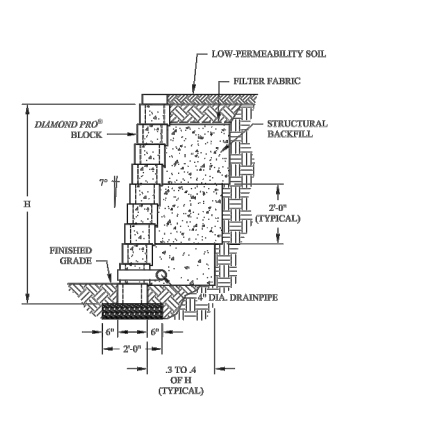
END ROAD WORK
SHOULDER WORK
SHOULDER WORK
SHOULDER WORK
ROAD WORK NEXT XX MILES

Shoulder taper (see Note 7)
Shoulder taper (see Note 7)
Shoulder taper (see Note 7)

1/3 L
1/3 L
1/3 L

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

December 2009 Sect. 611.01



LOW-PERMEABILITY SOIL
FILTER FABRIC
STRUCTURAL BACKFILL
DIAMOND PRO® BLOCK
FINISHED GRADE
DIA. DRAINPIPE

NOTES:
1. STRUCTURAL BACKFILL IS TO BE PLACED IN 6" TO 24" INCH (TYPICAL) LIFTS
2. STRUCTURAL BACKFILL MUST BE MANIPULATED INTO ALL VOIDS BETWEEN BLOCKS TO ENSURE ADEQUATE BOND BETWEEN BLOCK AND CONCRETE MASS.

STRUCTURAL BACKFILL DEPTH PER DESIGN
ENSURE VOID AREAS BETWEEN UNITS ARE FILLED COMPLETELY

3 TO 4 OF H (TYPICAL)


ANCHOR
BUILD SOMETHING BEAUTIFUL.
Anchor Wall Engineering, LLC
5959 Babar Road, Suite 290
Minnetonka, MN 55345

These graphic representations are intended for preliminary design purposes only and are not to be used for construction without the signature of a registered professional engineer.

Drawn By: AWE
Date: 4/15/2010
Scale: 3/8"=1'-0"

Project Information: Typical Details For the AnchorRetaining Wall System
DPSA0509C

Model: GF8
3" Round Pathway Light

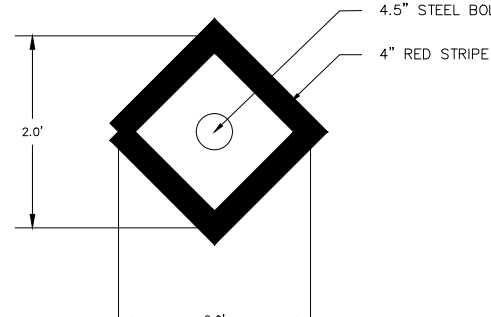


Operation Specifications		Lighting Specifications (Performance Best)	
Charge Time	3 Hours/8 Hours Cloudy	Model	GF8
Operating Time	Up to 16 Hours	Color	Blue
Compression Strength	41,500 N / 9,300 lbs	Beam	11.1 8.7 17.6
Water Proof Rating	IP67	Beam	89.9 170 118
Operating Temperature	-40° to 158° F	Beam	9.7 7.3 12.1
Dimensions (in)	Ø 3.15" x 3.15"	Beam	11.8 15.6 23.7
Weight (lbs)	0.46	Beam	82.5 66.6 100.1

Component Specifications	
Order Module Size	53 x 53mm
Order Maximum Output Power	10 Watts
Solar Operating Current	118.4mA
Solar Voltage	3.33V
LED Size	Ø 3.15mm
LED Current	10mA per each
LED Operating Current	0.2mA @ 50ms
LED Voltage	3V
LED Quantity	3 mm 120°
Photodiode	5.9mA
Photodiode Current	2.0V 120°
Number of Solar Panels	3 pcs

Materials of Construction: Housing: PFC DMC Innovative Plastics K0705 Lens: B/C B/C CHM 1128-1128 MAIN PCB

Solarlight Lighting, LLC 6000 N. Hwy. 400 Oklahoma City, OK 73113
Check website for latest specifications as a result of continuous improvement



4.5" STEEL BOLLARD
4" RED STRIPE
2.0'
2.0'
4" WIDE RED STRIPE
NTS