2012 ARCHITECTURAL & ELECTRICAL RENOVATIONS
HUDSON AREA SCHOOLS

DRAWING INDEX

1. ■ A COVER SHEET

PROJECT #1 – LINCOLN ELEMENTARY SCHOOL

1. ■ 100 C1.0 LINCOLN ELEMENTARY SITE PLAN
2. ■ 100 C1.1 LINCOLN ELEMENTARY SITE DETAILS
3. ■ 100 C2.1 ELECTRICAL SITE PLAN
4. ■ 100 A1.1 COMPOSITE FLOOR PLAN
5. ■ 100 A1.2 ROOF PLAN
6. ■ 100 A2.1 FLOOR PLAN – UNIT A
7. ■ 100 A2.2 FLOOR PLAN – UNIT B
8. ■ 100 A2.3 ENLARGED RESTROOM PLANS
9. ■ 100 A6.1 DOOR SCHEDULE & DETAILS
10. ■ 100 A6.2 ROOM FINISH SCHEDULE
11. ■ 100 E1.1 ELECTRICAL PLAN – UNIT A
12. ■ 100 E1.2 ELECTRICAL PLAN – UNIT B
13. ■ 100 E2.1 LIGHTING PLAN – UNIT A
14. ■ 100 E2.2 LIGHTING PLAN – UNIT B
15. ■ 100 E3.1 TECHNOLOGY/SECURITY FLOOR PLAN
16. ■ 100 E3.2 ENLARGED BOILER ROOM ELECTRICAL PLAN
17. ■ 100 E3.3 ELECTRICAL SCHEDULES & DETAILS

CITY BIKE PATH (MURDOCK TRAIL) DRAWINGS
(BY FLEIS & VANDERBRINK)

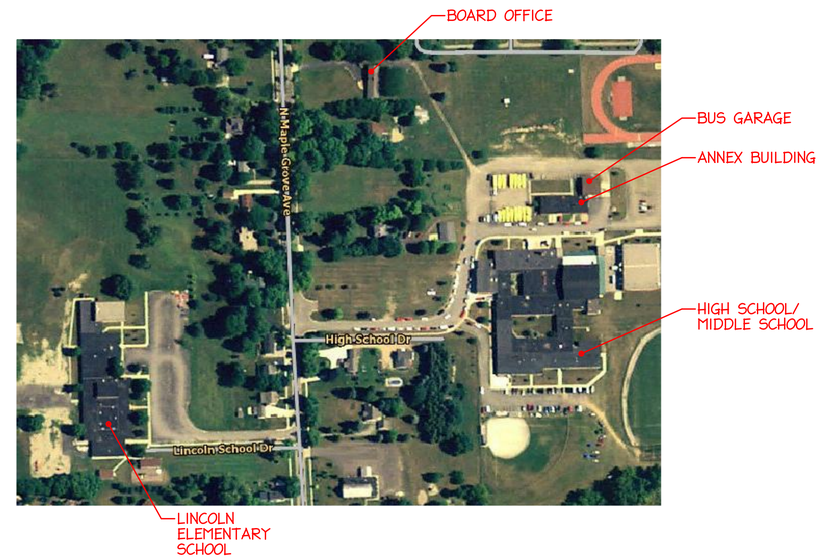
18. ■ CS COVER SHEET
19. ■ C1 NOTES & LEGEND/TYPICAL CROSS SECTIONS
20. ■ C5 PLAN AND PROFILE
21. ■ C6 PLAN AND PROFILE

PROJECT #2 – HIGH SCHOOL / MIDDLE SCHOOL

1. ■ 200–C1.1 SITE DEMOLITION PLAN
2. ■ 200–C1.2 SITE PLAN
3. ■ 200–C1.3 ELECTRICAL SITE PLAN
4. ■ 200–C2.1 TRACK PLAN
5. ■ 200–C2.2 BUS CARPORT PLAN & DETAILS
6. ■ 200 A1.1 COMPOSITE FLOOR PLAN
7. ■ 200 A1.2 ROOF PLAN
8. ■ 200 A1.3 ANNEX BUILDING FLOOR PLAN
9. ■ 200 A2.1 FLOOR PLAN – UNIT A
10. ■ 200 A2.2 FLOOR PLAN – UNIT B
11. ■ 200 A2.3 FLOOR PLAN – UNIT C
12. ■ 200 A2.4 FLOOR PLAN – UNIT D
13. ■ 200 A2.5 FLOOR PLAN – UNIT E
14. ■ 200 A2.6 FLOOR PLAN – UNIT F
15. ■ 200 A2.7 MAIN ENTRANCE VESTIBULE PLAN
16. ■ 200 A2.8 ENLARGED RESTROOM PLANS
17. ■ 200 A3.1 INTERIOR ELEVATIONS
18. ■ 200 A5.1 COURTYARD WALL DETAILS
19. ■ 200 A5.2 COURTYARD WALL DETAILS
20. ■ 200 A5.3 INTERIOR WALL DETAILS
21. ■ 200 A6.1 DOOR SCHEDULE
22. ■ 200 A6.2 ROOM FINISH SCHEDULE
23. ■ 200 E1.1 ELECTRICAL PLAN – UNIT A
24. ■ 200 E1.2 ELECTRICAL PLAN – UNIT B
25. ■ 200 E1.3 ELECTRICAL PLAN – UNIT C
26. ■ 200 E1.4 ELECTRICAL PLAN – UNIT D
27. ■ 200 E1.5 ELECTRICAL PLAN – UNIT E
28. ■ 200 E1.6 ELECTRICAL PLAN – UNIT F
29. ■ 200 E2.1 ENLARGED BOILER ROOM ELECTRICAL PLAN
30. ■ 200 E2.2 ANNEX BUILDING ELECTRICAL PLAN
31. ■ 200 E3.1 TECHNOLOGY/SECURITY FLOOR PLAN
32. ■ 200 E3.2 ANNEX BUILDING TECHNOLOGY/SECURITY PLAN
33. ■ 200 E3.3 ELECTRICAL SCHEDULES & DETAILS
34. ■ 200 E3.4 ELECTRICAL SCHEDULES & DETAILS

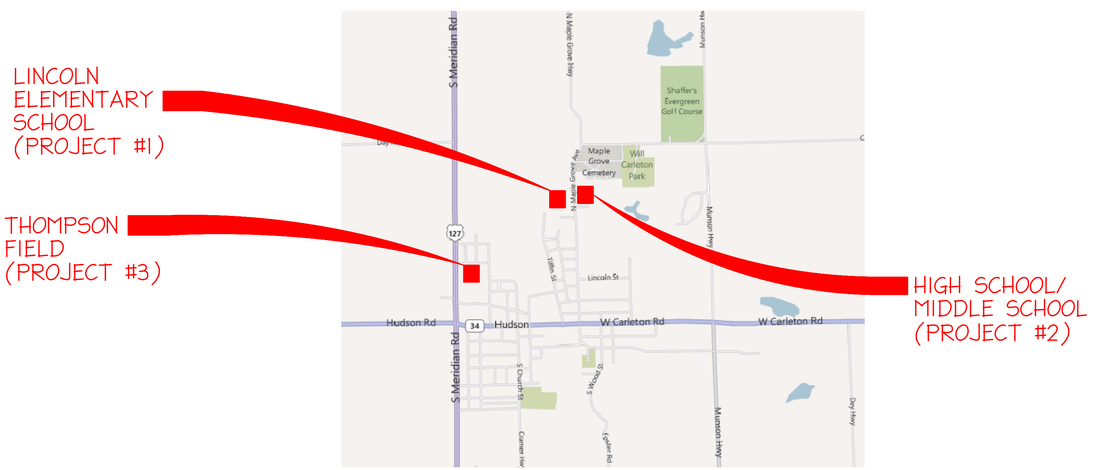
PROJECT #3 – THOMPSON FIELD

1. ■ 300–C1.1 THOMPSON FIELD SITE/ELECTRICAL PLAN
2. ■ 300–C1.2 THOMPSON FIELD DETAILS
3. ■ 300–C1.3 THOMPSON FIELD LIGHT POLE FOUNDATION DETAILS
4. ■ 300–C1.4 BLEACHER RENOVATIONS

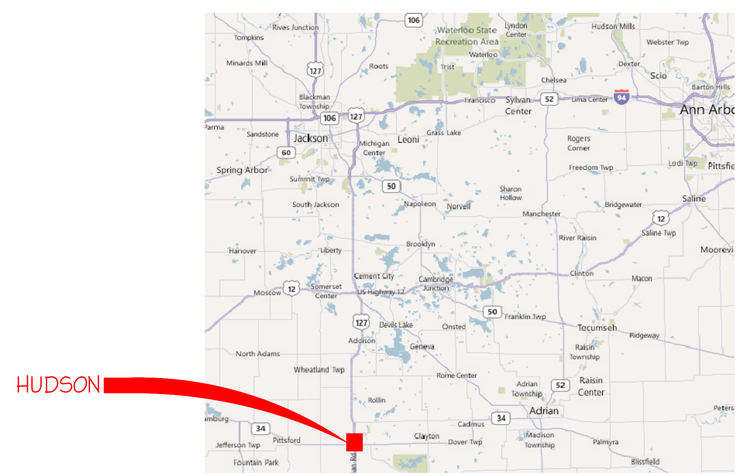


NORTH

HUDSON AREA SCHOOLS – CAMPUS MAP
NOT TO SCALE



LOCATION MAP – CITY OF HUDSON
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

PREPARED FOR:

Hudson Area Schools

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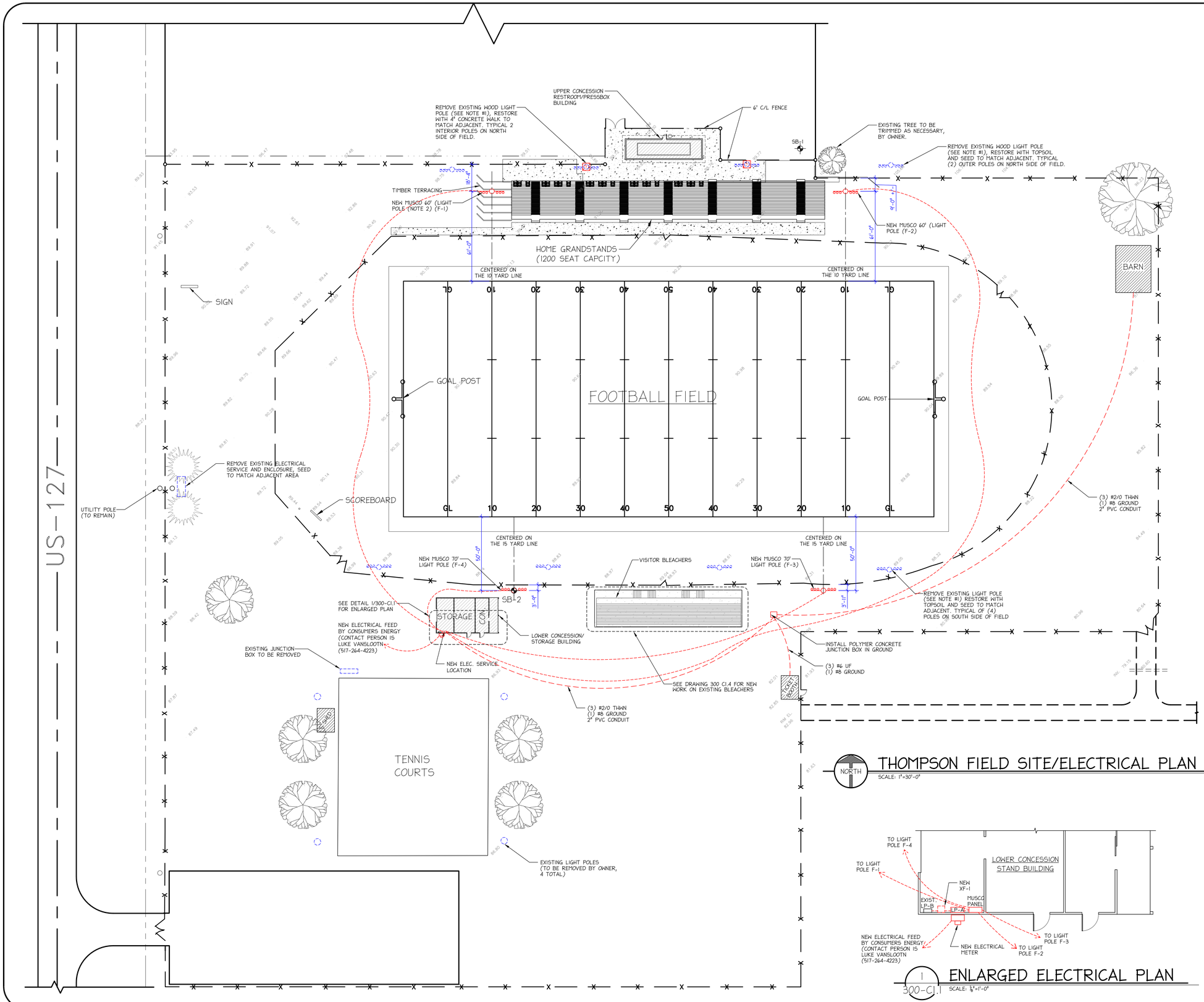
2012 ARCHITECTURAL & ELECTRICAL RENOVATIONS
HUDSON AREA SCHOOLS
771 NORTH MAPLE GROVE AVENUE
HUDSON, MICHIGAN 49247

DRAWN BY: M. FOWLER	CHK'D. BY: TA DAILEY	APP'D. BY:

COVER SHEET

DATE: 03/09/2012	REV.: 0	DRAWING NO. A
SCALE: NONE		



THOMPSON FIELD SITE/ELECTRICAL PLAN

NORTH

SCALE: 1"=30'-0"

ENLARGED ELECTRICAL PLAN

1 / 300-C1.1

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

LEGEND:

- EXISTING ITEMS/CONSTRUCTION
- NEW ITEMS/CONSTRUCTION
- ITEMS TO BE REMOVED/DEMOLISHED
- SB-X — SOIL BORING LOCATION (SEE SOIL BORING LOGS ON SHEET 300-C1.2 FOR MORE INFORMATION)

NOTES:

1) CUT DOWN EXISTING WOOD POLES TO A DEPTH OF 2' BELOW GRADE. REMOVE EXISTING LIGHT FIXTURES AND TURN OVER TO OWNER. CONTRACTOR MAY LEAVE DEMO'D POLES ON-SITE IF DESIRED, IN WHICH CASE OWNER WILL TAKE CARE OF FINAL REMOVAL.

2) RESTORE ANY WOOD TERRACING THAT IS DISTURBED DURING NEW POLE INSTALLATION.

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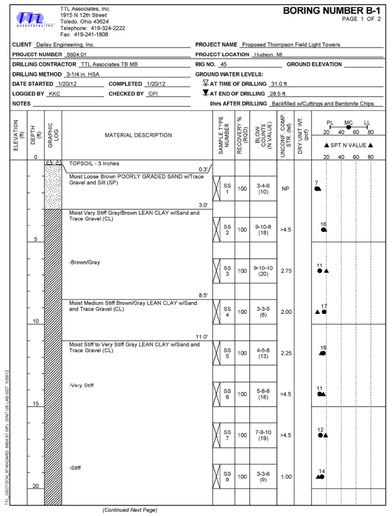
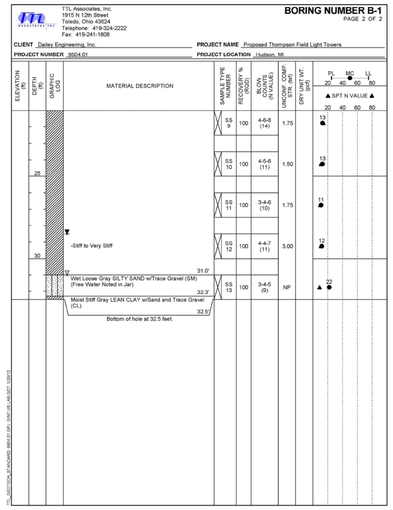
HUDSON AREA SCHOOLS
THOMPSON FIELD
HIGHWAY 127
HUDSON, MICHIGAN 49247

DRAWN BY: M. FOWLER	CHK'D. BY: TA DAILEY	APP'D. BY:

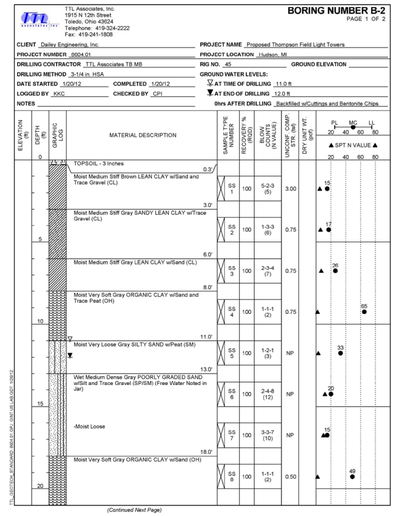
THOMPSON FIELD SITE/ELECTRICAL PLAN

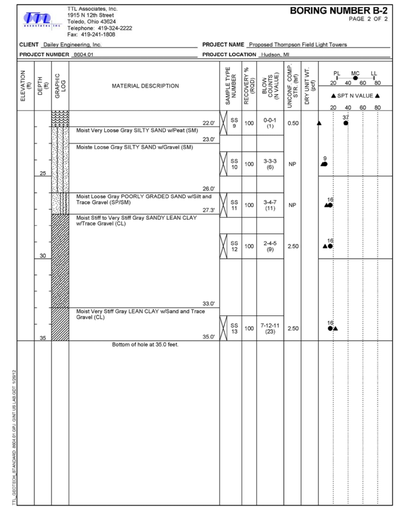
DATE: 03/09/2012	REV.: 0	DRAWING NO. 300-C1.1
SCALE: 1" = 30'-0"		



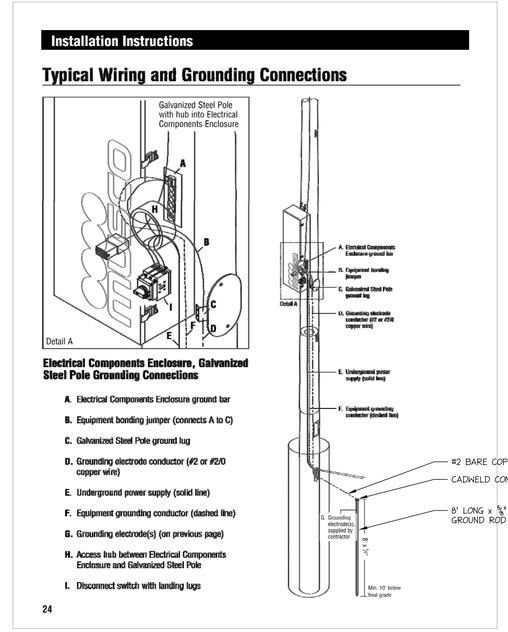


SOIL BORING #1 LOG





SOIL BORING #2 LOG



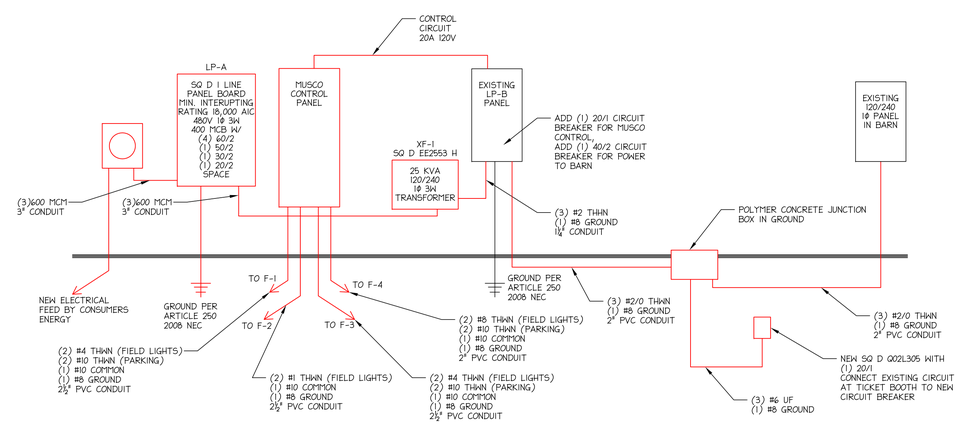
2 LIGHT POLE GROUNDING DETAIL
300-C1.2 N.T.S.

1 Phase PANEL LOAD SHEET THOMPSON FIELD

Panel LP - A	Mounting Surface	Panel Location Lower concession
Voltage 240/480V 1ph 3w	AMPS 400 MCB	Fed From Utility

Load & Location	Load in VA	P	amp	Ckt no		Ckt no	P	amp	Load in VA	Load & Location
Pole #1 field lighting	17760	2	60	1	*	2	2	60	17760	Pole #3 field lighting
				3	*	4				
All parking lights	10656	2	30	5	*	6	2	60	17760	Pole #4 field lighting
				7	*	8				
Pole #2 Field lighting	17760	2	60	9	*	10	2	50	25000	25 kVa transformer
				11	*	12				
				13	*	14	2	60	7200	Barn
				15	*	16				
				17	*	18				
				19	*	20				
				21	*	22				
				23	*	24				
				25	*	26				
				27	*	28				
				29	*	30				
				31	*	32				
				33	*	34				
				35	*	36				
				37	*	38				
				39	*	40				
				41	*	42				
Subtotal Lighting	46176								67720	Subtotal Lighting
Subtotal Outlets										Subtotal Outlets
Subtotal Other									25000	Subtotal Other
Total Load Lighting									113896	
Total Load Outlets									0	
Total Load Other									25000	
Total connected Load									138896	

Connected AMPS	289.37	*	1.25 =	362	Panel Feeder 3 600 kcmill
					Conduit 3"



1 RISER DIAGRAM
300-C1.2 N.T.S.

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THOMPSON FIELD
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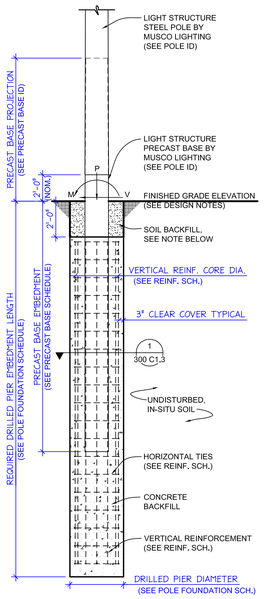
HUDSON, MICHIGAN 49247

DRAWN BY: M. FOWLER | CHK'D. BY: TA DAILEY | APP'D. BY:

THOMPSON FIELD DETAILS

DATE: 03/09/2012 | REV.: 0 | DRAWING NO. 300-C1.2
SCALE: AS SHOWN



POLES F1, F3 & F4 FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS MAY BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 OR BETTER IN ACCORDANCE WITH IBC - TABLE 1804.2.

POLE IDENTIFICATION

POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT^2)
F1	LSS60D	4B	14 (5+5) / (2)	34.8
F2	LSS60C	3B	12 (5+5)	30.0
F3, F4	LSS70C	4B	13 (5+5) / (2)	31.8

- POLES F1 & F2 HAVE TWO 1000W MPIs MOUNTED AT 40'-0" AGL, INCLUDED IN EPA ABOVE.
- POLES F3 & F4 HAVE ONE 1000W MPI MOUNTED AT 40'-0" AGL, INCLUDED IN EPA ABOVE.

CONCRETE/REINFORCEMENT NOTES

CONCRETE SHALL COMPLY WITH THE FOLLOWING ASTM STANDARDS: MIXTURE WITH ASTM C-94, PORTLAND CEMENT WITH ASTM C-150 TYPE 1-A, AGGREGATES WITH ASTM C-33 AND BE IN CONFORMANCE WITH ACI 318.

CONCRETE SHALL BE AIR-ENTRAINED (COMPLY WITH ASTM C-260), HAVE A MAXIMUM WATER -CEMENT RATIO, w/cm = 0.43 AND HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI.

DESIGN SLUMP LIMITS ARE 4" MINIMUM AND 6" MAXIMUM. THE JOB SITE SLUMP MAY BE INCREASED BY THE USE OF A WATER REDUCING AGENT MEETING ASTM C494-92.

CONCRETE REINFORCEMENT SHALL COMPLY WITH ASTM A615 GRADE 60, EXCEPT TIES CAN BE OF GRADE 40 AND BE IN CONFORMANCE WITH ACI 315 & 318.

CONCRETE DRILLED PIERS MUST ATTAIN 3,000 PSI STRENGTH PRIOR TO POLE INSTALLATION AND FIXTURE MOUNTING.

THE TOP 12'-0" SHOULD BE THOROUGHLY CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACEMENT.

POLES F1, F3 & F4 INSTALLATION NOTE:
CONCRETE TO BE PLACED IN A CONTINUOUS POUR OR A COLD JOINT WILL BE ACCEPTABLE AT THE BOTTOM OF THE PRECAST BASE. TWO POUR: WITH THE REINFORCEMENT IN PLACE, THE CONCRETE BELOW THE BOTTOM OF THE PRECAST BASE MAY BE POURED AND ALLOWED TO SET UP FOR APPROXIMATELY FOUR HOURS (CURE LONG ENOUGH TO SUPPORT WEIGHT OF PRECAST BASE). THEN THE PRECAST BASE MAY BE SET IN PLACE AND THE REST OF THE CONCRETE CONCRETE BACKFILL POURED.

DESIGN NOTES

DESIGN PARAMETERS:
WIND: 90 MPH, EXPOSURE C.

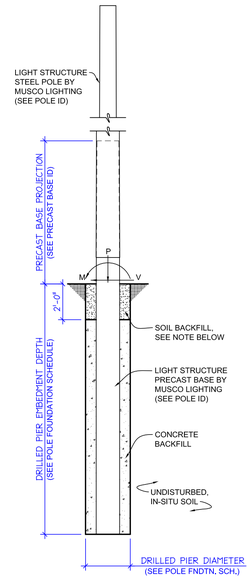
GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 1,250 PSF (SPREAD FOOTING)
ALLOWABLE END BEARING SOIL PRESSURE: 2,000 PSF (DRILLED PIER)
ALLOWABLE LATERAL SOIL BEARING PRESSURE: 0 PSF/FT (GRADE TO -3'-0")
ALLOWABLE LATERAL SOIL BEARING PRESSURE: VARIES SEE REPORT (BELOW -2'-0") IN ACCORDANCE WITH THE 2006 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18, SECTION 1804 AND 1805.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION OR WHEN THE FREE DROP EXCEEDS 6'-0".

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.



POLE F2 FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS MAY BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 OR BETTER IN ACCORDANCE WITH IBC - TABLE 1804.2.

POLES F1-F4 FOUNDATION SCHEDULE

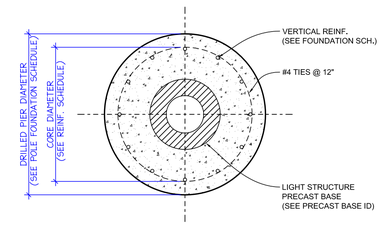
POLE DESIGNATION	FORCES			DRILLED PIER			REINFORCING		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS (1.)	DIAMETER INCHES	EMBEDMENT DEPTH	CONCRETE BACKFILL YD^3 (2.)	CORE DIAMETER INCH (3.)	VERTICAL REINFORCING	HORIZONTAL TIES
F1 (4.)	74,054	1,670	2,693	36	26'-0" (4.)	5.7	29	10 - #7	#4 @ 12"
F2	65,554	1,461	2,207	42	12'-0"	3.3	REINFORCEMENT NOT REQUIRED		
F3, F4 (4.)	90,287	1,791	2,727	36	26'-0" (4.)	5.7	29	10 - #7	#4 @ 12"

1. WEIGHT OF POLE, FIXTURES AND ACCESSORIES.
2. MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.
3. CORE DIAMETER EQUAL TO INSIDE DIAMETER OF TIES.
4. POLE FOUNDATIONS SHALL EXTEND A MINIMUM OF 26'-0" BELOW GRADE AND A MINIMUM OF 3'-0" THROUGH THE ORGANIC CLAY AND PEAT LAYERS. PIERS SHALL IN NO CASE BEAR ON ORGANIC CLAY AND / OR PEAT.

PRECAST BASE IDENTIFICATION

PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
3B	2,470 LBS	20'-0"	8'-0"	12'-0"	13.37"
4B	3,490 LBS	22'-0"	8'-0"	14'-0"	15.75"

REFERENCE POLE ID TABLE ON SHEET C1 FOR POLE TO PRECAST BASE TYPES

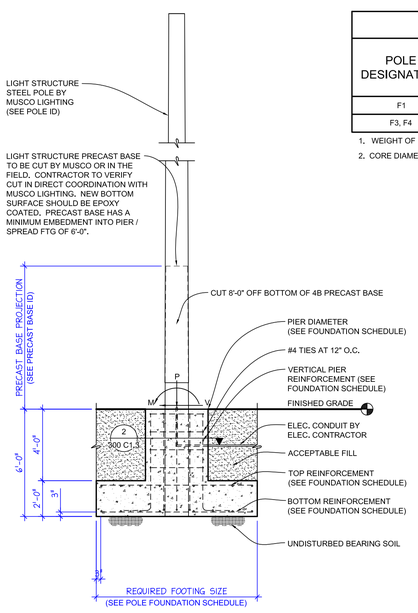


1 300 C1.3 PIER DETAIL
SCALE: NONE

POLES F1, F3 & F4 ALTERNATIVE FOUNDATION SCHEDULE

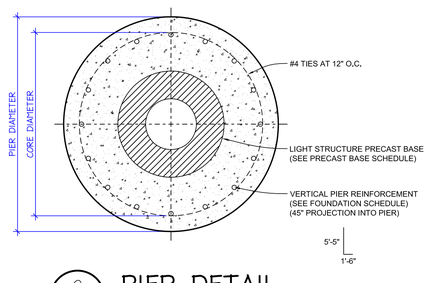
POLE DESIGNATION	FORCES			FOOTING			PIER		
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS (1.)	SIZE	THICKNESS	REINFORCEMENT TOP & BOTTOM (TOTAL) QUANTITY - SIZE	DIAMETER INCHES	CORE DIA. INCHES (2.)	VERTICAL REINFORCING
F1	74,054	1,670	2,693	10'-6" x 10'-6"	2'-0"	(40) 10 - 7's EACH WAY	36	29	10 - #7
F3, F4	90,287	1,791	2,727	12'-0" x 12'-0"	2'-0"	(48) 12 - 7's EACH WAY	36	29	10 - #7

1. WEIGHT OF POLE, FIXTURES AND ACCESSORIES.
2. CORE DIAMETER EQUAL TO INSIDE DIAMETER OF TIES.



POLES F1, F3 & F4 ALTERNATIVE FOUNDATION ELEVATION

SCALE: NOT TO SCALE



2 300 C1.3 PIER DETAIL
SCALE: NONE

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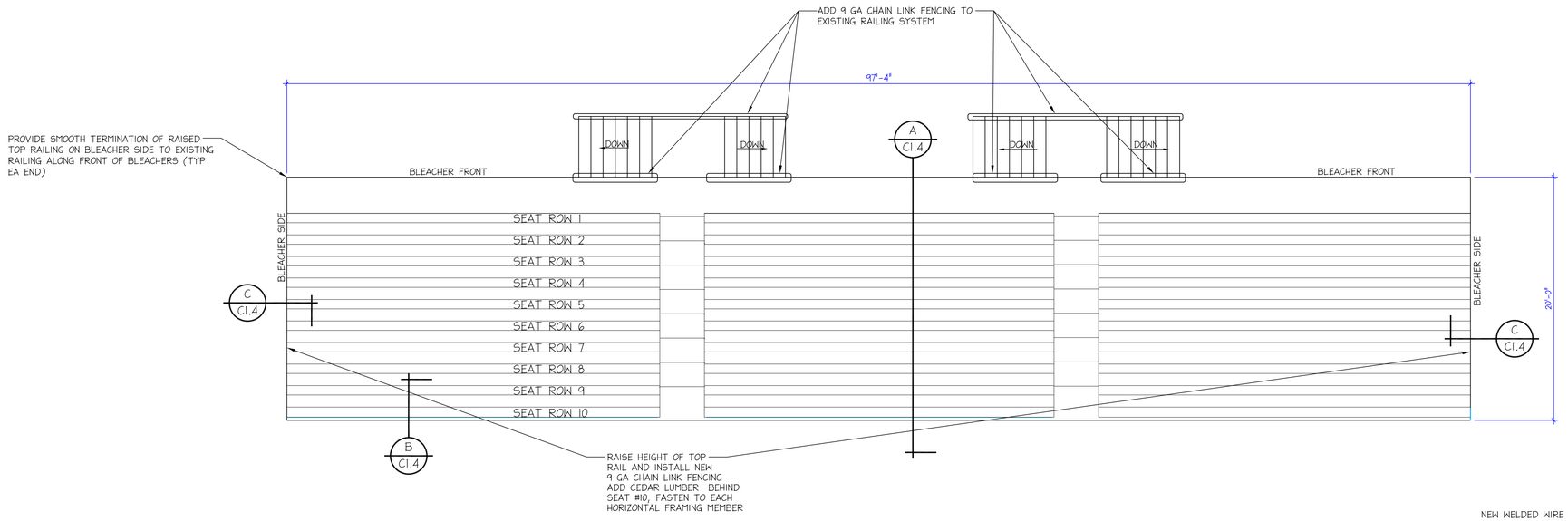
THOMPSON FIELD
HIGHWAY 127
HUDSON, MICHIGAN 49247

DRAWN BY: M. FOWLER | CHK'D. BY: TA DAILEY | APP'D. BY:

THOMPSON FIELD LIGHT POLE FOUNDATION DETAILS

DATE: 03/09/2012 | REV.: 0 | DRAWING NO. **300-C1.3**
SCALE: AS SHOWN

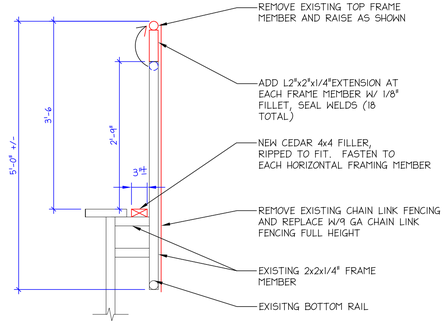


PAINTING SCOPE:
REPAINT ENTIRE STEEL BLEACHER FRAMING SYSTEM. TEMPORARILY REMOVE ALL ALUMINUM SEAT AND FOOTBOARD PLANKING PRIOR TO PAINTING. PROTECT ALL SURROUNDING CONSTRUCTION INCLUDING CONCRETE PAD. SEE PAINT SPECIFICATIONS FOR NEW PAINT SYSTEM. AREAS OF WORK SHALL BE PRIME PAINTED THE SAME DAY THAT SURFACE PREPARATION IS COMPLETED.

NORTH

VISITOR BLEACHERS

SCALE: 3/8"=1'-0"



B C1.4 RAILING AT TOP OF BLEACHERS

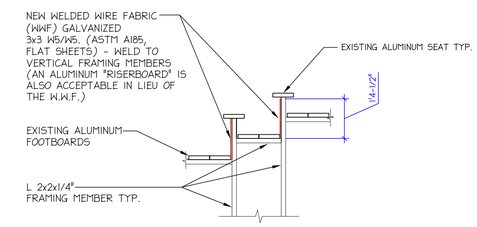
N.T.S.

LEGEND

EXISTING ITEMS/CONSTRUCTION

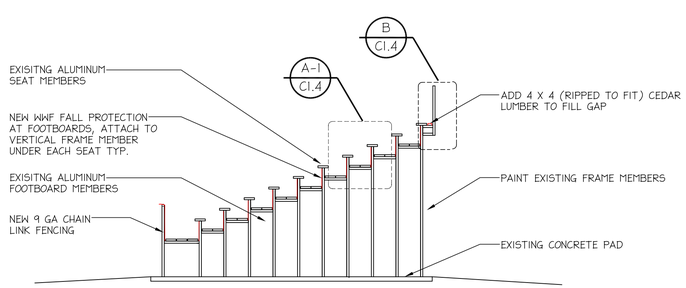
NEW ITEMS/CONSTRUCTION

ITEMS TO REMOVE/DEMO



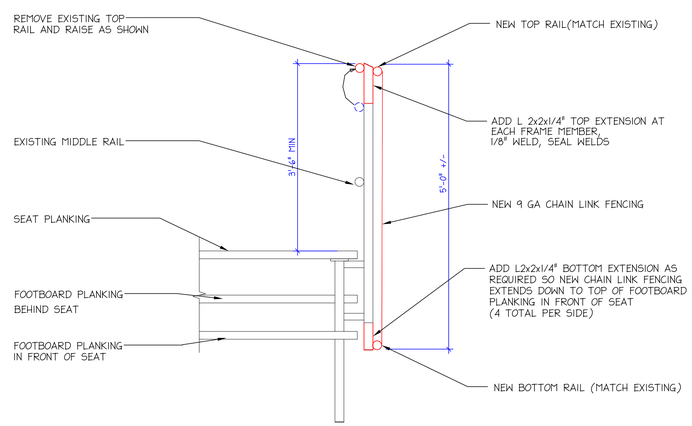
A-1 C1.4 FALL PROTECTION AT FOOTBOARDS

N.T.S.



A C1.4 BLEACHER CROSS SECTION

N.T.S.



C C1.4 RAILING AT SIDE OF BLEACHERS

N.T.S.

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BLEACHER RENOVATIONS

DATE: 03/09/2012	REV.: 0	DRAWING NO. 300-C1.4
SCALE: AS SHOWN		