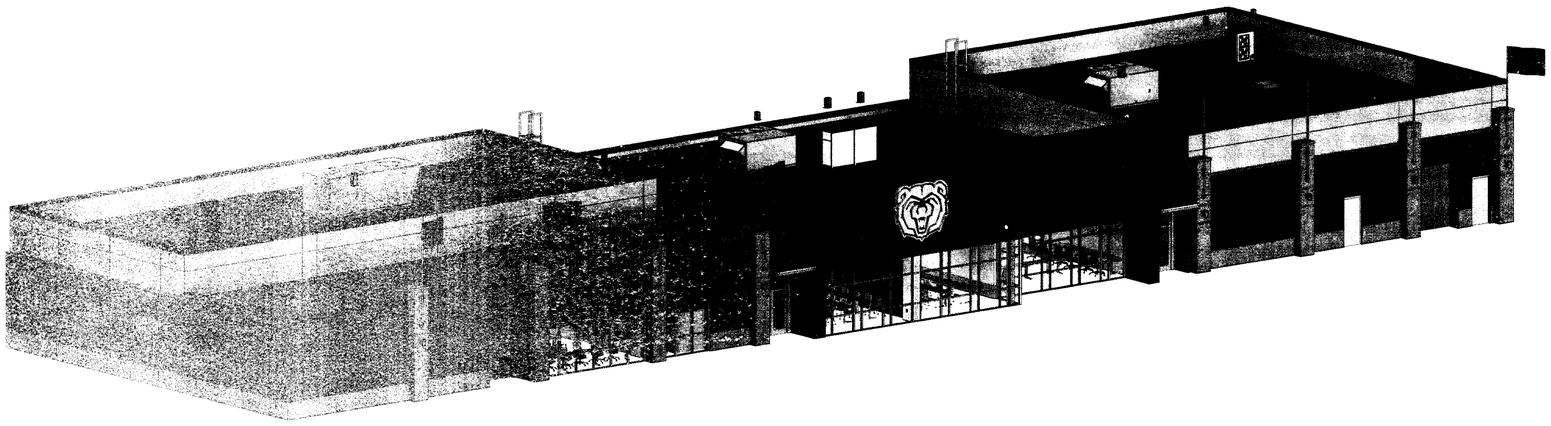
MSD OF LAWRENCE TOWNSHIP
LC EXTERIOR FACILITY UPGRADES - Bid Package 2

2015-121.LCS

7300 E. 56th Street
Indianapolis, IN 46226



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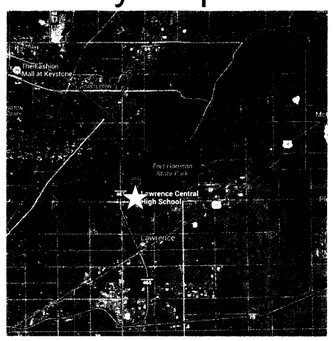
A-948	RAMP DETAILS
A-949	RAMP DETAILS

General Notes

Verify dimensions and conditions in the field as work progresses. Notify Architect of any discrepancies or inaccuracies. Field measurements shall control over dimensions indicated on the Drawings. Do not scale drawings. Contractor shall coordinate all work with that of other trades and shall provide all cutting, fitting, and patching required to complete the Work and to make its several parts fit together properly. Contractor shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other Contractor without the consent of the Architect and affected Contractor.
Each Contractor shall verify in the field all existing conditions, dimensions and elevations affecting the Contractor's work as shown on the Drawings. Any discrepancy shall be brought to the attention of the Architect prior to start of construction.
Each Contractor shall be responsible for coordination of its trade work with all other trades affected by its work. Each Contractor shall assume responsibility for any and all damage to other work caused by its operations and shall repair or replace damaged work to the satisfaction of the Owner.
Each Contractor shall refer to the Project Manual for cleaning and disposal requirements.
Each Contractor shall be responsible for the protection of all surfaces and finishes at interior and exterior of building. Damaged surfaces and finishes resulting from the performance of the Work shall be repaired at no cost to the Owner by the responsible Contractor to match existing to the satisfaction of the Owner.
Each Contractor shall coordinate respective cutting and patching Work with the other Prime Contracts.
Each Contractor shall become completely familiar with all aspects of the Work, even those areas designated to be provided by others. This familiarization includes full and complete understanding of the Work described on all Sheets of the Drawings and in all Sections of the Project Manual. Failure by the Contractor to become completely familiar and cognizant of all aspects of the Work shall not relieve the Contractor of the responsibility to provide materials, assemblies, or services indicated in the Contract Documents.

Vicinity Map



Thoroughfare Map

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RTM CONSULTANTS, INC.

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04.18.2016

2015-121.LCS

MSD OF LAWRENCE TOWNSHIP
LC EXTERIOR FACILITY UPGRADES - Bid Package 2

G-000

LIFE SAFETY PLAN LEGEND

Room name
101
AREA: 150 SF
Occupancy
Load: ##
# of Exits: #

EGRESS INFORMATION TAG

(L) LOCK BOX

(A) ANNUNCIATOR PANEL

(HC) FIRE HOSE CABINET

FIRE EXTINGUISHER (NOT REQUIRED)

NON-RATED INCIDENTAL-USE WALL [508.2.2.1]

1-HOUR FB RATED WALL

2-HOUR FB RATED WALL

4-HOUR FB RATED WALL

1-HOUR FIRE PARTITION [419, 1017.1]

CODE SUMMARY

End Zone Building

Applicable Code:	2014 Indiana Building Code (IBC)
Occupancy Classifications:	Educational use areas for high school students - E Occupancy [305.1]
Construction Type:	Type VB (combustible, unprotected) Construction permitted based upon allowable area for Group E Occupancies [503.1]
Allowable Area:	Tabular Area: 9,500 sf [Table 503] Sprinkler Increase: 28,500 sf [506.3] Frontage Increase: + 7,125 sf [506.2] Allowable Area: 45,125 sf Actual Area: 16,800 sf
Occupancy Separations:	Occupancy separations not required, based upon classification of the entire structure as Group E Occupancy [305.1]
Building Elements - Fire Resistive Requirements:	Building elements, including structural frame, bearing walls, and roof are permitted to be of combustible, unprotected construction. [Table 601] Exterior walls are nonrated, noncombustible, since having at least 10 feet of fire separation distance [Table 602]
Incidental Use Separation:	Laundry [Table 509]
Means of Egress:	2 means of egress are required from rooms with a calculated occupant load of 50 or more, or where exceeding 75 feet common path of travel in E Occupancy spaces and 100 feet in B Occupancy spaces [1015.1]
Exit Travel Distance:	The maximum travel distance to an exterior exit is permitted to be a maximum of 250 feet. [Table 1016.1]
Panic Hardware:	Panic hardware is required on all new means of egress doors serving an occupant load of 50 or more [1008.1.10]
Egress Corridors:	Egress corridors are not required to be rated based upon automatic sprinkler protection [1018.1]
Automatic Sprinklers:	Automatic sprinklers are required based upon an E Occupancy fire area of more than 12,000 square feet [903.2.3]
Fire Alarm System:	Fire alarm system required based upon an occupant load of 50 or more - manual pull stations are not required based upon initiation by sprinkler water flow [907.2.3]
Smoke Detectors:	Smoke detectors are required for HVAC shutdown for systems delivering in excess of 2,000 cfm. [606.1, IMC]

Concession Buildings (2)

Occupancy Classification:	Concession and rest rooms - B Occupancy [304.1]
Construction Type and Allowable Area:	Type VB Construction permitted based upon an allowable area of 9,000 sq ft [Table 503] Actual area is approximately 2,000 sq ft
Building Elements:	Building elements are permitted to be of nonrated combustible construction [Table 601]
Incidental Use Separations:	None applicable [Table 509]
Automatic Sprinklers:	Not required [903.2.3]
Fire Alarm System:	Not required [907.2.2]

Press Box (delegated design - to be submitted separately)

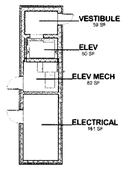
Occupancy Classification:	Press box - B Occupancy [304.1]
Construction Type and Allowable Area:	Type VB Construction permitted based upon an allowable area of 9,000 sq ft [Table 503] Actual area is approximately 660 sq ft
Building Elements:	Building elements are permitted to be of nonrated combustible construction [Table 601]
Incidental Use Separations:	None applicable [Table 509]
Automatic Sprinklers:	Not required [903.2.3]
Fire Alarm System:	Not required [907.2.2]

Ticket Booth (2 structures)

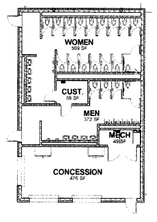
Occupancy Classification:	Ticket booth - B Occupancy [304.1]
Construction Type and Allowable Area:	Type VB Construction permitted based upon an allowable area of 9,000 square feet [Table 503] Actual area is 80 square feet
Building Elements:	Building elements are permitted to be of nonrated combustible construction [Table 601]
Incidental Use Separations:	None applicable [Table 509]
Automatic Sprinklers:	Not required [903.2.3]
Fire Alarm System:	Not required [907.2.2]

Elevator-Electrical Building

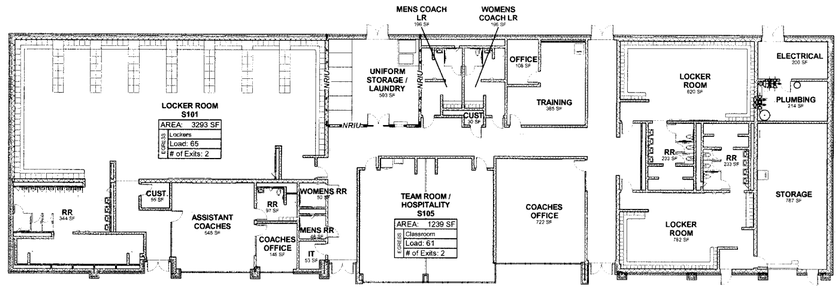
Occupancy Classification:	Accessory functions serving outdoor bleachers - B Occupancy [304.1]
Construction Type and Allowable Area:	Type VB Construction permitted based upon an allowable area of 9,000 square feet [Table 503] Actual area is 483 square feet
Building Elements:	Building elements are permitted to be of nonrated combustible construction [Table 601]
Incidental Use Separations:	None applicable [Table 509]
Elevator Hoistway Rating:	Not required - elevator has 2 stops and provides access from grade up to the exterior platform level of the bleachers [112.1.8]
Automatic Sprinklers	Not required [903.2]
Fire Alarm System:	Not required [907.2.2]
Fire Hydrant:	Fire hydrant required within 400 feet of each building [508.5.1, IFC - Sec. 581-400, MCFPC]
Fire Extinguishers:	Fire extinguishers required [Sec. 581-402, MCFPC]



3C **ELEVATOR FIRST FLOOR FIRE & LIFE SAFETY PLAN - UNIT D**
1/16" = 1'-0"



3B **CONCESSION BUILDING FIRST FLOOR FIRE & LIFE SAFETY PLAN - UNIT B&C**
1/16" = 1'-0"



3A **END ZONE BUILDING FIRST FLOOR FIRE & LIFE SAFETY PLAN - UNIT A**
1/16" = 1'-0"

SCHMIDT ASSOCIATES
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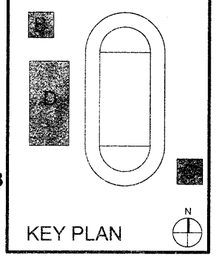
Project No. 2015-121.LCS
Project Date 04.18.2016
Produced BGB

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226



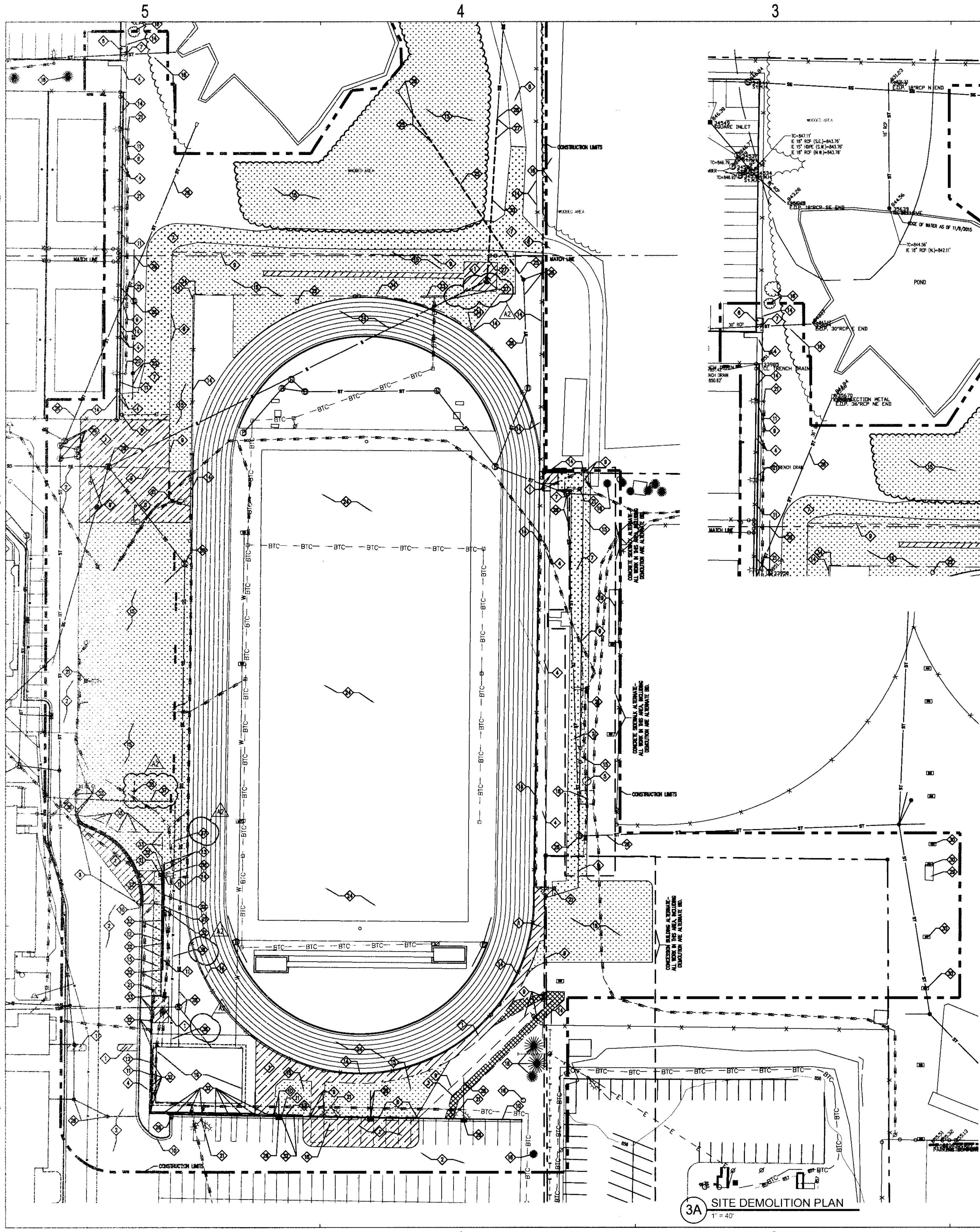
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR FIRE & LIFE SAFETY PLAN

G-001



2C ENLARGED SITE DEMOLITION PLAN
1" = 40'

3A SITE DEMOLITION PLAN
1" = 40'

DEMOLITION NOTES

1. THE OWNER WILL REMOVE ALL SITE FURNISHINGS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL MATERIALS INDICATED ON THE PLAN. GENERALLY, DEMOLITION AREAS AND FACILITIES ARE INDICATED WITH BOLD LINES, SHADED AREAS AND/OR KEY NOTES.
3. DISPOSAL OF ALL DEMOLITION MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE STATE AND FEDERAL GUIDELINES AND PROCEDURES.
4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING FEATURES ALONG THE PERIMETER OF THE SITE. THESE FEATURES INCLUDE, BUT ARE NOT LIMITED TO: BUILDINGS, PAVEMENTS, FENCES, VEGETATION, UNDERGROUND UTILITIES, ABOVE GROUND UTILITIES, PROPERTY MARKERS, ETC. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE WHICH OCCURS DURING OR AS A RESULT OF CONSTRUCTION ACTIVITY. REPLACEMENT OF DAMAGED PROPERTY OR FEATURES SHALL BE EQUAL TO EXISTING CONDITIONS.
5. FOLLOWING THE REMOVAL OF INDICATED NATURAL FEATURES AND SITE IMPROVEMENTS, AND FOLLOWING THE COMPLETION OF EARTHWORK AS INDICATED ON THE GRADING PLAN, CONTRACTOR SHALL SUPPLY AND INSTALL TOPSOIL FILL IN ALL PROPOSED PLANTING AREAS TO THE GRADES INDICATED ON THE GRADING PLAN, AND IN ACCORDANCE WITH THE EARTHWORK SPECIFICATIONS.
6. ALL TREES, BRUSH, STUMPS, AND GRUBBING DEBRIS SCHEDULED FOR DEMOLITION SHALL BE REMOVED FROM THE SITE.
7. ALL TOPSOIL IN AREAS SUBJECT TO CONSTRUCTION SHALL BE STRIPPED AND STOCKPILED FOR REPLACEMENT DURING FINISH GRADING.
8. CURRENT FIELD CONDITIONS MAY VARY SOMEWHAT FROM THOSE INDICATED ON THIS PLAN. THE INFORMATION SHOULD NOT BE CONSIDERED AS EXACT OR COMPLETE.
   - 8.1. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITY LINE LOCATIONS PRIOR TO CONSTRUCTION. CONTACT THE INDIANA UNDERGROUND UTILITY PLANT PROTECTION SERVICE AT 1-800-382-5540 OR DIAL 811 (INDIANA). A PRIVATE UTILITY LOCATION SERVICE MAY BE REQUIRED IN AREAS NOT COVERED BY IUPPS.
   - 8.2. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OR RESUMPTION OF WORK THAT COULD POTENTIALLY DISRUPT THE RESPECTIVE UTILITY SERVICE OF INFRASTRUCTURE.
   - 8.3. UNLESS NOTED OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE RELOCATION OF ALL EXISTING UTILITIES WHICH ARE IN CONFLICT WITH THE PROPOSED SITE IMPROVEMENTS.
   - 8.4. ANY DAMAGE TO EXISTING UTILITY LINES SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

DEMOLITION LEGEND

- SAW CUT AND REMOVE CONCRETE.
- SAW CUT AND REMOVE ASPHALT.
- REMOVE EXISTING TURF.
- SAW CUT AND REMOVE CONCRETE CURB.
- SAW CUT AND REMOVE STONE DRIVE.
- CONSTRUCTION LIMITS LINE
- UTILITY TO BE REMOVED

GENERAL NOTES

1. REFERENCE C-001 FOR GENERAL DEMOLITION PLAN NOTES.
2. SEE ELECTRICAL STIE PLAN, FOR ALL ELECTRICAL, PHONE AND TECHNOLOGY DEMOLITION WORK.
3. NOT ALL NOTES MAY APPLY TO THIS SHEET.
4. USE CAUTION NOT TO DAMAGE UTILITIES AND FEATURES TO REMAIN.
5. PROTECT EXISTING IRRIGATION SYSTEM. REPAIR IF DAMAGED.

NOTE: WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ALL DEMOLITION REQUIRED, THE CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID TO FULLY UNDERSTAND WHAT ITEMS ARE IN THE WAY OF NEW CONSTRUCTION. ONLY THOSE ITEMS UNDERGROUND AND NOT INDICATED ANYWHERE IN CONTRACT DOCUMENTS WILL BE CONSIDERED UNFORSEEN CONDITIONS. CHANGE ORDERS WILL NOT BE ISSUED FOR VISIBLE ITEMS.

DEMOLITION KEY NOTES

1. SAW CUT AND REMOVE EXISTING ASPHALT PAVEMENT.
2. EXISTING ASPHALT PAVEMENT TO REMAIN. REPAIR IF DAMAGED.
3. SAW CUT AND REMOVE EXISTING CONCRETE PAVEMENT.
4. EXISTING CONCRETE PAVEMENT TO REMAIN. REPAIR IF DAMAGED.
5. REMOVE EXISTING SITE ELEMENT. COORDINATE NEW LOCATION WITH OWNER.
6. SAW CUT AND REMOVE EXISTING CONCRETE CURB.
7. REMOVE EXISTING STONE MULCH.
8. EXISTING STONE DRIVE TO REMAIN.
9. REMOVE EXISTING FENCE/GATE.
10. EXISTING CURB TO REMAIN. PROTECT DURING CONSTRUCTION.
11. EXISTING TRENCH DRAIN TO REMAIN. PROTECT DURING CONSTRUCTION.
12. EXISTING RETAINING WALL TO REMAIN. PROTECT DURING CONSTRUCTION.
13. REMOVE PORTION OF TRENCH DRAIN AND GRATE.
14. EXISTING FENCE/GATE TO REMAIN. REPAIR IF DAMAGED.
15. REMOVE EXISTING TURF, TREES, SHRUBS AND ROOT SYSTEM.
16. PROTECT EXISTING TREES TO REMAIN.
17. EXISTING FIRE HYDRANT TO REMAIN. PROTECT DURING CONSTRUCTION.
18. REMOVE EXISTING BUILDING (DEMO/MOVE).
19. EXISTING BUILDING TO REMAIN. PROTECT DURING CONSTRUCTION
20. REMOVE EXISTING LIGHT FIXTURE, POLE AND BASE.
21. EXISTING LIGHT STRUCTURE TO REMAIN. PROTECT DURING CONSTRUCTION.
22. REMOVE AND RELOCATE EXISTING FLAG POLE.
23. EXISTING SCOREBOARD TO REMAIN. PROTECT DURING CONSTRUCTION. RELOCATE SCOREBOARD AS ALTERNATE.
24. FIELD AND TRACK TO REMAIN. PROTECT DURING CONSTRUCTION.
25. REMOVE EXISTING STORM PIPE OR STRUCTURE. CAP THE END OF REMOVAL.
26. EXISTING STORM STRUCTURE/PIPE TO REMAIN. PROTECT DURING CONSTRUCTION. ADJUST THE TOP ELEVEATION PER GRADING PLAN.
27. REMOVE EXISTING SANITARY PIPE OR STRUCTURE.
28. EXISTING SANITARY STRUCTURE/PIPE TO REMAIN. PROTECT DURING CONSTRUCTION. ADJUST THE RIM ELEVATION PER GRADING PLAN.
29. IRRIGATION PIT TO BE RELOCATED PER OWNERS REQUEST.
30. ADJUST HEIGHTS AND LOCATIONS OF IRRIGATION HEADS PER OWNERS REQUEST.
31. REMOVE EXISTING TRENCH DRAIN.
32. REMOVE EXISTING FENCE. KEEP THE BOTTOM PORTION OF FENCE POST TO SET NEW FENCE/RAIL.
33. REMOVE EXISTING FENCE AND FENCE POST.
34. EXISTING FENCE TO REMAIN AS BASE BID. REMOVE THE FENCE AND INSTALL A NEW ORNAMENTAL FENCE AS ALTERNATE.

A2

35. CUT, CAP, AND ABANDON EXISTING 2" WATER LINE TO GRANDSTAND.
36. EXISTING WATER LINE TO REMAIN. PROTECT DURING CONSTRUCTION.
37. REMOVE EXISTING WATER LINE.

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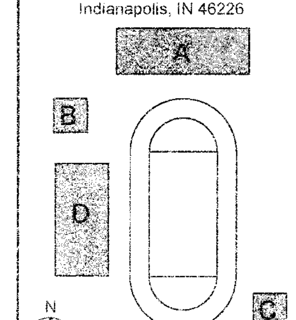
Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE DEMOLITION PLAN

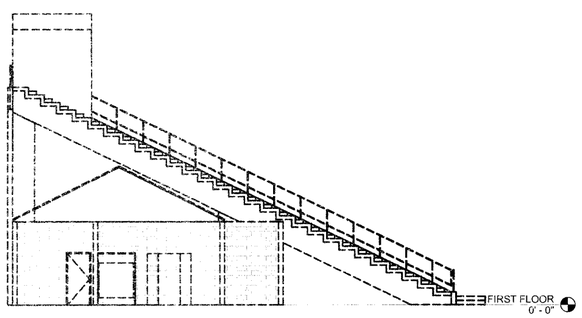
CD101

General Demolition Notes

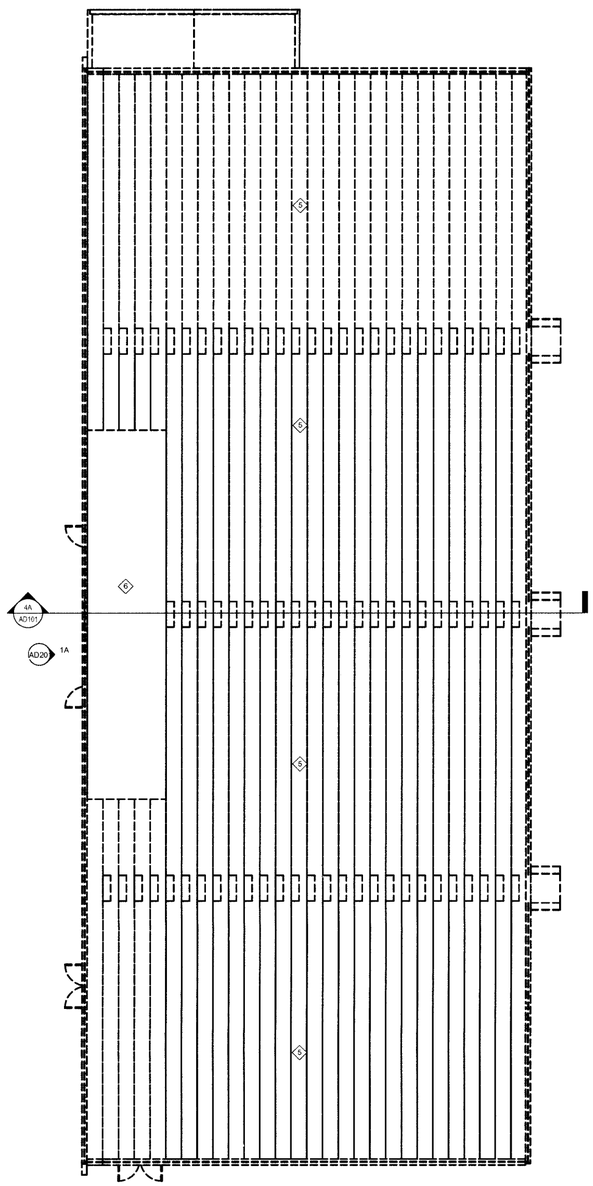
1. Demolition Scope: Contractor is responsible for the complete demolition of the grandstand, pressbox, locker rooms/support spaces, restrooms, and work required or noted for installation of new work. Drawings are intended to be conceptual representation of the existing conditions.
2. VIF Conditions: Contractor shall field-verify all existing conditions, dimensions, and arrangements.
3. Protection: Contractor is responsible for protection of all existing surfaces, materials, and components to remain or be relocated. Damage to these resulting from performance of Work shall be repaired by Contractor to satisfaction of Owner and Architect at no additional expense to Owner.
4. Dust Control: Contractor shall provide temporary dust protection as required to prevent construction debris and dust from migrating out of Project Area. Owner/Architect shall confirm all dust prevention measures/locations and shall determine changes to these measures.
5. Owner's First Right of Refusal: All existing equipment and fixtures shall remain property of Owner. All reusable items salvaged during demolition operations shall be retained for Owner's inspection. Only items so inspected and rejected by Owner shall be disposed. All other such items shall be turned over to Owner for disposition.
6. Owner Responsibility: Owner will be responsible for removal/rearrangement of all existing loose furnishings during construction, unless noted otherwise.
7. Pipe Capping: Cap all piping to remain or abandoned in accordance with requirements of authority having jurisdiction and in accordance with all local and state plumbing and health codes. Utilize only pre-manufactured and approved fittings to cap existing piping.
8. Demolition Coordination: Coordinate all demolition with project sequencing as directed by the Bid Package 2 contractor.

5.4.095 - DEMOLITION PLAN NOTES

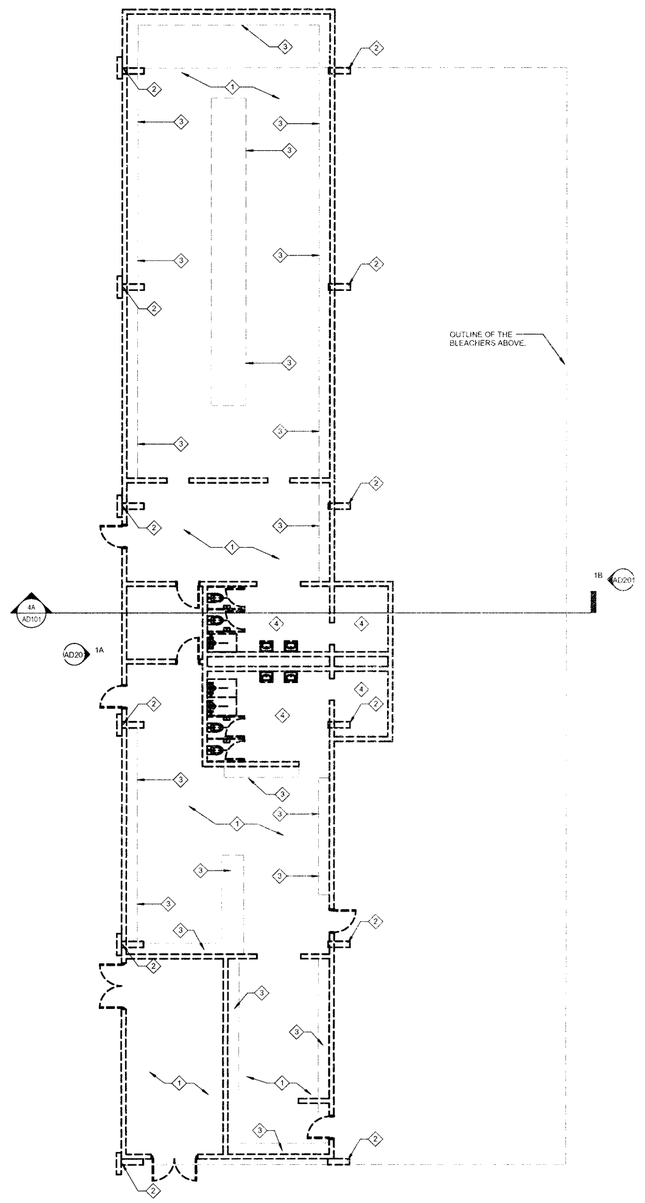
KEY	NOTE
1	REMOVE EXISTING INTERIOR/EXTERIOR WALLS, DOORS & FRAMES, WINDOWS, FIXTURES, EQUIPMENT, SPECIALTIES, MECHANICAL, PLUMBING, ELECTRICAL & TELECOMM WORK, AND FINISHES.
2	REMOVE EXISTING STRUCTURE, INCLUDING COLUMNS, BEAMS, FOOTINGS, AND BELOW GRADE DRAINAGE.
3	REMOVE EXISTING LOCKERS, CURBS, AND BENCHES.
4	REMOVE EXISTING PLUMBING FIXTURES, PIPING, AND ACCESSORIES.
5	REMOVE EXISTING PRECAST CONCRETE BLEACHERS, STAIRS, AND RAILINGS. REMOVE METAL SEATS AND ASSOCIATED HARDWARE.
6	REMOVE EXISTING PRESSBOX IN ITS ENTIRETY.



4A Section 1
1/8" = 1'-0"



3A DEMOLITION SEATING PLAN
1/8" = 1'-0"



1A DEMOLITION FIRST FLOOR PLAN
1/8" = 1'-0"

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Project No. 2015-121.LCS
Project Date 03.28.2016
Produced BGB

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
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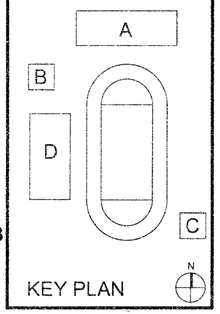


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

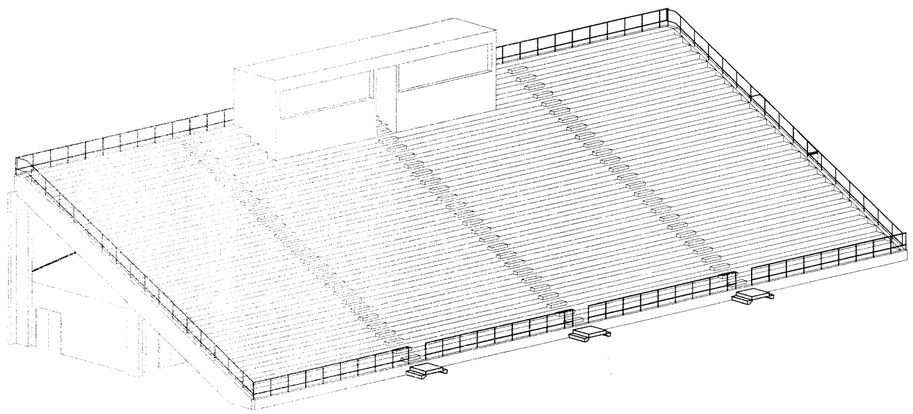
LC EXTERIOR FACILITY UPGRADES - BP1

DEMOLITION FLOOR PLANS

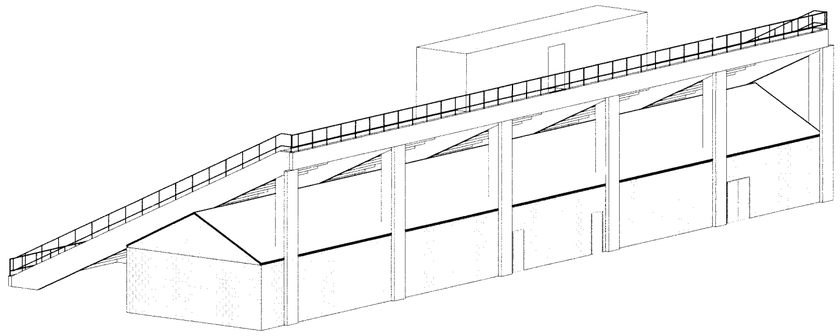
AD101

General Demolition Notes

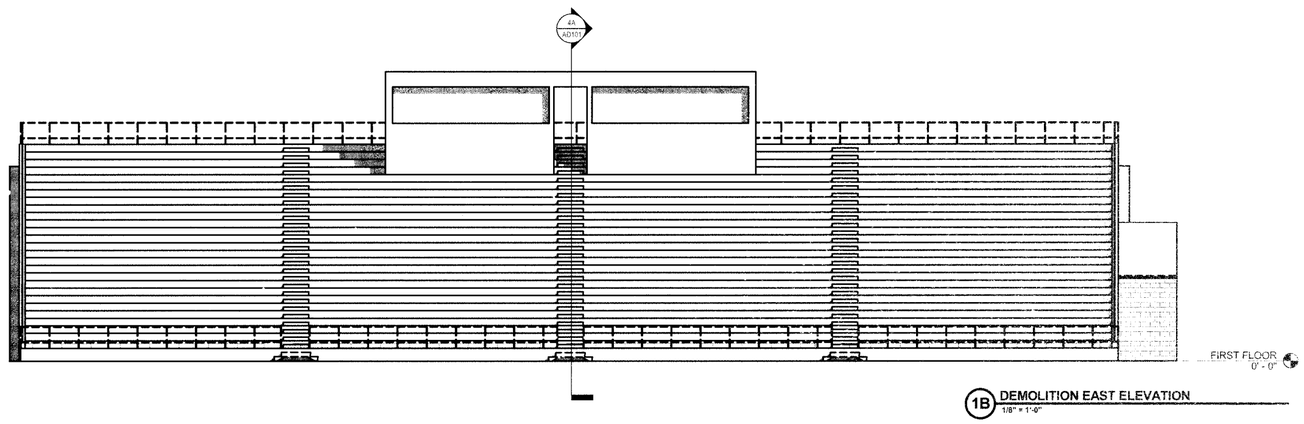
1. Demolition Scope: Contractor is responsible for the complete demolition of the grandstand, pressbox, locker rooms/support spaces, restrooms, and work required or reqired for installation of new work. Drawings are intended to be conceptual representation of the existing conditions.
2. VIF Conditions: Contractor shall field-verify all existing conditions, dimensions, and arrangements.
3. Protection: Contractor is responsible for protection of all existing surfaces, materials, and components to remain or be relocated. Damage to these resulting from performance of Work shall be repaired by Contractor to satisfaction of Owner and Architect at no additional expense to Owner.
4. Dust Control: Contractor shall provide temporary dust protection as required to prevent construction debris and dust from migrating out of Project Area. Owner/Architect shall confirm all dust prevention measures/locations and shall determine changes to these measures.
5. Owner's First Right of Refusal: All existing equipment and fixtures shall remain property of Owner. All reusable items salvaged during demolition operations shall be retained for Owner's inspection. Only items so inspected and rejected by Owner shall be disposed. All other such items shall be turned over to Owner for disposition.
6. Owner Responsibility: Owner will be responsible for removal/rearrangement of all existing loose furnishings during construction, unless noted otherwise.
7. Pipe Capping: Cap all piping to remain or abandoned in accordance with requirements of authority having jurisdiction and in accordance with all local and state plumbing and health codes. Utilize only pre-manufactured and approved fittings to cap existing piping.
8. Demolition Coordination: Coordinate all demolition with project sequencing as directed by the Bid Package 2 contractor.



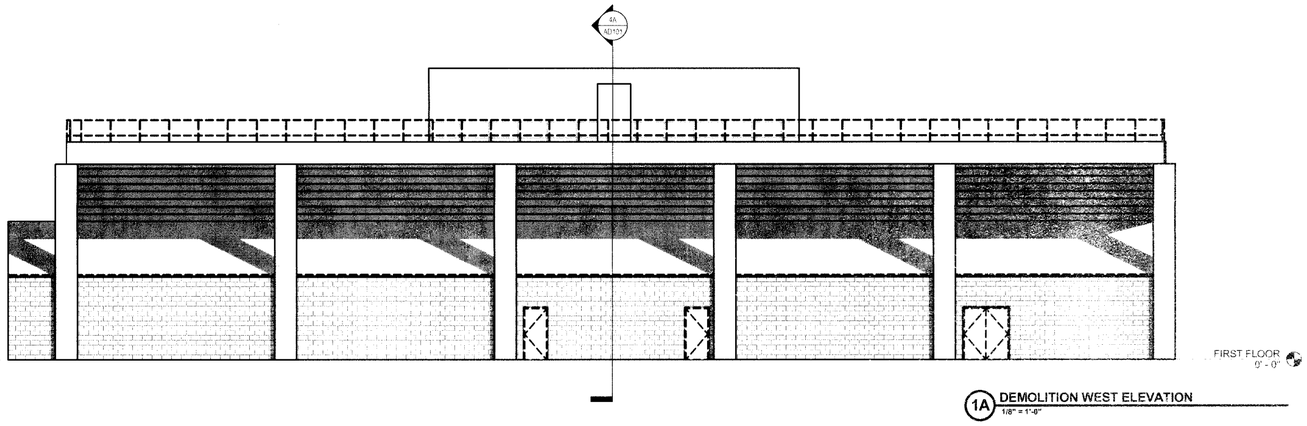
6E OVERALL PERSPECTIVE



4D OVERALL PERSPECTIVE STREET SIDE



1B DEMOLITION EAST ELEVATION
1/8" = 1'-0"



1A DEMOLITION WEST ELEVATION
1/8" = 1'-0"

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Project Date: 03.28.2016
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WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
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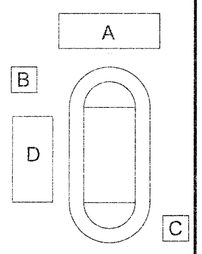

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP1

DEMOLITION ELEVATIONS & SECTIONS

AD201

6 5 4 3 2 1

DESIGN CRITERIA

1. DESIGN STANDARDS: The intended design standards and/or criteria are as follows:

General	The 2014 Indiana Building Code (2012 International Building Code (IBC) with Indiana Amendments)
Concrete	ACI 318
Masonry	ACI 530
Steel	AISC Manual, Allowable Stress Design (ASD)
Steel Joists	Steel Joist Institute
Steel Deck	Steel Deck Institute
Cold-Formed Metal	AISI-ASD

All referenced standards and codes, as well as ASTM numbers are for the latest editions of these publications unless otherwise noted.

2. DEAD LOADS: Gravity Dead Loads used in the design of the structure are as computed for the materials of construction incorporated into the building, including but not limited to walls, floors, ceilings, stairways, fixed partitions, finishes, cladding and other similar architectural and structural items, as well as mechanical, electrical and plumbing equipment and fixtures, and material handling and fired service equipment, including the weight of cranes.

7. COLLATERAL LOAD: Unless otherwise noted, a minimum uniform collateral load of 10 PSF has been used to account for ductwork, ceilings, sprinklers, lighting, etc. The collateral load is in addition to the weight of mechanical units, larger piping (greater than 4" diameter) and suspended fixtures or equipment that have been specifically accounted for in the design.

8. COLLATERAL LOAD ABOVE CORRIDORS & MECHANICAL ROOMS: A minimum uniform collateral load of 20 PSF has been used to account for large ductwork, sprinkler mains, concentrations of piping, and electrical distribution above corridors and mechanical rooms. The collateral load is in addition to the weight of mechanical units and larger piping (greater than 4" diameter) and suspended fixtures or equipment that have been specifically accounted for in the design.

9. CONCENTRATED LOADS

All single panel points of the lower chord of exposed roof trusses at any point along the primary structural members supporting roofs shall be capable of carrying safely a suspended concentrated load of not less than 2000 LBS in addition to dead load.

11. ROOF LIVE/SNOW LOADS: Gravity Live Loads used in the design of the roof structure meet or exceed the following table:

A. Snow load

Ground Snow load, Pg	20 PSF
Flat Roof Snow Load, Pf	22 PSF
Exposure Factor, Ce	1.0
Risk Category (IBC Table 1604.5)	II
Snow Importance Factor, Is	1.00
Thermal Factor, Ct	1.0

B. Minimum Roof Live Load 20 PSF

C. Overhang Eaves & Projections 60 PSF

1. Sloped roof snow loads calculated in accordance with Section 7.4, ASCE 7.
2. Unbalanced roof snow loads calculated in accordance with Section 7.6, ASCE 7. Specialty Structural Engineers must consider unbalanced snow loads in the design of pre-engineered trusses, frames, skylights, curtain walls, cold-formed metal framing, canopies, etc.
3. Drift loads calculated in accordance with Section 7.7, ASCE 7.
4. Roofs used for roof gardens or assembly purposes have been designed for a minimum live load of 100 PSF.

12. LATERAL LOADS: Lateral loads were computed using the following criteria:

A. Wind Load

Ultimate Design Wind Speed, Vult	115 MPH
Nominal Design Wind Speed, Vasd	89 MPH
Wind Exposure Category	C
Risk Category (IBC Table 1604.5)	II
Internal Pressure Coefficient, GCpi	±0.18

B. Seismic Load

Site Classification	C
Risk Category (IBC Table 1604.5)	II
Seismic Importance Factor, Ie	1.00
Mapped Spectral Response Acceleration, Ss	0.148g
Mapped Spectral Response Acceleration, S1	0.082g
Design Spectral Response Acceleration, Sds	0.158g
Design Spectral Response Acceleration, Sd1	0.131g
Seismic Design Category (SDC)	B
Response Modification Coefficient, R	2
Analysis Procedure	Equivalent Lateral Force
Base Seismic Force-Resisting System (ASCE 7-10, Table 12.2-1)	Ordinary reinforced masonry shear walls

14. SAFETY FACTORS: This structure has been designed with "Safety Factors" in accordance with accepted principles of structural engineering. The fundamental nature of the "Safety Factor" is to compensate for uncertainties in the design, fabrication, and erection of structural building components. It is intended that "Safety Factors" be used such that the load-carrying capacity of the structure does not fall below the design load and that the building will perform under design load without distress. While the use of "Safety Factors" implies some excess capacity beyond design load, such excess capacity cannot be adequately predicted and SHALL NOT BE RELIED UPON.

16. UPLIFT DESIGN CRITERIA: Joist and deck connections shall be capable of resisting the following NET wind uplift pressures.

WIND UPLIFT NET PRESSURE TABLE

HEIGHT	FIELD PRESSURE	PERIMETER PRESSURE
ALL HEIGHTS	25 PSF	30 PSF

NOTE: PERIMETER PRESSURE APPLIES BETWEEN ALL EXTERIOR WALLS AND 10 IN FROM THE EXTERIOR WALLS.

CAST IN PLACE CONCRETE

1. Details of fabrication of reinforcement, handling and placing of the concrete, construction of forms and placement of reinforcement not otherwise covered by the Plans and Specifications, shall comply with the ACI Code requirements of the latest revised date.
2. Cold weather concreting shall be in accordance with ACI 306. Cold weather is defined as a period when for more than 3 successive days the average daily air temperature drops below 40F and stays below 50F. The Contractor shall maintain a copy of this publication on site.
3. Hot weather concreting shall be in accordance with ACI 305. Hot weather is defined as any combination of the following conditions that tends to impair the quality of the freshly mixed or hardened concrete: high ambient temperature, high concrete temperature, low relative humidity, wind speed, or solar radiation. The Contractor shall maintain a copy of this publication on site.
4. A certified Testing Agency shall be retained to perform industry standard testing including measurement of slump, air temperature, concrete cylinder testing, etc. to ensure conformance with the Contract Documents. Submit reports to Architect/Engineer.
5. Finishing of Slabs: After screeding, bull floating and floating operations have been completed, apply final finish as indicated below, and as described in the Division 3 Cast in Place Concrete Specification of the Project Manual.

A. Floor Slabs	Hard Trowel Finish
B. Ramps, Stairs, & Sidewalks	Broom Finish
C. Surfaces to Receive Topping Slab	Float Finish
D. Surfaces to receive thick-set mortar beds or similar cementitious materials	Float Finish
E. Driving Surfaces	Rough Swirl Finish

Sample Finishes: See Specifications for sample and mockup requirements, if any.

Floor Tolerances: See the Specifications for specified Ff and Fl tolerances. Ff and Fl testing shall be performed by the Testing Agency in accordance with ASTM E1155. Results, including acceptance or rejection of the work will be provided to the Contractor and the Architect/Engineer within 48 hours after data collection. Remedies for out-of-tolerance work shall be in accordance with the Specifications. When approved by the Structural Engineer of Record, measurement of the gaps beneath a 10-foot straight edge may be used in lieu of Ff and Fl testing. Approval must be obtained in writing prior to the beginning of concrete operations.

6. Finishing of Formed Surfaces: Finish formed surfaces as indicated below and as described in the Division 3 Cast In Place Concrete Specification of the Project Manual.

A. Sides of Footings	Rough Form Finish
B. Sides of Grade Beams	Rough Form Finish
C. Surfaces not exposed to public view	Rough Form Finish
D. Surfaces exposed to public view	Smooth Form Finish

7. The Contractor shall consult with the Structural Engineer of Record before starting concrete work to establish a satisfactory placing schedule and to determine the location of construction joints so as to minimize the effects of shrinkage in the floor system.
8. Sawn or tooled control/contraction joints shall be provided in all slabs on grade. For a framed structure joints shall be located on all column lines. If the column spacing exceeds 20'-0", provide intermediate joints. Exterior slabs, and interior slabs without column shall have joints spaced a maximum of 15'-0" apart. Layout joints so that maximum aspect ratio (ratio of long side to short side) does not exceed 1.5.
9. Where vinyl composition tile, vinyl sheets goods, thin-set epoxy terrazzo, or other similar material is the specified finish floor material, the Contractor shall coordinate the locations of control/contraction and construction joints with the Finish Flooring Contractor. Submit a dimensioned plan showing joint locations and proposed sequence of floor pours.
10. Unless specifically noted on the Plans, composite and non-composite supported slabs on metal deck and supported cast-in-place concrete slabs do not require sawn control joints.
11. Joints in slabs to receive a finished floor may remain unfilled, unless required by the finish flooring contractor. All exposed slabs shall be filled with sealant specified in Division 7, or as follows: All slabs in industrial, manufacturing, or warehouse applications subject to wheeled traffic shall be filled with specified epoxy resin sealant; all other joints shall be filled with specified elastomeric sealant. Defer filling of joints as long as possible, preferably a minimum of 4 to 6 weeks after the slab has been cured. Prior to filling, remove all debris from the slab joints; the fill in accordance with the manufacturer's recommendations.
12. Refer to the Architectural Drawings for locations and details of reveals (1" maximum depth) in exposed walls.
13. Refer to the Architectural Drawings for chamfer requirements for corners of concrete. Where not indicated, provide 3/4" chamfers on exposed corners of concrete, except those abutting masonry.
14. Refer to the Architectural Drawings for exact locations and dimensions of recessed slabs, ramps, stairs, thickened slabs, etc. Slope slabs to drains where shown on the Architectural and Plumbing Drawings.
15. Sidewalks, drives, exterior retaining walls, and other site concrete are not indicated on the Structural Drawings. Refer to the Site/Civil and Architectural Drawings for locations, dimensions, elevations, jointing, and finish details.

CONCRETE MIX CLASSES

CLASS A CONCRETE: FOOTINGS, FOUNDATION WALLS, PIERS, & GRADE BEAMS	
COMPRESSIVE STRENGTH	4000 PSI
MAXIMUM WATER/CEMENT RATIO	0.45
AIR CONTENT	0 - 3 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	5" TO 6 1/2"
CLASS B CONCRETE: INTERIOR CONCRETE SLABS & SLABS ON METAL DECK	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	517 LB/CU YD
AIR CONTENT	0 - 3 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	5" TO 6 1/2"
CLASS E CONCRETE: EXTERIOR CONCRETE SUBJECT TO FREEZE-THAW	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	564 LB/CU YD
AIR CONTENT	6 ± 1 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	5" TO 6 1/2"
COARSE AGGREGATE	CRUSHED STONE
INCREASE COMPRESSIVE STRENGTH TO 4500 PSI FOR EXTERIOR REINFORCED CONCRETE SUBJECT TO THE USE OF DE-ICERS.	
CLASS LW CONCRETE: LIGHTWEIGHT CONCRETE SUSPENDED SLABS	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	650 LB/CU YD
AIR CONTENT	6 ± 1 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	5" TO 6 1/2"
LIGHTWEIGHT AGGREGATE MUST BE PRE-SOAKED TO SATURATED-SURFACE-DRY (SSD) CONDITION PRIOR TO MIXING.	
CLASS LC CONCRETE: LEAN CONCRETE FILL	
COMPRESSIVE STRENGTH	2000 PSI
MAXIMUM WATER/CEMENT RATIO	0.65
AIR CONTENT	OPTIONAL
WATER-REDUCING ADMIXTURE	NOT REQUIRED
SLUMP	4" TO 7"
THE CONTRACTOR SHALL CONSIDER THE EFFECTS OF CAMBER AND TOLERANCE ON THE MINIMUM TOPPING THICKNESS AND LIMIT THE SIZE OF LARGE AGGREGATE ACCORDINGLY.	

1. SLUMP
   MIXES CONTAINING TYPE A WRDA 5" MAXIMUM
   MIXES CONTAINING MID-RANGE WRDA 5 - 6 1/2"
   MIXES CONTAINING HIGH-RANGE WRDA 5 - 8"
2. SPECIFIED MINIMUM CEMENTITIOUS MATERIAL CONTENTS ARE BASED ON THE USE OF WATER REDUCING ADMIXTURES.
3. INCLUDE AN AIR-ENTRAINING ADMIXTURE FOR ALL CONCRETE EXPOSED TO FREEZING AND THAWING IN SERVICE AND FOR ALL CONCRETE EXPOSED TO COLD WEATHER DURING CONSTRUCTION, BEFORE ATTAINING ITS SPECIFIED DESIGN COMPRESSIVE STRENGTH. REF. ACI 306 FOR DEFINITION OF COLD WEATHER.
4. CLASS C FLY ASH MAY BE USED AS A CEMENT SUBSTITUTE WITH A MAXIMUM 20% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS.
5. SLAG CEMENT MAY BE USED AS A SUBSTITUTE FOR PORTLAND CEMENT WITH A MAXIMUM 50% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS WITH THE EXCEPTION OF CLASS E CONCRETE, WHICH SHALL BE LIMITED TO 30%.
6. WHEN SLAB CEMENT AND FLY ASH ARE USED IN THE SAME CONCRETE MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH THE FOLLOWING:
   PORTLAND CEMENT/SLAG/FLY ASH RATIO:
   CLASS E EXTERIOR CONCRETE 70% / 20% / 10%
   ALL OTHER CLASSES 50% / 30% / 20%
7. FOR CONCRETE TO BE CAST DURING COLD WEATHER, THE MAXIMUM SUBSTITUTION RATE FOR SLAG CEMENT SHALL BE 30%. IF SLAG CEMENT AND FLY ASH ARE USED IN THE SAME MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH A RATIO OF PORTLAND CEMENT/SLAG/FLY ASH OF 70% / 20% / 10%.
8. PROPORTION CONCRETE MIXES TO PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO THE CORNERS AND ANGLES OF THE FORMS AND AROUND REINFORCEMENT BY THE METHODS OF PLACEMENT AND CONSOLIDATION TO BE EMPLOYED, WITHOUT SEGREGATION AND EXCESSIVE BLEEDING.
9. ADJUSTMENTS TO THE APPROVED MIX DESIGNS MAY BE REQUESTED BY THE CONTRACTOR WHEN JOB CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT. THESE REVISED MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO USE.

CONCRETE REINFORCING

1. Reinforcement, other than cold drawn wire for spirals and welded wire fabric, shall have deformed surfaces in accordance with ASTM A305.
2. Reinforcing steel shall conform to ASTM A615, Grade 60, unless noted.
3. Welded wire fabric shall conform to ASTM A185, unless noted.
4. Where hooks are indicated, provide standard hooks per ACI and CRSI for all bars unless other hook dimensions are shown on the plans or details.
5. Reinforcement in footings, walls and beams shall be continuous. Lap bars a minimum of 40 diameters, unless noted otherwise.
6. Reinforcement shall be supported and secured against displacement in accordance with the CRSI "Manual of Standard Practice".
7. Details of reinforcing steel fabrication and placement shall conform to ACI 315 "Details and Detailing of Concrete Reinforcement" and ACI 315R "Manual of Engineering and Placing Drawings for Reinforced Concrete Structures", unless otherwise indicated.
8. Spread reinforcing steel around small openings and sleeves in slabs and walls, where possible, and where bar spacing will not exceed 1.5 times the normal spacing. Discontinue bars at all large openings where necessary, and provide an area of reinforcement, equal to the interrupted reinforcement, in full length bars, distributing one-half each side of the opening. Where shrinkage and temperature reinforcement is interrupted, add (2) #5 x opening dimension + 4'-0" on each side of the opening. Provide #5 x 4'-0" long diagonal bars in both faces, at each corner of openings larger than 12" in any direction.
9. Provide standees for the support of top reinforcement for footings, pile caps, and mats.
10. Provide individual high chairs with support bars, as required for the support of top reinforcement for supported slabs. Do NOT provide standees.
11. Provide snap-on plastic space wheels to maintain required concrete cover for vertical wall reinforcement.
12. Where walls sit on column footings, provide dowels for the wall. Dowels shall be the same size and spacing as the vertical wall reinforcement, unless noted otherwise, with lab splices as shown on the application sections. Install dowels in the footing forms before concrete is placed. Do NOT stick dowels into footings after concrete is placed.
13. Field bending of reinforcing steel is prohibited, unless noted on drawings.
14. Minimum concrete cover over reinforcing steel shall be as follows, unless noted otherwise on plan, section or note:

COORDINATION WITH OTHER TRADES

1. The Contractor shall coordinate and check all dimensions relating to Architectural finishes, mechanical equipment and openings, elevator shafts and overrides, etc. and notify the Architect/Engineer of any discrepancies before proceeding with any work in the area under question.
2. The Structural Drawings shall be used in conjunction with the Drawings of all other disciplines and the Specifications. The Contractor shall verify the requirements of other trades as to sleeves, chases, hangers, inserts, anchors, holes, and other items to be placed or set in the Structural Work.
3. There shall be no vertical or horizontal sleeves set, or holes cut or drilled in any beam or column unless it is shown on the Structural Drawings or approved in writing by the Structural Engineer of Record.
4. Mechanical and electrical openings through supported slabs and walls, 8" diameter, or larger not shown on the Structural Drawings must be approved by the Structural Engineer of Record (SER). Openings less than 8" in diameter shall have at least 1'-0" clear between openings, unless approved in writing by the SER.
5. Verify locations and dimensions of mechanical and electrical openings through supported slabs and walls shown on the Structural Drawings with the Mechanical and Electrical Contractors.
6. Do not install conduit in supported slabs, slabs on grade, or concrete walls unless explicitly shown or noted on the Structural Drawings.
7. Do not suspend any items, such as ductwork, mechanical or electrical fixtures, ceilings, etc. from steel roof deck or wood roof sheathing.
8. The Mechanical Contractor shall verify that mechanical units supported by the steel framing are capable of spanning the distance between the supporting members indicated on the Structural Drawings. The Mechanical Contractor shall supply additional support framing as required.
9. If drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern.

DRILLED-IN DOWELS & ANCHOR BOLTS/RODS

1. All reinforcing steel and threaded rod anchors to be installed in 2-part epoxy anchoring system shall be treated as follows:
   A. Drill holes 1/8" larger than bar bolt to be embedded.
   B. Drill holes with single chisel tooth rotary percussion drill that feeds compressed air to the base of the hole through a hollow stem drill bit.
   C. Utilize a carbide bit to prevent damage to reinforcing steel.
   D. Drill the hole a minimum of 15 bar diameters or as shown on the plans.
   E. Clean drilled holes prior to filling with epoxy.
   F. Use a two-part epoxy adhesive anchoring system, Rawl Foil-Fast, Hilti Hit HY-150, or approved equal.
   G. Reinforcing steel dowels shall be ASTM A615, Grade 60, unless noted.
   H. Anchor rods shall be ASTM F-1554, Grade 36, unless noted. Provide galvanized or stainless steel finish for exterior applications.
2. When column anchor bolts have been omitted, or damaged by construction operations, the Contractor must obtain the written approval of the Engineer of Record prior to repair or replacement.
   A. As a precaution, the affected column must be guyed and braced after repair for the balance of the erection period.
   B. As an alternate to guying and bracing, the Contractor may at his option, employ a Testing Agency to perform a tensile pull test to confirm the strength of the repaired or replaced anchor bolt. The tensile proof load must exceed 1.33 x the design load of the original anchor without causing distress of the anchor bolts or the surrounding concrete. Reference the following table for the minimum proof loads:
      3/4" diameter 11.6 kips
      7/8" diameter 16.0 kips
      1" diameter 20.9 kips

   Note: Values listed above are for ASTM F-1554, Grade 36 material. When higher grade or strength materials are specified, refer to the AISC Manual of Steel Construction for minimum allowable loads to be multiplied by 1.33.

   C. When affected anchor bolts are part of a fixed moment resisting column base, such as those in moment-resisting space frames, canopies, or fixed base installations, the repaired anchor bolts must be proof-loaded, or the affected column footing and/or pier replaced in its entirety.
   D. When affected anchor bolts are 1-1/8" diameter or larger, the affected column footing and/or pier must be replaced in its entirety.
   E. When affected anchor bolts are part of a braced frame the affected column footing and/or pier must be replaced in its entirety.
   F. Prior to erection, the controlling Contractor must provide written notification to the Steel Erector if there has been a repair, replacement or modification of the anchor bolts for that column.

FOUNDATIONS

1. Proofroll slab on grade areas with a medium-weight roller or other suitable equipment to check for pockets of soft material hidden beneath a thin crust of better soil. Any unsuitable materials thus exposed should be removed and replaced with compacted, engineered fill as outlined in the specifications. Proofrolling operations shall be monitored by the Geotechnical Testing Agency.
2. All engineered fill beneath slabs and over footings should be compacted to a dry density of at least 93% of the Modified Proctor maximum dry density (ASTM D-1557). All fill which shall be stressed by foundation loads shall be approved granular materials compacted to a dry density of at least 95% (ASTM D-1557). Coordinate all fill and compaction operations with the Specifications and the Subsurface Investigation.
3. Compaction shall be accomplished by placing fill in approximate 8" lifts and mechanically compacting each lift to at least the specified minimum dry density. For large areas of fill, field density tests shall be performed for each 3,000 square feet of building area for each lift as necessary to insure adequate compaction is being achieved.
4. Column footings and wall footings to bear on firm natural soils or well- compacted engineered fill with allowable bearing pressures of 2,000 PSF for column and wall footings, as outlined in the Subsurface Investigation Report.

   It is essential that the foundations be inspected to insure that all loose, soft, or otherwise undesirable material (such as organics, existing uncontrolled fill, etc.) is removed and that the foundations will bear on satisfactory material. The Geotechnical Testing Agency shall inspect the subgrade and perform any necessary tests to insure that the actual bearing capacities meet or exceed the design capacities. The Geotechnical Testing Agency shall verify the bearing capacity at each spread column footing and every 10 feet on center for strip footings prior to placement of concrete.
5. Place footings the same day the excavation is performed. If this is not possible, the footings shall be adequately protected against any detrimental change in condition, such as from disturbance, rain, or freezing.
6. It is the responsibility of the Contractor and each Sub-Contractor to verify the location of all utilities and services shown, or not shown; and establish safe working conditions before commencing work.
7. The Contractor shall layout the entire building and field verify all dimensions prior to excavation.
8. Reference geotechnical reports prepared by PSI, Inc. dated March 22, 2016. LN HS: PSI Project No. 0016-905-2. LC HS Project PSI No. 0016-905-1.

GENERAL NOTES

1. The Contractor shall be responsible for complying with all safety precautions and regulations during the work. The Structural Engineer of Record will not advise on, nor issue direction as to safety precautions and programs.
2. The Structural Drawings herein represent the finished structure. The Contractor shall provide all temporary guying and bracing required to erect and hold the structure in proper alignment until all Structural Work and connections have been completed. The investigation, design, safety, adequacy and inspection of erection bracing, shoring, temporary supports, etc. is the sole responsibility of the Contractor.
3. The Structural Engineer of Record (SER) shall not be responsible for the methods, techniques and sequences are not specifically shown, similar details of construction shall be used, subject to approval of the SER.
4. Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval of the Structural Engineer of Record.
5. All structural systems which are to be composed of components to be field erected shall be supervised by the Supplier during manufacturing, delivery, handling, storage, and erection in accordance with the Supplier's instructions and requirements.
6. Loading applied to the structure during the process of construction shall not exceed the safe load-carrying capacity of the structural members. The live loading used in the design of this structure are indicated in the "Design Criteria Notes." Do not apply any construction loads until structural framing is properly connected together and until all temporary bracing is in place.
7. All ASTM and other referenced standards and codes are for the latest editions of these publications, unless otherwise noted.
8. Shop drawings and other items shall be submitted to the Structural Engineer of Record (SER) for review prior to fabrication. All Shop Drawings shall be reviewed by the Contractor before submittal. The SER's review is to be fore conformance with the design concept and general compliance with the relevant Contract Documents. The SER's review does not relieve the Contractor of the sole responsibility to review, check, and coordinate the Shop Drawings prior to submission. The Contractor remains solely responsible for errors and omissions associated with the preparation of Shop Drawings as they pertain to member sizes, details, dimensions, etc.
9. Submit Shop Drawings in the form of blueline/blackline prints (min. 2 sets/ max. 5 sets) and one reproducible blackline or sepia copy. In no case shall reproductions of the Contract Documents be used as shop drawings. As a minimum, submit the following items for review:
   A. Concrete Mix Design(s).
   B. Reinforcing Steel Shop Drawings.
   C. Structural Steel Shop Drawings.
   D. Steel Joist and Joist Girder Shop Drawings.
   E. Steel Deck Shop Drawings.
10. Resubmitted Shop Drawings: Resubmitted shop drawings are reviewed only for responses to comments made in the previous submittal.
11. When calculations are included in the submittals for components of work designed and certified by a Specialty Structural Engineer (SSE), the review by the Structural Engineer of Record (SER) shall be for conformance with the relevant Contract Documents. The SER's review does not relieve the SSE from responsibility for the design of the system(s) and the coordination with the elements of the structure under the certification of the SER, or other SSE's. The SER's review does not constitute a warranty of the accuracy or completeness of the SSE's design.
12. Contractors shall visit the site prior to bid to ascertain conditions which may adversely affect the work or cost thereof.
13. No structural member may be cut, notched, or otherwise reduced in strength without written direction from the Structural Engineer of Record.
14. When modifications are proposed to structural elements under the design and certification of a Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Structural Engineer of Record for review, prior to performing the proposed modification.

LINTEL SCHEDULE

1. Where lintels are not specifically shown or noted on the Structural or Architectural Drawings, provide the following lintels over all openings and recesses in both interior and exterior non-load-bearing walls:
   A) Brick:
Masonry Opening	Angle Size
Up to 5'-0"	L4x4x5/16
Over 5'-0" & up to 7'-0"	L6x4x5/16
Over 7'-0"	L7x4x3/8

      All angles are LLV (long leg vertical), unless noted otherwise. Provide 1" of bearing per foot of span each end with minimum 8".
   B) Block: For openings up to 8'-0" long exposed in the finished room, use lintel block filled with grout. Grout all exposed joints and reinforce as follows:
      1) For 6" thick block: 1 - #5 bar
      2) For 8" thick block: 2 - #5 bars
      3) For 10" thick block: 2 - #6 bars
      4) For 12" thick block: 2 - #6 bars
   C) Block: For openings over 8'-0" & up to 12'-0" long exposed in the finished room, use lintel block filled with grout. Grout all exposed joints and reinforce per the "Long Masonry Lintel Detail" on the Typical Masonry Detail Drawing.
   D) Block (stack bond openings over 4'-0"): See framing plans for steel beam lintels. Where not shown on plan, the criteria in the following table shall be used. Contact Structural Engineer of Record for lintels not shown on plan which do not meet this criteria. See architectural drawings for opening quantities, sizes, locations, heights of wall above, etc.

Block 'T'	LINTEL	WIDTH OF OPENING	MAX. ALLOW HEIGHT OF CMU ABOVE LINTEL
6"	C8x11.5 w/ CONTIN. PL 3/8 x 5	≤ 8'-0"	30'-0"
		≤ 12'-0"	8'-0"
8"	W8x13 w/ CONTIN. PL 3/8 x7	≤ 8'-0"	30'-0"
		≤ 12'-0"	8'-0"
10"	W8x13 w/ CONTIN. PL 3/8 x 9	≤ 8'-0"	25'-0"
		≤ 12'-0"	8'-0"
12"	W8x28 w/ CONTIN. PL 3/8 x11	≤ 8'-0"	40'-0"
		≤ 12'-0"	18'-0"

MINIMUM COVER FOR REINFORCEMENT

	MINIMUM COVER
SLABS AND JOISTS	
TOP & BOTTOM BARS FOR DRY CONDITIONS:	
#11 BARS & SMALLER	3/4"
#14 & #18 BARS	1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER, OR WEATHER, AND OVER OR IN CONTACT WITH SEWAGE AND FOR BOTTOMS BEARING ON WORK MAT, OR SLABS SUPPORTING EARTH COVER:	
#5 BARS & SMALLER	1 1/2"
#6 THROUGH #18 BARS	2"
BEAMS & COLUMNS, FORMED	
FOR DRY CONDITIONS:	
STIRRUPS, SPIRALS & TIES	1 1/2"
PRINCIPAL REINFORCEMENT	2"
EXPOSED TO EARTH, WATER, SEWAGE, OR WEATHER:	
STIRRUPS & TIES	2"
PRINCIPAL REINFORCEMENT	2 1/2"
WALLS	
FOR DRY CONDITIONS:	
#11 BARS & SMALLER	3/4"
#14 & #18 BARS	1 1/2"
FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER, SEWAGE, WEATHER, OR IN CONTACT WITH GROUND	2"
FOOTINGS & BASE SLABS	
AT FORMED SURFACES & BOTTOMS BEARING ON CONCRETE WORK MAT	2"
AT UNFORMED SURFACES & BOTTOMS IN CONTACT WITH EARTH	3"
TOP OF FOOTINGS	SAME AS SLABS
OVER TOP OF PILES	2"

REINFORCED MASONRY NOTES

1. All construction of reinforced masonry walls to be in accordance with the Building Code Requirements For Concrete Masonry Structures (ACI 530) and commentary.
   A) f'm = 2,000 p.s.i.
   B) Maximum height of masonry lift: 5'-0"
   C) Maximum height of grout lift: 5'-0"
   D) See specifications for additional masonry wall information.
2. CONCRETE BLOCK: Minimum compressive test strength on the net cross-sectional area: 2,800 p.s.i.
3. MORTAR: Type S required.
4. GROUT: ASTM C476, 2500 PSI with a slump of 8" min. and 10" max.
5. REINFORCING: FY = 60,000 PSI with a min. lap of 48 diameters.

SPECIALTY STRUCTURAL ENGINEERING (SSE)

1. A Specialty Structural Engineer is defined as a Professional Engineer licensed in the State of Indiana, not the Structural Engineer of Record, who performs Structural Engineering functions necessary for the structure to be completed and who has shown experience and/or training in the specific specialty.
2. It is the Specialty Structural Engineer's responsibility to review the Construction Drawings and Specifications to determine the appropriate scope of engineering.
3. It is the intent of the Drawings and Specifications to provide sufficient information for the Specialty Structural Engineer (SSE) to perform his design and analysis. If the SSE determines there are details, features, or unanticipated project limits which conflict with the engineering requirements as described in the project documents, the SSE shall in a timely manner, contact the Structural Engineer of Record for resolution of conflicts.
4. The Specialty Structural Engineer (SSE) shall forward documents to the Structural Engineer of Record for review. Such documents shall bear the stamp of the SSE and include:
   A) Drawings introducing engineering input, such as defining the configuration or structural capacity of structural components and/or their assembly into structural systems.
   B) Calculations.
   C) Computer printouts which are an acceptable substitute for manual calculations provided they are accompanied by sufficient design assumptions and identified input and output information to permit their proper evaluation. Such information shall bear the stamp of the Specialty Engineer as an indication that said engineer has accepted responsibility for the results.
5. Contractors are referred to the specific technical specification sections and the structural drawings for those elements requiring Specialty Structural Engineering. Examples of components requiring Specialty Structural Engineering include, but are not limited to the following:
   A) Structural Steel Connections.
   B) Steel Joist Systems.
6. When modifications are proposed to elements under the design and certification of the Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Engineer of Record for review, prior to performing the proposed modification.

STEEL DECK NOTES

1. All steel deck material, fabrication and installation shall conform to the Steel Deck Institute "SDI SPECIFICATIONS AND COMMENTARY" and "CODE OF RECOMMENDED STANDARD PRACTICE," current edition, unless noted.
2. Provide members for deck support at all deck span changes. Provide L3x3x3/16 deck support at all columns where required.
3. All deck shall be provided in a minimum of 3-span lengths where possible.
4. All welding of steel deck shall be in conformance with AWS Specification D1.3. Provide welding washers for all floor decks less than 22 gauge in thickness.
5. Mechanical fasteners may be used in lieu of welding, providing fasteners meet, or exceed the strength of specified welds. Submit fastener design data to the Structural Engineer of Record for review.
6. Substitution of fiber secondary reinforcement for welded wire fabric on supported slabs is prohibited.
7. Do not suspend any items, such as ductwork, mechanical or electrical fixtures, ceilings, etc. from steel deck.
8. Roof deck sidelaps shall be attached at ends of cantilevers and at a maximum spacing 12" o.c. from cantilevered roof deck ends. The roof deck must be completely fastened to the supports and at the sidelaps before any load is applied to the cantilever.
9. Submit shop drawings for review of general conformance to design concept in accordance with Specifications in the Project Manual. Erection drawings shall show type of deck, shop finish, accessories, method of attachment, edge details, deck openings and reinforcement, and sequence of installation.
10. Installation holes shall be sealed with a closure plate 2 gauges thicker than deck and mechanically fastened to deck. Steel deck holes visible from below will be rejected. Deck units that are bent, warped, or damaged in any way which would impair the strength and appearance of the deck shall be removed from the site.
11. Where gauge metal pourstops are indicated, supply pourstops designed to meet, or exceed the gauges listed in the SDI Pourstop Selection Table (min. 18 ga.) as required for slab depth, concrete weight, and cantilever distance, unless noted otherwise.
12. The Erector shall shim between parallel roof beams and joists with differential mill and induced cambers for level deck bearing.

STEEL JOIST NOTES

1. All steel joists shall be designed, fabricated and erected in accordance with SJI Standard Specifications.
2. Joist bridging shown is schematically indicated. Provide all bridging necessary to conform to SJI Specifications.
3. The ends of all bridging lines terminating at walls or beams shall be anchored to the wall or beam.
4. Joist bridging and connections shall be completely installed prior to placing any construction loads on the joists. Construction loading shall not exceed the joist design load.
5. All roof joists shall be capable of resisting the net uplift in accordance with ASCE 7 (min. 15 psf net). Provide an additional row of continuous horizontal bottom chord bridging at the first panel point location at each end of all roof joists.
6. Special joists shall be designed for the load designations specified on the Structural Drawings. Designs shall properly account for the distribution of concentrated loads, live loads and for the effect of openings. Designs are to meet the requirements of SJI.
7. Joists shall meet the following deflection criteria per SJI. Maximum live load deflection shall not exceed:
   A) Roofs without suspended ceilings: L/240
   B) Roof with suspended ceilings: L/360
   C) Floors: L/360
8. The Joist Manufacturer shall submit calculations for all special joists to Structural Engineer of Record for record purposes prior to fabrication. These calculations shall bear the seal and signature of a Professional Engineer registered in the State of Indiana.
9. Joists on column centerlines shall have extended bottom chord connections for erection stability, unless otherwise noted. Do not connect bottom chord extensions, unless otherwise noted or shown.
10. Joists on, or near column centerlines shall have field-bolted connections for erection stability, unless otherwise noted.
11. The Joist Manufacturer shall coordinate with the Structural Steel Fabricator for the design of all connections to support columns, beams, bearing seats, etc. prior to submittal of shop drawings.
12. Where a joist is part of a moment-resisting frame, delay the connection of the bottom chord to the column until all dead loads have been placed. All field-bolted and field-welded connections in moment-resisting frames shall be inspected per AWS and AISC requirements.
13. The Joist Manufacturer shall furnish evidence that the joist meets or exceeds the specified minimum moment of inertia (Ix) listed on the Plans. Where a minimum Ix value is not specified, the Ix value can be that required to meet the specified loading and deflection criteria.
14. All steel joists shall be furnished with standard SJI camber, unless noted otherwise.
15. All joists shall be shop primed in accordance with SJI requirements, unless note otherwise. Color to match structural steel primer, unless approved in writing.
16. Provide sloped bearing ends where joist slope exceeds 1/4" per foot.
17. Do not field cut or alter joists without the written approval of the Joist Manufacturer.

STEEL CONNECTION NOTES

1. Typical beam-to-beam and beam-to-column connections shall be bearing type using A325N bolts, unless noted otherwise.
2. Shop connections unless otherwise shown, may be either bolted or welded. All field connections shall be bolted unless otherwise shown on the Structural Drawings.
3. Connections shall be designed by the Steel Fabricator to support the reactions shown on the framing plan(s). Simple span connections without reactions listed on the Structural Drawings shall be designed by the Steel Fabricator in accordance with Table 3-6 of the AISC "Manual of Steel Construction, 14th Edition". For composite beams where reactions are not indicated, design connections for 75% of the Maximum Total Uniform Load ASD value for the applicable beam size and span given in Table 3-6. For non-composite beams, design connections for 50% of the tabulated ASD value.
4. Submit calculations for connections not detailed on the Structural Drawings and not covered by the AISC Tables, including but not limited to:
   A) Column Splices.
   B) Moment Connections.
   C) Bracing Connections including Collectors and Drag Struts.
   D) Skewed Shear Connections.
   E) Girder and Truss Splices.
   F) Truss-to-Column and Truss-to-Truss Connections.
   G) Truss Web-to-Chord and Web-to-Gusset Connections.
   H) Compression Ring/Tension Ring, and Raker Beam Connections.
5. All beam-to-beam connections shall be double angle, unless shown or noted otherwise.
6. All beam-to-column connections shall be at the column centerline, unless noted otherwise. Shear tab connections to tubes are permitted unless otherwise noted or detailed.
7. Typical beam-to-beam, and beam-to-column field-bolted connections may be tightened to the snug-tight condition, unless otherwise shown or noted.
8. Bolted connections in moment frames, bracing connections, hangers and stub columns, crane connections, and those designated PT (pretensioned) on the Drawings shall be pretensioned joints utilizing tension-control (TC) bolts or direct tension indicators. Holes for PT bolts shall be 1/16" larger than the bolt diameter. All pretensioned joints must be inspected by the Testing Agency.
9. Connect bracing members for two components of stress unless otherwise approved by the Structural Engineer of Record. Provide a minimum 2-bolt or welded field connection.
10. Locate centerlines of all vertical bracing members on column centerlines in vetical plane and on column and beam centerlines in horizontal plane, unless otherwise shown on the Structural Drawings.
11. All welding shall be in conformance with AWS D1.1, using E70XX electrodes, unless shown or noted otherwise. Welding, both shop and field, shall be performed by welders certified for the weld types and positions involved according to the current edition of AWS D1.1. Perform all AESS welds with care to provide a clean, uniform appearance.
12. Backup bars required for welded connections shall be continuous.
13. Holes in steel shall be drilled or punched. All slotted holes shall be provided with smooth edges. Burning of holes in structural steel shall not be allowed without approval of the Structural Engineer of Record.
14. The minimum thickness of all connection material shall be 5/16" unless noted.
15. Continuous bent plate and angle closures, roof edges, diaphragm chords, etc. around perimeter of the floor and roof, as well as around openings shall be welded with a minimum 1/4" fillet weld x 3" long at at 12" o.c., top & bottom, unless noted otherwise. Butt weld joints in continuous diaphragm chord for continuity. For continuous perimeter angles and bent plates perpendicular to and connected to the top chords of joists, provide a minimum 3" of 1/4" weld at each joist. Continuous angle and bent plate closures may be shop-applied to the supporting structural members only when requested and approved by Structural Engineer of Record.
16. Where steel beams are called to have wood nailers supporting wood floor or roof framing, provide 1/2" diameter carriage bolts spaced at 24" on center and staggered each side of the beam web, unless noted otherwise. Carriage bolts may be over-tightened to compress the rounded head in the nailer to facilitate installation of continuous band/rim joists, rafters, trusses, etc.
17. A qualified independent Testing Agency shall be retained to perform inspection and testing of structural steel field weldaments as follows:

WELD INSPECTION SCHEDULE

WELD TYPE	VT	MT	UT	PT	RT	COMMENTS
FILLET (SINGLE PASS)	25%	-	-	-	-	ROOT PASS AND FINISHED WELD
FILLET (MULTIPLE PASS)	50%	25%	-	-	-	
FLARE BEVEL/ FLARE V	25%	-	-	-	-	
GROOVE (PARTIAL PENETATION)	100%	-	100%	-	-	REFERENCE NOTE 'E' BELOW
GROOVE (FULL PENETRATION)	100%	-	100%	-	-	ALL FULL PENETRATION WELDS

A) Test procedures:
   VT = Visual Test (inspection)
   MT = Magnetic Particle Test: ASTM E109, cracks or incomplete fusion or penetration not acceptable.
   UT = Ultrasonic Test: ASTM E164.
   PT = Penetrant Test: ASTM E165.
   RT = Radiographic Test: ASTM E94 and ASTM E142, min. quality level 2-21.
B) Acceptance standards in AWS D1.1 shall be followed for each test procedure.
C) Test procedures may be substituted to meet feasibility requirements of test based upon weld geometry or other factors with the approval of the Structural Engineer of Record.
D) Samples shall occur at random locations; additional tests may be required at locations noted on the Drawings.
E) Groove welds include square, bevel, V, U, and J grooves including single and double pass types.
F) Partial penetration square groove welds at end seal plates of tubular members do not require inspection.
G) Weld Procedure Specifications (WPS) shall be produced and maintained in accordance with AWS D1.1. The independent Testing Agency shall have access to all WPS's during the course of testing and inspection.
H) For highly-restrained welded joints, especially in thick plates and/or heavy structural shapes, details the welds so that shrinkage occurs as much as possible in the direction the steel was rolled. Refer to the AISC Manual for prefered welded-joint arrangements that reduc the possibility for lamellar tearing. Members scheduled to receive highly-restrained connections shall be tested by the independent Testing Agency by Ultrasonic Testing prior to commencing welding.
I) In addition to inspection requirements for fillet welds in Table above, 100% of field welding of diagonal bracing members to gusset plates shall be visually inspected (VT).

STRUCTURAL STEEL NOTES

1. Structural steel construction shall conform to the American Institute of Steel Construction "Specification for Structural Steel Buildings".
2. All structural wide flange shapes shall be ASTM A992, Fy=50 ksi.
3. All plates, channels, bars, angles, and rods shall be ASTM A36, unless noted otherwise.
4. All pipe shapes shall be ASTM A53, Type E, Grade B.
5. All square and rectangular shapes shall ASTM A500, Grade B.
6. Details for design, fabrication and erection of all structural steel shall be in accordance with the latest AISC Standards, unless otherwise noted or specified.
7. Provide temporary erection guying and bracing as required.
8. Unless otherwise shown or noted on the Plans, provide 8" bearing each end for all loose lintels and beams.
9. For loose lintels, masonry shelf angles and other such items generally not shown on the Structural Drawings, refer to the Architectural Drawings. See general notes on lintels this sheet for sizes, reinforcing, etc.
10. Steel columns below grade shall be encased in a minimum of 4" concrete or painted with 2 coats of asphaltum paint, unless otherwise shown.
11. Fabricate simple span beams not specifically noted to receive camber so that after erection any minor camber due to rolling or shop assembly be upward.
12. Refer to the Division 5 Structural Steel Specification of the Project Manual for structural steel surface preparations and prime painting requirements.
13. The Erector shall shim between parallel roof beams and joists with differential mill and induced cambers for level deck bearing.
14. Provide cap plates/end plates to close off exposed, open ends of all tubular members unless noted. Seal weld with partial penetration square groove welds for watertight condition.

EXISTING CONSTRUCTION

1. The contractor shall field verify the dimensions, elevations, etc. necessary for the proper construction and alignment of the new portions of the work to the existing work. The Contractor shall make all necessary measurements for fabrication and erection of the structural members. Any discrepancy shall be immediately brought to the attention of the Structural Engineer of Record.
2. Before proceeding with any work within the existing facility, the Contractor shall familiarize himself with existing structural and other conditions. Any shoring shown or noted on the Plans is a partial and schematic representation of that required. It shall be the Contractor's responsibility to provide all necessary bracing, shoring, and other safeguards to maintain all parts of the work in a safe condition during the progress of demolition and construction, and to protect from damage those portions of the existing work which are to remain. Shoring shall remain in place until the structural work is complete, has been inspected by the Testing Agency, and is certified to be in substantial compliance with the Contract Documents.
3. When required by the Specifications or by Plan Note, the Contractor shall submit for the Structural Engineer of Record's review, a "Proposed Shoring Plan," including, but not limited to: plans, sections, details, notes, description of proposed sequence of work, and calculations prepared by, or under the supervision of a Specialty Structural Engineer (SSE). The SSE shall be registered in the State where the project is located.
4. Welding to and within an existing facility presents potential hazards including:
   A. Fire Hazard - Due to the existing construction and building contents.
   B. Structural Liquefaction - Due to welding across the full section of the structural members.

   Recommendations to prevent these hazards include:
   A. Fire Hazard - Protect existing combustibles prior to welding. Keep a separate watchman and several fire extinguishers on hand.
   B. Structural Liquefaction - weld in small increments. Allow welds to harden before continuing to the next increment.
   C. Do not leave the site until satisfied that no fire hazard exists.
   D. Preference should be given to the use of beam clamps, mechanical fasteners, or bolted connections in lieu of welding within existing facilities, whenever possible. Do not field-drill existing structural members without the written permission of the Structural Engineer of Record.

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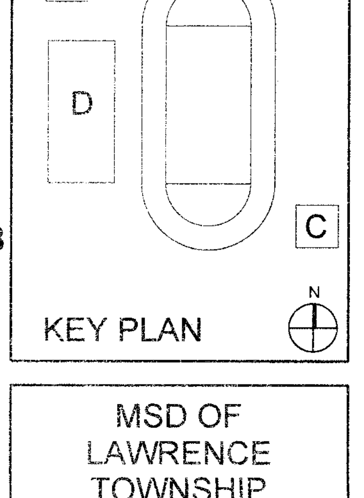
Project No. 2015-121.LCS
Project Date 04.18.2016
Produced WBH JNB

WESLEY B. HARRISON
REGISTERED
PE60860410
STATE OF INDIANA
PROFESSIONAL ENGINEER

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

STRUCTURAL NOTES

S-501

Abbreviations

A LABEL	Class A door	JAN	janitor	SAT	suspended acoustical tile
A/E	architect/engineer	JAN CLO	janitor closet	SATC	suspended acoustical tile ceiling
ADA	Americans with Disabilities Act			SCD	seat cover dispenser
ADD	addendum	KD	knock down	SCH	school
ADMIN	administration	KIT	kitchen	SCHED	schedule
AFF	above finished floor	KO	knockout	SCHEM	schematic
ALUM	aluminum			SCWD	solid core wood door
AMT	amount	LAM	laminate	SD	smoke detector
APPROX	approximate	LAM GL	laminated glass	SD	soap dispenser
APT	apartment	LAQ	lacquer	SECT	section
ARCH	Architect	LAU	laundry	SF	square foot (feet)
ASI	Architect's Supplemental Instruction	LAV	lavatory	SFTWD	softwood
ASSN	association	LC	laundry chute	SHR	shower
ASSY	assembly	LDG	landing	SHT	sheet
ASTM	American Society for Testing and Materials	LED	light emitting diode	SIM	similar
AVE	avenue	LF	linear feet (foot)	SLNT	sealant
AVG	average	LF INS	loose fill insulation	SM	small
AWI	Architectural Woodworking Institute	LH	left hand	SPEC	specification
		LHR	left hand reverse	SPKLR	sprinkler
B LABEL	Class B door	LIB	library	SPKR	speaker
BD	board	LKR RM	locker room	SQ	square
BFC	below finished ceiling	LN	lane	SQIN	square inch
BFF	below finish floor	LOC	location	SQ YD	square yard
BITUM	bituminous	LRG	large	SS	stainless steel
BLDG	building	LT	light	ST	street
BLKHD	bulkhead	LT GA	light gauge	STA	station
BLVD	boulevard	LVDR	louver door	STD	standard
BOCA	Building Officials and Code Administrators Association International			STL	steel
		MAINT	maintenance	STL JST	steel joist
BOT	bottom	MAN	manual	STL LNTL	steel lintel
BRG	bearing	MATL	material	STL PL	steel plate
BRG PL	bearing plate	MAX	maximum	STL RF DK	steel roof deck
BSMT	basement	MB	marker board	STL TB	steel tube
		MC	Mechanical Contractor	STL TR	steel truss
CAB	cabinet	MCH	machine	STOR	storage
CB	chalk board	MD	metal deck	STR	stair(s)
CB	ceramic base	MDO	medium density overlay	STRUCT	structural
CCTV	closed circuit television	MEAS	measure	STRUCT	STL structural steel
CD	construction documents	MECH	mechanical	SUPP	supplement
CD	contract documents	MECH RM	mechanical room	SURF	surface
CEM PLAS	cement plaster	MED	medium	SURR	surround
CEM PLAS CLG	cement plaster ceiling	MEL	melamine	SURV	survey
CIP	cast-in-place	MEMB	membrane	SUSP	suspend
CJ	construction joint	MEZZ	mezzanine	SUSP CLG	suspended ceiling
CJ	control joint	MFD	manufactured	SV	sheet vinyl
CL	center line	MFG	manufacturing	SVC	service
CLG	ceiling	MFR	manufacturer	SWR	sewer
CLG HT	ceiling height	MFR REC	manufacturer's recommendation	SYS	system
CLO	closet	MGT	management		
CLR	clear	MIN	minimum	T&G	tongue and groove
CMU	concrete masonry unit	MIRR	mirror	TO	top of
CNTR	counter	MISC	miscellaneous	TAN	tangent
CNTRTP	countertop	ML	metal lath	TB	tack board
COL	column	MLDG	molding (moulding)	TB	towel bar
CONC	concrete	MLWK	millwork	TC	terra cotta
CONC FLR	concrete floor	MO	masonry opening	TD	towel dispenser
CONF	conference	MT	mount	TECH	technical
CONSTR	construction	MTD	mounted	TEL	telephone
COORD	coordinate	MTG	mounting	TEMP	temperature
CORR	corridor	MTL	metal	TEMP	temporary
CPT	carpet	MULL	mullion	TEMP	tempered glass
CSI	Construction Specifications Institute			TER	terrazzo
CSMT	casement	NA	not applicable	TFA	to floor above
CSWK	casework	NBC	National Building Code	TFB	to floor below
CT	ceramic tile	NEC	National Electric Code	TFF	top of finish floor
CTB	ceramic tile base	NFC	National Fire Code	THK	thickness
CTF	ceramic tile floor	NIBS	National Institute of Building Sciences	THRES	threshold
CTR	center	NIC	not in contract	THRU	through
CU FT	cubic feet	NO	number	THROUT	throughout
CU IN	cubic inch	NOM	nominal	TI	tapered insulation
CUB	cubicle	NTS	not to scale	TOS	top of steel
CUST	custodian			TOM	top of masonry
		OAO	out to out	TPD	toilet paper dispenser
D LABEL	Class D door	OC	on center	TR	towel rack
DAT	datum	OD	outside diameter	TRANS	transom
db	decibel	OD	outside dimension	TRANS	transparent
DBL	double	OFC	office	TS	tube steel
DBL ACT DR	double acting door	OFCI	owner/furn./instl.	TV	television
DBL GLZ	double glaze	OPNG	opening	TYP	typical
DEG	degree	OPP	opposite		
DEG C	degrees Celsius	ORD	overflow roof drain	UBC	Uniform Building Code
DEG F	degrees Fahrenheit	ORIG	original	UFC	Uniform Fire Code
DEL	delete	OSHA	Occupational Safety and Health Administration	UL	Underwriters Laboratories
DEMO	demolition			UMC	Uniform Mechanical Code
DEPT	department	PARG	parging	UNO	unless noted otherwise
DET	detail	PART	partial	UPC	Uniform Plumbing Code
DF	drinking fountain	PBD	particleboard	UPS	uninterruptible power supply
DH	double hung (door, window)	PCT	percent	UTIL	utility
DIA	diameter	PERF	perforated	VAR	variation
DIAG	diagonal	PKG	package	VAR	varies
DIFF	diffuser	PLAS LAM	plastic laminate	VB	vinyl base
DIM	dimension	PL VYD	plywood	VCT	vinyl composition tile
DIR	direction	PNL	panel	VCT	vitrified clay tile
DISP	dispenser	PORC	porcelain	VEH	vehicle
DIV	division	PR	pair	VERT	vertical
DJ	double joist	PREFAB	prefabricated	VEST	vestibule
DN	down	PREFIN	prefinish	VIF	verify in field
DR	door	PREFMD	preformed	VOL	volume
DS	down spout	PREP	preparation	VP	vapor permeable
DWG	drawing	PRKG	parking	VR	vapor retarder
DWR	drawer	PROJ	project	VTR	vent through roof
		PT	paint	VWC	vinyl wall covering
E LABEL	Class E door	PT CONC	post-tensioned concrete	VWF	vinyl wall fabric
EA	each			W CAB	wall cabinets
EC	Electrical Contractor	R	radius	W/	with
EFS	exterior finish system	RB	resilient base	W/O	without
EIFS	exterior insulation and finish system	RCP	reflected ceiling plan	WB	wood base
EJ	expansion joint	RD	roof drain	WC	wall covering
EL/ ELEV	elevation	REBAR	reinforcing steel bars	WD	wood
ELEC	electric	RECD	received	WH	weep hole
ELEV	elevator	RECPT	receptacle	WHSE	warehouse
EMER	emergency	REF	reference	WO	where occurs
ENAM	enamel	REF	refrigerator	WP	working point
ENCL	enclosure	REINF	reinforced	WSCT	wainscot
ENTR	entrance	REQ	require	WT	weight
EQ	equal	RESIL	resilient		
EPDM	ethylene propylene diene monomer	RFGR	refrigerator		
EQ	equal	RFI	request for information		
EQUIP	equipment	RFP	request for proposal		
EQUIV	equivalent	RH	right hand		
ESCAL	escalator	RH	roof hatch		
ESMT	easement	RHR	right hand reverse		
EST	estimate	RM	room		
ET CETRA	et cetra	RO	rough opening		
EXIST	existing	RTG	rating		
EXP JT	expansion joint	RTU	roof top unit		
FAB	fabric				
FAS	fascia				
FAS BD	fascia board				
FC	file cabinet				
FD	floor drain				
FDTN	foundation				
FE	fire extinguisher				
FEC	fire extinguisher cabinet				
FED	federal				
FH	fire hose				
FH	fire hydrant				
FHC	fire hose cabinet				
FIG	figure				
FIN	finish				
FIN FLR	finish floor				
FIN GR	finish grade				
FIN WD	finish wood				
FIXT	fixture				
FLASH	flashing				
FLG	flooring				
FLMT	flush mount				
FLR	floor				
FLR FIN	floor finish				
FLUT CMU	fluted concrete masonry unit				
FOC	face of concrete				
FOF	face of finish				
FOM	face of masonry				
FOS	face of slab				
FOUND	foundation				
FOW	face of wall				
FPC	Fire Protection Contractor				
FR	fire resistant				
FRC	fiber reinforced concrete				
FRG	fiber reinforced gypsum				
FRP	fiberglass reinforced plastic				
FRZ	freezer				
FT	feet, foot				
FTG	footing				
FTR	finish furred curtainwall				
FURG	furring				
FURN	furniture				
FWC	fabric wall covering				
GA	gauge				
GAL	gallon				
GALV	galvanized				
GC	General Contractor				
GFRC	glass-fiber-reinforced concrete				
GFRG	glass-fiber-reinforced gypsum				
GFRP	glass-fiber-reinforced plastic				
GFRP	glass-fiber-reinforced plastic				
GL BLK	glass block				
GLU LAM	glue laminated wood				
GOVT	government				
GWB	gypsum wallboard				
HAZ	hazard				
HAZ MAT	hazardous materials				
HC	handicap				
HC	hose cabinet				
HCWD	hollow core wood door				
HD	hand dryer				
HDBD	heavy duty hardboard				
HDO	high density overlay				
HDW	hardware				
HDWD	hardwood				
HM	hollow metal				
HORIZ	horizontal				
HQ	headquarters				
HR	hour				
HT	height				
HTR	heater				
HWY	highway				
HVAC	heating, ventilation and air conditioning				
IBC	International Building Code				
ID	inside diameter				
ID	inside dimension				
IN	inch/ inches				
INSTL	install				
INSTR	instrument				
INSUL	insulation (ed), (ted)				
INT	interior				

Material Symbols

CONCRETE MASONRY UNIT

FACE BRICK

EARTH

CONCRETE

PLYWOOD

METAL/STEEL

FINISHED WOOD TRIM

WOOD BLOCKING

WOOD SHIM

INSULATION (LOOSE OR BATT.)

INSULATION (RIGID)

GYPSUM BOARD / PLASTER

Reference Symbols

TITLE MARK

1 **View Name**
1/8" = 1'-0"

SECTION MARK

ELEVATION MARK

CUT LINE

DETAIL MARK — SIM, A101

PLAN NOTE DESIGNATION — #

WHEELCHAIR CLEARANCE RADIUS — ADA

WALL DESIGNATION — 11

DOOR NUMBER — Door Number, Frame Type, Door Label, Door Type

WINDOW NUMBER — 11

FURNITURE — FM, FB

COLUMN DESIGNATION — FB

NORTH ARROW — N

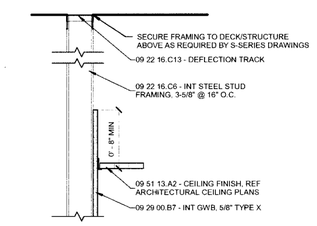
ROOM TAG — Room name, 101

UNIT MATCHLINE — UNIT A / UNIT B

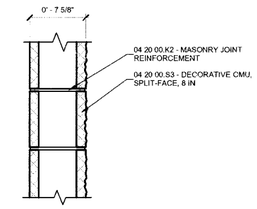
DEMOLITION NOTE — 1

REVISION TAG

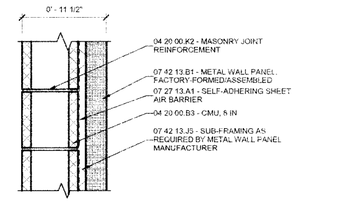
DATUM POINT



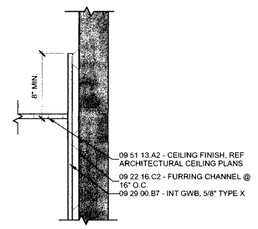
3E **S4-C' WALL TYPE**
1 1/2" = 1'-0"



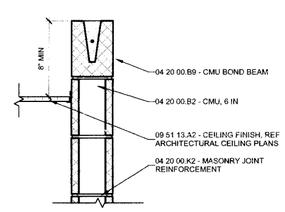
2E **EM8 WALL TYPE (ALTERNATE)**
1 1/2" = 1'-0"



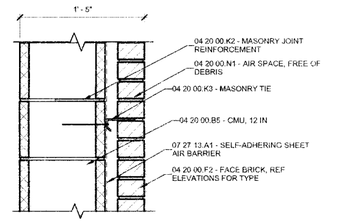
1E **EM8M WALL TYPE**
1 1/2" = 1'-0"



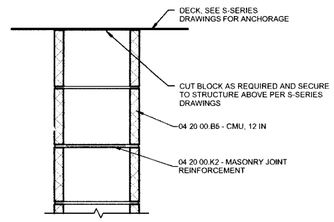
3D **F1.5 WALL TYPE**
1 1/2" = 1'-0"



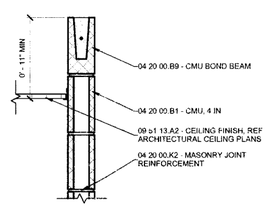
2D **M6-C WALL TYPE**
1 1/2" = 1'-0"



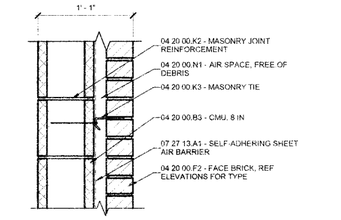
1D **EM12-B WALL TYPE**
1 1/2" = 1'-0"



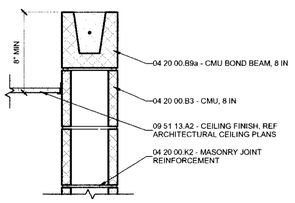
3C **M12-D WALL TYPE**
1 1/2" = 1'-0"



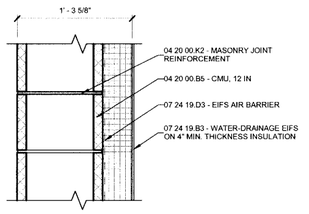
2C **M4-C WALL TYPE**
1 1/2" = 1'-0"



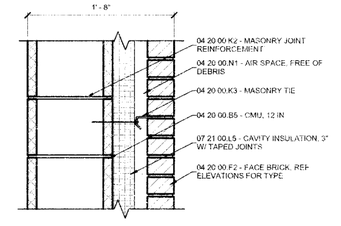
1C **EM8-B WALL TYPE**
1 1/2" = 1'-0"



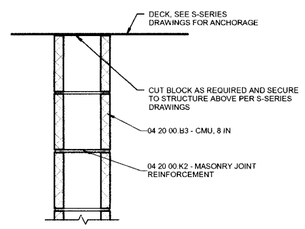
3B **M8-C WALL TYPE**
1 1/2" = 1'-0"



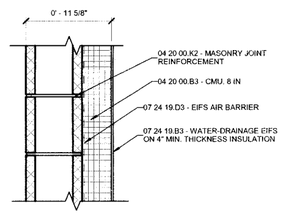
2B **EM12E WALL TYPE**
1 1/2" = 1'-0"



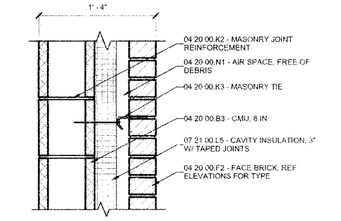
1B **EM12B WALL TYPE**
1 1/2" = 1'-0"



3A **M8-D WALL TYPE**
1 1/2" = 1'-0"



2A **EM8E WALL TYPE**
1 1/2" = 1'-0"



1A **EM8B WALL TYPE**
1 1/2" = 1'-0"

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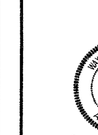

#	Revision	Date

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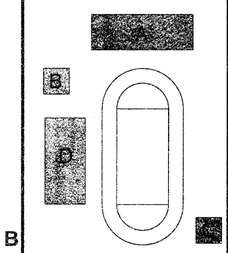


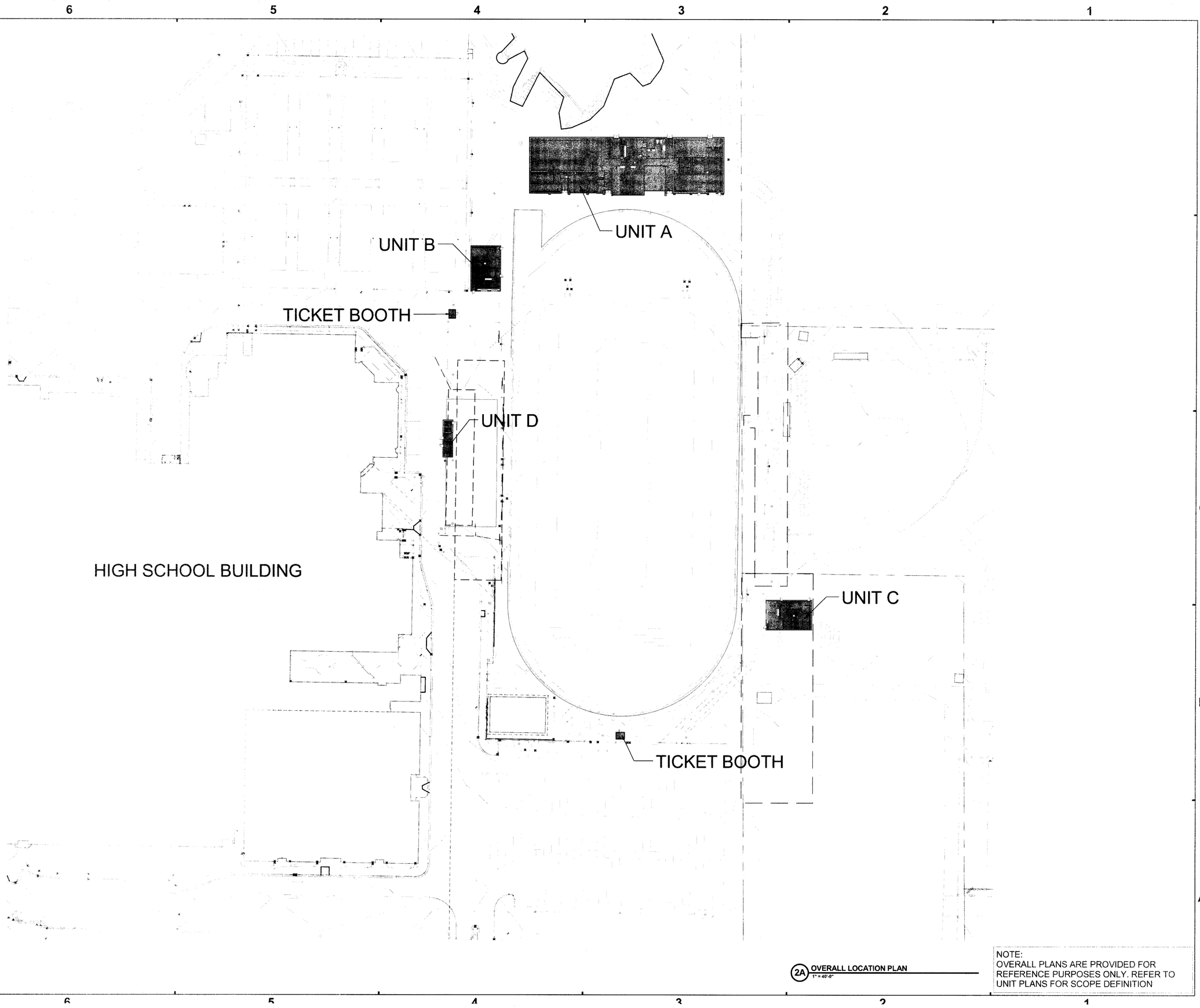
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

WALL TYPES

A-002



2A OVERALL LOCATION PLAN
1" = 40'-9"

NOTE:
OVERALL PLANS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. REFER TO UNIT PLANS FOR SCOPE DEFINITION

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WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
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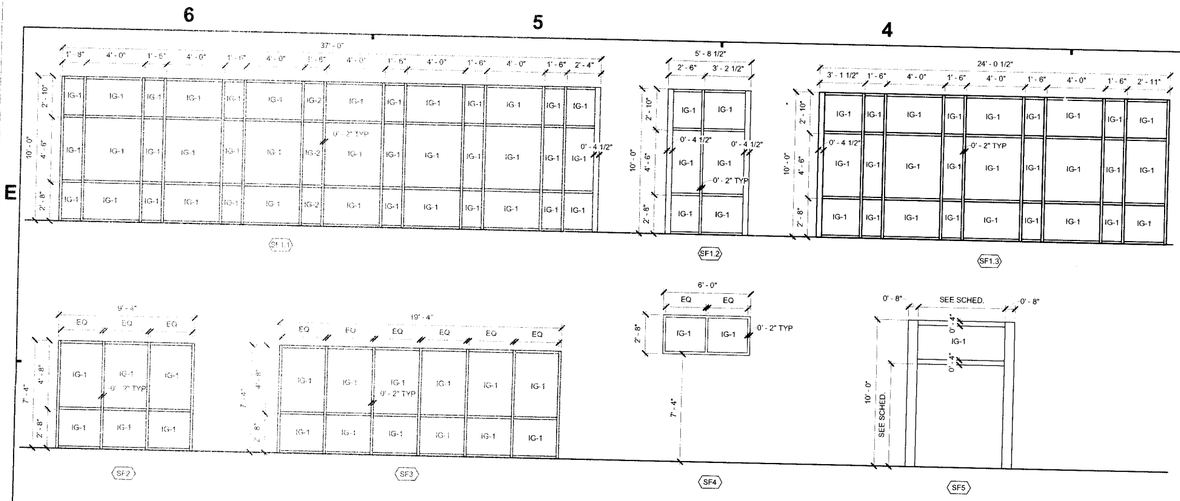
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

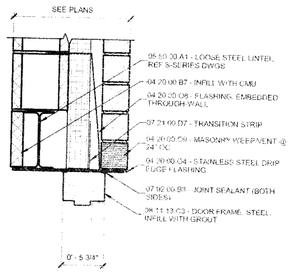
LC EXTERIOR FACILITY UPGRADES

OVERALL LOCATION PLAN

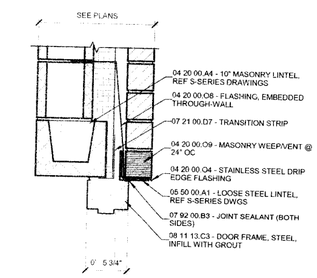
A-101



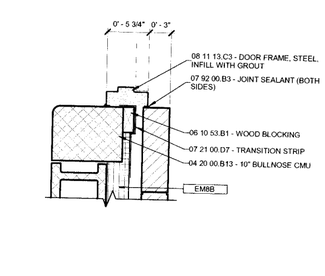
6E 5.4.600 - STOREFRONT FRAME ELEVATIONS
1/4" = 1'-0"



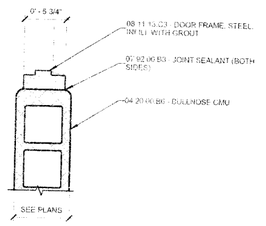
6C HEAD (LOAD BEARING)
1 1/2" = 1'-0"



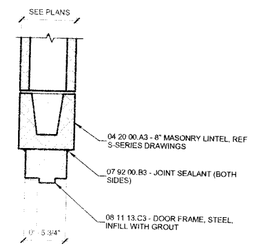
5C HEAD
1 1/2" = 1'-0"



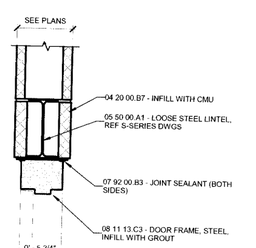
4C JAMB
1 1/2" = 1'-0"



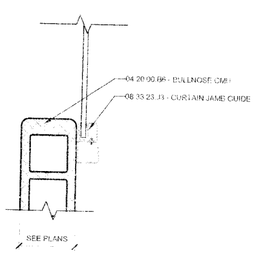
6B JAMB
1 1/2" = 1'-0"



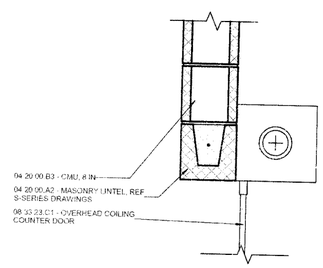
5B HEAD
1 1/2" = 1'-0"



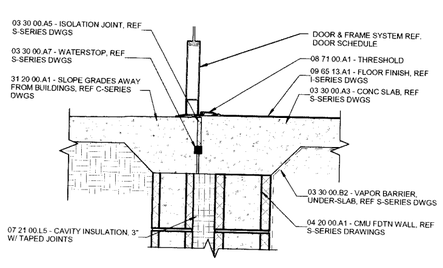
4B HEAD (LOAD BEARING)
1 1/2" = 1'-0"



6A COILING DOOR JAMB
1 1/2" = 1'-0"



5A COILING DOOR HEAD
1 1/2" = 1'-0"



4A FOUNDATION - THRESHOLD
1 1/2" = 1'-0"

END ZONE (UNIT A) - DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
S100	G	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F3	HM	TG		09		S100
S100A	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		09		S100A
S100B	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		11		S100B
S101.1	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		19		S101.1
S101.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		12		S101.2
S101B	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		07		S101B
S102	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		10		S102
S103	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		10		S103
S104	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		07		S104
S105.1	FG	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		12		S103.1
S105.2	FG	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		12		S105.2
S106.1	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		08		S106.1
S106.2	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		20		S106.2
S106.3	OHC		ST	--	4' - 0"	3' - 4"	0' - 0 3/4"			--		06		S106.3
S107	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		S107
S108	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		S108
S109	G	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		09		S109
S110	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		18		S110
S110A	G	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		09		S110A
S111.1	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		S111.1
S111.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		17		S111.2
S112	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		S112
S113.1	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		01		S113.1
S113.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		07		S113.2
S113.3	OH		ST	--	10' - 0"	8' - 0"	0' - 1 3/4"			--		06		S113.3
S114	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		16		S114
S115	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F1	HM	--		15		S115
S116.1	FG	2	AL	IG	7' - 0"	6' - 0"	0' - 1 3/4"	SF5	AL	IG		21		S116.1
S116.2	FG	2	AL	IG	7' - 0"	6' - 0"	0' - 1 3/4"	SF5	AL	IG		21		S116.2
S116.3	FG	2	HM	IG	7' - 0"	6' - 0"	0' - 1 3/4"	SF5	AL	IG		21		S116.3
S117	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		19		S116.3
												05		S117

RESTROOM/CONCESSION (UNIT B) - DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
S140	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		02		S140
S141.1	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		04		S141.1
S141.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		S141.2
S142	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		02		S142
S143	F	2	HM	--	7' - 0"	8' - 0"	0' - 1 3/4"	F1	HM	--		03		S143
S144	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		01		S144
S144.1	OHC		ST	--	4' - 8"	8' - 0"	0' - 0 3/4"			--		06		S144.1
S144.2	OHC		ST	--	4' - 8"	8' - 0"	0' - 0 3/4"			--		06		S144.2

RESTROOM/CONCESSION (UNIT C) - DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
S150	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		02		S150
S151.1	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		04		S151.1
S151.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		S151.2
S152	F	2	HM	--	7' - 0"	8' - 0"	0' - 1 3/4"	F1	HM	--		02		S152
S153	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		03		S153
S154.1	OHC		ST	--	4' - 8"	8' - 0"	0' - 1 3/4"	F1	HM	--		01		S154
S154.2	OHC		ST	--	4' - 8"	8' - 0"	0' - 0 3/4"			--		06		S154.1
S154.3	OHC		ST	--	4' - 8"	8' - 0"	0' - 0 3/4"			--		06		S154.2
												06		S154.3

GRANDSTANDS (UNIT D) - DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
S160	FG	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		13		S160
S162	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F1	HM	--		14		S162
S163	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F1	HM	--		14		S163
S164	FG	1	HM	IG	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		13		S164

GENERAL NOTES

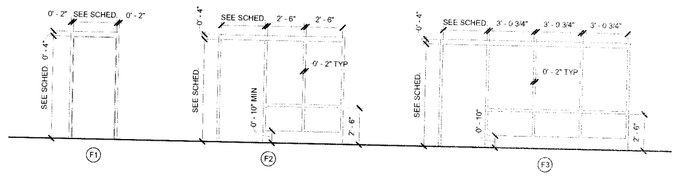
A. This Door Schedule(s) is furnished for whatever assistance it may afford the Contractor. Do not consider it as entirely inclusive. Carefully examine the Drawings (especially the Floor Plans) and the Specifications to determine the extent of door and frame quantities required (including interior borrowed lite or sidelite openings). Should any particular door, frame, or interior borrowed lite or sidelite shown on the Drawings be inadvertently omitted from this Schedule, supply same as required for similar openings.

B. The "QTY" column designates the number of leaves in the opening. The "Door Width" column designates the total width of all leaves. In multiple leaf conditions, the leaves shall equally divide the "Door Width" unless noted otherwise; however, the active leaf shall not be less than 3'-0" wide.

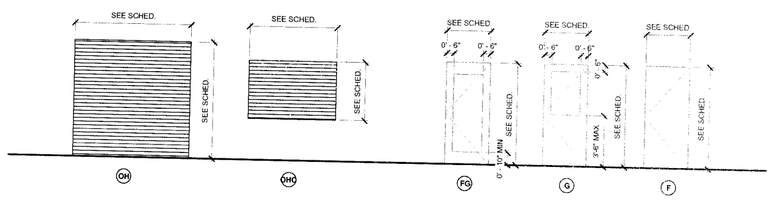
C. Verify locksets with the Owner during submittals.

ABBREVIATIONS

AL	Aluminum
HM	Hollow Metal
ST	Steel
WD	Wood
TG	Tempered Glazing
IG	Insulated Glazing
LG	Laminated Glazing
FG	Frosted Glazing
SP	Spandrel Panel



5.4.600 - HOLLOW METAL FRAME ELEVATIONS
1/4" = 1'-0"



5.4.600 - DOOR PANEL ELEVATIONS
1/4" = 1'-0"

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

DOOR & FRAME SCHEDULE

A-600

ABBREVIATIONS

ACU	AIR CONDITIONING UNIT
ACCU	AIR COOLED CONDENSING UNIT
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR (TYP UNLESS) AREA DRAIN (TP UNSP)
ADA	AMERICAN DISABILITIES ACT
ADJT	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MONITORING
AHU	AIR HANDLING UNIT
ALTER	ALTERNATE
AMP	AMPERES (AMP, AMPS)
APPROX	APPROXIMATE (LY)
ARCH	ARCHITECT (URAL)
AS	AIR SEPARATOR
APD	AIR PRESSURE DROP (IN WG)
AV	AUTOMATIC VENT
BD	BOILER BLOW DOWN
BDD	BACKDRAFT DAMPER
BFC	BELOW FINISHED CEILING
BFW	BOILER FEED WATER
BFWP	BOILER FEED WATER PUMP
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPING
BTU	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNIT PER HOUR
C	COMMON
CD	CONDENSATE DRAIN
CAB	CABINET
CAV	CONSTANT AIR VOLUME
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFCI	CONTRACTOR FURNISHED-OWNER INSTALLED
CH	CHILLER
CHP	CHILLED WATER PUMP
CHCP	CHILLED WATER CHEMICAL FEED
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CO	CLEANOUT
CONN	CONNECTION
CONV	CONVECTOR
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CUV	CLASSROOM UNIT VENTILATOR
CV	CONTROL VALVE
CWCP	CONDENSER WATER CHEMICAL FEED
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
DB	DRAIN BOX
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE (°F)
EC	ELECTRICAL CONTRACTOR
EDR	EQUIVALENT DIRECT RADIATION
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EMERGENCY
EGR	EXHAUST GRILLE
ELEC	ELECTRIC
ELEV	ELEVATION
EMER	EMERGENCY
ENCL	ENCLOSURE
EOM	END OF MAIN DRIP
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE (IN WG)
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EVAP	EVAPORATE) (ING), (OR)
EWT	ENTERING WATER TEMPERATURE (°F)
EXP	EXPANSION
EX	EXISTING
°	DEGREES FAHRENHEIT
F&B	FACE AND BY PASS
F&T	FLOAT & THERMOSTATIC STEAM TRAP
FCP	FLUID COOLER PUMP
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FLR	FLOOR
FPM	FEET PER MINUTE
FT	FOOT/FEET
FTG	FOOTING
FTR	FINNED TUBE RADIATOR
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRV	GRAVITY INTAKE VENTILATOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GLYCOL RETURN
GS	GLYCOL SUPPLY
GV	GRAVITY RELIEF VENTILATOR
H	HUMIDISTAT/HUMIDIFIER
HD	HEAD (FT.)
HE	HEAT EXCHANGER
HORIZ	HORIZONTAL
HP	HORSEPOWER/HEAT PUMP
HPCR	HEAT PUMP WATER RETURN
HPCS	HEAT PUMP WATER SUPPLY
HPWP	HEAT PUMP WATER PUMP
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
HR	HOUR
HRP	HEAT RECOVERY PUMP
HTR	HEATER
HSPF	HEATING SEASONAL PERFORMANCE FACTOR
HWCP	HEATING HOT WATER CHEMICAL FEED
HWP	HEATING HOT WATER PUMP
HWR	HEATING HOT WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HZ	FREQUENCY (MEASURED)
ID	INVERTED BUCKET STEAM TRAP
ID	INSIDE DIAMETER
IN	INCHES/INCH
INCIN	INCINERATOR
INCL	INCLUDE(-ED)
INDIC	INDICATOR
INSTL	INSULATE(-D) (ION)
INT	INTERIOR
KEC	KITCHEN EQUIPMENT CONTRACTOR
KW	KILOWATT

ABBREVIATIONS

LAB	LABORATORY
LAD	LAMINAR AIR DIFFUSER
LAF	LAMINAR AIR FLOW
LAT	LEAVING AIR TEMPERATURE (°F)
LBS	POUND
LD	LINEAR DIFFUSER
LEC	LABORATORY EQUIPMENT CONTRACTOR
LFC	LABORATORY FURNISHINGS CONTRACTOR
LFD	LAMINAR FLOW DIFFUSER
LP	LIQUID PETROLEUM
LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
LWT	LEAVING WATER TEMPERATURE (°F)
MAT	MIXED AIR TEMPERATURE (°F)
MAX	MAXIMUM
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MPS	MEDIUM PRESSURE STEAM
MPC	MEDIUM PRESSURE CONDENSATE
MTD	MOUNTED
MV	MANUAL VENT
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE (°F)
OBD	OPPOSED BLADE DAMPER
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/OWNER INSTALLED
P	PUMP
PBD	PARALLEL BLADE DAMPER
PCHR	PANEL CHILLED WATER RETURN
PCHS	PANEL CHILLED WATER SUPPLY
PD	PRESSURE DROP (IN OR WG AS NOTED)
PE	PNEUMATIC-ELECTRIC
PER (%)	PERCENT
PH	PHASE
PHC	PREHEAT COIL
PHWR	PERIMETER HEATING HOT WATER RETURN
PHWS	PERIMETER HEATING HOT WATER SUPPLY
PI	PRESSURE INDICATOR
PNEU	PNEUMATIC
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	PNEUMATIC TUBE
PTS	PNEUMATIC TUBE STATION
R	THERMAL RESISTANCE
R(#)	REFRIGERANT (NUMBER)
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE (°F)
RECIR	RECIRCULAT(E), (OR), (ING)
RES	RELATIVE HUMIDITY
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RM	ROOM
RP	RADIANT PANEL (CEILING-MOUNTED)
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RV	REFRIGERANT VENT
SA	SUPPLY AIR
SF	SUPPLY FAN
SAT	SUPPLY AIR TEMPERATURE (°F)
SCC	STEAM CONDENSATE COOLER
SD	SUPPLY DIFFUSER
SECT	SECTION
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SQUARE FOOT
SG	SUPPLY GRILLE
SHR	SENSIBLE HEAT RATIO
SHT	SHEET
SPEC	SPECIFICATIONS
SRV	SAFETY RELIEF VALVE
SS	STAINLESS STEEL
ST	STORAGE TANK
STD	STANDARD
STP	STORAGE TANK PUMP
STR	STORAGE TANK RETURN
STS	STORAGE TANK SUPPLY
STRUCT	STRUCTURE(E), (AL)
SUCT	SUCTION
SV	STEAM VENT
TB	TERMINAL BOX
TC	TEMPERATURE CONTROL
TCC	TEMPERATURE CONTROL CONTRACTOR
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TONS	TONS OF REFRIGERATION
TSP	TOTAL STATIC PRESSURE (IN WG)
TSTAT	THERMOSTAT
TYP	TYPICAL
U	HEAT TRANSFER COEFFICIENT
UC	UNDER CUT
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VC	VACUUM CLEANING
VD	VOLUME DAMPER
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VRV	VARIABLE REFRIGERANT VOLUME
W	WITH
WG	WATER GAUGE
WO	WITHOUT
WPD	WATER PRESSURE DROP
WTR	WATER
ZN	ZONE

HVAC PIPING SYMBOLS

CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
HHWS	HEATING HOT WATER SUPPLY
HHWR	HEATING HOT WATER RETURN
CD	CONDENSATE DRAIN PIPING
LPS	LOW PRESSURE STEAM SUPPLY (15 PSI AND LESS)
LPC	LOW PRESSURE CONDENSATE RETURN (15 PSI AND LESS)
MPS	MEDIUM PRESSURE STEAM SUPPLY (BETWEEN 15 PSI AND 100 PSI)
MPC	MEDIUM PRESSURE CONDENSATE RETURN (BETWEEN 15 PSI AND 100 PSI)
SV	STEAM VENT
CPD	CONDENSATE PUMP DISCHARGE
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
RD	REFRIGERANT DISCHARGE
	DIRECTION OF SLOPE DOWN
HPWS	HEAT PUMP WATER SUPPLY
HPWR	HEAT PUMP WATER RETURN

GENERAL DUTY VALVES, FITTINGS

	RISE IN PIPING
	DROP IN PIPING
	CAPPED PIPE
	PIPE CONTINUED ON ANOTHER DRAWING
	CHECK VALVE
	PLUG VALVE
	PRESSURE REGULATING VALVE
	VALVE - SEE SPECIFICATIONS FOR VALVE TYPE
	BUTTERFLY VALVE
	RELIEF VALVE
	TRIPLE DUTY VALVE
	GATE VALVE
	BALL VALVE
	VALVE IN RISER
	ANGLE VALVE
	MANUAL BALANCING VALVE
	AUTOMATIC BALANCING VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	UNION
	THERMOMETER WELL
	THERMOMETER & WELL
	GAUGE CONNECTION(S) & WELL
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	PETE'S PLUG
	Y-STRAINER W/BLOWDOWN VALVE & CAP
	PIPE GUIDES
	PIPE ANCHORS
	FLEXIBLE PIPING CONNECTOR
	PIPE EXPANSION JOINT
F&T	STEAM TRAP W/DESIGNATION
	EXPANSION LOOP (SIZE INDICATED ON DRAWINGS)
	GAS COCK
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PRESSURE REDUCING VALVE

MECHANICAL GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO M-SERIES DRAWINGS. ADDITIONAL CLARIFICATIONS SPECIFIC TO A PARTICULAR DRAWING ARE NOTED ON THOSE SHEETS.

2. IT IS THE INTENT OF THESE DOCUMENTS TO PROVIDE MECHANICAL SYSTEMS THAT ARE FULLY FUNCTIONAL. PROVIDE ALL ITEMS SPECIFIED AND REQUIRED FOR COMPLETE OPERATIONAL SYSTEMS.

3. ON MECHANICAL "M" SERIES DRAWINGS, DARK LINE ITEMS INDICATE NEW WORK. LIGHT LINE ITEMS ARE ITEMS THAT SHALL REMAIN.

4. THESE DRAWINGS INDICATE REQUIRED SIZE AND POINTS OF TERMINATION FOR PIPING, DUCTWORK, CONDUIT, ETC. THE EQUIPMENT SHOWN ILLUSTRATES SUGGESTED ROUTING, BUT ALL NECESSARY OFFSETS MAY NOT BE SHOWN. DIVISION 23 SHALL INSTALL HIS WORK IN A MANNER THAT WILL CONFORM WITH THE STRUCTURE. DIVISION 23 SHALL AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND MAINTAIN MAXIMUM CLEARANCE WITHOUT FURTHER INSTRUCTION FROM THE ARCHITECT/ENGINEER OR ADDITIONAL COST TO THE OWNER.

5. ALL DUCTWORK, PIPING, AND VALVES SHALL BE CONCEALED ABOVE CEILING AND WITHIN WALLS IN FINISHED AREAS UNLESS OTHERWISE INDICATED.

6. ALL VALVES, ETC. SHALL BE INSTALLED ALLOWING EASY ACCESS IN TWELIN LIGHT FIXTURES AND NO HIGHER THAN 12" TO 24" ABOVE THE CEILING. PROVIDE FITTINGS IN DUCTWORK AND PIPING AS REQUIRED SO THAT NO PIPING REMAINS TIGHT TO ROOF STRUCTURE). PROVIDE ACCESS PANELS AS REQUIRED. AREA ADJACENT TO THE ACCESS PANELS SHALL BE CLEAR OF ANY OBSTRUCTIONS. PROVIDE EXTENDED VALVE HANDLES FOR INSULATED PIPING.

7. DIVISION 23 SHALL BE GUIDED BY THE ARCHITECT/ENGINEER'S REFLECTED CEILING PLAN FOR LOCATION OF DIFFUSERS, REGISTERS, GRILLES AS SHOWN OR COVERED BY THESE PLANS. RETURN GRILLES SHALL NOT ALIGN WITH SUPPLY AIR THROW.

8. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL GRILLES, REGISTERS AND DIFFUSERS IN CEILINGS WITH THE CEILING SYSTEM AND LIGHT FIXTURES. PROVIDE FLEXIBLE DUCT UPSTREAM OF EACH DIFFUSER WHERE SHOWN.

9. ARROWS ON THE HOT WATER, COLD WATER MAINS INDICATE THE DIRECTION OF FLOW. PITCH MAINS UPWARD A MINIMUM OF 1" PER 40' IN THE DIRECTION OF FLOW. ARROWS ON STEAM AND CONDENSATE PIPING AND DRAIN LINE INDICATE THE DOWNWARD PITCH OF THE PIPING.

10. INSTALL AIR VENTS AT ALL HIGH POINTS AND DRAINS AT ALL LOW POINTS OF WATER PIPING SYSTEMS. DRAINS TO HAVE HOSE END THREADS WITH CLEARANCE TO ATTACH HOSE.

11. PIPING BRANCHES TO EQUIPMENT SHALL HAVE SAME SIZE, VALVES AND FITTINGS AS THAT OF THE LINE SIZE WITH THE EXCEPTION OF THE TEMPERATURE CONTROL VALVES.

12. PIPE SWING CONNECTIONS WITH UNIONS OR FLANGES SHALL BE MADE EXTERNAL TO COILS OR A TUBE BUNDLE TO FACILITATE REMOVAL OF THAT ITEM WITHOUT DISTURBING THE BRANCH VALVES AND/OR PIPING.

13. DUCT AND PIPING PENETRATING FLOOR SLABS AND/OR WALLS SHALL BE SEALED WITH ACOUSTIC SEALANT. IF THE FLOOR OR WALL IS FIRE RATED PROVIDE THE FIRE STOPPING OR FIRE DAMPER TO MAINTAIN THE FIRE RATING.

14. ALL RECTANGULAR SHEET METAL DUCT SIZES ARE INSIDE DIMENSIONS. ALL ROUND DUCT SIZES SHOWN ARE INSIDE DIAMETERS. ALLOWANCE FOR ACOUSTICAL LINER WHERE INDICATED ON DRAWINGS MUST BE ADDED TO OBTAIN OUTSIDE SHEET METAL DIMENSION.

15. ALL WALL THERMOSTATS, TEMPERATURE SENSORS, AND/OR HUMIDISTATS SHALL BE APPROXIMATELY 48" ABOVE FINISHED FLOOR TO CENTER AND LINED UP HORIZONTALLY WITH LIGHT SWITCHES UNLESS OTHERWISE NOTED OR DIRECTED BY THE ARCHITECT/ENGINEER.

16. DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR HIS RESPECTIVE WORK FOR REPAIRING AND PATCHING TO MATCH EXISTING SURFACES: SIDEWALKS, STREETS, FLOORS, WALLS, ROOFS, CEILING AND PAVEMENT. CONTRACTOR SHALL INCLUDE IN BID PROPOSAL ALL COSTS FOR CUTTING AND PATCHING REQUIRED TO INSTALL NEW OR REMOVE EXISTING WORK, EQUIPMENT, OR SYSTEMS.

17. DIVISION 23 CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL OF HIS WORK TO BE INSTALLED WITH ANY AND ALL OTHER CONTRACTORS TO BE AFFECTED BY SUCH WORK, PRIOR TO ORDERING ANY OF THE EQUIPMENT. THIS SHALL INCLUDE BUT NOT LIMITED TO ELECTRICAL CHARACTERISTICS, CONNECTIONS REQUIRED, PHYSICAL SIZE, COLOR AND FIT. ALSO REFER TO SPECIFICATIONS.

18. ALL EQUIPMENT SHALL BE OF, AND CONSIST OF, AT LEAST MINIMUM SIZES SELECTED, AND SHALL PERFORM TO OR SURPASS THE MINIMUM REQUIREMENTS, SCHEDULES, NOTES AND SPECIFIED.

19. COORDINATE INSTALLATION OF NEW WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED FOR A COMPLETE AND OPERABLE HVAC SYSTEM. CLEARANCES ABOVE CEILINGS ARE EXTREMELY TIGHT IN CERTAIN AREAS. RELOCATE PIPING, ELECTRIC CONDUIT, STRUCTURAL BRACING, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION OF HVAC WORK. COORDINATE ROUTING OF NEW DUCTWORK ABOVE CEILINGS WITH EXISTING ELECTRIC CABLE TRAY, ETC. TO COORDINATE ALL DUCTWORK ROUTING AND DUCTWORK ELEVATIONS WITH STRUCTURAL STEEL SUPPORTS FOR FOLDING WALLS. REFERENCE STRUCTURAL DRAWINGS FOR SIZE AND LOCATIONS OF STEEL. FIELD VERIFY ALL EXISTING CONDITIONS.

20. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL VAV REHEAT BOXES AND DUCTWORK WITH THE CEILING SYSTEM AND LIGHT FIXTURES. FIELD VERIFY EXISTING CEILING SYSTEM AND LOCATION OF EXISTING LIGHT FIXTURES. ALLOW REQUIRED CLEARANCES FOR SERVICE TO BOX AND CONTROLS.

21. CONTRACTOR SHALL RELOCATE EXISTING LIGHT FIXTURE AND CEILING GRID SUPPORT HANGERS AS REQUIRED FOR INSTALLATION OF NEW VAV REHEAT BOXES, DUCTWORK AND PIPING.

22. PROVIDE VOLUME DAMPERS IN ALL SUPPLY AIR BRANCH DUCTWORK AS REQUIRED TO BALANCE EACH SYSTEM. ALL VOLUME DAMPERS LOCATED ABOVE DRYWALL CEILINGS SHALL BE CABLE OPERATED WITH REMOTE REGULATOR LIKE YOUNG REGULATOR. FIELD VERIFY EXISTING CEILINGS FOR DRYWALL CEILINGS. COORDINATE LOCATION OF ALL DAMPERS WITH AIR BALANCE CONTRACTOR IN HARD CEILINGS PROVIDE VOLUME DAMPER BEHIND THE GRILLE, REGISTER, OR DIFFUSER.

23. PROVIDE 45°/90° FITTING WITH VOLUME DAMPER LIKE FLEDMASTER MODEL STO AT ALL SUPPLY AIR AND PRIMARY AIR BRANCH DUCTWORK TAKEOFFS.

24. CONTRACTOR SHALL REVIEW RETURN AIR PATH BACK TO ALL HVAC EQUIPMENT. PROVIDE RETURN AIR OPENINGS AND/OR JUMPER DUCTS IN WALLS ABOVE THE CEILING WHERE REQUIRED. COORDINATE WITH GENERAL TRADES. VELOCITY THRU R.A. OPENINGS SHALL NOT EXCEED 500 FPM. FIELD VERIFY LOCATION OF EXISTING WALLS EXTENDING TO DECK.

25. ALL TRANSFER AIR DUCTS TO BE INTERNALLY INSULATED TO DETER NOISE TRANSFER. SIZE SHOWN ON PLANS INDICATES ACTUAL FREE AREA.

26. ALL NEW PIPING AND DUCTWORK CROSSING THRU EXISTING CORRIDOR AND/OR CLASSROOM WALLS TO DECK. CUT WALLS AS REQUIRED. COORDINATE ALL OPENINGS THROUGH EXISTING WALL CONSTRUCTION WITH GENERAL TRADES. SEAL AROUND DUCTWORK AND PIPING TO HELP REDUCE THE TRANSFER OF NOISE BETWEEN CLASSROOMS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING OF BID.

27. ROUND DUCT SIZE TO BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS OTHERWISE NOTED. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK CONNECTED TO A DIFFUSER SHALL BE 5'-0".

28. ALL DUCTWORK CONSTRUCTION SHALL BE FABRICATED SHEET METAL & BUILT IN ACCORDANCE WITH "SMACNA" STANDARDS.

29. ALL SUPPLY, RETURN, RELIEF/EXHAUST, AND OUTDOOR AIR DUCTWORK SHALL BE EXTERNALLY INSULATED. SEE SPECIFICATION FOR ADDITIONAL INSULATION REQUIREMENTS.

30. ALL ROUND DUCT TO BE EXTERNALLY INSULATED UNLESS NOTED OTHERWISE. SIZE SHOWN INDICATES ACTUAL DUCT FREE AREA. SEE SPECIFICATION FOR ADDITIONAL INSULATION REQUIREMENTS.

31. ALL NEW ROOF WORK TO BE IN ACCORDANCE WITH OWNER'S EXISTING ROOF WARRANTY.

32. ALL ROOF PENETRATIONS TO BE SEALED WATERTIGHT. PACK VOID IN TWEEN DUCT PENETRATING ROOF AND STRUCTURE WITH FIBERGLASS INSULATION AND CAULK WATERTIGHT FOR HIGH TEMPERATURE OR GREASE DUCTS UTILIZE MINERAL WOOL.

33. TEMPERATURE CONTROL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING COMPLETE FOR THIS PROJECT. ALL WIRING (AND INTERLOCK WIRING) TO THERMOSTATS, SPACE SENSORS, HUMIDISTATS, CARBON DIOXIDE MONITORS, ETC. ARE TO BE CONCEALED WITHIN THE WALL.

34. ALL HARD 90° ELBOWS IN SUPPLY DUCTWORK ARE TO HAVE TURNING VANES PER SPECIFICATION AIR DUCT ACCESSORIES.

35. REMOVE ALL WORK MADE OBSOLETE BY NEW CONSTRUCTION.

36. DEMOLITION OF EXISTING MECHANICAL EQUIPMENT TO INCLUDE ASSOCIATED PIPING AND DUCTWORK NECESSARY FOR NEW EQUIPMENT INSTALLATION.

37. ALL EXISTING TO REMAIN AND NEW PVC PLUMBING VENT LINES LOCATED ABOVE CEILING IN RETURN PLENUM ARE TO BE EXTERNALLY WRAPPED WITH FLAME AND SMOKE SPREAD RATED INSULATION MATERIAL AS REQUIRED.

38. REFER TO NCI SECTION DIVISION 01 "SUMMARY" (MULTIPLE CONTRACT SUMMARY) FOR CONSTRUCTION PHASING.

39. CONTRACTOR SHALL THOROUGHLY EXAMINE THE CONTRACT DOCUMENTS, INCLUDING THE WORK OF OTHER CONTRACTORS PRIOR TO SUBMITTING A BID PROPOSAL.

40. ALL EXHAUST FANS, RELIEF VENTS, FLUES, AND PLUMBING VENTS TO BE INSTALLED A MINIMUM OF 10 FT. FROM OUTDOOR AIR INTAKES.

41. CONTRACTOR SHALL CLEAN ALL OF HIS WORK INSIDE AND OUT. AIR DISTRIBUTION SYSTEMS SHALL HAVE ALL DIRT AND FOREIGN MATERIAL REMOVED FROM INSIDE AND OUTSIDE OF DUCTS, PLENUMS, HOUSINGS, DEVICES, TERMINALS, ETC. AS INSTALLATION PROGRESSES. PROTECT OPEN ENDS OF DUCTWORK AND INLETS AND OUTLETS OF EQUIPMENT AND DEVICES. DURING CONSTRUCTION, CLEAN ALL ACCESSIBLE PARTS OF DUCTWORK AND AIR PASSAGES IN EQUIPMENT BEFORE FILTERS ARE INSTALLED OR REPLACED FOR SYSTEM BALANCING.

42. FURNISH AND INSTALL ACCEPTABLE CONCRETE INSERTS, ANCHORS, CLAMPS, BRACKETS, HANGERS, STRUCTURAL MEMBERS (ANGLES, CHANNELS, ETC.) AND FRAMES, ETC. REQUIRED FOR SUPPORTING ALL HVAC/PIPING WORK. SUPPORTING DEVICES, ASSEMBLIES AND ATTACHMENTS SHALL BE DESIGNED AND ARRANGED TO CARRY THE WEIGHT OF THE SUPPORTED ITEMS INCLUDING HANGERS AND CONTENTS WITHOUT TRANSMITTING VIBRATION OR NOISE TO THE BUILDING CONSTRUCTION. DESIGNED APPROPRIATE AND APPROVED FOR THE PURPOSE USED. HAVE A NEAT AND FINISHED APPEARANCE, AND COMPLEMENT THE INSTALLATION. HAVE CORROSION PROTECTION SUITABLE FOR THE ATMOSPHERE WHERE INSTALLED. ADEQUATELY AND SAFELY ATTACHED TO THE BUILDING STRUCTURE OR STRUCTURAL MEMBERS. EXPOSED SUPPORTS SHALL BE PAINTED UNLESS OF NON-FERROUS MATERIAL OR PROVIDED WITH PLATED (RUSTPROOF) FINISH.

43. PROVIDE NLC CLEARANCES AND SERVICE CLEARANCES FOR EQUIPMENT. COORDINATE EQUIPMENT SERVICE ACCESS. CLEARANCES INDICATED ARE BASED UPON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY PIPING, DUCTWORK, ETC., ROUTING PRIOR TO SUBMITTING A BID PROPOSAL AND INCLUDE ANY SUCH COSTS AS REQUIRED TO INSTALL WORK AS SHOWN AND INTENDED.

44. ELEVATOR EQUIPMENT ROOMS:
DO NOT ROUTE ANY SYSTEMS THROUGH ELEVATOR EQUIPMENT ROOMS. FOR SYSTEMS THAT SERVE ELEVATOR EQUIPMENT ROOMS, DO NOT ROUTE OVER ELEVATOR EQUIPMENT OR ELECTRICAL COMPONENTS AND DO NOT HINDER SERVICE ACCESS.

45. TELECOMMUNICATIONS ROOMS (MDF AND IDF):
DO NOT ROUTE ANY SYSTEMS THROUGH TELECOMMUNICATIONS ROOMS. FOR SYSTEMS THAT SERVE T-COMM ROOMS, DO NOT ROUTE OVER EQUIPMENT OR ELECTRICAL COMPONENTS AND DO NOT HINDER SERVICE ACCESS.

46. ELECTRICAL EQUIPMENT ROOMS:
DO NOT ROUTE ANY SYSTEMS THROUGH ELECTRIC ROOMS. FOR SYSTEMS THAT SERVE ELECTRIC ROOMS, DO NOT ROUTE OVER EQUIPMENT, PANELS, TRANSFORMERS, VFD'S, OR ELECTRICAL COMPONENTS AND DO NOT HINDER SERVICE ACCESS.

47. EXISTING VALVES MADE INACCESSIBLE BY NEW DUCT AND/OR PIPING SHALL BE RELOCATED AS REQUIRED FOR ACCESS.

48. DURING REMOVAL OF ITEMS, CAUTION SHALL BE USED TO PREVENT DAMAGE TO ANY EQUIPMENT HAVING SALVAGE VALUE. ALL REUSABLE SALVAGED MATERIAL SHALL REMAIN THE PROPERTY OF THE OWNER AND BE RETAINED FOR HIS INSPECTION. ONLY ITEMS SO INSPECTED AND REJECTED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR. ALL OTHER ITEMS SHALL BE TURNED OVER AND DEPOSITED AS DIRECTED BY THE OWNER.

49. CONTRACT DOCUMENTS CONSIST OF BOTH PROJECT MANUAL AND DRAWINGS AND BOTH ARE MEANT TO BE COMPLEMENTARY - ANYTHING APPEARING ON EITHER MUST BE EXECUTED THE SAME AS IF SHOWN ON BOTH.

50. VERIFY EXACT SIZE AND LOCATION OF ALL EXISTING PIPING AND DUCTWORK PRIOR TO CONSTRUCTION OR BIDDING.

51. ALL DUCTWORK LOCATED IN ATTIC TO BE EXTERNALLY WRAPPED WITH MINIMUM OF 3" THICK INSULATION.

HVAC EQUIPMENT SYMBOLS

	LINEAR DIFFUSER W/TYPE AND CFM (TWO-WAY SIDE TYPE)
	SUPPLY DIFFUSER W/TYPE AND CFM (FOUR-WAY TYPE)
	SUPPLY DIFFUSER W/TYPE AND CFM (THREE-WAY TYPE)
	SUPPLY DIFFUSER W/TYPE AND CFM (TWO-WAY SIDE TYPE)
	SUPPLY DIFFUSER W/TYPE AND CFM (ONE-WAY SIDE TYPE)
	RETURN GRILLE W/ TYPE AND CFM
	EXHAUST GRILLE W/ TYPE AND CFM
	SIDEWALL GRILLE W/TYPE AND CFM
AT ROOF	ROOF-MOUNTED EXHAUST FAN
AT CEILING	CEILING-MOUNTED EXHAUST FAN
T	THERMOSTAT

DUCTWORK SYMBOLS

	DROP IN DUCTWORK (SUPPLY ONLY)
	DROP IN DUCTWORK (EXHAUST, RETURN, ETC.)
	RISE IN DUCTWORK (SUPPLY ONLY)
	RISE IN DUCTWORK (EXHAUST, RETURN, ETC.)
R D	OFFSET IN DUCTWORK (R = RISE D = DROP)
12/8	RECTANGULAR DUCTWORK
12Ø	ROUND SPIRAL DUCTWORK
12/8 Ø	OVAL DUCTWORK
	INSULATED FLEXIBLE DUCTWORK
	STANDARD RADIUS ELBOW, CENTER RADIUS 1-1/2 TIMES WIDTH OF DUCT
	90° ELBOW WITH TURNING VANES
	SQUARE TO ROUND TRANSITION
	SHOETAP WITH SQUARE TO ROUND TRANSITION
	CONICAL FITTING
	90° TEE FITTING
	45° LATERAL FITTING
	BELLMOUTH FITTING
	SHOETAP (OR 45° ENTRY) FITTING
	MANUAL VOLUME DAMPER
AD FD	FD = FIRE DAMPER FSD = FIRE/SMOKE DAMPER SD = SMOKE DAMPER BDD = BACKDRAFT DAMPER OBD = OPPOSED BLADE DAMPER PBD = PARALLEL BLADE DAMPER
M	MOTORIZED CONTROL DAMPER
AD	ACCESS DOOR
	INTERNALLY INSULATED DUCTWORK
	FLEXIBLE CONNECTION
AIR FLOW 20° 30°	DUCT MOUNTED REHEAT COIL (HYDRONIC)
	NEW TO EXISTING
BDD	COUNTERBALANCED BACKDRAFT DAMPER
MBDD	MOTORIZED BACKDRAFT DAMPER

DRAWING NOTATIONS

D DEMO 1 NEW	PLAN NOTE
3 M-501	DETAIL REFERENCE
2 M-101	SECTION REFERENCE

NOTE:
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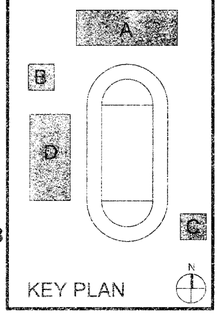

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL SYMBOLS AND ABBREVIATIONS

M-001

ABBREVIATIONS

AD	AREA DRAIN
ADA	AMERICAN DISABILITIES ACT
ADJ	ADJUSTABLE
AE	ANESTHESIA EVACUATION
AFF	ABOVE FINISHED FLOOR
ALTER	ALTERNATE
AMP	AMPERE (AMP, AMPS)
APPROX	APPROXIMATI(E), (LY)
ARCH	ARCHITECT (URAL)
APD	AIR PRESSURE DROP (IN WG)
AV	ACID VENT
AW	ACID WASTE
A	COMPRESSED AIR
BFC	BELOW FINISHED CEILING
BLDG	BUILDING
BOP	BOTTOM OF PIPING
BT	BATHTUB
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CONDENSATE DRAIN
CFOI	CONTRACTOR FURNISHED/OWNER INSTALLED
CI	CAST IRON
CO	CLEANOUT
CO2	CARBON DIOXIDE
CONN	CONNECTION
CW	COLD WATER (DOMESTIC)
D	DRAIN
DF	DRINKING FOUNTAIN
DN	DOWN
DS	DOWNSPOUT
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWS	DOMESTIC WATER SOFTNER
EC	ELECTRICAL CONTRACTOR
ECO	EXTERIOR CLEANOUT
EFF	EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
EMER	EMERGENCY
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
ES	EMERGENCY SHOWER
ET	EXPANSION TANK
EW	EMERGENCY EYEWASH
EWC	ELECTRIC WATER COOLER
EXP	EXPANSION
EXIST	EXISTING
°F	DEGREES FAHRENHEIT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FH	FIRE HOSE
FHC	FIRE HOSE CABINET
FLR	FLOOR
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FP	FIRE PROTECTION
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FT	FOOT/FEET
FTG	FOOTING
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GT	GREASE TRAP
HB	HOSE BIB
HD	HEAD (FT.)
HO	HUB OUTLET
HORIZ	HORIZONTAL
HWCP	HOT WATER RECIRCULATING PUMP
HR	HOUR
HW	HOT WATER (DOMESTIC)
HWR	HOT WATER RETURN
HZ	FREQUENCY (MEGAHERTZ)
ID	INSIDE DIAMETER
IN	INCH/INCHES
INCL	INCLUD(E), (ED)
INDIC	INDICATOR
INSUL	INSULATI(E), (ED), (ION)
INT	INTERIOR
INV	INVERT
KEC	KITCHEN EQUIPMENT CONTRACTOR
KW	KILOWATT
L	LAVATORY
LA	LABORATORY AIR
LAB	LABORATORY
LBS	POUND
LEC	LABORATORY EQUIPMENT CONTRACTOR
LFC	LABORATORY FURNISHINGS CONTRACTOR
LP	LIQUID PETROLEUM
LPC	LABORATORY PLUMBING CONTRACTOR
LV	LABORATORY VACUUM
MA	MEDICAL AIR
MAX	MAXIMUM
MB	MOP BASIN
MS	MOP SINK
MBH	THOUSANDS OF BTU PER HOUR
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
N	NITROGEN
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTSIDE AIR
OFD	OVERFLOW DRAIN
OE	ORAL EVACUATION
OFCI	OWNER FURNISHED/CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED/OWNER INSTALLED
OSD	OPEN SITE DRAIN

ABBREVIATIONS

P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP (IN OR WG AS NOTED)
PER	PERCENT
PH	PHASE
PI	PRESSURE INDICATOR
PIV	POST INDICATOR VALVE
PLT	PLASTER TRAP
POC	POINT OF CONNECTION (NEW TO EXISTING)
PPM	PARTS PER MILLION
PREFAB	PREFABRICATED
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
R	THERMAL RESISTANCE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RECIR	RECIRCULATI(E), (OR), (ING)
RH	RODDING HOLE
RM	ROOM
RO	REVERSE OSMOSIS WATER
RPM	REVOLUTIONS PER MINUTE
SB	SITZ BATH
SCW	SOFT COLD WATER (DOMESTIC)
SECT	SECTION
SF	SQUARE FOOT
SH	SHOWER
SHT	SHEET
SK	SINK
SPEC	SPECIFICATIONS
SPG	SPECIAL GAS
SS	STAINLESS STEEL
SSD	SUB SURFACE (FOOTING) DRAIN
SSK	SERVICE SINK
ST	STORAGE TANK
STD	STANDARD
STP	STORAGE TANK PUMP
STS, STR	STORAGE TANK SUPPLY AND RETURN
STRUCT	STRUCTURE(E), (AL)
SU	SHOWER UNIT
T&P	TEMPERATURE AND PRESSURE
T	TEMPERED WATER
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TS	TAMPER SWITCH
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARIABLE
VB	VACUUM BREAKER
VC	VACUUM CLEANING
VERT	VERTICAL
VIF	VERIFY IN FIELD
VT	VITRIFIED TILE
VPD	VACUUM PUMP DISCHARGE
VTR	VENT THROUGH ROOF
VV	VACUUM VENT
W	WITH
WC	WATER CLOSET
W.C.	WATER COLUMN
WCO	WALL CLEANOUT
WG	WATER GAUGE
WH	WALL HYDRANT
W/O	WITHOUT
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WTR	WATER
YD	YARD DRAIN
ZN	ZONE

PLUMBING SYMBOLS

	DOMESTIC COLD WATER (CW) FOR CONSUMPTION
	DOMESTIC HOT WATER (HW) FOR CONSUMPTION
	RECIRCULATED DOMESTIC HOT WATER (HWR) FOR CONSUMPTION
—140°—	140° DOMESTIC HOT WATER (HW)
—140°—	140° RECIRCULATED DOMESTIC HOT WATER (HWR)
—SCW—	SOFT COLD WATER
—ST—	STORM SEWER
—W—	WASTE
—AW—	ACID RESISTANT SANITARY
—AV—	ACID RESISTANT VENT
—GW—	GREASE SANITARY
—WH	WALL HYDRANT
	VENT PIPING (V)
—T—	TEMPERED WATER
—G—	GAS PIPING
FD-1	FLOOR DRAIN W/DESIGNATION
RD OFD	ROOF DRAIN & OVERFLOW DRAIN W/DESIGNATION
	END OF PIPE CLEAN OUT W/DESIGNATION
	FLOOR CLEAN OUT W/DESIGNATION
—C—	WALL CLEAN OUT W/DESIGNATION
HB	HOSE BIB
—RO—	REVERSE OSMOSIS
—ROR—	REVERSE OSMOSIS RETURN
—SCW—	POTABLE SOFT COLD WATER
—CW—	POTABLE COLD WATER (DOMESTIC)
—HW—	POTABLE HOT WATER (DOMESTIC)
—HWR—	POTABLE HOT WATER RETURN
—DI—	DOMESTIC DEIONIZED WATER PIPING
—DIR—	DOMESTIC DEIONIZED WATER RETURN PIPING
—A (HP.D)—	COMPRESSED AIR (HIGH PRESSURE DRY)
—AR—	ARGON
—MG—	MIXED GAS
—V—	VACUUM
—N2—	NITROGEN

GENERAL DUTY VALVES, FITTINGS

	RISE IN PIPING
	DROP IN PIPING
	CAPPED PIPE
	PIPE CONTINUED ON ANOTHER DRAWING
	CHECK VALVE
	PLUG VALVE
	PRESSURE REGULATING VALVE
	VALVE - SEE SPECIFICATIONS FOR VALVE TYPE
	BUTTERFLY VALVE
	RELIEF VALVE
	TRIPLE DUTY VALVE
	VALVE IN RISER
	ANGLE VALVE
	MANUAL BALANCING VALVE
	AUTOMATIC BALANCING VALVE
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	UNION
	THERMOMETER WELL
	THERMOMETER & WELL
	GAUGE CONNECTION(S) & WELL
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	PETE'S PLUG
	Y-STRAINER W/BLOWDOWN VALVE & CAP
	PIPE GUIDES
	PIPE ANCHORS
	FLEXIBLE PIPING CONNECTOR
	PIPE EXPANSION JOINT
F&T	STEAM TRAP W/DESIGNATION
	EXPANSION LOOP (SIZE INDICATED ON DRAWINGS)
	GAS COCK
	DOUBLE CHECK VALVE BACKFLOW PREVENTER
	REDUCED PRESSURE BACKFLOW PREVENTER
	VACUUM BREAKER (P) = PRESSURE (A) = ATMOSPHERIC
	DOMESTIC COLD WATER VALVE BOX
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PRESSURE REDUCING VALVE

PLUMBING GENERAL NOTES

1. ALL CONCRETE WORK WILL COMPLY WITH THE SPECIFICATIONS UNDER DIVISION 3 "CAST IN PLACE CONCRETE"
2. REFERENCE SPECIFICATION SECTION 012300 FOR SCHEDULE OF ALTERNATES.
3. SEE DRAWING M-001 FOR ADDITIONAL NOTES.
4. MECHANICAL CONTRACTOR SHALL PROVIDE CONCRETE PADS FOR ALL FLOOR MOUNTED PLUMBING EQUIPMENT.
5. THE BUILDING WILL BE A FULLY SPRINKLERED. FIRE PROTECTION CONTRACTOR SHALL DESIGN THE COMPLETE SYSTEM ACCORDING TO THE CRITERIA OUTLINED ON THE DRAWINGS, IN THE SPECIFICATIONS, N.F.P.A. 13 AND N.F.P.A. 14. THE ENTIRE BUILDING SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM.
6. FIRE PROTECTION CONTRACTOR SHALL PREPARE ALL DRAWINGS AND APPLICATIONS REQUIRED TO OBTAIN APPROVAL OF THE SYSTEM BY OWNERS INSURANCE UNDERWRITER, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL DRAWINGS TO BE SUBMITTED DURING CONSTRUCTION.
7. FIRE PROTECTION CONTRACTOR SHALL SUBMIT DRAWINGS WITH ALL SPRINKLER HEAD LOCATIONS. ALL SPRINKLER HEADS TO BE LAID OUT NEATLY WITHIN THE CEILING SYSTEMS AND BE COORDINATED WITH ALL BULKHEADS, CEILINGS AND STRUCTURE. REFERENCE ARCHITECTURAL DRAWINGS FOR CEILING PLANS.
8. ALL PIPING, SIZES, ZONES AND SPRINKLER MAINS SHOWN ON DRAWINGS ARE FOR BIDDING AND DESIGN INTENT ONLY. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR PROPER COVERAGE AND CAPACITY OF THE SPRINKLER SYSTEM.
9. SPRINKLER PIPING SHALL NOT BE ROUTED THRU ANY TECHONOLGY EQUIPMENT ROOMS (TR OR ER); USE SIDEWALL SPRINKLER HEADS WITH GUARDS TO SERVE THE ROOM.
10. REFER TO SPECIFICATION 231123 FOR NATURAL GAS PIPING SYSTEM.

FIRE PROTECTION SYMBOLS

F	FIRE WATER MAIN
	POST INDICATOR VALVE
	FIRE DEPT. CONNECTION
	FLOW SWITCH
TS	TAMPER SWITCH
	UPRIGHT SPRINKLER HEAD
	PENDANT SPRINKLER HEAD
	DRY PENDANT SPRINKLER HEAD
	SIDEWALL SPRINKLER HEAD
	CONCEALED PENDANT SPRINKLER HEAD
	ZONE VALVE (OS&Y)
(A)	ALARM VALVE

DRAWING NOTATIONS

1 DEMO 1 NEW	PLAN NOTE
3 / M-501	DETAIL REFERENCE
2 / M-301	SECTION REFERENCE

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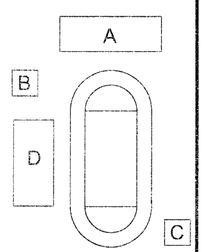


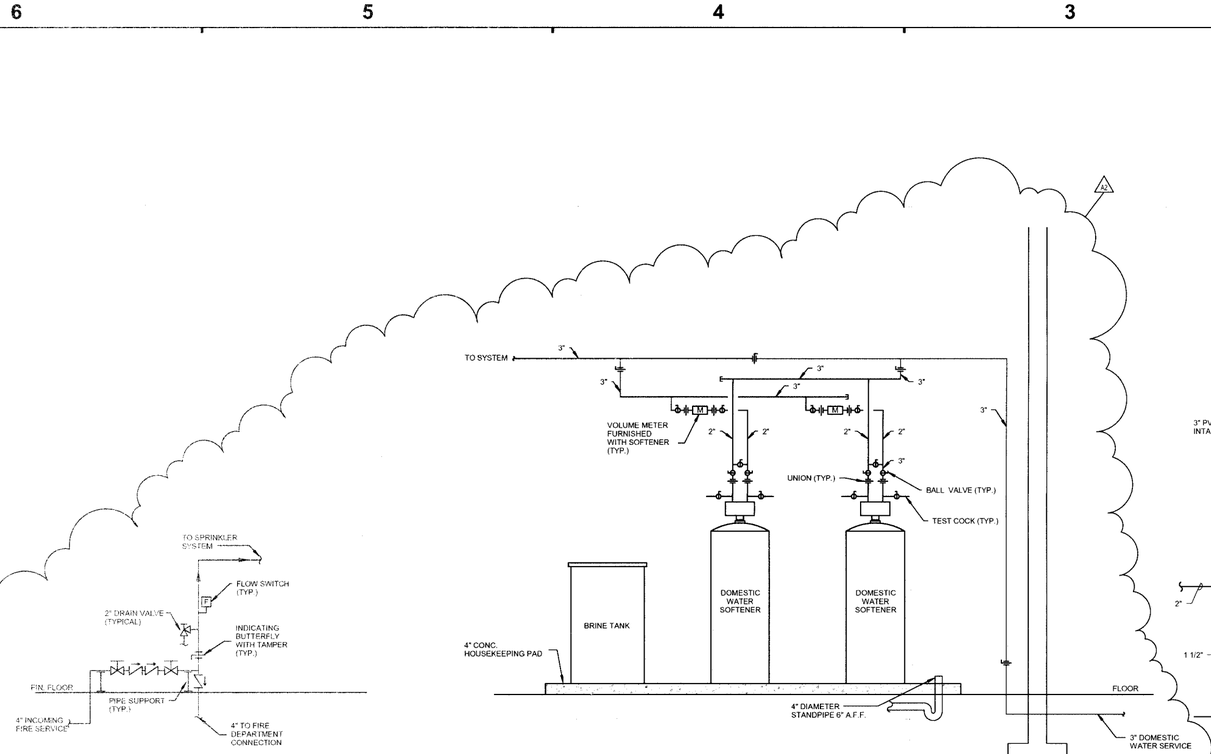
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

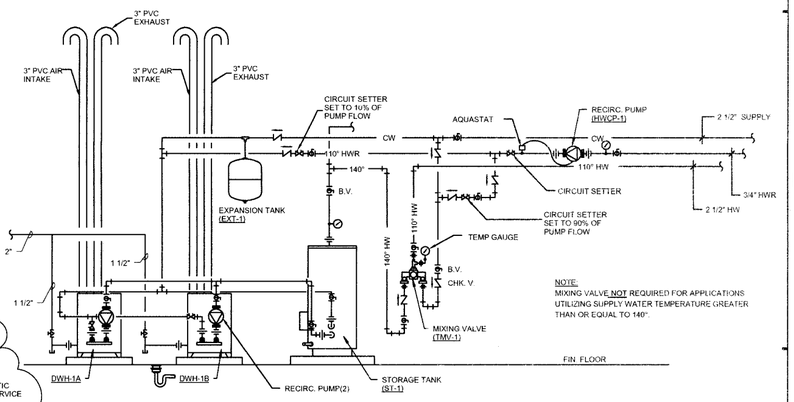
PLUMBING SYMBOLS AND ABBREVIATIONS

P-001

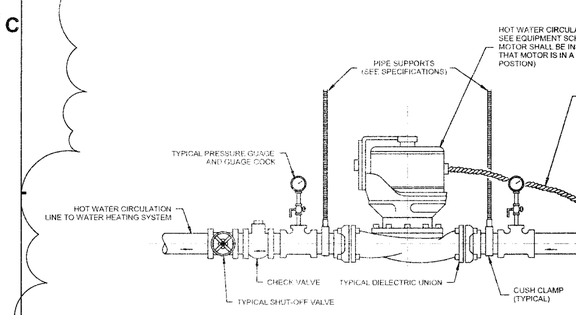


4C **DUPLEX WATER SOFTENER PIPING DIAGRAM**
NOT TO SCALE

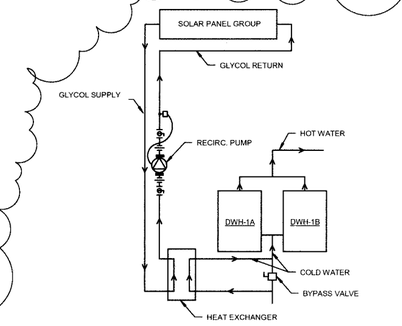
6C **WET PIPE AUTOMATIC SPRINKLER RISERS DIAGRAM**
NOT TO SCALE



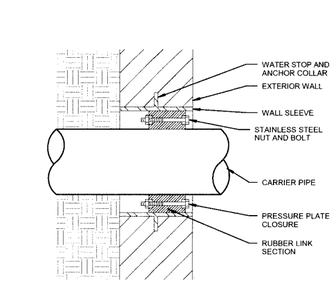
2C **WATER HEATER PIPING DIAGRAM**
NOT TO SCALE



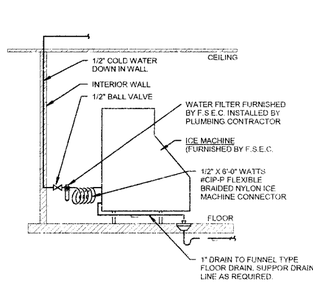
6B **HOT WATER RECIRCULATING PUMP DETAIL**
NOT TO SCALE



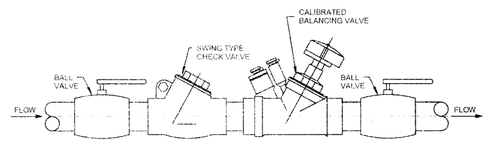
4B **SOLAR WATER HEATING PIPING SCHEMATIC**
NOT TO SCALE



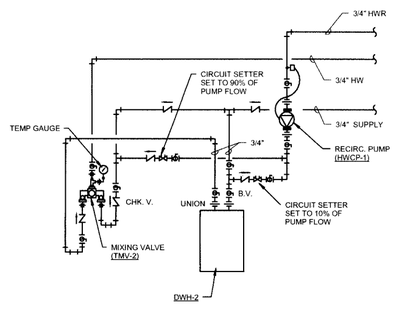
3B **PIPE SLEEVE THRU EXTERIOR WALL OR FOUNDATION WALL (BELOW GRADE) DETAIL**
NOT TO SCALE



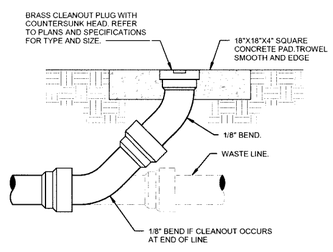
2B **ICE MACHINE DETAIL**
NOT TO SCALE



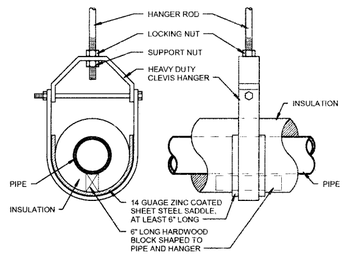
6A **HOT WATER BALANCING VALVE STATION DETAIL**
NOT TO SCALE



4A **CONCESSION BUILDINGS WATER HEATER PIPING DIAGRAM**
NOT TO SCALE



3A **EXTERIOR CLEANOUT DETAIL**
NOT TO SCALE



2A **PIPE HANGER (6" & SMALLER) DETAIL**
NOT TO SCALE

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced CCW/ IOP

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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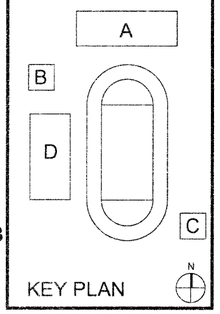

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PLUMBING DETAILS

P-500

LAVATORY SCHEDULE (224216.13)

IDENTITY DATA				FAUCET		FIXTURE CONNECTION				MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	CW	HW	W	V			
L-1	ZURN	#Z5344	VITREOUS CHINA, WALL MOUNTED, WITH BACK	ZURN	#Z81101-XL-3M	1/2"	1/2"	1 1/2"	1 1/2"	31"	No	CARRIER - ZURN (Z1231-)
L-2	ZURN	#Z5344	VITREOUS CHINA, WALL MOUNTED, WITH BACK	ZURN	#Z81101-XL-3M	1/2"	1/2"	1 1/2"	1 1/2"	34"	Yes	CARRIER - ZURN (Z1231)

SINK SCHEDULE (224216.16)

IDENTITY DATA				FAUCET		FIXTURE CONNECTION				MOUNTING	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	CW	HW	W	V			
MS-1	ZURN	#Z11996-24	PLASTIC, FLOOR-MOUNTED MOP BASIN	ZURN	Z843M1-RC	3/4"	3/4"	3"	1 1/2"	FLOOR MOUNTED		
SK-1	ELKAY	#LR2219	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	ZURN	Z831B1-XL	1/2"	1/2"	1 1/2"	1 1/2"	31"	No	
TB-1	BY OWNER			ZURN	Z843M1-RC	3/4"	3/4"	3"	1 1/2"	FLOOR MOUNTED		

WATER CLOSET SCHEDULE (224213.13)

IDENTITY DATA				FLUSHOMETER		TOILET SEAT	FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL		CW	W	V			
WC-1	ZURN	#Z5615-BWL	WALL-MOUNTED, TOP SPUD	ZURN	#Z6000-WS1-VC-YB-YC	CLOSED BACK, OPEN FRONT	1"	4"	2"	15"	No	CARRIER - ZURN (Z1201-N, 4)
WC-2	ZURN	#Z5615-BWL	WALL-MOUNTED, TOP SPUD	ZURN	#Z6000-WS1-VC-YB-YC	CLOSED BACK, OPEN FRONT	1"	4"	2"	17"	Yes	CARRIER - ZURN (Z1201-N, 4)

PRESSURE WATER COOLER SCHEDULE (224716)

IDENTITY DATA				FIXTURE CONNECTION			MOUNTING (FLOOR TO BUBBLER)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	W	V			
EWC-1	ELKAY	#LVRCGRNBWSK	ELECTRIC WATER COOLER / BOTTLE FILLER	3/4"	1 1/2"	1 1/2"	41"	No	
EWC-2	ELKAY	#VRCGRNBWSK	ELECTRIC WATER COOLER / BOTTLE FILLER	3/4"	1 1/2"	1 1/2"	36" A.F.F.	Yes	

SANITARY WASTE PIPING SPECIALTIES SCHEDULE (221319)

IDENTITY DATA				W CONNECTION	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION		
FD-1 (2")	ZURN	#Z-415B	DUCO CAST IRON BODY, BOTTOM OUTLET, MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, POLISHED NICKEL BRONZE STRAINER	2"	
FD-2 (4")	ZURN	#Z525-Y	DUCO CAST IRON BODY WITH FLASHING CLAMP, ROUND STRAINER HEAD, CAST IRON STRAINER, NO-HUB OUTLET, SEDIMENT BUCKET	4"	
FD-3 (4")	ZURN	#Z415G	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE DOMED STRAINER HEAD	4"	PROVIDE AND INSTALL A SURESEAL TRAP SEAL IN EACH FLOOR DRAIN.
FD-4 (2")	ZURN	#Z415I	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE, RECESSED, ANTI-FLOOD, STRAINER HEAD	2"	PROVIDE AND INSTALL A SURESEAL TRAP SEAL IN EACH FLOOR DRAIN.
OFD-1 (3")				3"	
OFD-1 (4")	ZURN	#ZC100-C-EA-R-B9	DUCO CAST IRON BODY WITH FLASHING CLAMP AND GRAVEL STOP WITH CAST IRON DOME, ADJUSTABLE BODY EXTENSION, 2" HIGH EXTERNAL WATER DAM.	4"	
RD-1 (3")				3"	
RD-1 (4")	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP, CAST IRON DOME, ADJUSTABLE BODY EXTENSION	4"	
TD-1	ZURN	#Z886-HPP	TWO (2) SECTIONS, 13'-6" LONG, CENTER DRAIN, BOTTOM OUTLET, HDPE GRATE	3"	
TD-2	ZURN	#Z886-FS	8'-0", CENTER DRAIN, BOTTOM OUTLET, SLOTTED STAINLESS STEEL GRATE	3"	

PLUMBING EQUIPMENT SCHEDULE

IDENTITY DATA						ELECTRICAL DATA					NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY	VOLTAGE (V)	PHASE	FLA	RPM	HP	
CP-1	BELL & GOSSETT	#NFB-22	HOT WATER CIRCULATING PUMP	PLUMBING S114	7 GPM @ 10' TDH	115 V	1	0.80 A	2940	1/12	AQUASTAT CONTROLLER
DCVA-1	WILKINS	#350-SG-4"	DOUBLE CHECK VALVE ASSEMBLY	PLUMBING S114	500 GPM @ 5 PSI						
DWH-1A	LOCHINVAR	#AWN200PM	CONDENSING WATER HEATER	PLUMBING S114	233 GPM @ 100 DEGREE TEMP RISE, 199,000 BTU	120 V	1				
DWH-1B	LOCHINVAR	#AWN200PM	CONDENSING WATER HEATER	PLUMBING S114	233 GPM @ 100 DEGREE TEMP RISE, 199,000 BTU	120 V	1				
EXT-1	AMTROL	#ST-12	THERMAL EXPANSION TANK	PLUMBING S114	4.4 GALLON TANK VOLUME, 3.2 GALLON ACCEPTABLE VOLUME						
GI-1	ZURN	#GT2700-25	GREASE INTERCEPTOR	CONCESSION S144	25 GPM FLOW RATE, 50LBS GREASE CAPACITY						FLOW CONTROL INLET FITTING
TMV-1	SYMMONS	#7-400	THERMOSTATIC MIXING VALVE WITH CHECK STOPS	PLUMBING S114	27 GPM @10 PSI DROP						
TMV-2	SYMMONS	#7-225	THERMOSTATIC MIXING VALVE WITH CHECK STOPS	CONCESSION MECH. ROOM	7 GPM @10 PSI DROP						
CP-2	BELL & GOSSETT	#NBF-12/LW	HOT WATER CIRCULATING PUMP	CONCESSION BUILDINGS MECHANICAL ROOM	3 GPM @10' HEAD	115 V	1	0.48 A	2800	1/12	AQUASTAT CONTROLLER
DWH-2	LOCHINVAR	#ETT050MD	COMPACT ELECTRIC WATER HEATER	CONCESSION BUILDINGS MECHANICAL ROOM	50 GALLONS STORAGE, 42 GPH RECOVERY @ 100 DEGREE TEMP RISE, (2) 5000 WATT ELEMENTS	208 V	3	0.00 A			
DWS-1	AQUA SYSTEMS	(2) #2900-300-2"	DUPLEX DOMESTIC WATER SOFTENER	PLUMBING S114	32 GPM CONTINUOUS FLOW, 50 GPM PEAK FLOW, 3 CU. FT. RESIN						
ST-1	LOCHINVAR	#RJA257	VERTICAL ROUND JACKETED ASME TANK	PLUMBING S114	257 GALLONS						

DOMESTIC WATER PIPING SPECIALTIES (221119)

IDENTITY DATA				FIXTURE CONNECTION				MOUNTING (FLOOR TO OUTLET)	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	HW	W	V		
HB-1	ZURN	#Z1333	HOSE BIBB	3/4"				12" A.F.F.	
HB-2	ZURN	#Z1341XL	WALL HYDRANT	3/4"				12" A.F.F.	
IMB-1	GUY GRAY	#SSI-B2AB	ICEMAKER OUTLET BOX	1/2"				24" A.F.F.	
NFWH-1	ZURN	#Z1321	NONFREEZE WALL HYDRANT WITH RECESSED BOX	3/4"				18" A.F.F.	

URINAL SCHEDULE (224213.16)

IDENTITY DATA				FLUSHOMETER		FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	CW	W	V			
UR-1	ZURN	#Z5755-U	WALL-HUNG, BACK OUTLET, WASHOUT, ACCESSIBLE	ZURN	Z6003	3/4"	2"	1 1/2"	24"	No	CARRIER - ZURN (Z1221)
UR-2	ZURN	#Z5755-U	WALL-HUNG, BACK OUTLET, WASHOUT, ACCESSIBLE	ZURN	Z6003	3/4"	2"	1 1/2"	17"	Yes	CARRIER - ZURN (Z1221)

SHOWER SCHEDULE

IDENTITY DATA		TRIM		TRIM DESCRIPTION	SHOWER SCHEDULE						
					FIXTURE CONNECTION						
MARK	DESCRIPTION	MANUFACTURER	MODEL		CW	HW	W	V	MOUNTING	ADA COMPLIANT	NOTES
SH-1	SHOWER BASE AND SURROUND BY ARCHITECT (SPECIFIED IN SECTION 064023). SHOWER DRAIN EQUAL TO JR SMITH #2000-A05 WITH STAINLESS STEEL GRATE	SYMMONS	#1-903S	SHOWER - SURFACE MOUNTED SHOWER SYSTEM	1/2"	1/2"				No	
SH-2	SHOWER BASE AND SURROUND BY ARCHITECT (SPECIFIED IN SECTION 064023). SHOWER DRAIN EQUAL TO JR SMITH #2000-A05 WITH STAINLESS STEEL GRATE	SYMMONS	#1-903S-FSB	SHOWER - ADA SURFACE MOUNTED SHOWER SYSTEM	1/2"	1/2"				Yes	

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Project No. 2015-121.LCS
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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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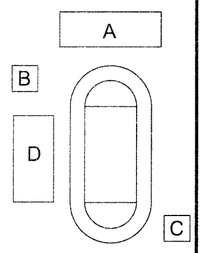

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PLUMBING SCHEDULES

P-600

ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERES FRAME (BREAKER RATING)
AFF	ABOVE FINISH FLOOR
AHU	AIR HANDLING UNIT
AT	AMPERES TRIP (BREAKER SETTING)
ATS	AUTOMATIC TRANSFER SETTING
AUX	AUXILIARY
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
DISC	DISCONNECT
DL	DOUBLE LUGS
DP	POWER DISTRIBUTION PANEL
DWG	DRAWING
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
ELEC	ELECTRIC/ELECTRICAL
EMEMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
F	FUSE
FA	FIRE ALARM
FB	FLOOR BOX
FDR	FEEDER
FL	FLOOR
FLEX	FLEXIBLE
FTB	FEED THRU BUS
G	GROUND
GRND	GROUND
HP	HORSEPOWER
HOA	HAND-OFF-AUTOMATIC
JB	JUNCTION BOX
KV	KILOVOLTS
KVA	KILOVOLTS-AMPERES
KVAR	KILOVOLTS-AMPERES-REACTIVE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LA	LIGHTNING ARRESTOR
LP	LIGHTING PANELBOARD
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OL'S	OVERLOADS
P	POLE
PB	PUSH BUTTON
PHØ	PHASE
PT	POTENTIAL TRANSFORMER
RCLP	REMOTE CONTROL LIGHTING PANEL
RCPT	RECEPTACLE
RF	RETURN FAN
RP	RECEPTACLE PANELBOARD
RSC	RIGID STEEL CONDUIT
SCHED	SCHEDULE
SF	SUPPLY FAN
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
TB	TERMINAL BLOCK
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS
W	WIRE

ELECTRICAL LEGEND & SYMBOLS

LIGHTING

SUBSCRIPTS FOR LIGHTING FIXTURES INDICATE THE FOLLOWING, U.O.N.
NL - NIGHT LIGHT, PANEL SWITCHED, U.O.N.

	DOWNLIGHT TYPE LIGHTING FIXTURE - TYPE AS INDICATED
	WALL MOUNTED FIXTURE - TYPE AS INDICATED
	FLUORESCENT LIGHTING FIXTURE - TYPE AS INDICATED
	POLE MOUNTED LIGHTING FIXTURE - TYPE AS INDICATED
	TRACK LIGHTING FIXTURE
	EMERGENCY BATTERY WALL PACK LIGHTING FIXTURE - TYPE AS INDICATED
	SHADING INDICATES EMERGENCY FIXTURE CONNECTED TO BATTERY INVERTER OR GENERATOR. CONNECT TO UNSWITCHED SOURCE IN ADDITION TO SWITCHING INDICATED
	EXIT LIGHT - WALL/CEILING MOUNTED - DIRECTIONAL ARROWS AS INDICATED. SHADING INDICATES ILLUMINATED FACE. CONNECT TO UNSWITCHED BRANCH CIRCUIT INDICATED

POWER DISTRIBUTION

	POWER DISTRIBUTION PANELBOARD - 480Y/277V, 3PH, 4W & GRD, U.O.N.
	POWER DISTRIBUTION PANELBOARD - 208Y/120V, 3PH, 4W & GRD, U.O.N.
	BRANCH CIRCUIT PANELBOARD 208Y/120V OR 480Y/277V, 3PH, 4W, & GRD, U.O.N. (FLUSH/SURFACE)
	TERMINAL CABINET, TYPE AS NOTED ON DRAWINGS (FLUSH/SURFACE)
	TRANSFORMER - TYPE AND RATING AS INDICATED, NL INDICATES NON-LINEAR TYPE
	MOTOR CONTROL CENTER
ATS	AUTOMATIC TRANSFER SWITCH
	WORKING CLEARANCE ABOUT ELECTRICAL EQUIPMENT
UG	UNDERGROUND CONDUIT/DUCTBANK
FB	FEEDER BUSWAY
PB	PLUG-IN BUSWAY
G	GROUND CABLE, SIZE AS INDICATED
GB	GROUND BUS
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
EMH	ELECTRIC MANHOLE
	HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) AS INDICATED
	GROUND WIRE
	PHASE WIRE
	NEUTRAL WIRE
	GROUND ROD
M	MOTOR - "M" INDICATES HORSEPOWER
	DISCONNECT SWITCH, NON-FUSED, NUMBER OF POLES AS REQUIRED FOR APPLICATION, PROVIDE SWITCH AMPACITY AS INDICATED
	DISCONNECT SWITCH, FUSED, NUMBER OF POLES AS REQUIRED FOR APPLICATION, PROVIDE SWITCH AMPACITY AS INDICATED
	COMBINATION MOTOR STARTER
	VARIABLE FREQUENCY DRIVE
$_{MS}$	MOTOR RATED SWITCH (120V, SINGLE PHASE, HORSEPOWER RATED TOGGLE SWITCH)
C$_{P}$	CAPACITOR - WHERE "P" INDICATES KVAR SIZE
	EMERGENCY SHUTOFF PUSHBUTTON
	PUSH BUTTON CONTROL STATION

WIRING DEVICES

SUBSCRIPTS FOR RECEPTACLES, JUNCTION BOXES AND OTHER DEVICES INDICATE THE FOLLOWING, U.O.N.
F - FLUSH IN FLOOR
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
H - HORIZONTALLY MOUNTED
IG - ISOLATED GROUND
L - LOCKING TYPE
TP - TAMPER RESISTANT
S - SURFACE MOUNTED
WP - WEATHERPROOF
X - MOUNTED IN EXISTING OUTLET BOX

	125V, 20A., (WALL)+2" ABOVE BACKSPLASH OR COUNTERTOP TO BOTTOM) SIMPLEX RECEPTACLE, 2 POLE, 3 WIRE (NEMA 5-20R)
GFCI GFCI	125V, 20A., (WALL)+2" ABOVE BACKSPLASH OR COUNTERTOP TO BOTTOM) DUPLEX RECEPTACLE, 2 POLE, 3 WIRE (NEMA 5-20R)
	125V, 20A., (WALL)+2" ABOVE BACKSPLASH OR COUNTERTOP TO BOTTOM) DOUBLE DUPLEX (QUADRAPLEX) RECEPTACLE, 2 POLE, 3 WIRE (NEMA 5-20R)
GFCI	125V, 20A., (CEILING, MOUNTED) DUPLEX RECEPTACLE, 2 POLE, 3 WIRE (NEMA 5-20R)
	125V, 20A., (WALL)+2" ABOVE BACKSPLASH OR COUNTERTOP TO BOTTOM) EMERGENCY DUPLEX RECEPTACLE, 2 POLE, 3 WIRE (NEMA 5-20R)
GFCI GFCI	125V, 20A., (WALL)+2" ABOVE BACKSPLASH OR COUNTERTOP TO BOTTOM) DOUBLE DUPLEX (QUADRAPLEX) RECEPTACLE, CONNECTED TO EMERGENCY POWER SYSTEM, 2 POLE, 3 WIRE (NEMA 5-20R)
	SPECIAL RECEPTACLE - NEMA CONFIGURATION AS INDICATED ON DRAWING
J	JUNCTION BOX (RECESSED/SURFACE)
	DIRECT CONNECTION TO EQUIPMENT
PB	PULLBOX. PROVIDE PULLBOXES INDICATED AS A MINIMUM. PROVIDE ADDITIONAL PULLBOXES, SIZED PER NEC, AS REQUIRED
	FLUSH JUNCTION BOX WITH FURNITURE FEED ADAPTING CONNECTOR MOUNTED AT 6" A.F.F.
GFCI GFCI GFCI	SURFACE-MOUNTED RACEWAY WITH RECEPTACLES IN LOCATIONS INDICATED
	WIREWAY - WALL MOUNTED U.O.N.
FB	FLOOR BOX
$	SINGLE POLE SWITCH
$$_{3}$$	THREE-WAY SWITCH
$$_{4}$$	FOUR-WAY SWITCH
$$_{P}$$	SINGLE POLE SWITCH W/ PILOT LIGHT
$$_{3P}$$	THREE-WAY SWITCH WITH PILOT LIGHT
$$_{K}$$	KEY OPERATED SINGLE POLE SWITCH
$$_{3K}$$	KEY OPERATED THREE-WAY SWITCH
$$_{OS1}$$	WALL-MOUNTED, DUAL-TECHNOLOGY OCCUPANCY SENSOR WITH (1) MANUAL OVERRIDE LIGHT SWITCH, MANUAL-ON/AUTOMATIC-OFF OPERATION
$$_{OS2}$$	WALL-MOUNTED, DUAL-TECHNOLOGY OCCUPANCY SENSOR WITH (2) MANUAL OVERRIDE LIGHT SWITCHES, MANUAL-ON/AUTOMATIC-OFF OPERATION
OS	CEILING-MOUNTED, DUAL-TECHNOLOGY OCCUPANCY SENSOR WITH TWO RELAYS, DISTRIBUTION COVERAGE AS REQUIRED FOR SPACE SIZE
OS$_{C}$	CEILING-MOUNTED, DUAL-TECHNOLOGY OCCUPANCY SENSOR, TWO-WAY DESIGN FOR CORRIDOR DISTRIBUTION

FIRE ALARM SYSTEM

SUBSCRIPTS FOR FIRE ALARM SYSTEM DEVICES INDICATE THE FOLLOWING, U.O.N.
S - SURFACE MOUNTED
WP - WEATHERPROOF
X - MOUNTED IN EXISTING OUTLET BOX

FACP FACP	FIRE ALARM CONTROL PANEL (FLUSH/SURFACE)
RACP RACP	REMOTE FIRE ALARM CONTROL PANEL (FLUSH/SURFACE)
FAAP FAAP	FIRE ALARM ANNUNCIATOR PANEL (FLUSH/SURFACE)
M	MANUAL PULLSTATION
	SPEAKER
	SPEAKER/STROBE
H	HORN
	HORN/STROBE
V	VISUAL STROBE
B	BELL WITH VISUAL INDICATOR
S	SMOKE DETECTOR
H	HEAT DETECTOR
S	DUCT DETECTOR - SUPPLY DUCT
R	DUCT DETECTOR - RETURN DUCT
DH	DOOR HOLD RELEASE DEVICE
AR	ADDRESSABLE RELAY
TS	SPRINKLER SYSTEM TAMPER SWITCH
FS	SPRINKLER SYSTEM FLOW SWITCH
PI	POST INDICATOR VALVE

(NOTES APPLY TO ALL ELECTRICAL DRAWINGS)

GENERAL NOTES

NOTES

#	
A	CONNECT ALL LIGHTING FIXTURES WITHIN ROOM TO INDICATED SWITCH AND BRANCH CIRCUIT, U.O.N.
B	WHERE MULTIPLE SWITCHES, RECEPTACLES, AND OTHER OUTLETS (EXCEPT PHONES) ARE INDICATED, PROVIDE MULTI-GANGBACK OUTLET BOXES WITH GANG BARRIERS AND A COMMON FACEPLATE FOR SIMILIAR DEVICES
C	WHERE EXIT SIGNS ARE INDICATED ABOVE DOOR, MOUNT AS FOLLOWS: CENTER THE EXIT SIGN BETWEEN TOP OF DOOR FRAME AND CEILING. IF DISTANCE BETWEEN TOP OF DOOR FRAME AND CEILING IS 24 INCHES OR LESS, OTHERWISE, MOUNT BOTTOM OF EXIT SIGN 6 INCHES FROM TOP OF DOOR FRAME. MOUNT OTHER WALL MOUNTED EXIT SIGNS IN THE SAME AREA AT THE SAME HEIGHT
D	WHERE DIFFERENT RECESSED ELECTRICAL DEVICES WITH THE SAME MOUNTING HEIGHTS ARE INDICATED SIDE-BY-SIDE, MOUNT THE DEVICES SO THAT THERE IS FOUR INCHES BETWEEN ADJACENT VERTICAL EDGES
E	WHERE ELECTRICAL DEVICES WITH DIFFERENT MOUNTING HEIGHTS ARE LOCATED IN THE SAME AREA ALIGN DEVICES VERTICALLY THROUGH THEIR CENTERLINES.
F	INSTALL SEPARATE INDEPENDENT NEUTRAL CONDUCTORS FOR ALL 120V AND 277V CIRCUITS. DO NOT SHARE NEUTRALS
G	ALL EXIT FIXTURES AND FIXTURES INDICATED WITH "NL" SHALL BE UNSWITCHED
H	INSTALL NO MORE THAN THREE PHASE CONDUCTORS (PLUS NEUTRALS AND GROUND) PER CONDUIT UNLESS T310-15 NEC IS FOLLOWED.
I	NUMBER OF WIRES INDICATED ON DRAWINGS, IN PANEL SCHEDULES AND CIRCUIT SIZING SCHEDULES APPLIES TO CURRENT CARRYING CONDUCTORS INCLUDING NEUTRALS. IN ADDITION TO THE NUMBER OF WIRES INDICATED, PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR SIZED AS SCHEDULED OR SIZED BY NEC 250.
J	UNLESS OTHERWISE NOTED, PROVIDE FEEDERS AND BRANCH CIRCUITS WHICH HAVE AN AMPACITY EQUAL TO OR GREATER THAN THE CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING SERVING THE CIRCUIT. REFER TO CIRCUIT SIZING SCHEDULE FOR SIZES OF FEEDERS AND BRANCH CIRCUITS.
K	COORDINATE LOCATION OF CEILING MOUNTED FIRE ALARM DEVICES WITH OTHER EQUIPMENT TO AVOID INTERFERENCE. LOCATE FIRE ALARM DEVICES AS NEAR TO LOCATION INDICATED WHILE AVOIDING INTERFERENCES.
L	MAKE FINAL CONNECTION BETWEEN DISCONNECT AND EQUIPMENT BEING SERVED BY FEEDER OR BRANCH CURRENT.
M	DIVISION 26 CONTRACTOR SHALL REFER TO LIFE SAFETY PLAN FOR FIRE-RATING REQUIREMENTS. DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FIRE-RATED DEVICES/SEALS AS SHOWN ON ELECTRICAL DRAWINGS AND AS REQUIRED BASED ON LIFE SAFETY PLAN INFORMATION
N	PER NEC ARTICLE 110.26(A) AND 110.26(F) THE DEDICATED ELECTRICAL SPACE INCLUDES THE SPACE DEFINED BY EXTENDING THE FOOTPRINT OF THE ELECTRICAL EQUIPMENT (INCLUDING BUT NOT LIMITED TO SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, MOTOR CONTROLLERS) FROM THE FLOOR TO A HEIGHT OF 6'-0" ABOVE THE HEIGHT OF THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICH EVER IS LOWER. THE DEDICATED ELECTRICAL SPACE MUST BE CLEAR OF ANY PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION. PLUMBING, HEATING, VENTILATION, AND AIR-CONDITIONING PIPING, DUCTS, AND EQUIPMENT MUST BE INSTALLED OUTSIDE THE WIDTH AND DEPTH ZONE. CONTRACTOR SHALL MAKE SURE NO PIPING OR DUCT WORK IS INSTALLED ABOVE THE ELECTRICAL EQUIPMENT. COORDINATE THESE REQUIREMENTS WITH ALL OTHER TRADES PRIOR TO INSTALLATION.
O	CONTRACT DOCUMENTS CONSISTS OF BOTH A PROJECT MANUAL AND DRAWINGS. BOTH ARE MEANT TO BE COMPLEMENTARY - ANYTHING APPEARING ON EITHER MUST BE EXECUTED THE SAME AS IF SHOWN ON BOTH.

LIGHTING CONTROLS

LABEL	MOUNTING	DIMMING TYPE	BUTTONS	SENSOR TYPE	COVERAGE AREA	CONTROL OPTIONS
DT	WALL	0-10V	N/A	N/A	N/A	MANUAL SLIDE DIMMER
O1	CEILING	N/A	N/A	DUAL TECH	1000 SQ. FT	AUTO ON / AUTO OFF
O2	CEILING	N/A	N/A	DUAL TECH	2000 SQ. FT.	AUTO ON / AUTO OFF
O3	CEILING	N/A	N/A	DUAL TECH	2000 SQ. FT. / CORRIDOR COVERAGE	AUTO ON / AUTO OFF
OS1	WALL	N/A	1 - ON/OFF	DUAL TECH	900 SQ. FT. MINIMUM	MANUAL ON / AUTO OR MANUAL OFF

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

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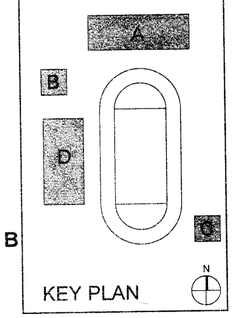


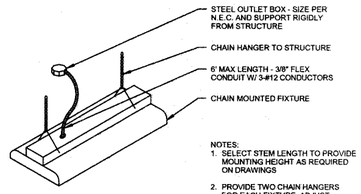
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

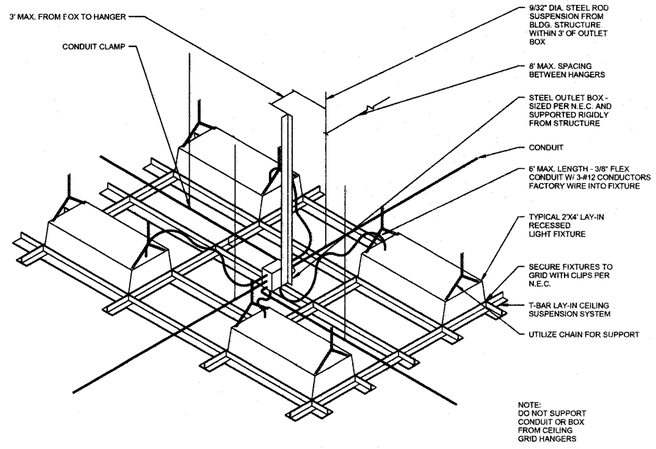
LC EXTERIOR FACILITY UPGRADES - BP2

SYMBOLS & ABBREVIATIONS

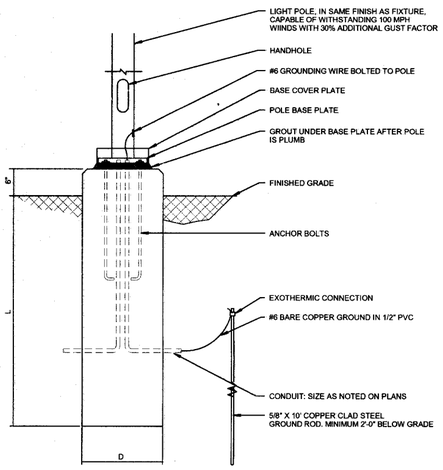
E-001



1E CHAIN MOUNTED INSTALLATION
NOT TO SCALE



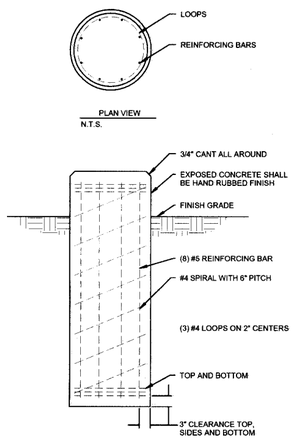
1C RECESSED LIGHTING INSTALLATION
NOT TO SCALE



DIMENSIONS		
POLE HEIGHT	L	D
12'-0"	4'-6"	1'-6"
20'-0"	5'-0"	2'-0"
30'-0"	6'-0"	2'-6"
40'-0"	7'-0"	3'-0 "

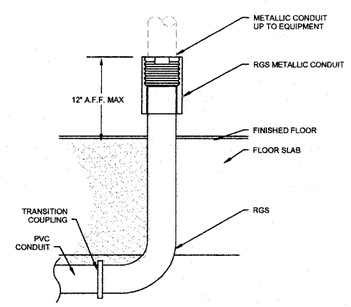
NOTES:
1. VERIFY ANCHOR BOLT LOCATIONS WITH MANUFACTURER'S TEMPLATE PRIOR TO BASE CONSTRUCTION
2. REFER TO POLE BASE CONCRETE AND REINFORCING DETAIL 3 FOR ADDITIONAL REQUIREMENTS
3. THIS POLE BASE SHALL BE USED WHERE POLE IS IN GRASSY AREA PROTECTED BY CURB OR OTHER BARRIER

4A POLE BASE - 6"
NOT TO SCALE



NOTES:
1. USE 4000 PSI 28 DAY STRENGTH CONCRETE FOR POLE BASE
2. PLACE CONCRETE THE SAME DAY BASE IS DRILLED
3. USE SONOTUBE FORM ABOVE GRADE AND EXTEND TO 6" BELOW GRADE
4. REFER TO POLE BASE DETAIL FOR DIMENSIONS

3A POLE BASE CONCRETE AND REINFORCING DETAIL
NOT TO SCALE



1A CONDUIT STUB-UP DETAIL
NOT TO SCALE

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

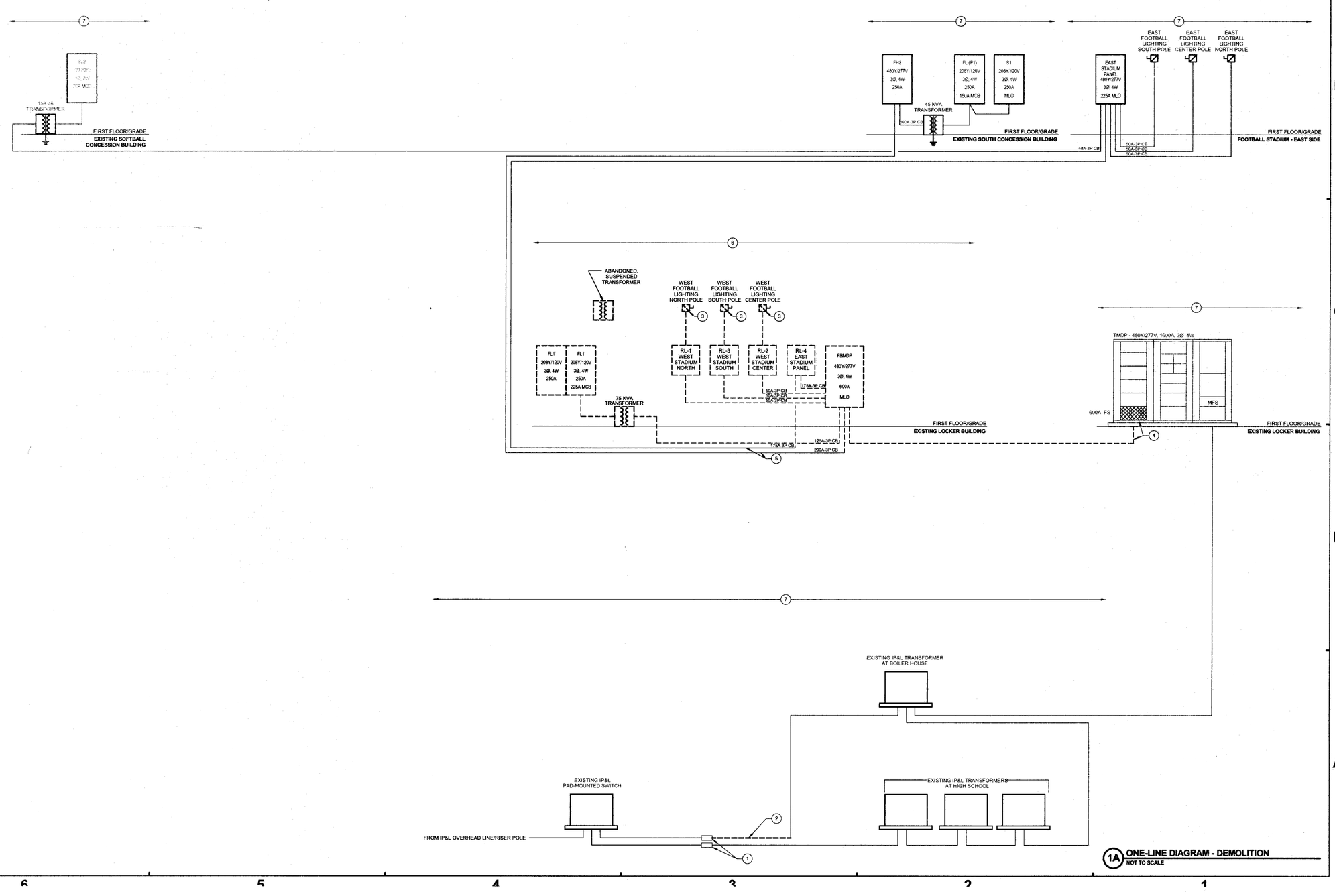
LC EXTERIOR FACILITY UPGRADES - BP2

DETAILS

E-501

DEMOLITION ONE-LINE DIAGRAM NOTES

1	EXISTING PULL BOX TO REMAIN.
2	INTERCEPT EXISTING PRIMARY CONDUIT AND EXTEND TO NEW LOCATION.
3	DISCONNECT AND REMOVE CONDUIT AND WIRE COMPLETE. DISCONNECT SWITCH WILL REMAIN ON POLE FOR RECONNECTION.
4	DISCONNECT AND REMOVE EXISTING CONDUCTORS COMPLETE. PLUG/CAP CONDUITS AND ABANDON IN PLACE.
5	INTERCEPT AND DISCONNECT EXISTING CONDUIT AND WIRE. FEEDER TO REMAIN FOR EXTENSION TO NEW PANELBOARD.
6	DISCONNECT AND REMOVE ALL EQUIPMENT, CONDUIT, WIRE, ETC. COMPLETE UNLESS NOTED OTHERWISE.
7	EXISTING ELECTRICAL EQUIPMENT, CONDUIT, WIRING, ETC. TO REMAIN UNLESS NOTED OTHERWISE.



1A **ONE-LINE DIAGRAM - DEMOLITION**
NOT TO SCALE

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KEY PLAN

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LC EXTERIOR FACILITY UPGRADES - BP2

ONE-LINE DIAGRAM - DEMOLITION

E-601

FEEDER & BRANCH CIRCUIT SCHEDULE (ALUMINUM)

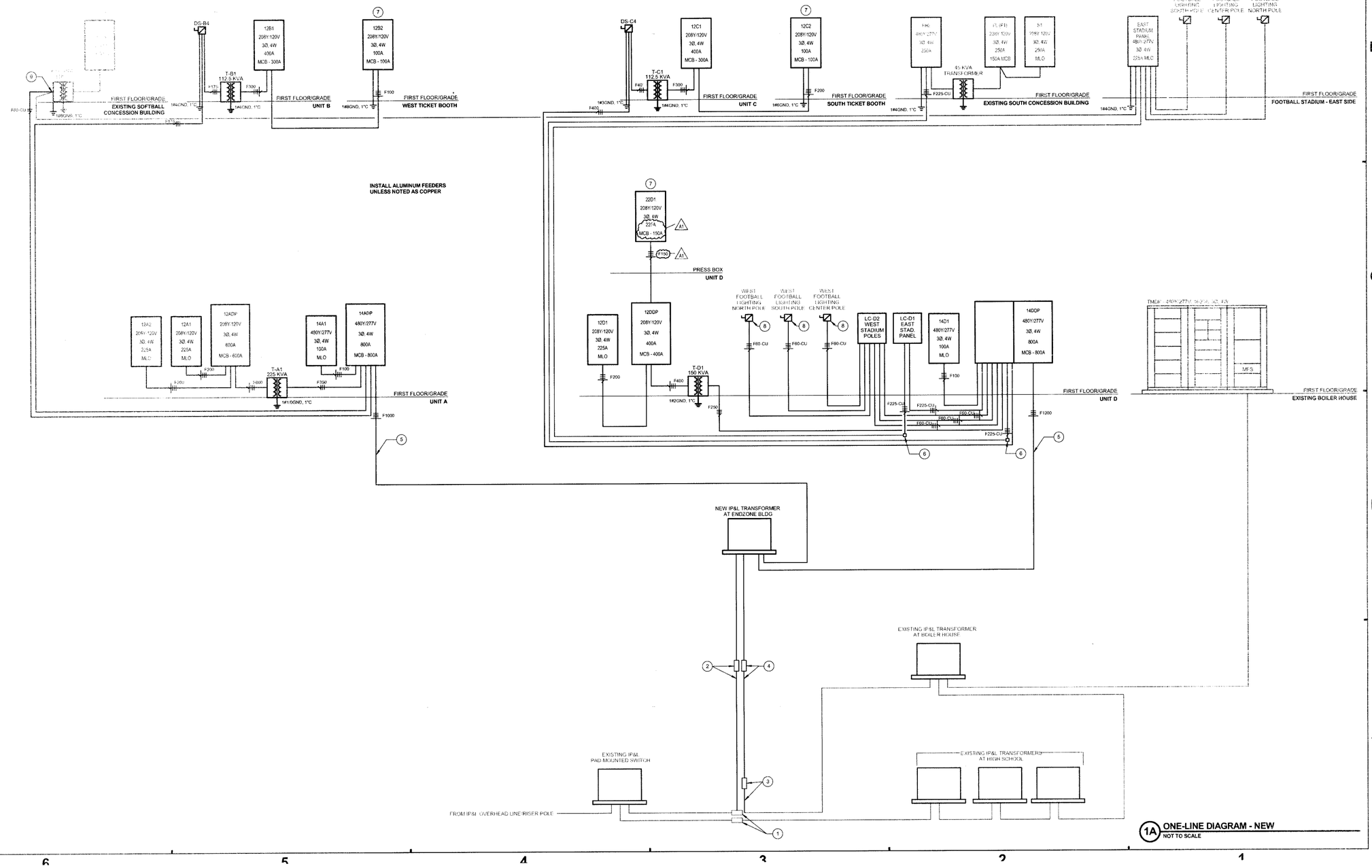
FEEDER/BRANCH CIRCUIT LABEL	CONDUCTOR SIZE PER CONDUIT: PHASE & NEUTRAL	CONDUCTOR SIZE PER CONDUIT: EQUIP/SERV GROUND	CONDUIT SIZE & QUANTITY: 3P,1G	3P,1N,1G	3P,2N,1G
F100	1/0	6	1-1/2"	2"	2"
F110	1/0	4	1-1/2"	2"	2"
F125	2/0	4	1-1/2"	2"	2"
F150	3/0	4	2"	2"	2-1/2"
F175	4/0	4	2"	2-1/2"	2-1/2"
F200	250	4	2"	2-1/2"	3"
F225	300	2	2-1/2"	3"	3"
F250	350	2	2-1/2"	3"	3"
F300	500	2	3"	3"	3-1/2"
F350	400	1	(2) 2"	(2) 2-1/2"	(2) 2-1/2"
F400	250	1	(2) 2-1/2"	(2) 2-1/2"	(2) 3"
F450	300	1/0	(2) 2-1/2"	(2) 3"	(2) 3"
F500	350	1/0	(2) 2-1/2"	(2) 3"	(2) 3"
F600	500	2/0	(2) 3"	(2) 3-1/2"	(2) 3-1/2"
F700	350	3/0	(3) 2-1/2"	(3) 3"	(3) 3"
F800	500	3/0	(3) 3"	(3) 3-1/2"	(3) 3-1/2"
F900	500	4/0	(3) 3"	(3) 3-1/2"	(3) 3-1/2"
F1000	350	4/0	(4) 3"	(4) 3-1/2"	(4) 3-1/2"
F1200	500	250	(4) 3"	(4) 3-1/2"	(4) 3-1/2"
F1600	500	350	(6) 3"	(6) 3-1/2"	(6) 4"
F2000	500	400	(7) 3"	(7) 3-1/2"	(7) 4"
F2500	500	600	(9) 3-1/2"	(9) 3-1/2"	(9) 4"
F3000	500	600	(10) 3-1/2"	(10) 3-1/2"	(10) 4"

FEEDER & BRANCH CIRCUIT SCHEDULE (COPPER)

FEEDER/BRANCH CIRCUIT LABEL	CONDUCTOR SIZE PER CONDUIT: PHASE & NEUTRAL	CONDUCTOR SIZE PER CONDUIT: EQUIP/SERV GROUND	CONDUIT SIZE & QUANTITY: 2P,1G	3P,1G	3P,1N,1G	3P,2N,1G	3P,3N,1G	3P,1N,2G
F20	12	12	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
F30	10	10	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
F40	8	10	3/4"	3/4"	1"	1"	1"	1"
F50	6	10	1"	1"	1"	1-1/4"	1-1/4"	1"
F60	4	10	1"	1"	1-1/4"	1-1/4"	1-1/4"	1-1/4"
F70	4	8	1"	1-1/4"	1-1/4"	1-1/4"	1-1/2"	1-1/4"
F80	3	8	1"	1-1/4"	1-1/4"	1-1/2"	1-1/2"	1-1/4"
F90	2	8	1"	1-1/4"	1-1/2"	1-1/2"	2"	1-1/2"
F100	1	8	1-1/4"	1-1/2"	1-1/2"	2"	2"	2"
F110	1/0	6	1-1/4"	1-1/2"	2"	2"	2-1/2"	2"
F125	1/0	6	1-1/4"	1-1/2"	2"	2"	2-1/2"	2"
F150	1/0	6	1-1/4"	1-1/2"	2"	2"	2-1/2"	2"
F175	2/0	6	1-1/2"	2"	2"	2-1/2"	2-1/2"	2"
F200	3/0	6	1-1/2"	2"	2"	2-1/2"	3"	2-1/2"
F225	4/0	4	2"	2"	2-1/2"	3"		2-1/2"
F250	250	4	2"	2-1/2"	3"	3"		3"
F300	350	4	2"	2-1/2"	3"	3-1/2"		3"
F350	500	3	2-1/2"	3"	3-1/2"	4"		3-1/2"
F400	3/0	3	(2) 1-1/2"	(2) 2"	(2) 2-1/2"	(2) 2-1/2"		(2) 2-1/2"
F450	4/0	3	(2) 2"	(2) 2"	(2) 2-1/2"	(2) 3"		(2) 2-1/2"
F500	250	2	(2) 2"	(2) 2-1/2"	(2) 3"	(2) 3"		(2) 3"
F600	350	1	(2) 2-1/2"	(2) 3"	(2) 3"	(2) 3-1/2"		(2) 3"
F700	500	1/0	(2) 2-1/2"	(2) 3"	(2) 3-1/2"	(2) 4"		(2) 3-1/2"
F800	350	1/0	(3) 2-1/2"	(3) 3"	(3) 3"	(3) 3-1/2"		(3) 3"
F900	350	2/0	(3) 2-1/2"	(3) 3"	(3) 3"	(3) 3-1/2"		
F1000	500	2/0	(3) 2-1/2"	(3) 3"	(3) 3-1/2"	(3) 4"		
F1200	350	3/0	(4) 2-1/2"	(4) 3"	(4) 3"	(4) 3-1/2"		
F1600	500	4/0	(5) 3"	(5) 3"	(5) 3-1/2"	(5) 4"		
F2000	500	250	(6) 3"	(6) 3"	(6) 3-1/2"	(6) 4"		
F2500	500	350	(7) 4"	(7) 3-1/2"	(7) 3-1/2"	(7) 4"		
F3000	500	500	(8) 4"	(8) 3-1/2"	(8) 4"	(8) 4"		

ONE-LINE DIAGRAM NOTES

1	EXISTING PULL BOX TO REMAIN.
2	INSTALL (1) 4" CONDUIT FROM EXISTING PULL BOX TO NEW PULL BOX FOR THE INSTALLATION OF NEW PRIMARY.
3	INTERCEPT AND EXTEND EXISTING PRIMARY CONDUIT WITH (1) 4" CONDUIT TO NEW PULL BOX.
4	INSTALL (1) 4" CONDUIT FROM NEW PULL BOX TO NEW PULL BOX FOR THE INSTALLATION OF NEW PRIMARY.
5	INSTALL SECONDARY CONDUIT AND WIRE.
6	BASE BID: PROVIDE A GRADE-MOUNTED JUNCTION BOX AND EXTEND EXISTING FEEDER TO NEW PANEL. ALTERNATE BID: REMOVE EXISTING FEEDER WIRE MODIFY/EXTEND CONDUIT TO NEW PANEL LOCATION AND INSTALL NEW WIRE.
7	PANELBOARD PROVIDED AND INSTALLED IN PRE-MANUFACTURED BUILDING BY THE MANUFACTURER. CONNECT COMPLETE TO FEEDER INDICATED. COORDINATE LOCATION WITH MANUFACTURER.
8	CONNECT NEW CONDUIT AND WIRING TO EXISTING DISCONNECT SWITCH.
9	BASE BID: EXISTING FEEDER REMAINS FROM EAST STADIUM PANEL. ALTERNATE BID: DISCONNECT AND REMOVE FEEDER FROM EAST STADIUM PANEL AND REFEED EXISTING TRANSFORMER FROM 14ADP.



1A **ONE-LINE DIAGRAM - NEW**
NOT TO SCALE

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#	Revision	Date
A1	ADDENDUM NO. 1	04.29.2016

7300 E. 56th Street
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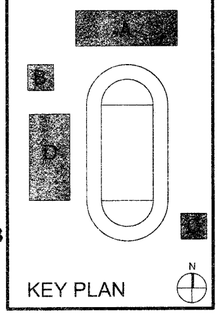


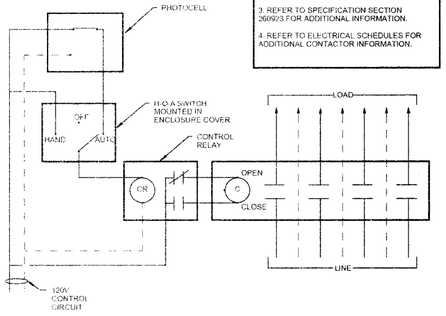
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

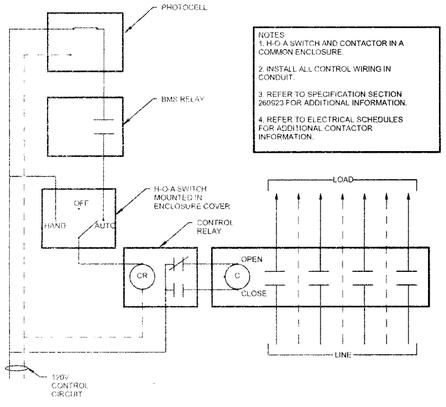
ONE-LINE DIAGRAM - NEW

E-602



NOTES:
1. INSTALL H-O-A SWITCH AND CONTACTOR IN A COMMON ENCLOSURE.
2. INSTALL ALL CONTROL WIRING IN CONDUIT.
3. REFER TO SPECIFICATION SECTION 26922 FOR ADDITIONAL INFORMATION.
4. REFER TO ELECTRICAL SCHEDULES FOR ADDITIONAL CONTACTOR INFORMATION.

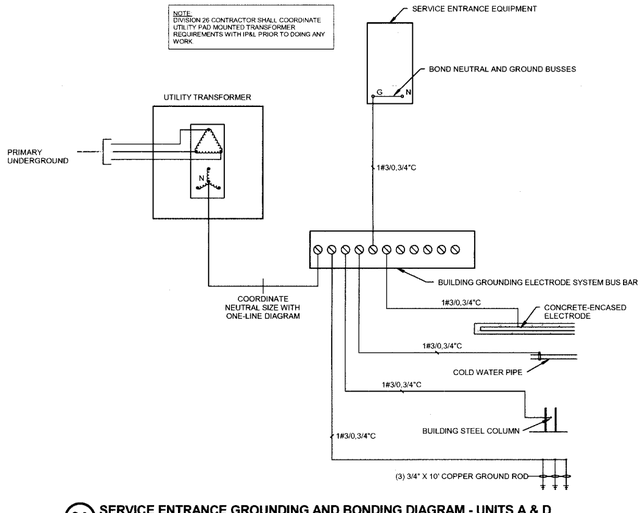
5B EXTERIOR LIGHTING CONTROL SYSTEM SCHEMATIC (PHOTOCELL)
NOT TO SCALE



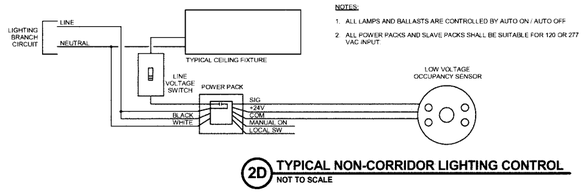
NOTES:
1. H-O-A SWITCH AND CONTACTOR IN A COMMON ENCLOSURE.
2. INSTALL ALL CONTROL WIRING IN CONDUIT.
3. REFER TO SPECIFICATION SECTION 26922 FOR ADDITIONAL INFORMATION.
4. REFER TO ELECTRICAL SCHEDULES FOR ADDITIONAL CONTACTOR INFORMATION.

5A EXTERIOR LIGHTING CONTROL SYSTEM SCHEMATIC (BMS/PHOTOCELL)
NOT TO SCALE

NOTE:
DIVISION 26 CONTRACTOR SHALL COORDINATE UTILITY PAD MOUNTED TRANSFORMER REQUIREMENTS WITH IP&L PRIOR TO DOING ANY WORK.

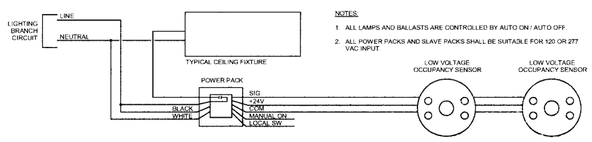


3A SERVICE ENTRANCE GROUNDING AND BONDING DIAGRAM - UNITS A & D
NOT TO SCALE



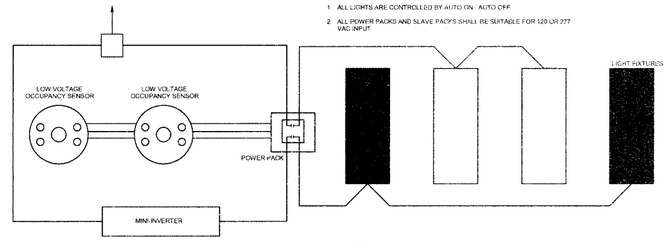
NOTES:
1. ALL LAMPS AND BALLASTS ARE CONTROLLED BY AUTO ON / AUTO OFF.
2. ALL POWER PACKS AND SLAVE PACKS SHALL BE SUITABLE FOR 120 OR 277 VAC INPUT.

2D TYPICAL NON-CORRIDOR LIGHTING CONTROL
NOT TO SCALE



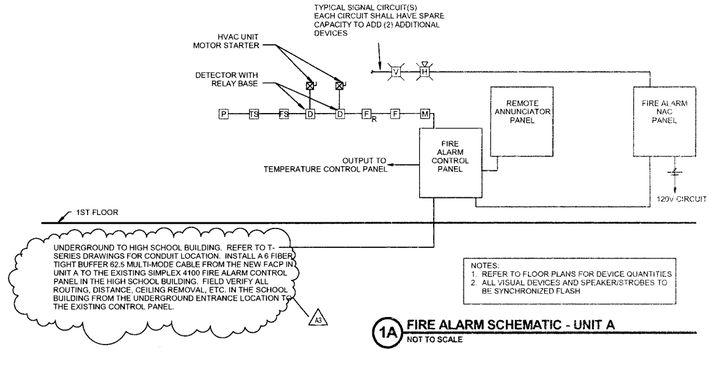
NOTES:
1. ALL LAMPS AND BALLASTS ARE CONTROLLED BY AUTO ON / AUTO OFF.
2. ALL POWER PACKS AND SLAVE PACKS SHALL BE SUITABLE FOR 120 OR 277 VAC INPUT.

2C TYPICAL CORRIDOR LIGHTING CONTROL
NOT TO SCALE



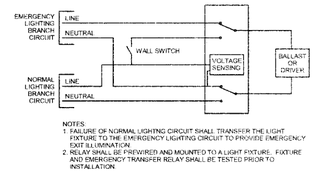
NOTES:
1. ALL LIGHTS ARE CONTROLLED BY AUTO ON / AUTO OFF.
2. ALL POWER PACKS AND SLAVE PACKS SHALL BE SUITABLE FOR 120 OR 277 VAC INPUT.

1B MINI-INVERTER DETAIL
NOT TO SCALE



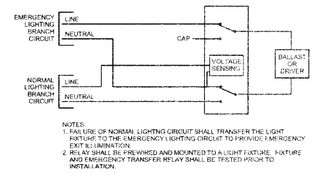
NOTES:
1. REFER TO FLOOR PLANS FOR DEVICE QUANTITIES.
2. ALL VISUAL DEVICES AND SPEAKER/STROBES TO BE SYNCHRONIZED FLASH

1A FIRE ALARM SCHEMATIC - UNIT A
NOT TO SCALE



NOTES:
1. FAILURE OF NORMAL LIGHTING CIRCUIT SHALL TRANSFER THE LIGHT FIXTURE TO THE EMERGENCY LIGHTING CIRCUIT TO PROVIDE EMERGENCY EXIT ILLUMINATION.
2. RELAY SHALL BE PREWIRED AND MOUNTED TO A LIGHT FIXTURE. FIXTURE AND EMERGENCY TRANSFER RELAY SHALL BE TESTED PRIOR TO INSTALLATION.

1D EMERGENCY SHUNT RELAY (GTD)
NOT TO SCALE



NOTES:
1. FAILURE OF NORMAL LIGHTING CIRCUIT SHALL TRANSFER THE LIGHT FIXTURE TO THE EMERGENCY LIGHTING CIRCUIT TO PROVIDE EMERGENCY EXIT ILLUMINATION.
2. RELAY SHALL BE PREWIRED AND MOUNTED TO A LIGHT FIXTURE. FIXTURE AND EMERGENCY TRANSFER RELAY SHALL BE TESTED PRIOR TO INSTALLATION.

1C NORMALLY OFF EMERGENCY SHUNT RELAY (GTD)
NOT TO SCALE

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced SACM/JAR

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#	Revision	Date
A3	ADDENDUM NO. 3	05.11.2016

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SCHEMATICS

E-603

GENERAL LIGHT FIXTURE SCHEDULE NOTES

#	NOTES
A	FOR ALL LIXTURES, PROVIDE 3500 DEGREE K COLOR TEMPERATURE.
B	REFER TO LIGHT FIXTURE SCHEDULE AND REFLECTED CEILING PLANS FOR MOUNTING REQUIREMENTS, CEILING TYPES, AND FINAL LOCATIONS. PROVIDE APPROPRIATE MOUNTING TRIM REQUIRED FOR CEILING TYPE.
C	PROVIDE FACTORY INSTALLED DISCONNECTS FOR ALL LINEAR FIXTURES.
D	PROVIDE VIBRATION DAMPERS FOR ALL ALUMINUM & STEEL POLES 20'-0" AND ABOVE.
E	PROVIDE SELF-DIAGNOSTICS AND SELF-TESTING FOR ALL LIFE SAFETY FIXTURES (EXIT FIXTURES, WALL PACKS, INVERTERS, ETC.)

TRANSFORMER SCHEDULE

LABEL	LOCATION ROOM #	LOCATION ROOM NAME	KVA	PHASE	VOLTAGE PRIMARY	VOLTAGE SECONDARY	CONNECTION PRIMARY	CONNECTION SECONDARY	MOUNT	TYPE	LOAD(S) SERVED
T-A1	S115	ELECTRICAL	225	3	480 V	208Y/120	DELTA	WYE	FLOOR	DRY	12ADP
T-B1	S140	MECH	112.5	3	480 V	208Y/120	DELTA	WYE	FLOOR	DRY	12B1
T-C1	S153	MECH	112.5	3	480 V	208Y/120	DELTA	WYE	FLOOR	DRY	12C1
T-D1	S163	ELECTRICAL	150	3	480 V	208Y/120	DELTA	WYE	FLOOR	DRY	12DDP

LIGHTING CONTACTOR

LABEL	ROOM #	ROOM NAME	COIL VOLTAGE	AMPERAGE	CONTROL	ENCLOSURE	NUMBER OF CONTACTS	CIRCUIT(S) CONTROLLED	REMARKS
LC-A1	S115	ELECTRICAL	120 V	30 A	PHOTOCELL/BMS	NEMA 1	6	14A1-1, 14A1-2	
LC-B1	S141	CUST	120 V	30 A	PHOTOCELL	NEMA 1	4	12B1-2	
LC-C1	S151	CUST	120 V	30 A	PHOTOCELL	NEMA 1	4	12C1-2	
LC-D1	S163	ELECTRICAL	120 V	20 A	ON-OFF PB	NEMA 1	4	14DDP-(7,9,11)	
LC-D2	S163	ELECTRICAL	120 V	60 A	ON-OFF PB	NEMA 1	(4) EA	14DDP-(8,10,12)	LIGHTING CONTACTOR ENCLOSURE INCLUDES (3) CONTACTORS RATED AT 60A EACH; CONTROLLED WITH SINGLE HOA
LC-D3	S163	ELECTRICAL	120 V	30 A	PHOTOCELL	NEMA 1	6	14D1-1; 14D1-(5,7)	

MINI-INVERTER SCHEDULE

LABEL	DESCRIPTION	MOUNTING	VOLTAGE	PANEL	CIRCUIT #	OPTIONS
MI-A1	250W MINI INVERTER	WALL	277 V	14A1	1	LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM
MI-B1	250W MINI INVERTER	WALL	120 V	12B1	2	LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM
MI-C1	250W MINI INVERTER	WALL	120 V	12C1	2	LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM
MI-D1	250W MINI INVERTER	WALL	277 V	14D1	1	LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM
MI-D2	150W MINI INVERTER	WALL	277 V	14D1	4	LIGHTING CONTROL OVERRIDE FOR 0-10V DIMMING SYSTEM

DISCONNECT SWITCH SCHEDULE

LABEL	SWITCH LOCATION ROOM #	SWITCH LOCATION ROOM NAME	EQUIPMENT SERVED	VOLTAGE	AMPERAGE	POLES	FUSED	FUSE SIZE	NEMA ENCL	SOLID NEUTRAL
DS-A1	S106	UNIFORM STORAGE / LAUNDRY	DRYER	480 V	30 A	3	Yes	20 A	1	No
DS-A2	S106	UNIFORM STORAGE / LAUNDRY	WASHER	480 V	30 A	3	Yes	20 A	1	No
DS-A3			RTU-1	480 V	100 A	3	Yes	90 A	3R	No
DS-A4			RTU-2	480 V	60 A	3	Yes	45 A	3R	No
DS-A5			RTU-2	480 V	60 A	3	Yes	45 A	3R	No
DS-A6			CU-1a	480 V	60 A	3	Yes	40 A	3R	No
DS-A7			CU-1a	480 V	60 A	3	Yes	40 A	3R	No
DS-A8			CU-2/VRV-1-9/VRV-2-2	208 V	30 A	2	Yes	20 A	3R	No
DS-A9			CU-3/VRV-3-1	208 V	30 A	2	Yes	20 A	3R	No
DS-A10	S104	IT	VRV-3-1	208 V	30 A	2	No		1	No
DS-A11			CU-4/VRV-4-1	208 V	30 A	2	Yes	30 A	3R	No
DS-A12	S113	STORAGE	VRV-4-1	208 V	30 A	2	No		1	No
DS-A13	S114	PLUMBING	VRV-2-2	208 V	30 A	2	No		1	No
DS-A14	S115	ELECTRICAL	VRV-1-9	208 V	30 A	2	No		1	No
DS-B1	S142	MEN	PUH-1	208 V	30 A	3	No		1	No
DS-B2	S144	CONCESSION	PUH-2	208 V	30 A	3	No		1	No
DS-B3	S140	WOMEN	PUH-3	208 V	30 A	3	No		1	No
DS-B4	S143	MECH	T-B1	208 V	200 A	3	Yes	175 A		No
DS-B5	S143	MECH	WATER HEATER	208 V	60 A	3	Yes	40 A	1	No
DS-C1	S152	MEN	PUH	208 V	30 A	3	No		1	No
DS-C2	S151	CONCESSION	PUH	208 V	30 A	3	No		1	No
DS-C3	S150	WOMEN	PUH	208 V	30 A	3	No		1	No
DS-C4	S153	MECH	T-C1	208 V	200 A	3	Yes	175	1	No
DS-C5	S153	MECH	WATER HEATER	208 V	60 A	3	Yes	40 A	1	No
DS-D1	S162	ELEV MECH	ELEVATOR	480 V	100 A	3	Yes	70 A	1	Yes
DS-D2	S162	ELEV MECH	ELEVATOR LIGHTS	120 V	30 A	1	Yes	20 A	1	Yes
DS-D3	S162	ELEV MECH	FCU-1A	208 V	30 A	2	No		1	No
DS-D4			CU-1	208 V	30 A	2	Yes	20 A	1	No
DS-D5	S163	ELECTRICAL	FCU-1B	208 V	30 A	2	No		1	No

A2

C

MOTOR CONTROLLER/STARTER/VFD SCHEDULE

LABEL	CONTROLLER LOCATION ROOM #	CONTROLLER LOCATION ROOM NAME	EQUIPMENT SERVED	EQUIPMENT DATA VOLTAGE	PHASE	HP	FLA	STARTER TYPE	STARTER NEMA SIZE	DISCONNECT SWITCH TYPE	DISCONNECT SWITCH FUSE SIZE	NEMA ENCL	REMOTE CAPACITOR	REMARKS
MS-B1	S141	CUST	EF-1	208 V	3	1	4.8 A	FVNR	1	FUSIBLE	8	1	-	
MS-B2	S140	MECH	CIRC PUMP	120 V	1	1/20	4.4 A	-	-	-	-	-	-	THERMAL HP-RATED TOGGLE SWITCH
MS-C1	S151	CUST	EF-1	208 V	3	1	4.8 A	FVNR	1	FUSIBLE	8	1	-	
MS-C2	S150	MECH	CIRC PUMP	120 V	1	1/20	4.4 A	-	-	-	-	-	-	THERMAL HP-RATED TOGGLE SWITCH

LIGHTING FIXTURES SCHEDULE

FIXTURE	DESCRIPTION	VOLTAGE	LAMPS	MOUNTING	LENS/REFLECTOR	ACCEPTABLE MANUFACTURERS	FIXTURE
L1	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION.	277 V	40W 4100 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L1
L2	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION.	277 V	55W 6000 LUMENS LED	CHAIN SUSPENDED	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L2
L2E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION. INTEGRAL BATTERY INVERTER.	277 V	55W 6000 LUMENS LED	CHAIN SUSPENDED	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L2E
L3	2X2 LED STATIC TROFFER WITH FLUSH FLAT WHITE STEEL DOOR. 0-10V DIMMING.	277 V	35W 3600 LUMENS LED	RECESSED IN GRID	RIBBED FROSTED ACRYLIC	METALUX 22CZ COLUMBIA RLA22 PINNACLE LU22A HE WILLIAMS AT2	L3
L3E	2X2 LED STATIC TROFFER WITH FLUSH FLAT WHITE STEEL DOOR. 0-10V DIMMING.	277 V	35W 3600 LUMENS LED	RECESSED IN GRID	RIBBED FROSTED ACRYLIC	METALUX 22CZ COLUMBIA RLA22 PINNACLE LU22A HE WILLIAMS AT2	L3E
L4	2X4 LED STATIC TROFFER WITH FLUSH FLAT WHITE STEEL DOOR. 0-10V DIMMING.	277 V	45W 5000 LUMENS LED	RECESSED IN GRID	RIBBED FROSTED ACRYLIC	METALUX 24CZ COLUMBIA RLA24 PINNACLE LU24A HE WILLIAMS AT2	L4
L5	4' LENSED VAPORTITE INDUSTRIAL. 0-10V DIMMING. U.L. LISTED FOR WET LOCATIONS.	277 V	40W 4000 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FROSTED ACRYLIC	METALUX 4VT2 COLUMBIA LXEM LITHONIA VAP HE WILLIAMS 96	L5
L5E	4' LENSED VAPORTITE INDUSTRIAL. 0-10V DIMMING. U.L. LISTED FOR WET LOCATIONS. INTEGRAL BATTERY INVERTER.	277 V	40W 4000 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FROSTED ACRYLIC	METALUX 4VT2 COLUMBIA LXEM LITHONIA VAP HE WILLIAMS 96	L5E
L6	4' LENSED VAPORTITE INDUSTRIAL. 0-10V DIMMING. U.L. LISTED FOR WET LOCATIONS.	277 V	60W 6000 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FROSTED ACRYLIC	METALUX 4VT2 COLUMBIA LXEM LITHONIA VAP HE WILLIAMS 96	L6
L7E	LED HIGH PERFORMANCE SCONCE. DIE-CAST ALUMINUM HOUSING. 4300K. DARK BRONZE FINISH. ROUTE THROUGH MINI-INVERTER.	277 V	17.7W 1067 LUMENS LED	WALL/SURFACE	REFLECTOR AND LENS SHALL PROVIDE WIDE UNIFORM ILLUMINATION	DUAL-LITE PGF1 PROVIDE AN ALLOWANCE OF $200 PER FIXTURE FOR MATERIAL ONLY. ADD LABOR REQUIRED FOR INSTALLATION.	L7E
L8E	EXTERIOR SURFACE MOUNTED EXTRUDED ALUMINUM LED FIXTURE. U.L. LISTED WET LOCATED. DARK BRONZE FINISH. INTEGRAL BATTERY INVERTER.	277 V	35W 3500 LUMENS LED	WALL/SURFACE	PATTERN NO. 19, 0.156" PRISMATIC ACRYLIC	LUMINAIRE AEL48 LED PROVIDE AN ALLOWANCE OF $650 PER FIXTURE FOR MATERIAL ONLY. ADD LABOR REQUIRED FOR INSTALLATION	L8E
L9	6" DIAMETER, ALUMINUM, CYLINDRICAL SCONCE. UP-DOWN LIGHTING. 14° SPREAD. 4000K. DARK BRONZE FINISH. U.L. LIST FOR WET LOCATIONS.	277 V	(2) 30W 2000 LUMENS LED UP & DOWN	WALL/SURFACE	FROSTED ACRYLIC	CONTECH LIGHTING CYL6 LUMAN UTA-31791 LUMINIS SY602 LED FC LIGHTING FCC820	L9
L10	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION.	120 V	40W 4100 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L10
L10E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION. INTEGRAL BATTERY INVERTER.	120 V	40W 4100 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L10E
L11	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION.	120 V	55W 6000 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L11
L11E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION. INTEGRAL BATTERY INVERTER.	120 V	55W 6000 LUMENS LED	SURFACE MOUNTED TO DRYWALL CEILING	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L11E
L12E	LED HIGH PERFORMANCE SCONCE. DIE-CAST ALUMINUM HOUSING. 4300K. DARK BRONZE FINISH. ROUTE THROUGH MINI-INVERTER.	120 V	17.7W 1067 LUMENS LED	WALL/SURFACE	REFLECTOR AND LENS SHALL PROVIDE WIDE UNIFORM ILLUMINATION	DUAL-LITE PGF1 PROVIDE AN ALLOWANCE OF $200 PER FIXTURE FOR MATERIAL ONLY. ADD LABOR REQUIRED FOR INSTALLATION.	L12E
L13	12"W X 16"H X 6"D LED FLOOD LIGHT. DARK BRONZE FINISH. 4000K.	120 V	110W 9300 LUMENS LED	TOP OF 24" ROUND POLE	FLOOD	LUMARK NFFLD HYDREL 8100 LED BEACON ALPHA GE LIGHTING EFNA	L13
L14	12"W X 16"H X 6"D LED FLOOD LIGHT. DARK BRONZE FINISH. 4000K.	277 V	110W 9300 LUMENS LED	24" ARM MOUNTED TO WALL	FLOOD	LUMARK NFFLD HYDREL 8100 LED BEACON ALPHA GE LIGHTING EFNA	L14
L15E	4' LENSED LED STRIP LIGHT. 0-10V DIMMING. WIDE DISTRIBUTION. INTEGRAL BATTERY INVERTER.	277 V	55W 6000 LUMENS LED	SURFACE MOUNTED TO WALL	FULL FROST LENS	METALUX SNLED COLUMBIA LCL4 LITHONIA ZL1N HE WILLIAMS 75L	L15E
L16	2X4 LED STATIC TROFFER WITH FLUSH FLAT WHITE STEEL DOOR. 0-10V DIMMING.	277 V	45W 5000 LUMENS LED	RECESSED IN DRYWALL	RIBBED FROSTED ACRYLIC	METALUX 24CZ COLUMBIA RLA24 PINNACLE LU24A HE WILLIAMS AT2	L16
SL1	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING, ARM MOUNT, UL LISTED WET LOCATION. DARK BRONZE FINISH. POLE BASE COVER. 16' ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE. ROUND STRAIGHT ALUMINUM POLE DESIGNED TO SUPPORT FIXTURES IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. 4000K. 1 FIXTURE.	480 V	160W 16,000 LUMENS LED PER FIXTURE HEAD	POLE MOUNTED CONCRETE BASE BY DIVISION 26	TYPE III DISTRIBUTION	GLEON GALLEON LED BEACON VIPER LED LITHONIA DSX2 LED GE LIGHTING EVOLVE LED	SL1
SL2	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING, ARM MOUNT, UL LISTED WET LOCATION. DARK BRONZE FINISH. POLE BASE COVER. 16' ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE. ROUND STRAIGHT ALUMINUM POLE DESIGNED TO SUPPORT FIXTURES IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. 4000K. 2 FIXTURES, 180° APART.	480 V	160W 16,500 LUMENS LED PER FIXTURE HEAD	POLE MOUNTED CONCRETE BASE BY DIVISION 26	TYPE V SQUARE MEDIUM DISTRIBUTION	GLEON GALLEON LED BEACON VIPER LED LITHONIA DSX2 LED GE LIGHTING EVOLVE LED	SL2
SL3	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING, ARM MOUNT, UL LISTED WET LOCATION. DARK BRONZE FINISH. POLE BASE COVER. 30' ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE. ROUND STRAIGHT ALUMINUM POLE DESIGNED TO SUPPORT FIXTURES IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. 4000K. 3 FIXTURES, 120° APART.	480 V	220W 21,000 LUMENS LED PER FIXTURE HEAD	POLE MOUNTED CONCRETE BASE BY DIVISION 26	TYPE IV WIDE DISTRIBUTION	GLEON GALLEON LED BEACON VIPER LED LITHONIA DSX2 LED GE LIGHTING EVOLVE LED	SL3
X1C	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUM. HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF POWERED. SELF-DIAGNOSTIC/SELF-TESTING MODULE. NICKEL CADMIUM BATTERY.	277 V	LED	UNIVERSAL	AS REQ. TO PROVIDE EVEN ILLUMINATION W/O HOT SPOTS	SURE-LITES CX DUAL-LITE SE LITHONIA LE EMERGI-LITE PRESTIGE DX6	X1C
X1W	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUM. HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. SELF POWERED. SELF-DIAGNOSTIC/SELF-TESTING MODULE. NICKEL CADMIUM BATTERY.	277 V	LED	UNIVERSAL	AS REQ. TO PROVIDE EVEN ILLUMINATION W/O HOT SPOTS	SURE-LITES CX DUAL-LITE SE LITHONIA LE EMERGI-LITE PRESTIGE DX6	X1W

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF FLORIDA ARCHITECT

#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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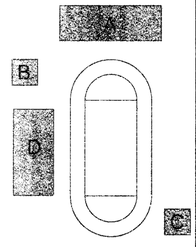

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SCHEDULES

E-604

TELECOMMUNICATIONS DEFINITIONS AND ABBREVIATIONS

DEFINITIONS

ACCEPTANCE TEST - A TEST OR SET OF TESTS PERFORMED TO DEMONSTRATE SATISFACTORY COMPLETION OF A PREDETERMINED TASK OR GROUP OF TASKS ON WHICH ACCEPTANCE IS DEPENDANT.

ACCESS POINT (AP) - THE CENTRAL OR CONTROL POINT IN A WIRELESS CELL THAT ACTS AS A LINK FOR TRAFFIC TO AND FROM WIRELESS DEVICES IN THE CELL. THE AP ALSO CONNECTS WIRELESS DEVICES TO THE WIRED PORTION OF THE NETWORK.

ACTIVE CIRCUIT - A VOICE/DATA/VIDEO CHANNEL CONNECTED TO A CIRCUIT.

ACTIVE EQUIPMENT - ENERGIZED EQUIPMENT USED FOR RECEIVING OR TRANSMITTING ANALOG OR DIGITAL SIGNALS.

ADMINISTRATION - THE METHODOLOGY DEFINING THE DOCUMENTATION REQUIREMENTS OF A CABLING SYSTEM AND ITS CONTAINMENT, THE LABELING OF FUNCTIONAL ELEMENTS AND THE PROCESS BY WHICH MOVES, ADDS, AND CHANGES ARE RECORDED. (ISO)

ALIEN CROSSTALK - UNWANTED TRANSFER OF SIGNAL FROM ONE OR MORE CIRCUITS IN A GIVEN CABLE TO OTHER CIRCUITS IN ANOTHER CABLE.

ATTENUATION - THE DECREASE IN MAGNITUDE OF TRANSMISSION SIGNAL STRENGTH BETWEEN POINTS, EXPRESSED IN DB AS THE RATIO OF OUTPUT TO INPUT SIGNAL LEVEL.

ATTENUATION-TO-CROSSTALK RATION (ACR) - THE RATIO OBTAINED BY SUBTRACTING INSERTION LOSS (ATTENUATION [DB]) FROM NEAR-END CROSSTALK (DB). ACR IS NORMALLY STATED AT A GIVEN FREQUENCY. SEE SIGNAL TO-NOISE RATIO.

BACKBONE - A FACILITY (E.G., PATHWAY, CABLE OR CONDUCTORS) BETWEEN ANY OF THE FOLLOWING SPACES: TELECOMMUNICATIONS ENCLOSURES, TELECOMMUNICATIONS ROOMS, EQUIPMENT ROOMS, AND ENTRANCE FACILITIES.

BACKBONE BONDING CONDUCTOR - A COPPER CONDUCTOR EXTENDING FROM THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR TO THE FARTHEST FLOOR TELECOMMUNICATIONS GROUNDING BUSBAR. (TIA)

BALANCED TWISTED-PAIR CABLE - A MULTI-CONDUCTOR CABLE COMPRISING TWO OR MORE COPPER CONDUCTORS TWISTED IN A MANNER DESIGNED TO CANCEL ELECTRICAL INTERFERENCE.

BANDWIDTH - A MEASURE OF THE RANGE OF FREQUENCIES ASSOCIATED WITH A GIVEN SIGNAL OR COMMUNICATIONS CHANNEL, TYPICALLY EXPRESSED IN HERTZ. IT IS USED TO DENOTE THE POTENTIAL TRANSMISSION CAPACITY OF THE MEDIUM, DEVICE, OR SYSTEM.

BEND RADIUS - 1. MAXIMUM RADIUS THAT A CABLE CAN BE BENT TO AVOID PHYSICAL OR ELECTRICAL DAMAGE OR CAUSE ADVERSE TRANSMISSION PERFORMANCE. 2. RADIUS OF CURVATURE THAT A MEDIA CAN BEND WITHOUT SIGNAL DEGRADATION.

BICSI - AN INTERNATIONAL TELECOMMUNICATIONS ASSOCIATION.

BONDING - THE PERMANENT JOINING OF METALLIC PARTS TO FORM AN ELECTRICALLY CONDUCTIVE PATH THAT WILL ENSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY CURRENT LIKELY TO BE IMPOSED. (TIA)

BONDING CONDUCTOR (BC) - A CONDUCTOR USED SPECIFICALLY FOR THE PURPOSE OF BONDING.

BONDING CONDUCTOR FOR TELECOMMUNICATIONS (BCT) - A CONDUCTOR THAT INTERCONNECTS THE BUILDINGS SERVICE EQUIPMENT (POWER) GROUND TO THE TELECOMMUNICATIONS GROUNDING SYSTEM.

BORING - A METHOD TO DISPLACE EARTH UNDER THE GROUND WITHOUT BREAKING THE GROUND SURFACE (TRENCHING) OR CUTTING GROUND SURFACES (E.G., SIDEWALKS, DRIVEWAYS, PARKING LOTS, AND ROAD SURFACES). NORMALLY, AS DIRT IS DISPLACED OR REMOVED, CONDUIT IS INSERTED.

CABLING SYSTEM - A SPECIFIC SYSTEM OF TELECOMMUNICATIONS CABLES, EQUIPMENT/PATCH CORDS, CONNECTING HARDWARE, AND OTHER COMPONENTS THAT IS SUPPLIED AS A SINGLE ENTITY.

CARD READER - A SECURITY SYSTEM DEVICE THAT READS CODED CARDS.

CATEGORY - A RATING THAT DEFINES THE PERFORMANCE OF CABLING COMPONENTS AND SYSTEMS.

CELL - THE FIXED AREA IN WHICH A WIRELESS DEVICES OPERATES.

COMMUNICATIONS - SEE TELECOMMUNICATIONS.

CROSS-CONNECT - A FACILITY ENABLING THE TERMINATION OF CABLE ELEMENTS AND THEIR INTERCONNECTION OR CROSS-CONNECTION. (TIA)

CROSSTALK - UNWANTED TRANSFER OF SIGNAL FROM ONE OR MORE CIRCUITS TO OTHER CIRCUITS.

CUTOVER - THE PROCESS OF SWITCHING FROM OLD NETWORK COMPONENTS TO NEW NETWORK COMPONENTS.

DAISY-CHAIN TOPOLOGY - DEVICES ARE CONNECTED IN SERIES, ONE AFTER THE OTHER, AND THE TRANSMITTED SIGNALS GO TO THE FIRST DEVICES, THEN THE SECOND, ETC.

DATA - ELECTRONICALLY ENCODED INFORMATION. (TIA)

DATA COMMUNICATION - THE TRANSMISSION AND RECEPTION OF ELECTRONICALLY CODED INFORMATION.

DATA NETWORK - AN INTERCONNECTED SYSTEM OF COMPUTERS, PERIPHERALS, AND SOFTWARE OVER WHICH COMMANDS, FILES, AND MESSAGES ARE SENT AND RECEIVED.

DECIBEL (DB) - A LOGARITHMIC UNIT FOR MEASURING THE RELATIVE POWER OR STRENGTH OF A SIGNAL.

DELAY SKEW - THE DIFFERENCE IN PROPAGATION DELAY BETWEEN ANY TWO PAIRS WITHIN THE SAME CABLE SHEATH. (TIA)

DEMARCATION POINT (DP) - 1. A POINT WHERE THE OPERATIONAL CONTROL OR OWNERSHIP CHANGES. (TIA) 2. THE POINT OF INTERFACE BETWEEN SERVICE PROVIDERS AND CUSTOMER FACILITIES.

DIELECTRIC - 1. THE NONCONDUCTIVE PROPERTIES OF AN INSULATING MATERIAL THAT RESISTS THE PASSAGE OF ELECTRIC CURRENT. THE INSULATION SURROUNDING A COPPER CONDUCTOR IS KNOWN AS A DIELECTRIC. 2. A MATERIAL THAT IS NONMETALLIC AND NONCONDUCTIVE. 3. A NONCONDUCTOR OF DIRECT ELECTRIC CURRENT.

DIRECT-BURIED CABLE - A TELECOMMUNICATIONS CABLE DESIGNED TO BE INSTALLED UNDER THE SURFACE OF THE EARTH, IN DIRECT CONTACT WITH THE SOIL. (TIA)

ELECTROMAGNETIC INTERFERENCE (EMI) - RADIATED OR CONDUCTED ELECTROMAGNETIC ENERGY THAT HAS AN UNDESIRABLE EFFECT ON ELECTRONIC EQUIPMENT OR SIGNAL TRANSMISSIONS. (TIA)

EQUAL LEVEL FAR-END CROSSTALK (ELFEXT) - CROSSTALK MEASURED AT THE OPPOSITE END FROM WHICH THE DISTURBING SIGNAL IS TRANSMITTED, NORMALIZED BY THE ATTENUATION CONTRIBUTION OF THE CABLE OR CABLING.

FAR-END CROSSTALK (FEXT) LOSS - A MEASURE OF THE UNWANTED SIGNAL COUPLING FROM A TRANSMITTER AT THE NEAR END INTO ANOTHER PAIR MEASURED AT THE FAR END, AND RELATIVE TO THE TRANSMITTED SIGNAL LEVEL. ALSO CALLED INPUT/OUTPUT FAR END CROSSTALK LOSS. (TIA)

FAULT TOLERANCE - THE ABILITY OF A SYSTEM TO CONTINUE OPERATIONS AFTER THE FAILURE OF ONE OR MORE COMPONENTS.

FIBER OPTICS - A COMMUNICATION SYSTEM THAT USES OPTICAL FIBER AS ITS MEDIUM.

GIGABIT PER SECOND (GB/S) - A TRANSMISSION RATE DENOTING ONE BILLION BITS PER SECOND.

GIGAHERTZ (GHZ) - A UNIT OF FREQUENCY DENOTING ONE BILLION CYCLES PER SECOND (HERTZ).

HERTZ (HZ) - 1. A UNIT OF MEASURE USED TO EXPRESS THE RANGE OF FREQUENCIES ASSOCIATED WITH A GIVEN SIGNAL OR COMMUNICATIONS CHANNEL. THIS RANGE IS ALSO CALLED BANDWIDTH. 2. A UNIT OF FREQUENCY EQUAL TO ONE CYCLE PER SECOND.

HOME RUN - A PATHWAY OR CABLE BETWEEN TWO LOCATIONS WITHOUT A SPLICE OR INTERMEDIATE TERMINATIONS POINTS IN BETWEEN.

HORIZONTAL CABLE - 1. A PERMANENT ELEMENT OF THE HORIZONTAL CABLING THAT CONNECTS THE TELECOMMUNICATIONS OUTLET/CONNECTOR AT THE WORK AREA AND THE FIRST PIECE OF CONNECTING HARDWARE IN THE HORIZONTAL OR MAIN CROSS-CONNECT. 2. FOUR PAIR 24 AWG UNSHIELDED TWISTED PAIR (UTP).

HORIZONTAL CROSS-CONNECT - A GROUP OF CONNECTORS THAT ALLOWS EQUIPMENT AND BACKBONE CABLING TO BE CROSS-CONNECTED.

INNERDUCT - A NONMETALLIC RACEWAY, USUALLY CIRCULAR, PLACED WITHIN A LARGER PATHWAY. (TIA)

INTERMEDIATE CROSS-CONNECT (IC) - THE CONNECTION POINT BETWEEN A BACKBONE CABLE THAT EXTENDS FROM THE MAIN CROSS-CONNECT AND THE BACKBONE CABLE FROM THE HORIZONTAL CROSS-CONNECT.

LATENCY - THE TIME IT TAKES FOR A SIGNAL TO PASS THROUGH A DEVICE OR NETWORK.

LOW-VOLTAGE CABLING/CABLING SYSTEM - TELECOMMUNICATIONS SIGNALING (INCLUDES BUILDING AUTOMATION SIGNALING) VOLTAGE LEVELS ARE TYPICALLY POWER-LIMITED WHEN CONFINED TO ELECTRICAL POWER CIRCUITS THAT CAN VARY FROM 100 VOLTS ALTERNATING CURRENT (AC) TO 240 VOLTS AC IN COMMERCIAL BUILDINGS. CIRCUITS TYPICALLY USE AN INHERENTLY LIMITED POWER SOURCE WITHOUT OVER-CURRENT PROTECTION OR A NONINHERENTLY LIMITED POWER SOURCE WHERE OVERCURRENT PROTECTION IS REQUIRED. SINCE TELECOMMUNICATIONS CABLING SYSTEMS ARE NOT USED TO DISTRIBUTE ELECTRICAL POWER, THE SIGNALING THAT OCCURS ON THESE COPPER-BASED SYSTEMS IS GENERALLY DESCRIBED AS LOW VOLTAGE.

MAIN CROSS-CONNECT (MC) - THE CROSS-CONNECT NORMALLY LOCATED IN THE (MAIN) TELECOMMUNICATIONS EQUIPMENT ROOM (ER) FOR CROSS-CONNECTION AND INTERCONNECTION OF ENTRANCE CABLES, FIRST-LEVEL BACKBONE CABLES, AND EQUIPMENT CABLES.

NEAR-END CROSSTALK (NEXT) LOSS - 1. THE UNWANTED SIGNAL COUPLING BETWEEN PAIRS. IT IS MEASURED AT THE END OF A CABLE NEAREST THE POINT OF TRANSMISSION. CONTRAST WITH FAR-END CROSSTALK. 2. THE SIGNAL TRANSFER BETWEEN CIRCUITS AT THE SAME (NEAR) END OF THE CABLE.

NETWORK - A GROUP OF THREE OR MORE NODES THAT CAN COMMUNICATE WITH EACH OTHER, EITHER DIRECTLY THROUGH CABLING OR INDIRECTLY THROUGH REPEATERS TO SEPARATE CABLING.

OUTSIDE PLANT (OSP) - TELECOMMUNICATIONS INFRASTRUCTURE DESIGNED FOR INSTALLATION EXTERIOR TO BUILDINGS.

PAIR - TWO INSULATED WIRES TWISTED AROUND EACH OTHER.

PAIR TWIST - THE UNIFORM TWIST OF AN INSULATED COPPER PAIR THAT HELPS TO REDUCE THE NEGATIVE EFFECTS OF CAPACITANCE IMBALANCE AND ELECTROMAGNETIC INDUCTION.

PATCH CORD - A LENGTH OF CABLE WITH A PLUG ON ONE OR BOTH ENDS.

PATCH PANEL - A CONNECTING HARDWARE SYSTEM THAT FACILITATES CABLE TERMINATION AND CABLING ADMINISTRATION USING PATCH CORDS.

PATHWAY - 1. A SEQUENCE OF CONNECTIONS THAT PROVIDES THE CONNECTIVITY BETWEEN DEVICES ON A NETWORK OR BETWEEN NETWORKS ON AN INTERNETWORK. 2. THE VERTICAL AND HORIZONTAL ROUTE OF THE TELECOMMUNICATIONS CABLE. 3. A FACILITY FOR THE PLACEMENT OF TELECOMMUNICATIONS CABLE. (TIA) 3. A FACILITY FOR THE PLACEMENT OF TELECOMMUNICATIKINS CABLE. (TIA)

POWER SUM - USED TO SPECIFY A COMBINATION CROSSTALK FROM MULTIPLE SOURCES.

POWER SUM ATTENUATION-TO-CROSSTALK RATIO - A RATIO IN DB, DETERMINED BY SUBTRACTING THE INSERTION LOSS FROM TH EPOWER SUM NEAR-END CROSSTALK LOSS. (TIA)

POWER SUM EQUAL LEVEL FAR-END CROSSTALK (PSELFEXT) - A COMPUTATION OF THE UNWANTED SIGNAL COUPLING FROM MULTIPLE TRANSMITTERS AT THE NEAR-END INTO A PAIR MEASURED AT THE FAR-END, AND NORMALIZED TO THE RECEIVED SIGNAL LEVEL. (TIA)

POWER SUM NEAR-END CROSSTALK (PSNEXT) LOSS - A COMPUTATION OF THE UNWANTED SIGNAL COUPLING FROM MULTIPLE TRANSMITTERS AT THE NEAR-END INTO A PAIR MEASURED AT THE NEAR-END. (TIA)

PULL TENSION - THE PULLING FORCE THAT CAN BE APPLIED TO A CABLE. (TIA)

PUNCH DOWN - THE PROCESS OF TERMINATING COPPER CABLE CONDUCTORS ON INSULATION DISPLACEMENT CONNECTION TERMINALS BY USE OF A HANDHELD TOOL.

QUEUING - A TECHNIQUE THAT REDUCES TRANSMISSION DELAYS BY CLASSIFYING AND SORTING DATA PRIOR TO PROCESSING BY THE TRANSMITTING DEVICE.

RACEWAY - ANY ENCLOSED CHANNEL DESIGNED FOR HOLDING WIRES OR CABLES. (TIA)

RADIO FREQUENCY INTERFERENCE - ELECTROMAGNETIC INTERFERENCE WITHIN THE FREQUENCY BAND FOR RADIO TRANSMISSION.

RETURN LOSS - A RATIO, EXPRESSED IN DB, OF THE POWER OF THE OUTGOING SIGNAL TO THE POWER OF THE REFLECTED SIGNAL. (TIA)

REVERSED PAIR - A CONDITION IN WHICH THE CONDUCTORS IN A PAIR ARE TERMINATED IN THE WRONG SEQUENCE.

RIBBON CABLE - AN ASSEMBLY OF CONDUCTORS LAID SIDE BY SIDE IN A GEOMETRIC PLANE AND FASTENED TOGETHER.

SCALABILITY - THE ABILITY OF A NETWORK TO GROW WITHOUT DEGRADATION OF QUALITY.

SERVICE LOOP - A SURPLUS OF CABLE AT THE POINT OF TERMINATION TO FACILITATE POTENTIAL FUTURE CHANGES.

SHIELDED ENCLOSURE CABINET - A METAL ELECTRONICS CABINET CONSTRUCTED WITH WELDED SEAMS AND CONDUCTIVE GASKETS ON THE DOORS THAT SERVE AS AN EFFECTIVE SHIELD AGAINST ELECTROMAGNETIC RADIATION.

SPLIT PAIR - TRANSPOSITION OF TWO CONDUCTORS OF SEPARATE PAIRS.

STAR TOPOLOGY - A NETWORK TOPOLOGY IN WHICH SERVICES ARE DISTRIBUTED FROM A CENTRAL POINT.

STRUCTURED CABLING SYSTEM - THE COMPLETE COLLECTIVE CONFIGURATION OF TELECOMMUNICATIONS CABLING AND ASSOCIATED HARDWARE AT A GIVEN LOCATION.

SWEEP - BEND THAT HAS A GENTLE ARC RATHER THAN A SHARP BEND.

DEFINITIONS (CONTINUED)

TELECOMMUNICATIONS - ANY TRANSMISSION, EMISSION, AND RECEPTION OF SIGNS, SIGNALS, WRITINGS, IMAGES, AND SOUNDS, THAT IS, INFORMATION OF ANY NATURE BY CABLE, RADIO, OPTICAL, OR OTHER ELECTROMAGNETIC SYSTEMS. (TIA)

TELECOMMUNICATIONS BONDING BACKBONE - A CONDUCTOR THAT INTERCONNECTS THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) TO THE TELECOMMUNICATIONS GROUNDING BUSBAR (TGB). (TIA)

TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR - A CONDUCTOR INSTALLED FROM EACH PIECE OF EQUIPMENT TO THE TELECOMMUNICATIONS GROUNDING BUSBAR OR TELECOMMUNICATIONS MAIN GROUNDING BUSBAR.

TELECOMMUNICATIONS CABINET - AN ENCLOSURE USED FOR TERMINATING TELECOMMUNICATIONS CABLES, WIRING, AND CONNECTION DEVICES WITH A HINGED COVER, USUALLY FLUSH-MOUNTED IN THE WALL. (TIA)

TELECOMMUNICATIONS ENCLOSURE - A CASE OR HOUSING FOR TELECOMMUNICATIONS EQUIPMENT, CABLE TERMINATIONS, AND CROSS-CONNECT CABLING. (TIA)

TELECOMMUNICATIONS ENTRANCE FACILITY - AN ENTRANCE TO A BUILDING FOR BOTH PUBLIC AND PRIVATE NETWORK SERVICE CABLES (INCLUDING WIRELESS) INCLUDING THE ENTRANCE POINT AT THE BUILDING WALL AND CONTINUING TO THE ENTRANCE ROOM OR SPACE. (TIA) 2. A FACILITY THAT PROVIDES ALL NECESSARY MECHANICAL AND ELECTRICAL SERVICES, THAT COMPLIES WITH ALL RELEVANT REGULATIONS, FOR THE ENTRY OF TELECOMMUNICATIONS CABLES INTO A BUILDING. (ISO)

TELECOMMUNICATIONS EQUIPMENT ROOM - AN ENVIRONMENTALLY CONTROLLED CENTRALIZED SPACE FOR TELECOMMUNICATIONS EQUIPMENT THAT USUALLY HOUSES A MAIN OR INTERMEDIATE CROSS-CONNECT. (TIA)

TELECOMMUNICATIONS GROUNDING BUSBAR - A COMMON POINT OF CONNECTION FOR TELECOMMUNICATIONS SYSTEM AND EQUIPMENT BONDING TO GROUND, AND LOCATED IN THE TELECOMMUNICATIONS ROOM OR EQUIPMENT ROOM.

TELECOMMUNICATIONS INFRASTRUCTURE - A COLLECTION OF THOSE TELECOMMUNICATIONS COMPONENTS, EXCLUDING EQUIPMENT, THAT TOGETHER PROVIDE THE BASIC SUPPORT FOR THE DISTRIBUTION OF ALL INFORMATION WITHIN A BUILDING OR CAMPUS.

TELECOMMUNICATIONS MAINTENANCE HOLE - A VAULT LOCATED IN THE GROUND OR EARTH AS PART OF A UNDERGROUND DUCT SYSTEM AND USED TO FACILITY PLACING, CONNECTORIZATION, AND MAINTENANCE OF CABLES AS WELL AS THE PLACING OF ASSOCIATED EQUIPMENT, IN WHICH IT IS EXPECTED THAT A PERSON WILL ENTER TO PERFORM WORK. (TIA)

TELECOMMUNICATIONS MEDIA - WIRE, CABLE, OR CONDUCTORS USED FOR TELECOMMUNICATIONS. (TIA)

TELECOMMUNICATIONS OUTLET/CONNECTOR - A CONNECTING DEVICE IN THE WORK AREA ON WHICH HORIZONTAL CABLE OR OUTLET CABLE TERMINATES.

TELECOMMUNICATION ROOM - AN ENCLOSED ARCHITECTURAL SPACE FOR HOUSING TELECOMMUNICATIONS EQUIPMENT, CABLE TERMINATIONS, AND CROSS-CONNECT CABLING. (TIA)

TELECOMMUNICATIONS SPACE - AN AREA USED FOR HOUSING THE INSTALLATION AND TERMINATION OF TELECOMMUNICATIONS EQUIPMENT AND CABLE (E.G., COMMON EQUIPMENT ROOMS, EQUIPMENT ROOMS, COMMON TELECOMMUNICATIONS ROOMS, TELECOMMUNICATIONS ROOMS, WORK AREAS, MAINTENANCE HOLES/HANDHOLES). (TIA)

TRANSPOSED PAIRS - WHEN TWO PAIRS OF CONDUCTORS ARE TERMINATED IN EACH OTHER'S LOCATION.

UNDERGROUND - REFERS TO CONDUIT AND MAINTENANCE HOLES SYSTEMS INSTALLED BELOW THE SURFACE OF THE GROUND.

UNDERGROUND CABLE - A TELECOMMUNICATIONS CABLE DESIGNED TO BE INSTALLED UNDER THE SURFACE OF THE EARTH IN A TROUGH OR DUCT THAT ISOLATES THE CABLE FROM DIRECT CONTACT WITH THE SOIL. (TIA)

UTILITY COLUMN - AN ENCLOSED PATHWAY EXTENDING FROM THE CEILING TO FURNITURE OR TO THE FLOOR THAT FORMS A PATHWAY FOR ELECTRICAL WIRING, TELECOMMUNICATIONS CABLE, OR BOTH. (TIA)

WORK AREA (WORK STATION) - A BUILDING SPACE WHERE THE OCCUPANTS INTERACT WITH TELECOMMUNICATIONS TERMINAL EQUIPMENT. (TIA)

WORK AREA CABLE (CORD) - A CABLE CONNECTING THE TELECOMMUNICATIONS OUTLET/CONNECTOR TO THE TERMINAL EQUIPMENT.

WORK AREA OUTLET - A CONNECTING DEVICE FOR TERMINATION OF HORIZONTAL MEDIA.

ABBREVIATIONS

8P8C - EIGHT PIN, EIGHT CONNECTOR UTP CABLE TERMINATION
ACR - ATTENUATION-TO-CROSSTALK RATIO
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
AWG - AMERICAN WIRE GAUGE
BAS - BUILDING AUTOMATION SYSTEM
BC - BONDING CONDUCTOR
BCT - BONDING CONDUCTOR FOR TELECOMMUNICATIONS
BICSI - BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL
CO-OSP - CUSTOMER-OWNED OUTSIDE PLANT
DB - DECIBEL
DEMARC - DEMARCATION POINT
DPS - DOOR POSITION SWITCH
EAC - ELECTRONIC ACCESS CONTROL
EF - ENTRANCE FACILITY
EIA - ELECTRONIC INDUSTRIES ALLIANCE
EMI - ELECTROMAGNETIC INTERFERENCE
ER - TELECOMMUNICATIONS EQUIPMENT ROOM
FCC - FEDERAL COMMUNICATIONS COMMISSION
GB - GIGABIT
GHZ - GIGAHERTZ
HC - HORIZONTAL CROSS-CONNECT
HZ - HERTZ
IBC - INTERCONNECTING BONDING CONDUCTOR
IC - INTERMEDIATE CROSS-CONNECT
IDC - INSULATION DISPLACEMENT CONNECTION (OR)
IEEE - INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.
KB - KILOBIT
KB - KILOBYTE
KHZ - KILOHERTZ
KM - KILOMETER
LEC - LOCAL EXCHANGE CARRIER
LAN - LOCAL AREA NETWORK
LASER - LIGHT AMPLIFICATION BY STIMULATED EMISSION OF RADIATION
LED - LIGHT-EMITTING DIODE
MB - MEGABIT
MC - MAIN CROSS-CONNECT
MH - TELECOMMUNICATIONS MAINTENANCE HOLE
MHZ - MEGAHERTZ
MUTO - MULTI-USER TELECOMMUNICATIONS OUTLET
MUTOA - MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY
NOS - NETWORK OPERATING SYSTEM
NEC - NATIONAL ELECTRIC CODE
NFPA - NATIONAL FIRE PROTECTION ASSOCIATION
NTS - NETWORK TRANSPORT SYSTEMS
OS - OPERATING SYSTEM
PSACR - POWER SUM ATTENUATION TO CROSSTALK RATIO
PSELFEXT - POWER SUM EQUAL LEVEL FAR-END CROSSTALK
QOS - QUALITY-OF-SERVICE
RCDD - REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RFI - RADIO FREQUENCY INTERFERENCE
RFID - RADIO FREQUENCY IDENTIFICATION
RGB - RED, GREEN, BLUE
SONET - SYNCHRONOUS OPTICAL NETWORK
SPOOL - SIMULTANEOUS PERIPHERAL OPERATION ONLINE
TBB - TELECOMMUNICATIONS BONDING BACKBONE
TDMM - TELECOMMUNICATIONS DISTRIBUTION METHODS MANUAL
TGB - TELECOMMUNICATIONS GROUNDING BUSBAR
TIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB - TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TR - TELECOMMUNICATIONS ROOM
UTP - UNSHIELDED TWISTED PAIR
VCSEL - VERTICAL CAVITY SURFACE EMITTING LASER
VGA - VIDEO GRAPHICS ARRAY
VOD - VIDEO-ON-DEMAND
VOIP - VOICE OVER INTERNET PROTOCOL
WAP - WIRELESS ACCESS POINT
WLAN - WIRELESS LOCAL AREA NETWORK
X - CROSS-CONNECT

TELECOMMUNICATIONS SYS.		SCOPE OF WORK	OUTLET INFORMATION	MOUNTING HEIGHT	NOTES
◀1	TELECOMMUNICATIONS OUTLET	ROUGH-IN UTP CABLING (BLUE) 8P8C CONNECTOR(S)	(1) 1" CONDUIT, (1) 2-GANG BOX	+18" A.F.F. WALL MTD.	PROVIDE SINGLE REDUCER
◀1	TELECOMMUNICATIONS COUNTERTOP OUTLET	ROUGH-IN UTP CABLING (BLUE) 8P8C CONNECTOR(S)	(1) 1" CONDUIT, (1) 2-GANG BOX	2" ABV. BACKSPLASH TO BOTTOM	PROVIDE SINGLE REDUCER ALIGN WITH POWER RECEPTACLE
◀4/V	TELECOMMUNICATIONS AUDIO / VIDEO OUTLET	ROUGH-IN UTP CABLING (BLUE) 8P8C CONNECTOR(S)	(2) 1-1/4" CONDUITS, (1) 2-GANG BOX	+18" A.F.F. WALL MTD.	- -
AP	WIRELESS ACCESS POINT OUTLET (CEILING MOUNTED)	UTP CABLING (BLUE)	- -	CEILING MOUNTED SEE T-SERIES DRAWINGS FOR LOCATIONS	
□	TELECOMMUNICATIONS WALL CABINET	CABINET (AS SPECIFIED)	- -	WALL MOUNTED	- -

SOUND SYSTEMS		SCOPE OF WORK	ROUGH-IN INFORMATION	MOUNTING HEIGHT	NOTES
S	INTERCOM SPEAKER (CEILING MOUNTED)	UTP CABLING (YELLOW)	- -	CEILING MOUNTED SEE T-SERIES DRAWINGS FOR LOCATIONS	- -
S	INTERCOM SPEAKER (WALL MOUNTED)	UTP CABLING (YELLOW)	(1) 1" CONDUIT, (1) SINGLE GANG BOX	AS NOTED ON PLANS	- -
S	INTERCOM SPEAKER HORN (CEILING MOUNTED)	UTP CABLING (YELLOW)	- -	CEILING MOUNTED SEE T-SERIES DRAWINGS	- -
S	INTERCOM SPEAKER HORN (WALL MOUNTED)	UTP CABLING (YELLOW)	(1) 1" CONDUIT, (1) SINGLE GANG BOX	AS NOTED ON PLANS	- -

SECURITY SYSTEMS		SCOPE OF WORK	OUTLET INFORMATION	MOUNTING HEIGHT	NOTES
FIXED	SURVEILLANCE CAMERA (CEILING MOUNTED)	UTP CABLING (WHITE)	- -	CEILING MOUNTED SEE T-SERIES DRAWINGS FOR LOCATIONS	- -
FIXED	SURVEILLANCE CAMERA (WALL MOUNTED)	UTP CABLING (WHITE)	(1) 1" CONDUIT, (1) SINGLE GANG BOX	AS NOTED ON PLANS	- -
CR	CARD READER	ROUGH-IN	(1) 1" CONDUIT, (1) SINGLE GANG BOX	+48" A.F.F. WALL MTD.	- -

VIDEO SYSTEMS		SCOPE OF WORK	OUTLET INFORMATION	MOUNTING HEIGHT	NOTES
DM	WALL- MOUNTED DISPLAY MONITOR	ROUGH-IN, UTP CABLING (BLUE)	(2) 1 1/4" CONDUIT, (1) 2-GANG BOX	AS NOTED ON PLANS	ALIGNED WITH ELECTRICAL OUTLET
CP	CEILING-MOUNT PROJECTOR	ROUGH-IN, UTP CABLING (BLUE)	PROJECTOR CEILING PAN	CEILING MOUNTED SEE T-SERIES DRAWINGS FOR LOCATIONS	

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#	Revision	Date

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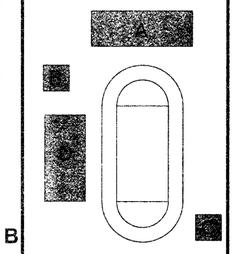


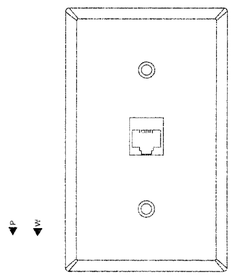
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

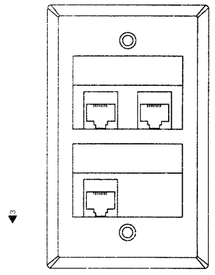
LC EXTERIOR FACILITY UPGRADES - BP2

TELECOMMUNICATIONS SYMBOLS AND ABREVIATIONS

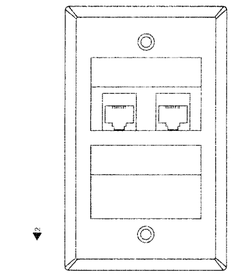
T-001



PROVIDE (1) HORIZONTAL UTP CABLE



PROVIDE (3) HORIZONTAL UTP CABLES



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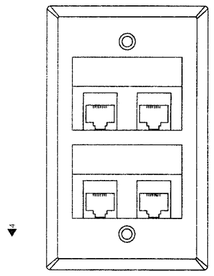
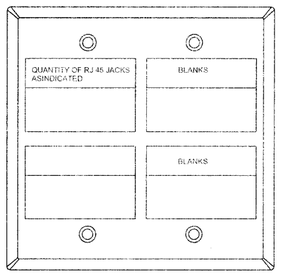


PROVIDE (4) HORIZONTAL UTP CABLES

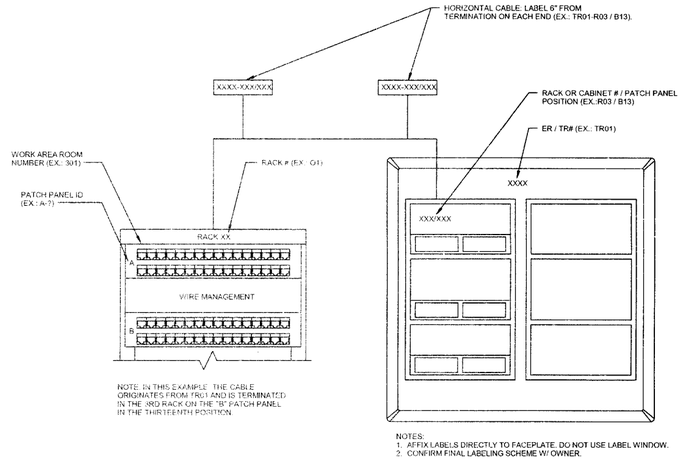


PROVIDE QUANTITY OF HORIZONTAL UTP CABLES AS INDICATED

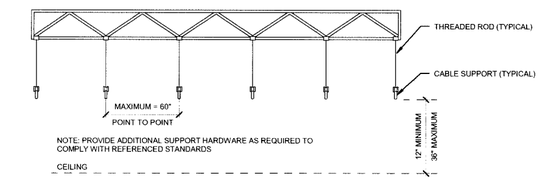
GENERAL NOTES:

GENERAL NOTES:
1. WHERE TELECOMMUNICATIONS OUTLETS ARE INSTALLED IN MULTI-COMPARTMENT SURFACE RACEWAY, PROVIDE 106 JACK FRAMES AS REQUIRED AND STANDARD FACEPLATES TO MATCH ELECTRICAL POWER OUTLET.

4 FACE PLATE DETAILS
1/8" = 1'-0"



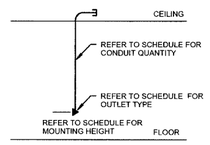
3 ER/TR RACK/PATCH PANEL, WORK AREA OUTLET FACEPLATE LABELING
1/8" = 1'-0"



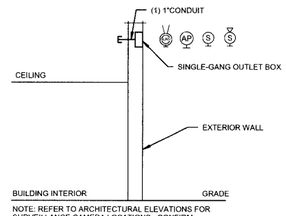
1 CABLE SUPPORT DETAIL
1/8" = 1'-0"

ROUGH-IN GENERAL NOTES:

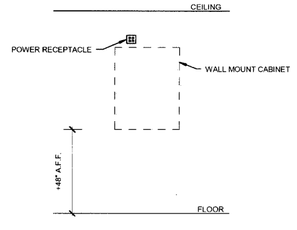
1. TERMINATE ALL ROUGH-IN CONDUITS WITH 90 DEGREE SWEEP AND BUSHINGS IN NEAREST CONCEALED ACCESSIBLE CEILING SPACE.
2. CONDUIT BEND RADIUS TO BE COMPLIANT WITH BICSI TDMM MANUAL 12TH ED.
3. ALL ROUGH-IN CONDUITS ARE 1" UNLESS OTHERWISE NOTED.
4. PROVIDE NO MORE THAN THE EQUIVALENT OF (2) 90 DEGREE BENDS IN A SINGLE CONDUIT RUN.
5. ROUGH-IN OUTLET BOXES TO HAVE 90 DEGREE OPENING CORNERS ON FACE OF BOX.
6. ALL ROUGH-INS BY ELECTRICAL CONTRACTOR.



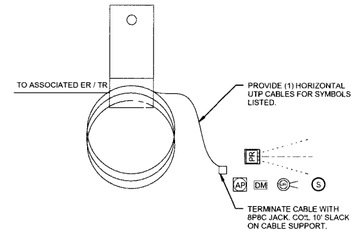
5 TYPICAL WALL-MTD. TELECOM. ROUGH-IN
1/8" = 1'-0"



6 EXTERIOR SURVEILLANCE ROUGH-IN
1/8" = 1'-0"



8 WALL-MOUNT CABINET ROUGH-IN DETAIL
1/8" = 1'-0"



7 TERMINATION DETAIL
1/8" = 1'-0"

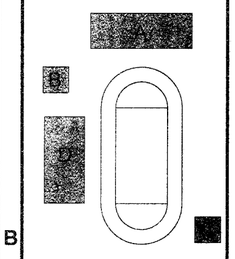
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No. 2015-121.LCS
Project Date 04.18.2016
Produced MD

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226



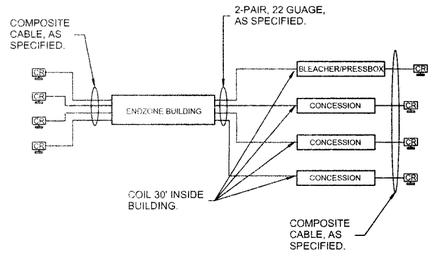
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

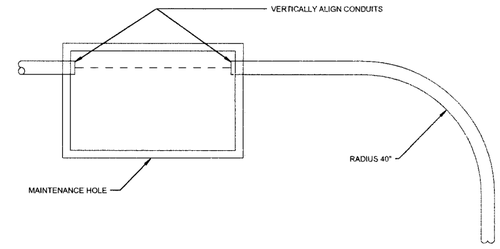
LC EXTERIOR FACILITY UPGRADES - BP2

TELECOMMUNICATIONS DETAILS

T-501

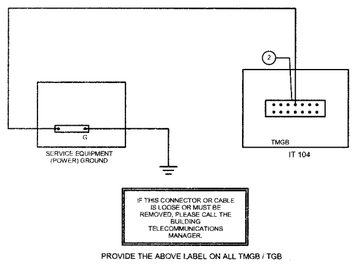


5 **ELECTRONIC SECURITY CONNECTIVITY SCHEM.**
1/8" = 1'-0"



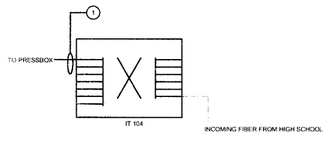
3 **COMMUNICATIONS BENDS TO MAINTENANCE HOLE**
1/8" = 1'-0"

SIZING OF THE TBB	
TBB LENGTH (FEET)	TBB SIZE (AWG)
LESS THAN 13	6
14-20	4
21-26	3
27-33	2
34-41	1
42-52	1/0
53-66	2/0
67-84	3/0
85-105	4/0
106-125	250 kcmil
126-150	300 kcmil
151-175	350 kcmil
176-250	500 kcmil
251-300	600 kcmil
Greater than 301	750 kcmil
CONFIRM ALL SIZING WITH J-STD-607-A.	



PROVIDE THE ABOVE LABEL ON ALL TMGB / TGB

GROUNDING



BACKBONE

ABBREVIATIONS:
MC - MAIN CROSS-CONNECT
HC - HORIZONTAL CROSS-CONNECT
ER - EQUIPMENT ROOM
TR - TELECOMMUNICATIONS ROOM
TBB - TELECOMMUNICATIONS BONDING BACKBONE
TGB - TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB - TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
BC - TELECOMMUNICATIONS BOUNDING CONDUCTOR

DRAWING NOTES:

1. PROVIDE TELECOMMUNICATIONS BACKBONE CABLING AND GROUNDING / BONDING TBB BETWEEN THE MC AND EACH HCRC AS FOLLOWS:
   - 12 STRANDS OF MULTI-MODE FIBER, AS SPECIFIED
   - TBB SIZED PER STANDARDS
2. WITHIN THE TELECOMMUNICATIONS EQUIPMENT ROOM (ER) AND EACH TELECOMMUNICATIONS ROOM (TR) BOND THE TMGB AND EACH TGB TO THE FOLLOWING:
   - STRUCTURAL STEEL
   - ALL METALLIC MATERIAL
   - CABLE TRAY
   - EQUIPMENT CABINETS AND RACKS

GENERAL NOTES:

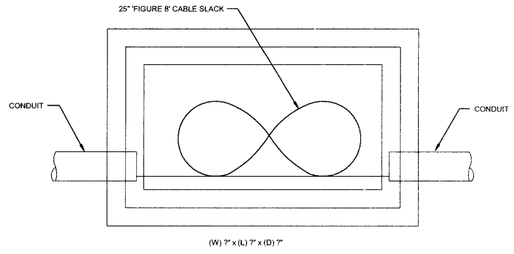
1. ALL WORK INDICATED SHALL BE FULLY COMPLIANT WITH THE FOLLOWING STANDARDS.

A. ANSI / TIA / EIA - 568 - B COMMERCIAL BUILDING TELECOMMUNICATIONS STANDARD PART 1, PART 2 AND PART 3 INCLUDING ALL SUB-PARTS AND ADDENDUMS.
B. TIA - 569 - B COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATIONS PATHWAYS AND SPACES INCLUDING ALL SUB-PARTS AND ADDENDUMS.
C. ANSI / TIA / EIA - 606 - A ADMINISTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE INCLUDING ALL SUB-PARTS AND ADDENDUMS.
D. ANSI - J - STD - 607 - A COMMERCIAL BUILDING GROUNDING (EARTHING) AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

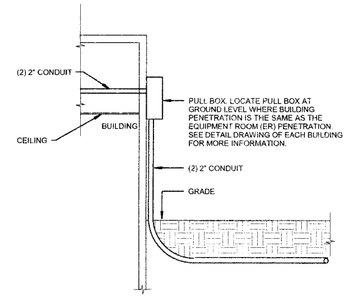
2. ROUTE ALL TBB ALONG PRIMARY PATHWAY WITH TELECOMMUNICATIONS CABLING.

3. COORDINATE SPECIFIC EQUIPMENT ELEVATIONS WITH ARCHITECT ENGINEER.

4 **BACKBONE / GROUNDING SCHEMATICS**
1/8" = 1'-0"



2 **MAINTENANCE HOLE WITH NO SPLICE**
1/8" = 1'-0"



1 **TYPICAL ENTRANCE FACILITY FOR EXISTING BUILDING**
1/8" = 1'-0"

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Indianapolis, Indiana 46204
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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

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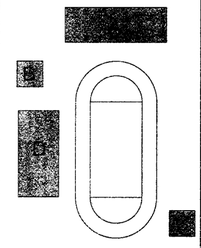


KEY PLAN N

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

TELECOMMUNICATIONS DETAILS

T-502

General Erosion Control Notes:

1. All erosion and sediment control practices shall be in accordance with the Indiana Handbook for Erosion Control in Developing Areas from the Division of Soil Conservation, Indiana Department of Natural Resources.
2. A copy of this Erosion and Sediment Control Plan and the Erosion and Sediment Control Report shall be available at the Project Site throughout the entire construction period.
3. The Contractor shall control waste, garbage, debris, wastewater, and other substances on the site so they will not be transported from the site by the action of wind, storm water runoff, or other forces. Proper disposal or management of all wastes and unused building material appropriate to the nature of the waste or material is required.
4. Public or private roadways shall be kept clear of accumulated sediment. All sediment that is cleared must be returned to the likely point of origin or other suitable location. Clearing of large amounts of sediment shall not include flushing the area with water.
5. Minimize the exposure of bare earth by limiting the work area to that necessary to perform the Work, and by proper scheduling of manpower and equipment.
6. All erosion and sediment control measures shall be inspected, cleaned, and maintained following each storm event.
7. Wherever possible, maintain existing vegetative cover. Use non-vegetative material including mulch, erosion blankets, or stone to control erosion from disturbed areas.
8. All erosion and sediment control measures shown shall be maintained throughout construction. An installed practice shall not be removed until the area of the Work contributing runoff to the practice has been completed and stabilized, or until sufficient additional measures have been installed to provide proper protection to the site and surrounding area from erosion and sedimentation.

General Utility Notes:

1. All known utility locations are approximate. The Contractor shall be responsible for determining the exact location of the existing utilities and repairing any damage done to the utilities during probing or construction. To obtain field locations of existing underground utilities, call Indiana Underground Cable locations 1.800.382.5544.
2. Contractor shall coordinate with Utility Companies for the relocation of utilities on site or crossing the site to service adjacent properties. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted.
3. Coordinate all utilities with M, E, and P Series Drawings.
4. All costs incurred in coordination of all new utility services shall be the responsibility of the Contractor.
5. All connections to existing storm, sanitary, water, gas, communication, and electric utilities shall be verified with Engineer and coordinated with respective Utility prior to beginning Work.
6. A layer of filter fabric shall be placed under each inlet casting during the construction period.
7. Maintain 10 feet (horizontal) and 18 inches (vertical) separation between water mains and storm/sanitary sewers. This measurement shall be outside to outside of pipes.

General Site Grading and Drainage Notes:

1. Contractor shall verify all existing grades in field and report any discrepancies immediately to the Architect/Engineer.
2. Contractor shall provide positive drainage in all areas. Paving Contractor shall test for any ponding conditions after installation and correct. See specifications.
3. See Site Grading Sheets for erosion control to be incorporated during construction.
4. Contractor shall coordinate all earth moving activities with all existing and new utilities. Verify cover requirements with Utility Contractors and/or Utility Companies so not to cause damage.
5. Contractor shall stabilize all earthen areas disturbed during construction. See Seasonal Soil Protection Chart and Erosion Control Plan.
6. Contractor shall stabilize any stockpiled topsoil against erosion within 15 days of stockpiling. See Seasonal Soil Protection Chart and Erosion Control Plan.
7. Provide smooth transition from new areas to existing features as necessary.
8. The Contractor shall prepare the finish grade at 1/2" below adjacent paved areas. Finished grades in planting areas shall be 1" lower than adjacent paving and are to include 3" mulching over planting soil, see specs.
9. Prior to finish grading, Contractors shall maintain all water draining off site consistent with Drawings. No water shall be diverted onto adjoining properties during any part of the grading process.

General Site Notes:

1. All topographic and survey information has been obtained from Cripe dated 12/4/2015 certified by Eric C. White. Schmidt Associates, Inc. claims no responsibility for the accuracy of the information provided in these surveys.
2. All damages to existing improvements, excavation and/or removal of any and all existing improvements during construction shall be kept to a minimum. Any existing improvements damaged during construction shall be restored, reconstructed or replaced by the Contractor at his expense.
3. It is the responsibility of the Contractor to remove all mud, dirt, gravel, and any other materials tracked onto any public or private streets or sidewalks.
4. Provide smooth transition from new areas to existing features as necessary.
5. The Contractor shall submit samples of materials and finishes to the Landscape Architect/Engineer for approval prior to ordering and installation as outlined in the specifications.
6. All areas where proposed asphalt pavement meets the existing pavement, the existing pavement edge shall be properly sealed with a tack coat material.

General Site Demolition Notes:

1. Removal of existing concrete and asphalt pavement indicated on plans shall include all aggregate base and subgrade materials. Sawcut all existing paved areas to be removed. All cuts shall be clean, neat and true to line. Where plant material is proposed to replace removed concrete and asphalt, Contractor shall remove all non-organic or toxic matter that would interfere with proposed plant material. Contractor shall dispose of excavated materials off-site at approved disposal sites only, unless shown otherwise.
2. Demolish and completely remove from site, existing underground utilities indicated to be removed. Coordinate with Utility Companies and Owner for shut-off services, if lines are active.
3. All underground utilities or structures in proposed pavement or building areas requiring removal shall be backfilled completely with approved engineered granular material suitable to the Landscape Architect/Engineer.
4. Refer to M, E, and P Series Drawings for site demolition Work to be performed by Mechanical and Electrical Contractor.
5. Contractor shall be responsible for the protection of existing trees and shrubs designated to remain within the Limits of Construction to the extent of the drip lines. Existing trees shall be fenced off and no materials or heavy equipment shall encroach fenced areas during demolition and construction.
6. Contractor shall remove and dispose of all debris in a legal manner.
7. Contractor shall maintain dust control with water at all times. Water installation and water costs are the responsibility of the Contractor.
8. The use of explosives is prohibited on this project.
9. Catch basins, sewer inlets, etc. are to be protected from debris and sedimentation during demolition. Install filter fabric under any inlet castings on or off site that receive storm water from the site before any demolition or earthwork activities commence.
10. Verify all trees to be removed with Landscape Architect/Engineer in field prior to felling.
11. If any discrepancies occur between Contract Documents and site condition during demolition, contact Architect/Engineer immediately.

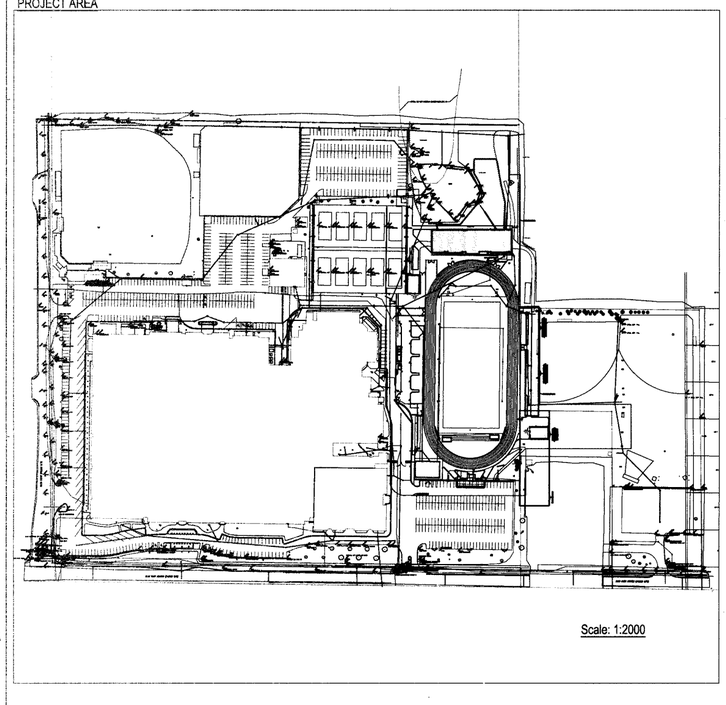
General Traffic Control Notes:

1. All signs, standards, and barricades shall conform to INDOT Standard Detail Sheets and the Indiana Manual on Uniform Traffic Control Devices.
2. It is the responsibility of the Contractor to coordinate planned construction activities with the County Highway Department and Local Street Department prior to construction.
3. If construction activities are expected to disrupt normal off-site traffic flow, the Contractor shall be responsible for coordinating with the County Highway Department and the Local Street Department and prepare all maintenance of traffic plans as required.
4. Normal site traffic circulation to be maintained during construction. Contractor to erect barricades as needed to protect construction area from normal traffic patterns around the existing facilities.
5. If existing traffic circulation patterns around existing facilities must be disrupted or blocked, Contractor shall submit a traffic plan and obtain written approval from Architect/Engineer before proceeding.

General Site Staking and Layout Notes:

1. Do not scale drawing for determining exact layout information.
2. Contractor shall stake and verify all dimensions in field prior to initiation of any construction. Review any discrepancies immediately with the Landscape Architect/Engineer for resolution.
3. All layout components shall be staked out in the field by the Contractor. Obtain Landscape Architect/Engineer approval before starting construction.
4. All dimensions in curbed areas shall be to face of curb. All dimensions in areas without curbing shall be to edge of pavement. All dimensions at integral curb and walk shall be to face of curb. All dimensions from building shall be from face of building.
5. All dimensions are parallel and perpendicular to base lines, property lines or building lines unless otherwise noted.
6. All radii indicated shall be formed as circular arcs. All curves and arcs shall intersect other curves and lines at points of tangency to form smooth transitions unless clearly shown otherwise.
7. Where not shown, sidewalk and retaining wall expansion joints shall be 30'-0" O.C. and control joints 5'-0" O.C. maximum spacing. Curb expansion joints shall be 50'-0" O.C. and control joints shall align with adjacent sidewalk where applicable, otherwise 5'-0" maximum spacing shall be used.
8. All walks shall receive medium broom-swept finish perpendicular to direction of traffic flow unless otherwise noted. Coordinate junctions with Landscape Architect/Engineer in field, unless otherwise noted.
9. Accessible ramps and signage shall be in accordance with Federal, State, County, City, and Local codes whichever has jurisdiction. See Site Plans for locations and Site Details for specifications.
10. Parking striping associated with accessible parking stalls and loading zones are to be 4" wide painted blue. All other stripes are to be 4" wide painted white.
11. Refer to Architectural Drawings for all building dimensions.
12. Refer to Planting Plans for layout of all trees, shrubs, planting beds and extent of all sodding and seeding.

PROJECT AREA



Scale: 1:2000

Abbreviations:

Accel.	Acceleration
Add.	Addendum
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximately
Arch.	Architectural
Cal.	Caliper
CIP	Cast in place
C.E.	Civil Engineer
CL	Center line
CMU	Concrete masonry unit
Conc.	Concrete
CJ	Control joint
Decel.	Deceleration
Demo.	Demolition
Det.	Detail
Dia.	Diameter
El.	Elevation
Elec.	Electrical
EQ	Equal distance
Exist.	Existing
Exp.	Expansion
EJ	Expansion joint
FOW	Face of wall
FFE	Finish floor elevation
Ft.	Foot
Ga.	Gauge
Ht.	Height
HDPE	High Density Polyethylene
Hortiz.	Horizontal
In/Ln Ft.	Inches per linear foot
I.D.	Inside diameter or dimension
Inv.	Invert
L.A.	Landscape Architect
M.H.	Manhole
Max.	Maximum
Mech.	Mechanical
Med.	Medium
Min.	Minimum
N/A	Not applicable
O.C.	On center
O.D.	Outside diameter
Perp.	Perpendicular
P.O.B.	Point of beginning
PVC	Polyvinyl chloride
R	Radius
Ref.	Reference.
RCP	Reinforced concrete pipe
Reinf.	Reinforcing
Req'd.	Required
ROW	Right or way
San.	Sanitary
Sht.	Sheet
Sim.	Similar
SLCPP	Smooth Lined Corrugated Plastic Pipe
Specs.	Specifications
Sq.	Square
STA	Station point
Storm	Storm sewer
Struct.	Structural
Thk.	Thick
TBS	To be selected
Typ.	Typical
Vert.	Vertical
VIF	Verify in field
W.	Width
w/	with
w/o	without
WWF	Woven wire fabric
WWM	Woven wire mesh

Symbol Legend

- 3 — Demolition note
- 6 — Plan note
- AC 86 — Plant note
- 3 / C-502 — Detail reference
- 12 / C-402 — Section reference
- 767.30 — Proposed spot elevation Note and Mark
- 768 — Proposed contour
- TC 765.75 / EP 765.25 — Top of curb Edge of pavement
- TC 765.75 / RIM 765.25 — Top of curb Rim
- MC — Match existing elevation
- Elevation target
- ST-12 — Storm structure number
- SS-03 — Sanitary sewer structure number
- N: 4489.33 / E: 5878.22 — Coordinate Reference Point

Call 1-800-382-5544
2 WORKING DAYS BEFORE YOU DIG.

"IT'S THE LAW"
INDIANA UNDERGROUND PROTECTION SERVICE, INC.

SCHMIDT ASSOCIATES
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Indianapolis, Indiana 46204
www.schmidt-arch.com

Project no. 2015-121.LCS
Project Date 04-18-2016
Prepared JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date

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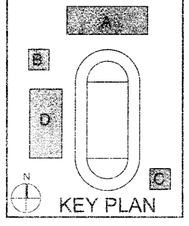

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

GENERAL NOTES & ABBREVIATIONS

C-001

RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY
LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

LAWRENCE TWP. - MARION CO.
Section 1 | Township 16-N | Range 4-E

THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP

Scale 1" = 30'

No. 1 of 9

Project number 150431-30000

SCHMIDT ASSOCIATES, INC.
415 MASSACHUSETTS AVENUE
INDIANAPOLIS, IN 46204
PHONE: (317)-261-1225 FAX: (317)-261-1224

Cripe
3939 Priority Way South Drive, Suite 200
Indianapolis, Indiana 46240
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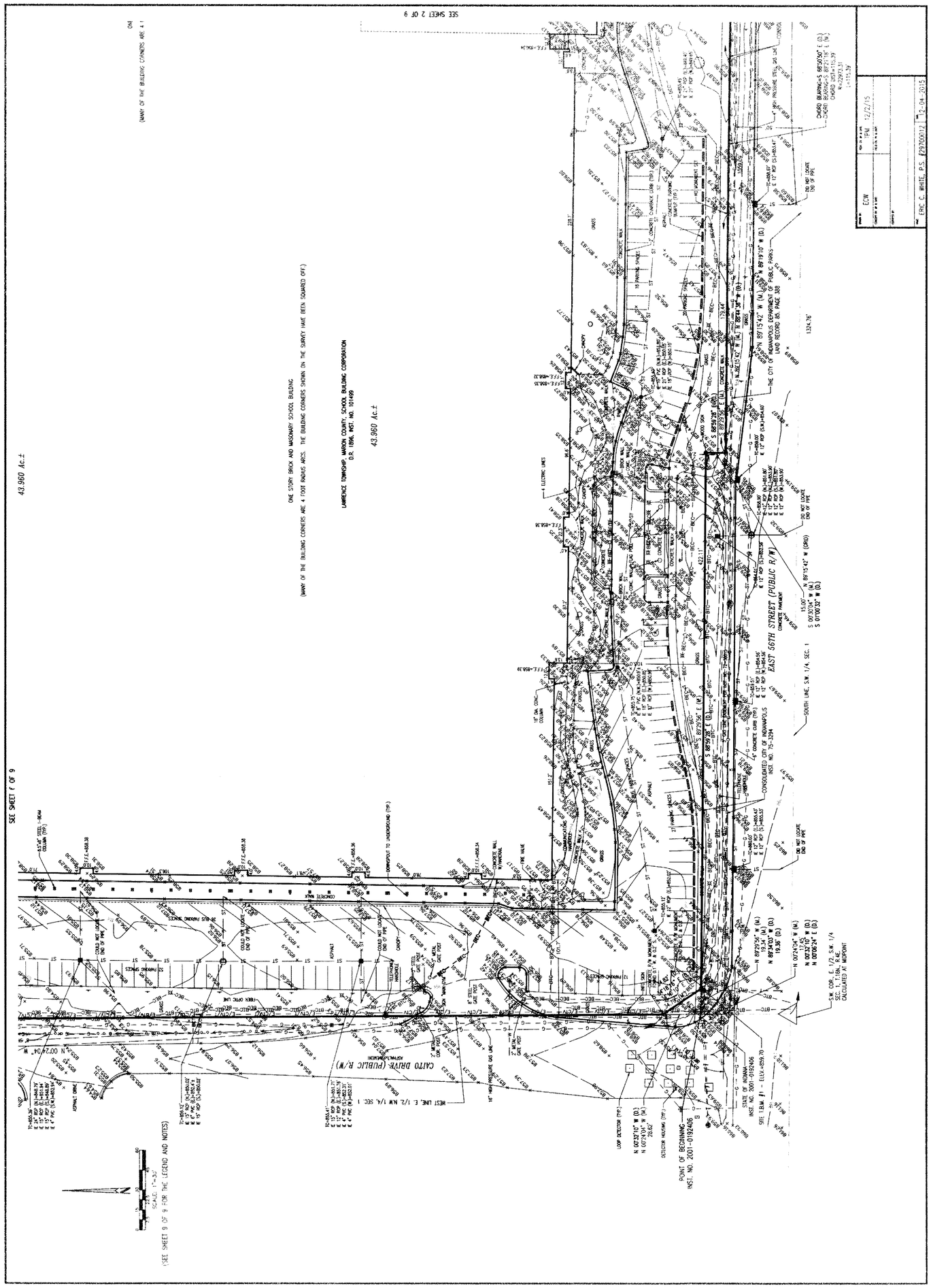
E-Mail cripe@cripe.biz

Architecture + Interiors
Civil Engineering
Survey + Transit
Survey + 3D Laser Scanning
Construction Planning
Geotechnical Engineering
Real Estate Services

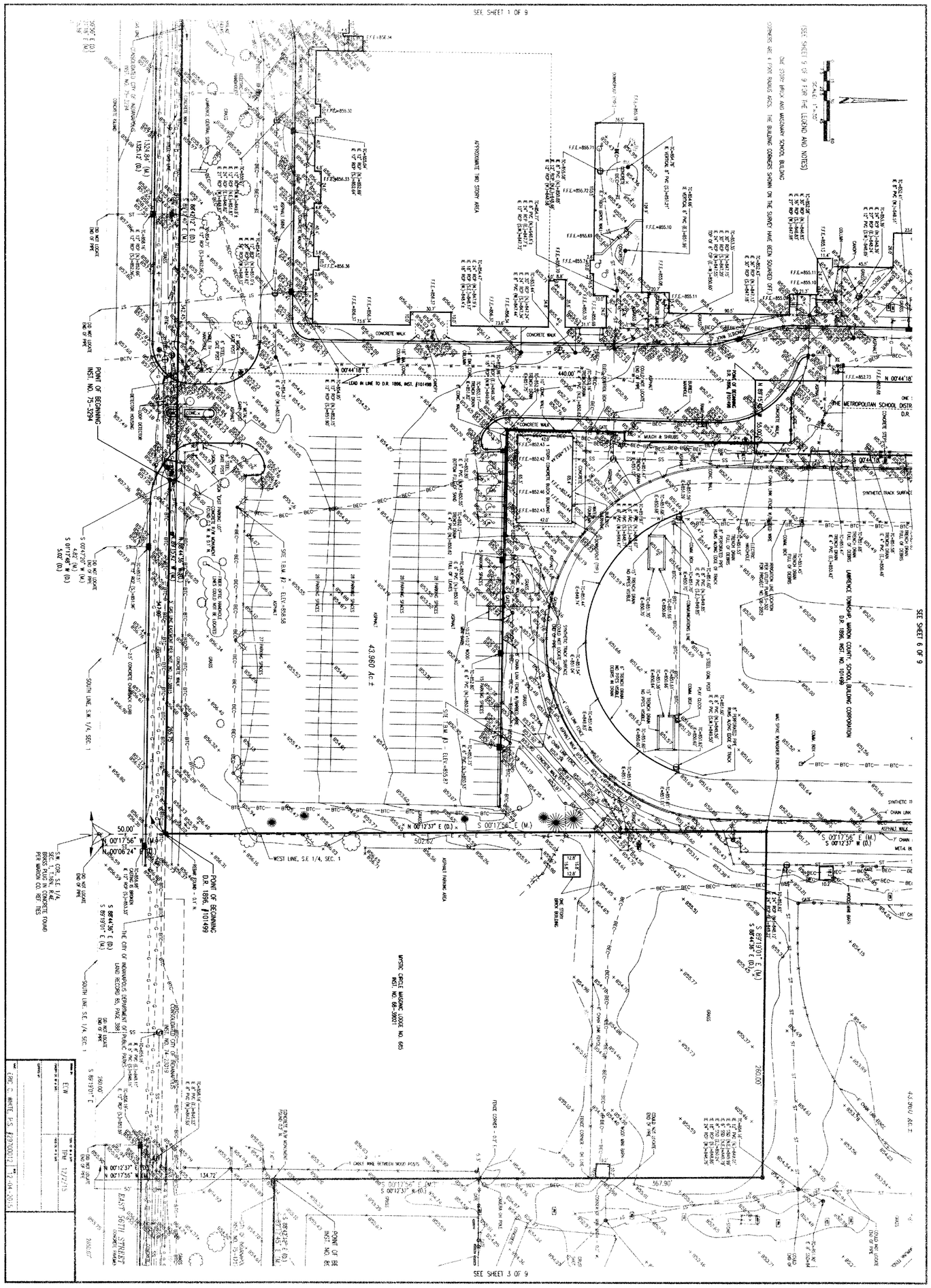
Revision	Date	Description

Drawn by: ECW
Checked by:
Date: 12/2/15
Project No.: 150431-30000
Field Book No.:
Page No.:

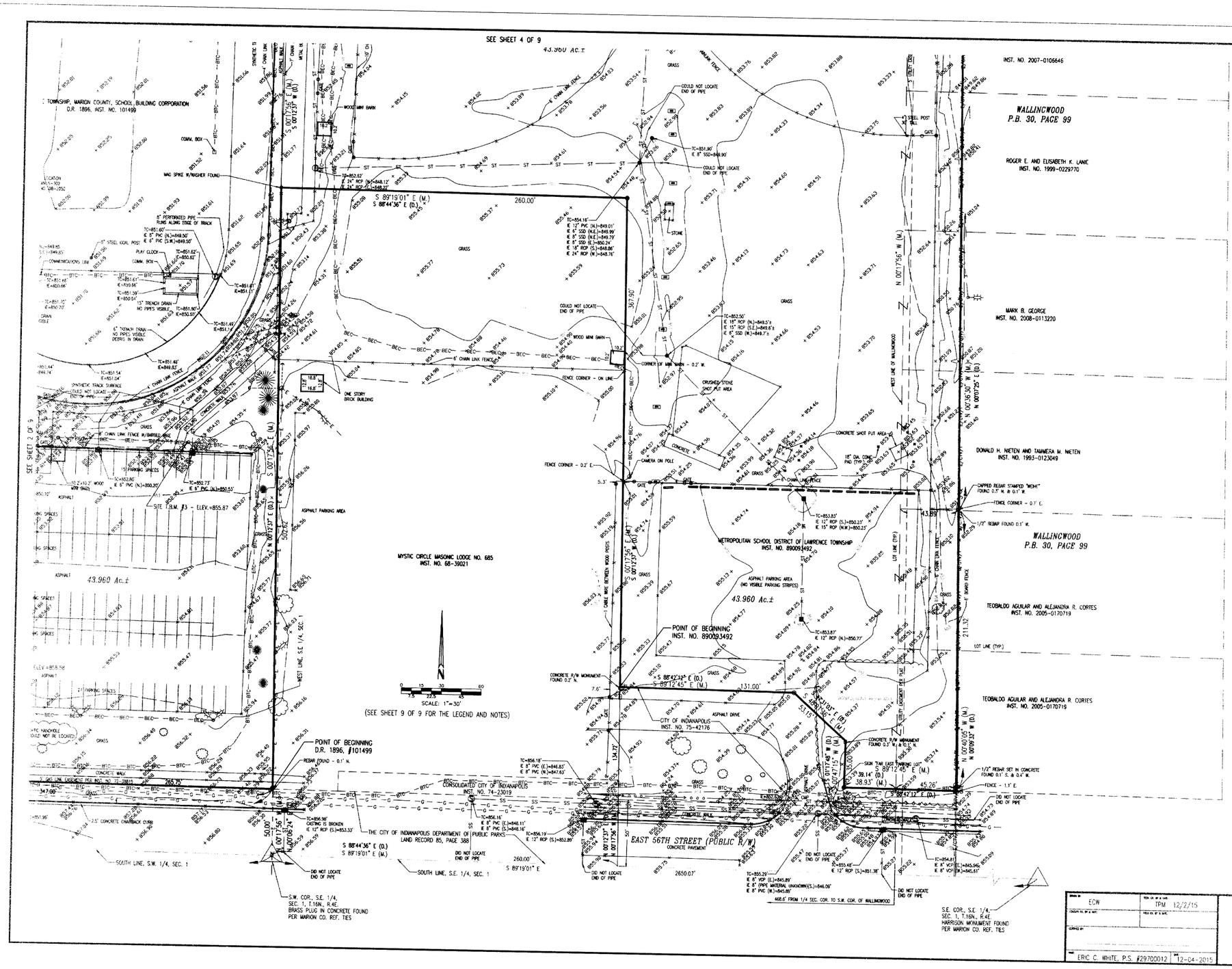
ERIC C. WHITE, P.S. #29700012 12-04-2015



SEE SHEET 1 OF 9



Legal Township: LAWRENCE TWP. – MARION CO.	RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY	Cripe 3939 Priority Way South Drive, Suite 200, Indianapolis, Indiana 46240, (317) 844-6777, E-Mail: cripe@cripe.biz
Section: 1 Township: 16-N Range: 4-E	LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET	Architecture + Interiors; Civil Engineering; Survey + 3D Laser Scanning; Energy + Facilities; Equipment Planning; Real Estate Services
Name of Owner: THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP	SCHMIDT ASSOCIATES, INC. 415 MASSACHUSETTS AVENUE INDIANAPOLIS, IN 46204 PHONE: (317)-263-6226 FAX: (317)-263-6234	
Scale: 1" = 30'		Revisions: Mark / Date / Description
Project Number: 150431-30000		
No. 2 of 9		



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RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY

LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

SCHMIDT ASSOCIATES, INC.
415 MASSACHUSETTS AVENUE
INDIANAPOLIS, IN 46204
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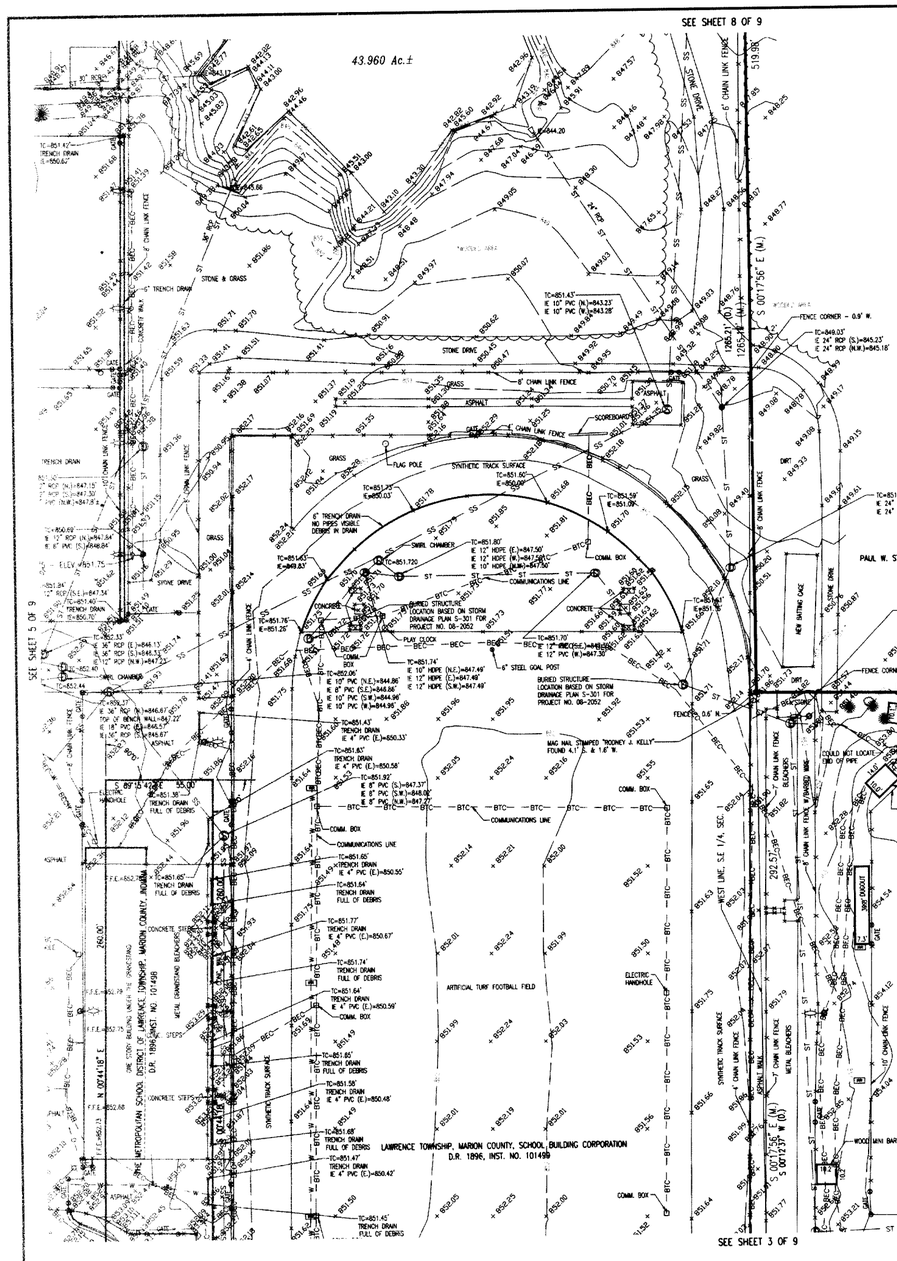
Civil Township	LAWRENCE TWP. – MARION CO.
Section	1
Township	16-N
Range	4-E
Parcel Area	THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP
Drawn By	EOW
Check No. of R. of Surv.	TPM 12/2/15
Check No. of R. of Surv.	
Surveyed By	
Scale	1" = 30'
Sheet No.	No. 3 of 9
Project Number	150431-30000



DRAWN BY: ECW	CHECKED BY: TPM 12/2/15	
CHECKED BY: ERIC C. WHITE, P.S. #29700012	DATE: 12-04-2015	

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3939 Priority Way South Drive, Suite 200
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E-Mail cripe@cripe.biz

RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY
LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

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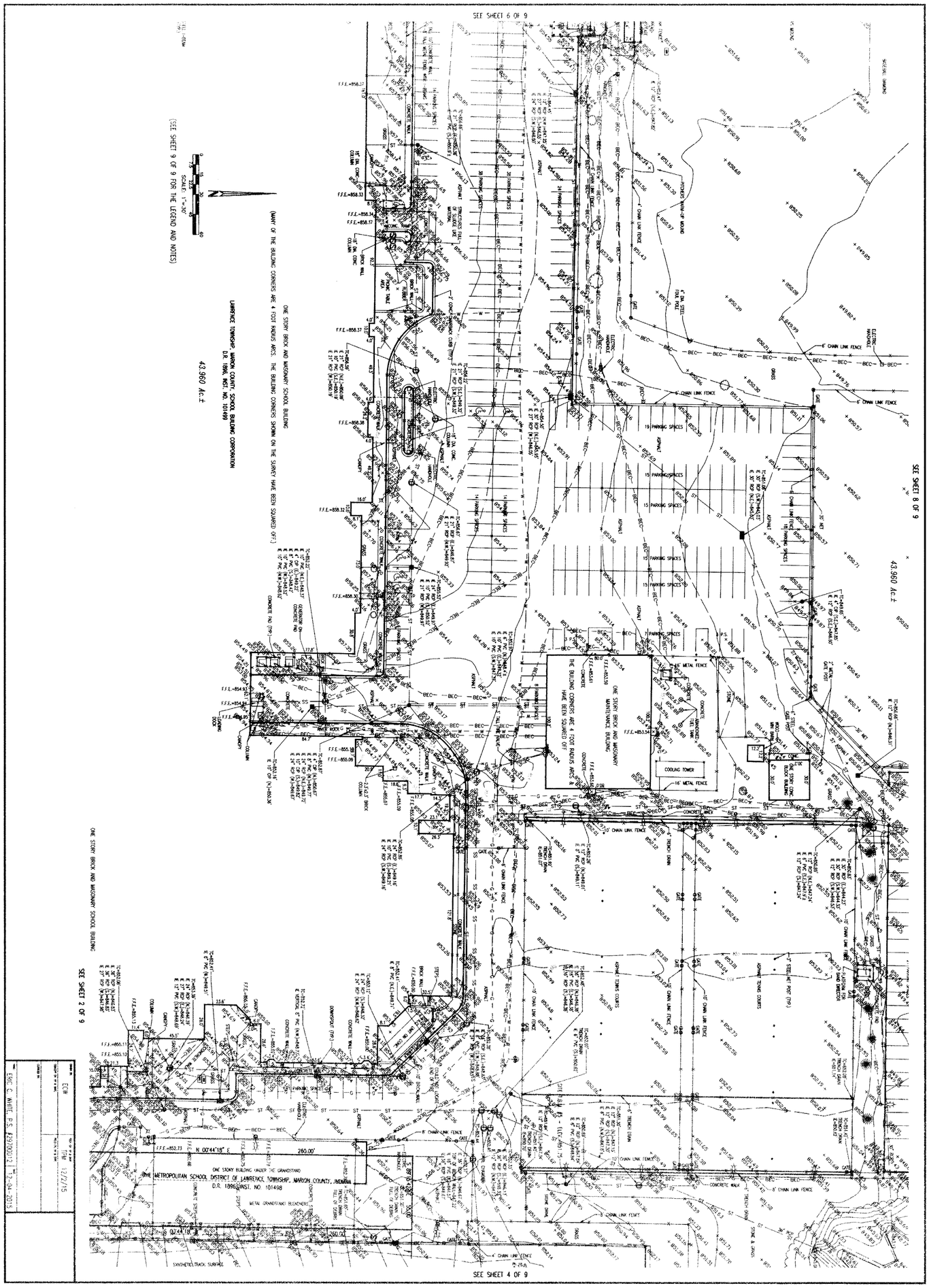
LAWRENCE TWP. - MARION CO.
SECTION 1 TOWNSHIP 16-N RANGE 4-E
THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP

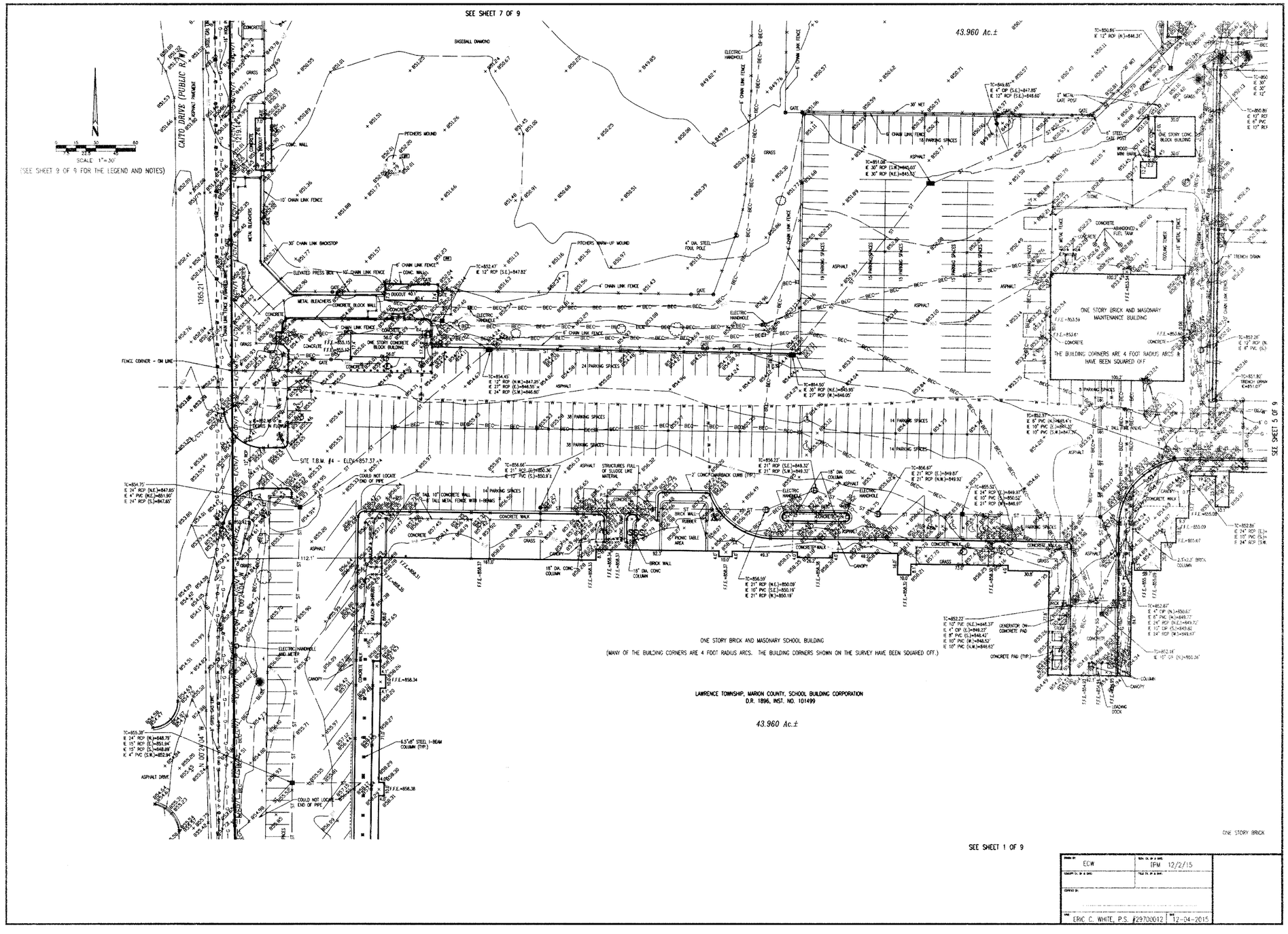
SCALE: 1" = 30'
Sheet No. 4 of 9
Project Number: 150431-30000



Legal Description: LAWRENCE TWP. – MARION CO.	RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY	Cripe	Revisions
Section: 1 Township: 16–N Range: 4–E	LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET	3939 Priority Way South Drive, Suite 200 Indianapolis, Indiana 46240 (317) 844-6777 E-Mail: cripe@cripe.biz	Mark / Date / Description
Record Owner: THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP	SCHMIDT ASSOCIATES, INC. 415 MASSACHUSETTS AVENUE INDIANAPOLIS, IN 46204 PHONE: (317)-263-6226 FAX: (317)-263-6224	Architecture + Interiors; Civil Engineering; Survey - 3D Laser Scanning; Energy + Facilities; Equipment Planning; Real Estate Services	
Project Number: 150431-30000	Sheet No.: No. 5 of 9	Scale: 1" = 30'	

ERIC C. WHITE, P.S. #29700 | 12-04-2015

ECW	12/2/15	



Drawn By: ECW	Rev. Dr. or # Iss. IFW 12/2/15	
Sheet Dr. or # Iss.	Proj. Dr. or # Iss.	
Checked By:		
Title: ERIC C. WHITE, P.S. #29700012	Date: 12-04-2015	

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Indianapolis, Indiana 46240
(317) 844.6777
E-Mail cripe@cripe.biz

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Revisions

No.	Description	Date

RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY

LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

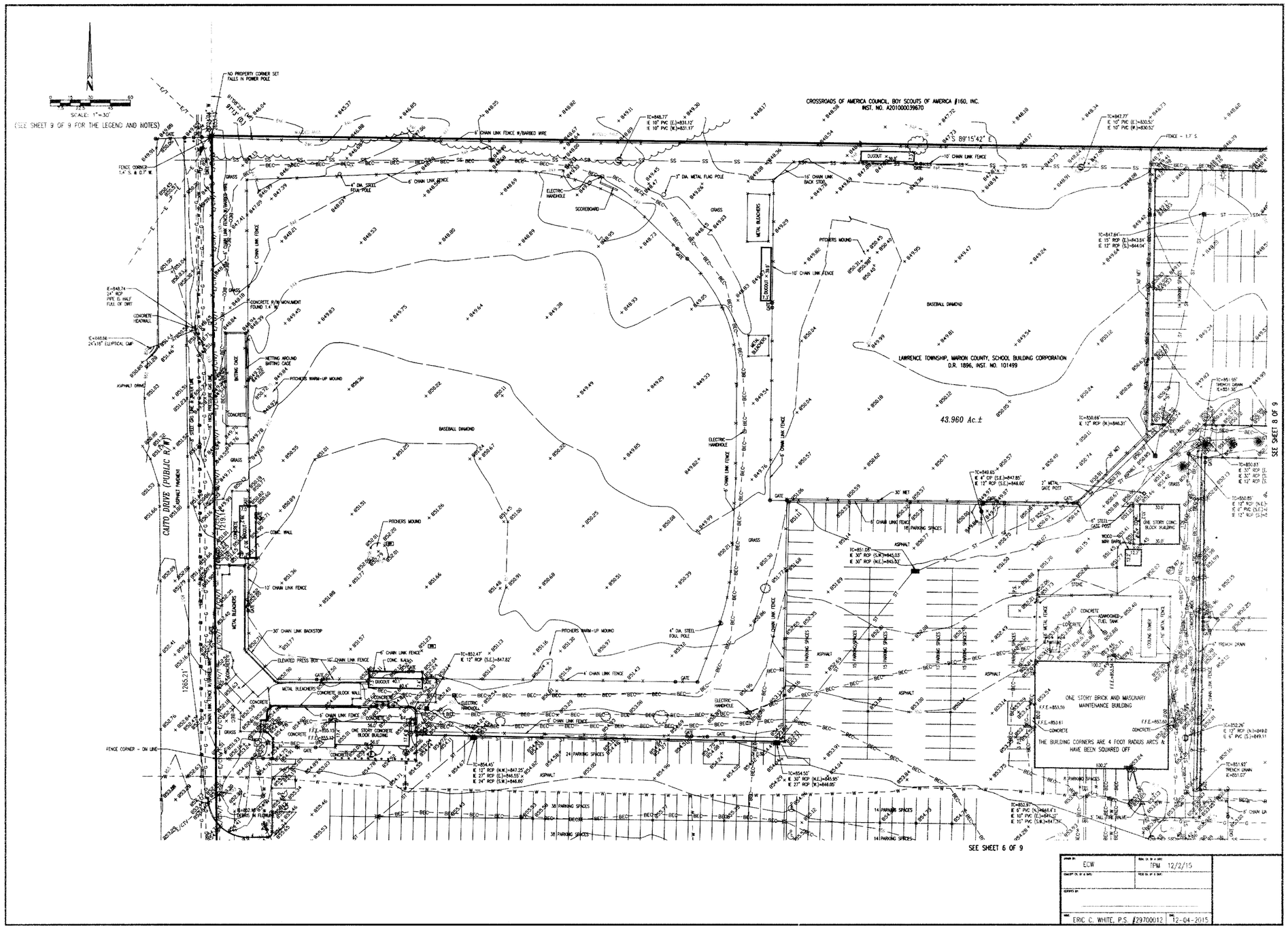
SCHMIDT ASSOCIATES, INC.
415 MASSACHUSETTS AVENUE
INDIANAPOLIS, IN 46204
PHONE (317) 269-6299 FAX (317) 269-6324

Land Description
Scale: 1 | Township: 16 - N | Range: 4 - E
Record Owner: THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP

Drawn: 1" = 30'

Sheet No. No. 6 of 9

Project Number 150431-30000



drawn by: ECW	field work (by, dd, yr & date): TPM 12/2/15		
check'd (by, dd, yr & date):	field chk'd (by, dd, yr & date):		
surveyed by:			
date: ERIC C. WHITE, P.S. #29700012	date: 12-04-2015		

Revisions		
Item	Date	Description

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RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY

LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

SCHMIDT ASSOCIATES, INC.
415 MASSACHUSETTS AVENUE
INDIANAPOLIS, IN 46204
PHONE: (317) 261-5228 FAX: (317) 263-4224

civil township: LAWRENCE TWP. – MARION CO.			
Section: 1	Township: 16-N	Range: 4-E	
Quad Sheet: THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP			
Scale: 1" = 30'			
Sheet No.: No. 7 of 9			
Project Number: 150431-30000			

RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY
LAWRENCE CENTRAL HIGH SCHOOL - 7300 EAST 56TH STREET

SCHMIDT ASSOCIATES, INC.
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Revisions		
Item	Date	Description

LAWRENCE TWP. – MARION CO.

Section	Township	Range
1	16-N	4-E

THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP

Legal Description

Scale: 1" = 30'

Sheet No. 8 of 9

Project Number: 150431-30000

SEE SHEET 9 ON 9 FOR THE LEGEND AND NOTES)

SCALE: 1"=30'

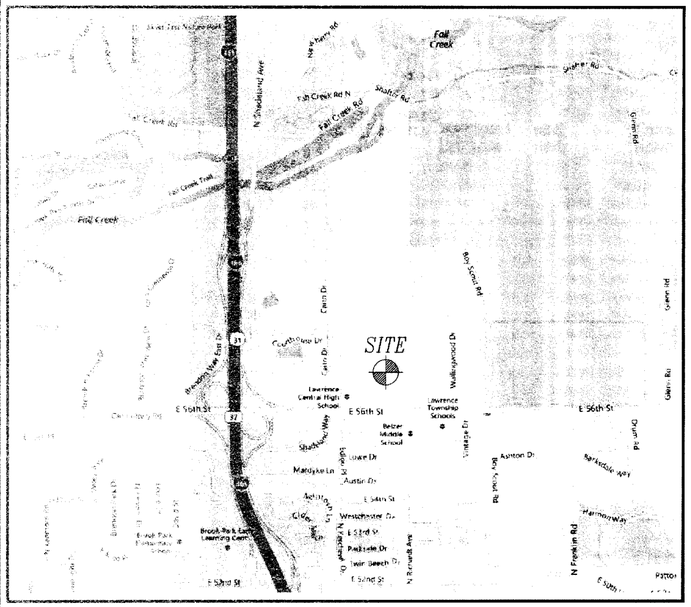
SEE SHEET 6 OF 9

SEE SHEET 6 OF 9

Drawn	ECW
Designed	
Checked	
Submitted	

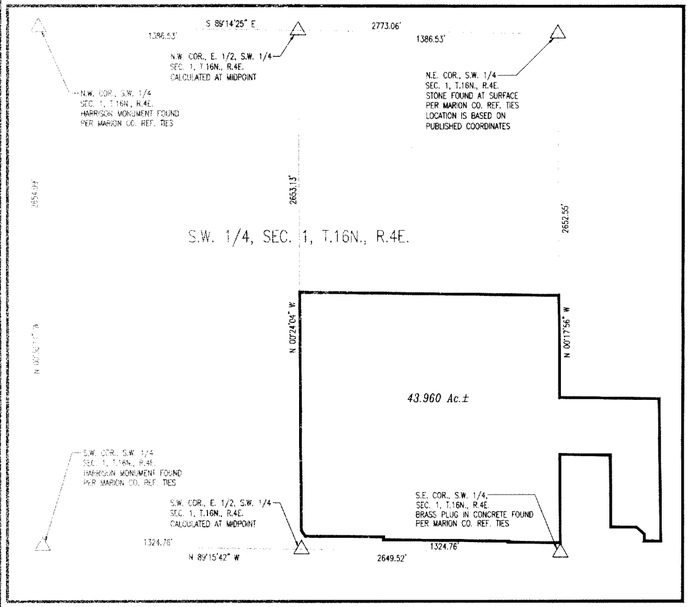
PM 12/2/15

ERIC C. WHITE, P.S. #21700012 12-04-2015



VICINITY MAP

NO SCALE



QUARTER SECTION DETAIL

SCALE: 1"=300'

Certify to: Schmidt Associates, Inc.
The Metropolitan School District of Lawrence Township

I, the undersigned, hereby certify that to the best of my professional knowledge and belief the within plat accurately represents a survey made under my supervision during October and November, 2015 of the real estate described herein, and that said survey was performed in accordance with Title 865, Article 1, Rule 12 of the Administrative Code establishing minimum standards for the practice of Land Surveying in Indiana.

LAND DESCRIPTIONS

Deed Record 1896, #101499

A part of the southeast quarter of Section 1, Township 16 North, Range 4 east, more particularly described as follows:

Beginning at the southeast corner of said quarter section, thence north along the east line of said quarter section a distance of 50.00 feet to the point of beginning; thence west on a line parallel to the south line of said quarter section a distance 1325.12 feet to a point; thence northerly at a deflection angle of 88° 47' with previously described course and parallel to the east line of said quarter section 1765.21 feet to a point; thence eastwardly at a deflection angle of 91° 13' with the previously described course and parallel with the south line of said quarter section 1325.12 feet to a point; thence southward along the east line of said quarter section a distance of 1265.21 feet to the point of beginning; excluding, however, the following described parcel:

Beginning at the point of beginning of the above describe parcel, thence westwardly along a line parallel to the south line of said quarter section 347.00 feet to a point; thence northward at a deflection angle of 90° 0' a distance of 440.00 feet to the point of beginning; thence continuing North on the last described line a distance of 260.00 feet to a point; thence easterardly at an angle of 90° 0' a distance of 55.00 feet to a point; thence southward at an angle of 90° 0' a distance of 260.00 feet to a point; thence westward at an angle of 90° 0' a distance of 55.00 feet to the point of beginning, containing 0.33 acres more or less.

Deed Record 1896, #101498

A part of the Southwest Quarter of Section 1, Township 16 North, Range 4 East, more particularly described as follows:

Beginning at the Southeast corner of said quarter section, thence north along the East line of said quarter section a distance of 50.00 feet to a point, thence west on a line parallel to the South line of said quarter section a distance of 347.00 feet to a point; thence northward at a deflection angle of 90° 0' a distance of 440.00 feet to the point of beginning, thence continuing North on the last described line a distance of 260.00 feet to a point; thence eastwardly at an angle of 90° 0' a distance of 55.00 feet to a point; thence westward at an angle of 90° 0' a distance of 260.00 feet to a point; thence westward at an angle of 90° 0' a distance of 55.00 feet to the point of beginning, containing 0.33 acres more or less.

Instrument No. 890093492

PART OF THE WEST HALF OF THE SOUTHEAST QUARTER OF SECTION 1, TOWNSHIP 16 NORTH, RANGE 4 EAST, MARION COUNTY, INDIANA, AND PART OF LOTS 1, 2, 3, 4, 5, 6, AND 7 IN WALLINGWOOD, THE PLAT OF WHICH IS RECORDED IN PLAT BOOK 30, PAGE 99, IN THE OFFICE OF THE RECORDER OF MARION COUNTY, INDIANA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A POINT ON THE SOUTH LINE OF SAID HALF-QUARTER SECTION BEING SOUTH 88 44 MINUTES 36 SECONDS EAST 260.00 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE NORTH 0 DEGREES 12 MINUTES 37 SECONDS EAST, PARALLEL WITH THE WEST LINE OF SAID HALF-QUARTER SECTION, 134.72 FEET TO A POINT ON THE EXISTING NORTH RIGHT OF WAY LINE OF 56TH STREET AND THE POINT OF BEGINNING; THENCE THE NEXT FIVE COURSES BEING ALONG SAID RIGHT OF WAY LINE, SOUTH 88 DEGREES 42 MINUTES 12 SECONDS EAST 131.00 FEET; SOUTH 42 DEGREES 31 MINUTES 03 SECONDS EAST 53.15 FEET; SOUTH 1 DEGREE 17 MINUTES 48 SECONDS WEST 35.00 FEET; SOUTH 88 DEGREES 42 MINUTES 12 SECONDS EAST 39.14 FEET TO THE WEST LINE OF SAID LOT 1; SOUTH 88 DEGREES 42 MINUTES 12 SECONDS EAST 45.26 FEET TO THE EAST LINE OF A PART OF SAID LOT 1 DEEDED TO CLARENCE MARTIN RECORDED AS INSTRUMENT #51831 IN SAID RECORDER'S OFFICE; THENCE, LEAVING SAID RIGHT OF WAY LINE, NORTH 0 DEGREES 09 MINUTES 32 SECONDS WEST ALONG SAID EAST LINE, 211.32 FEET TO A POINT BEING SOUTH 89 DEGREES 47 MINUTES 23 SECONDS EAST ALONG THE NORTH LINE OF SAID LOT 2, 43.89 FEET FROM THE NORTHWEST CORNER THEREOF; THENCE NORTH 0 DEGREES 07 MINUTES 25 SECONDS EAST ALONG SAID EAST LINE, 519.43 FEET TO A POINT IN SAID LOT 7; THENCE NORTH 88 DEGREES 44 MINUTES 36 SECONDS WEST, PARALLEL WITH THE SOUTH LINE OF SAID HALF-QUARTER SECTION, 509.69 FEET TO THE WEST LINE OF SAID HALF-QUARTER SECTION; THENCE SOUTH 0 DEGREES 12 MINUTES 37 SECONDS WEST ALONG SAID WEST LINE, 292.57 FEET TO A POINT BEING NORTH 0 DEGREES 12 MINUTES 37 SECONDS EAST ALONG SAID WEST LINE, 502.62 FEET FROM THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 88 DEGREES 44 MINUTES 36 SECONDS EAST, PARALLEL WITH SAID SOUTH LINE, 260.00 FEET; THENCE SOUTH 0 DEGREES 12 MINUTES 37 SECONDS WEST, PARALLEL WITH SAID WEST LINE, 367.90 FEET MEASURED (367.94 FEET DEED) TO THE POINT OF BEGINNING.

EXCEPT:

Instrument No. 2001-0192406

A part of the Southwest Quarter Section 1, Township 16 North, Range 4 East, of the Second Principal Meridian, Marion County, Indiana, and being all that part of the grantor's land lying within the right-of-way lines of Parcel 28 as depicted on the attached Right-of-Way Parcel Plat marked as Exhibit "B", also described as follows: Commencing at the southeast corner of said quarter section, designated as point "400" on the Location Control Route Survey plat recorded as Instrument #2000-0026334 in the Office of the Recorder of said county; thence North 0 degrees 32 minutes 10 seconds West 15.240 meters (50.00 feet) along the east line of said quarter section to the north boundary of 56th Street; thence North 89 degrees 19 minutes 10 seconds West 403.897 meters (1325.12 feet) along the boundary of said 56th Street and the former north boundary of 56th Street (being the south line of a tract of land conveyed to the Consolidated City of Indianapolis for the use and benefit of the Department of Transportation by Warranty Deed recorded January 22, 1975 as Instrument # 75-3294) to the prolonged east boundary of Colts Drive, also being the southwest corner of said tract of land conveyed to the Consolidated City of Indianapolis; thence North 0 degrees 12 minutes 10 seconds West 5.319 meters (17.45 feet) along the prolonged east boundary of said Colts Drive, (also being the west line of said tract) to where the east boundary of said Colts Drive meets the north boundary of said 56th Street and the POINT OF BEGINNING of this description: thence North 0 degrees 32 minutes 10 seconds West 8.724 meters (28.62 feet) along the boundary of said Colts Drive to point "468" designated on said Right-of-Way Parcel Plat; thence South 34 degrees 18 minutes 16 seconds East 10.614 meters (34.82 feet) to the north boundary of said 56 Street and point "469" designated on said Right-of-Way Parcel Plat; thence North 89 degrees 34 minutes 03 seconds West 5.901 meters (19.36 feet) along the boundary of said 56th Street to the point of beginning and containing 0.0026 hectares (0.006 acres), more or less.

ALSO EXCEPT:

Instrument No. 75-3294

Land in Marion County, State of Indiana, being a part of the Southeast Quarter of Section 1, Township 16 North, Range 4 East, described as follows: Beginning at a point on the south line of the owner's land North 0 degrees 06 minutes 24 seconds East 50.01 feet (along the east line of said quarter section to the southeast corner of the owner's land) and North 88 degrees 44 minutes 36 seconds West 265.75 feet (parallel with the south line of said quarter section) from the southeast corner of said quarter section, said point of beginning being on the north boundary of existing East 56th Street; thence North 88 degrees 44 minutes 36 seconds West 1,059.09 feet along the south line of the owner's land and parallel with the south line of said quarter section to the southwest corner of the owner's land; thence North 0 degrees 06 minutes 24 seconds East 17.45 feet along the west line of the owner's land; thence South 88 degrees 59 minutes 28 seconds East 422.11 feet; thence South 1 degrees 00 minutes 32 seconds West 15.00 feet; thence South 88 degrees 59 minutes 28 seconds East 179.44 feet; thence Easterly 115.39 feet along an arc to the right having a radius of 22,973.31 feet and subtended by a long chord having a bearing of South 88 degrees 50 minutes 50 seconds East and a length of 115.39 feet; thence South 88 degrees 42 minutes 12 seconds East 342.45 feet; thence South 1 degree 17 minutes 48 seconds West 5.02 feet to the point of beginning, and containing 0.251 acres, more or less.

SURVEYOR'S REPORT

In accordance with Title 865, Article 1, Rule 12, of the Indiana Administrative Code, establishing minimum standards for the practice of land surveying in Indiana, effective August 16, 1991, the following observations and opinions are submitted regarding the various uncertainties in the location of the lines and corners established on this survey as a result of:

a) Availability and condition of reference monuments;
b) Clarity or ambiguity of the record description used and of adjoiners' descriptions and the relationship of the lines of the subject tract with adjoiners' lines;
c) Occupation or possession lines;
d) The relative positional accuracy of the measurements;

This is a retracement survey of land described in instrument Deed Record 1896, instrument No. 101499, instrument No. 890093492, and Deed Record 1896, instrument No. 101498. The property is currently owned by The Metropolitan School District of Lawrence Township.

The basis of bearings is grid bearing based upon Indiana State Plane Coordinate System – East Zone, NAD 83 between the brass plug in concrete found at the Southeast corner and a Harrison monument found at the Southwest corner of the Southwest Quarter of Section 1, Township 16 North, Range 4 East.

The location of the corners and the lines of the subject real estate is dependent upon the location of the South and East lines of the Southeast Quarter of said Section 1, the West line of the East Half of said Southeast Quarter, the South line of the Southeast Quarter of said Section 1, the land conveyed to the Consolidated City of Indianapolis recorded as Instrument No. 75-3294 and Instrument No. 2001-0192406, and the plat of Wallingwood (Plat Book 30, page 99).

The South line of the Southeast Quarter of said Section 1 was established from a brass plug in concrete found (at the surface) at the Southeast corner and a Harrison monument found (at the surface) at the Southwest corner of said Southeast Quarter. Both of the found monuments agreed with the Marion County Surveyor reference ties. The error of uncertainty of the location of the two found monuments is negligible. The East line of said Southeast Quarter was established from said brass plug in concrete found at the Southeast corner and a stone found (at the surface) at the Northeast corner of said Southeast Quarter. The found stone could not be located easily using conventional or GPS methods. The location of the stone was established based on the published state plane coordinates listed on the section corner ties. The error of uncertainty of the location of the found stone based on said published coordinates is 0.3 feet. The North line of said Southeast Quarter was established based on the published coordinates of said stone found at the Northeast corner and a Harrison monument found (at the surface) at the Northwest corner of said Southeast Quarter. The Harrison monument agrees with the Marion County Surveyor reference ties. The error of uncertainty of the location of said Harrison monument is negligible. The West line of said Southeast Quarter was established from said Harrison monuments found at the Northwest and Southwest corners of said Southeast Quarter. The West line of the East Half of said Southeast Quarter was established from connecting the midpoints of the North and South lines of said Southeast Quarter. The South line of the Southeast Quarter of said Section 1 was established from said brass plug in concrete found at the Southwest corner and the Harrison monument found (at the surface) at the Southeast corner of said Southeast Quarter. The Harrison monument agrees with the Marion County Surveyor reference ties. The error of uncertainty of the location of said Harrison monument is negligible.

The west line of the subject deed (Deed Record 1896, Instrument No. 101499) was established as the West line of the East Half of the Southeast Quarter of said Section 1. The deed description does call to or along said West line but the distance from the point of beginning along the north line of 56th Street is 1325.12 feet. The measured distance along said north line to the West line of said East Half is 1324.84 feet. There is less than 0.3 foot difference between measurements. It is this surveyor's opinion that the intent was to go to said West line. The north line of the subject deed was established based on holding the deed distance of 1265.21 feet along the West line of said East Half and then running East parallel with the South line of said Southeast Quarter to the East line of said Southeast Quarter. The distance along the North side of said subject deed measured about two feet longer than the deed distance. The East line of said subject deed runs along the East line of said Southeast Quarter to the point of beginning. The measured distance along the line was only 0.04 feet short of the deed distance.

The Northeast corner of the subject deed (Instrument No. 890093492) was established from holding the deed distance of 292.57 feet North along the West line of the Southeast Quarter of said Section 1 from a point located 502.62 feet North of the Southwest corner of said Southeast Quarter. The North line of said subject deed was established parallel with the South line of said Southeast Quarter. The Northeast corner of said subject deed was established holding the deed distance of 509.69 feet. The west line of Wallingwood (Plat Book 30, page 99) was established from holding the platted distance of 488.6 feet along the South line of the Southeast Quarter of said Section 1 from the Southwest corner of said Southeast Quarter and holding the west line of said plat parallel with the West line of said Southeast Quarter. The southeast corner of the subject deed (Instrument No. 890093492) was established from holding the deed distance of 45.26 feet along the north line of the land conveyed to the Consolidated City of Indianapolis (Instrument No. 75-42176) from the West line of said Wallingwood.

Land that was excepted from the subject deed descriptions includes Instrument No. 2001-0192406, which conveyed land to the State of Indiana and Instrument No. 75-3294, which conveyed land to the Consolidated City of Indianapolis for widening of 56th Street. No right of way documents were found conveying land to the City of Indianapolis for Colts Drive. The east right of way of Colts Drive is the west line of the subject property and the West line of the Southeast Quarter of said Section 1.

There are no major discrepancies between the subject deeds and the adjoining deeds.

Concrete right of way monuments were found along the North right of way line of 56th Street as shown on the within survey. Several of the monuments fit the location of the north right of way line of 56th Street within 0.2 feet. Other monuments were found along the west, north, east boundaries of the subject deed (Instrument No. 890093492) as shown on the within survey.

A stone drive and a new batting cage are located on the northeast adjoining property owned by Paul W Stewart and Claribel M. Stewart. There may be some kind of agreement between the Lawrence Central School and the property owner. No agreement documents were found from the information provided to us by the deed researcher. There are also improvements (bleachers, walks, utilities, etc.) that appear to be used by Lawrence Central School that lie on the land owned by Mystic Circle Masonic Lodge No. 685.

There are chain link fences that are located along or near the West, North, Northeast, and East boundary lines of the subject property. There relation to the property lines are as shown on the within survey.

This survey is classified as an urban survey. The acceptable relative positional accuracy for an urban survey is 0.07 feet + 50 ppm, as defined in 865 I.A.C. 1-12-7.

The within plat of survey was prepared based on title information provided by Indiana Search Technologies. The subject and adjoiners deeds and some encumbrances were provided by Indiana Search Technologies.

Most of the subject property lies within an unshaded Flood Zone X (areas determined to be outside the 500 year floodplain) as plotted by scale from "FIRM", Flood Insurance Rate Map, Community Panel Number 180160 0160 E, City of Lawrence, Marion County, Indiana, effective date, January 5, 2001 as prepared by the Federal Emergency Management Agency. A small portion of land located near the northeast corner of the property lies within a shaded Flood Zone X (500 year floodplain).

EXISTING FEATURES LEGEND

SS	SANITARY SEWER & MANHOLE		POWER POLE
ST	STORM SEWER, END SECTION, INLET & MH		GUY WIRE
G	GAS LINE		UTILITY MARKER (TELE, ELEC. & CTV)
W	WATER LINE		ELECTRIC TRANSFORMER
E	ELECTRIC LINE (AERIAL)		AIR CONDITIONER UNIT
T	TELEPHONE LINE (AERIAL)		STREET LIGHT
CTV	CABLE TELEVISION (AERIAL)		LIGHT POLE
BTC	BURIED TELE. CABLE		FLOOD LIGHT
BEC	BURIED ELEC. CABLE		TRAFFIC MANHOLE AND SIGNAL POLE
	FENCE (TYP.)		FIRE HYDRANT
BCTV	BURIED CABLE TV		VALVE, GAS & WATER
	CULVERT/PIPE		STREET SIGN
	RIGHT OF WAY LINE (R/W)		WATER, TELE, AND ELEC. MANHOLE
	EASEMENT LINE		SEWER CLEANOUT
	CENTER LINE		ELECTRIC, GAS AND WATER METER
	SWALE LINE		PIPELINE MARKER POST
D.	DEED DIMENSION		MAILBOX
M.	MEASURED DIMENSION		GUARD POST
B.L.	BASE LINE SURVEY DIMENSION		SPRINKLER HEAD
R.	RADIUS		IRRIGATION CONTROL BOX
L.	ARC LENGTH		SPOT GRADE
H.H.	HANDHOLE		TOP CURB OVER GUTTER GRADE
FND	FOUND		MONITORING WELL
CONC.	CONCRETE		FIRE TRAINING STAND PIPE
ASPH.	ASPHALT		GAS VENT PIPE
TC	TOP OF CASTING ELEVATION		SEPTIC TANK (ST)
IE	INVERT ELEVATION		WELL CAP
FFE	FINISH FLOOR ELEVATION	1234	STR. ADDRESS
TBM	TEMPORARY BENCHMARK		AIR RELIEF VALVE

● DENOTES A 5/8" DIA. REBAR WITH YELLOW PLASTIC CAP SET STAMPED "CRIPE FIRM NO. 0055" UNLESS OTHERWISE NOTED.

○ DENOTES A MAG SPIKE WITH WASHER SET, WASHER STAMPED "CRIPE FIRM NO. 0055" UNLESS OTHERWISE NOTED.

(GRID BEARING BASED UPON INDIANA STATE PLANE COORDINATE SYSTEM – EAST ZONE, NAD83)

NOTES:

(1) THIS SURVEY REFLECTS ABOVE GROUND INDICATIONS OF UTILITIES (UNDERMINE, BUT NOT LIMITED TO, MANHOLES, INLETS, VALVES, AND MARKS MADE UPON THE GROUND BY OTHERS), AS WELL AS INFORMATION AVAILABLE FROM UTILITY COMPANIES. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. FURTHER, THE SURVEYOR DOES NOT WARRANT THE UNDERGROUND UTILITIES SHOWN ARE OF THE SIZE, CAPACITY, OR IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION PROVIDED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE EXACT LOCATION, SIZES, AND CAPACITIES OF EXISTING UNDERGROUND UTILITIES SHOULD BE FIELD VERIFIED PRIOR TO ANY CONSTRUCTION ACTIVITIES.

(2) EXCEPT AS EXPLICITLY SHOWN, DETAILED, OR LISTED ON THE FACE OF THIS DOCUMENT, PAUL I. CRIPE, INC., HAS NOT INVESTIGATED THIS SITE FOR FLOOD PLAINS, WETLANDS, ZONING, ENVIRONMENTAL CONTAMINATION, OR ANY OTHER ISSUES NOT SPECIFICALLY SET FORTH HEREIN. ANY ADDITIONAL ISSUES NOT EXPLICITLY DESCRIBED IN THE CONTRACTED SCOPE OF SERVICES FOR THE PREPARATION OF THE CURRENT VERSION OF THIS DOCUMENT WERE NOT INVESTIGATED.

(3) THE PRIVATE UTILITY LOCATOR WAS NOT ABLE TO MARK THE IRRIGATION LINES.

(4) THE PRIVATE UTILITY LOCATOR WAS NOT ABLE TO MARK THE PRIVATE WATER LINES FROM THE HYDRANTS INTO THE SCHOOL.

(5) COULD NOT DETERMINE THE LOCATION OF THE STORM PIPES ON AND AROUND THE FOOTBALL FIELD AND TRACK.

(6) THE SITE IS CURRENTLY ZONED SUC (SPECIAL USE DISTRICT 6). THIS ZONING WAS TAKEN FROM THE MARION COUNTY GIS.

I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF THE WITHIN PLAT REPRESENTS A TOPOGRAPHIC SURVEY COMPLETED UNDER MY SUPERVISION ON NOVEMBER 9, 2015. I FURTHER CERTIFY THAT THE ELEVATIONS SHOWN ARE ACCURATE WITHIN THE FOLLOWING LIMITS UNLESS OTHERWISE NOTED:

ELEVATIONS ON PAVEMENT, CURBS, OR OTHER HARD SURFACES, BUILDING FLOOR ELEVATIONS, MANHOLES AND OTHER STRUCTURES: ±0.05 FEET
ELEVATIONS ON SOIL, GRASS OR OTHER NATURAL SURFACES: ±0.10 FEET
CONTOUR LINES SHOWN ARE PLOTTED WITHIN ± ONE-HALF INTERVAL.

BENCHMARK NOTES:

REFERENCE BENCHMARK: A STANDARD MARION DISK (STAMPED "MARION NO. 167") SET IN THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH THE GROUND. THE MONUMENT IS LOCATED AT CRESTVIEW ELEMENTARY SCHOOL AT THE NORTHWEST CORNER OF EAST 71ST STREET AND HAGUE ROAD.

ELEV. = 842.79 (NAVD 1988)

SITE T.B.M. #1: CUT "X" SET ON THE NORTH BOLT OF A TRAFFIC SIGNAL POLE LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF CAITO DRIVE AND EAST 56TH STREET.

ELEV. = 859.70

SITE T.B.M. #2: CUT "SQUARE" FOUND ON THE SOUTH SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF AN ENTRANCE DRIVE TO THE SCHOOL AND EAST 56TH STREET AND 149 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF THE HIGH SCHOOL.

ELEV. = 858.58

SITE T.B.M. #3: CUT "SQUARE" SET ON THE WEST SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED SOUTHEAST OF THE SOUTHEAST CORNER OF THE TRACK.

ELEV. = 855.87

SITE T.B.M. #4: CUT "X" SET ON THE NORTH-NORTHEAST BONNET BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF THE NORTH MOST ENTRANCE DRIVE OFF OF CAITO DRIVE AND 118 FEET NORTHWEST OF THE NORTHWEST CORNER OF THE HIGH SCHOOL.

ELEV. = 857.37

SITE T.B.M. #5: CUT "SQUARE" SET ON THE SOUTH SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED NEAR THE SOUTHEAST CORNER OF THE TENNIS COURTS.

ELEV. = 851.75

DRAWN BY: ECW	CHK'D BY:	DATE: FIRM 12/2/15	
CHK'D BY:	APP'D BY:	DATE:	
COMPARED BY:			
FIELD BK. NO.	PG. NO.		

ERIC C. WHITE, P.S. #29700017 12-04-2015

Cripe

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Revisions: Description / Date

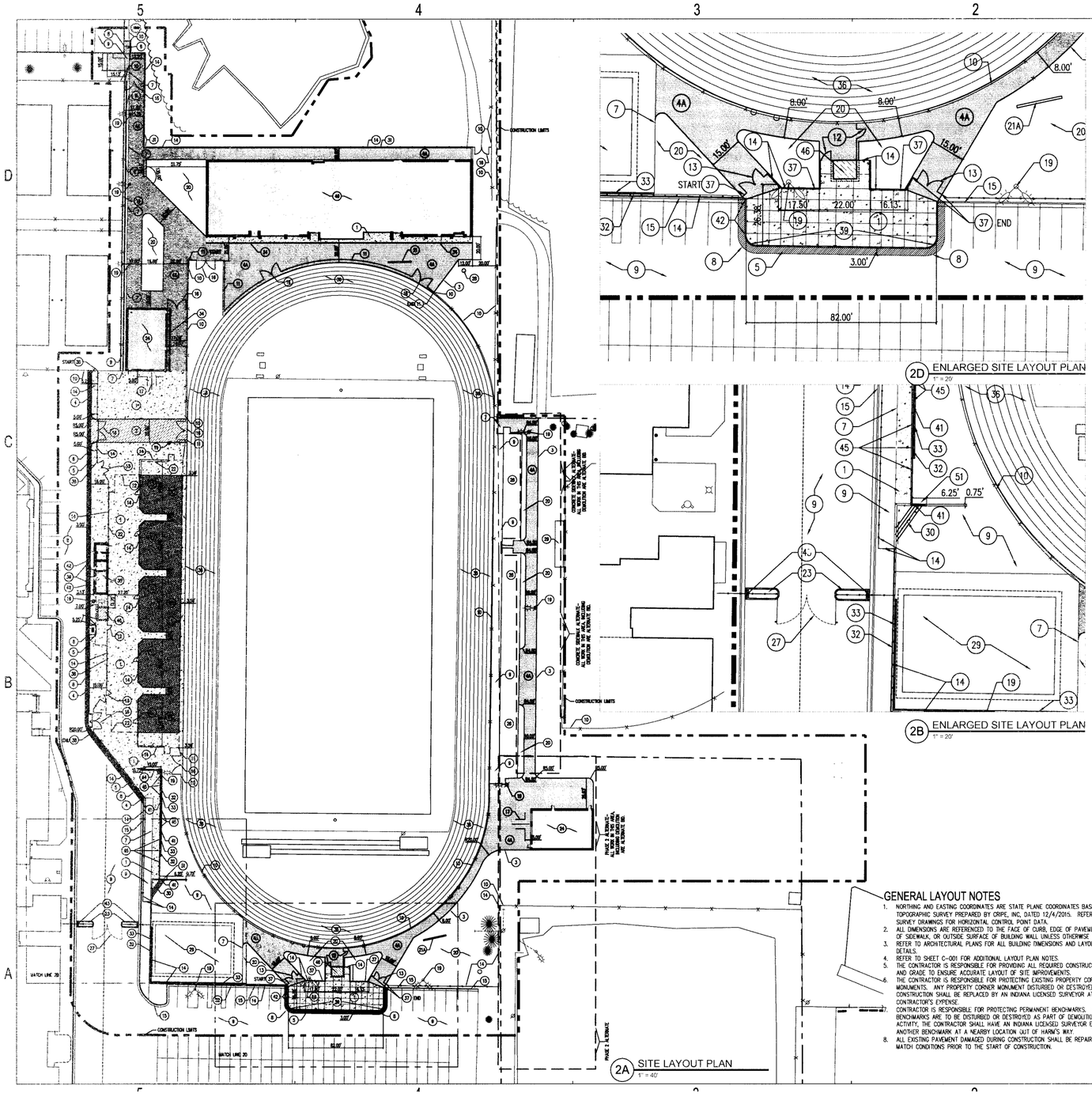
RULE 12 BOUNDARY AND TOPOGRAPHIC SURVEY
LAWRENCE CENTRAL HIGH SCHOOL – 7300 EAST 56TH STREET

SCHMIDT ASSOCIATES, INC.
415 MASSACHUSETTS AVENUE
INDIANAPOLIS, IN 46204
PHONE: (317) 347-4326 FAX: (317) 261-9224

LAWRENCE TWP. — MARION CO.
Section: 1 Township: 16 N Range: 4 E

THE METROPOLITAN SCHOOL DISTRICT OF LAWRENCE TOWNSHIP

Drawn by: Author
Check by: Checker
Scale: 1" = 30'
Sheet No. No. 9 of 9
Project Number: 150431-30090



2A SITE LAYOUT PLAN
1" = 40'

2B ENLARGED SITE LAYOUT PLAN
1" = 20'

2D ENLARGED SITE LAYOUT PLAN
1" = 20'

GENERAL LAYOUT NOTES

1. NORTHING AND EASTING COORDINATES ARE STATE PLANE COORDINATES BASED ON A TOPOGRAPHIC SURVEY PREPARED BY CRIPE, INC, DATED 12/4/2015. REFER TO SURVEY DRAWINGS FOR HORIZONTAL CONTROL POINT DATA.
2. ALL DIMENSIONS ARE REFERENCED TO THE FACE OF CURB, EDGE OF PAVEMENT, EDGE OF SIDEWALK, OR OUTSIDE SURFACE OF BUILDING WALL UNLESS OTHERWISE NOTED.
3. REFER TO ARCHITECTURAL PLANS FOR ALL BUILDING DIMENSIONS AND LAYOUT DETAILS.
4. REFER TO SHEET C-001 FOR ADDITIONAL LAYOUT PLAN NOTES.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED CONSTRUCTION LINE AND GRADE TO ENSURE ACCURATE LAYOUT OF SITE IMPROVEMENTS.
6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING PROPERTY CORNER MONUMENTS. ANY PROPERTY CORNER MONUMENT DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY AN INDIANA LICENSED SURVEYOR AT CONTRACTOR'S EXPENSE.
7. CONTRACTOR IS RESPONSIBLE FOR PROTECTING PERMANENT BENCHMARKS. IF BENCHMARKS ARE TO BE DISTURBED OR DESTROYED AS PART OF DEMOLITION ACTIVITY, THE CONTRACTOR SHALL HAVE AN INDIANA LICENSED SURVEYOR ESTABLISH ANOTHER BENCHMARK AT A NEARBY LOCATION OUT OF HARM'S WAY.
8. ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO MATCH CONDITIONS PRIOR TO THE START OF CONSTRUCTION.

General Notes

1. ALL RADII SHALL BE 5'-0" UNLESS OTHERWISE NOTED.
2. REFERENCE C-001 FOR GENERAL LAYOUT PLAN NOTES.
3. NOT ALL NOTES MAY APPLY TO THIS SHEET.

Layout Notes

(1) STANDARD CONCRETE PAVEMENT. SEE DETAIL 1A/CL 501.
(2) HEAVY DUTY CONCRETE PAVEMENT. SEE DETAIL 1B/CL 501.
(3) NO CURB ALONG EDGE OF PAVEMENT.
(4) INTEGRAL CONCRETE 6" CURB & SIDEWALK, SEE DETAIL 1D/CL 501.
(4A) STANDARD ASPHALT. SEE DETAIL 2A/CL 501.
(5) HEAVY DUTY ASPHALT PAVEMENT. SEE DETAIL 2B/CL 501.
(6) ADA ACCESSIBLE RAMP. SEE DETAIL 2D/CL 501.
(7) MATCH EXISTING STANDARD CONCRETE PROFILE AND GRADE.
(8) MATCH EXISTING HEAVY DUTY ASPHALT PROFILE AND GRADE.
(9) EXISTING PAVEMENT TO REMAIN, CONTRACTOR TO PROTECT DURING CONSTRUCTION
(10) EXISTING CHAIN LINK FENCE TO REMAIN, CONTRACTOR TO PROTECT DURING CONSTRUCTION.
(11) BASE BID: RETAIN 4' HIGH CHAIN LINK FENCE AND TRACK APRON. MODIFY FENCE TO INSTALL NEW GATES. ALT BID: REPLACE ENTIRE 4' HIGH CHAIN LINK FENCE WITH NEW 4' FENCE, 3' FROM LANE LINE AND REPLACE ASPHALT TRACK APRON. SEE SPECS.
(12) 4' WIDE SINGLE LEAF SWING GATE. MATCH ADJACENT FENCE. SEE SPECS.
(13) 10' WIDE 6' HT. DOUBLE LEAF SWING GATE. MATCH ADJACENT FENCE. SEE SPECS.
(14) 6' HIGH CHAIN LINK FENCE WITH BLACK VINYL COATING SEE SPECS.
(15) EXISTING 6" CONCRETE CURB TO REMAIN. PROTECT DURING CONSTRUCTION.
(16) 6' WIDE DOUBLE LEAF SWING GATE. HEIGHT TO MATCH ADJACENT FENCE. SEE SPECS.
(17) PIPE HAND RAILS. SEE DETAIL 3D/CL 501.
(18) PROPOSED ATHLETIC LIGHTING FIXTURE. SEE ELECTRICAL SITE PLAN AND DETAILS.
(19) EXISTING LIGHT POLE AND FIXTURE TO REMAIN. PROTECT DURING CONSTRUCTION.
(20) PERMANENT TURF SEEDING. SEE SPECS.
(21) EXISTING SCOREBOARD TO REMAIN (BASE BID). PROTECT DURING CONSTRUCTION.
(21A) ALT BID: RELOCATED SCOREBOARD.
(22) PROPOSED GRANDSTAND AND PRESSBOX. SEE SHEETS CL 503-CL 511.
(23) STRAIGHT CURB. SEE DETAIL 3B/CL 501.
(24) PROPOSED RESTROOM/CONCESSION BUILDING. SEE ARCH PLANS.
(25) STANDARD STONE PAVING. SEE DETAIL 2C/CL 501.
(26) EXISTING VISITOR GRANDSTANDS.
(27) PROPOSED DOUBLE SWING CONTROL GATE 24' OPENING. SEE DETAIL 4A/CL 502.
(28) RELOCATED FLAG POLE. SEE DETAIL 1A/ CL 502.
(29) EXISTING BUILDING TO REMAIN.
(30) CONCRETE STAIRS AND METAL HANDRAIL. SEE DETAIL 3C/CL 502.
(31) PROPOSED RETAINING WALL WITH FENCE. SEE DETAIL 3A/CL 502.
(32) EXISTING RETAINING WALL. PROTECT DURING CONSTRUCTION.
(33) EXISTING TRENCH DRAIN PROTECT DURING CONSTRUCTION.
(34) PROPOSED TRENCH DRAIN. SEE UTILITY DETAILS CU 501.
(35) PROPOSED GRANDSTAND ELEVATOR AND MECHANICAL BUILDING. SEE ARCH PLANS.
(36) EXISTING TRACK TO REMAIN. PROTECT DURING CONSTRUCTION. REPAIR IF DAMAGED.
(37) ALT BID: SUBSTITUTE 8' CLF FENCE FOR 6' DECORATIVE METAL FENCE. SEE SPECS.
(38) ALT BID: SUBSTITUTE 6' CLF FENCE FOR 6' DECORATIVE METAL FENCE. SEE SPECS.
(39) DEPRESSED CONCRETE CURB. SEE DETAIL 4B/CL 501.
(41) PIPE HAND RAIL ON TOP OF EXISTING WALL. USE EXISTING FENCE POSTS FOR RAIL. SEE DETAIL 5D/CL 502.
(42) DEPRESSED CURB TRANSITION. SEE DETAIL 4C/CL 501.
(43) CONCRETE ISLAND DRAINAGE WAY. SEE DETAIL 5A/CL 501.
(44) PROPOSED RETAINING WALL WITH RAIL. SEE DETAIL 3A/CL 502.
(45) PROPOSED HANDRAIL POST. SPACING HALFWAY BETWEEN EXISTING FENCE RAIL POSTS. SEE DETAIL 5D/CL 502.
(46) PRE-FABRICATED TICKET BOOTH BUILDING, SPECIAL PAVEMENT SLAB REQD. SEE DETAIL 4D/CL501 & ARCH PLANS.
(47) BASE BID: STANDARD ASPHALT PAVEMENT. SEE DETAIL 4A/CL 501.
ALT BID: STANDARD CONCRETE PAVEMENT. SEE DETAIL 1A/CL 501.
(48) EXISTING METAL BELL. PROTECT DURING CONSTRUCTION.
(49) PROPOSED END ZONE ATHLETIC BUILDING. SEE ARCH PLANS.
(50) REMOVABLE BOLLARDS. SEE SPECS.
(51) 2" DIA. WEEP HOLE CROSS THE CONCRETE WALL AT GROUND SURFACE.

LAYOUT LEGEND

- STANDARD CONCRETE PAVEMENT. SEE DETAIL 1A/CL 501.
- HEAVY DUTY CONCRETE PAVEMENT SEE DETAIL 1B/CL 501.
- GRAVEL SEE DETAIL 2C/CL 501.
- STANDARD ASPHALT PAVEMENT. SEE DETAIL 2A/CL 501.
- HEAVY DUTY ASPHALT PAVEMENT. SEE DETAIL 2B/CL 501.

TYP HOR R — TYPICAL OF MULTIPLE AREAS HANDICAP ACCESS RAMP RADIUS

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Project No: 2015-121.LCS
Project Date: 04-18-2016
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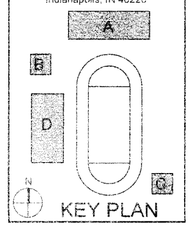
#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226



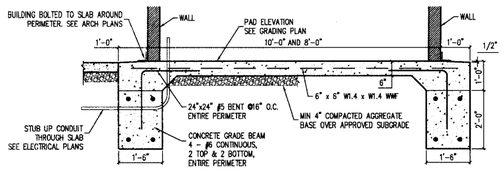
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

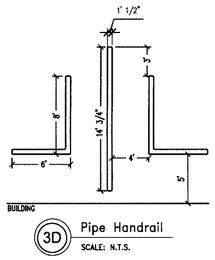
LC EXTERIOR FACILITY UPGRADES - BP2

SITE LAYOUT PLAN

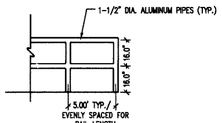
CL101

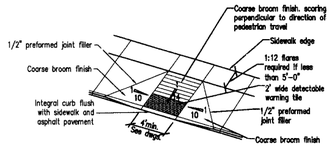


4D Ticket Booth Thickened Slab
Scale: 1" = 1'-0"

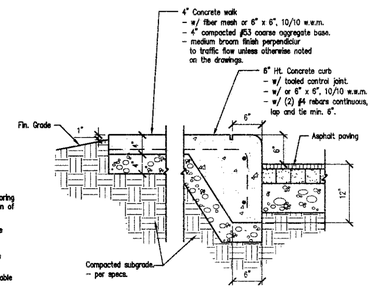


3D Pipe Handrail
SCALE: N.T.S.

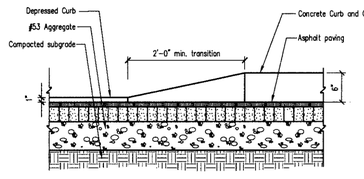




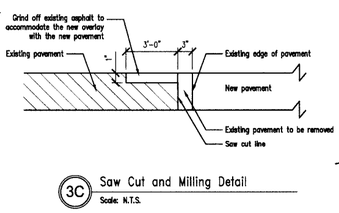
2D Accessible Ramp with flares
Scale: N.T.S.



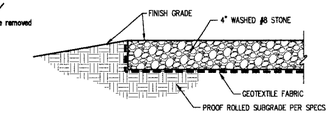
1D Integral Curb/Sidewalk Detail
Scale: 1" = 1'-0"



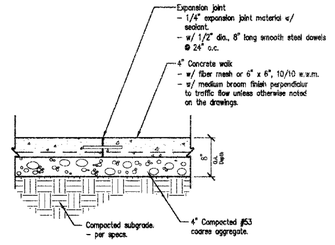
4C Depressed Curb Transition
Scale: 1" = 1'-0"



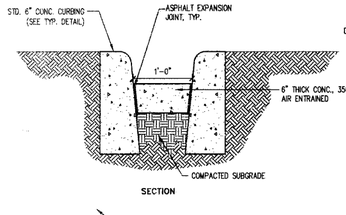
3C Saw Cut and Milling Detail
Scale: N.T.S.

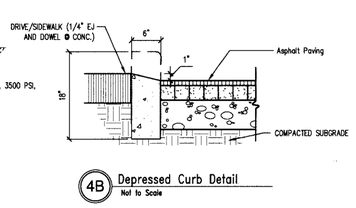


2C Standard Stone Paving Section
Scale 1"=1'-0"

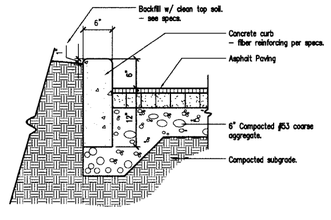


1C Concrete Paving & Expansion Joint Detail
Scale: 1" = 1'-0"

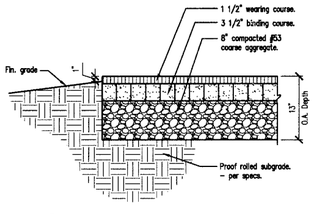




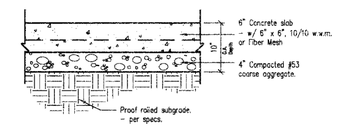
4B Depressed Curb Detail
Not to Scale



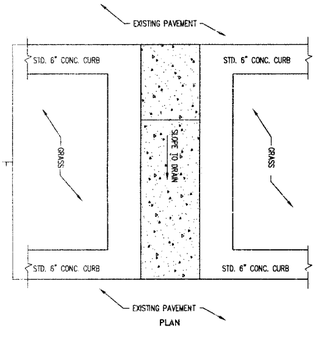
3B Straight Curb Detail
Scale: 1" = 1'-0"



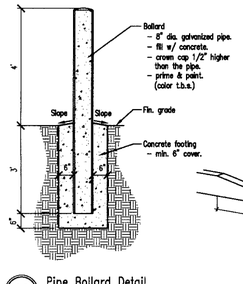
2B Heavy Duty Asphalt Paving Detail
Scale: 1" = 1'-0"



1B Heavy Duty Concrete Paving Detail
Scale: 1" = 1'-0"

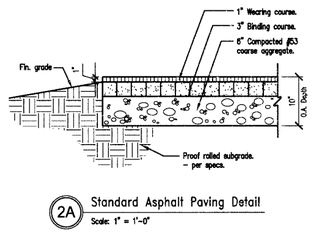


5A Parking Island Concrete Drainage Way
Scale: 1" = 1'-0"

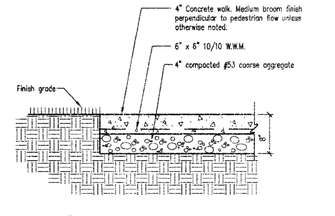


4A Pipe Bollard Detail
Scale: 1/2" = 1'-0"

3A Sidewalk Ramp
Not to Scale



2A Standard Asphalt Paving Detail
Scale: 1" = 1'-0"



1A Standard Concrete Paving
Scale 1"=1'-0"

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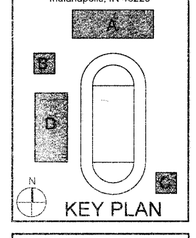
7300 E 56th Street
Indianapolis, IN 46226

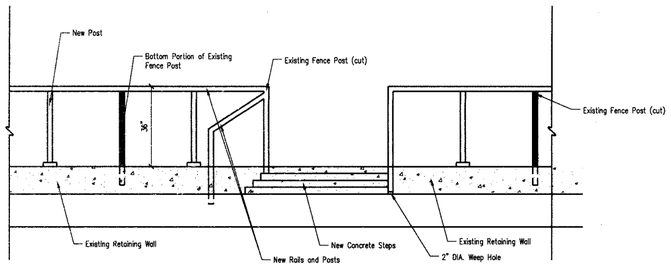


MSD OF LAWRENCE TOWNSHIP

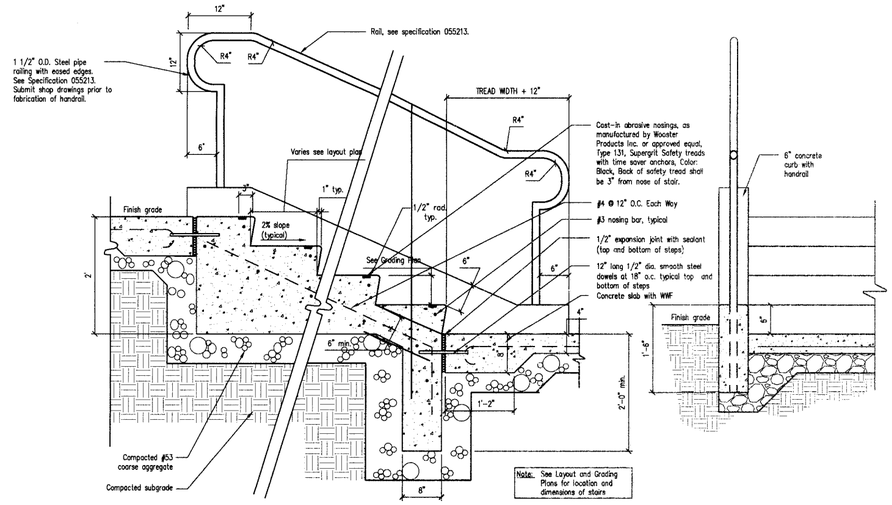
LC EXTERIOR FACILITY UPGRADES - BP2

SITE DETAILS

CL501

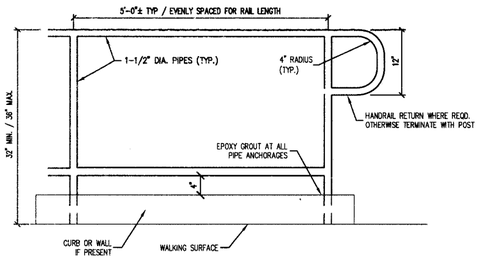


5D Retaining Wall/Rail Detail
Scale:N.T.S.

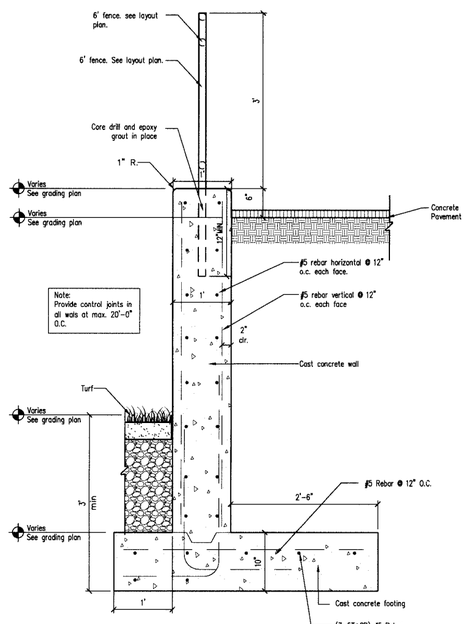


3C Typical Concrete Stair Detail
n.t.a.

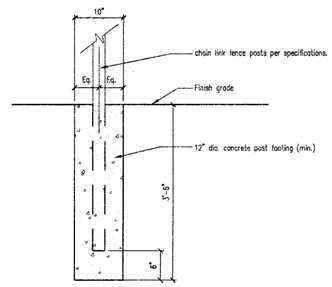
ARCHITECT TO APPROVE SHOP DRAWINGS OF ALL RAILS PRIOR TO FABRICATION. SEE SPEC. 055213



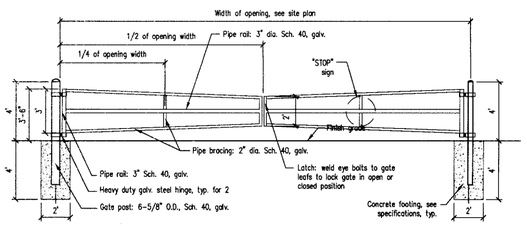
5B Pipe Handrail
Scale: 1" = 1'-0"



3A Retaining wall/Fence
Scale: 1"= 1'-0"



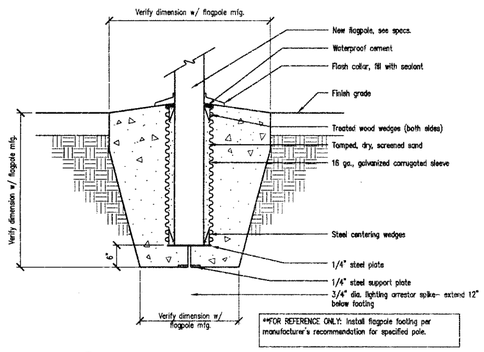
1B 4' & 6'H Chain Link Fence-Footing Detail
Scale: 1" = 1'-0"



Notes:
Gate to swing under own power to full open or full closed position by means of weighting or spring action. Gate shall never remain in a partially closed position. Installation shall include keeper posts to secure gate in fully open position. Contractor to submit shop drawings prior to fabrication.

NOTE:
Prime and Paint, color: safety yellow as approved by Architect/Engineer, apply 3M reflective tape or equal around diameter of tube at 12" o.c.

4A Typical Double Swing Gate
Scale: 1/4" = 1'-0"



**FOR REFERENCE ONLY: Install flagpole footing per manufacturer's recommendation for specified pole.

1A Flagpole Footing Detail
Scale: 1" = 1'-0"

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#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226

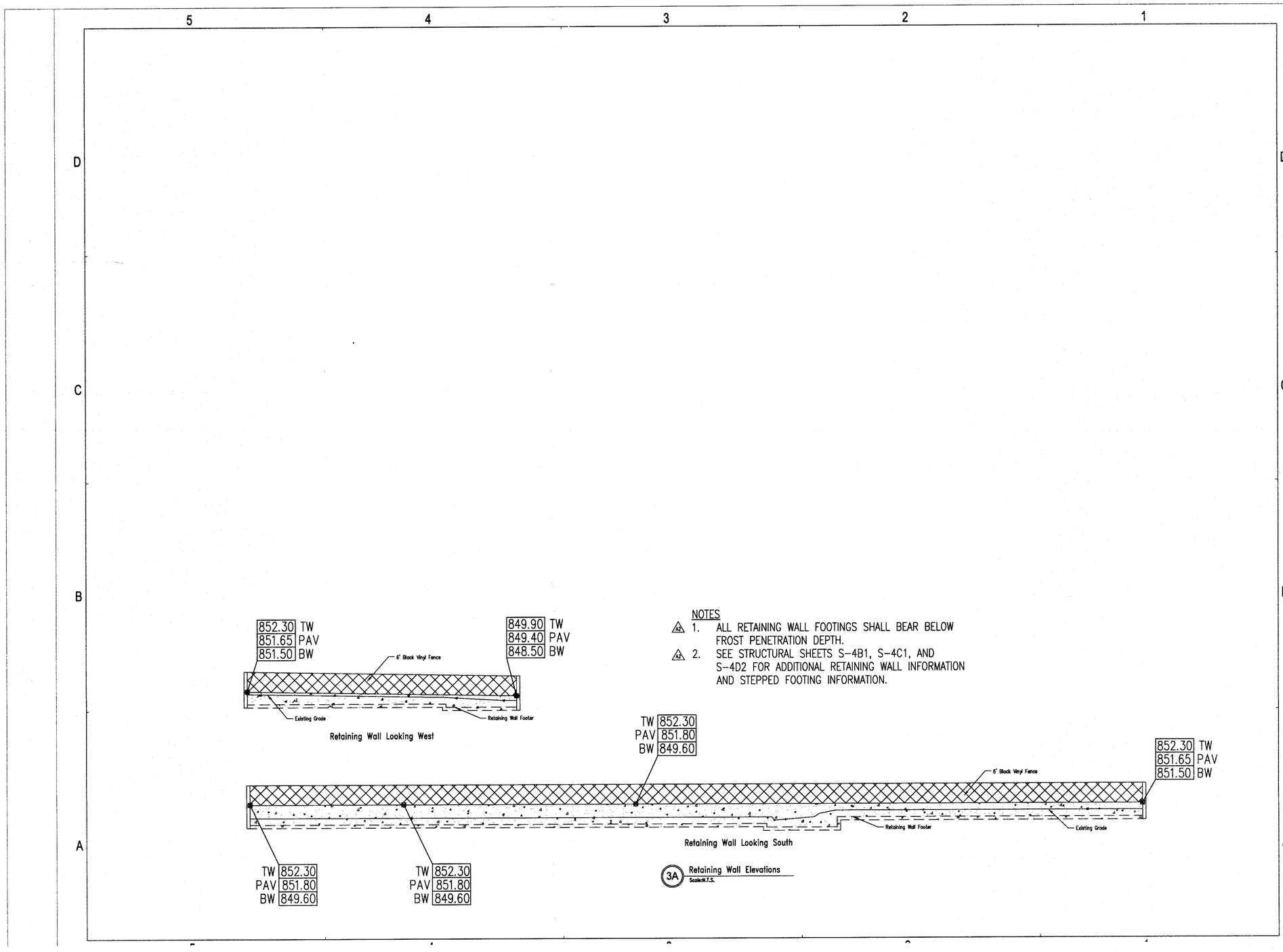
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE DETAILS

CL502



NOTES

A2 1. ALL RETAINING WALL FOOTINGS SHALL BEAR BELOW FROST PENETRATION DEPTH.

A2 2. SEE STRUCTURAL SHEETS S-4B1, S-4C1, AND S-4D2 FOR ADDITIONAL RETAINING WALL INFORMATION AND STEPPED FOOTING INFORMATION.

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REGISTERED
NO. LA20200126
STATE OF INDIANA
LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE DETAILS

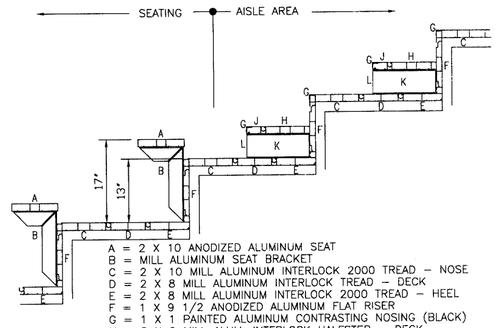
CL503

DESIGN LOADING

TREAD & SEAT AREA 100psf UNIFORM LIVE LOAD.
SEAT (VERTICAL) 120 lbs/lf.
SEAT (HORIZONTAL SWAY) 24lbs/lf PARALLEL AND 10lbs/lf PERPENDICULAR.TO SEAT.
HANDRAIL & GUARDRAIL 50 lbs/lf IN ANY DIRECTION.
HANDRAIL & GUARDRAIL 200 lbs CONCENTRATED IN ANY DIRECTION.
SNOW LOADS AS PER STATE ADOPTED CODE
WIND LOADS AS PER STATE ADOPTED CODE
SEISMIC LOADS AS PER STATE ADOPTED CODE

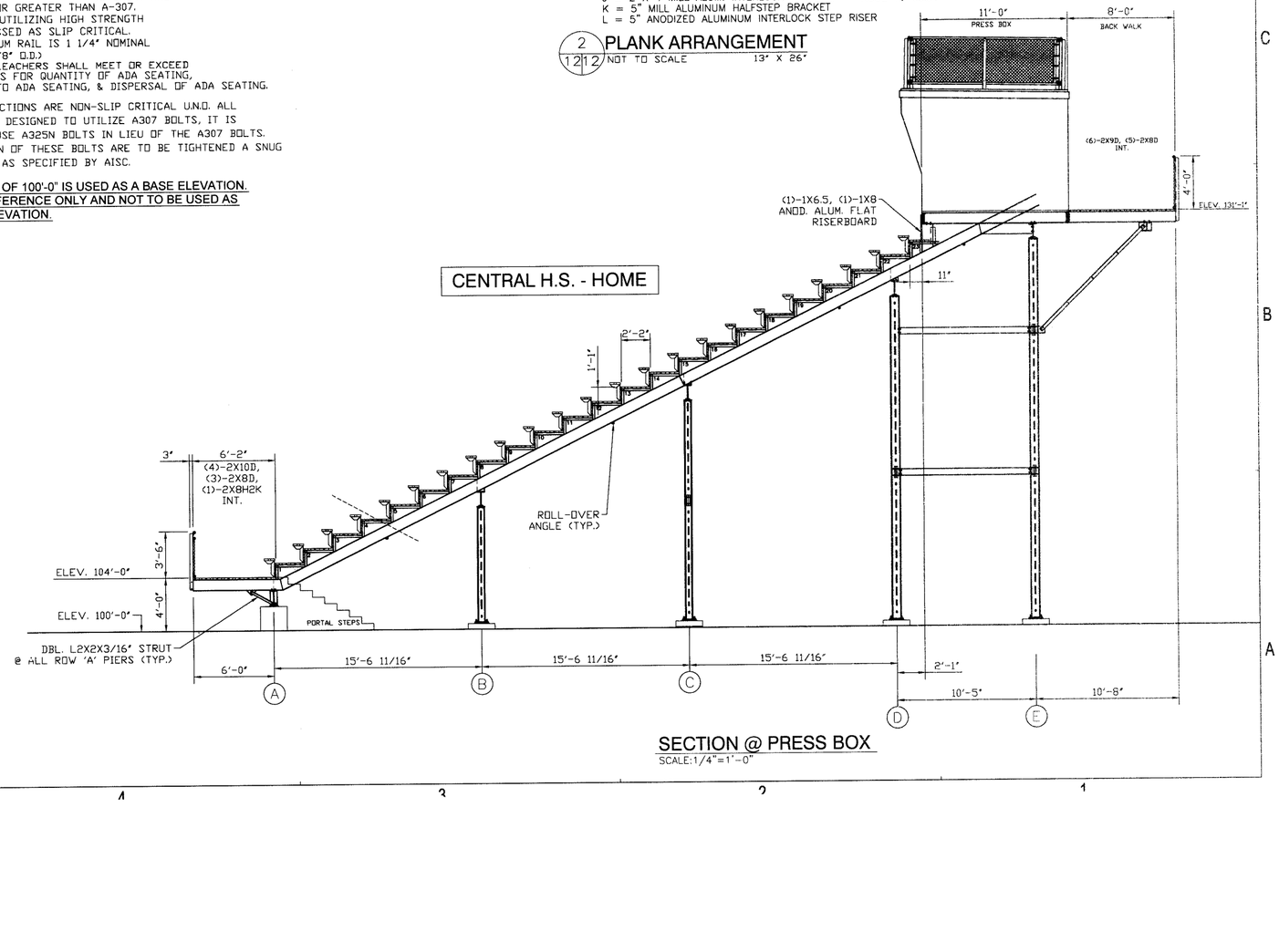
NOTES

1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING A.I.S.C. STANDARDS
   PLATE UP TO 1/2" THICK = A36
   PLATE U.N.O. = A572 GRADE 50
   ANGLE = A36/A36M GRADE 50
   WIDE FLANGE = A992 Fy=50 ksi
   CHANNEL = A36/A36M GRADE 50
   ROD = A36/A529 GRADE 50
   TUBE = A500 GRADE 'B' 46 ksi
2. WELDS ARE ALL AROUND WITH TYPE ER70S-6 WIRE MIG.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED TO A.S.T.M. A-123-89 ael.
4. STRUCTURAL BOLTS ARE HOT DIPPED GALV. AND ARE EQUAL TO OR GREATER THAN A-307.
5. NO CONNECTIONS UTILIZING HIGH STRENGTH BOLTS ARE CLASSED AS SLIP CRITICAL.
6. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE. (1 5/8" O.D.)
7. THE COMPLETE BLEACHERS SHALL MEET OR EXCEED ADA REQUIREMENTS FOR QUANTITY OF ADA SEATING, ACCESS/EGRESS TO ADA SEATING, & DISPERSAL OF ADA SEATING.
8. ALL FIELD CONNECTIONS ARE NON-SLIP CRITICAL U.N.O. ALL CONNECTIONS ARE DESIGNED TO UTILIZE A307 BOLTS, IT IS ACCEPTABLE TO USE A325N BOLTS IN LIEU OF THE A307 BOLTS. THE INSTALLATION OF THESE BOLTS ARE TO BE TIGHTENED A SNUG TIGHT CONDITION AS SPECIFIED BY AISC.
9. **THE ELEVATION OF 100'-0" IS USED AS A BASE ELEVATION. THIS IS FOR REFERENCE ONLY AND NOT TO BE USED AS THE ACTUAL ELEVATION.**



A = 2 X 10 ANODIZED ALUMINUM SEAT
B = MILL ALUMINUM SEAT BRACKET
C = 2 X 10 MILL ALUMINUM INTERLOCK 2000 TREAD – NOSE
D = 2 X 8 MILL ALUMINUM INTERLOCK TREAD – DECK
E = 2 X 8 MILL ALUMINUM INTERLOCK 2000 TREAD – HEEL
F = 1 X 9 1/2 ANODIZED ALUMINUM FLAT RISER
G = 1 X 1 PAINTED ALUMINUM CONTRASTING NOSING (BLACK)
H = 2 X 9 MILL ALUM. INTERLOCK HALFSTEP – DECK
J = 2 X 4 MILL ALUM. INTERLOCK HALFSTEP – NOSE W/RISER
K = 5" MILL ALUMINUM HALFSTEP BRACKET
L = 5" ANODIZED ALUMINUM INTERLOCK STEP RISER

2 / 12 12 PLANK ARRANGEMENT
NOT TO SCALE 13" X 26"



CENTRAL H.S. - HOME

SECTION @ PRESS BOX
SCALE:1/4"=1'-0"

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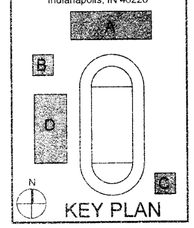


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS

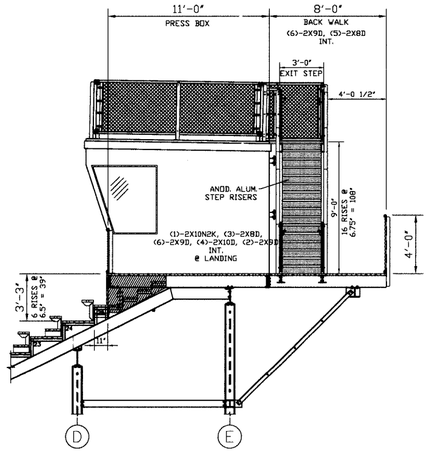
CL504

DESIGN LOADING

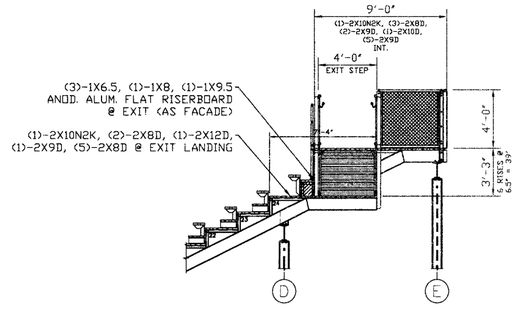
TREAD & SEAT AREA 100psf UNIFORM LIVE LOAD.
SEAT (VERTICAL) 120 lbs/lf.
SEAT (HORIZONTAL SWAY) 24lbs/lf PARALLEL AND
10lbs/lf PERPENDICULAR TO SEAT.
HANDRAIL & GUARDRAIL 50 lbs/lf IN ANY DIRECTION.
HANDRAIL & GUARDRAIL 200 lbs CONCENTRATED IN ANY DIRECTION.
SNOW LOADS AS PER STATE ADOPTED CODE
WIND LOADS AS PER STATE ADOPTED CODE
SEISMIC LOADS AS PER STATE ADOPTED CODE

NOTES

1. ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING A.I.S.C. STANDARDS
   PLATE UP TO 1/2" THICK = A36
   PLATE U.N.O. = A572 GRADE 50
   ANGLE = A36/A36M GRADE 50
   WIDE FLANGE = A992 Fy=50 ksi
   CHANNEL = A36/A36M GRADE 50
   ROD = A36/A529 GRADE 50
   TUBE = A500 GRADE "B" 46 ksi
2. WELDS ARE ALL AROUND WITH TYPE ER70S-6 WIRE MIG.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED TO A.S.T.M. A-123-89 ael.
4. STRUCTURAL BOLTS ARE HOT DIPPED GALV. AND ARE EQUAL TO OR GREATER THAN A-307.
5. NO CONNECTIONS UTILIZING HIGH STRENGTH BOLTS ARE CLASSED AS SLIP CRITICAL.
6. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE. (1 5/8" O.D.)
7. THE COMPLETE BLEACHERS SHALL MEET OR EXCEED ADA REQUIREMENTS FOR QUANTITY OF ADA SEATING, ACCESS/EGRESS TO ADA SEATING, & DISPERSAL OF ADA SEATING.
8. ALL FIELD CONNECTIONS ARE NON-SLIP CRITICAL U.N.O. ALL CONNECTIONS ARE DESIGNED TO UTILIZE A307 BOLTS, IT IS ACCEPTABLE TO USE A325N BOLTS IN LIEU OF THE A307 BOLTS. THE INSTALLATION OF THESE BOLTS ARE TO BE TIGHTENED A SNUG TIGHT CONDITION AS SPECIFIED BY AISC.
9. THE ELEVATION OF 100'-0" IS USED AS A BASE ELEVATION. THIS IS FOR REFERENCE ONLY AND NOT TO BE USED AS THE ACTUAL ELEVATION.

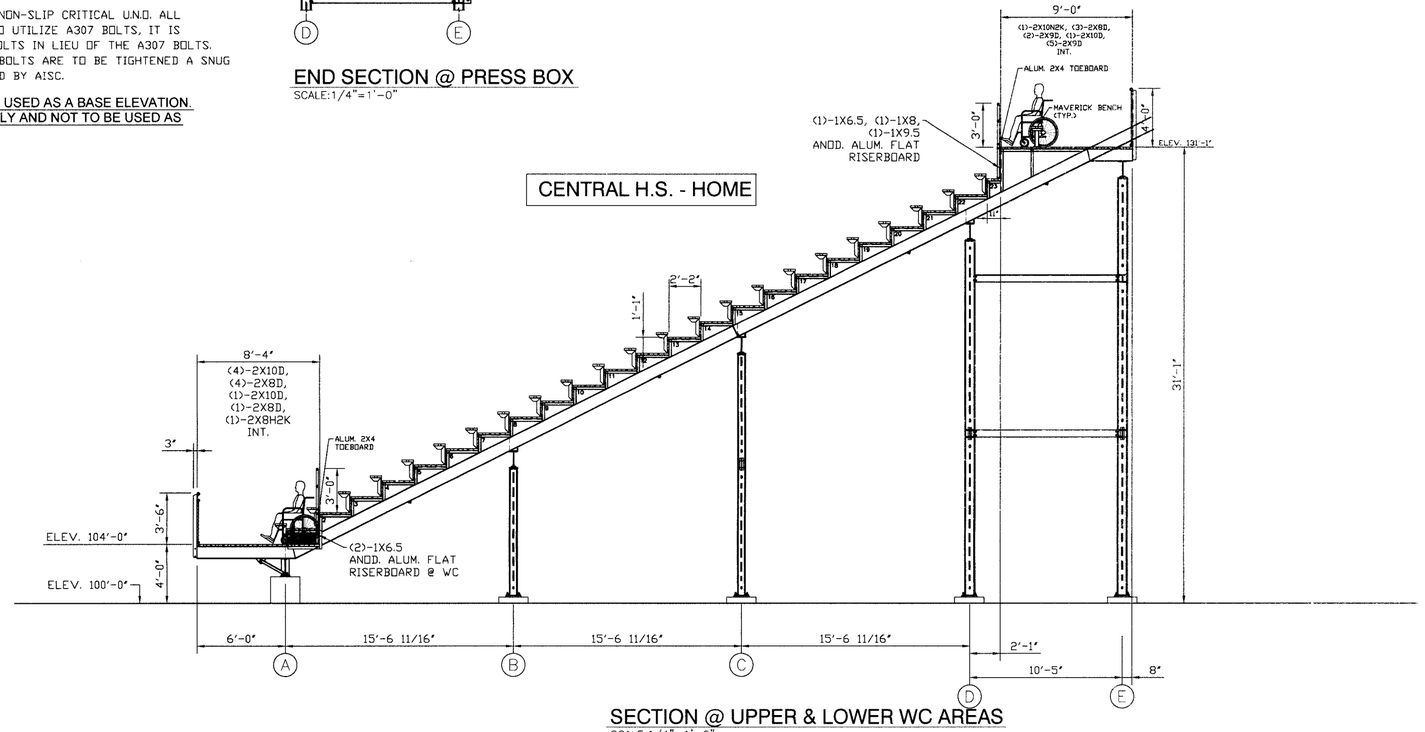


END SECTION @ PRESS BOX
SCALE: 1/4"=1'-0"



SECTION @ END CROSSWALK EXIT STEP
SCALE: 1/4"=1'-0"

CENTRAL H.S. - HOME



SECTION @ UPPER & LOWER WC AREAS
SCALE: 1/4"=1'-0"

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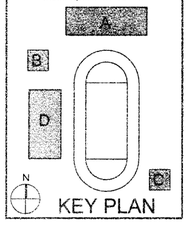


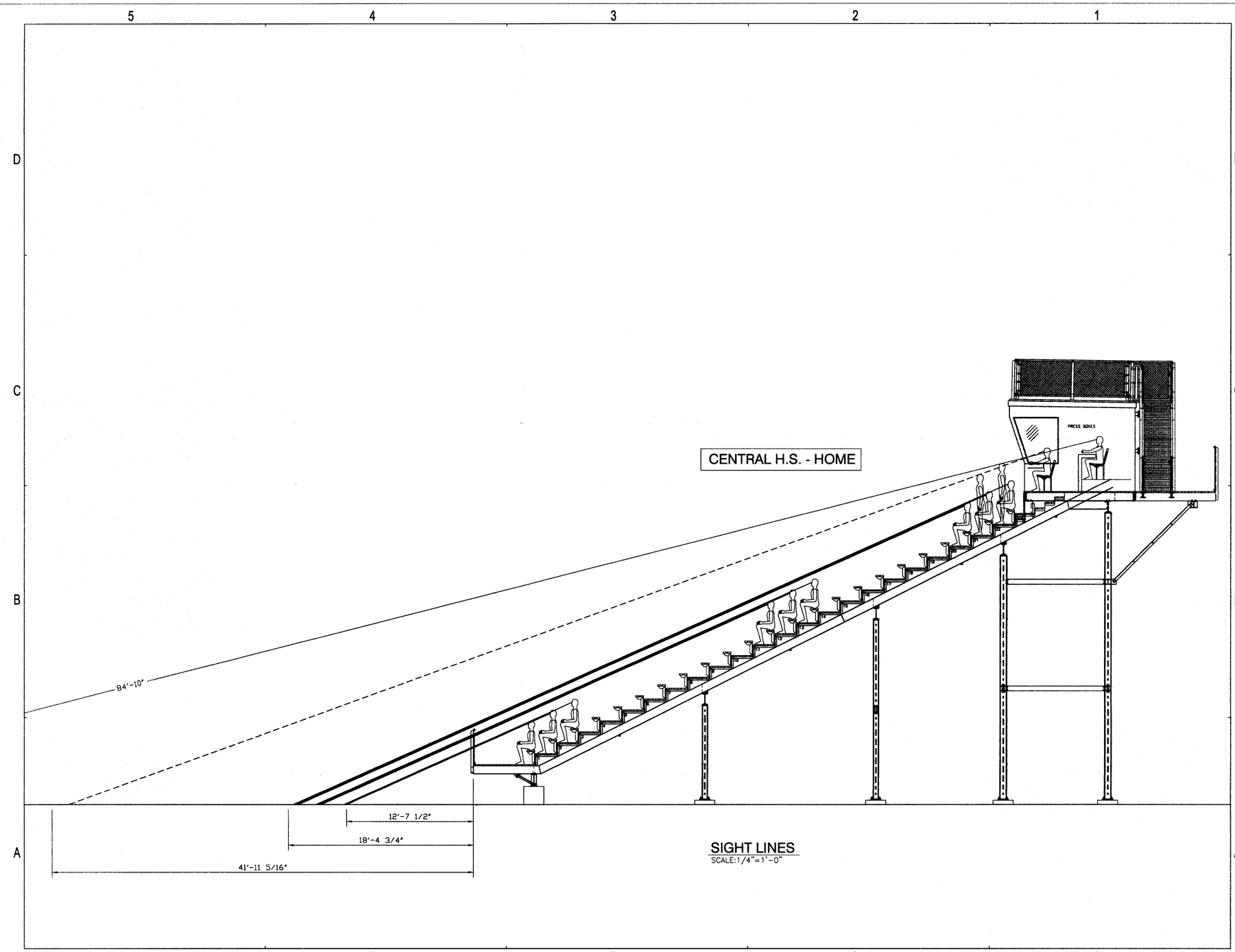
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS

CL505



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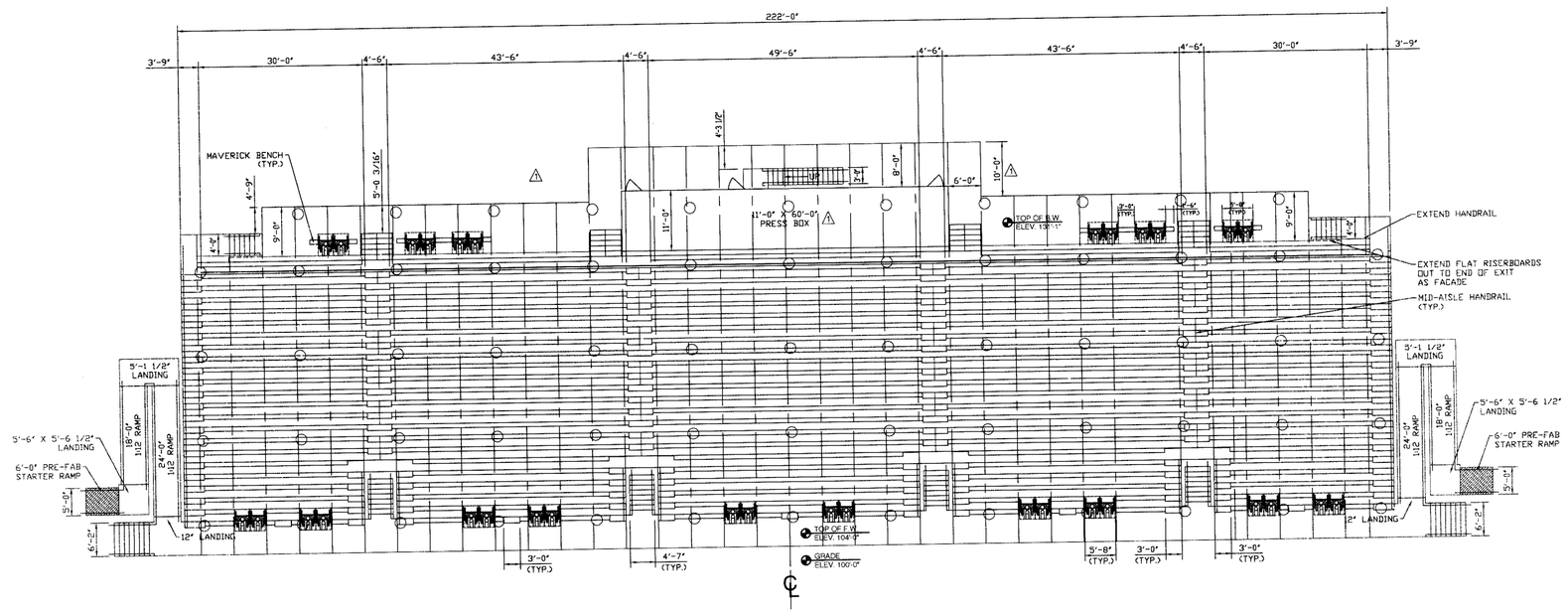
N
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS

CL506

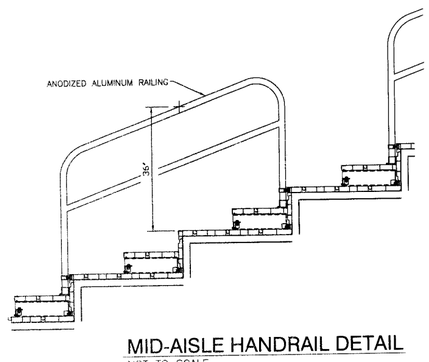


SEATING LAYOUT - CENTRAL H.S. HOME

SCALE:3/32"=1'-0"

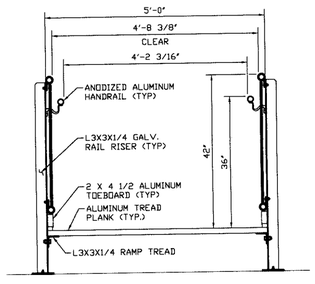
2798 TOTAL NET 18" SEATS
32 TOTAL NET 33" WHEELCHAIR SPACES
2830 TOTAL SEATING CAPACITY

CENTRAL H.S. - HOME



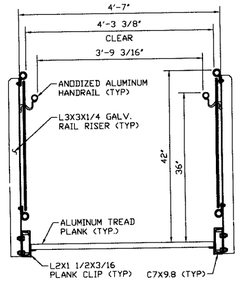
MID-AISLE HANDRAIL DETAIL

NOT TO SCALE



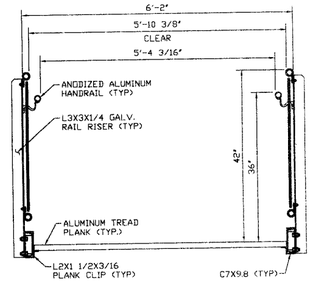
RAMP SECTION

NOT TO SCALE



PORTAL EXIT SECTION

NOT TO SCALE



END EXIT SECTION

NOT TO SCALE

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KEY PLAN

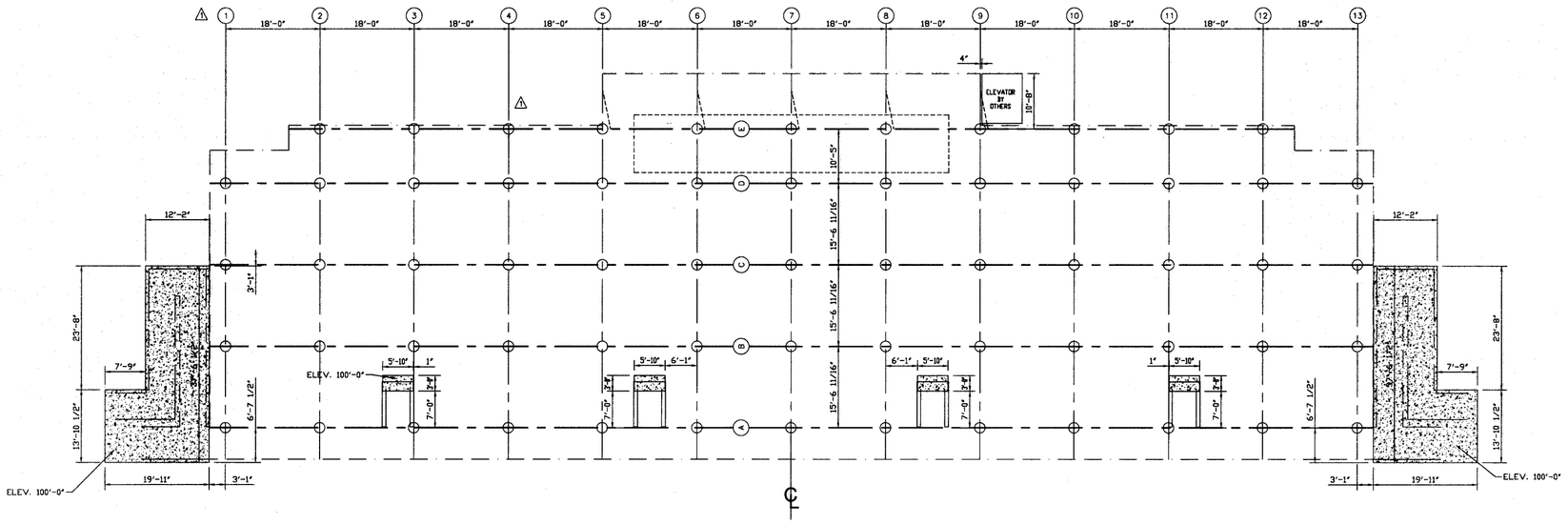
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS

CL507

CENTRAL H.S. - HOME



FOOTING LAYOUT - CENTRAL H.S. HOME

SCALE:3/32"=1'-0"

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KEY PLAN

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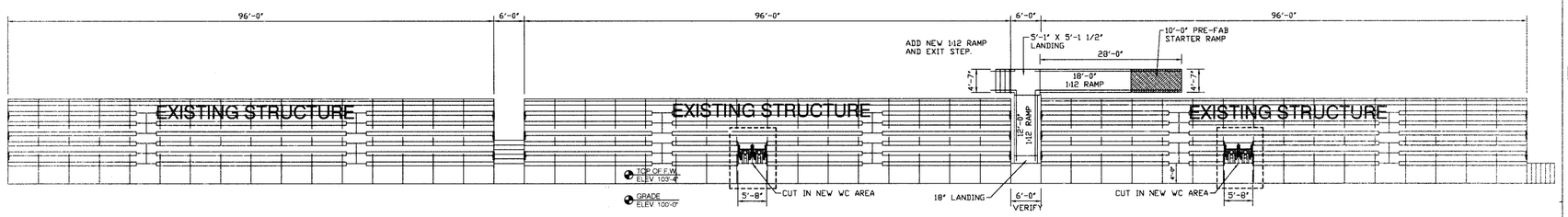
LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS

CL508

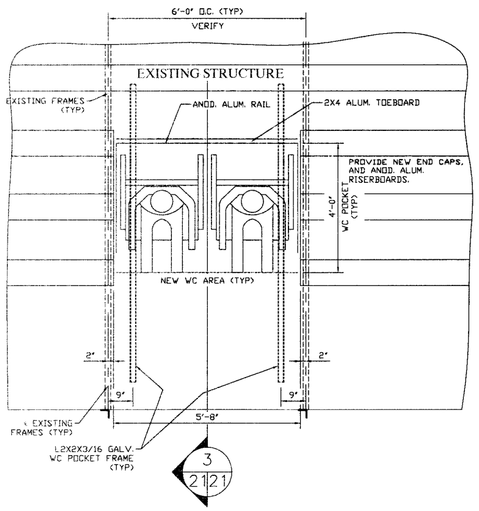


PLAN VIEW - CENTRAL H.S. VISITOR
SCALE:3/32"=1'-0"

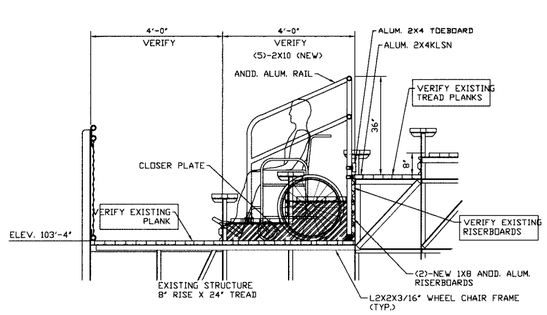
CENTRAL H.S. - VISITOR

FIELD VERIFY DIMENSIONS AND CONDITIONS SHOWN.

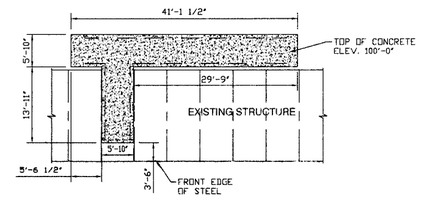
THE ELEVATION OF 100'-0" IS USED AS A BASE ELEVATION. THIS IS FOR REFERENCE ONLY AND NOT TO BE USED AS THE ACTUAL ELEVATION.



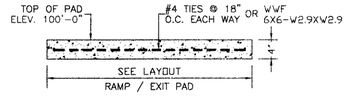
WC POCKET DETAIL
NOT TO SCALE



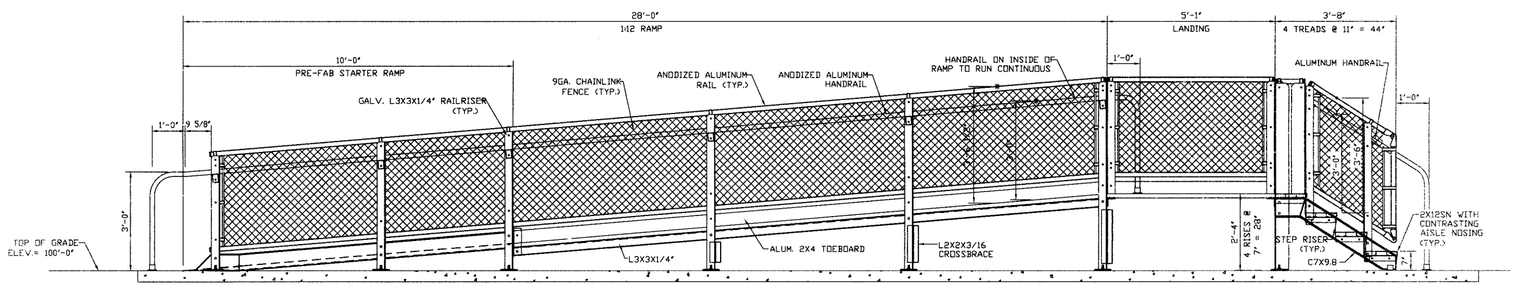
SECTION VIEW @ WC AREA
NOT TO SCALE



CONCRETE LAYOUT
SCALE:3/32"=1'-0"



EXIT / RAMP CONCRETE PAD DETAIL
NOT TO SCALE



RAMP AND EXIT DETAIL
NOT TO SCALE

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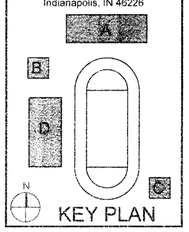


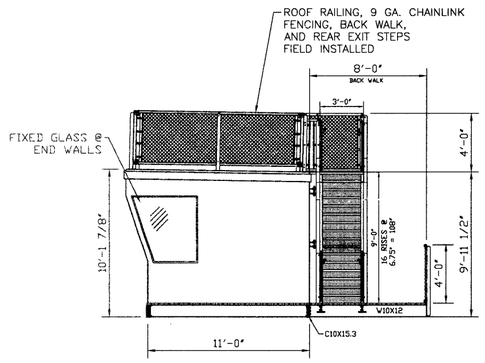
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

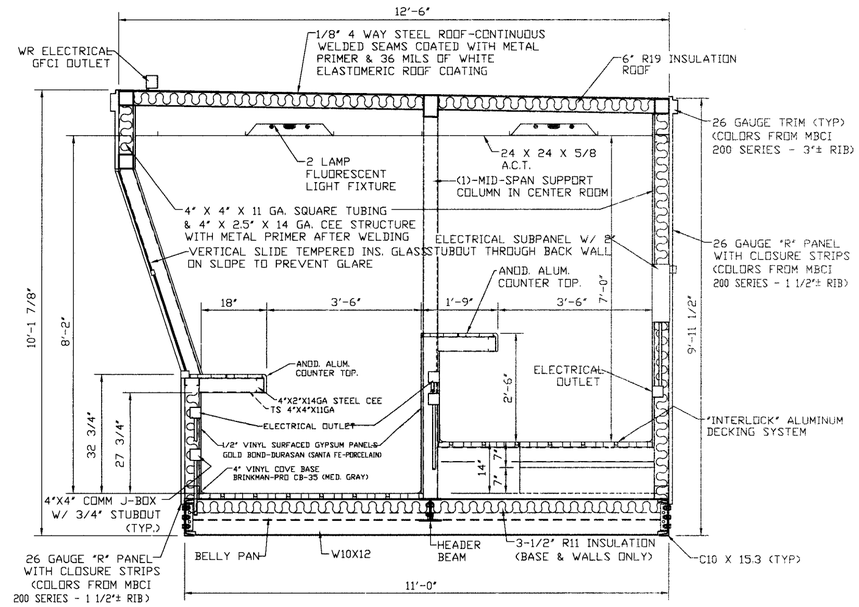
BLEACHER DETAILS

CL509

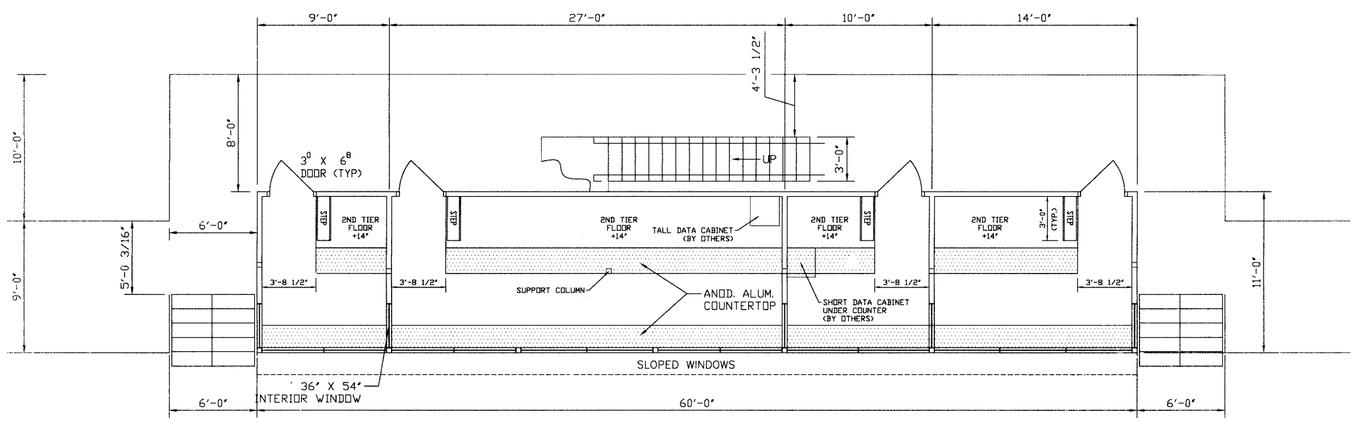


SIDE VIEW
SCALE:1/4"=1'-0"

(2) - UNITS REQUIRED
NORTH H.S. AND CENTRAL H.S.



SECTION VIEW
SCALE:3/4"=1'-0"



PLAN VIEW
SCALE:1/4"=1'-0"

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#	Revision	Date
A-1	ADDENDUM 1	4.29.2016

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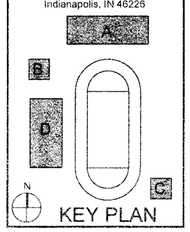
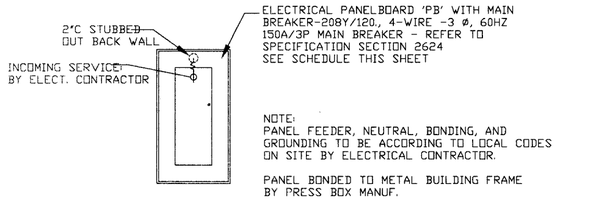


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS
A-1
CL510



NOTE:
PANEL FEEDER, NEUTRAL, BONDING, AND GROUNDING TO BE ACCORDING TO LOCAL CODES ON SITE BY ELECTRICAL CONTRACTOR.

PANEL BONDED TO METAL BUILDING FRAME BY PRESS BOX MANUF.

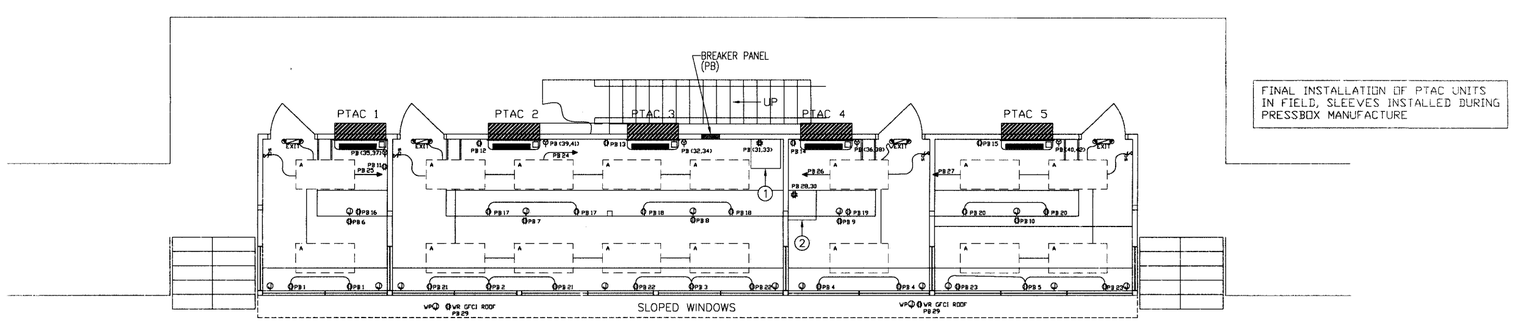
ELECTRICAL PANEL ELEVATION
NOT TO SCALE

(2) - UNITS REQUIRED
NORTH H.S. AND CENTRAL H.S.

LOAD CENTER SCHEDULE
GENERAL ELECTRIC #TLM2020CCU

PANEL PB 225 AMP RATED - 42 CIRCUIT W/ EQUIPMENT GROUND 208/120 VOLTS 3 PH.
MOUNTING: ☒ FLUSH ☐ SURFACE 22,000 SYN. A.I.C. MIN. 150 AMP MAIN BREAKER

	BREAKER SIZE	POLE	CIR. #	BUS A B C	CIR. #	BREAKER SIZE	POLE	
RECPT. FRONT WALL	20	1	1		2	20	1	RECPT. FRONT WALL
RECPT. FRONT WALL	20	1	3		4	20	1	(2) RECPT. FRONT WALL
RECPT. FRONT WALL	20	1	5		6	20	1	RECPT. FRONT MID COUNTER
RECPT. FRONT MID COUNTER	20	1	7		8	20	1	RECPT. FRONT MID COUNTER
RECPT. FRONT MID COUNTER	20	1	9		10	20	1	RECPT. FRONT MID COUNTER
RECPT. BACK WALL	20	1	11		12	20	1	RECPT. BACK WALL
RECPT. BACK WALL	20	1	13		14	20	1	RECPT. BACK WALL
RECPT. BACK WALL	20	1	15		16	20	1	RECPT. MID COUNTER
(2) RECPT. MID COUNTER	20	1	17		18	20	1	(2) RECPT. MID COUNTER
RECPT. MID COUNTER	20	1	19		20	20	1	(2) RECPT. MID COUNTER
(2) RECPT. FRONT WALL	20	1	21		22	20	1	(2) RECPT. FRONT WALL
(2) RECPT. FRONT WALL	20	1	23		24	20	1	(8) 4'X2' 2 LAMP RECESSED
(2) 4'X2' 2 LAMP RECESSED	20	1	25		26	20	1	(2) 4'X2' 2 LAMP RECESSED
(4) 4'X2' 2 LAMP RECESSED	20	1	27		28	20	1	SHORT DATA RACK
WR GFCI RECPT. ROOF	20	1	29		30	20	1	SHORT DATA RACK
TALL DATA RACK	20	1	31		32	30	2	PTAC #3
TALL DATA RACK	20	1	33		34	-	-	PTAC #3
PTAC #1	30	2	35		36	30	2	PTAC #4
PTAC #1	-	-	37		38	-	-	PTAC #4
PTAC #2	30	2	39		40	30	2	PTAC #5
PTAC #2	-	-	41		42	-	-	PTAC #5



PLAN VIEW
SCALE: 1/4"=1'-0"

FINAL INSTALLATION OF PTAC UNITS IN FIELD, SLEEVES INSTALLED DURING PRESSBOX MANUFACTURE

LEGEND
ALL ELECTRONIC COMPONENTS ARE UL LISTED

- 20A. 125V. DUPLEX RECPT. (GFCI WHERE NOTED)
- 30A. 208V. SIMPLEX RECPT. NEMA 6-30
- 20A. 125V. DOUBLE DUPLEX (QUAD.) RECPT.
- $ OS - 20A. 125V. DECORATOR STYLE DIMMER WITH MANUAL ON/OFF OCCUPANCY SENSOR
- J 4X4X2 1/8" JUNCTION BOX W/ 3/4" C STUBOUT UNDER FLOOR FOR USE BY OTHERS (WP WHERE NOTED)
- A — 2X4 - LED FIXTURE LITHONIA 2GTL440LFWA19MVOLTEZ1LP835
- EXIT — EM./EXIT LIGHT AT EXTERIOR DOORS
- 9,000 BTU COOL/17,100 BTU EHEAT 4.2A COOL/22.1A HEAT - 230V. - 11.5 EER AMANA # PTH093G50 OR EQUAL

CONDUIT WILL BE 1/2" EMT, 1/2" STEELFLEX, OR SURFACE RACEWAY UNLESS OTHERWISE NOTED

WIRING ON 20A BREAKERS WILL BE #12 = THWN - THHN

WIRING ON 30A BREAKERS WILL BE #10 = THWN - THHN

EQUIPMENT GROUND RUN IN ALL CONDUITS OR NON-METALLIC SURFACE RACEWAYS

1 — TALL DATA CABINET LOCATION ON BACK WALL (BY OTHERS)

2 — SHORT DATA CABINET LOCATION UNDER MID-COUNTER (BY OTHERS)

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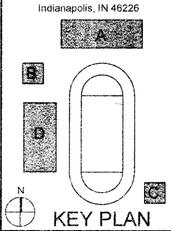
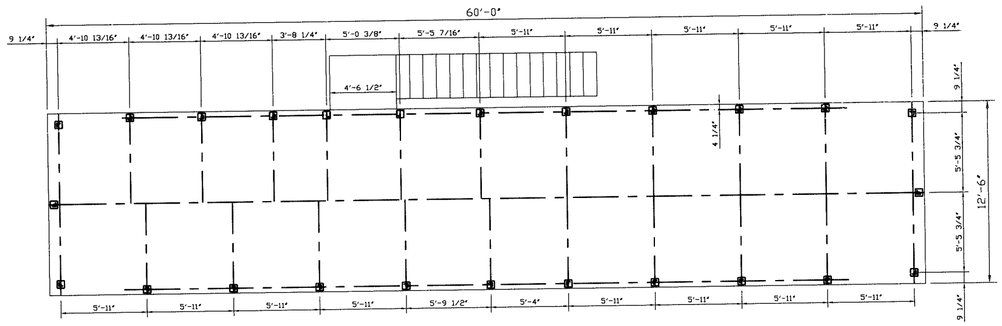


MSD OF LAWRENCE TOWNSHIP

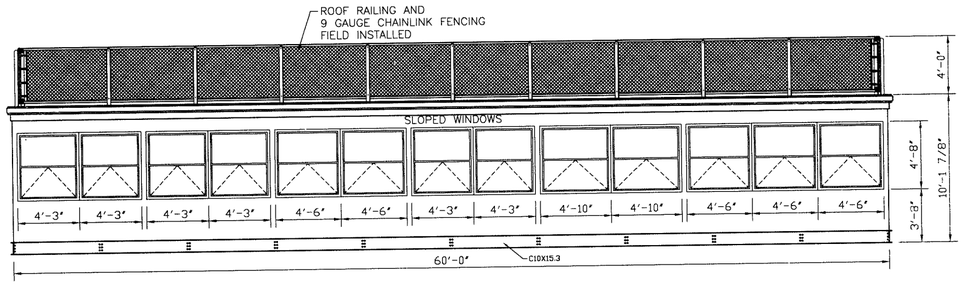
LC EXTERIOR FACILITY UPGRADES - BP2

BLEACHER DETAILS
A-1
CL511

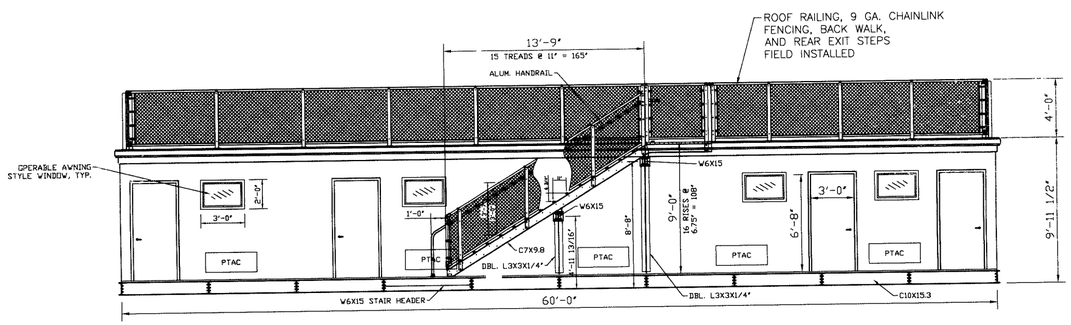
(2) - UNITS REQUIRED
NORTH H.S. AND CENTRAL H.S.



ROOF RAIL LAYOUT
SCALE:1/4"=1'-0"



FRONT ELEVATION
SCALE:1/4"=1'-0"



REAR ELEVATION
SCALE:1/4"=1'-0"

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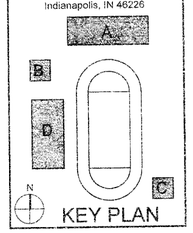
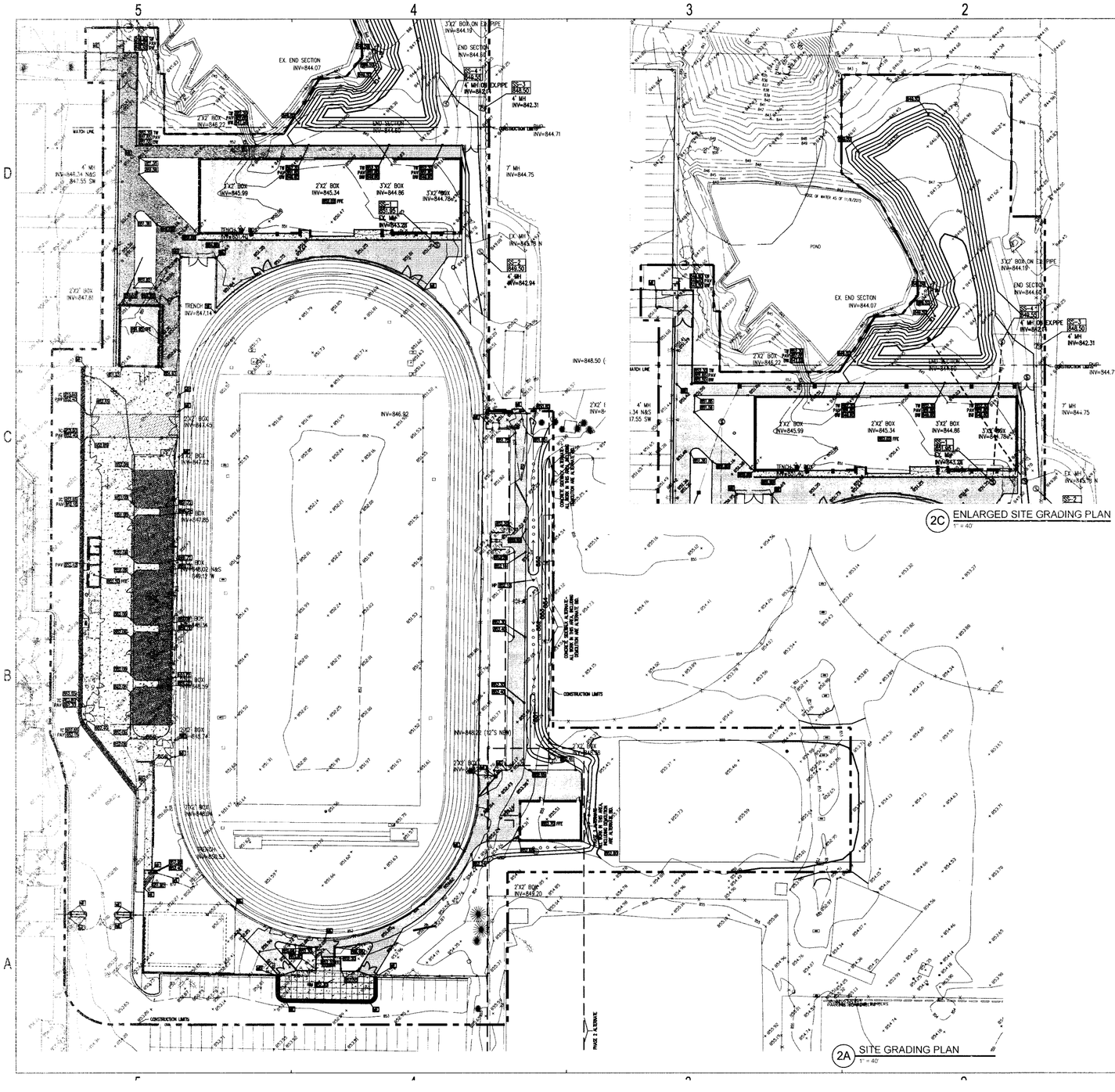


KEY PLAN

MSD OF
LAWRENCE
TOWNSHIP

LC EXTERIOR
FACILITY
UPGRADES - BP2

BLEACHER DETAILS
A-1
CL512



2C ENLARGED SITE GRADING PLAN
1" = 40'

2A SITE GRADING PLAN
1" = 40'

GRADING KEY NOTES

1. TAPER CURB HEIGHT FROM 6" TO 1" IN LAST 2 FEET OF HORIZONTAL DISTANCE.
2. EARTH BERM OR EMBANKMENT WITH 4H:1V MAXIMUM SLOPE. GRADE AS INDICATED.
3. EARTH BERM OR EMBANKMENT WITH 3H:1V MAXIMUM SLOPE. GRADE AS INDICATED.

GRADING LEGEND

828	EXISTING CONTOUR LINE
828	PROPOSED CONTOUR LINE
1000.00 P	PROPOSED ELEVATION
1000.00	EXISTING ELEVATION
1000.00 ME	MATCH EXISTING ELEVATION
1000.00 TC / 1000.00 P	TOP OF CURB ELEVATION / PAVEMENT ELEVATION
1000.00 P	PAVEMENT ELEVATION
1000.00 GU	GUTTER ELEVATION
1000.00 G	GROUND ELEVATION
1000.00 FL	FLOWLINE ELEVATION
1000.00 PAD	BUILDING PAD ELEVATION
1004.50 FFE	FINISH FLOOR ELEVATION

GENERAL GRADING NOTES

1. BENCHMARK NOTES

   REFERENCE BENCHMARK: A STANDARD IMAGIS DISK (STAMPED "IMAGIS NO. 16") SET IN THE TOP OF A ROUND CONCRETE MONUMENT FLUSH WITH THE GROUND. THE MONUMENT IS LOCATED AT CHRISTMAN ELEMENTARY SCHOOL AT THE NORTHWEST CORNER OF EAST 71ST STREET AND HAGUE ROAD.

   ELEV. = 842.79 (NAVD 1988)

   SITE T.B.M. #1: CUT "X" SET ON THE NORTH BOLT OF A TRAFFIC SIGNAL POLE LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF CAITO DRIVE AND EAST 56TH STREET.

   ELEV. = 859.70

   SITE T.B.M. #2: CUT "SQUARE" FOUND ON THE SOUTH SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF AN ENTRANCE DRIVE TO THE SCHOOL AND EAST 56TH STREET AND 149 FEET SOUTHEAST OF THE SOUTHEAST CORNER OF THE HIGH SCHOOL.

   ELEV. = 858.58

   SITE T.B.M. #3: CUT "SQUARE" SET ON THE WEST SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED SOUTHEAST OF THE SOUTHEAST CORNER OF THE TRACK.

   ELEV. = 855.87

   SITE T.B.M. #4: CUT "X" SET ON THE NORTH-NORTHEAST COMPACT BOLT OF A FIRE HYDRANT LOCATED ON THE NORTH SIDE OF THE NORTH WEST ENTRANCE DRIVE OFF OF CAITO DRIVE AND 115 FEET NORTHWEST OF THE NORTHWEST CORNER OF THE HIGH SCHOOL.

   ELEV. = 857.37

   SITE T.B.M. #5: CUT "SQUARE" SET ON THE SOUTH SIDE OF THE TOP OF A CONCRETE LIGHT POLE BASE LOCATED NEAR THE SOUTHEAST CORNER OF THE TENNIS COURTS.

   ELEV. = 851.75

2. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF SITE CONDITIONS AT THE TIME THIS PROJECT IS BID.

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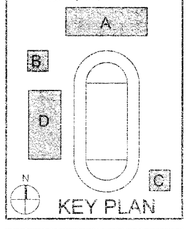
Project No. 2015-121.LCS
Project Date 04-15-2015
Prepared by JLS

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226

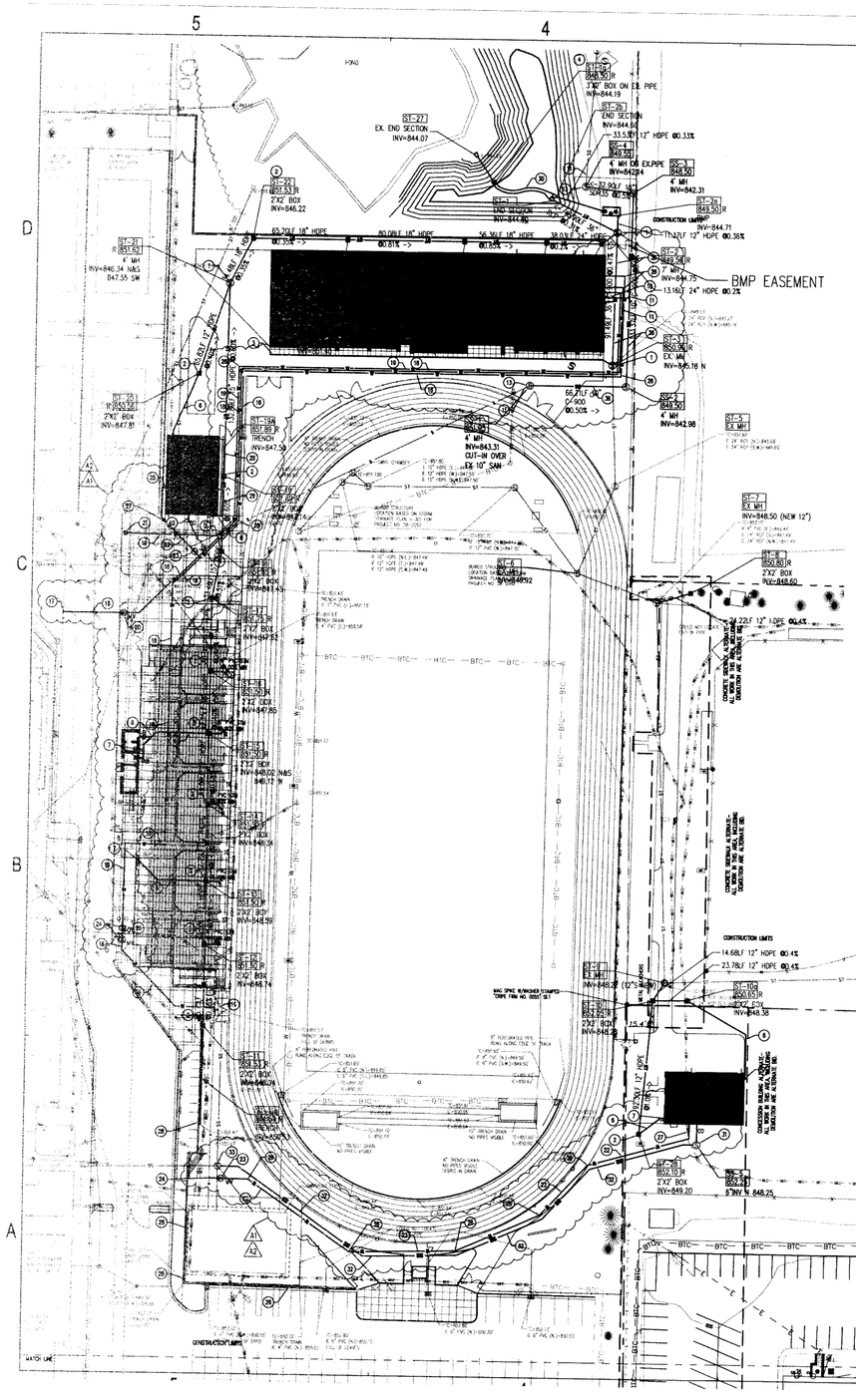


MSD OF LAWRENCE TOWNSHIP

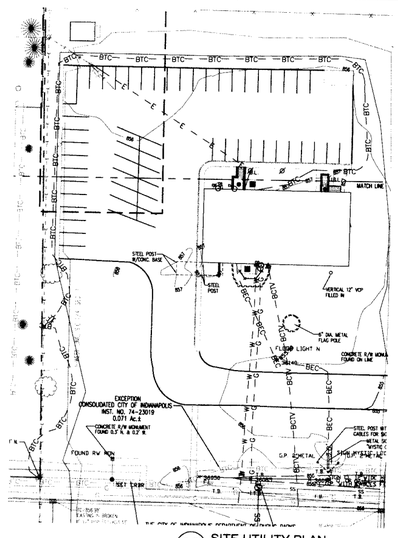
LC EXTERIOR FACILITY UPGRADES - BP2

SITE GRADING PLAN

CG101



2A SITE UTILITY PLAN
1" = 40'



2C SITE UTILITY PLAN
1" = 40'

UTILITY LEGEND

- PROPOSED WATER LINE
- EXISTING WATER LINE
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED STORM SEWER/DRAIN
- EXISTING STORM SEWER/DRAIN
- DS — DOWNSPOUT
- CO — CLEAN OUT
- WV — WATER VALVE
- PIV — POST INDICATOR VALVE
- INV — PIPE INVERT
- ALT — BID ALTERNATE
- TYP — TYPICAL OF MULTIPLE LOCATIONS

- PROPOSED STORM MANHOLE SEE DETAIL 1A/CU502
- PROPOSED STORM MANHOLE/INLET SEE DETAIL 1A/CU502
- PROPOSED CATCH BASIN SEE DETAIL 1C/CU501, 2C/CU502
- PROPOSED SANITARY MANHOLE SEE SHEET CU504

GENERAL UTILITY NOTES

1. ALL SANITARY SEWER IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF LAWRENCE SANITATION DEPT. TECHNICAL SPECIFICATIONS AND DETAILS.
2. WHERE A NEW SANITARY SEWER IS CONNECTED TO AN EXISTING MANHOLE, THAT MANHOLE SHALL BE REHABILITATED TO CURRENT DESIGN STANDARDS OF CITY OR UTILITY HAVING JURISDICTION. THIS REQUIREMENT SHALL INCLUDE REHABILITATING FLOW CHANNEL/BENCH/WALLS, SEALING CRACKS, CHIMNEY SEAL INSTALLATION, AS WELL AS OTHER MEASURES TO REDUCE THE AMOUNT OF INFILTRATION AND INFLOW TO REQUIRED LEVELS.
3. ALL LOCATIONS WHERE OTHER UTILITIES CROSS THE PROPOSED SANITARY SEWER WITH 18" VERTICAL CLEARANCE OR LESS REQUIRE THE INSTALLATION OF A CONCRETE CRADLE OR OTHER MEANS OF STRUCTURAL SUPPORT.
4. ALL SANITARY LATERALS REQUIRE THE INSTALLATION OF A TRACER WIRE ON TOP OF THE PIPE FROM THE SEWER MAIN TO THE CLEAN OUT.
5. ALL LIDS, CASTINGS, GRATES, BOXES, AND HATCHES ASSOCIATED WITH EXISTING UTILITY STRUCTURES THAT ARE NOT INDICATED FOR MODIFICATION SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION.
6. COMPACTED GRANULAR BACKFILL IS REQUIRED FOR ALL UTILITY TRENCHES LOCATED UNDER PAVED AREAS. SEE SPECIFICATIONS.
7. ALL WATER SYSTEM AND FIRE PROTECTION SYSTEM IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF LAWRENCE UTILITIES TECHNICAL STANDARDS AND SPECIFICATIONS.
8. A MINIMUM OF 48" OF COVER SHALL BE PROVIDED OVER ALL EXTERIOR WATER PIPE, VALVES, AND FITTINGS.
9. PIPE LENGTHS INDICATED ON THE DRAWINGS ARE FOR HYDRAULIC CALCULATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING THE AMOUNT OF PIPE MATERIALS NECESSARY FOR A COMPLETE INSTALLATION.
10. ALL STORM INLET CASTINGS SHALL BE PERMANENTLY STAMPED WITH NOTATION "DUMP NO WASTE, DRAINS TO RIVER".
11. ALL STORM SEWERS, STRUCTURES, AND LATERALS WITHIN THE SUBJECT SITE SHALL BE PRIVATELY OWNED AND MAINTAINED.
12. NO SUBSTITUTION OF BMP HYDRODYNAMIC SEPARATOR STRUCTURE OR MANUFACTURER IS PERMITTED.
13. INSTALL 18"W x 18"L x 4"T CONCRETE COLLAR AROUND ALL CLEANOUTS, FIRE HYDRANTS, VALVE BOXES, INDICATOR POSTS, AND YARD HYDRANTS THAT ARE LOCATED IN YARD AREAS. COLLAR TO BE SET 1" ABOVE ADJACENT GROUND GRADES.
14. AN EXISTING FIELD TILE IS INDICATED ON THE DRAWINGS BASED ON RESEARCH OF COUNTY RECORDS. ADDITIONAL BRANCH TILES OR OTHER FIELD TILES MAY EXIST ON THE SITE. ALL TILES ENCOUNTERED DURING EXCAVATION THAT REQUIRE RELOCATION SHALL BE TIED INTO THE NEAREST STORM STRUCTURE TO MAINTAIN POSITIVE FLOW, OR THE TILE SHALL BE REROUTED AROUND THE PROPOSED WORK USING NEW PIPE OF A SIMILAR SIZE. ALL TILES DAMAGED DURING EXCAVATION THAT CAN REMAIN IN PLACE SHALL BE REPAIRED. ANY TILES LOCATED UNDER THE PROPOSED BUILDING SHALL BE EXCAVATED AND REMOVED AND THE TRENCH FILLED WITH ENGINEERED FILL PER SPECIFICATIONS.

UTILITY NOTES

1. PROPOSED CONCRETE STORM MANHOLE. SEE DETAIL 5A/CU502.
2. PROPOSED CONCRETE BOX INLET. SEE DETAIL 2C/CU502.
3. ACO TRENCH DRAIN. SEE DETAIL 3D/CU501.
4. CONCRETE DISCHARGE CONTROL STRUCTURE. SEE DETAIL 3D/CU501.
5. CONCRETE END SECTION. SEE DETAIL 3A/CU502.
6. DOWNSPOUT DRAIN.
7. CONNECT DOWNSPOUT TO DOWNSPOUT DRAIN LINE AT BOOT. SEE DETAIL 3C/CU501.
8. CONNECT TO BUILDING SANITARY SEWER. SEE PLUMBING DRAWINGS FOR CONTINUATION.
9. A2 NOT USED
10. A2 PROPOSED CLEANOUT. SEE SH. CU507.
11. CONNECT TO SANITARY SEWER.
12. CONNECT TO EXISTING SANITARY SEWER.
13. A2 PROPOSED SANITARY MANHOLE ON TOP OF EXISTING PIPE. SEE SH. CU505.
14. CONNECT TO EXISTING STORM MANHOLE.
15. PROPOSED STORM STRUCTURE ON TOP OF EXISTING PIPE.
16. A2 PROPOSED 4" DOMESTIC WATER MAIN AT 48" MIN. COVER. CONNECT TO EXISTING 4" WATER MAIN. FIELD VERIFY THE CONNECTION POINTS.
17. A2 TAP EXISTING 10" WATER MAIN, 10"x6" TAPPING SLEEVE & VALVE REQD.
18. A2 6" FIRE SERVICE LINE.
19. A2 4" FIRE PUMP LINE.
20. POST INDICATOR VALVE (PIV).
21. FIRE DEPARTMENT CONNECTION (FDC).
22. A2 PROPOSED 3" DOMESTIC WATER LINE @ 48" MIN. COVER. FIELD VERIFY THE CONNECTION POINTS.
23. 3" WATER VALVE.
24. A2 4" WATER VALVE.
25. A2 CONNECT TO BUILDING DOMESTIC WATER LINE. SEE PLUMBING PLANS.
26. A2 WATER FITTING.
27. SD & DD PIT. SEE DETAIL 1C/CU502.
28. EXISTING TRENCH DRAIN.
29. CONCRETE TRENCH DRAIN. SEE DETAIL 5B/CU501.
30. CONCRETE CHANNEL. SEE DETAIL 1C/CU501.
31. A2 A1 DUPLEX PACKAGED SANITARY LIFT STATION, BARNES ULTRAGRIND SSRS, (2) SSWF2062L PUMPS, 3" IMPELLER, OR APPROVED EQUAL, RATED AT 33 GPM @ 12.5' TDH. SEE DETAILS 2A/CU505, 2B/CU505 AND SPECS.
32. 2" PVC SCH. 80 SANITARY FORCE MAIN.
33. CONNECT FORCE MAIN TO EXISTING SANITARY MH. 2" INV E 849.50 TERMINATE W/ 2"X2" SANITARY TEE.
34. LIFT STATION CONTROL PANEL AND ALARM. SEE ELEC. PLANS.
35. CONNECT TO 10" BUILDING ROOF DRAIN LEADER. SEE PLUMBING DRAWINGS.
36. PRESSURE RATED SANITARY SEWER AND STORM DRAINAGE PIPING REQUIRED IN THIS AREA.

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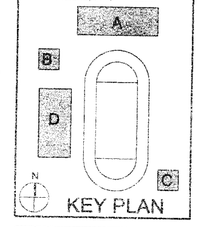
Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG
REGISTERED
NO. LA20200126
STATE OF INDIANA
LANDSCAPE ARCHITECT

#	Revision	Date
A1	ADDENDUM 1	4.29.2016
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226



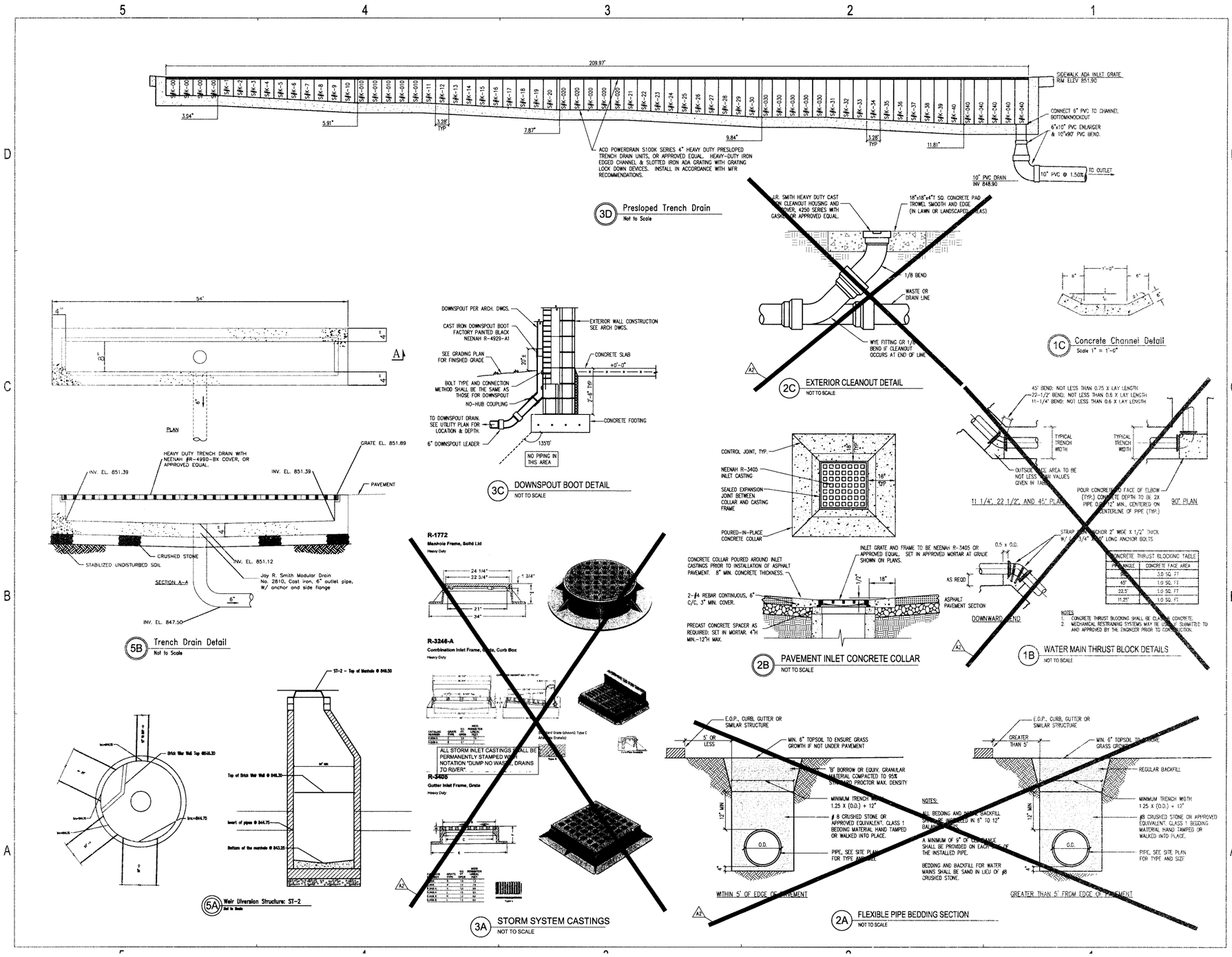
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE UTILITY PLAN

CU101



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Project No. 2015-121.LCS
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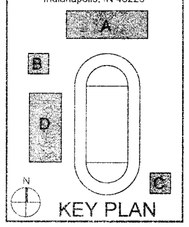
LIMING ZHANG REGISTERED NO LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.5.2016

7300 E 56th Street
Indianapolis, IN 46226



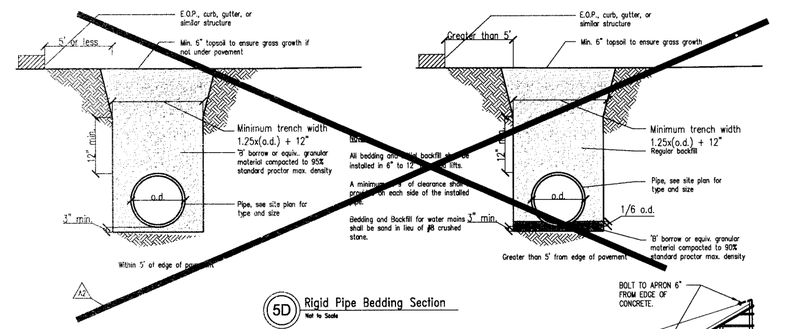
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

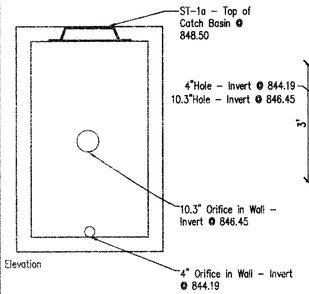
LC EXTERIOR FACILITY UPGRADES - BP2

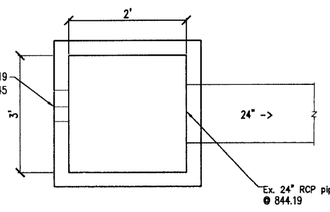
SITE UTILITY DETAILS

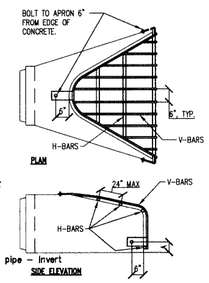
CU501



5D Rigid Pipe Bedding Section
Not to Scale



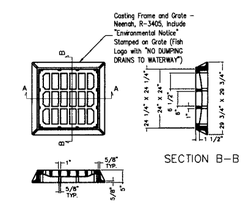




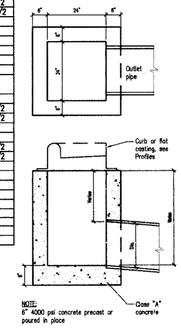
APRON SIZE	V-BAR SIZE INCHES	H-BAR SIZE INCHES	NO. OF H-BARS REQ'D.	BOLT DIA. INCHES	"A" DIM SIZE INCHES
ARCH PIPE APRONS	18	1/2 DIA	5/8 DIA	3	1/2	5
	24	5/8 DIA	3/4 DIA	4	1/2	7
	30	5/8 DIA	3/4 DIA	4	1/2	7-1/2
	36	3/4 DIA	1 DIA	4	1/2	10-1/2
	42	3/4 DIA	1 DIA	4	3/4	11
	48	3/4 DIA	1-1/2 PIPE	4	3/4	12
	54	3/4 DIA	1-1/2 PIPE	4	3/4	12
	60	3/4 DIA	1-1/2 PIPE	5	3/4	14
	72	3/4 DIA	1-1/2 PIPE	5	3/4	14
	84	3/4 DIA	1-1/2 PIPE	6	3/4	15
ROUND PIPE APRONS	12	1/2 DIA	5/8 DIA	3	1/2	4
	15	1/2 DIA	5/8 DIA	3	1/2	4-1/2
	18	1/2 DIA	5/8 DIA	4	1/2	4-1/2
	21	1/2 DIA	5/8 DIA	4	1/2	5
	24	5/8 DIA	3/4 DIA	4	1/2	5
	27	5/8 DIA	3/4 DIA	4	1/2	5-1/2
	30	5/8 DIA	3/4 DIA	4	1/2	5-1/2
	36	3/4 DIA	1 DIA	4	3/4	8
	42	3/4 DIA	1 DIA	4	3/4	8
	48	3/4 DIA	1 DIA	5	3/4	8
	54	3/4 DIA	1-1/2 PIPE	5	3/4	8
	60	3/4 DIA	1-1/2 PIPE	5	3/4	8
	66	3/4 DIA	1-1/2 PIPE	6	3/4	8
	72	3/4 DIA	1-1/2 PIPE	6	3/4	8
	84	3/4 DIA	1-1/2 PIPE	7	3/4	10
	90	3/4 DIA	1-1/2 PIPE	7	3/4	14

NOTES:
1. BOLT PLATES: 1/4" X 4" X 10". 3 REQUIRED.
2. BARS AND PLATES ARE HOT ROLLED STEEL.
3. BARS, PLATES AND PIPES ARE FINISHED WITH 2 COATS OF ALUMINUM PAINT.
4. BOLTS ARE GALVANIZED.

4C END SECTION TRASH/ANIMAL GRATE
NOT TO SCALE

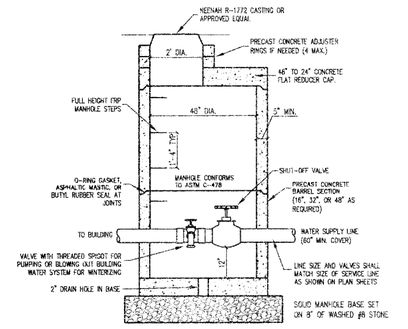


2D Frame & Grate Detail
Not to Scale

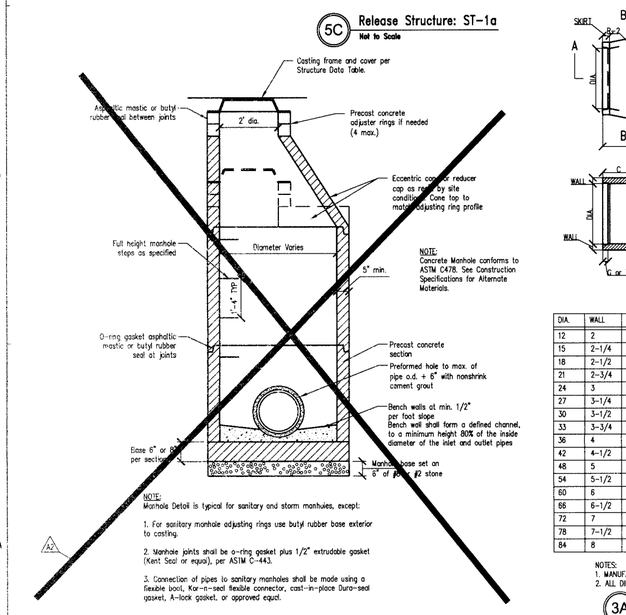


NOTE:
6" 4000 psi concrete precast or poured in place

2C Box Inlet Detail
Not to Scale



1C WATER SHUT-OFF & DRAIN DOWN PIT
NOT TO SCALE



NOTE:
Manhole Detail is typical for sanitary and storm manholes, except:

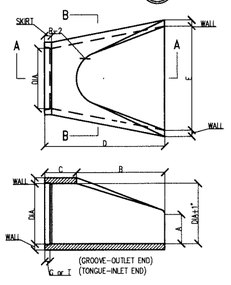
1. For sanitary manhole adjusting rings use butyl rubber base exterior to casting.

2. Manhole joints shall be o-ring gasket plus 1/2" extrudable gasket (Kent Seal or equal), per ASTM C-443.

3. Connection of pipes to sanitary manholes shall be made using a flexible boot, Kor-n-seal flexible connector, cast-in-place Dura-seal gasket, A-lock gasket, or approved equal.

5A Standard Precast Manhole (Storm)
Not to Scale

5C Release Structure: ST-1a
Not to Scale

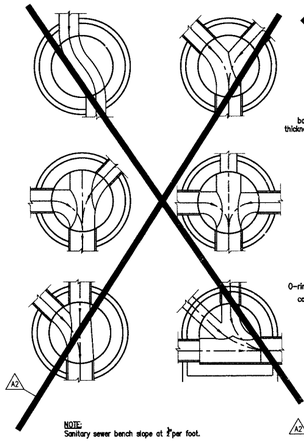


SECTION AA
SECTION BB

DIA.	WALL	G or T	WT. SEC	A	B	C	D	E	DIA.+1	R-1	R-2	SKIRT
12	2	1-1/2	530	4	24	48-7/8	72-7/8	24	13	10-1/16	9	3-1/2
15	2-1/4	2	740	6	27	46	73	30	16	12-1/2	11	3-1/2
18	2-1/2	2-1/2	990	9	27	46	73	36	19	15-1/2	12	4
21	2-3/4	2-1/4	1280	9	35	38	73	42	22	16-1/8	13	4
24	3	2-1/2	1520	9-1/2	43-1/2	30	73-1/2	48	25	16-11/16	14	4-1/2
27	3-1/4	2-1/2	1930	10-1/2	48	25-1/2	73-1/2	54	28	17-3/4	14-1/2	4-1/2
30	3-1/2	3	2190	12	54	19-3/4	73-3/4	60	31	18-5/16	15	5
33	3-3/4	3-3/8	3150	13-1/2	58-1/2	39-1/4	97-3/4	66	34	23-3/4	17-1/2	5-1/2
36	4	3-1/2	4100	15	63	34-3/4	97-3/4	72	37	24-1/16	20	5-1/2
42	4-1/2	3-3/4	5380	21	63	35	98	78	43	27-1/4	22	5-1/2
48	5	4-1/4	6550	24	72	26	98	84	49	28-1/8	22	5-3/4
54	5-1/2	4-3/4	8040	27	65	35	100	90	55	32-7/8	24	6-1/4
60	6	5	8750	30	60	39	99	96	61	36-3/4	24	6-3/4
66	6-1/2	5-1/2	10630	24	78	21	99	102	67	35-11/16	24	7-1/4
72	7	6	12520	34	78	21	99	108	73	38-5/8	24	7-3/4
78	7-1/2	6-1/2	14430	24	78	21	99	114	79	41-15/16	24	8-1/2
84	8	7	16350	24	78	21	99	120	85	44-13/16	24	9

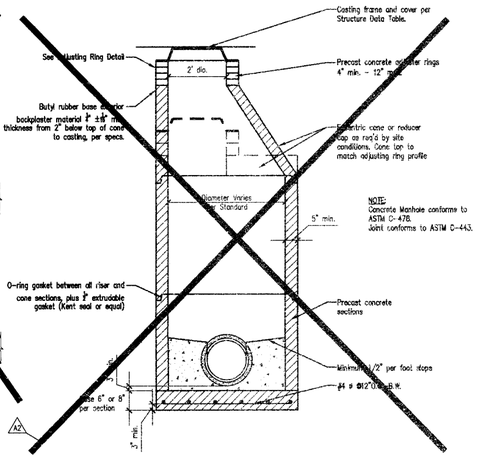
NOTES:
1. MANUFACTURE OF END SECTION IS IN ACCORDANCE WITH APPLICABLE PORTIONS OF A.S.T.M. SPECIFICATION C76.
2. ALL DIMENSION IN INCHES

3A Precast Concrete Flared Headwall
Not to Scale



NOTE:
Sanitary sewer bench slope at ¼" per foot.

2A Sanitary Manhole Benches
Not to Scale



1A Sanitary Manhole For Pipe Size 8" Thru 24"
Not to Scale

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LIMING ZHANG – REGISTERED – NO. LA20200126 – STATE OF – LANDSCAPE ARCHITECT

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226

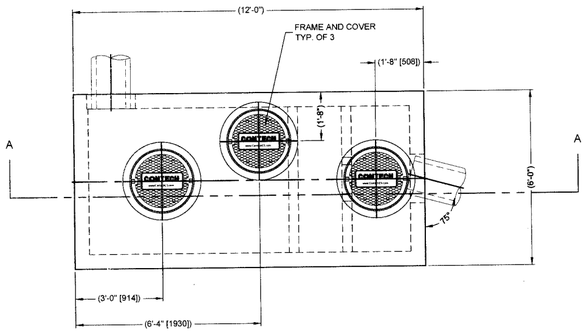
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

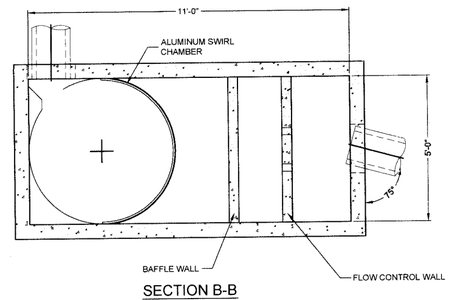
LC EXTERIOR FACILITY UPGRADES - BP2

SITE UTILITY DETAILS

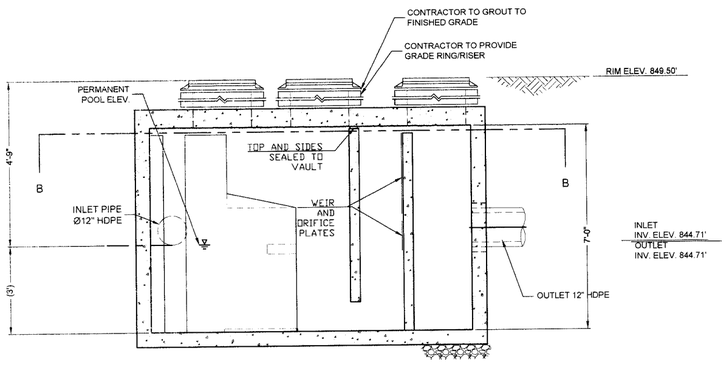
CU502



PLAN VIEW



SECTION B-B



SECTION A-A

- BYPASS STRUCTURE INFORMATION -
BYPASS STRUCTURE = 7' DIA.
BYPASS WEIR CREST LENGTH = 7'
BYPASS WEIR CREST ELEVATION = 846.30'
- NOT SUPPLIED BY CONTECH ENGINEERED SOLUTIONS LLC -

4B VORTECH VX3000
NOT TO SCALE

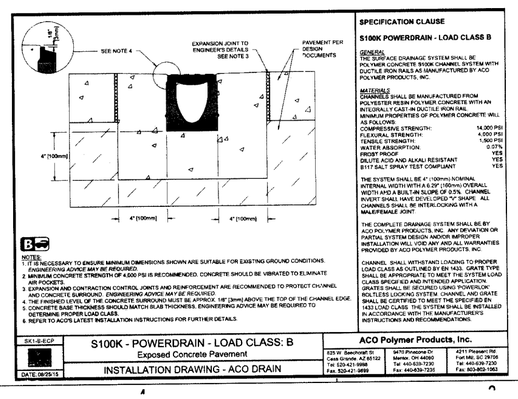
MATERIALS LIST - PROVIDED BY CONTECH

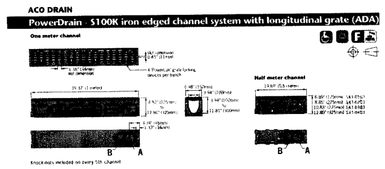
COUNT	DESCRIPTION	INSTALLED BY
1	ALUMINUM SWIRL CHAMBER	CONTECH
1	ALUMINUM WEIR PLATE	CONTECH
1	ALUMINUM ORIFICE PLATE	CONTECH
1	SWIRL CHAMBER SEALANT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
3	ø24" x 4" FRAME AND COVER	CONTRACTOR

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
4. VORTECHS WATER QUALITY VAULT SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO LOAD RATING, ASSUMING AND CASTINGS SHALL MEET AASHTO LOAD RATING, ASSUMING EARTH COVER OF 0' - 5', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM
6. ACTUAL GROUNDWATER ELEVATION.
7. WATER SURFACE ELEVATION IN THE VORTECHS SYSTEM IS EXPECTED TO BE AT OR BELOW TOP OF FLOW CONTROL WALL DURING THE DESIGN STORM.
8. GROUND WATER ELEVATION ASSUMED AT INLET PIPE INVERT.

INSTALLATION NOTES
1. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
2. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTECHS VAULT (LIFTING CLUTCHES PROVIDED).
3. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT JOINTS AND ASSEMBLE VAULT.
4. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
5. CONTRACTOR TO PROVIDE ANY EXTERNAL BYPASS VAULTS REQUIRED FOR OFFLINE LAYOUT (UNLESS OTHERWISE SPECIFIED.
6. CONTRACTOR TO PROVIDE AND INSTALL MANHOLE RISERS, GRADE RINGS OR BLOCK REQUIRED BETWEEN THE TOP OF THE VORTECHS SYSTEM AND THE BASE OF THE MANHOLE FRAMES. TOP SLAB OPENING DIAMETER MAY BE DIFFERENT FROM THOSE SHOWN.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 36000 LBS.





2A ACO POWERDRAIN S100K DETAILS
NOT TO SCALE

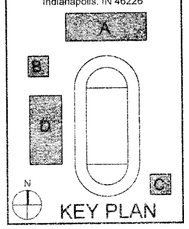
SCHMIDT
ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No: 2015-121.LCS
Project Date: 04-18-2016
Produced: JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE UTILITY DETAILS

CU503

STRUCTURE DATA TABLE

STRUCTURE NUMBER	ST-1	ST-1A	ST-2	ST-2A	ST-2B	ST-3	ST-4
HYDRAFLOW LINE NUMBER	–	–	–		–	–	
DESCRIPTION	END SECTION	BOX INLET	MANHOLE	BMP	END SECTION	EX. MANHOLE	TRENCH
DETAIL NUMBER	3A/CU502	2C/CU502	1A/CU502	CU503	3A/CU502		5B/CU501
STRUCTURE SIZE	36"	36"X24"	84" DIA.	5'X11'	12"	48" DIA.	4"X209'
CASTING NUMBER	–	R-3593	R-1772	(3) R-1772	–	R-2502	ACO S100K
RIM ELEVATION	–	848.50	849.50	849.50	–	850.90	851.90
INVERTS	844.60	844.19	844.75	844.71	844.60	845.18N	847.96 840.09

STRUCTURE NUMBER	ST-8	ST-10	ST-10A	ST-11	ST-12	ST-13	ST-14
HYDRAFLOW LINE NUMBER	–	–	–		–	–	
DESCRIPTION	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET
DETAIL NUMBER	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502
STRUCTURE SIZE	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"
CASTING NUMBER	R-3405	R-3405	R-3405	R-3405	R-3405	R-3405	R-3405
RIM ELEVATION	850.80	852.05	850.65	851.53	851.50	851.50	851.50
INVERTS	848.60	848.28	848.38	848.94	848.74	848.59	848.34

STRUCTURE NUMBER	ST-15	ST-16	ST-17	ST-18	ST-19	ST-20	ST-21
HYDRAFLOW LINE NUMBER	–	–	–		–	–	
DESCRIPTION	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET	MANHOLE
DETAIL NUMBER	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502	5A/CU502
STRUCTURE SIZE	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"	48" DIA
CASTING NUMBER	R-3405	R-3405	R-3405	R-3405	R-3405	R-3405	R-2502
RIM ELEVATION	851.50	851.50	851.75	851.85	851.89	850.56	851.62
INVERTS	848.02 N&S 849.12 W	847.85	847.62	847.45	847.14	847.81	846.34 N&S 847.55 SW

STRUCTURE NUMBER	ST-22	ST-23	ST-24	ST-25	ST-26	ST-28
HYDRAFLOW LINE NUMBER	–	–	–		–	
DESCRIPTION	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET	BOX INLET
DETAIL NUMBER	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502	2C/CU502
STRUCTURE SIZE	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"	24"X24"
CASTING NUMBER	R-3405	R-3405	R-3405	R-3593	R-3593	R-3405
RIM ELEVATION	851.53	851.53	851.53	851.53	851.53	852.10
INVERTS	846.22	845.99	845.34	844.86	844.78	849.20

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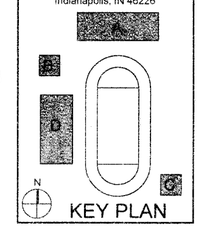
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO LA20200126 STATE OF MARYLAND LANDSCAPE ARCHITECT

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE UTILITY DETAILS

CU504

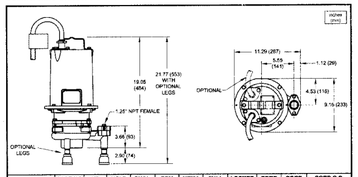
Models SGVF & SGVH

Recessed Vortex

www.cranepumps.com

Submersible Grinder Pumps

PS-903



MODEL NO	PART NO	HP	VOLT	PH/Hz	RPM (Nom)	NEMA START CODE	FULL LOAD AMPS	LOCKED ROTOR AMPS	CORD SIZE	CORD TYPE	CORD O.D. ± .02 (.5) in (mm)
HIGH-FLOW											
SGVF2002L*	110614	2	200	1 / 60	3450	F	17.6	53.0	12/4	SOW	.67 (17)
SGVF2002L	110668	2	240	1 / 60	3450	H	15.0	53.8	12/4	SOW	.67 (17)
SGVF2063L	110610	2	200	3 / 60	3450	J	11.0	42.0	12/4	SOW	.67 (17)
SGVF2023L	110611	2	230	3 / 60	3450	J	9.2	36.0	12/4	SOW	.67 (17)
SGVF2043L	110612	2	460	3 / 60	3450	J	4.6	18.0	12/4	SOW	.67 (17)
SGVF2053L	110613	2	600	3 / 60	3450	J	3.2	14.4	12/4	SOW	.67 (17)
HIGH-HEAD											
SGVH2002L*	110620	2	200	1 / 60	3450	F	17.0	53.0	12/4	SOW	.67 (17)
SGVH2002L	110615	2	240	1 / 60	3450	H	15.0	53.8	12/4	SOW	.67 (17)
SGVH2063L	110616	2	200	3 / 60	3450	J	11.0	42.0	12/4	SOW	.67 (17)
SGVH2023L	110617	2	240	3 / 60	3450	J	9.2	36.0	12/4	SOW	.67 (17)
SGVH2043L	110618	2	480	3 / 60	3450	J	4.6	18.0	12/4	SOW	.67 (17)
SGVH2053L	110619	2	600	3 / 60	3450	J	3.2	14.4	12/4	SOW	.67 (17)

Optional - Temperature sensor cord for all models is 14/3 SOW, 0.55 (14mm) ± .02 (.51mm) O.D. (Not used on SGVF2023L, SGVH2023L, SGVF2023, or SGVH2003.)
Optional - Moisture and Temperature sensor cord for all models is 18/5 SOW, 0.49 (12.44mm) ± .02 (.51mm) O.D. (replaces Temperature sensor cord)
(*) This pump is **NOT** UL or CSA listed

IMPORTANT !
1.) PUMP MAY BE OPERATED "DRY" FOR EXTENDED PERIODS WITHOUT DAMAGE TO MOTOR AND/OR SEALS.
2.) THIS PUMP IS APPROPRIATE FOR THESE APPLICATIONS SPECIFIED AS CLASS I DIVISION II HAZARDOUS LOCATIONS
3.) THIS PUMP IS NOT APPROPRIATE FOR THOSE APPLICATIONS SPECIFIED AS CLASS I DIVISION I HAZARDOUS LOCATIONS
4.) INSTALLATIONS SUCH AS DECORATIVE FOUNTAINS OR WATER FEATURES PROVIDED FOR VISUAL ENJOYMENT MUST BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND/OR/IN AND/OR THE AUTHORITY HAVING JURISDICTION. THIS PUMP IS NOT INTENDED FOR USE IN SWIMMING POOLS, RECREATIONAL WATER RIDES, OR INSTALLATIONS IN WHICH HUMAN CONTACT WITH PUMPED MEDIA IS A COMMON OCCURRENCE.

Model SGVF

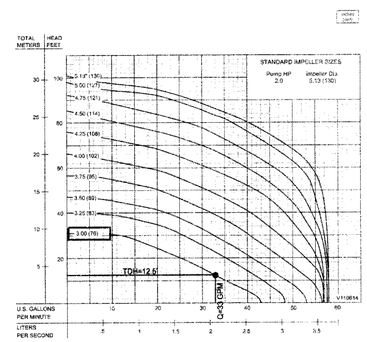
Performance Curve

2HP, 3450RPM, 60Hz, High-Flow

www.cranepumps.com

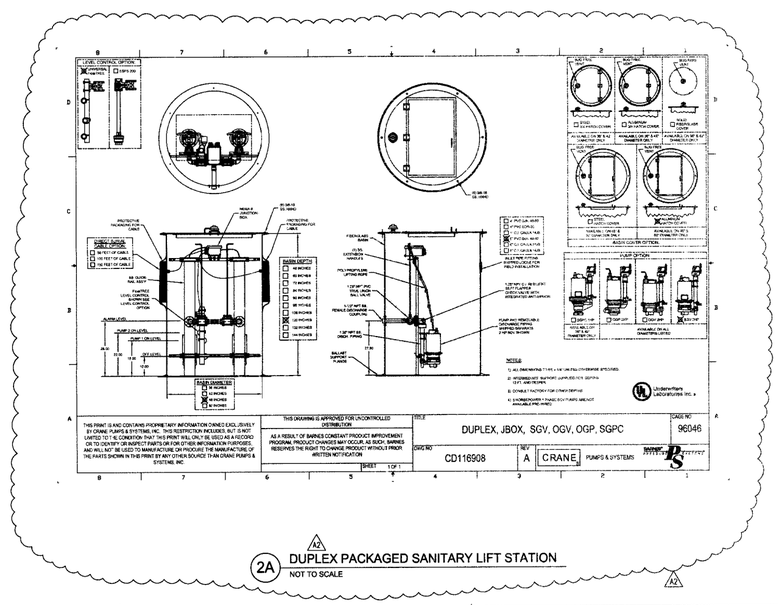
Submersible Grinder Pumps

PS-905



Testing is performed with water, specific gravity 1.0 @ 68° F @ (20°C). Other fluids may vary performance.

2B 2HP, 208V, 3Ø GRINDER PUMP
NOT TO SCALE



2A DUPLEX PACKAGED SANITARY LIFT STATION
NOT TO SCALE

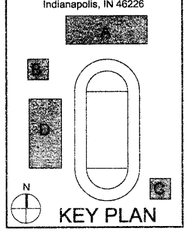
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A1	ADDENDUM 1	4.29.2016
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226

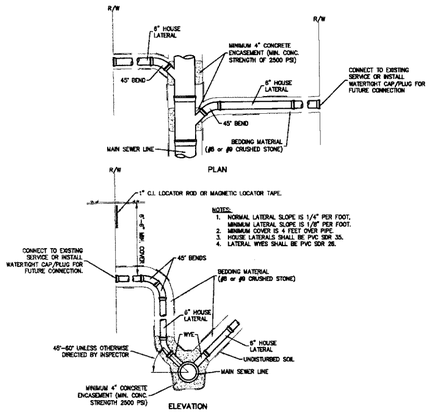


KEY PLAN

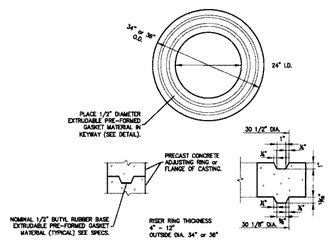
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

SITE UTILITY DETAILS
A1
CU505

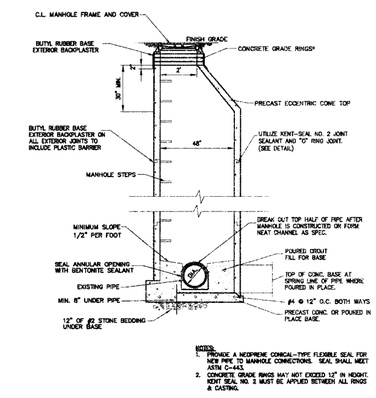


SANITARY SEWER SERVICE > 15' DEEP
(NO SCALE)



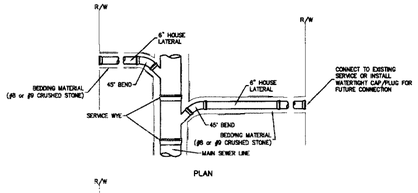
NOTES:
1. ON SANITARY SEWER MANHOLE INSTALLATIONS, THE ADJUSTING RINGS SHALL BE SEALED UTILIZING THE "WR-SHIELD" EXTERNAL SEALING SYSTEM (OR APPROVED EQUAL) INSTALLED PER MANUFACTURER'S RECOMMENDATIONS, OR AN EXTERNAL SEALING SYSTEM APPROVED BY THE UTILITY'S INSPECTOR.

CONCRETE ADJUSTING RING
(NO SCALE)

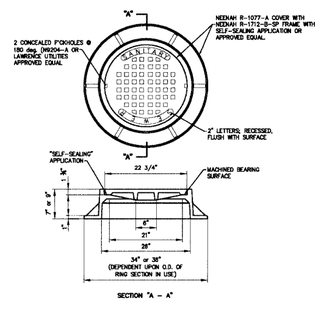


NOTES:
1. PROVIDE A NEOPRENE CONICAL-TYPE FLEXIBLE SEAL FOR NEW PIPE TO MANHOLE CONNECTIONS. SEAL SHALL MEET ASTM C-443.
2. CONCRETE GRADE RINGS MAY NOT EXCEED 12" IN HEIGHT. KENT SEAL NO. 2 MUST BE APPLIED BETWEEN ALL RINGS & CASTING.

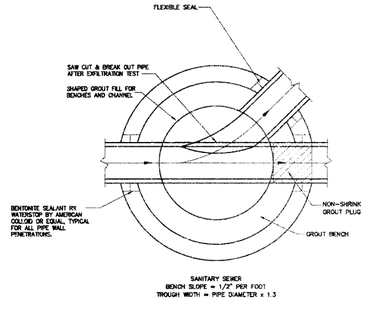
NEW MANHOLE OVER EXISTING SEWER
(NO SCALE)



SANITARY SEWER SERVICE < 15' DEEP
(NO SCALE)



SANITARY MANHOLE FRAME & COVER
(NO SCALE)



MANHOLE BENCH
NEW MANHOLE OVER EXISTING SEWER
(NO SCALE)

NOTES:
1. NO DEVIATIONS PERMITTED FROM THESE DETAILS WITHOUT THE WRITTEN AUTHORIZATION OF LAWRENCE UTILITIES.
2. FOR MORE COMPLETE INFORMATION REGARDING SANITARY SEWER SPECIFICATIONS AS TO MATERIALS AND METHODS OF INSTALLATION CONTRACTOR SHOULD CONSULT THE LAWRENCE UTILITIES SPECIFICATIONS AVAILABLE ON OUR WEBSITE AT WWW.CITYOFLAWRENCE.ORG OR CONTACT LAWRENCE UTILITIES OPERATIONS AT (317)-524-6301 (INSPECTIONS).

SANITARY SEWER DETAILS

CITY OF LAWRENCE UTILITIES

9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216

RECOMMENDED BY: _____ UTILITY SUPERINTENDENT _____ DATE

APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD
APPROVED BY: _____ DATE

REV. 12/30/2010

SHEET
1 OF 7

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
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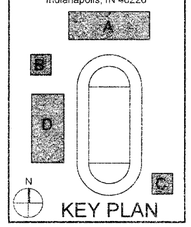
www.schmidt-arch.com

Project No 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226

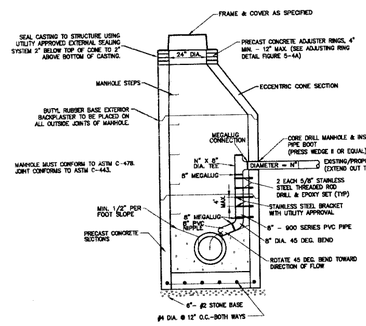


KEY PLAN

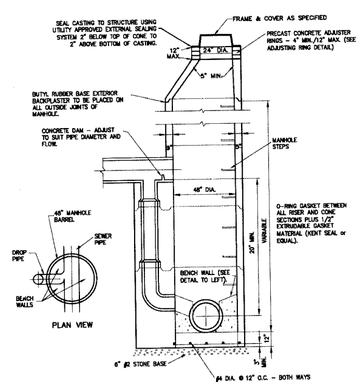
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

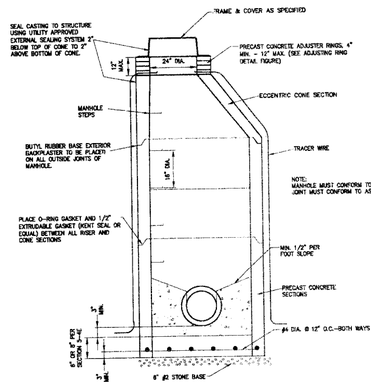
CITY STANDARD DETAILS
CU506



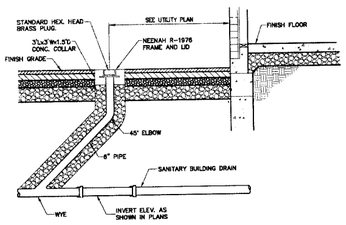
INSIDE DROP MANHOLE
(no scale)



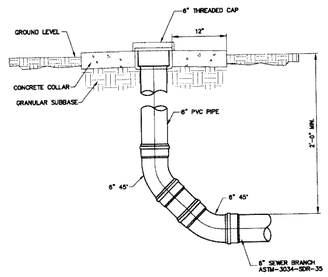
OUTSIDE DROP MANHOLE
(no scale)



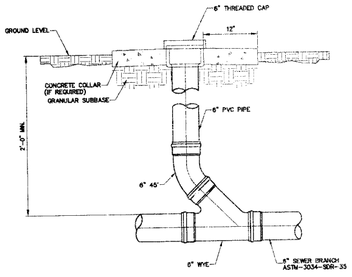
STANDARD MANHOLE (8"-24" PIPE)
(no scale)



CLEANOUT IN PAVEMENT
(no scale)



CLEANOUT AT END OF LINE
(no scale)



TYPICAL CLEANOUT
(no scale)

NOTES:
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2. FOR MORE COMPLETE INFORMATION REGARDING SANITARY SEWER SPECIFICATIONS AS TO MATERIALS AND METHODS OF INSTALLATION CONTRACTOR SHOULD CONSULT THE LAWRENCE UTILITIES SPECIFICATIONS AVAILABLE ON OUR WEBSITE AT WWW.CITYOFLAWRENCE.ORG OR CONTACT LAWRENCE UTILITIES OPERATIONS AT (317)-524-6301 (INSPECTIONS).

SANITARY SEWER DETAILS	
CITY OF LAWRENCE UTILITIES	
9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216	
RECOMMENDED BY: _____ UTILITY SUPERINTENDENT / DATE	SHEET 2 OF 7
APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD APPROVED BY: _____ DATE	
REV. 12/30/2010	

SCHMIDT ASSOCIATES
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Indianapolis, Indiana 46204
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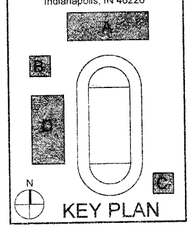
LIMING ZHANG REGISTERED NO. LA20200126 STATE OF IND LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

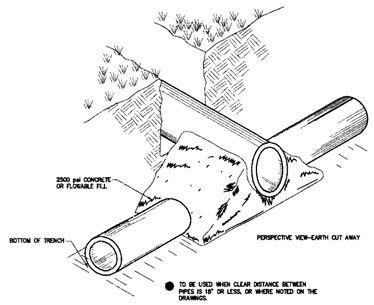
7300 E 56th Street
Indianapolis, IN 46226



MSD OF LAWRENCE TOWNSHIP

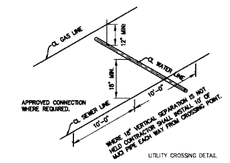
LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS
CU507



NOTES:
1. ALL PIPE SURFACES THAT WILL COME INTO CONTACT WITH CONCRETE SHALL BE WRAPPED WITH HIGH DENSITY POLYETHYLENE BEFORE PLACING CONCRETE.

TYPICAL CONCRETE CRADLE
(NO SCALE)



UTILITY CROSSING DETAIL

29.2 RELATION TO WATER WORKS STRUCTURES

WHILE NO GENERAL STATEMENT CAN BE MADE TO COVER ALL CONDITIONS, IT IS GENERALLY RECOGNIZED THAT SEWERS SHALL MEET THE REQUIREMENTS OF THE APPROPRIATE REVIEWING AGENCY WITH RESPECT TO MINIMUM DISTANCES FROM PUBLIC WATER SUPPLY WELLS OR OTHER WATER SUPPLY SOURCES AND STRUCTURES.

29.3 RELATION TO WATER MAINS

29.31 HORIZONTAL SEPARATION

SEWERS SHALL BE LAID AT LEAST 10 FEET (3.0 M) HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE. IN CASES WHERE IT IS NOT PRACTICAL TO MAINTAIN A 10 FOOT SEPARATION, THE APPROPRIATE REVIEWING AGENCY MAY ALLOW DEVIATION ON A CASE-BY-CASE BASIS, IF SUPPORTED BY DATA FROM THE DESIGN ENGINEER.

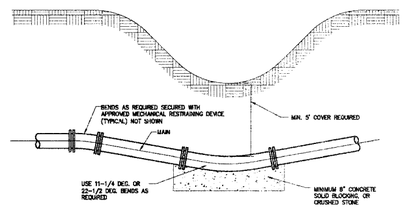
29.32 CROSSINGS SEWERS CROSSING

WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES (46 CM) BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IN EITHER ABOVE OR BELOW THE SEWER. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT DAMAGE TO THE WATER MAIN.

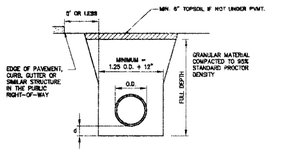
29.33 SPECIAL CONDITIONS

WHEN IT IS IMPOSSIBLE TO OBTAIN PROPER HORIZONTAL AND VERTICAL SEPARATION AS STIPULATED ABOVE, CONTRACTOR TO ASSURE WATERTIGHTNESS PRIOR TO BACKFILLING. WORK MUST BE INSPECTED BY LAWRENCE UTILITIES INSPECTORS.

TYPICAL UTILITY CROSSING
(NO SCALE)



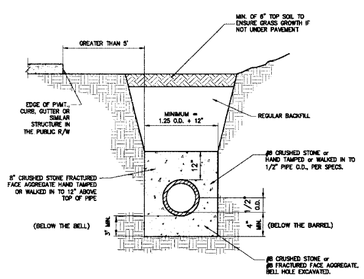
TYPICAL DITCH CROSSING
(NO SCALE)



LEGEND
O.D. = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE

DEPTH OF BEDDING MATERIAL BELOW PIPE	
27" & SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

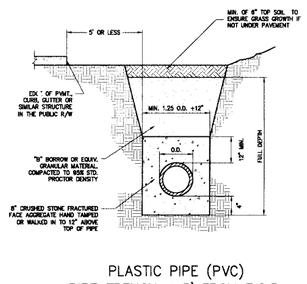
PIPE TRENCH < 5' FROM E.O.P.
(NO SCALE)



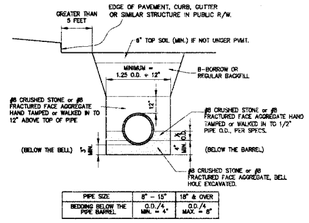
PLASTIC PIPE (PVC)
PIPE TRENCH > 5' FROM E.O.P.
(NO SCALE)

LEGEND
O.D. = OUTSIDE DIAMETER
D = INSIDE DIAMETER

NOTES:
1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 8" TO 12" BALANCED LIFTS.
2. UNDER PVMT. AREAS, TRENCH TO BE BACKFILLED W/ "B" BORROW TO BOTTOM OF BASE. ALL OTHER AREAS SHALL HAVE "B" BORROW BACKFILL TO 1'-0" ABOVE PIPE.
3. A MIN. 6" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.



PLASTIC PIPE (PVC)
PIPE TRENCH < 5' FROM E.O.P.
(NO SCALE)



PIPE SIZE:	8" – 15"	18" & OVER
BEDDING BELOW THE PIPE BARREL	O.D./4 MIN. = 4"	O.D./4 MAX. = 8"

PIPE TRENCH > 5' FROM E.O.P.
(NO SCALE)

NOTES:
1. NO DEVIATIONS PERMITTED FROM THESE DETAILS WITHOUT THE WRITTEN AUTHORIZATION OF LAWRENCE UTILITIES.
2. FOR MORE COMPLETE INFORMATION REGARDING SANITARY SEWER SPECIFICATIONS AS TO MATERIALS AND METHODS OF INSTALLATION CONTRACTOR SHOULD CONSULT THE LAWRENCE UTILITIES SPECIFICATIONS AVAILABLE ON OUR WEBSITE AT WWW.CITYOFLAWRENCE.ORG OR CONTACT LAWRENCE UTILITIES OPERATIONS AT (317)-524-6301 (INSPECTIONS).

SANITARY SEWER DETAILS

CITY OF LAWRENCE UTILITIES

9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216

RECOMMENDED BY: _____ UTILITY SUPERINTENDENT _____ DATE

APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD
APPROVED BY: _____ DATE

REV. 12/30/2010

SHEET
3 OF 7

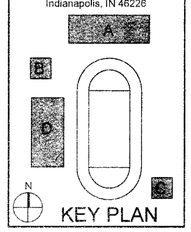
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226

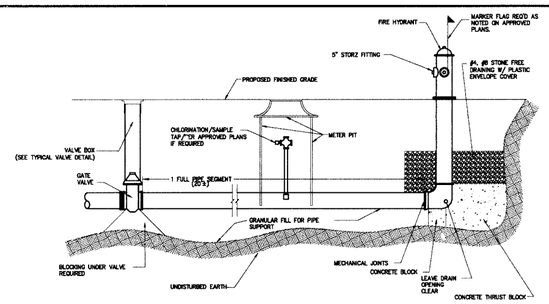


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

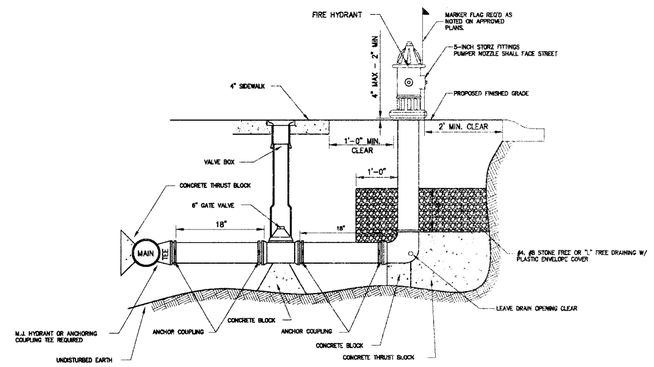
LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS
A2
CU508



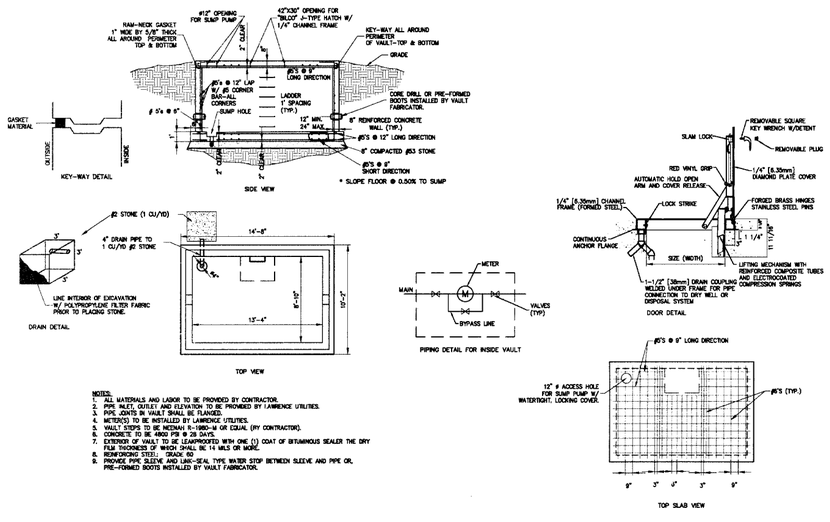
TEMPORARY FLUSH HYDRANT INSTALLATION DETAIL

(NO SCALE)



TYPICAL FIRE HYDRANT INSTALLATION DETAIL

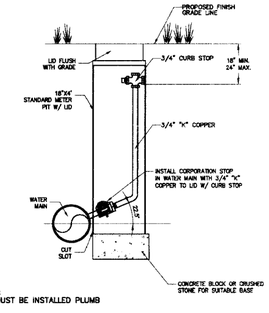
(NO SCALE)



METER VAULT

(NO SCALE)

NOTES:
1. ALL MATERIALS AND LABOR TO BE PROVIDED BY CONTRACTOR.
2. PIPE INLET, OUTLET AND ELEVATION TO BE PROVIDED BY LAWRENCE UTILITIES.
3. PIPE JOINTS IN VAULT SHALL BE FLANGED.
4. METER(S) TO BE INSTALLED BY LAWRENCE UTILITIES.
5. VAULT STEPS TO BE NEENAH R-1980-A OR EQUAL (BY CONTRACTOR).
6. CONCRETE TO BE 4000 PSI @ 28 DAYS.
7. EXTERIOR OF VAULT TO BE LEAKPROOFED WITH ONE (1) COAT OF BITUMINOUS SEALER THE DRY FILM THICKNESS OF WHICH SHALL BE 14 MILS OR MORE.
8. REINFORCING STEEL: GRADE 60
9. PROVIDE PIPE SLEEVE AND LINK-SEAL TYPE WATER STOP BETWEEN SLEEVE AND PIPE OR PRE-FORMED BOOTS INSTALLED BY VAULT FABRICATOR.



NOTE:
PIT MUST BE INSTALLED PLUMB

TEMPORARY SAMPLE/CHLORINATION TAP

(NO SCALE)

NOTES:
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WATER DETAILS	
CITY OF LAWRENCE UTILITIES	
9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216	
RECOMMENDED BY: _____ UTILITY SUPERINTENDENT DATE	SHEET 4 OF 7
APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD APPROVED BY: _____ DATE	
REV. 12/30/2010	

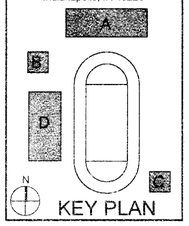
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LINKING ZHANG REGISTERED NO. LA20200126 STATE OF MARYLAND LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226



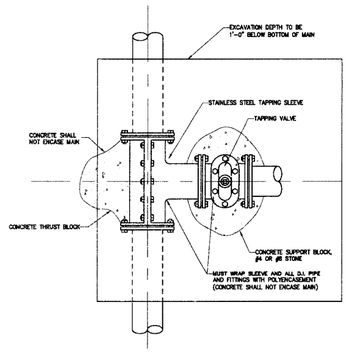
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

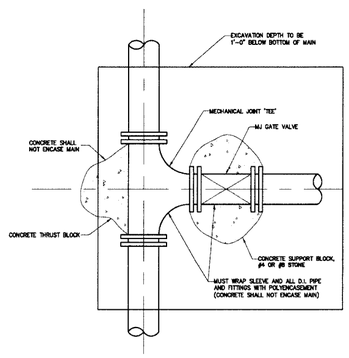
LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS

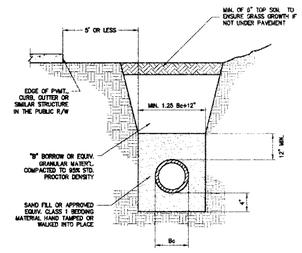
A2 CU509



MAIN CONNECTION DETAILS-1 (WET TAP)
(NO SCALE)

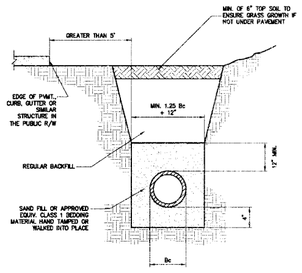


MAIN CONNECTION DETAILS-2 (DRY TAP
(NO SCALE)



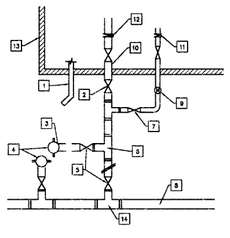
WITHIN 5' OF EDGE OF PVMT.
NOTES:
1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.
2. UNDER PVMT. AREAS, TRENCH TO BE BACKFILLED W/ "B" BORROW TO BOTTOM OF BASE, ALL OTHER AREAS SHALL HAVE "B" BORROW BACKFILL TO 1'-0" ABOVE PIPE.
3. A MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.

PLASTIC PIPE (PVC & HDPE)
BEDDING & BACKFILL
(NO SCALE)



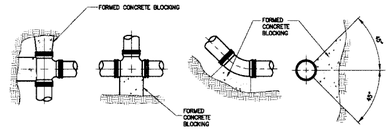
GREATER THAN 5' FROM EDGE OF PVMT.
NOTES:
1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.
2. UNDER PVMT. AREAS, TRENCH TO BE BACKFILLED W/ "B" BORROW TO BOTTOM OF BASE, ALL OTHER AREAS SHALL HAVE "B" BORROW BACKFILL TO 1'-0" ABOVE PIPE.
3. A MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.

PLASTIC PIPE (PVC & HDPE)
BEDDING & BACKFILL
(NO SCALE)



1. FIRE DEPARTMENT CONNECTION MUST BE WITHIN A 100' RADIUS OF A FIRE HYDRANT AND MUST BE THE DISTANCE AWAY FROM THE STRUCTURE OF 1.5 TIMES THE HEIGHT OF THE STRUCTURE.
2. POST INDICATOR VALVE MUST BE FREE STANDING (APPROVAL BY THE LAWRENCE FIRE DEPARTMENT).
3. ALTERNATE HYDRANT LOCATION--MAIN MUST BE THE MINIMUM OF A 6".
4. FIRE HYDRANT ASSEMBLY - PER CITY OF LAWRENCE TYPICAL DETAIL.
5. MAIN WITH VALVE BOX
6. 6" MIN FIRE SERVICE LINE TO PIV MAY BE WAIVED BY LAWRENCE UTILITIES & LAWRENCE FIRE DEPARTMENT UPON WRITTEN REQUEST
7. DOMESTIC WATER SHUTOFF VALVE WITH BOX.
8. EXISTING WATER MAIN
9. WATER METER IN PIT
10. VALVE
11. REDUCED PRESSURE ZONE BACKFLOW DEVICE (IF REQUIRED)
12. DOUBLE DETECTOR CHECK VALVE REQUIRED
13. BUILDING
14. STAINLESS STEEL WET TAP & VALVE

FIRE SERVICE ENTRANCE DETAIL
(NO SCALE)



AREA OF CONCRETE IN CONTACT WITH UNDISTURBED EARTH.
AREA IN SQUARE FEET REQUIRED FOR CONCRETE THRUST BLOCKING

SIZE	TEE & PLUG	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	2.0	2.5	1.5	1.0	1.0
6"	4.0	5.5	3.0	1.5	1.0
8"	6.5	9.0	5.0	2.5	1.5
10"	10.0	14.0	7.5	4.0	2.0
12"	14.0	20.0	11.0	5.5	3.0
14"	19.0	27.0	14.0	7.5	4.0
16"	25.0	35.0	19.0	10.0	5.0
18"	31.5	44.5	24.0	12.5	6.5
20"	38.0	54.5	29.5	15.0	7.5
24"	55.5	78.5	42.5	22.0	11.0
30"	86.5	122.0	66.0	34.0	17.0
36"	124.0	175.5	95.0	48.0	24.5
42"	168.0	237.0	128.5	65.5	33.0

TYPICAL THRUST BLOCKING
(NO SCALE)

NOTES:
MECHANICAL RESTRAINTS MAY BE USED IN LIEU OF POURED CONCRETE BLOCKING WITH PRIOR APPROVAL BY LAWRENCE UTILITIES INSPECTOR. LAWRENCE UTILITIES SHALL DETERMINE TYPE IF APPROVED.

NOTES: ALL VALVES AND FITTINGS ARE REQUIRED TO BE RESTRAINED USING APPROPRIATE MECHANICAL TYPE RESTRAINT DEVICES OR THRUST BLOCKING. THE LAWRENCE UTILITIES INSPECTOR SHALL APPROVE ALL RESTRAINT DEVICES OR BLOCKING AT TIME OF INSTALLATION. ALL RESTRAINED JOINTS, FITTINGS AND VALVES SHALL BE INSPECTED AND APPROVED PRIOR TO PLACING BACKFILL.

NOTES:
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WATER DETAILS

CITY OF LAWRENCE UTILITIES

9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216

RECOMMENDED BY: _____ UTILITY SUPERINTENDENT _____ DATE

APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD
APPROVED BY: _____ DATE

SHEET 5 OF 7

REV. 12/30/2013

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LINING, ZINING REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

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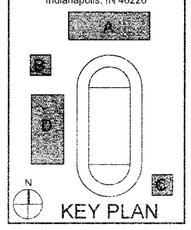
Indianapolis, IN 46226

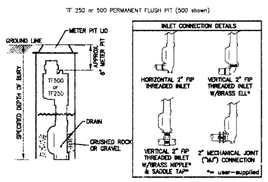


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS
CU510



HYDRANT SHALL BE 4' BURY, WITH (2" VERTICAL FIP / 2" HORIZONTAL FIP / 2" MJ) INLET AND 2" NPT NOZZLE OUTLET. HYDRANT SHALL FIT IN A 5-1/4" ID VALVE BOX. HYDRANT SHALL BE NON-FREEZING AND SELF-DRAINING. HYDRANT SHALL BE OPERATED BY TURNING A TOP-MOUNTED 5/16" SQUARE OPERATING NUT COUNTERCLOCKWISE TO OPEN, CLOCKWISE TO CLOSE. HYDRANT MUST SEAL THE DRAIN OUTLET IN ALL POSITIONS FROM 1/4"-OPEN TO FULLY-OPEN. ALL INTERNAL WORKING PARTS, THE INLET, AND THE OUTLET SHALL BE LEAD-FREE BRASS. ALL WORKING PARTS SHALL BE SERVICEABLE FROM ABOVE WITH NO DIGGING REQUIRED. DISASSEMBLY MUST BE ACCOMPLISHED WITH NO TURNING FORCES APPLIED TO THE HYDRANT BARREL. ALL WEAR PARTS (O-RINGS AND VALVE SEAT) SHALL BE OF COMMONLY AVAILABLE DIMENSIONS AND MATERIAL, AND MORE MAY BE OF VENDOR-UNIQUE DESIGN. HYDRANT SHALL BE THE MODEL 9300 AS MANUFACTURED BY THE KUPPERLE FOUNDRY CO., ST. LOUIS, MO 63102.

– ENSURE THAT THE HYDRANT IS FREE TO MOVE VERTICALLY WITHIN THE VALVE BOX. IN ORDER TO PREVENT THE TRANSMISSION OF TRAFFIC LOADS TO THE HYDRANT, IT SHOULD NOT BE JAMMED OR WEDGED AGAINST THE VALVE BOX ID.

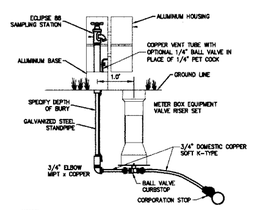
– THE NORMAL POSITION OF THE TOP OF THE OPERATING NUT IS ABOUT 6" BELOW THE TOP OF THE VALVE BOX, BUT YOU CAN FREELY ADJUST THIS POSITION TO SUIT YOUR CIRCUMSTANCES. JUST KEEP IN MIND THAT MAINTENANCE PROCEDURES ARE BEST PERFORMED WHEN THE BOLTS ATTACHING THE TOP CAP ARE WITHIN AN EASY REACH.

–FOLLOW THE SUGGESTIONS OF THE AWWA FOR HYDRANT INSTALLATION. IN PARTICULAR, SURROUNDING THE DRAIN PORT WITH A SUFFICIENT AMOUNT OF CRUSHED ROCK/GRAVEL TO PROVIDE AN ADEQUATE DRAIN FIELD.

PERMANENT FLUSH PIT

(NO SCALE)

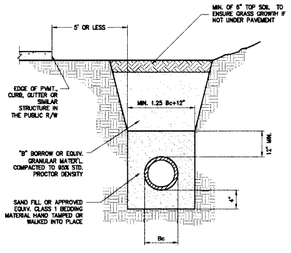
ECLIPSE NO. 88 SAMPLING STATION



NOTES:
1. SAMPLING STATIONS SHALL BE 5' BURY, WITH A 3/4" FIP INLET, AND A (3/4" HOSE OR UNTHREADED) NOZZLE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS WILL ALSO BE OF BRASS AND BE REMOVABLE FROM ABOVE. THE ENTIRE ASSEMBLY AND PIPING SHALL BE GALVANIZED STEEL (BRASS PIPE ALSO AVAILABLE).
5. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PURGED PRIOR OF STAGNANT WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.
6. SPIGOT MUST BE NON-THREADED TYPE (MEET IDEM RECOMMENDATIONS FOR SAMPLE TAPS)
7. ECLIPSE NO. 88 SAMPLING STATION SHALL BE MANUFACTURED BY KUPPERLE FOUNDRY, ST. LOUIS, MO 63102.

PERMANENT SAMPLING STATION

(NO SCALE)

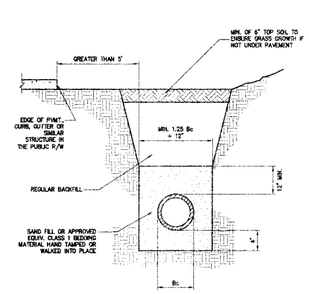


WITHIN 5' OF EDGE OF PVMT.

NOTES:
1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.
2. UNDER PVMT. AREAS, TRENCH TO BE BACKFILLED W/ "B" BORROW TO BOTTOM OF BASE. ALL OTHER AREAS SHALL HAVE "B" BORROW BACKFILL TO 1'-0" ABOVE PIPE.
3. A MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.
4. ALL DUCTILE IRON MAINS SHALL BE WRAPPED WITH HIGH DENSITY POLYETHYLENE WRAP.

DUCTILE IRON & PVC (WATER) BEDDING & BACKFILL < 5' FROM E.O.P.

(NO SCALE)



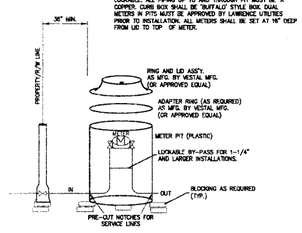
GREATER THAN 5' FROM EDGE OF PVMT.

NOTES:
1. ALL INITIAL BACKFILL SHALL BE INSTALLED IN 6" TO 12" BALANCED LIFTS.
2. UNDER PVMT. AREAS, TRENCH TO BE BACKFILLED W/ "B" BORROW TO BOTTOM OF BASE. ALL OTHER AREAS SHALL HAVE "B" BORROW BACKFILL TO 1'-0" ABOVE PIPE.
3. A MIN. 9" OF CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.
4. ALL DUCTILE IRON MAINS SHALL BE WRAPPED WITH HIGH DENSITY POLYETHYLENE WRAP.

DUCTILE IRON & PVC (WATER) BEDDING & BACKFILL > 5' FROM E.O.P.

(NO SCALE)

CURB STOP, ANGLED STOP AND ANGLED CHECK VALVE SHALL BE MUELLER COMPRESSION TYPE FITTINGS. ANGLED STOP SHALL BE LOCKABLE. ALL PIPING UP TO AND THROUGH PIT MUST BE 1" COPPER. CURB BOX SHALL BE "BUFFALO" STYLE BOX. DUAL METERS IN PITS MUST BE APPROVED BY LAWRENCE UTILITIES PRIOR TO INSTALLATION. ALL METERS SHALL BE SET AT 16" DEEP FROM LID TO TOP OF METER.



SERVICE SIZE	PIT DIM.	ADAPTER RING	RING & LID	METER YOKE OR OPENING
3/4"	20"X48"	N/A	20"- 6150	Y-502 *
1"	24"X48"	24"X20"	20"- 6150	Y-504 *
1-1/2"	30"X36"	30"X20"	20"- 6150	13"
2"	36"X36"	36"X20"	20"- 6150	17"

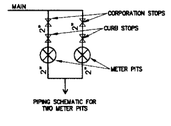
* MUELLER DESIGNATION

METER PIT - LIST OF MATERIALS

A.) 3/4" AND 1" TYPICAL INSTALLATION COMPONENT
- 1.) DIRECT TAP
  - a.) CORPORATION STOP 3/4" OR 1" COMPRESSION
- 2.) CURB STOP 3/4" OR 1" COMPRESSION
- 3.) METER PITS
  - a.) 3/4" = PIT 20"x48" – RING & LID 20"-6150 METER YOKE OR OPENING Y-502
  - b.) 1" = PIT 24"x48" – RING & LID 20"-6150 AND ADAPTER RING 24"x20". METER YOKE OR OPENING Y-504

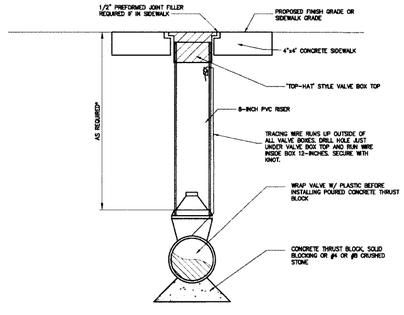
B.) 1-1/2" OR 2"
- 1.) SADDLE – STAINLESS STEEL BAND
  - a.) CORPORATION STOP – 1-1/2" OR 2" COMPRESSION
  - b.) SWING JOINT
- 2.) CURB STOP – 1-1/2" OR 2" COMPRESSION
- 3.) METER PITS
  - a.) 1-1/2" = PIT 30"x36" – ADAPTER RING 36"x20" RING & LID 20"-6150 AND LAY LENGTH OF METER OPENING IS 13"
  - b.) 2" = PIT 36"x36" – ADAPTER RING 36"x20" RING & LID 20"-6150 AND LAY LENGTH OF METER OPENING IS 17"

C.) INSIDE PIT SET UP
- 1.) 3/4" AND 1"
  - a.) ANGLED VALVE 3/4" OR 1" (MUELLER OR EQUIVALENT TO COMPRESSION FITTINGS)
  - b.) ANGLED CHECK VALVE 3/4" OR 1" (MUELLER OR EQUIVALENT TO COMPRESSION FITTINGS)
- 2.) 1-1/2" AND 2"
  - a.) ANGLED VALVES ON BOTH SIDES
  - b.) 1-1/4" BYPASS (LOCKABLE)
  - c.) PRE-MANUFACTURED METER SETS REQUIRED.



TYPICAL METER PIT DETAIL RESIDENTIAL/COMMERCIAL

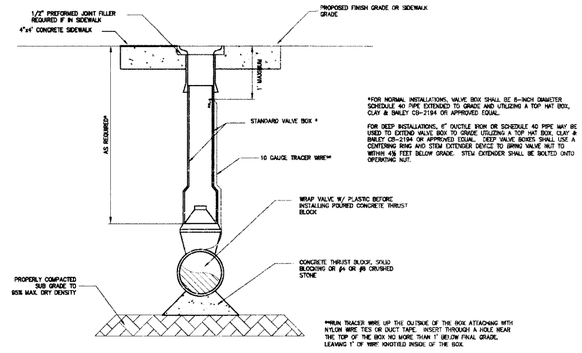
(NO SCALE)



* FOR VALVES WITH BURY DEPTH OVER 6', EXTENSIONS MAY BE REQUIRED–SEE THE LAWRENCE UTILITIES INSPECTOR FOR DETAILS

TYPICAL VALVE INSTALLATION DETAIL

(NO SCALE)



*FOR NORMAL INSTALLATIONS, VALVE BOX SHALL BE 5-INCH DIAMETER SCHEDULE 40 PIPE EXTENDED TO GRADE AND UTILIZING A TOP HAT BOX, CLAY & BAILEY CB-2184 OR APPROVED EQUAL.

FOR DEEP INSTALLATIONS, 6" DUCTILE IRON OR SCHEDULE 40 PIPE MAY BE USED TO EXTEND VALVE BOX TO GRADE UTILIZING A TOP HAT BOX, CLAY & BAILEY CB-2184 OR APPROVED EQUAL. DEEP VALVE BOXES SHALL USE A CENTERING RING AND STEM EXTENDER DEVICE TO BRING VALVE NUT TO WITHIN 4'6 FEET BELOW GRADE. STEM EXTENDER SHALL BE BOLTED ONTO OPERATING NUT.

**RUN TRACER WIRE UP THE OUTSIDE OF THE BOX ATTACHING WITH NYLON WIRE TIES OR DUCT TAPE. INSERT THROUGH A HOLE NEAR THE TOP OF THE BOX NO MORE THAN 1' BELOW FINAL GRADE, LEAVING 1' OF WIRE KNOTTED INSIDE OF THE BOX.

TYPICAL VALVE INSTALLATION DETAIL

(NO SCALE)

NOTES:
1. NO DEVIATIONS PERMITTED FROM THESE DETAILS WITHOUT THE WRITTEN AUTHORIZATION OF LAWRENCE UTILITIES.
2. FOR MORE COMPLETE INFORMATION REGARDING SANITARY SEWER SPECIFICATIONS AS TO MATERIALS AND METHODS OF INSTALLATION CONTRACTOR SHOULD CONSULT THE LAWRENCE UTILITIES SPECIFICATIONS AVAILABLE ON OUR WEBSITE AT WWW.CITYOFLAWRENCE.ORG OR CONTACT LAWRENCE UTILITIES OPERATIONS AT (317)-524-6301 (INSPECTIONS).

WATER DETAILS	
CITY OF LAWRENCE UTILITIES	
9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216	
RECOMMENDED BY: _____ UTILITY SUPERINTENDENT DATE	SHEET
APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD APPROVED BY: _____ DATE	6 OF 7
REV. 12/30/2010	

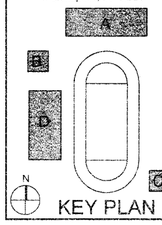
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No. 2015-121.LCS
Project Date 04-18-2016
Produced JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

7300 E 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS

A2 CU511

TYPICAL WATERMAIN DETAILS AND SPECIFICATIONS

I. SCOPE OF WORK:

1. This section includes all cold water distribution lines, valves, meter pits, fire hydrants and related appurtenances including excavating and backfilling necessary to complete the work as shown on the construction drawings.

II. APPLICATION:

1. The contractor's work shall conform to the construction drawings and specifications and shall comply with all current City of Lawrence Utilities (LU) applicable ordinances, regulations and standards. The contractor shall also be responsible for the application and acquisition of all bonds and permits required to complete the work.

2. All water mains shall be 6" minimum diameter, except on cul-de-sac bulbs serving five lots or less, 3" diameter water main shall be used.

3. The ends of water mains shall be plugged or capped at the terminal points with manufacturer's renommended watertight device.

III. WORKMANSHIP:

1. Trenching: Lay all pipe in open trenches, except when otherwise designated on the plans for pushing or tunneling. Bell ends to face in the direction of laying.

2. Width of Trench: Excavate trenches sufficient width for proper installation of pipe per manufacturer's recommendation.

3. Sheeting and bracing: Sheet and brace trenches as necessary to protect workmen and adjacent structures. All trenching shall comply with the Occupational Safety and Health Administration Standards.

4. Water Removal: Keep trenches free from water during construction. Under no circumstances shall pipe or appurtenances be laid in standing water. Convey the discharge from trench dewatering to drains or natural drainage channels.

5. Grading Trench Bottoms:
a. For Ductile iron pipe, the bottom quadrant of the pipe shall be fully and uniformly supported. Dig out for pipe bell joints. The full load shall rest on the barrel of the pipe. The trench may be excavated below final pipe grade and backfilled with sand or approved equivalent class 1 bedding to bring it back to pipe laying grade.
b. For PVC pipe 3 inch or larger, excavate bottom of trench to a depth at least 4 inches below grade, and backfill with sand or approved equivalent as shown on sheet 6. Backfill material shall be "heeled in" around the haunches of the pipes. Care shall be taken to prevent rocks and frozen clods of dirt from falling on the pipe.

6. Weather Limitations: No PVC water main or appurtenances shall be laid when ambient air temperature is below 32 degrees F. Furthermore, construction operations shall be suspended if ambient or temperature falls below 32 degrees F.

7. The manufacture's maximum allowable pipe deflection can be used to maintain the vertical and horizontal route unless other fittings (i.e. tees and elbows) or other methods are specifically called out on the plans.

8. Concrete thrust blocks or other mechanical restraining devices shall be used at all tees, bends, fire hydrants and plugs.

9. All Water mains shall maintain a minimum cover of 48" to 54".

10. All fire hydrants shall be situated so that the break away flange is located between 2" and 4" above proposed finish grade. The hydrant shall be clearly indicated out of service by use of manufactured "Out of Service" signs or other means as approved by the company until hydrant is put in service.

11. Permanent flush pits shall be located per the approved plans.

12. Chlorination/sample taps shall be located on the service side of the water main within 10 feet of the control valve.

13. Temporary chlorination/sample taps shall be completely removed and holes plugged after bacteriological tests are approved. Temporary taps shall be removed prior to final acceptance by the City of Lawrence Utility Services Board.

14. See cut or imprint "A " in concrete curb opposite all water valves.

15. All water mains shall be located per approved plans.

16. Hwy Water Main Construction. The Contractor shall record the dimension of each water stub and valve from nearest fire hydrant measured along the water main. The locations of hydrants and water valves, along with any other construction changes are to be incorporated on "marked" original construction drawings. In addition, the Contractor shall provide an electronic version of "as-builts" in the most recent version of AutoCAD and submitted to the Utility's Inspector as soon after completion of construction and testing as possible, and prior to acceptance by the City of Lawrence Utility Services Board. GPS coordinates for all water main fittings, valves, hydrants, hydrant valves, meters, mains, and service lines shall be included on the drawings. A differentially corrected GIS shape file or Personal Geodatabase (.mdb) file shall be provided with the digital record drawing file. GPS coordinates shall be based on NAD 1983 State Plane Indiana East FIPS 1301 (feet) and GPS formatting shall be on sub-metric accuracy. Raw GPS Data must be included with submittal.

17. All PVC water mains will have #10 gauge insulated locator wire attached to the pipe every 10 feet with nylon wire ties or duct tape. Wire will be brought up the outside of all valve boxes and wrapped around all temporary flush hydrants.

IV. BACKFILL REQUIREMENTS:

1. Except as specified in Section III-5, all trenches shall be backfilled with earth or granular material free from large stones, roots, or frozen clods to a depth of at least 12 inches above the top of the pipe. Trenches across all paved areas (including sidewalks) shall be backfilled with full depth granular material conforming to City of Lawrence Street Standard Details extending the feet beyond the back of curbs with a 1:1 slope from bottom of curb to bottom of trench. Trenches parallel to and within 5 feet of paved roadways shall be backfilled in the same manner.

V. MATERIALS:

1. 6" or larger water mains shall be ductile iron (DI.) pipe conforming to AWWA Standard C-151 or PVC pipe conforming to AWWA Standard C900 or C905 as directed on the plans.

2. Ductile Iron Pipe:
a. Ductile iron pipe shall be centrifugally cast and shall conform to the latest revision of ANSI Specification A21.51 and AWWA C151. Ductile iron pipe with push-on or mechanical joints 4 inch to 12 inch diameter, shall be a minimum Class 350 or Class 50 and 16 inch or larger diameter shall be pressure Class 250 or Class 50. The pipe shall be furnished with a minimum laying length of 18 feet.
b. Ductile Iron Fitting. 6 inches through 48 inches, shall conform to the latest revision of ANSI Specification A21.10 and AWWA Standard C110. Ductile iron compact fittings, 6 inches through 24 inches shall conform to the latest revision of ANSI Specification A=21.53 and AWWA Standard C153. All fittings shall be mechanical joint type.
c. Mechanical joints and accessories shall conform to the latest revision of ANSI Specification A21.10 and AWWA Standard C110. Push-on joints shall conform to the latest revision of ANSI Specification A21.11 and Standard AWWA C111. Rubber gaskets shall be vulcanized synthetic rubber and shall conform to the latest revision of ANSI Specifications A21.11 and AWWA Standard C111.
d. River Crossing pipe shall be ductile iron manufactured in accordance with the requirements of ANSI/AWWA Standard C151/A21.51. Push-on joints for such pipe shall meet the requirement of ANSI/AWWA Standard C111/A21.11, allowing deflection of up to 15 Degrees, and be equal to Griffin SNAP-LOK. Pipe thickness shall be equal to manufacture's standard. Pipe shall have cement mortar lining and seal coating, where applicable, in accordance with ANSI/AWWA Standard C104/A21.4. River Crossing Pipe shall be assembled and hydrostatically tested prior to shipment.

3. 6" thru 12" AWWA C-900 PVC Water Pipe:
a. Materials: Pipe shall be made from Class 12454-A or Class 12454-B virgin compounds as defined in ASTM D-1784, with an established hydrostatic-design-basis rating of 4,000 PSI for water at 73.4 degrees F.
b. Pipe and Gasket: Pipe shall have a cast iron outside diameter and shall be suitable for use as a pressure conduit. All Class 150 pipe shall meet the requirements of DR-18. Provisions must be made for expansion and contraction at each joint with an elastomeric sealing ring. Laying length shall be 20 ± 1 inch for all sizes except that up to 10% of the footage may be in random lengths of not less than 10 feet. The pipe shall have an integral bell, and the gasket seal shall be reinforced with a steel band or other rigid material. The joint shall be in compliance with the requirements for ASTM D-3139.
c. Marking: Pipe shall be marked as prescribed by AWWA standard C900, i.e., nominal pipe size, dimension ration (DR), AWWA pressure class, manufacturer's name and code, and seal of testing agency that verified the suitability of the pipe material for potable water service.
d. Test Requirements: Each length of pipe (standard and random), including the integral bell, shall be pressure tested to four times the rated pressure for a minimum of five seconds. Pipe shall meet all additional test requirements as described in AWWA C900.
e. Approvals: Pipe shall be listed by Underwriters Laboratories and approved by Factory Mutual.

4. 16" thru 24" AWWA C905 PVC Water Pipe:
a. Materials: Pipe shall be made from Class 12454-A or Class 12454-B virgin compounds as defined in ASTM D-1784 with an established hydrostatic-design-basis rating of 4,000 psi for water at 73.4 degrees F.
b. Pipe: Pipe shall have a cast iron outside diameter and shall be suitable for use as a pressure conduit. Pipe shall be pressure rated 165 psi for DR-25. The bell shall consist of an integral thickened wall section with an elastomeric ring that meets the requirement of ASTM F-477. The gasket shall be reinforced with a steel band or other rigid material. The wall thickness of the bell shall conforms to ASTM D-3139. Laying lengths shall be 20 feet ± 1 inch for all sizes except that up to 10% of the footage may be furnished in random lengths of not less than 10 feet.
c. Marking: Pipe must be marked as prescribed by AWWA Standard C905, i.e., nominal size and OD base (for example, 24" cast iron), PVC, dimension ratio (for example, DR-25), AWWA pressure rating (for example, PR 165). AWWA C905, manufacturer's names, and manufacturer's production code including day, month, year shipped, plant, and extruder of manufacture.
d. Test Requirements: Each standard and random length of pipe shall be tested (including joint) at twice the pressure rating of the pipe. The test shall be for a minimum dwell of five seconds. Hydrostatic pressures are listed below:

DR	PRESSURE RATING (psi)	HYDROSTATIC PROOF (psi)
25	165	330
18	235	470

e. Approvals: Pipe shall be listed by Underwriters Laboratories and approved by Factory Mutual.

5. 2" or 3" Polyvinyl Chloride (PVC) Pipe:
a. PVC pipe shall conform to the latest revision of ANSI/AWWA (ASTM Specification D1784 and ASTM Specification D-2241).
b. The appropriate ASTM cell classification shall be either 12454-A or 12454-B.
c. PVC pipe shall be furnished in standard laying lengths of 20 feet and shall have a minimum pressure class of Class 200 (SDR21).
d. PVC pipe and couplings shall bear certification marking which shall conform to the latest revision of Section 2.8 of AWWA C900. In addition, the pitch and of each pipe length shall have one ring, painted around the pipe at the proper location to allow field checking of the correct setting depth of the pipe in the bell or coupling.
e. PVC pipe with bell and joints or coupling push-on joints shall conform to the latest revision of ASTM specifications D-3139. No solvent cement joint pipe shall be allowed.
f. Gasket material will be constructed to meet the requirements of ASTM F-477. The lubricant shall have no deteriorating effects on the gasket or pipe. The lubricant containers shall be labeled with manufacturer's name.

6. Copper Tubing:
Copper tubing shall be seamless, annealed copper tubing complying with Federal Specification WW-T-799 ("K" soft copper). Fittings shall be wrought copper or cast bronze with Compression Joints.

7. Fire Hydrants:
a. The Contractor shall furnish and install all fire hydrants at substantially the locations as shown on the drawings and details. Hydrants shall be of standard manufacture, of the non-freezing type having a full flow valve and of a type that may be easily lengthened by adding extension sections. Each hydrant shall be fitted with one pumper (5¼") and two hose (2½") nozzles. The nozzles shall have National Standard Thread unless otherwise required to conform to thread size in use on the existing hydrants with a valve opening of not less than 5" and a 6" inlet connection. The direction of the hydrants main valve opening shall be LEFT (counter clockwise).
b. Hydrant barrels shall be constructed in such a manner that it is not necessary to cut off the water or to excavate to make repairs. The barrel of the hydrant shall be constructed in sections that are to be joined in such a manner that the upper section of the barrel extending above the ground may be separated from the lower section by impact without injury to the stem of the barrel.
c. The main valve construction at the bottom of the hydrant shall be such as to permit the water to drain from the hydrant barrel when the main valve is closed. The main valve stem seats and packing glands are to be of bronze or approved rust-resisting metal and to be constructed in such a manner as to be easily replaced without excavating.
d. Hydrants shall be Mueller Super Centurion, (5¼" – 2½" – 2½" nozzles) 4½ foot bury depth.
e. Paint shall conform to AWWA Standard C-502.
f. Hydrants shall be painted SHERWIN WILLIAMS Safety Yellow Paint Number B54Y37, or approved equal.
g. The pumper nozzle shall be equipped with a 5 1/4-inch Storz Fitting as manufactured by Action Coupling & Equipment Company, Inc. Part Number A45+137. The Hydrant shall come factory equipped with the Storz fitting and shall not be retro-fitted in the field.

8. Valves:
All valves and stops shall have ends suited or adapters shall be provided for the proper installation in the lines in which they are located. Valves shall meet the following requirements:

a. Valves in Ductile Iron Pipe or PVC Pipe (6" – 12") shall be iron body, bronze mounted, resilient seated gate valves conforming to AWWA Standard C-509. They shall open LEFT (counter clockwise). Valve shall have mechanical joint ends and valve stem seal terminals in 2" wrench nuts. Buttery valves shall be used for 16" or larger mains, conforming to AWWA Standard C504. Butterfly valves shall be bronze body mounted, resilient seated with a 2" square nut operator, open LEFT (counter clockwise) Mueller B-3211-20 or approved equal.
b. Ball valves in 2" or 2" PVC shall be standard brass body ball type, round orifice and conforming to AWWA Standard C-800, with T-heads fitted with female threads.
c. Corporation stops shall be as manufactured by FORD F-1000 or Mueller B-25008 or approved equal having AWWA taper threaded inlet and copper compression outlet.
d. Curb stops shall be as manufactured by Ford B44-333 or Mueller B-25209 having compression copper fittings on both ends.
e. Curb stops shall be 1" locking device Mueller H-14338 or approved equal.
f. Locks, when required for valve box lids or curb stops shall be American Lock Company 104 Hardened Series 5200 with 1 1/8 inch shackle and key #43433. No substitutes permitted.

9. Valve boxes shall comply with the following requirements:
a. For normal installations, valve box shall be 8-inch diameter schedule 40 pipe extended to grade and utilizing a Tap Hat Box, Clay & Bailey CB-2184 or approved equal.
b. For curb stops, valve boxes shall be Tyler 96C series or approved equal.
c. For deep installations, 6" ductile iron or schedule 40 pipe may be used to extend valve box to grade utilizing a Tap Hat Box, Clay & Bailey CB-2184 or approved equal. Deep valve boxes shall use a centering ring and stem extender device to bring valve nut to within 4½ feet below grade. Stem extender shall be bolted onto operating nut.

10. Water Meter Pit shall be 18" to 48" diameter(as noted on the plans) x 48" long, Midwest Polyethylene meter pit, Sanidac PVC or approved equal.

11. Water Meter Pit Lid shall be an 18" or 24" Tyler 6150, with a small operating nut (Standard Water Works Pentagon) or approved equal.

12. Mechanical restraining devices for either PVC or Ductile Iron shall be used on all bends larger than 11 1/4-degrees along with concrete blocking tee joints from fittings, and shall comply with manufacturers recommended installation procedure. Such devices shall consist of any one of the following.
a. Megalug with rods*
b. Retainer gland*
c. Anchor coupling
d. Grip ring
e. Standard stainless steel threaded rod procedure (5/8" threaded rod anchor eye bolt, Duc-Lug, etc).

*As manufactured for type of pipe material used.
**NOT TO BE USED ON PVC PIPE

13. Ductile Iron Water Main corporation stop plug shall be brass. Mueller H10033 or approved equal. When tapping PVC a saddle must be used.

14. Temporary and permanent flush pits shall be the Model TF250 or TF500 2" Kilowatt/Flushing hydrant, as manufactured by the Kupferle Foundry Company, St. Louis, Mo., and be located as shown on the plans or as directed by the Engineer. The discharge line shall not include the 45 Degree Bend, but shall otherwise conform to the detail included herein.

VI. DISPOSITION OF UTILITIES:

1. Rules and regulations governing the respective utilities shall be observed in executing all work under this section.

2. It shall be the responsibility of each contractor to verify all existing utilities and conditions pertaining to his phase of the work. It shall also be the contractor's responsibility to contact the owners of the various utilities before work is started. The contractor shall notify in writing the owners and the design engineer of any changes, errors or o…issions found on the plans or in the field before work is started or resumed.

3. Where active utilities are encountered, but not shown on the drawings, the Design Engineer and Utility Inspector shall be advised before work is continued. If in conflict, the Project Engineer in consultation with the respective utility personnel, shall jointly determine a plan of action. The location of such active utilities shall be recorded on the construction record drawings.

4. Existing improvements: The contractor must maintain in operating condition, all active utilities, sewers and other pipe or cable systems that may be encountered.

5. Inactive and abandoned utilities encountered in excavating and grading operations shall be reported to the Design Engineer and the Utility Inspector. They shall be removed, plugged or capped as directed by the Utility Inspector and recorded on the construction record drawings.

VII. PROTECTION OF TREES:

1. General Protection: The Contractor shall be responsible for the protection of tops, trunks and roots of existing trees on the project site that are to remain. Existing trees subject to construction damage shall be boxed, fenced or otherwise protected before any work is started. Excavated materials shall not be piled within drip line of trees to be saved. Remove interfering branches by cutting without injuring trunks and cover scars with tree wound dressing.

VIII. BENCHMARKS, SURVEY MONUMENTS AND CONSTRUCTION STAKES:

1. Contractors shall be responsible for maintaining all benchmarks, survey monuments, construction stakes and other reference points within the construction limits of his particular contract. If disturbed or destroyed, the contractor shall be responsible for their replacement by the Design Engineer/Production Staking Engineer.

IX. TESTING:

1. The Contractor shall test, chlorinate, and sample all new water mains. LU will charge and flush mains and must be present while all testing is being performed. LU will transport bacteriological samples to laboratory of LU choice. The time and materials for the above plus laboratory testing are to be charged to contractor. The contractor shall pay a $250 fee for each hydrostatistic failure retest by the City, and pay any fees charged for hydrants' usage for excessive water flushing operations.

2. After City, or its agent, has charged the system, contractor shall hydrostatic test the entire system within 3 working days under the direct supervision of an authorized inspector. If test results are satisfactory, the inspector shall certify the test results.

3. If hydrostatic test fail to pass, contractor shall make all necessary repairs within 3 working days.

4. No water tap permits are to be issued for taps onto the new system until both water and sanitary lines have been tested and accepted by the City of Lawrence Utility Service Board.

5. Authorized personnel only are allowed to open or close valves, hydrants and flushing mechanisms.

X. Lawrence Utilities and its employees, are the sole agent authorized to act on behalf of the City of Lawrence in operations and maintenance matters pertaining to the City of Lawrence Water System.

TYPICAL SANITARY SEWER SPECIFICATIONS

1. Current Lawrence Utilities, County and State specifications shall prevail as to materials and methods of construction.

2. Contractor shall notify the Lawrence Utilities inspector a minimum of 48 hours prior to commencement of sanitary sewer construction. Any sanitary sewer placed without said notification may be subject to removal and reconstruction if deemed appropriate by the City of Lawrence.

3. No sanitary sewer construction shall begin until written approval of construction plans is received from Lawrence Utilities and any required IDEM permits have been received.

4. Sanitary sewer material and installation shall be in direct accordance with the Indiana State Board of Health requirements and the Lawrence Utilities Standards for the design and construction of sanitary sewers, as dated on June 15, 2010 or as periodically updated.

5. Sanitary sewers shown on the construction plans may be Poly-Vinyl Chloride Pipe in accordance with A.S.T.M. 3034 (With Cell Classification of 12454-B or 12454-C) for diameters 15" or less; and A.S.T.M. F-679 (With Cell Classification of 12454-C) for pipe diameters greater than 15".

6. Sanitary manholes shall be precast concrete in accordance with A.S.T.M C-478, including concrete adjusting rings. Infra-Riser brand adjusting rings may be used with the approval of the Utility Inspector.

7. All fittings and joints shall be compression type flexible gasketed joints and manufactured and installed in accordance with the pipe manufacturer's specifications.

8. Plastic sanitary sewers shall be marked as required by Lawrence Utilities specifications for easy identification.

9. Water and sewer line crossings and separations shall be in accordance with Ten States Standards and Lawrence Utilities Specifications.

a. Where water lines and sewer lines cross and the water line cannot be placed above the sewer line a minimum of 18" with a minimum cover of 48", the sewer line shall be constructed of waterworks grade pipe, either cast iron or PVC.

b. Where water lines and sanitary lines run parallel with one another, a minimum of 10' horizontal separation shall be maintained.

10. Buildings shall be serviced by a 6" diameter (minimum) sanitary sewer lateral, 4.5' to 6.5' deep. The sewer lateral's termination shall be indicated on the surface with a post set immediately above said termination point. The ends shall be plugged and sealed with a watertight plastic plug or cap. Wyes are to be tilted up to 45 degrees from the horizontal, with suitable fittings for all changes in direction and to be identified with locator tape.

11. Manufactured wyes or tees shall be used for lateral connections on new main.

12. No roof drains, footing drains, and/or surface water drains shall be connected to the sanitary sewer system at any time, including a temporary connection during construction.

13. When new connections are made to existing manholes, the existing manhole shall be brought up to the current standards and specifications, which may include the replacement of the manhole.

14. Manholes shall have o-ring gasket, plus 1/2" extrudable gasket (Kwic Seal or equal) between all riser and cone sections. All outside joints shall be sealed with trowelable butyl rubber.

15. Manhole watertaps shall be installed at all connections to manholes where flexible type manhole connections are not used.

16. All precast manholes shall be bedded on a granular foundation. The granular foundation shall be compacted with vibratory tamps.

17. The manhole, free channel to U-shaped, with the benchwalls extending to an elevation EVEN with the crown of the pipe.

18. The contractor shall remove by pumping or other suitable methods any water, which may accumulate in trenches.

19. Granular backfill shall be required under all pavement areas and within 3 feet of the edge of pavement and shall be compacted in accordance with the INDOT specifications.

20. Magnetic sewer location tape to be installed in the trench for all main line sewer and service laterals. Force mains shall be equipped with a 10 gauge insulated locating wire attached every 10 feet with nylon wire or duct tape.

21. The contractor shall furnish to the owner certified infiltration tests showing that the leakage outward or inward (exfiltration or infiltration), by an air test (ASTM C252 procedure) shall not exceed 100 gallons per inch of pipe diameter per mile per day and shall not exceed 200 gallons per inch of pipe diameter per mile per day as required for acceptance of sewers by the City of Lawrence Utility Services Board. Any portions not passing said tests for infiltration shall be repaired or replaced at contractor's expense prior to acceptance. Lawrence Utilities personnel shall be present to observe both air test and mandrel test.

22. Inspection by video camera is required prior to acceptance. Developer or Contractor is responsible for production and delivery of CD-ROM and DVD for all sanitary sewers. Review of the video by the Utility is required for acceptance.

23. Sewer laterals shall have a minimum 1.0% slope. Lateral ends are to be laid buried between 8 and 8 feet below finished grade.

24. Sanitary sewer pipes shall not be installed at slopes less than that established by the "TEN STATES STANDARDS", most recent edition.

25. DEFLECTION TESTING For PVC sewer (non-lateral) pipe, the entire length shall be tested for acceptance with an approved go-no go mandrel under the observation of the Utility Inspector. The testing shall be conducted after the final backfill has been in place for at least 30 days (potentially longer depending on weather conditions and at the Utility inspector's discretion) and all subsurface utilities have been installed. No pipe shall exceed a deflection of 5%. The deflection test shall be run using a mandrel having a diameter equal to 95% of the inside diameter of the pipe. The test shall be performed without a mechanical pulling device. All pipe exceeding the allowable deflection shall be replaced or repaired, at Engineer's discretion, and retested.

26. Manhole coatings shall be sealed to the manhole core section utilizing the "MFI-SHIELD" external sealing system or other approved method or product. Sealing material shall extend from 1 inches below the top of the cone section to 2 inches above the bottom of the casting. Sealing with a trowelable butyl rubber around of outside joints is required and may be done around the casting with the approval of the Utility Inspector.

27. All manholes shall be tested by the Negative Air Pressure (Vacuum) Test. Test shall be performed in accordance with ASTM C 1244-93.

28. Piping not within 2 feet of wet well and valve pit shall be of Pressure Class 350 Ductile Flanged Iron Pipe or Lawrence Utilities approved equal.

29. Piping in and within 2 feet of the wet well and valve pit shall be of Pressure Class 350 Flanged Ductile Iron Pipe.

30. New Sanitary Sewer Construction: The contractor shall provide the Engineer with "as-built" locations and information for all sanitary sewers and laterals including elevations to be checked and verified by a registered land surveyor or professional engineer within 30 days after completion. The contractor shall record the dimension of each lateral connection from the nearest manhole measured along the sanitary sewer. The lateral dimensions and any other construction changes are to be incorporated on "marked" original construction drawings. In addition, the contractor shall provide an electronic version of "as-builts" with GPS coordinates per the requirements in note #16 of the Typical Watermain Details and Specifications.

SANITARY SEWER & WATER MAIN SPECS	
CITY OF LAWRENCE UTILITIES	
9201 HARRISON PARK CT., LAWRENCE, INDIANA 46216	
RECOMMENDED BY: _____ UTILITY SUPERINTENDENT DATE	SHEET
APPROVED BY CITY OF LAWRENCE UTILITY SERVICES BOARD APPROVED BY: _____ DATE	7 OF 7
REV. 12/30/2010	

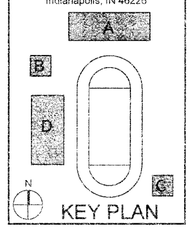
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No: 2015-121.LCS
Project Date: 04-18-2016
Produced: JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date
A2	ADDENDUM 2	5.6.2016

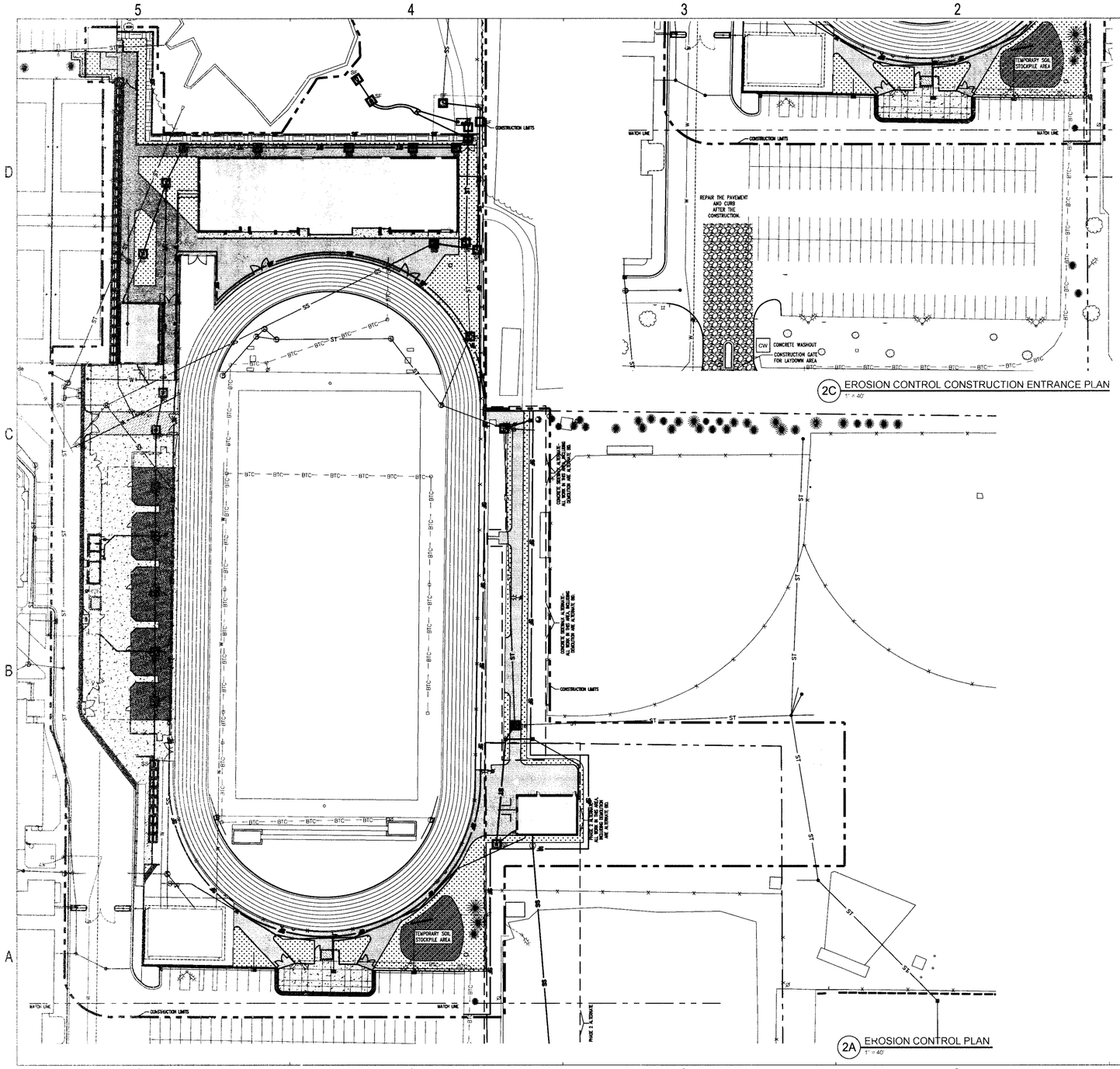
7300 E 56th Street
Indianapolis, IN 46226



MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

CITY STANDARD DETAILS
A2
CU512



2C EROSION CONTROL CONSTRUCTION ENTRANCE PLAN
1" = 40'

2A EROSION CONTROL PLAN
1" = 40'

LAYOUT NOTES

1. CONTRACTOR'S DEOSION TO HOLD ON SEEDING WITHIN 75' FROM BUILDING UNTIL CONSTRUCTION PHASE WORK IS COMPLETE.
2. FOR PERMANENT SEEDING SEE LANDSCAPE SPECIFICATIONS.
3. ADDITIONAL EROSION CONTROL MEASURE MAY BE REQUIRED IN THE FIELD BY THE INSPECTOR.
4. CONSTRUCTION ENTRANCE MAINTENANCE INCLUDES BUT NOT LIMITED DAILY SWEEPING, TRUCK WHEEL WASH, ETC.
5. PROVIDE INLET PROTECTION TO ALL INLETS.

EROSION CONTROL LEGEND

- SILT SACK INLET PROTECTION, SEE DETAIL 3A/CE502
- SILT FENCE INLET PROTECTION, SEE DETAIL 2D/CE502
- CONSTRUCTION ENTRANCE, SEE DETAIL 1A/CE502
- TEMPORARY AND PERMANENT SEEDING/LANDSCAPING. SEE SPECIFICATIONS
- EROSION CONTROL BLANKET, SEE DETAIL 1C/CE502
- CONSTRUCTION LIMITS LINE
- SILT FENCE, SEE DETAIL 2A/CE502

OWNER CONTACT INFO:

RODGER SMITH
LAWRENCE TOWNSHIP, M.S.D.
6501 SUNNYSIDE ROAD
INDIANAPOLIS, IN 46236
371-423-7572

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NO
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#	Revision	Date

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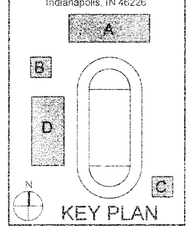

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

EROSION CONTROL PLAN

CE101

5 | 4 | 3 | 2 | 1

RULE 5 CHECKLIST INFORMATION
CONSTRUCTION PLAN ELEMENTS

A1. INDEX SHOWING LOCATIONS OF REQUIRED PLAN ELEMENTS:
SEE SHEET C-001, CE101.

A2. 11x17 INCH PLAT SHOWING BUILDING LOT NUMBERS/BOUNDARIES AND ROAD LAYOUT/NAMES:
PROVIDED - SEE ATTACHED SURVEY (9 SHEETS).

A3. NARRATIVE DESCRIBING THE NATURE AND PURPOSE OF THE PROJECT:
THE PROJECT IS LOCATED AT 7300 E 56TH STREET, INDIANAPOLIS, INDIANA 46226. THE PROJECT CONSISTS OF DEMOLITION OF THE EXISTING STADIUM BLEACHERS AND ASSOCIATED SITE IMPROVEMENTS AND UTILITIES, AND THE CONSTRUCTION OF AN END ZONE BUILDING, NEW BLEACHERS, TWO CONCESSION/RESTROOM BUILDINGS, UTILITY INFRASTRUCTURE, AND LANDSCAPING.

A4. VICINITY MAP SHOWING PROJECT LOCATION:
SEE SHEET G-001, C-001.

A5. SEE ATTACHED ALTA SURVEY FOR LEGAL DESCRIPTION.
SITE IS LOCATED IN THE SW QUARTER OF SECTION 1, TOWNSHIP 16 NORTH, RANGE 4 EAST, IN THE CITY OF INDIANAPOLIS, LAWRENCE TOWNSHIP, MARION COUNTY, INDIANA. LATITUDE: 39° 51' 24" N; LONGITUDE: 86° 02' 15" W.

A6. LOCATION OF ALL LOTS AND PROPOSED SITE IMPROVEMENTS (ROADS, UTILITIES, STRUCTURES, ETC.):
SHEET C-001, CL101, CU101.

A7. HYDROLOGIC UNIT CODE (14 DIGIT):
05120201110050 - FALL CREEK.

A8. NOTATION OF ANY STATE OR FEDERAL WATER QUALITY PERMITS:
RULE 5.

A9. SPECIFIC POINTS WHERE STORM WATER DISCHARGE WILL LEAVE THE SITE:
STORMWATER DISCHARGE WILL DISCHARGE TO A NEW DRY DETENTION BASIN THEN TO AN EXISTING RETENTION POND AND INTO FALL CREEK.

A10. LOCATION AND NAME OF ALL WETLANDS, LAKES AND WATER COURSES ON AND ADJACENT TO THE SITE:
(1) PUBG FESHWATER POND-ADJACENT TO SITE.

A11. IDENTIFICATION OF ALL RECEIVING WATERS:
FALL CREEK.

A12. IDENTIFICATION OF POTENTIAL DISCHARGES TO GROUND WATER (ABANDONED WELLS, SINKHOLES, ETC.):
NONE.

A13. 100 YEAR FLOODPLAINS, FLOODWAYS AND FLOODWAY FRINGES:
NONE

A14. PRE-CONSTRUCTION AND POST-CONSTRUCTION ESTIMATE OF PEAK DISCHARGE (10-YEAR STORM EVENT, DISCHARGE FROM DETENTION POND):
10 YEAR PRE-CONSTRUCTION STORM (COMBINED) - 5.538 cfs
10 YEAR POST-CONSTRUCTION STORM (COMBINED) - 2.730 cfs

A15. ADJACENT LAND USE, INCLUDING UPSTREAM WATERSHED:
RESIDENTIAL NEIGHBORHOOD.

A16. LOCATIONS AND APPROXIMATE BOUNDARIES OF ALL DISTURBED AREAS (CONSTRUCTION LIMITS):
SEE SHEET CD101, CE101.

A17. IDENTIFICATION OF ALL EXISTING VEGETATIVE COVER:
SEE SITE PLAN.

A18. SOILS MAP INCLUDING SOIL DESCRIPTIONS AND LIMITATIONS:
SEE SHEET CE502.

A19. LOCATIONS, SIZE AND DIMENSIONS OF PROPOSED STORMWATER SYSTEMS (PIPES, SWALES, CHANNELS, ETC):
SEE SHEET CG101 AND CU101.

A20. PLANS FOR ANY OFF-SITE CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS PROJECT (SEWER/WATER TIE-INS):
NONE

A21. LOCATIONS OF PROPOSED SOIL STOCKPILES AND/OR BORROW/DISPOSAL AREAS:
SEE SHEET CE101. STOCKPILES SHALL NOT BE LOCATED CLOSER THAN 15 FEET FROM ANY PROPERTY LINE. STOCKPILES SHALL BE IMMEDIATELY SEEDED AND SECURED WITH SILT FENCE.

A22. EXISTING SITE TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS:
SEE SITE PLAN.

A23. PROPOSED FINAL TOPOGRAPHY AT AN INTERVAL APPROPRIATE TO INDICATE DRAINAGE PATTERNS:
SEE SHEET CG101.

STORMWATER POLLUTION PREVENTION PLAN

B1. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES:
SILT AND SEDIMENT FROM EXPOSED SOILS, LEAVES, MULCH, VEHICULAR SOURCES SUCH AS LEAKING FUEL OR OIL, BRAKE FLUID, BRAKE DUST, TRASH, DEBRIS, BIOLOGICAL AGENTS FOUND IN TRASH, FERTILIZERS, HERBICIDES, PESTICIDES, ACID RAIN, LIME DUST AND CONCRETE WASHOUT.

B2. SEQUENCE DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION RELATIVE TO LAND DISTURBING ACTIVITIES:
SEE GENERAL EROSION CONTROL NOTES SHEET C100, AND SHEET CE501-502.

PRECONSTRUCTION ACTIVITIES:
1. CALL INDIANA811 ("CALL BEFORE YOU DIG") AT 811 OR 1-800-382-5544 TO CHECK THE LOCATION OF ANY EXISTING UTILITIES. THEY SHOULD BE NOTIFIED TWO WORKING DAYS BEFORE CONSTRUCTION TAKES PLACE.
2. AN ORANGE CONSTRUCTION FENCE SHALL BE CONSTRUCTED ALONG THE PERIMETER OF THE TREE PRESERVATION AREAS PRIOR TO ANY EARTH MOVING.
3. A SILT FENCE SHALL BE INSTALLED AT THE EDGES OF THE PROJECT SITE WHERE THERE IS POTENTIAL FOR ANY STORMWATER RUNOFF. POTENTIAL AREAS ARE IDENTIFIED BASED ON EXISTING TOPOGRAPHY IN THE AREAS ALONG THE SOUTHERN AND EASTERN BOUNDARY OF THE SITE AS SHOWN ON PLANS.
4. INLET PROTECTION SHALL BE PLACED AT THE CURB INLET SOUTHEAST OF THE SITE, ON MIDLAND LANE.
5. EVALUATE, MARK AND PROTECT IMPORTANT TREES AND ASSOCIATED ROOT ZONES. EVALUATE EXISTING VEGETATION SUITABLE FOR USE AS FILTER STRIPS ALONG THE NORTH, SOUTH, EAST AND WEST BOUNDARIES.
6. MAINTAIN A 10' MINIMUM GROSS FILTER STRIP PER PLAN LOCATION
7. A CONSTRUCTION ENTRANCE SHALL BE PLACED PER THE PLAN LOCATION
8. ESTABLISH CONSTRUCTION STAGING AREA FOR EQUIPMENT AND VEHICLES AS FAR FROM DETENTION PONDS AND SWALES AS POSSIBLE.
9. ESTABLISH ONSITE LOCATION FOR OWNER/OPERATOR/CONTRACTOR PLACEMENT OF APPROVED PLANS AND RULE 5 NOI AND RULE 5 INSPECTION DOCUMENTATION.

CONSTRUCTION ACTIVITIES:
1. ONCE EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE, BEGIN LAND CLEARING FOLLOWED IMMEDIATELY BY ROUGH GRADING. DO NOT LEAVE LARGE AREAS UNPROTECTED FOR MORE THAN 15 DAYS. RULE 5 REQUIRES THAT ALL DISTURBED AREAS THAT POTENTIALLY WILL BE IDLE FOR 15 DAYS OR MORE WILL BE STABILIZED (SEEDED, MULCHED, ETC..) IMMEDIATELY.
2. AFTER COMPLETION OF MASS GRADING, FINAL GRADE AND SEED POND BANKS, LANDSCAPE BERMS, COMMON AREAS AND SWALES IMMEDIATELY AFTER GRADING IS COMPLETE.
3. UPON COMPLETION OF MASS GRADING, INSTALL SANITARY AND STORM SEWERS. AS STORM SEWERS ARE CONSTRUCTED, INSTALL INLET PROTECTION MEASURES. INSTALL RIPRAP UPON COMPLETION OF END SECTION INSTALLATION.
4. UPON COMPLETION OF SEWER INSTALLATION AND INLET PROTECTION, PROCEED WITH STREET CONSTRUCTION.
5. LINING OF STREETS SHOULD BE DONE PRIOR TO THE INSTALLATION OF STORM SEWERS TO PREVENT THE TRANSMISSION OF LIME DUST TO PONDS OR RECEIVING WATERS.
6. ONCE PAVEMENT AND CURBS ARE IN PLACE, INSTALL CURB INLET SEDIMENT BARRIERS.
7. ONCE INLET PROTECTION IS IN PLACE, FINAL GRADE ALL AREAS. UPON COMPLETION OF ALL GRADING, VERIFY DEPTH OF POND PER PLAN REQUIREMENT, DREDGE AS NEEDED.

B3. STABLE CONSTRUCTION ENTRANCE LOCATIONS AND SPECIFICATIONS (AT ALL POINTS OF INGRESS AND EGRESS): ENTRY WILL BE FROM CAMPUS DRIVE. SEE SHEETS CE101, CE501, CE502.

B4. SEDIMENT CONTROL MEASURES FOR SHEET FLOW AREAS:
SEE SHEETS CE101, CE501, CE502.

B5. SEDIMENT CONTROL MEASURES FOR CONCENTRATED FLOW AREAS:
SEE SHEETS CE101, CE501, CE502.

B6. STORM SEWER INLET PROTECTION MEASURE LOCATIONS AND SPECIFICATIONS:
SEE SHEETS CE101, CE501, CE502.

B7. RUNOFF CONTROL MEASURES (E.G. DIVERSIONS, ROCK CHECK DAMS, SLOPE DRAINS, ETC.):
NONE.

B8. STORM WATER OUTLET PROTECTION SPECIFICATIONS:
REDUCED CURVE NUMBER AND INCREASED TIME OF CONCENTRATION EXTENDS TIME TO PEAK AND REDUCES STORM VOLUME.

B9. GRADE STABILIZATION STRUCTURE LOCATIONS AND SPECIFICATIONS:
NONE.

B10. LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE:
SEE SHEETS CE101, CE501, CE502.

B11. TEMPORARY SURFACE STABILIZATION METHODS APPROPRIATE FOR EACH SEASON (INCLUDE SEQUENCING):
SEE SHEETS CE101, CE501, CE502.

B12. PERMANENT SURFACE STABILIZATION SPECIFICATIONS (INCLUDE SEQUENCING):
SEE SHEETS CE101, CE501, CE502, LP101, SPECIFICATIONS.

B13. DESCRIPTION OF POTENTIAL POLLUTANT SOURCES ASSOCIATED WITH CONSTRUCTION ACTIVITIES:
MATERIAL HANDLING AND SPILL PREVENTION PLAN:
THE POTENTIAL FOR POLLUTANTS INTO THE SITE FROM CONSTRUCTION ACTIVITIES ARE EXPOSED SOILS, EQUIPMENT FUEL, LUBRICANTS AND CONSTRUCTION MATERIALS SUCH AS CONCRETE, ASPHALT AND CONSTRUCTION DEBRIS OR TRASH. TO MINIMIZE POLLUTANTS INTO THE STORM WATER, THE CONTRACTOR SHALL MAINTAIN SOIL EROSION CONTROLS AS SHOWN ON THE PLAN, INCLUDING TEMPORARY SEEDING AS REQUIRED. IN ADDITION, THE CONTRACTOR SHALL MAINTAIN PROPER INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT REGULATIONS FOR FUEL AND LUBRACANT STORAGE. ALL FUELING AND LUBRICATION OF EQUIPMENT SHALL BE DONE AT A MINIMUM OF 50 FEET FROM ANY STORM INLET OR DRAINAGE SWALE.

SPILL CLEAN-UP:
IF ANY SPILL EXCEEDS THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT LEVELS, THE CONTRACTOR SHALL ENGAGE A QUALIFIED ENVIRONMENTAL CLEAN UP CONTRACTOR TO DISPOSE OF CONTAMINATED AREAS AS REQUIRED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT. ALL CLEAN OUT OF CONCRETE TRUCKS SHALL ALSO BE DONE A MINIMUM OF 50 FEET FROM ANY STORM INLET, DRAINAGE SWALE OR EXCAVATED POND. ALL CONCRETE CLEAN OUT SHALL BE IN AN EXCAVATED SEDIMENT BASIN AND THE EXCESS MATERIAL REMOVED AFTER ALL CONCRETE MATERIAL INSTALLATION HAS BEEN COMPLETED ON THE SITE.

PURPOSE:
THE INTENTION OF THIS SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) IS TO ESTABLISH THE PROCEDURES AND EQUIPMENT REQUIRED TO PREVENT THE DISCHARGE OF OIL AND HAZARDOUS SUBSTANCES IN QUANTITIES THAT VIOLATE APPLICABLE WATER QUALITY STANDARDS, CAUSE A SHEEN UPON OR DISCOLORATION OF THE SURFACE OF NAVIGABLE WATERS OR ADJOINING SHORELINES, OR CAUSE SLUDGE OR EMULSION TO BE DEPOSITED BENEATH THE SURFACE O THE WATER OR ADJOINING SHORELINES. THE PLAN ALSO ESTABLISHES THE ACTIVITIES REQUIRED TO MITIGATE SUCH DISCHARGES (I.E. COUNTERMEASURES) SHOULD THEY OCCUR.

DEFINITIONS:
POLLUTANT: MEANS POLLUTANT OF ANY KIND OR IN ANY FARM, INCLUDING BUT NOT LIMITED TO SEDIMENT, POINT, CLEANING AGENTS, CONCRETE WASHOUT, PESTICIDES, NUTRIENTS, TRASH, HYDRAULIC FLUIDS, FUEL, OIL, PETROLEUM, FUEL OIL, SLUDGE, OIL REFUSE, AND OIL MIXED WITH WASTES OTHER THAN DREDGED SOIL.
DISCHARGE:
INCLUDES BUT NOT LIMITED TO, ANY SPILLING, LEAKING, PUMPING, POURING, EMITTING, EMPTYING, OR DUMPING.

NAVIGABLE WATERS:
MEANS ALL WATERS OF THE UNITED STATES THAT ARE CONNECTED WITH A NAVIGABLE STREAM, LAKE, OR SEA. [NOTE: THIS DEFINITION IS USUALLY INTERPRETED TO MEAN ANY WASTEWATER (EVEN NORMALLY DRY WASH OR STORM SEWER) THAT EVENTUALLY DRAINS INTO A NAVIGABLE STREAM.]

PLAN REVIEW AND AMENDMENTS:
THIS PLAN SHALL BE REVIEWED AND/OR AMENDED, IF NECESSARY, WHENEVER THERE IS A CHANGE IN THE DESIGN OF THE SITE, CONSTRUCTION, OPERATION, OR MAINTENANCE WHICH MATERIALLY AFFECTS THE SITE'S POTENTIAL FOR THE DISCHARGE OF REGULATED MATERIAL.

PREDICTION OF POTENTIAL SPILLS:
1. NEAREST NAVIGABLE WATER: WHITE RIVER.
2. DRAINAGE SYSTEM: ALL OF THE STORM DRAINAGE LEAVES THE PROJECT SITE BY CLOSED STORM SYSTEM TO AN OPEN DITCH TO HONEY CREEK AND TO THE WHITE RIVER.
3. POSSIBLE SPILL SOURCES (DURING AND POST CONSTRUCTION): VEHICULAR SOURCES SUCH AS LEAKING FUEL OR OIL, BROKE FLUID, GREASE, ANTIFREEZE; CONSTRUCTION TRASH AND DEBRIS, BIOLOGICAL AGENTS FOUND IN TRASH AND DEBRIS, FERTILIZERS, HOUSEHOLD ITEMS INCLUDING BUT NOT LIMITED TO CLEANING AGENTS, CHEMICALS, PAINT, HERBICIDES AND PESTICIDES.
4. GROUNDWATER CONTAMINATION:
THE FACILITY MAINTAINS NO ABOVE GROUND OR UNDER GROUND STORAGE TANKS AT THIS SITE. THEREFORE, IT IS FELT THAT THERE IS LITTLE OR NO POSSIBILITY OF POST CONSTRUCTION GROUNDWATER CONTAMINATION. THE FACILITY DOES HAVE SANITARY SEWER AND CITY WATER.

ALERT PROCEDURES FOR SPILLS:
1. ANY PERSONNEL OBSERVING A SPILL WILL IMMEDIATELY INSTIGATE THE FOLLOWING PROCEDURE:
a. DIALING '0' FROM ANY TELEPHONE.
b. NOTIFY THE APPROPRIATE EMERGENCY PERSONNEL.
2. THE EMERGENCY COORDINATOR WILL THEN TAKE THE FOLLOWING ACTIONS:
c. BARRICADE THE AREA ALLOWING NO VEHICLES TO ENTER OR LEAVE THE SPILL ZONE. NOTIFY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT, OFFICE OF EMERGENCY RESPONSE BY CALLING THE APPROPRIATE TELEPHONE NUMBER:
OFFICE: 317-233-7745
TOLL FREE: 800-233-7745
ALSO THE NATIONAL RESPONSE CENTER AT 800-424-8802 AND PROVIDE THE FOLLOWING INFORMATION:
- TIME OF OBSERVATION OF THE SPILL
- LOCATION OF THE SPILL
- IDENTITY OF MATERIAL SPILLED
- PROBABLE SOURCE OF THE SPILL
- PROBABLE TIME OF THE SPILL
- VOLUME OF THE SPILL AND DURATION
- PRESENT AND ANTICIPATED MOVEMENT OF THE SPILL
- WEATHER CONDITIONS
- PERSONNEL AT THE SCENE
- ACTION INITIATED BY PERSONNEL
d. NOTIFY THE CITY OF GREENWOOD FIRE DEPARTMENT PHONE: 9-1-1
e. NOTIFY THE CITY OF GREENWOOD POLICE DEPARTMENT PHONE: 9-1-1
f. NOTIFY THE JOHNSON COUNTY DIVISION OF HOMELAND SECURITY/EMERGENCY MANAGEMENT PHONE: 317-346-4655.
g. NOTIFY WASTE RECOVERY CONTRACTOR, MAINTENANCE PERSONNEL OR OTHER CONTRACTUAL PERSONNEL AS NECESSARY FOR CLEANUP
h. COORDINATE AND MONITOR CLEANUP UNTIL THE SITUATION HAS BEEN STABILIZED AND ALL SPILLS HAVE BEEN ELIMINATED
i. COOPERATE WITH THE IDEM-OER ON PROCEDURES AND REPORTS INVOLVED WITH THE EVENT

CLEANUP PARAMETERS:
1. THE DEVELOPER/HOMEOWNER ASSOCIATION SHALL BE CONTINUALLY KEPT INFORMED, MAINTAIN LISTS OF QUALIFIED CONTRACTORS AND AVAILABLE VAC-TRUCKS, TANK PUMPERS AND OTHER EQUIPMENT READILY ACCESSIBLE FOR CLEAN-UP OPERATIONS. IN ADDITION, A CONTINUALLY UPDATED LIST OF AVAILABLE ABSORBENT MATERIALS AND CLEAN UP SUPPLIES SHOULD BE KEPT ON SITE.
2. ALL MAINTENANCE PERSONNEL WILL BE MADE AWARE OF TECHNIQUES FOR PREVENTION OF SPILLS. THEY WILL BE INFORMED OF THE REQUIREMENTS AND PROCEDURES OUTLINED IN THIS PLAN. THEY WILL BE KEPT ABREAST OF CURRENT DEVELOPMENTS OR NEW INFORMATION ON THE PREVENTION OF SPILLS AND/OR NECESSARY ALTERATIONS TO THIS PLAN.
3. WHEN SPILLS OCCUR WHICH COULD ENDANGER HUMAN LIFE AND THIS BECOMES PRIMARY CONCERN, THE DISCHARGE OF THE LIFE SAVING PROTECTION FUNCTION WILL BE CARRIED OUT BY THE LOCAL POLICE AND FIRE DEPARTMENTS.
4. ABSORBENT MATERIALS, WHICH ARE USED IN CLEANING UP SPILLED MATERIALS, WILL BE DISPOSED OF IN A MANNER SUBJECT TO THE APPROVAL OF THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.
5. FLUSHING OF SPILLED MATERIAL WITH WATER WILL NOT BE PERMITTED UNLESS SO AUTHORIZED BY THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

B14. MONITORING AND MAINTENANCE GUIDELINES FOR EACH PROPOSED STORMWATER QUALITY MEASURE:

SILT FENCE MAINTENANCE REQUIREMENTS
1. INSPECT THE SILT FENCE PERIODICALLY AND AFTER EACH STORM EVENT
2. IF FENCE FABRIC TEARS, STARTS TO DECOMPOSE OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED PORTION IMMEDIATELY.
3. REMOVE DEPOSITED SEDIMENT WHEN IT REACHES HALF THE HEIGHT OF THE FENCE AT ITS LOWEST POINT OR IS CAUSING THE FABRIC TO BULGE.
4. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT.
5. AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE THE FENCE AND SEDIMENT DEPOSITS, BRING THE DISTURBED AREA TO GRADE AND STABILIZE IT.

TEMPORARY SEDIMENT TRAP MAINTENANCE REQUIREMENTS
1. INSPECT TEMPORARY SEDIMENT TRAPS AFTER EACH STORM EVENT AND IMMEDIATELY REPAIR ANY EROSION AND PIPING HOLES.
2. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH.
3. REPLACE SPILLWAY GRAVEL FACING WHEN CLOGGED.
4. INSPECT VEGETATION AND RE-SEED IF NECESSARY.
5. CHECK THE SPILLWAY DEPTH PERIODICALLY TO INSURE A MINIMUM OF THE 1.5 FT. DEPTH FROM THE LOWEST POINT OF THE SETTLED EMBANKMENT TO THE HIGHEST POINT OF THE SPILLWAY CREST AND FILL ANY LOW AREAS TO MAINTAIN DESIRED ELEVATION.
6. PROMPTLY REPLACE ANY DISPLACED RIP-RAP, BEING CAREFUL THAT NO STONES IN THE SPILLWAY ARE ABOVE DESIGN GRADE.
7. AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED, REMOVE THE STRUCTURE ANDSEDIMENT, SMOOTH THE SITE TO BLEND WITH ADJOINING AREAS AND STABILIZE IT.

SILT SACK INLET BARRIER MAINTENANCE REQUIREMENTS
1. INSPECT FREQUENTLY FOR DAMAGE BY VEHICULAR TRAFFIC AND REPAIR IF NECESSARY.
2. INSPECT AFTER EACH STORM EVENT.
3. REMOVE SEDIMENT, WITHOUT FLUSHING, WHEN IT REACHES HALF THE HEIGHT OF THE BARRIER BY REMOVING AND EMPTYING SEDIMENT BAG.
4. DEPOSIT REMOVED SEDIMENT WHERE IT WILL NOT ENTER STORM SEWER DRAINS.

EROSION CONTROL BLANKET (SURFACE APPLIED) MAINTENANCE REQUIREMENTS
1. DURING VEGETATIVE ESTABLISHMENT, INSPECT AFTER EACH STORM EVENT FOR ANY EROSION BELOW THE BLANKET.
2. IF ANY AREA(S) SHOWS EROSION, PULL BACK THAT PORTION OF THE BLANKET COVERING IT, RESEED THE AREA AND RELAY AND STAPLE THE BLANKET.
3. AFTER VEGETATIVE ESTABLISHMENT CHECK THE TREATED AREA PERIODICALLY.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE MAINTENANCE REQUIREMENTS
1. INSPECT ENTRANCE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER STORM EVENTS OR HEAVY USE.
2. RESHAPE AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOPDRESS WITH CLEAN STONE AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO STREETS BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED IF THE WATER IS CONVEYED INTO A SEDIMENT TRAP OR BASIN.
5. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.

B15. EROSION & SEDIMENT CONTROL SPECIFICATIONS FOR INDIVIDUAL BUILDING LOTS:
PROJECT DOES NOT INVOLVE INDIVIDUAL BUILDING LOTS.

STORMWATER POLLUTION PREVENTION PLAN-
POST CONSTRUCTION COMPONENT

C1. DESCRIPTION OF POLLUTANTS AND THEIR SOURCES ASSOCIATED WITH PROPOSED LAND USE:
EXPECTED POLLUTANTS INCLUDE TRASH FROM LITTERING, GRIT OR SEDIMENT, FLUIDS FROM VEHICLES, AND ELEVATED WATER TEMPERATURES DUE TO CONTACT WITH IMPERVIOUS SURFACE.

C2. SEQUENCING DESCRIBING STORMWATER QUALITY MEASURE IMPLEMENTATION:
WATER QUALITY TREATMENT UNIT (WQTU) AND SECONDARY OIL CONTAINMENT SYSTEM (SOCS) SHALL BE INSTALLED EARLY IN CONSTRUCTION SEQUENCE.
1. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES AS DETAILED IN THE STORMWATER POLLUTION PREVENTION MEASURES MAINTENANCE MANUAL BEGINNING IMMEDIATELY AFTER INSTALLATION AND CONTINUING UNTIL VEGETATION HAS BEEN SUFFICIENTLY ESTABLISHED AND AL CONSTRUCTION ACTIVITY IS COMPLETE.
2. REMOVE ALL INDIVIDUAL INLET PROTECTION, SILT FENCES, ETC. ONLY AFTER SEEDING, LANDSCAPING, MULCHING AND SUFFICIENT VEGETATIVE GROWTH HAS BEEN ESTABLISHED IN EACH AREA TO A POINT WHERE SEDIMENT/POLLUTANTS WILL NOT ENTER THE STORM SEWER SYSTEM.
3. IT IS RECOMMENDED THAT ANY PROPOSED WETLAND AREAS AND PLANTINGS (IF ANY) BE CONSTRUCTED/PLACED AFTER FINAL GRADING AND SUFFICIENT VEGETATIVE GROWTH HAS BEEN ESTABLISHED TO A POINT WHERE SEDIMENT/POLLUTANTS WILL NOT ENTER THE PROPOSED WETLANDS.

C3. DESCRIPTION OF PROPOSED POST CONSTRUCTION STORMWATER MEASURES (INCLUDE A WRITTEN DESCRIPTION OF HOW THESE MEASURES WILL REDUCE DISCHARGE OF EXPECTED POLLUTANTS):
WATER QUALITY TREATMENT UNIT (WQTU) WILL REDUCE DISCHARGE OF EXPECTED POLLUTANTS.
1. REDUCING OR ELIMINATING POST-PROJECT RUNOFF.
2. CONTROLLING SOURCES OF POLLUTANTS.
3. TREATING CONTAMINATED STORM WATER RUNOFF BEFORE DISCHARGING IT INTO THE STORM SEWER SYSTEM OR RECEIVING WATERS.
ADDITIONAL STORM WATER QUALITY MEASURES FOR REDUCING, ELIMINATING OR CONTROLLING POLLUTANTS (SOURCE CONTROLS) INCLUDE:
1. REDUCING RUNOFF OR DIRECT RUNOFF FROM IMPERVIOUS AREAS.
2. VEGETATED STRIPS AND/OR SWALES.
3. PERMANENT EROSION CONTROL SEEDING AND PLANTINGS.
4. PLANTING MULCHING.

IT IS THE INTENT OF THIS PLAN THAT THE IMPLEMENTATION OF THE ABOVE DESCRIBED STORMWATER QUALITY MEASURES BE EXECUTED IN ACCORDANCE WITH THE CONSTRUCTION PLANS, SPECIFICATIONS AND DETAILS IN ORDER TO MEET THE REQUIREMENTS OF RULE 5 STORM WATER QUALITY.

C4. LOCATION, DIMENSIONS, SPECIFICATIONS, AND CONSTRUCTION DETAILS OF EACH STORMWATER QUALITY MEASURE:
SEE SHEET CU101, CU501 CU502, CE101-CE104.

C5. DESCRIPTION OF MAINTENANCE GUIDELINES FOR POST CONSTRUCTION STORMWATER QUALITY MEASURE:

PERIODIC VACUUMING AND JETTING OF THE STORM SYSTEM.

MAINTENANCE PROCEDURES

1. OWNER IS RESPONSIBLE FOR THE ROUTING MAINTENANCE AND REPAIR OF ALL POST CONSTRUCTION BMPS.
2. MAINTENANCE EVENTS MAY INCLUDE INSPECTION, OIL & FLOATABLES REMOVAL, AND SEDIMENT REMOVAL.
3. THE VACUUM SERVICE INDUSTRY IS A WELL-ESTABLISHED SECTOR OF THE SERVICE INDUSTRY THAT CLEANS UNDERGROUND TANKS, SEWERS AND CATCH BASINS. COSTS TO CLEAN A WQTU OR SOCS WILL VARY BASED ON THE SIZE OF UNIT AND TRANSPORTATION DISTANCES.

MAINTENANCE SCHEDULE

1. INSPECT THE STORM SYSTEM EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. THEREAFTER, ANNUAL INSPECTION IS REQUIRED BUT FREQUENCY WILL VARY WITH THE AMOUNT OF POLLUTION ON THE SITE (NUMBER OF HYDROCARBON SPILLS, AMOUNT OF SEDIMENT, ETC.). IT IS RECOMMENDED THAT THE FREQUENCY OF MAINTENANCE BE INCREASED OR REDUCED BASED ON LOCAL CONDITIONS. IF THE SEDIMENT LOAD IS HIGH, MAINTENANCE MAY BE REQUIRED SEMI-ANNUALLY. CONVERSELY ONCE THE SITE HAS STABILIZED, MAINTENANCE MAY BE REQUIRED LESS FREQUENTLY. MAINTENANCE SHOULD BE PERFORMED IMMEDIATELY AFTER AN OIL SPILL OR ONCE THE SEDIMENT DEPTH IN STORM SYSTEM REACHES THE VALUE SPECIFIED BELOW BASED ON THE UNIT SIZE.
2. SEDIMENT DEPTH INDICATING REQUIRED MAINTENANCE: > 24 INCHES.

IN THE EVENT OF AN OIL SPILL

THE STORM SYSTEM IS NOT DESIGNED TO CONTAIN A CATASTROPHIC SPILL OF OIL, THE STORM SYSTEM IS DESIGNED TO CONTAIN SMALLER QUANTITIES OF OIL FROM THROUGHOUT THE SITE OVER LONGER PERIODS OF TIME. IN THE EVENT OF A CATASTROPHIC SPILL, THE STORM SYSTEM SHOULD BE CLEANED IMMEDIATELY AFTER A SPILL OCCURS BY A LICENSED LIQUID WASTE HAULER. ALSO NOTIFY THE APPROPRIATE REGULATORY AGENCIES AS REQUIRED IN THE EVENT OF A SPILL AS INDICATED ABOVE.

DISPOSAL OF THE TRAPPED MATERIAL REMOVED FROM STORM SYSTEM

1. THE REQUIREMENTS FOR THE DISPOSAL OF MATERIAL FROM THE STORM SYSTEM ARE SIMILAR TO THAT OF ANY OTHER BEST MANAGEMENT PRACTICES (BMP). LOCAL GUIDELINES SHOULD BE CONSULTED PRIOR TO DISPOSAL OF THE SEPARATOR CONTENTS.
2. IN MOST AREAS THE SEDIMENT, ONCE DEWATERED, CAN BE DISPOSED OF IN A SANITARY LANDFILL. IT IS NOT ANTICIPATED THAT THE SEDIMENT WOULD BE CLASSIFIED AS HAZARDOUS WASTE. IN SOME AREAS, MIXING THE WATER WITH THE SEDIMENT WILL CREATE A SLURRY THAT CAN BE DISCHARGED INTO A TRUNK SANITARY SEWER. IN ALL DISPOSAL OPTIONS, APPROVAL FROM THE DISPOSAL FACILITY OPERATOR/AGENCY IS REQUIRED. PETROLEUM WASTE PRODUCTS COLLECTED IN STORMCEPTOR (OIL/CHEMICAL/FUEL SPILLS) SHOULD BE REMOVED BY A LICENSED WASTE MANAGEMENT COMPANY.

OBSERVATION OF OIL RAINBOW OR SHEEN AT THE WQTU OUTLET

WITH A STEADY INFLUX OF WATER WITH HIGH CONCENTRATIONS OF OIL, A SHEEN MAY BE NOTICEABLE AT THE STORM SYSTEM OUTLET. THIS MAY OCCUR BECAUSE A RAINBOW OR SHEEN CAN BE SEEN AT VERY SMALL OIL CONCENTRATIONS (< 10 PPM). THE STORM SYSTEM WILL REMOVE OVER 95% OF ALL FREE OIL AND THE APPEARANCE OF A SHEEN AT THE OUTLET WITH HIGH INFLUENT OIL CONCENTRATIONS DOES NOT MEAN THAT THE UNIT IS NOT WORKING TO THIS LEVEL OF REMOVAL. IN ADDITION, IF THE INFLUENT OIL IS EMULSIFIED, THE STORM SYSTEM WILL NOT BE ABLE TO REMOVE IT. THE STORM SYSTEM IS DESIGNED FOR FREE OIL REMOVAL AND NOT EMULSIFIED OR DISSOLVED OIL CONDITIONS.

CONTROL MEASURE	MAINTENANCE	INSTALLATION SEQUENCE
STONE ENTRANCE	INSPECT WEEKLY, AFTER STORM EVENTS, AND AFTER HEAVY USE; RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL; TOP-DRESS WITH CLEAN STONE AS NEEDED; REMOVE ALL MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS IMMEDIATELY.	PRIOR TO CLEARING AND GRADING
SILT FENCE	INSPECT AFTER STORM EVENTS; REPAIR ANY AREAS OF DECOMPOSITION OR DAMAGE TO FENCE MATERIAL; REMOVE SEDIMENT AT DEPTH OF ONE HALF FENCE HEIGHT AT LOWEST POINT OR IF FABRIC BULGES; AVOID UNDERMINING DURING CLEAN-OUT.	PRIOR TO CLEARING AND GRADING
EXISTING INLET PROTECTION	WEEKLY, AFTER STORM EVENTS, AND AS NEEDED.	PRIOR TO CLEARING AND GRADING
TEMPORARY TOPSOIL STOCKPILE	DETERMINE DEPTH AND SUITABILITY OF TOPSOIL AT THE SITE. (FOR HELP, CONTACT YOUR LOCAL SWCD OFFICE TO OBTAIN A COUNTY SOIL SURVEY REPORT OR CONSULT WITH A SOIL SCIENTIST.) PRIOR TO STRIPPING TOPSOIL, INSTALL ANY SITE-SPECIFIC DOWN SLOPE PRACTICES NEEDED TO CONTROL RUNOFF AND SEDIMENTATION. REMOVE THE SOIL MATERIAL NO DEEPER THAN WHAT THE COUNTY SOIL SURVEY STOCKPILE THE MATERIAL IN ACCESSIBLE LOCATIONS THAT NEITHER INTERFERE WITH FENCES, STRAW BALES, OR OTHER BARRIERS TO TRAP SEDIMENT (SEE EXHIBIT 3.02-B). (SEVERAL SMALL PILES AROUND THE CONSTRUCTION SITE ARE USUALLY MORE EFFICIENT AND EASIER TO CONTAIN THAN ONE LARGE PILE.) IF SOIL IS STOCKPILED FOR MORE THAN 6 MO., IT SHOULD BE TEMPORARILY SEEDED OR COVERED WITH A TARP OR SURROUNDED BY A SEDIMENT BARRIER.	PRIOR TO CLEARING AND GRADING
TEMPORARY SEEDING	INSPECT PERIODICALLY TO VERIFY ADEQUATE ESTABLISHMENT OF VEGETATIVE STANDS; RESEED AND MULCH AS NEEDED; INSPECT AFTER STORM EVENTS AND REPAIR EROSION DAMAGE; TOP-DRESS FALL SEEDED WHEAT OR RYE SEEDINGS WITH 50 LBS/AC OR NITROGEN IN FEBRUARY OR MARCH IF NITROGEN DEFICIENCY IS APPARENT; WATER AS NEEDED.	AFTER ROUGH GRADING
PERMANENT SEEDING	INSPECT PERIODICALLY AND AFTER STORM EVENTS UNTIL VEGETATIVE STAND IS ESTABLISHED; ADD FERTILIZER AFTER GROWING SEASON PER SOIL TEST RECOMMENDATIONS; REPAIR DAMAGED, BARE, OR SPARSE AREAS BY FILLING, PREPARING THE SEED BED, FERTILIZING, AND/OR SEEDING AND MULCHING.	AFTER FINISH GRADING OF EACH AREA
EROSION CONTROL BLANKET	INSPECT FOR AREAS OF EROSION BELOW THE BLANKET AFTER EACH STORM EVENT; REPAIR AREAS OF EROSION BY REMOVING AFFECTED PORTION OF BLANKET, ADD SOIL, RESEED, RELAY AND STAPLE BLANKET; INSPECT PERIODICALLY AFTER VEGETATION IS ESTABLISHED.	AFTER FINISH GRADING
INLET PROTECTION	INSPECT FABRIC BARRIER AFTER STORM EVENTS AND MAKE NEEDED REPAIRS IMMEDIATELY; REMOVE SEDIMENT FROM THE POOL AREA WHILE AVOIDING DAMAGING OR UNDERCUTTING THE FABRIC.	AFTER EACH INLET IS PLACED
SEED, SOD & LANDSCAPE	KEEP SOD MOIST UNTIL FULLY ROOTED; WATER AS NEEDED.	AFTER FINISHED GRADING
REMOVAL OF INLET PROTECTION	N/A	AFTER ALL TRIBUTARY AREAS ARE STABILIZED
REMOVAL OF SILT FENCE	N/A	AFTER ALL TRIBUTARY AREAS ARE STABILIZED

NOTE: EROSION CONTROL MAINTENANCE MEASURES ARE FOR A GUIDELINE ONLY. ALL EROSION CONTROL MAINTENANCE SHALL MEET OR EXCEED IDEM REGULATIONS & GUIDANCE.

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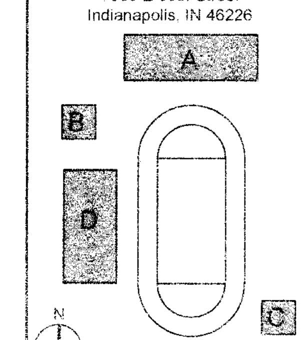
Produced JLS

LIMING ZHANG REGISTERED NO. LA20200126 STATE OF INDIANA LANDSCAPE ARCHITECT

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226



KEY PLAN

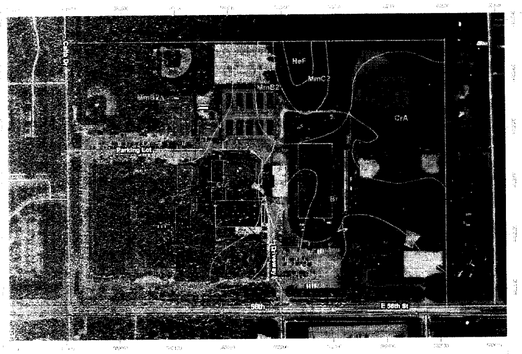
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

EROSION CONTROL NOTES AND DETAILS

CE501

Custom Soil Resource Report
Soil Map



Map Unit Legend

Marion County, Indiana (IN097)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Br	Brookston silty clay loam, 0 to 2 percent slopes	9.1	16.2%
CrA	Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes	31.4	55.8%
Hef	Hennepin loam, 25 to 50 percent slopes	0.6	1.0%
MmB2	Miami silt loam, 2 to 6 percent slopes, eroded	13.9	24.8%
MmC2	Miami silt loam, 6 to 12 percent slopes, eroded	1.2	2.2%
Totals for Area of Interest		56.3	100.0%

5B SITE SOILS MAP
NOT TO SCALE

Marion County, Indiana

Br—Brookston silty clay loam, 0 to 2 percent slopes

Map Unit Setting
National map unit number: 2hbwx
Elevation: 600 to 1,000 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free season: 140 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Brookston and similar soils: 90 percent
Minor components: Included
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brookston
Setting
Landform: Depressions, till plains
Landform position (three-dimensional): Footslope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Loamy till derived from limestone

Typical profile
Ap - 0 to 10 inches: silty clay loam
Btg1 - 10 to 22 inches: silty clay loam
Btg2 - 22 to 60 inches: loam
C - 60 to 80 inches: loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: High (about 10.1 inches)
Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D

Minor Components
Crosby
Percent of map unit: 5 percent
Landform: Till plains
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Backslope, shoulder
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile
Ap - 0 to 10 inches: silt loam
Bt1 - 10 to 22 inches: silty clay loam
Bt2 - 22 to 29 inches: silty clay loam
2Btg - 29 to 60 inches: loam
2C - 60 to 80 inches: loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D

Minor Components
Hennepin
Percent of map unit: 5 percent
Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile
A - 0 to 7 inches: loam
E - 7 to 11 inches: loam
Bt - 11 to 60 inches: loam

Properties and qualities
Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Minor Components
Rainsville, eroded
Percent of map unit: 10 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex

Trafalgar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex

Crosby
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

CrA—Crosby silt loam, fine-loamy subsoil, 0 to 2 percent slopes

Map Unit Setting
National map unit number: 2hbwt
Elevation: 600 to 1,000 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free season: 140 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Crosby and similar soils: 90 percent
Minor components: Included
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Crosby
Setting
Landform: Ridges, till plains
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile
Ap - 0 to 10 inches: silt loam
Bt1 - 10 to 22 inches: silty clay loam
Bt2 - 22 to 29 inches: silty clay loam
2Btg - 29 to 60 inches: loam
2C - 60 to 80 inches: loam

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D

Minor Components
Hennepin
Percent of map unit: 5 percent
Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile
A - 0 to 7 inches: loam
E - 7 to 11 inches: loam
Bt - 11 to 60 inches: loam

Properties and qualities
Slope: 25 to 50 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B

Minor Components
Rainsville, eroded
Percent of map unit: 10 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Convex
Across-slope shape: Convex

Trafalgar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Crosby
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

MmB2—Miami silt loam, 2 to 6 percent slopes, eroded

Map Unit Setting
National map unit number: 2hbxl
Elevation: 600 to 1,000 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free season: 140 to 170 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Miami and similar soils: 85 percent
Minor components: Included
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami, Eroded
Setting
Landform: Till plains
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Backslope, shoulder
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile
Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 15 inches: silty clay loam
Bt2 - 15 to 22 inches: silty clay loam
Bt3 - 22 to 30 inches: loam
C - 30 to 80 inches: loam

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B

Minor Components
Crosby
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Williamstown
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Trafalgar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

MmC2—Miami silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting
National map unit number: 2hbxm
Elevation: 600 to 1,000 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free season: 140 to 170 days
Farmland classification: Not prime farmland

Map Unit Composition
Miami and similar soils: 85 percent
Minor components: Included
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miami, Eroded
Setting
Landform: Till plains
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Backslope, shoulder
Down-slope shape: Linear
Across-slope shape: Convex

Typical profile
Ap - 0 to 8 inches: silt loam
Bt1 - 8 to 15 inches: silty clay loam
Bt2 - 15 to 22 inches: silty clay loam
Bt3 - 22 to 30 inches: loam
C - 30 to 80 inches: loam

Properties and qualities
Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.1 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

Minor Components
Crosby
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Williamstown
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Trafalgar
Percent of map unit: 5 percent
Landform: Ridges
Landform position (three-dimensional): Interfluve, side slope
Landform position (two-dimensional): Shoulder, backslope
Down-slope shape: Linear
Across-slope shape: Convex

Hef—Hennepin loam, 25 to 50 percent slopes

Map Unit Setting
National map unit number: 2hbxj
Elevation: 600 to 1,000 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free season: 140 to 170 days
Farmland classification: Not prime farmland

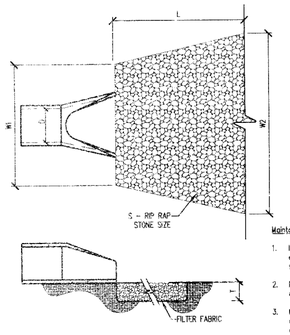
Map Unit Composition
Hennepin and similar soils: 90 percent
Minor components: Included
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hennepin
Setting
Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex

3B SOIL DESCRIPTIONS
NOT TO SCALE

Rock Chute Dimensions

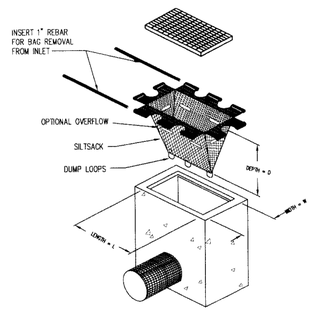
D	L	W1	W2	T	S
in	ft	ft	ft	in	in
12	6	4	6	12	6
15	7	4	10	18	9
18	8	4	12	18	9
24	9	4	14	18	9
30	10	5	15	18	9



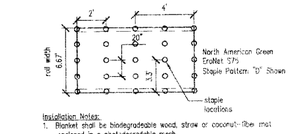
Maintenance:
1. Inspect rip-rap apron after each storm event for stone displacement and erosion at sides and ends of the apron.
2. Remove and stabilize excess sediment evident on apron.
3. Make repairs to the apron immediately. Use appropriate stone size and do not place above finished grade.

5A Rock Chute – Outlet Protection
NOT TO SCALE – PRACTICE 3.41

Type A



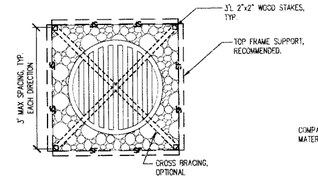
3A Silt Sack Inlet Protection
Not to Scale



Installation Notes:
1. Blanket shall be biodegradable wood, straw or coconut–fiber mat enclosed in a photodegradable mesh.
2. Install per manufacturer's recommendations.
3. Use 6 inch, 11 ga. wire "U" staples. Longer or heavier gauge staples may be necessary for some soils.
4. Use Staple pattern shown, or per manufacturer's recommendation, whichever requires greater staple frequency.

Maintenance:
1. Inspect weekly, and after storm events. Especially at edges of blankets where erosion may undercut the material.
2. Repair and replace damaged material and eroded base areas immediately.
3. Restaple, and reseure as needed for erosion control

1C Erosion Control Blanket
Example Only, Not to Scale

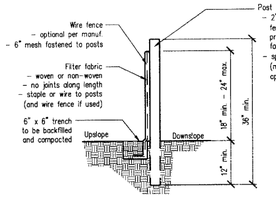


PLAN VIEW

Installation:
1. Cut fence fabric from a single roll to eliminate joints. Use a minimum overlap 2' if a joint is needed.
2. Bury 12" of fence fabric per the Silt Fence Section Detail, this sheet.
3. Space support evenly, with a maximum spacing of 3'.
4. Supports shall abut the inlet perimeter where ever possible.
   Provide a 4" bed of no. 2 stone where overflow falls to unprotected soil.
5. Prefabricated welded wire structures are acceptible.

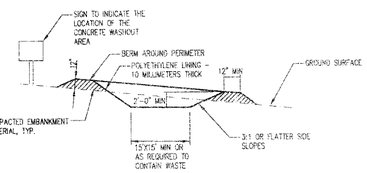
Maintenance:
1. Inspect fence periodically (weekly) and after each storm event.
2. If fence is damaged, repair or replace it immediately.
3. Remove deposited sediment when it reaches one third of the height of fence.
4. Take care not to undermine the fence during sediment removal.
5. After the contributing area has been stabilized, remove the fence and remaining sediment, bring the disturbed area to grade, and stabilize.
6. Replace the fence with Gravel Donut (Practice 3.56) if it continually sustains significant damage.

2B Silt Fence Inlet Protection
NOT TO SCALE – PRACTICE 3.52



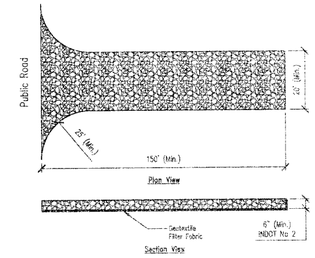
Maintenance:
1. Inspect silt fence periodically (weekly) and after each storm event.
2. If fabric is torn or damaged or in any way becomes ineffective, replace the affected portion immediately.
3. Remove deposited sediment when it reaches half the height of the fence, or it is causing the fabric to bulge.
4. Take care not to undermine the fence during sediment removal.
5. After the contributing area has been stabilized, remove the fence and remaining sediment, bring the disturbed area to grade, and stabilize.

2A Silt Fence Section
NOT TO SCALE



Notes:
1. Concrete washout area shall be installed prior to any concrete placement on site.
2. Signs shall be placed at the construction entrance, at the washout area, and elsewhere as necessary to clearly indicate the location of the concrete washout area to operators of concrete trucks and putter rigs.
3. The concrete washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for washout concrete.
4. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site.
5. When the concrete washout area is removed, the disturbed area shall be raked and mulched or otherwise stabilized in a manner approved by the inspector.

1B Concrete Washout Detail
NOT TO SCALE



Maintenance:
1. Inspect weekly, and after storm events or heavy use.
2. Reshape as needed for drainage and runoff control.
3. Topdress with clean stone as required. Maintain minimum depth through construction.
4. Immediately remove mud and sediment tracked or washed into public roads by sweeping or brushing.
5. Repair any broken pavement immediately.

1A STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

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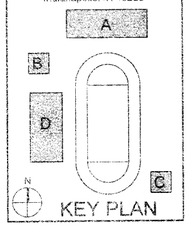
Project No: 2015-121.LCS
Project Date: 04-18-2016
Produced: JLS

TIMING ZHANG
REGISTERED
NO. LA20200126
STATE OF INDIANA
LANDSCAPE ARCHITECT

#	Revision	Date

7300 E 56th Street
Indianapolis, IN 46226

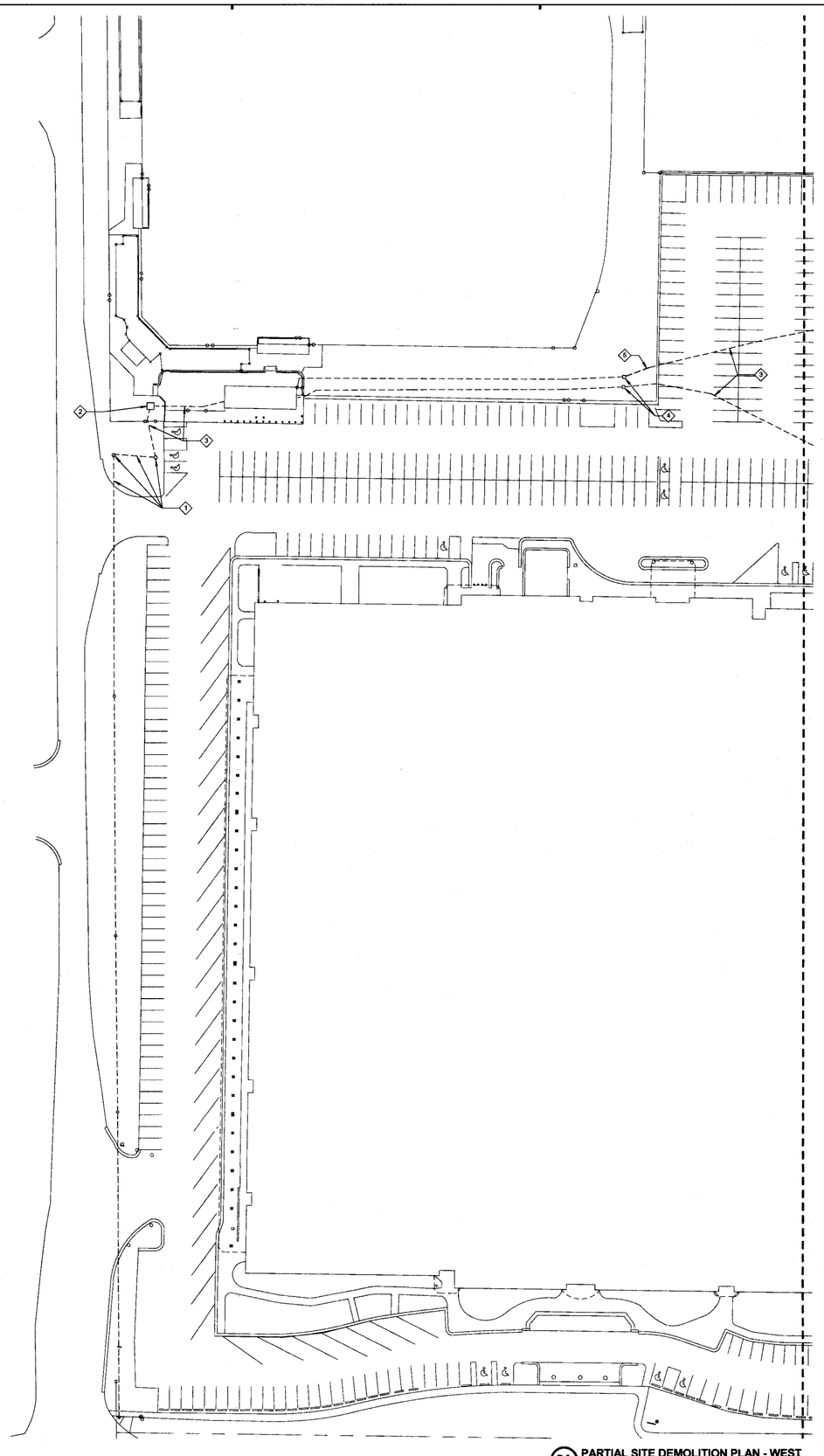


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

EROSION CONTROL NOTES AND DETAILS

CE502



2A PARTIAL SITE DEMOLITION PLAN - WEST
1" = 40'-0"

GENERAL SITE DEMOLITION NOTES

A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	THIS DRAWING REPRESENTS INFORMATION OBTAINED FROM ORIGINAL CONTRACT DRAWINGS AND FIELD SURVEY. VERIFY BY ON-SITE OBSERVATION THE EXTENT OF WORK PRIOR TO SUBMISSION OF BID.
C	CONTRACT DOCUMENTS CONSIST OF BOTH PROJECT MANUAL AND DRAWINGS AND ARE MEANT TO BE COMPLEMENTARY. ANYTHING APPEARING ON EITHER MUST BE EXECUTED THE SAME AS IF SHOWN ON BOTH.
D	THOROUGHLY EXAMINE THE WORK OF OTHER CONTRACTORS AND PROPERLY INSTALL ALL WORK REQUIRED FOR THE PROJECT.
E	THE OWNER HOLDS RIGHT OF FIRST REFUSAL FOR ALL DEMOLISHED ELECTRICAL EQUIPMENT.
F	ALL ELECTRICAL ITEMS SHOWN WITH LIGHT LINEWORK ARE EXISTING TO REMAIN.
G	REMOVE ALL ELECTRICAL ITEMS SHOWN WITH SOLID/DASHED LINEWORK COMPLETE.
H	COORDINATE AND DISCONNECT ALL ARCHITECTURAL, MECHANICAL, AND PLUMBING EQUIPMENT AS NOTED FOR REMOVAL BY OTHERS. REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, RACEWAYS, CONDUCTORS, ETC. SERVING THE EQUIPMENT.
I	PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS.

SITE DEMOLITION PLAN NOTES

1	EXISTING IP&L OVERHEAD PRIMARY AND POLES TO REMAIN.
2	EXISTING IP&L PAD-MOUNTED SWITCH TO REMAIN.
3	EXISTING IP&L UNDERGROUND PRIMARY TO REMAIN.
4	EXISTING PULL BOX TO REMAIN.
5	INTERCEPT EXISTING PRIMARY AND MODIFY AS INDICATED ON ES101.
6	EXISTING IP&L PAD-MOUNTED TRANSFORMER TO REMAIN.
7	EXISTING GENERATOR TO REMAIN.
8	EXISTING SECONDARY TO TMDP TO REMAIN.
9	DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM TMDP (BOILER HOUSE) TO FBMDP (CONCESSION BUILDING). CAP CONDUITS AND ABANDON IN PLACE.
10	DISCONNECT AND REMOVE EXISTING POWER DISTRIBUTION PANELBOARD FBMDP AND FOOTBALL FIELD LIGHTING CONTACTORS, CONDUIT, WIRE, ETC. COMPLETE.
11	DISCONNECT AND REMOVE EXISTING PANELBOARDS AND TRANSFORMERS FED FROM FBMDP AND CONDUIT, WIRE, ETC. COMPLETE.
12	EXISTING PLAY CLOCK TO REMAIN.
13	BASE BID: EXISTING SCOREBOARD TO REMAIN. ALTERNATE BID LC-7: DISCONNECT AND REMOVE ALL CONDUIT AND WIRE FOR THE RELOCATION OF THE SCOREBOARD.
14	EXISTING FOOTBALL FIELD LIGHTING POLE AND FIXTURES TO REMAIN.
15	EXISTING PANELBOARD SL2 AND 15KVA TRANSFORMER FED FROM STADIUM EAST PANELBOARD TO REMAIN.
16	BASE BID: EXISTING FEEDER FED FROM STADIUM EAST PANEL TO EXISTING 15KVA TRANSFORMER/PANELBOARD SL2 (SOFTBALL PRESSBOX) TO REMAIN. ALTERNATE LC-4: DISCONNECT AND REMOVE FEEDER. CONNECT 15 KVA TRANSFORMER TO NEW PANEL AS INDICATED ON ES102 AND E-602.
17	EXISTING STADIUM EAST PANEL TO REMAIN.
18	DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITS FED FROM SOFTBALL PRESSBOX PANEL SL2 TO TICKET BOOTH COMPLETE.
19	EXISTING FEEDER FED FROM FBMDP TO STADIUM EAST PANEL TO REMAIN AND BE EXTENDED.
20	EXISTING FOOTBALL FIELD LIGHTING CIRCUIT TO REMAIN.
21	EXISTING POWER/TELECOMMUNICATIONS OUTLET BOX TO REMAIN.
22	EXISTING RACEWAY SYSTEM AND CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS OUTLET BOXES, PLAY CLOCKS AND SCOREBOARD TO REMAIN.
23	EXISTING JUNCTION BOX FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS BOXES, PLAY CLOCKS AND SCOREBOARD TO BE REMOVED. EXISTING UNDERGROUND CONDUITS AND WIRE WILL REMAIN AND BE EXTENDED AMD CONNECTED TO NEW PANELBOARDS.
24	EXISTING PARKING LOT LIGHT POLE AND BASE TO REMAIN.
25	EXISTING PARKING LOT LIGHTING CONDUIT AND WIRE TO REMAIN.
26	EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES TO REMAIN.
27	EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE TO REMAIN.
28	BASE BID: DISCONNECT AND REMOVE EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES. ALTERNATE BID LC-6: RELOCATE POLE, FIXTURES AND INSTALL NEW BASE.
29	BASE BID: DISCONNECT EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE. ALTERNATE BID LC-6: EXTEND CONDUIT AND WIRE TO NEW LOCATION FOR EXISTING POLE.
30	DISCONNECT AND REMOVE EXISTING FOOTBALL FIELD LIGHTING CONDUIT AND WIRE COMPLETE.
31	INTERCEPT AND MODIFY EXISTING FEEDER FROM FBMDP TO EXISTING CONCESSION BUILDING PANEL FH2.
32	DISCONNECT AND REMOVE ALL ELECTRICAL ITEMS FROM EXISTING BUILDING TO BE DEMOLISHED.

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced JAR

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

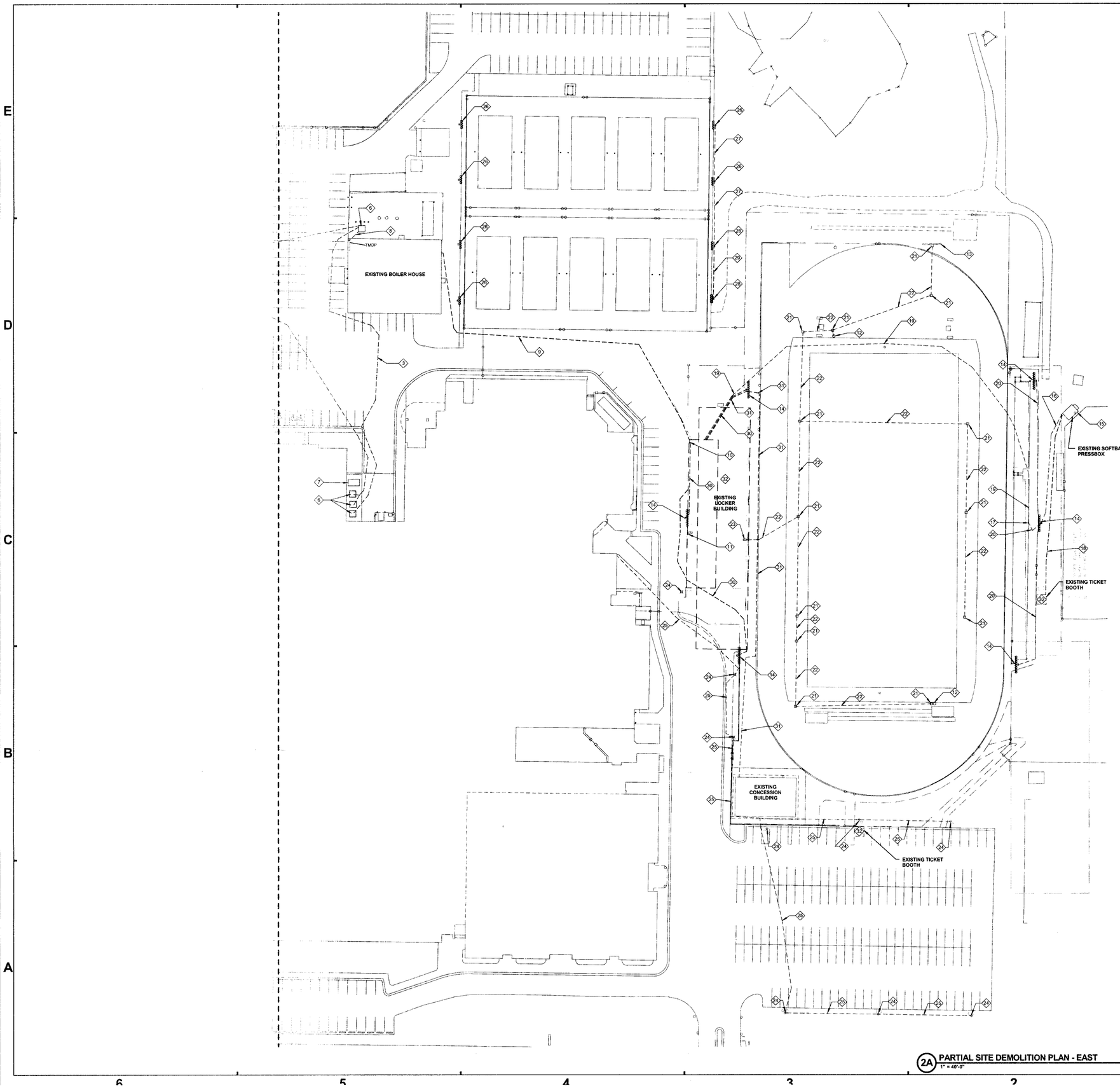
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PARTIAL SITE DEMOLITION PLAN - WEST

ED101



2A PARTIAL SITE DEMOLITION PLAN - EAST
1" = 40'-0"

GENERAL SITE DEMOLITION NOTES

A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	THIS DRAWING REPRESENTS INFORMATION OBTAINED FROM ORIGINAL CONTRACT DRAWINGS AND FIELD SURVEY. VERIFY BY ON-SITE OBSERVATION THE EXTENT OF WORK PRIOR TO SUBMISSION OF BID.
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D	THOROUGHLY EXAMINE THE WORK OF OTHER CONTRACTORS AND PROPERLY INSTALL ALL WORK REQUIRED FOR THE PROJECT.
E	THE OWNER HOLDS RIGHT OF FIRST REFUSAL FOR ALL DEMOLISHED ELECTRICAL EQUIPMENT.
F	ALL ELECTRICAL ITEMS SHOWN WITH LIGHT LINEWORK ARE EXISTING TO REMAIN.
G	REMOVE ALL ELECTRICAL ITEMS SHOWN WITH BOLD/DASHED LINEWORK COMPLETE.
H	COORDINATE AND DISCONNECT ALL ARCHITECTURAL, MECHANICAL, AND PLUMBING EQUIPMENT AS NOTED FOR REMOVAL BY OTHERS. REMOVE ALL ASSOCIATED ELECTRICAL EQUIPMENT, RACEWAYS, CONDUCTORS, ETC. SERVING THE EQUIPMENT.
I	PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS.

SITE DEMOLITION PLAN NOTES

1	EXISTING IP&L OVERHEAD PRIMARY AND POLES TO REMAIN.
2	EXISTING IP&L PAD-MOUNTED SWITCH TO REMAIN.
3	EXISTING IP&L UNDERGROUND PRIMARY TO REMAIN.
4	EXISTING PULL BOX TO REMAIN.
5	INTERCEPT EXISTING PRIMARY AND MODIFY AS INDICATED ON ES101.
6	EXISTING IP&L PAD-MOUNTED TRANSFORMER TO REMAIN.
7	EXISTING GENERATOR TO REMAIN.
8	EXISTING SECONDARY TO TMDP TO REMAIN.
9	DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM TMDP (BOILER HOUSE) TO FBMDP (CONCESSION BUILDING). CAP CONDUITS AND ABANDON IN PLACE.
10	DISCONNECT AND REMOVE EXISTING POWER DISTRIBUTION PANELBOARD FBMDP AND FOOTBALL FIELD LIGHTING CONTACTORS, CONDUIT, WIRE, ETC. COMPLETE.
11	DISCONNECT AND REMOVE EXISTING PANELBOARDS AND TRANSFORMERS FED FROM FBMDP AND CONDUIT, WIRE, ETC. COMPLETE.
12	EXISTING PLAY CLOCK TO REMAIN.
13	BASE BID: EXISTING SCOREBOARD TO REMAIN. ALTERNATE BID LC-7: DISCONNECT AND REMOVE ALL CONDUIT AND WIRE FOR THE RELOCATION OF THE SCOREBOARD.
14	EXISTING FOOTBALL FIELD LIGHTING POLE AND FIXTURES TO REMAIN.
15	EXISTING PANELBOARD SL2 AND 15KVA TRANSFORMER FED FROM STADIUM EAST PANELBOARD TO REMAIN.
16	BASE BID: EXISTING FEEDER FED FROM STADIUM EAST PANEL TO EXISTING 15KVA TRANSFORMER/PANELBOARD SL2 (SOFTBALL PRESSBOX) TO REMAIN. ALTERNATE LC-4: DISCONNECT AND REMOVE FEEDER, CONNECT 15 KVA TRANSFORMER TO NEW PANEL AS INDICATED ON ES102 AND E-602.
17	EXISTING STADIUM EAST PANEL TO REMAIN.
18	DISCONNECT AND REMOVE EXISTING BRANCH CIRCUITS FED FROM SOFTBALL PRESSBOX PANEL SL2 TO TICKET BOOTH COMPLETE.
19	EXISTING FEEDER FED FROM FBMDP TO STADIUM EAST PANEL TO REMAIN AND BE EXTENDED.
20	EXISTING FOOTBALL FIELD LIGHTING CIRCUIT TO REMAIN.
21	EXISTING POWER/TELECOMMUNICATIONS OUTLET BOX TO REMAIN.
22	EXISTING RACEWAY SYSTEM AND CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS OUTLET BOXES, PLAY CLOCKS AND SCOREBOARD TO REMAIN.
23	EXISTING JUNCTION BOX FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS BOXES, PLAY CLOCKS AND SCOREBOARD TO BE REMOVED. EXISTING UNDERGROUND CONDUITS AND WIRE WILL REMAIN AND BE EXTENDED AND CONNECTED TO NEW PANELBOARDS.
24	EXISTING PARKING LOT LIGHT POLE AND BASE TO REMAIN.
25	EXISTING PARKING LOT LIGHTING CONDUIT AND WIRE TO REMAIN.
26	EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES TO REMAIN.
27	EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE TO REMAIN.
28	BASE BID: DISCONNECT AND REMOVE EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES. ALTERNATE BID LC-5: RELOCATE POLE, FIXTURES AND INSTALL NEW BASE.
29	BASE BID: DISCONNECT EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE. ALTERNATE BID LC-5: EXTEND CONDUIT AND WIRE TO NEW LOCATION FOR EXISTING POLE.
30	DISCONNECT AND REMOVE EXISTING FOOTBALL FIELD LIGHTING CONDUIT AND WIRE COMPLETE.
31	INTERCEPT AND MODIFY EXISTING FEEDER FROM FBMDP TO EXISTING CONCESSION BUILDING PANEL FH2.
32	DISCONNECT AND REMOVE ALL ELECTRICAL ITEMS FROM EXISTING BUILDING TO BE DEMOLISHED.

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#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

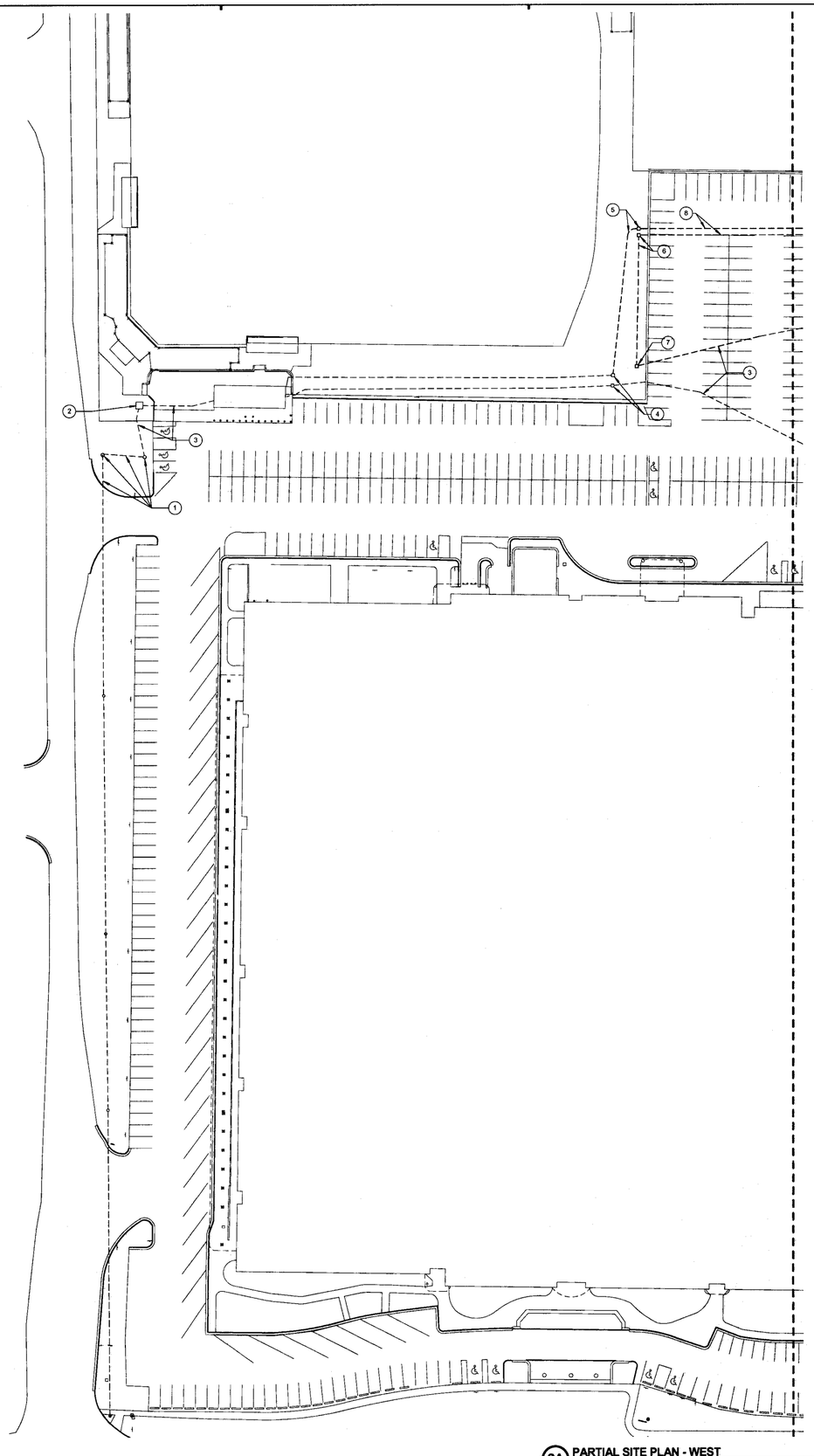
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PARTIAL SITE DEMOLITION PLAN - EAST

ED102



2A PARTIAL SITE PLAN - WEST
1" = 40'-0"

GENERAL SITE NOTES

A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	ALL ELECTICAL ITEMS SHOWN WITH LIGHT LINEWORK ARE EXISTING TO REMAIN.
C	ALL ELECTICAL ITEMS SHOWN WITH BOLD LINEWORK ARE NEW.
D	COORDINATE WITH IP&L ALL REQUIREMENTS FOR THE INSTALLATION OF NEW ELECTRICAL SERVICES. INCLUDE IN BID ALL UTILITY FEES REQUIRED TO ESTABLISH SERVICES. CONTACT MS. JACKIE BULTMAN AT 317-261-5267.

SITE PLAN NOTES

1	EXISTING IP&L OVERHEAD PRIMARY AND POLES TO REMAIN.
2	EXISTING IP&L PAD-MOUNTED SWITCH TO REMAIN.
3	EXISTING IP&L UNDERGROUND PRIMARY TO REMAIN.
4	EXISTING PULL BOX TO REMAIN AND BE MODIFIED AS INDICATED.
5	INSTALL (1) 4" CONDUIT FROM EXISTING PULL BOX AND NEW PULL BOX FOR THE INSTALLATION OF NEW PRIMARY. CONTRACTOR HAS OPTION TO DIRECTIONAL BORE OR TRENCH FOR THE CONDUIT INSTALLATION.
6	INSTALL (1) 4" CONDUIT BETWEEN NEW PULL BOXES FOR THE INSTALLATION OF NEW PRIMARY. CONTRACTOR HAS OPTION TO DIRECTIONAL BORE OR TRENCH FOR THE CONDUIT INSTALLATION.
7	INTERCEPT EXISTING UNDERGROUND PRIMARY CONDUIT AND INSTALL A NEW PULL BOX.
8	DIRECTIONAL BORE 4" CONDUIT FOR PRIMARY CONDUCTORS TO NEW PAD-MOUNTED TRANSFORMER. COORDINATE WITH ALL EXISTING UTILITES PRIOR TO BORING.
9	EXISTING IP&L PAD-MOUNTED TRANSFORMER TO REMAIN.
10	EXISTING GENERATOR TO REMAIN.
11	EXISTING SECONDARY TO TMDP TO REMAIN.
12	ABANDONED CONDUITS.
13	EXISTING PLAY CLOCK TO REMAIN.
14	EXISTING SCOREBOARD TO REMAIN.
15	EXISTING FOOTBALL FIELD LIGHTING POLE AND FIXTURES TO REMAIN..
16	BASE BID: EXISTING FEEDER FED FROM STADIUM EAST PANEL TO EXISTING 15KVA TRANSFORMER/PANELBOARD SL2 (SOFTBALL PRESSBOX) TO REMAIN. ALTERNATE LC-4: DISCONNECT AND REMOVE FEEDER, CONNECT 15 KVA TRANSFORMER TO NEW PANEL IN UNIT A.
17	EXISTING PANELBOARD SL2 AND 15KVA TRANSFORMER FED FROM STADIUM EAST PANELBOARD TO REMAIN.
18	EXISTING STADIUM EAST PANEL TO REMAIN..
19	EXISTING FEEDER FED FROM FBMDP TO STADIUM EAST PANEL TO REMAIN AND BE EXTENDED.
20	EXISTING FOOTBALL FIELD LIGHTING LIGHTING CIRCUIT TO REMAIN.
21	EXISTING POWER/TELECOMMUNICATIONS OUTLET BOX TO REMAIN.
22	EXISTING RACEWAY SYSTEM AND CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS OUTLET BOXES, PLAY CLOCKS AND SCOREBOARD TO REMAIN.
23	INSTALL GRADE MOUNTED JUNCTION BOX AND EXTEND EXISTING CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS BOXES, PLAY CLOCKS AND SCOREBOARD TO NEW PANELBOARD. INCLUDE IN BID THE EXTENSION OF ##6, 3#4, AND 3#3 CONDUCTORS. FIELD VERIFY EXACT QUANTITY AND SIZE. TERMINATE CONDUCTORS ON CIRCUIT BREAKERS INDICATED FOR FIELD CIRCUITS IN PANELBOARD 12D1.
24	EXISTING PARKING LOT LIGHT POLE AND BASE TO REMAIN.
25	EXISTING PARKING LOT LIGHTING CONDUIT AND WIRE TO REMAIN.
26	EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES TO REMAIN.
27	EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE TO REMAIN.
28	BASE BID: DISCONNECT AND REMOVE EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES. ALTERNATE BID LC-5: RELOCATE POLE, FIXTURES AND INSTALL NEW BASE.
29	ALTERNATE BID LC-5: EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION FOR EXISTING TENNIS COURT LIGHTING POLE AND FIXTURE. MATCH EXISTING CONDUIT AND WIRE SIZE.
30	INTERCEPT AND MODIFY EXISTING FEEDER FROM FBMDP TO EXISTING CONCESSION BUILDING PANEL FH2.
31	NEW PAD-MOUNTED UTILITY TRANSFORMER PROVIDED AND INSTALLED BY IP&L. PROVIDE CONCRETE BASE AS REQUIRED TO MEET IP&L'S REQUIREMENTS.
32	SECONDARY FROM NEW PAD-MOUNTED UTILITY TRANSFORMER TO DISTRIBUTION PANELBOARD 14ADP.
33	SECONDARY FROM NEW PAD-MOUNTED UTILITY TRANSFORMER TO DISTRIBUTION PANELBOARD 14DDP.
34	INSTALL NEW UNDERGROUND CONDUIT AND WIRE FROM LC-D2 TO EXISTING DISCONNECT SWITCH ON FOOTBALL FIELD LIGHTING POLE. CONNECT COMPLETE.
35	BASE BID: INSTALL A GRADE-MOUNTED JUNCTION BOX AND INTERCEPT AND EXTEND EXISTING FEEDER FROM STADIUM EAST PANEL TO LC-D1. ALTERNATE LC-6: REMOVE EXISTING WIRE COMPLETE TO STADIUM EAST PANEL. EXTEND CONDUIT TO LC-D1 AND INSTALL NEW WIRE FROM STADIUM EAST PANEL TO LC-D1.
36	BASE BID: INSTALL A GRADE-MOUNTED JUNCTION BOX AND INTERCEPT AND EXTEND EXISTING FEEDER FROM FH2 TO 14DDP. ALTERNATE LC-6: REMOVE EXISTING WIRE COMPLETE TO FH2, EXTEND CONDUIT TO 14DDP AND INSTALL NEW WIRE FROM FH2 TO 14DDP.
37	INSTALL NEW UNDERGROUND FEEDER FROM 14DDP TO DISCONNECT SWITCH DS-C1 FEEDING T-C1.
38	INSTALL NEW UNDERGROUND FEEDER FROM 12C1 TO 12C2.
39	INSTALL NEW UNDERGROUND FEEDER FROM 14ADP TO DISCONNECT SWITCH DS-B1 FEEDING T-B1.
40	INSTALL NEW UNDERGROUND FEEDER FROM 12B1 TO 12B2.
41	INSTALL F60 UNDERGROUND FOR POLE LIGHTS. CONNECT TO 14D1-(6,7) IN UNIT D ELECTRICAL ROOM. LIGHT FIXTURES CONTROLLED THROUGH LC-D3. REFER TO POLE BASE DETAILS 3A/E-501 AND 4A/E-501 FOR ALL LIGHT POLES.
42	ALTERNATE BID LC-7: INSTALL A 208V, 3 POLE, 80A, NEMA 3R, WITH (3) 60A FUSES FOR RELOCATED SCOREBOARD. CONNECT TO 60A-3P CIRCUIT BREAKER IN PANEL 12C1-(31,33,35) WITH F60 BRANCH CIRCUIT. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS.
43	GROUNDING TRIANGLE.

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF MARYLAND ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

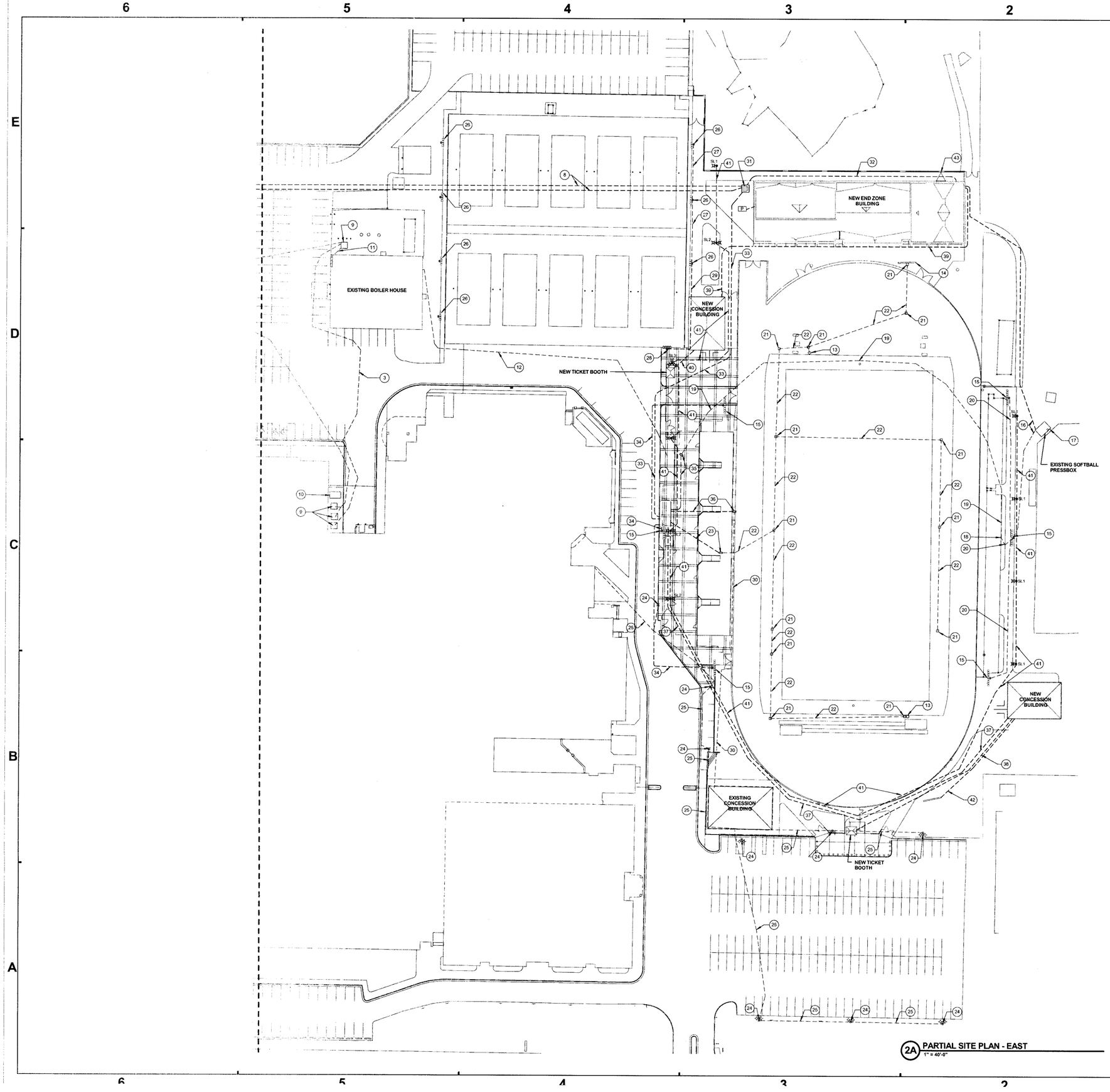
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PARTIAL SITE PLAN - WEST

ES101



2A PARTIAL SITE PLAN - EAST
1" = 40'-0"

GENERAL SITE NOTES

A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	ALL ELECTICAL ITEMS SHOWN WITH LIGHT LINEWORK ARE EXISTING TO REMAIN.
C	ALL ELECTICAL ITEMS SHOWN WITH BOLD LINEWORK ARE NEW.
D	COORDINATE WITH IP&L ALL REQUIREMENTS FOR THE INSTALLATION OF NEW ELECTRICAL SERVICES. INCLUDE IN BID ALL UTILITY FEES REQUIRED TO ESTABLISH SERVICES. CONTACT MS. JACKIE BULTMAN AT 317-261-5267

SITE PLAN NOTES

1	EXISTING IP&L OVERHEAD PRIMARY AND POLES TO REMAIN.
2	EXISTING IP&L PAD-MOUNTED SWITCH TO REMAIN.
3	EXISTING IP&L UNDERGROUND PRIMARY TO REMAIN.
4	EXISTING PULL BOX TO REMAIN AND BE MODIFIED AS INDICATED.
5	INSTALL (1) 4" CONDUIT FROM EXISTING PULL BOX AND NEW PULL BOX FOR THE INSTALLATION OF NEW PRIMARY. CONTRACTOR HAS OPTION TO DIRECTIONAL BORE OR TRENCH FOR THE CONDUIT INSTALLATION.
6	INSTALL (1) 4" CONDUIT BETWEEN NEW PULL BOXES FOR THE INSTALLATION OF NEW PRIMARY. CONTRACTOR HAS OPTION TO DIRECTIONAL BORE OR TRENCH FOR THE CONDUIT INSTALLATION.
7	INTERCEPT EXISTING UNDERGROUND PRIMARY CONDUIT AND INSTALL A NEW PULL BOX.
8	DIRECTIONAL BORE 4" CONDUIT FOR PRIMARY CONDUCTORS TO NEW PAD-MOUNTED TRANSFORMER. COORDINATE WITH ALL EXISTING UTILITES PRIOR TO BORING.
9	EXISTING IP&L PAD-MOUNTED TRANSFORMER TO REMAIN.
10	EXISTING GENERATOR TO REMAIN.
11	EXISTING SECONDARY TO TMDP TO REMAIN.
12	ABANDONED CONDUITS.
13	EXISTING PLAY CLOCK TO REMAIN.
14	EXISTING SCOREBOARD TO REMAIN.
15	EXISTING FOOTBALL FIELD LIGHTING POLE AND FIXTURES TO REMAIN.
16	BASE BID: EXISTING FEEDER FED FROM STADIUM EAST PANEL TO EXISTING 15KVA TRANSFORMER/PANELBOARD SL2 (SOFTBALL PRESSBOX) TO REMAIN. ALTERNATE LC-4: DISCONNECT AND REMOVE FEEDER, CONNECT 15 KVA TRANSFORMER TO NEW PANEL IN UNIT A.
17	EXISTING PANELBOARD SL2 AND 15KVA TRANSFORMER FED FROM STADIUM EAST PANELBOARD TO REMAIN.
18	EXISTING STADIUM EAST PANEL TO REMAIN.
19	EXISTING FEEDER FED FROM FBMDP TO STADIUM EAST PANEL TO REMAIN AND BE EXTENDED.
20	EXISTING FOOTBALL FIELD LIGHTING LIGHTING CIRCUIT TO REMAIN.
21	EXISTING POWER/TELECOMMUNICATIONS OUTLET BOX TO REMAIN.
22	EXISTING RACEWAY SYSTEM AND CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS OUTLET BOXES, PLAY CLOCKS AND SCOREBOARD TO REMAIN.
23	INSTALL GRADE MOUNTED JUNCTION BOX AND EXTEND EXISTING CONDUCTORS FEEDING FOOTBALL FIELD POWER/TELECOMMUNICATIONS BOXES, PLAY CLOCKS AND SCOREBOARD TO NEW PANELBOARD. INCLUDE IN BID THE EXTENSION OF 4#6, 3#4, AND 3#3 CONDUCTORS. FIELD VERIFY EXACT QUANTITY AND SIZE. TERMINATE CONDUCTORS ON CIRCUIT BREAKERS INDICATED FOR FIELD CIRCUITS IN PANELBOARD 12D1.
24	EXISTING PARKING LOT LIGHT POLE AND BASE TO REMAIN.
25	EXISTING PARKING LOT LIGHTING CONDUIT AND WIRE TO REMAIN.
26	EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES TO REMAIN.
27	EXISTING TENNIS COURT LIGHTING CONDUIT AND WIRE TO REMAIN.
28	BASE BID: DISCONNECT AND REMOVE EXISTING TENNIS COURT LIGHTING POLE AND FIXTURES. ALTERNATE BID LC-5: RELOCATE POLE, FIXTURES AND INSTALL NEW BASE.
29	ALTERNATE BID LC-5: EXTEND EXISTING CONDUIT AND WIRE TO NEW LOCATION FOR EXISTING TENNIS COURT LIGHTING POLE AND FIXTURE. MATCH EXISTING CONDUIT AND WIRE SIZE.
30	INTERCEPT AND MODIFY EXISTING FEEDER FROM FBMDP TO EXISTING CONCESSION BUILDING PANEL FH2.
31	NEW PAD-MOUNTED UTILITY TRANSFORMER PROVIDED AND INSTALLED BY IP&L. PROVIDE CONCRETE BASE AS REQUIRED TO MEET IP&L'S REQUIREMENTS.
32	SECONDARY FROM NEW PAD-MOUNTED UTILITY TRANSFORMER TO DISTRIBUTION PANELBOARD 14ADP.
33	SECONDARY FROM NEW PAD-MOUNTED UTILITY TRANSFORMER TO DISTRIBUTION PANELBOARD 14DDP.
34	INSTALL NEW UNDERGROUND CONDUIT AND WIRE FROM LC-D2 TO EXISTING DISCONNECT SWITCH ON FOOTBALL FIELD LIGHTING POLE. CONNECT COMPLETE.
35	BASE BID: INSTALL A GRADE-MOUNTED JUNCTION BOX AND INTERCEPT AND EXTEND EXISTING FEEDER FROM STADIUM EAST PANEL TO LC-D1. ALTERNATE LC-6: REMOVE EXISTING WIRE COMPLETE TO STADIUM EAST PANEL. EXTEND CONDUIT TO LC-D1 AND INSTALL NEW WIRE FROM STADIUM EAST PANEL TO LC-D1.
36	BASE BID: INSTALL A GRADE-MOUNTED JUNCTION BOX AND INTERCEPT AND EXTEND EXISTING FEEDER FROM FH2 TO 14DDP. ALTERNATE LC-8: REMOVE EXISTING WIRE COMPLETE TO FH2. EXTEND CONDUIT TO 14DDP AND INSTALL NEW WIRE FROM FH2 TO 14DDP.
37	INSTALL NEW UNDERGROUND FEEDER FROM 14DDP TO DISCONNECT SWITCH DS-C1 FEEDING T-C1.
38	INSTALL NEW UNDERGROUND FEEDER FROM 12C1 TO 12C2.
39	INSTALL NEW UNDERGROUND FEEDER FROM 14ADP TO DISCONNECT SWITCH DS-B1 FEEDING T-D1.
40	INSTALL NEW UNDERGROUND FEEDER FROM 12B1 TO 12B2.
41	INSTALL F60 UNDERGROUND FOR POLE LIGHTS. CONNECT TO 14D1-(6,7) IN UNIT D ELECTRICAL ROOM. LIGHT FIXTURES CONTROLLED THROUGH LC-D3. REFER TO POLE BASE DETAILS 3A/E-501 AND 4A/E-501 FOR ALL LIGHT POLES.
42	ALTERNATE BID LC-7: INSTALL A 208V, 3 POLE, 60A, NEMA 3R, WITH (3) 60A FUSES FOR RELOCATED SCOREBOARD. CONNECT TO 60A-3P CIRCUIT BREAKER IN PANEL 12C1-(31,33,35) WITH F50 BRANCH CIRCUIT. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS.
43	GROUNDING TRIANGLE.

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced JAR

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

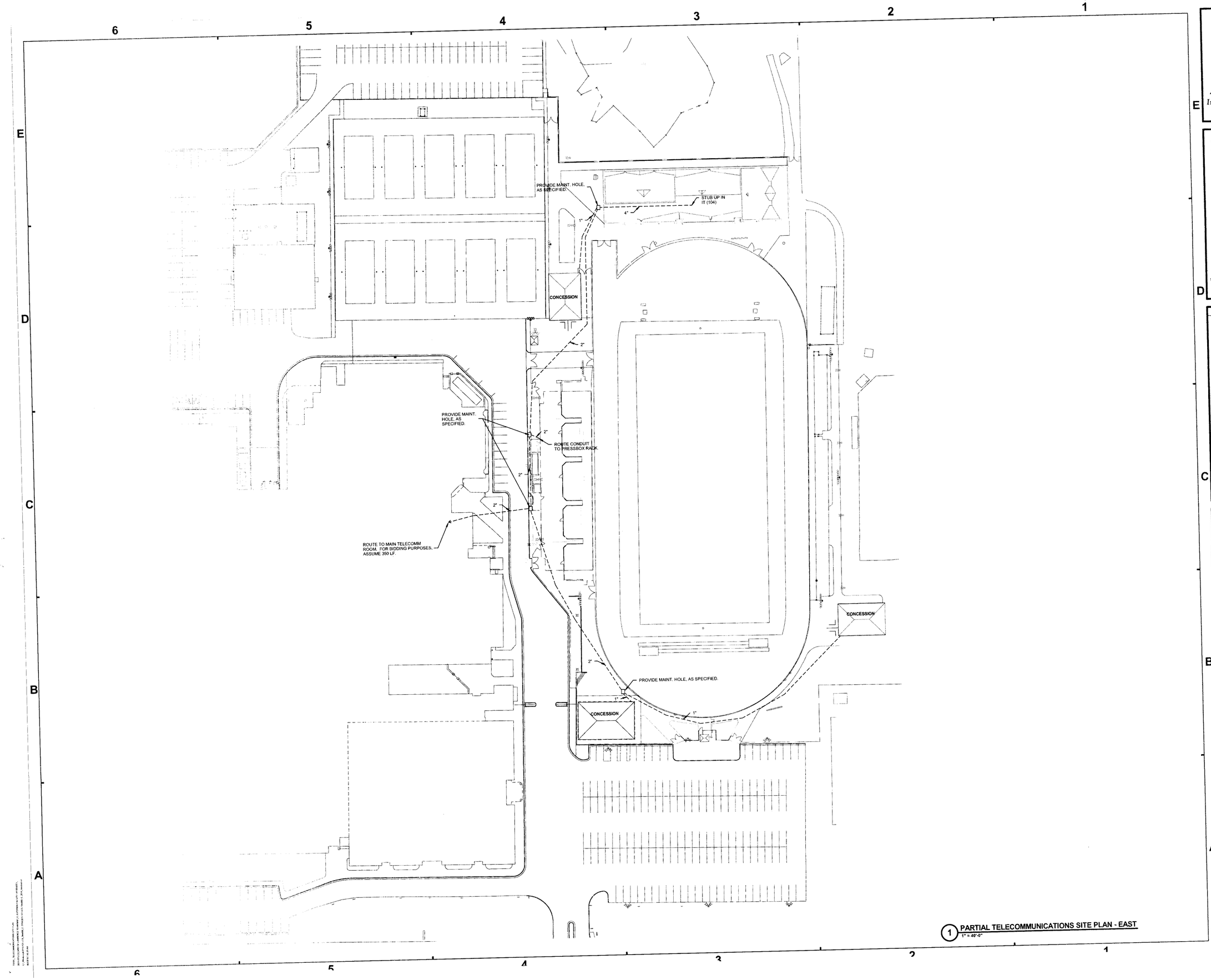
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PARTIAL SITE PLAN - EAST

ES102



1 PARTIAL TELECOMMUNICATIONS SITE PLAN - EAST
1" = 40'-0"

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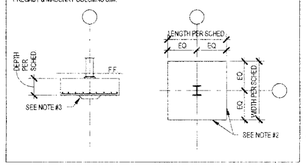
KEY PLAN

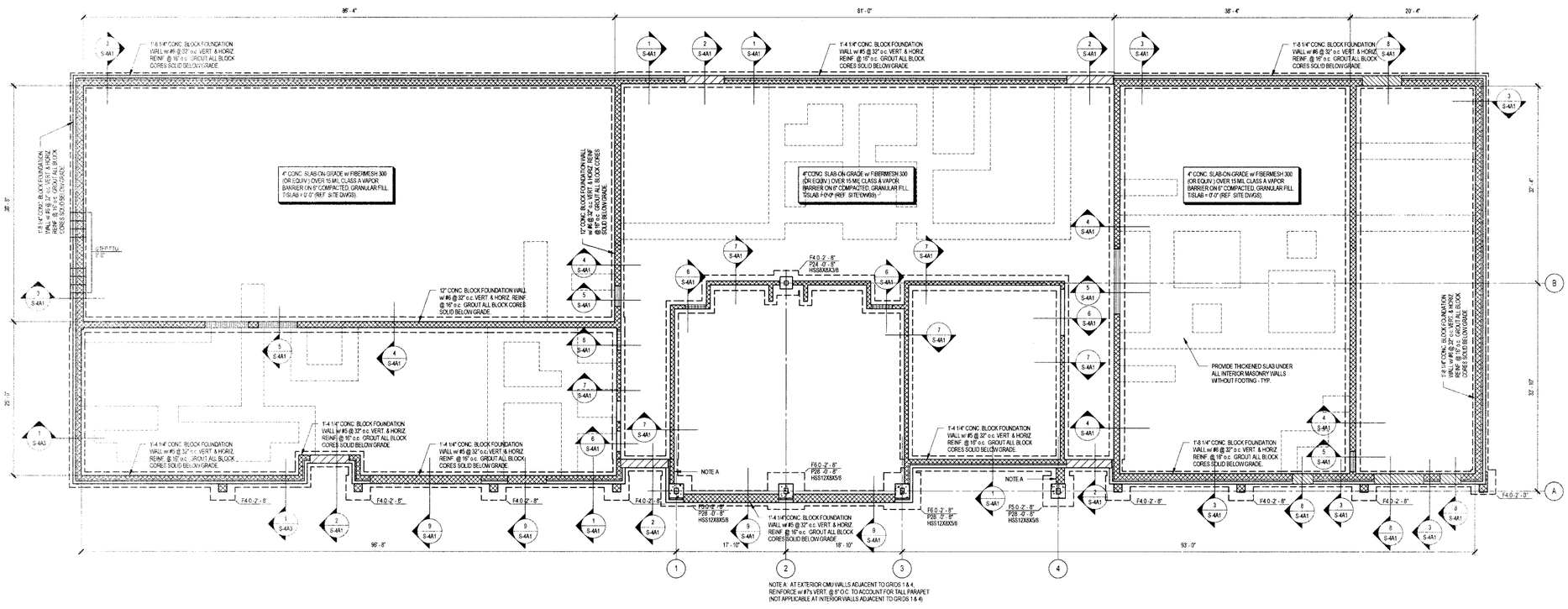
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

TELECOMMUNICATIONS SITE PLAN

TS101





FOUNDATION PLAN NOTES

1. REF. S-501 FOR STRUCTURAL NOTES, DESIGN DATA & SCHEDULES.

2. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH ALL DISCIPLINES TO AVOID CONFLICTS. THE MECHANICAL, ELECTRICAL, AND PLUMBING ASPECTS ARE NOT IN THE SCOPE OF THESE DRAWINGS. THEREFORE, ALL REQUIRED MATERIALS AND WORK MAY NOT BE INDICATED.

3. COORDINATE EXACT SIZE & LOCATION OF ALL MECHANICAL OPENINGS IN FOUNDATION WALLS WITH THE MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS.

4. ALL ELEVATIONS ARE REFERENCED FROM THE FIRST FLOOR FINISH FLOOR ELEVATION +0'-0" (U.S.G.S. XXX.XX). REF. CIVIL DWGS.

5. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

6. REF. S-4A2 FOR TYPICAL FOUNDATION DETAILS.

7. ALL SLAB RECESSES SHALL BE LOCATED PER THE ARCHITECTURAL DRAWINGS. COORDINATE DEPTHS OF ALL SLAB RECESSES WITH THE ARCHITECTURAL DRAWINGS AND/OR THE FLOORING SUPPLIER.

8. COORDINATE REINFORCING DOWELS FOR CMU VERTICAL REINFORCING WITH REINF. NOTED ON PLANS & SECTIONS.

9. GROUT ALL CORES OF CMU BELOW FINISH FLOOR SOLID.

10. PROVIDE THICKENED SLAB UNDER ALL INTERIOR CMU WALLS WITHOUT FOOTINGS. SEE S-4A1 FOR THICKENED SLAB DETAIL. LAYOUT THICKENED SLABS FROM DIMENSIONS ON THE ARCHITECT FLOOR PLANS.

11. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (REF. THE TYPICAL DETAILS ON SHEET S-4A1). THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.

11. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (REF. THE TYPICAL DETAILS ON SHEET S-4A1). THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.

12. FOR ARCHITECTURAL PILASTERS NOT SUPPORTING STEEL COLUMNS, CONSTRUCT AS FULLY-GROUTED MASONRY PIERS OR CAST-IN-PLACE CONCRETE PIERS REINF'D W/ #5 VERTICAL REINFORCING AT 12" O.C. ALL FACES, AT CONTRACTOR'S OPTION.

13. PLAN LEGEND:

F.F.	DENOTES FINISH FLOOR
T/'X'	DENOTES TOP OF FTG., GRADE BEAM, SLAB, PIER, ETC.
B/'X'	DENOTES BOTTOM OF FTG., GRADE BEAM, ETC.
C.J.	DENOTES SLAB ON GRADE CONTROL/CONTRACTION JOINT
WF30 -20'-0"	DENOTES WALL FOOTING MARK & TOP OF FOOTING ELEVATION (SEE WALL FOOTING SCHEDULE)

DENOTES WALL FOOTING WITH STEPS, REF. TYP. DETAIL ON SXXX

DENOTES COLUMN FOOTING MARK & TOP OF FTG. ELEVATION (SEE FTG. SCHED.)

DENOTES PIER MARK & TOP OF PIER ELEVATION (SEE PIER SCHED.)

DENOTES COLUMN SIZE (REF. FRAMING PLANS FOR STUB COL'S NOT ON FDNS)

COLUMN FOOTING

CONCRETE PIER

STEEL COLUMN

CONCRETE PIER SCHEDULE

PIER MARK	PIER SIZE		PIER REINFORCING			
			VERTICALS	TIES-SIZE & SPA.	DETAIL	CRITICAL HEIGHT
P24	2'-0"	2'-0"	(8) #6	#3 @ 12" O.C.	B	≤ 2'-8"
			(4) #8	#3 @ 12" O.C.	A	> 2'-8"
P28	2'-4"	2'-4"	(8) #7	#3 @ 12" O.C.	B	≤ 3'-0"
			(4) #10	#4 @ 12" O.C.	A	> 3'-0"

1. PROVIDE MIN. 1-1/2" CLEAR TO PIER TIES.

2. 'CRITICAL HEIGHT' DENOTES HT. ABOVE WHICH LARGER DIA. VERTICALS WITH FEWER TIES MAY BE USED. REFER TO FOUNDATION PLAN(S) FOR T/P & T/F ELEV'S.

3. TYPICAL TIE SPACING, UNLESS NOTED OTHERWISE: HOLD FIRST TIE 2" FROM TOP OF PIER. HOLD NEXT THREE* TIES 4" ON CENTER, SPACE BALANCE OF TIES AT SCHEDULED SPACING, WITH BOTTOM TIE HELD 2" ABOVE TOP OF FOOTING. *NOTE: INCREASE FROM THREE TO FIVE TIES AT 4" O.C. AT TOP OF PIERS WHERE COLUMN ANCHOR RODS ARE GREATER THAN 7/8" DIAMETER.

4. DOWELS TO FUNCTION AS PIER VERT'S FOR PIERS LESS THAN OR EQ. TO 5'-0" H. PROVIDE SEPARATE DOWELS & VERTICALS FOR PIERS GREATER THAN OR EQUAL TO 5'-0" H, UNLESS APPROVED.

5. CONTACT ENGINEER FOR DIRECTION IF COLUMN ANCHOR RODS FOUL WITH PIER TIES OR VERTICALS.

6. MIN. HT. OF PIERS: #6 VERTICALS = 2'-0", #7 VERTICALS = 2'-8".

COLUMN FOOTING SCHEDULE

FOOTING MARK	FOOTING SIZE			REINFORCING (EACH WAY)
	WIDTH x	LENGTH x	DEPTH	
F4.0	4'-0"	4'-0"	1'-2"	(4) #5 x 3'-6"
F5.0	5'-0"	5'-0"	1'-2"	(5) #5 x 4'-6"
F6.0	6'-0"	6'-0"	1'-2"	(6) #5 x 5'-6"

NOTES:

1. CENTER FOOTINGS BENEATH COLUMNS, U.N.O.
2. ALL FOOTINGS MUST BE BOARD-FORMED, UNLESS APPROVED.
3. INCREASE FOOTING DEPTH WHERE REQ'D TO ENCASE COLUMN ANCHOR RODS

NOTE: WF STEEL COLUMN SHOWN.
TUBES, PIPES, C.I.P. CONCRETE,
PRECAST & MASONRY COLUMNS SIM.

NOTE A: AT EXTERIOR CMU WALLS ADJACENT TO GRIDS 1 & 4, REINFORCE w/ #7's VERT. @ 8" O.C. TO ACCOUNT FOR TALL PARAPET (NOT APPLICABLE AT INTERIOR WALLS ADJACENT TO GRIDS 1 & 4)

① FOUNDATION PLAN

1/8" = 1'-0"

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Project No 2015-121.LCS
Project Date 04.18.2016
Produced JNB WBH

WESLEY B. HARRISON
PE60860410

Wesley B. Harrison

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

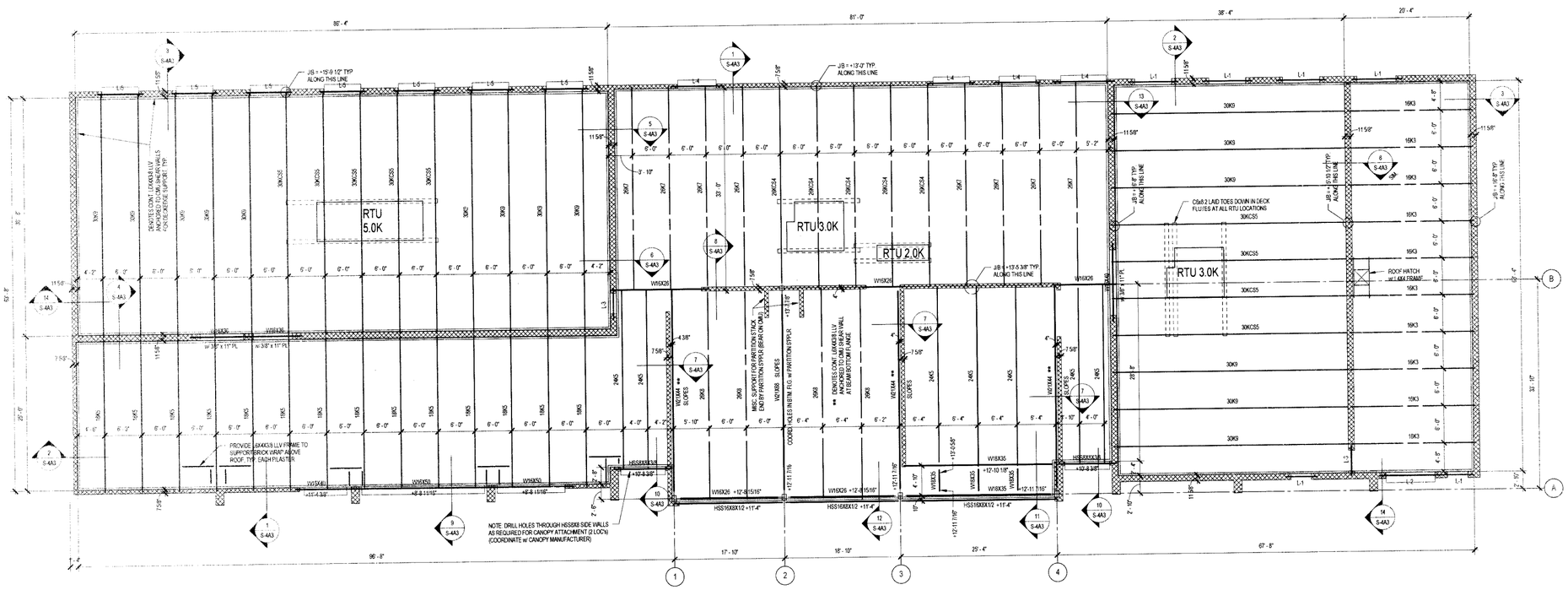
KEY PLAN

MSD OF
LAWRENCE
TOWNSHIP

LC EXTERIOR
FACILITY
UPGRADES - BP2

FOUNDATION PLAN

SF1A1



1 ROOF FRAMING PLAN
1/8" = 1'-0"

LINTEL SCHEDULE	
MARK	SIZE
L-1	W8X15 w/ 3/8"x1'-7" PL
L-2	W8X31 w/ 3/8"x1'-3" PL
L-3	W8X15 w/ 3/8"x11" PL
L-4	W8X15 w/ 3/8"x1'-3" PL
L-5	W8X31 w/ 3/8"x1'-7" PL

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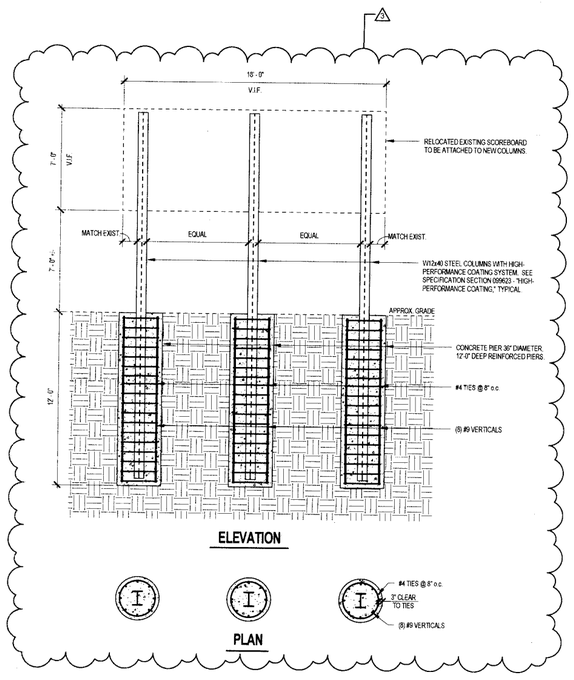
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

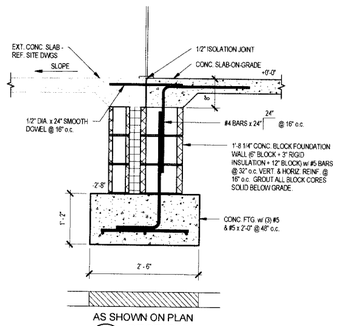
LC EXTERIOR FACILITY UPGRADES - BP2

ROOF FRAMING PLAN

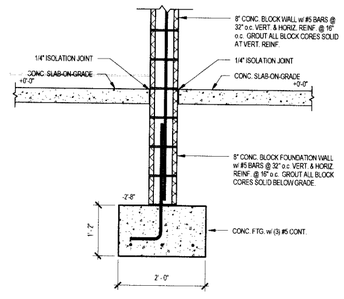
SF1A2



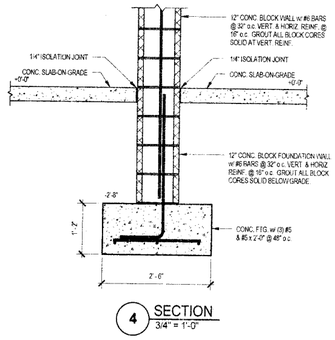
10 RELOCATED SCOREBOARD STRUCTURE
1/4" = 1'-0"



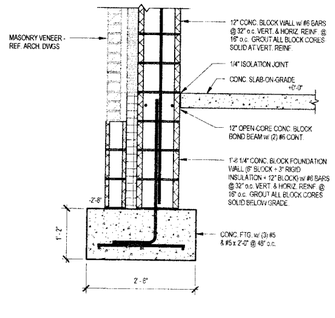
8 SECTION
3/4" = 1'-0"



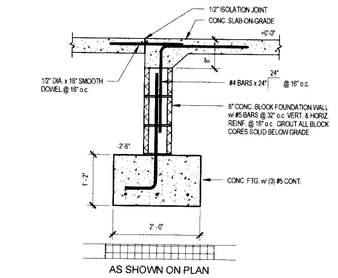
7 SECTION
3/4" = 1'-0"



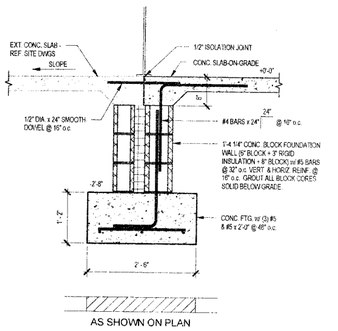
4 SECTION
3/4" = 1'-0"



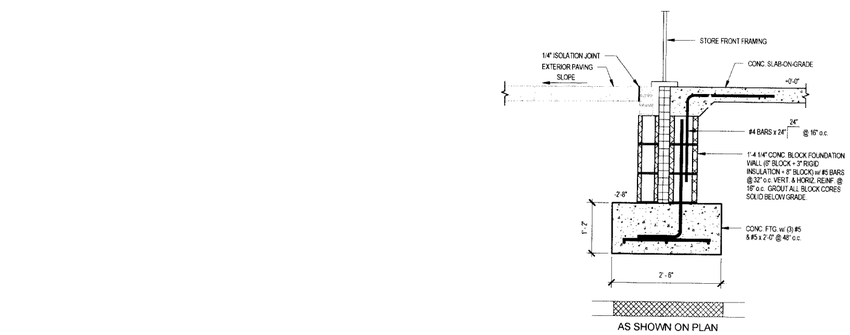
3 SECTION
3/4" = 1'-0"



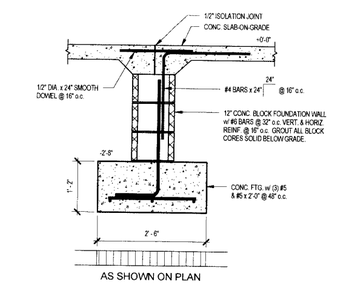
6 SECTION
3/4" = 1'-0"



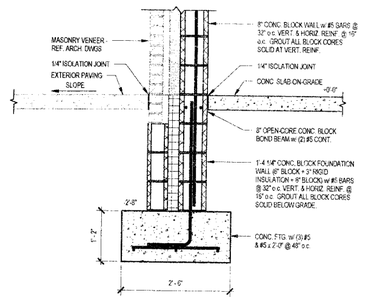
2 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"



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

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#	Revision	Date
	ADDENDUM # 3	05.12.2016

7300 E. 56th Street
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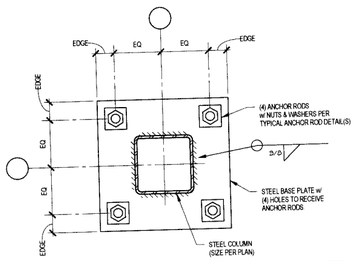
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

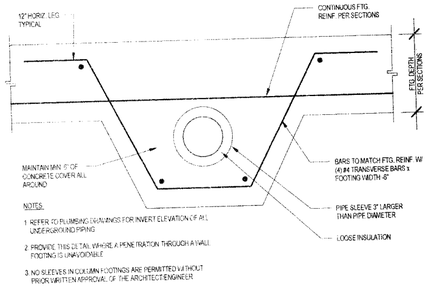
FOUNDATION SECTIONS

S-4A1

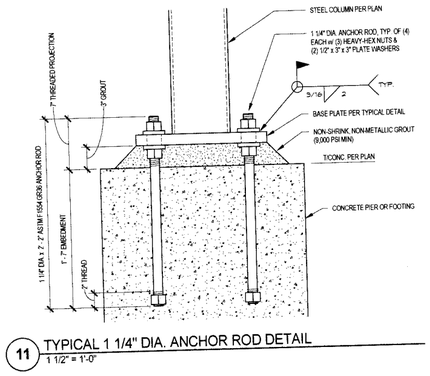


BASEPLATE SCHEDULE					
COLUMN SIZE	BASE PLATE SIZE	EQ	EDGE	ANCHOR ROD DIA.	HOLE DIA.
HSS8X8	1 1/2" X 1'-6" X 1'-6"	6 1/2"	2 1/2"	1 1/4"	2"
HSS12X8	2" X 2'-0" X 2'-0"	9"	3"	1 3/4"	2 3/4"

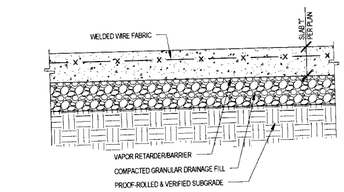
12 TYPICAL COLUMN BASE PLATE PLAN DETAIL
1 1/2" = 1'-0"



15 WALL FOOTING SLEEVE DETAIL
1" = 1'-0"

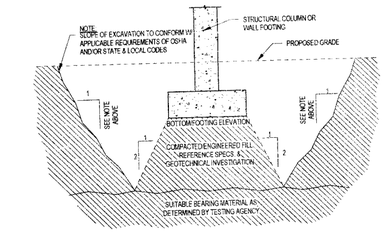


11 TYPICAL 1 1/4" DIA. ANCHOR ROD DETAIL
1 1/2" = 1'-0"

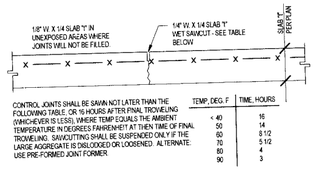


1. LOCATE WELDED WIRE FABRIC IN UPPER THIRD OF SLAB. SUPPORT ON BOLSTERS, CHAIRS, OR CONCRETE BRICKS.
2. LAP WELDED WIRE FABRIC A MIN. OF ONE FULL MESH SPACING.
3. THE USE OF NYLON OR POLYPROPYLENE FIBER IN LIEU OF WELDED WIRE FABRIC AS A SECONDARY REINFORCEMENT IS PERMISSIBLE, UNLESS OTHERWISE NOTED. NOTE: FIBER MAY NOT BE SUBSTITUTED FOR WWF IN SUPPORTED SLABS.
4. SEE PLAN, NOTES, AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS SUCH AS FINISH, JOINTING, CURING, ETC.

8 SLAB ON GRADE CONSTRUCTION
1" = 1'-0"



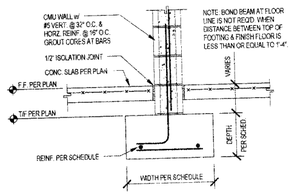
4 OVEREXCAVATION DETAIL - COMPACTED FILL
1/2" = 1'-0"



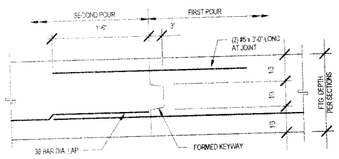
CONTROL JOINTS SHALL BE SAWN NOT LATER THAN THE FOLLOWING TABLE, OR 18 HOURS AFTER FINAL TROWELING (WHICHEVER IS LESS), WHERE TEMP EQUALS THE AMBIENT TEMPERATURE IN DEGREES FAHRENHEIT AT THEN TIME OF FINAL TROWELING. SAWCUTTING SHALL BE SUSPENDED ONLY IF THE LARGE AGGREGATE IS DISLODGED OR LOOSENED. ALTERNATE: USE PRE-FORMED JOINT FORMER

TEMP. DEG. F	TIME, HOURS
< 40	16
50	14
60	8 1/2
70	5 1/2
80	4
90	3

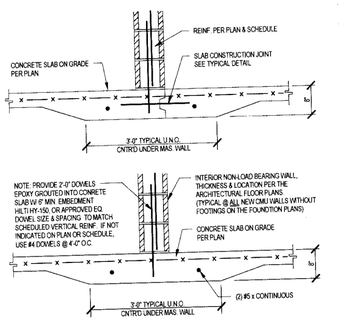
7 SLAB CONTROL/CONTRACTION JOINT
1" = 1'-0"



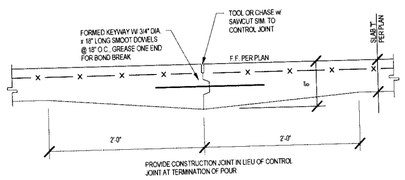
3 INTERIOR WALL FOOTING DETAIL
3/4" = 1'-0"



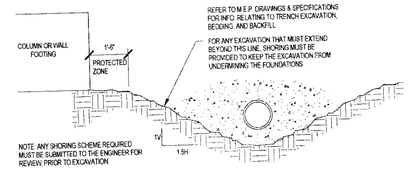
14 WALL FOOTING CONSTRUCTION JOINT
1" = 1'-0"



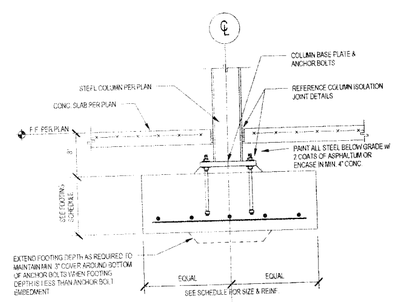
10 THICKENED SLAB AT CMU WALLS
3/4" = 1'-0"



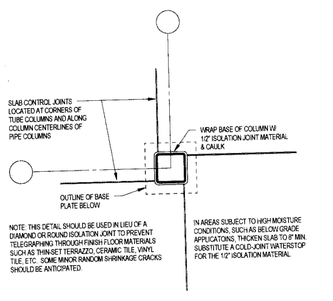
6 SLAB CONSTRUCTION JOINT
1" = 1'-0"



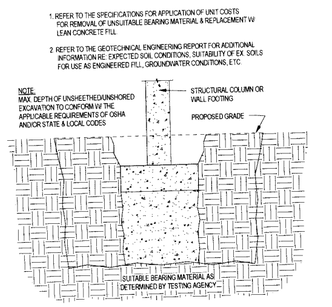
2 EXCAVATION LIMITS DETAILS
3/4" = 1'-0"



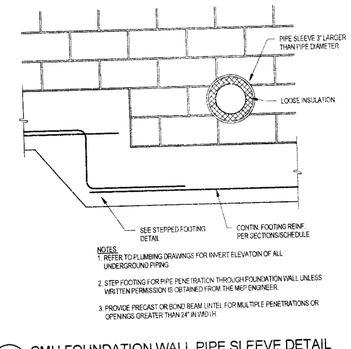
13 TYPICAL INTERIOR COLUMN FOOTING
3/4" = 1'-0"



9 STEEL COLUMN ISOLATION JOINT
3/4" = 1'-0"



5 OVEREXCAVATION DETAIL - LEAN CONC. FILL
1/2" = 1'-0"



NOTES:
1. REFER TO PLUMBING DRAWINGS FOR INVERT ELEVATION OF ALL UNDERGROUND PIPING
2. STEP FOOTING FOR PIPE PENETRATION THROUGH FOUNDATION WALL UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE M&P ENGINEER.
3. PROVIDE PRECAST OR BOND BEAM LINTEL FOR MULTIPLE PENETRATIONS OR OPENINGS GREATER THAN 24" IN WIDTH

1 CMU FOUNDATION WALL PIPE SLEEVE DETAIL
3/4" = 1'-0"

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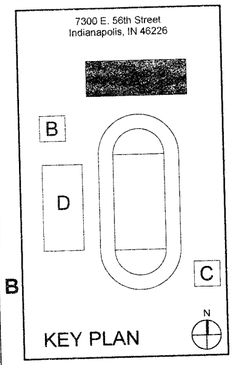
WESLEY B. HARRISON — PE60800410 — STATE OF INDIANA — PROFESSIONAL ENGINEER

#	Revision	Date

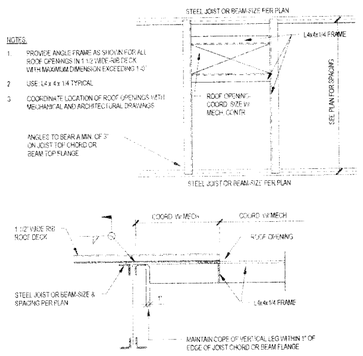


MSD OF LAWRENCE TOWNSHIP

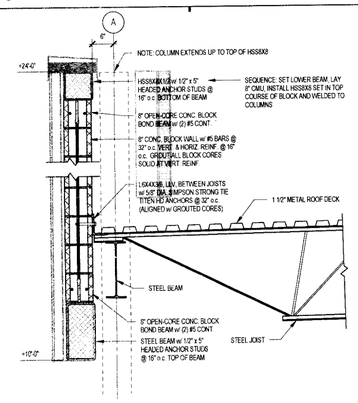
LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION SECTIONS AND DETAILS

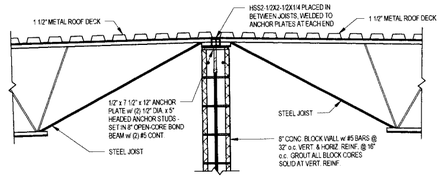
S-4A2



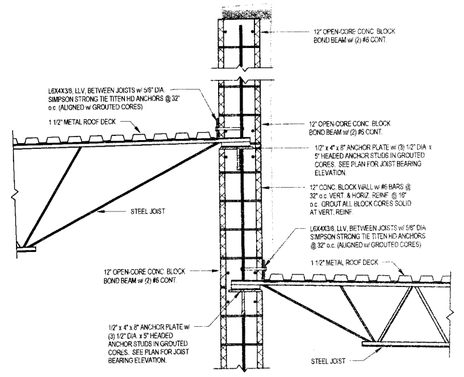
15 ROOF OPENING FRAME 1 1/2" DECK (SECTION)
3/4" = 1'-0"



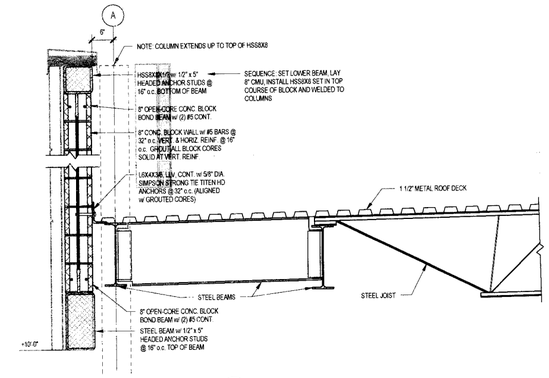
12 SECTION
3/4" = 1'-0"



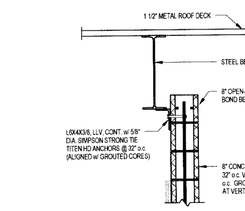
8 SECTION
3/4" = 1'-0"



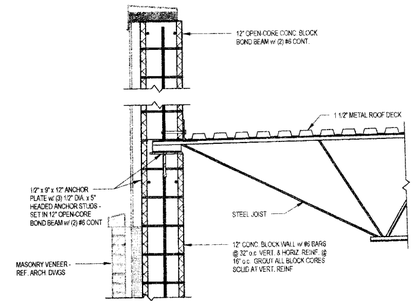
4 SECTION
3/4" = 1'-0"



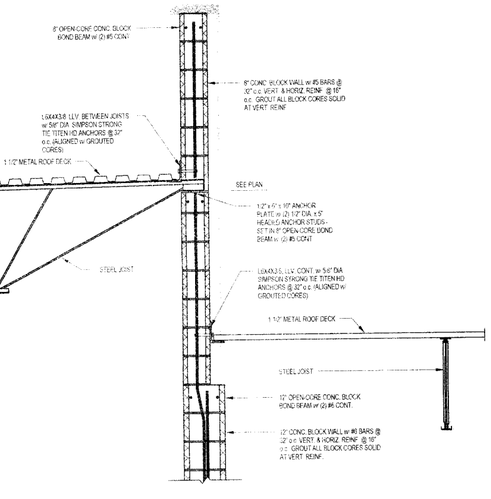
11 SECTION
3/4" = 1'-0"



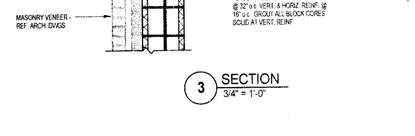
7 SECTION
3/4" = 1'-0"



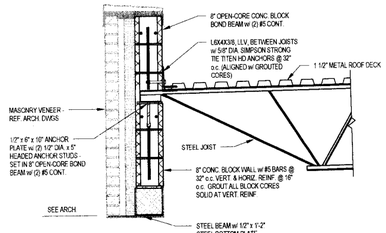
3 SECTION
3/4" = 1'-0"



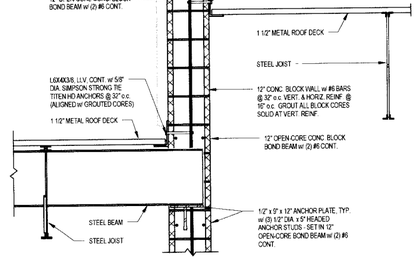
13 SECTION
3/4" = 1'-0"



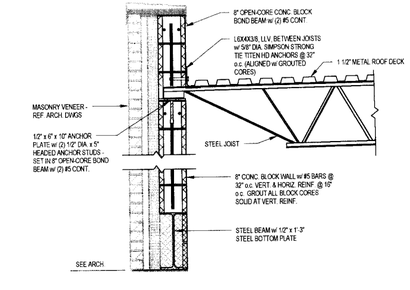
2 SECTION
3/4" = 1'-0"



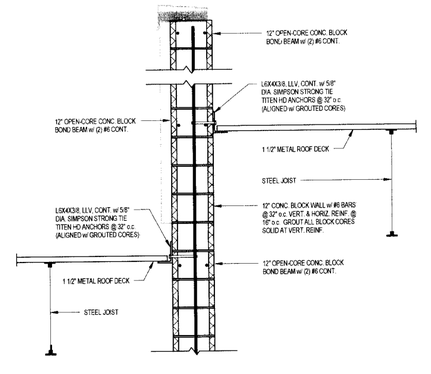
10 SECTION
3/4" = 1'-0"



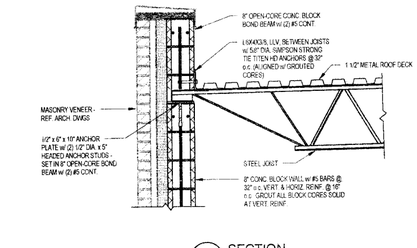
6 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"



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

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Project No: 2015-121.LCS
Project Date: 04.18.2016
Produced: JNB WBH

WESLEY B. HARRISON — PE60860410 — STATE OF INDIANA — PROFESSIONAL ENGINEER

#	Revision	Date

7300 E. 56th Street
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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FRAMING SECTIONS

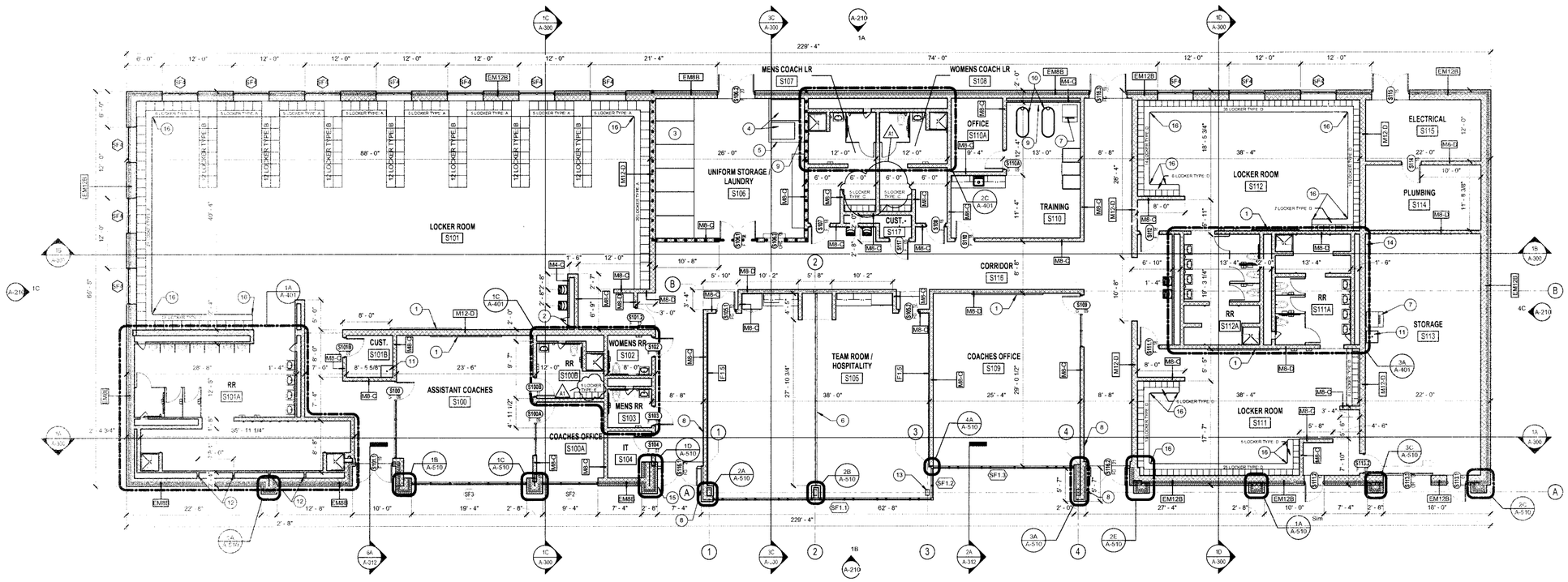
S-4A3

General Plan Notes

1. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.
2. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.
3. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.
4. All door frames are located 4" from adjacent wall, unless noted otherwise.
5. All exposed outside corners of CMU shall be bullnosed.
6. Seal all joints between dissimilar materials.
7. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.
8. All exterior windows are Type "SF4", unless noted otherwise.
9. All interior walls are Type "M12-D", unless noted otherwise.
10. Base elevation is 0'-0" = 852.02' (United States Geological Survey data).
11. Hatching within walls shown in plans and sections indicates new construction.
12. All walls that have the designation "-C", and are in a space with no ceiling will be 10ft tall.

FLOOR PLAN NOTES

KEY	NOTE
1	10 11 00 - MARKER BOARD
2	08 31 13 - 16"X16" ACCESS PANEL
3	HIGH DENSITY STORAGE, PROVIDED BY OWNER
4	COMMERCIAL LAUNDRY EQUIPMENT, PROVIDED BY OWNER
5	COORDINATE RAISED SLAB WITH OWNER. REFERENCE S-SERIES DRAWINGS FOR DETAILS
6	10 22 26 - OPERABLE PARTITION
7	ICE MACHINE, PROVIDED BY OWNER
8	ADA PUSH BUTTON
9	FLOOR TRENCH, REFER TO P-SERIES DRAWINGS
10	WHIRLPOOL, PROVIDED BY OWNER
11	MOP BASIN, REFER TO P-SERIES DRAWINGS.
12	PROVIDE STUB WALL TO SUPPORT 4" WALL.
13	HIGH PERFORMANCE PAINT, REFER TO I-SERIES DRAWINGS FOR COLOR
14	ROOF LADDER. COORDINATE LOCATION WITH ROOF HATCH.
15	KNOX BOX
16	CURVE INSIDE AND OUTSIDE CORNER OF CONCRETE BENCH



2A FIRST FLOOR PLAN
1/8" = 1'-0"

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Project Date 04.18.2016
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WAYNE S. SCHMIDT
REGISTERED
NO. 32631
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A1	Addendum #1	04.29.2016

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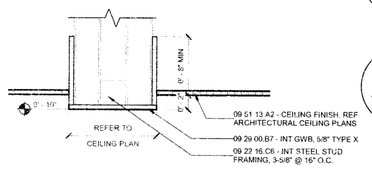
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

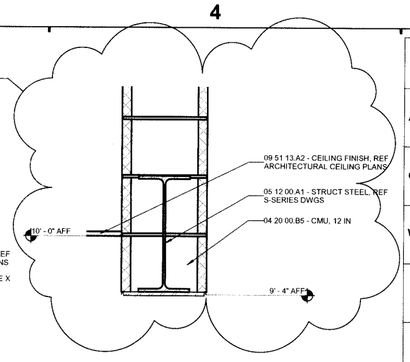
LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR PLAN - UNIT A

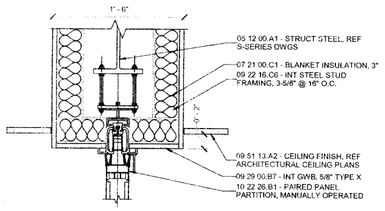
AF1A1



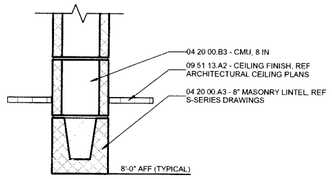
5E **BULKHEAD DETAIL**
1 1/2" = 1'-0"



4E **BULKHEAD DETAIL**
1 1/2" = 1'-0"



5D **OPERABLE PARTITION BULHEAD DETAIL**
1 1/2" = 1'-0"



4D **HEAD OPENING DETAIL**
1 1/2" = 1'-0"

REFLECTED CEILING PLAN LEGEND

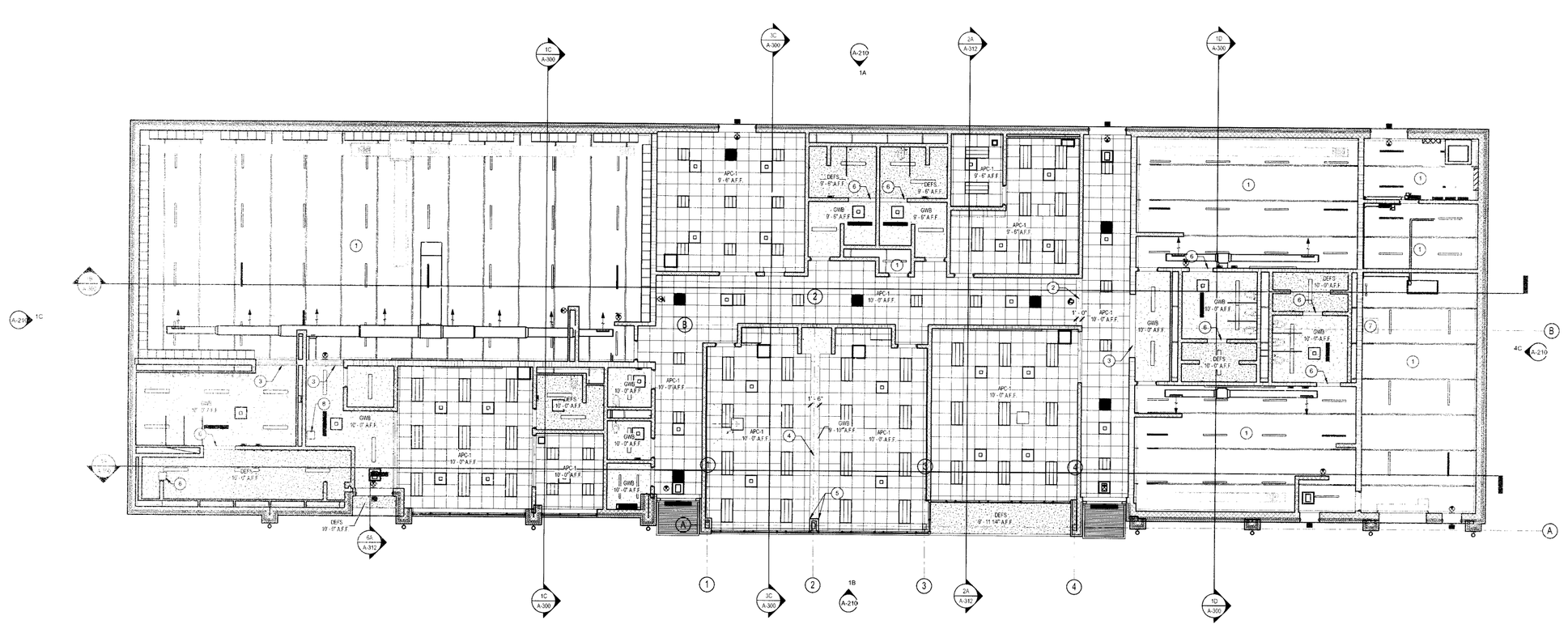
APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)		Light Fixture (Reference E-Series Dwgs)
GWB	Drywall Grid System (09 22 16)		Return Air (Reference M-Series Dwgs)
Walls to Deck			Supply Air (Reference M-Series Dwgs)
			Exit Light (Reference E-Series Dwgs)
			Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceilings (Reference E-Series Dwgs)
		S	SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)

General Refl. Ceiling Plan Notes

1. All ceilings are at 10'-0" AFF, unless noted otherwise.
2. All bulkheads are at 9'-10" AFF, unless noted otherwise.
3. All grids are centered in rooms, unless noted otherwise.
4. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.
5. Locate sprinkler heads in center of ceiling panel - where applicable.

REFLECTED CEILING PLAN NOTES

KEY	NOTE
1	NO CEILING. PAINT ALL EXPOSED STRUCTURE, DUCTWORK, PIPING ETC. REFER TO I-SERIES DRAWINGS FOR COLOR.
2	BULKHEAD, REFER TO DETAIL 5E/AC1A1
3	MASONRY LINTEL, REFER TO DETAIL 4E/AC1A1
4	OPERABLE PARTITION BULKHEAD, REFER TO DETAIL 5D/AC1A1
5	ALIGN BULKHEAD WITH COLUMN WRAP
6	TYPICAL LINTEL, REFER TO DETAIL 4D/AC1A1
7	07 72 00 - ROOF HATCH
8	ACCESS PANEL, COORDINATE LOCATION WITH VALVES.



2A **FIRST FLOOR REFLECTED CEILING PLAN**
1/8" = 1'-0"

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A1	Addendum #1	04.29.2016

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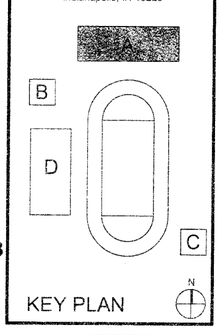


KEY PLAN

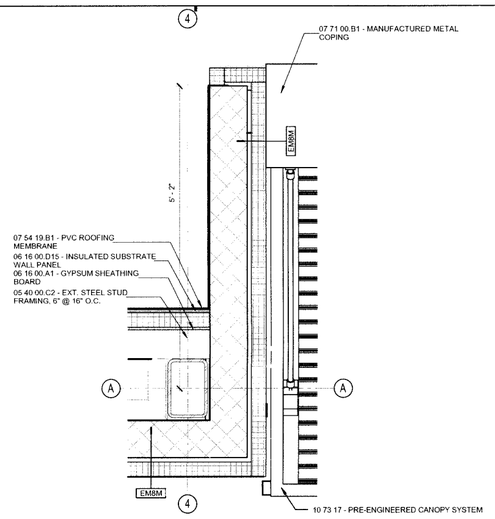
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

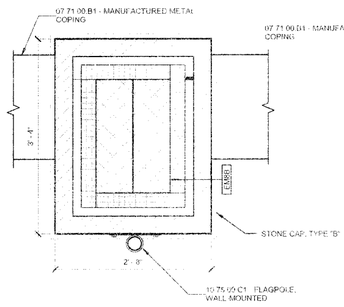
FIRST FLOOR REFLECTED CEILING PLAN - UNIT A

AC1A1

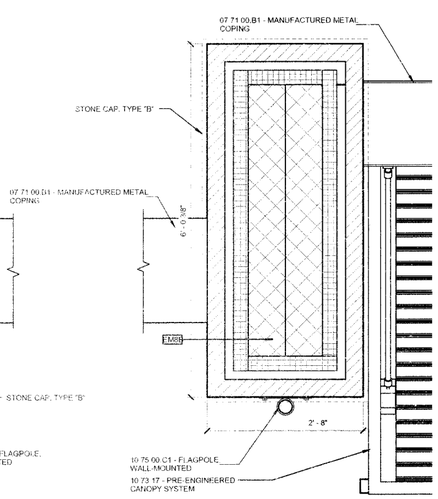
ROOF PLAN NOTES	
KEY	NOTE
1	REFER TO SHEET AR101, A-520, A-521 FOR ROOF INFORMATION.
2	10 73 17 - PRE-ENGINEERED CANOPY SYSTEM, 86IN WIDE & 58IN DEEP. FIELD VERIFY DIMENSIONS.



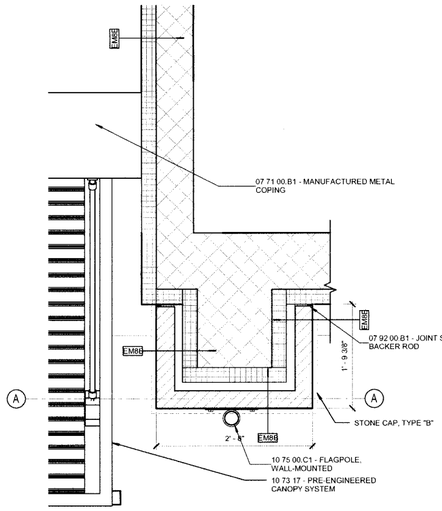
2E **PLAN DETAIL**
1" = 1'-0"



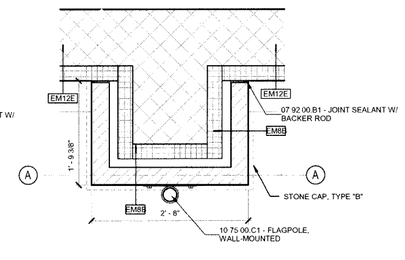
6C **PLAN DETAIL**
1" = 1'-0"



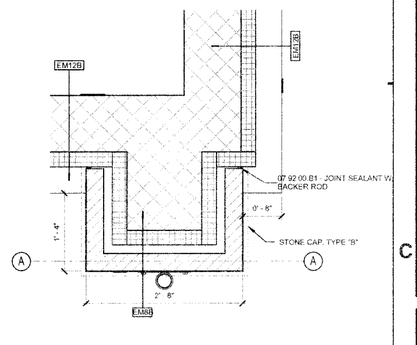
5C **PLAN DETAIL**
1" = 1'-0"



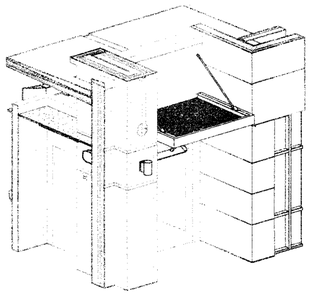
4C **PLAN DETAIL**
1" = 1'-0"



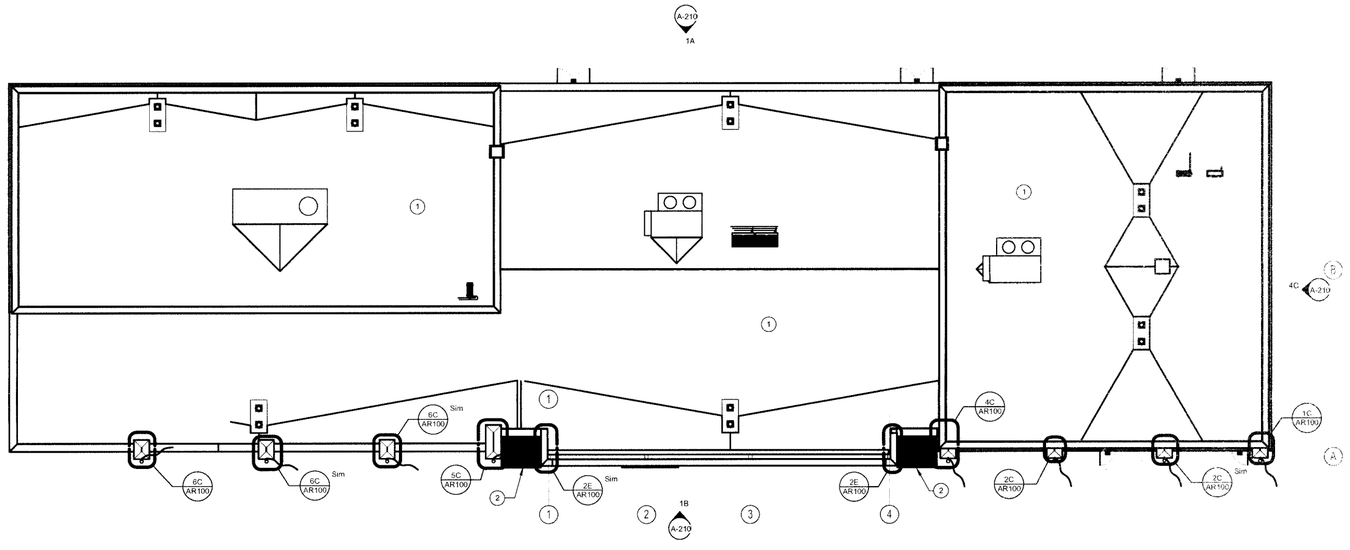
2C **PLAN DETAIL**
1" = 1'-0"



1C **PLAN DETAIL**
1" = 1'-0"



6A Canopy Perspective



1A **ROOF PLAN**
3/32" = 1'-0"

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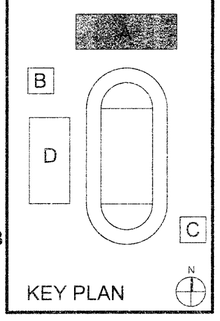


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

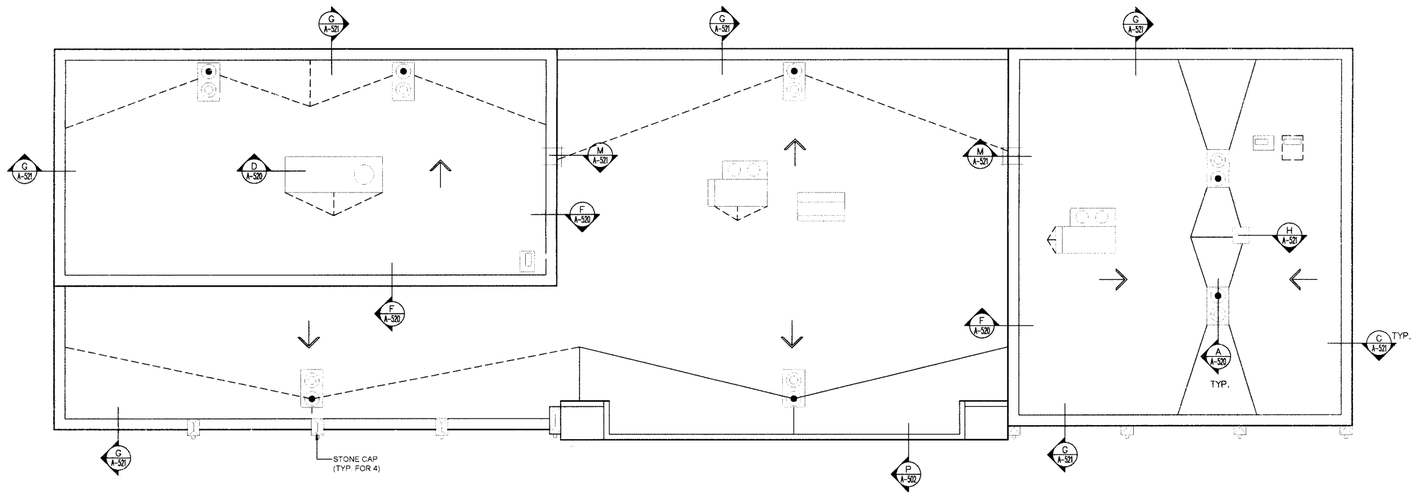
LC EXTERIOR FACILITY UPGRADES - BP2

ROOF PLAN

AR100

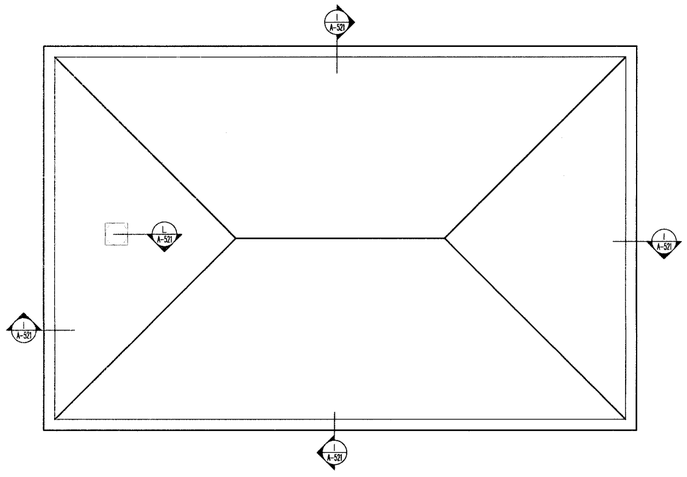
General Notes:

1. Install walk pads as specified, at ladders 36"x36", at roof hatch and along access panels of mechanical equipment.
2. Contractor is responsible to field verify all dimensions, calculate all quantities and suitability.
3. Install metal work, including edging, per section 1-49 of the FMG Loss Prevention data guide. Comply with the minimum requirements published by ANSI / SPRI ES-1, SMACNA and the roofing system manufacturer.
4. Inspect blocking and nailers installed by other trades prior to installation of membrane or install blocking and nailers prior to installation of membrane to insure that they have been anchored per FMG 1-49.
5. At all drains: Install minimum 4' x 8' tapered edge sumps, larger where required to achieve a maximum slope of 1:12, unless noted otherwise. (See detail)
6. The use of all peel & stick membrane is strictly prohibited.
7. Install saddles behind all units regardless of size, saddles must be of proper length, width (at least a minimum of one-half the saddle length) and slope to eliminate any ponding. All saddles / crickets shall slope to 0" at all edges.
8. Tapered insulation for crickets and saddles may be mechanically fastened of fully adhered (at Contractor's option).
9. At all soil stack locations use preformed thermoplastic pipe flashing whenever possible. Field wrapped detail requires approval of QA Inspector.
10. Verify all roof penetrations and equipment with mechanical and electrical drawings to confirm sizes and locations. Flash all penetrations per details provided for type of penetration. For penetrations not detailed, flash as required by membrane manufacturer.
11. For all gutters, down spouts, exposed counter flashings, drip edge and copings, provide colors in "Kynar Finish" to match school colors and/or other building elements as approved by Architect.
12. See elevations for downspout locations.



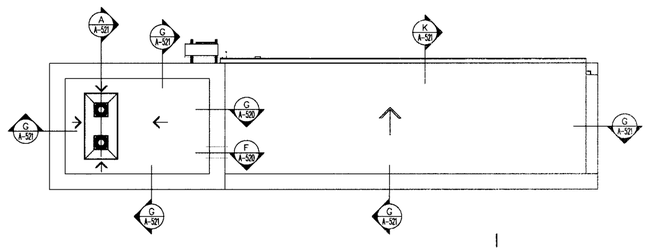
01 AR101 **ROOF PLAN A**

SCALE: 3/16" = 1'-0"



02 AR101 **ROOF PLAN B AND C**

SCALE: 3/16" = 1'-0"



03 AR101 **ROOF PLAN D**

SCALE: 3/16" = 1'-0"

SEAL

RODNEY LEE WIEDENKELLER
REGISTERED
No.
AR10900131
STATE OF
INDIANA
ARCHITECT

PLANS AND SPECIFICATIONS CERTIFIED BY:

Rodney Lee Wiedenkeller
Indiana Registration No.
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Project No. 2015.121.LCS
Project Date 04.18.2016
Produced RLW/MER

#	Revision	Date

Moisture Management
8855 Crosspoint Blvd., Suite 100
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Fax: 317.577.0912

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES

ROOF PLAN AND NOTES

AR101

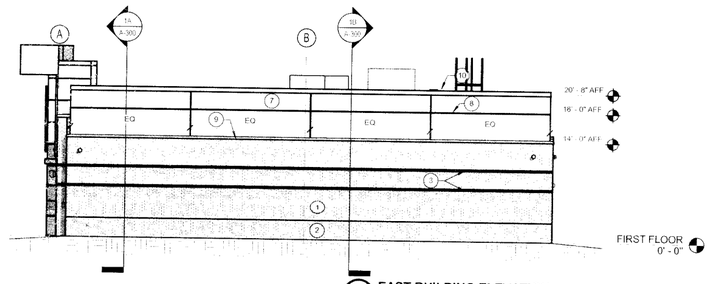
5.4.210 - ELEVATION NOTES	
KEY	NOTE
1	04.20.00 - BRICK - TYPE "A"
2	04.20.00 - BRICK - TYPE "B"
3	04.20.00 - 12" RECESSED BRICK BAND
4	08.11.13 - HOLLOW METAL DOOR & FRAME
5	PAINT FINISH - REFER TO E SERIES DRAWINGS
6	10.26.00 - FLASHING
7	07.54.19 - EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)
8	1/2" REVEAL
9	04.20.00 - STONE TRIM - TYPE "B"
10	07.72.00 - COPING
11	OVERHEAD DOOR
12	08.41.13 - ALUMINUM STOREFRONT
13	07.42.13 - SEGMENTED CURVE METAL WALL PANELS
14	10.14.00 - ALUMINUM SIGN
15	04.20.00 - CONTROL JOINT
16	04.20.00 - STONE TRIM - TYPE "B" REVEAL (CAPTION FOR CAP SIZE'S STONE)
17	10.73.16 - PRE-ENGINEERED CANOPY & ENTRY AWNING & TRIM (SEE CANOPY/AWNING DETAILS)

Exterior Finish Schedule

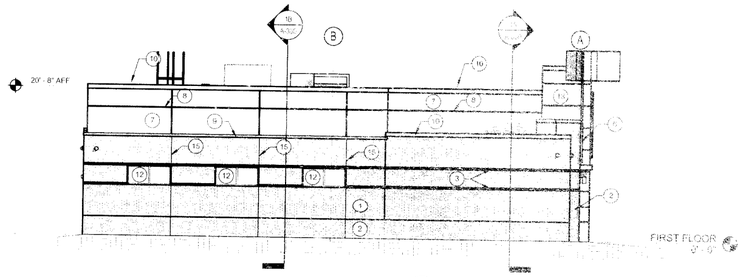
THIS LEGEND IS PROVIDED FOR REFERENCE PURPOSES ONLY. PRODUCTS NOT OTHERWISE INDICATED ARE BASED ON BASIS OF DESIGN MANUFACTURERS. REFER TO SPECIFICATION FOR LIST OF ACCEPTED EQUIVALENT MANUFACTURERS/PRODUCTS.

SPEC SECTION	MATL	MARK	COLOR, BASIS OF DESIGN
042000	FACE BRICK	A	RED - MT. SHADOW VELOUR
		B	TAN - SEA SPRAY VELOUR
072419	EIFS		MATCH TAN BRICK COLOR
074213.13	METAL WALL PANEL		#26 COLONIAL RED
077100	COPING		REDWOOD
079200	SEALANTS		ALL SEALANTS USED IN MASONRY CONTROL JOINTS SHALL MATCH THE MASONRY MORTAR
			ALL SEALANTS USED IN EXPOSED CONCRETE SHALL MATCH THE SURROUNDING COLOR CONCRETE UNLESS NOTED OTHERWISE
			ALL SEALANTS USED TO SEAL AROUND EXTERIOR WINDOWS AND DOOR FRAMES SHALL MATTCH THE WINDOW AND DOOR FRAME COLOR
081113	HM DOORS AND FRAMES		PAINT COLOR AS SELECTED BY ARCHITECT
083323	OH CURLING DOOR		PAINT COLOR AS SELECTED BY ARCHITECT
084113	ALUM. STOREFRONT		CLEAR ANODIZED ALUMINUM
088000	GLAZING	INSUL. GLASS	SUNGUARD SUPER NEUTRAL 62

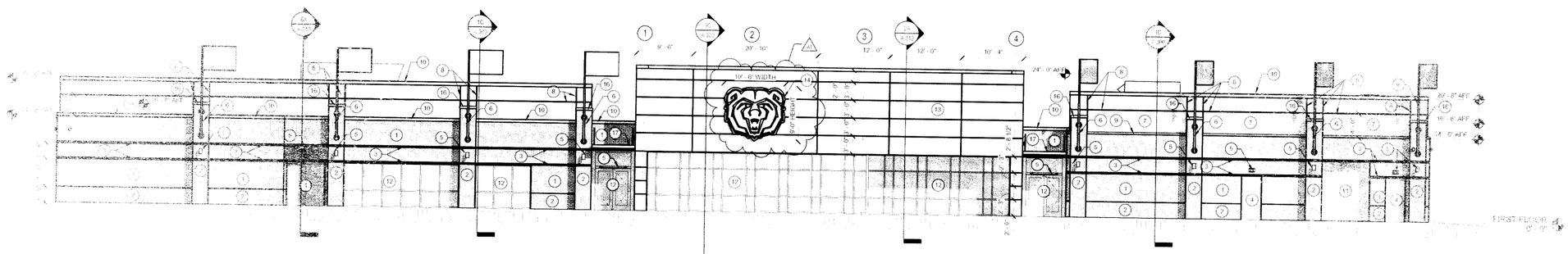
6C STONE TRIM PROFILES
1 1/2" = 1'-0"



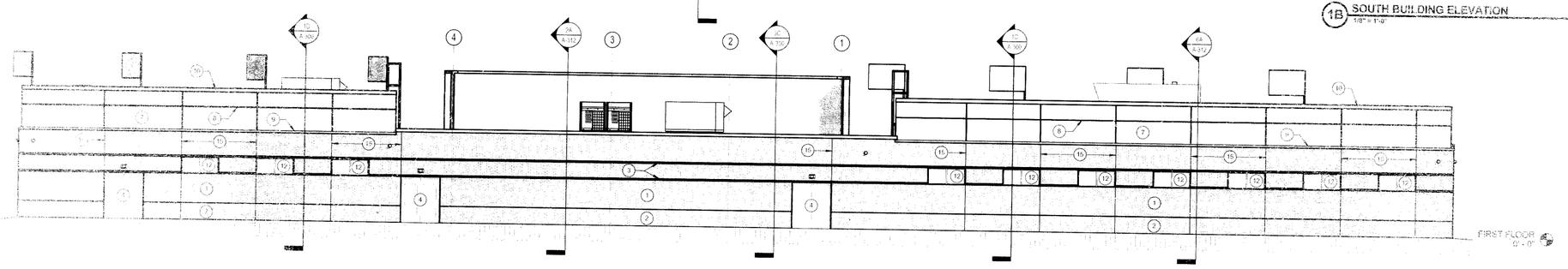
4C EAST BUILDING ELEVATION
1/8" = 1'-0"



1C WEST BUILDING ELEVATION
1/8" = 1'-0"



1B SOUTH BUILDING ELEVATION
1/8" = 1'-0"



1A NORTH BUILDING ELEVATION
1/8" = 1'-0"

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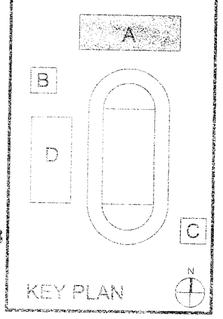
Project No: 2015-121 LCS
Project Date: 04.16.2015
Drawn by: DGB

#	Revision	Date
A1	Addendum #1	04.29.2015

7300 S. 56th Street
Indianapolis, IN 46236



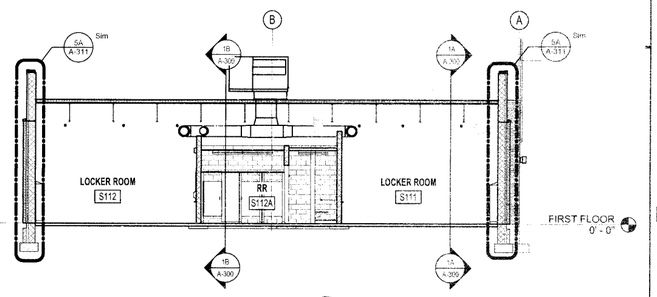
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

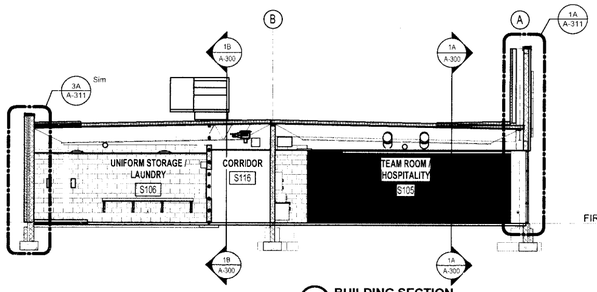
LC EXTERIOR FACILITY UPGRADES - BP2

BUILDING ELEVATIONS

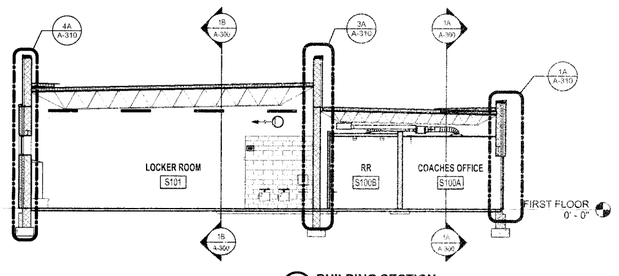
A-210



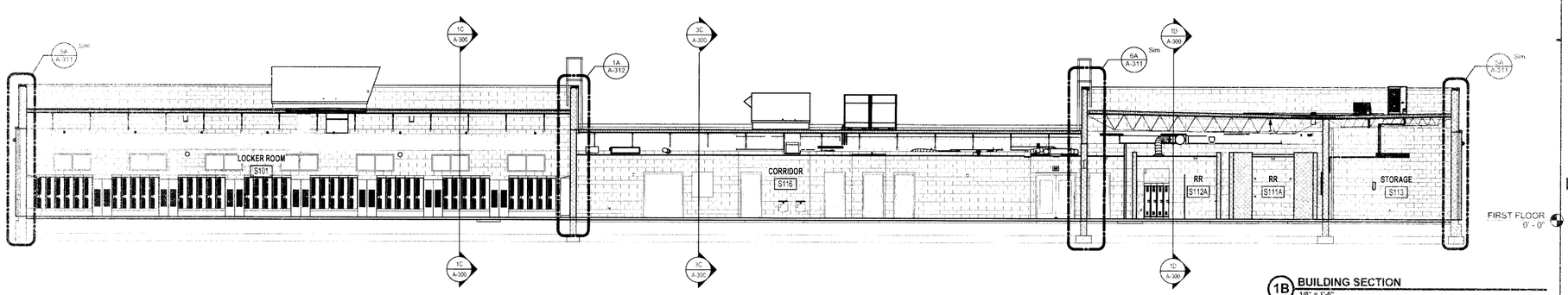
1D BUILDING SECTION
1/8" = 1'-0"



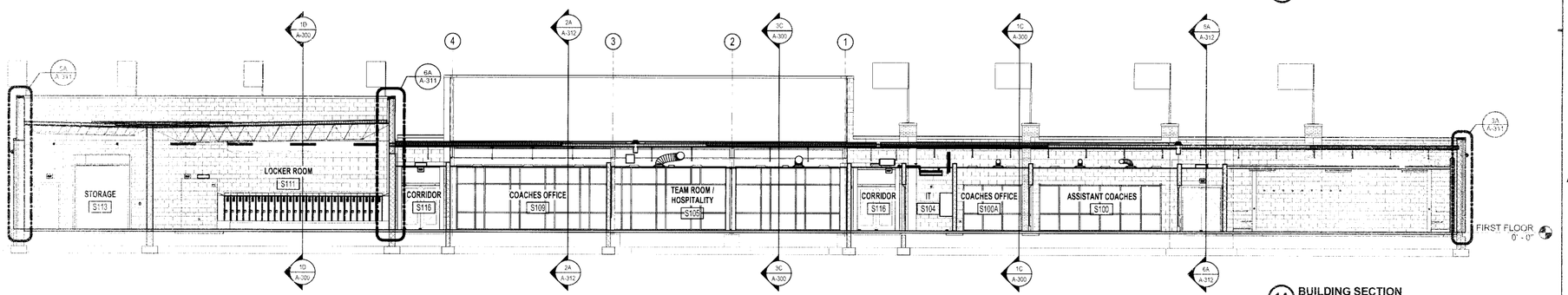
3C BUILDING SECTION
1/8" = 1'-0"



1C BUILDING SECTION
1/8" = 1'-0"



1B BUILDING SECTION
1/8" = 1'-0"



1A BUILDING SECTION
1/8" = 1'-0"

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#	Revision	Date

7300 E. 56th Street
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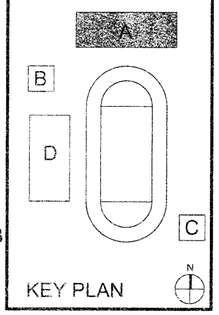


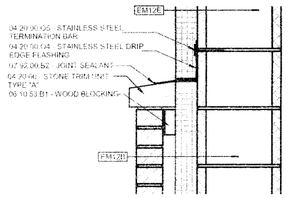
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

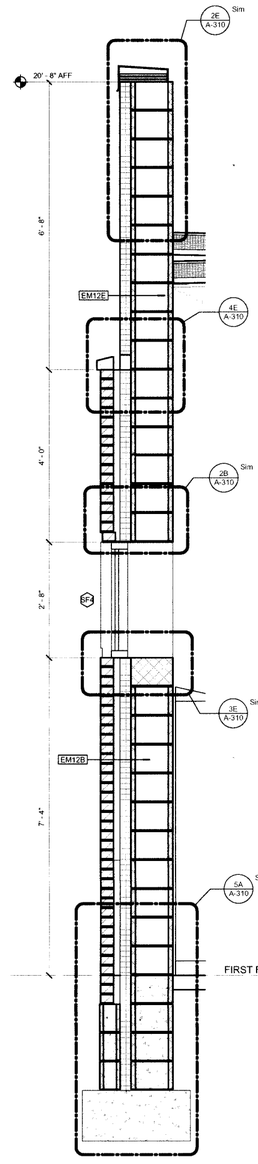
LC EXTERIOR FACILITY UPGRADES - BP2

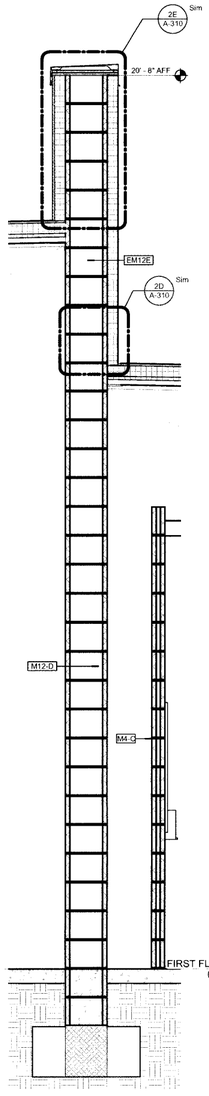
BUILDING SECTIONS

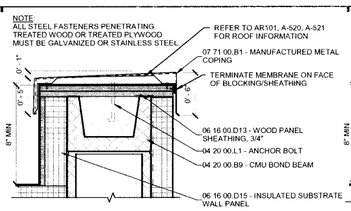
A-300



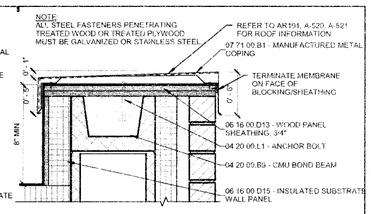
4E WALL SECTION DETAIL
1 1/2" = 1'-0"



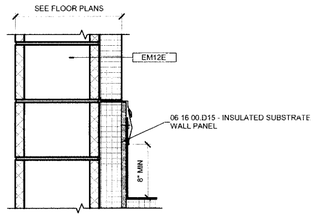




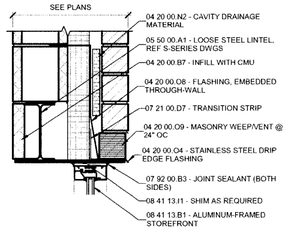
2E METAL COPING
1 1/2" = 1'-0"



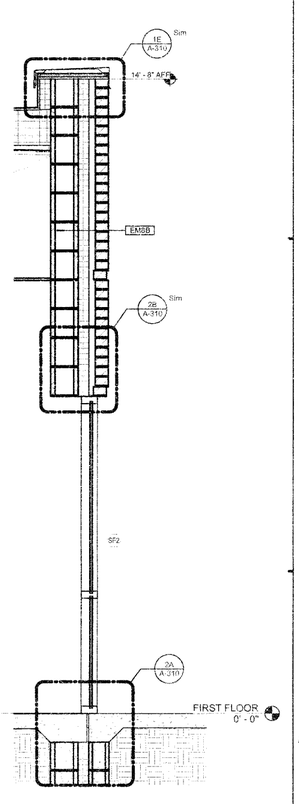
1E METAL COPING
1 1/2" = 1'-0"



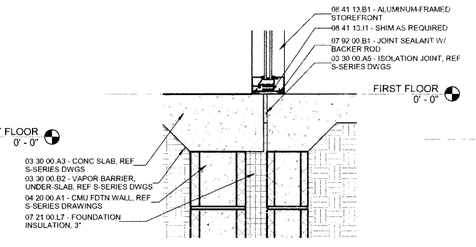
2D ROOF TERMINATION
1 1/2" = 1'-0"

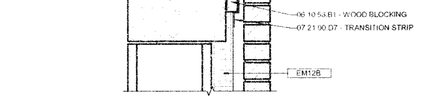


2B WALL SECTION DETAIL
1 1/2" = 1'-0"

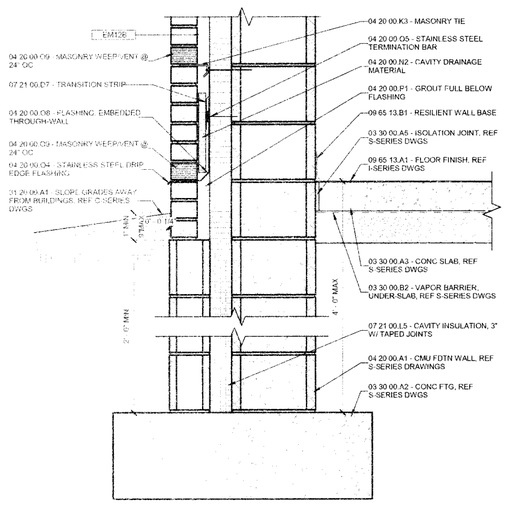


1A WALL SECTION
3/4" = 1'-0"





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



5A FOUNDATION
1 1/2" = 1'-0"

4A WALL SECTION
3/4" = 1'-0"

3A WALL SECTION
3/4" = 1'-0"

2A WALL SECTION DETAIL
1 1/2" = 1'-0"

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7300 E. 56th Street
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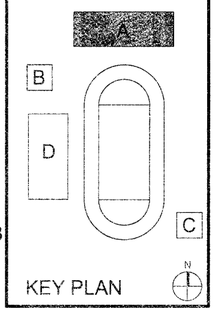
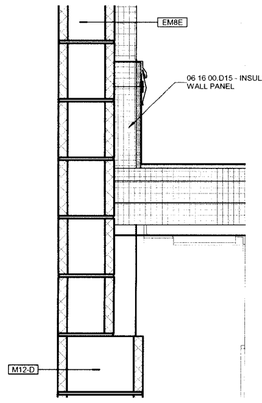


MSD OF LAWRENCE TOWNSHIP

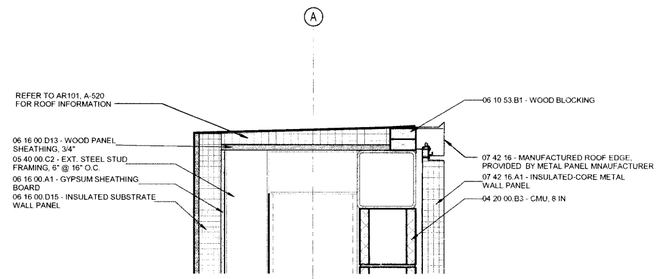
LC EXTERIOR FACILITY UPGRADES - BP2

WALL SECTIONS & DETAILS

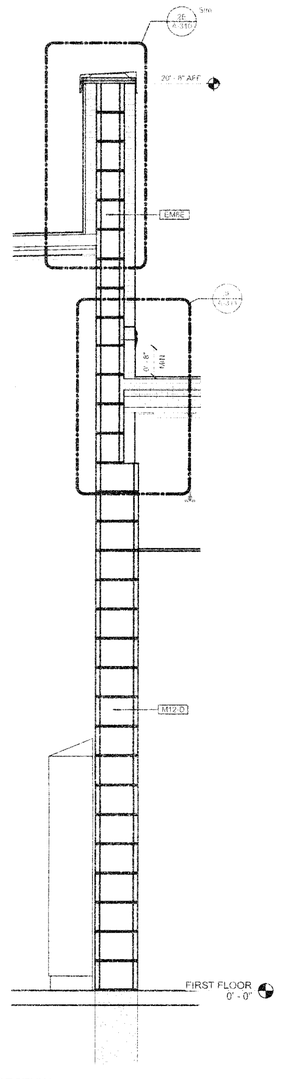
A-310



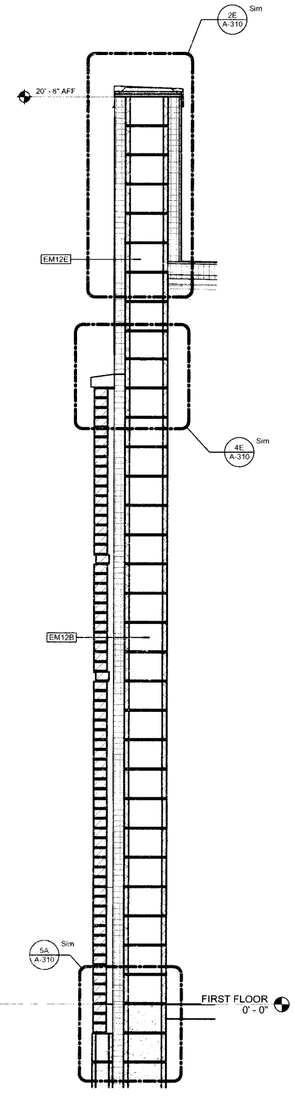
3E **WALL SECTION DETAIL**
1 1/2" = 1'-0"



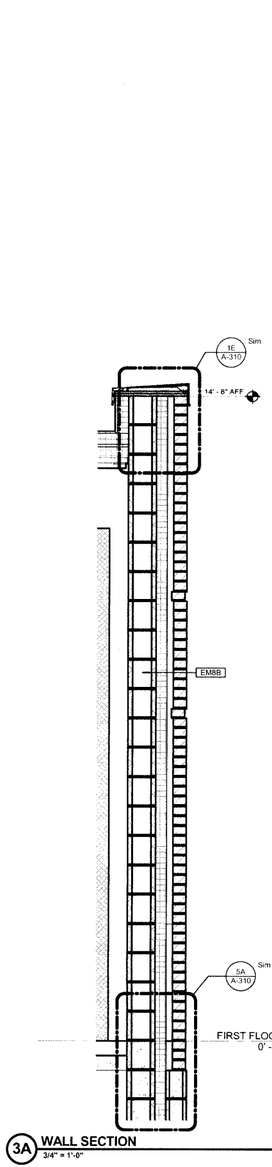
2E **WALL SECTION DETAIL**
1 1/2" = 1'-0"



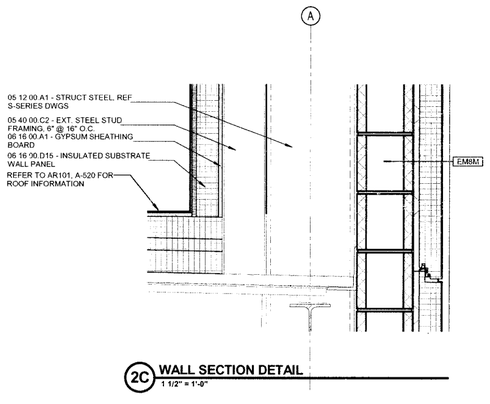
6A **WALL SECTION**
3/4" = 1'-0"



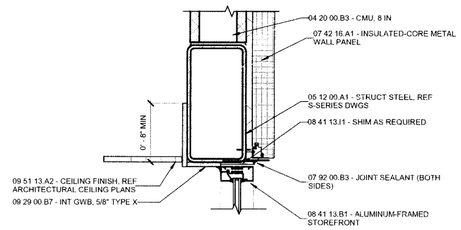
5A **WALL SECTION**
3/4" = 1'-0"



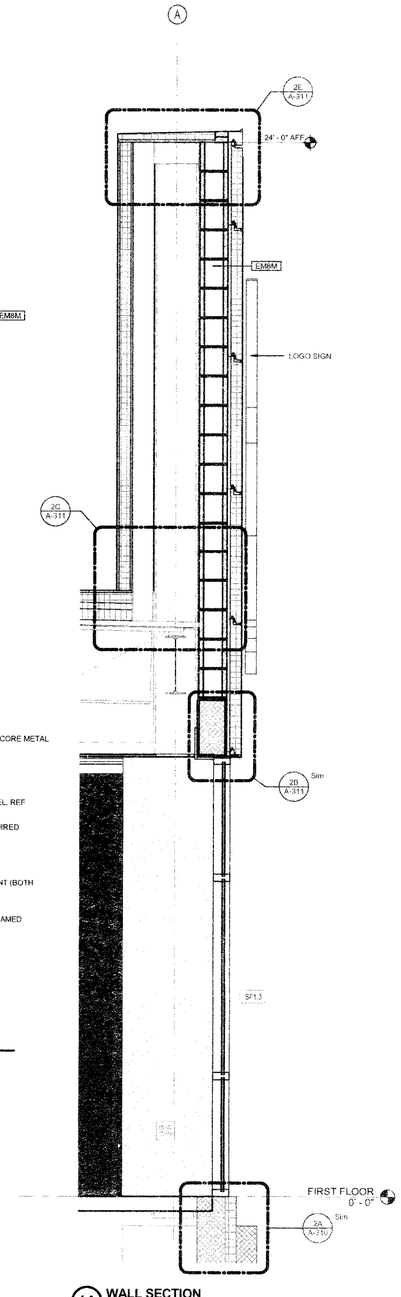
3A **WALL SECTION**
3/4" = 1'-0"



2C **WALL SECTION DETAIL**
1 1/2" = 1'-0"



2B **WALL SECTION DETAIL**
1 1/2" = 1'-0"



1A **WALL SECTION**
3/4" = 1'-0"

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Project No. 2015-121.LCS
Project Date 04.18.2016
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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

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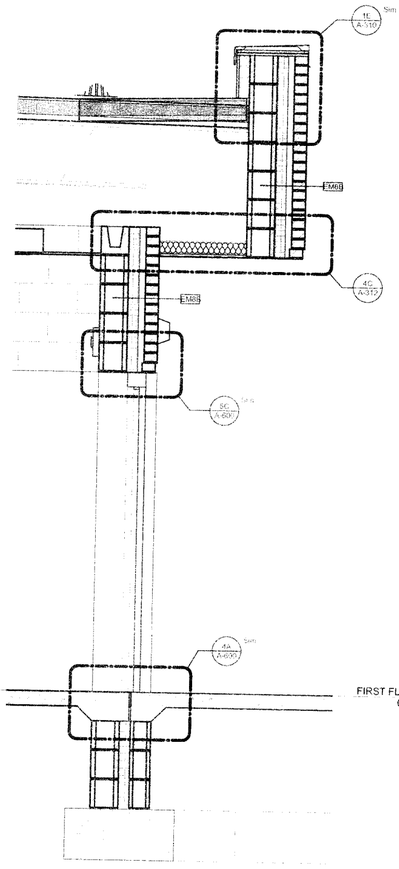
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

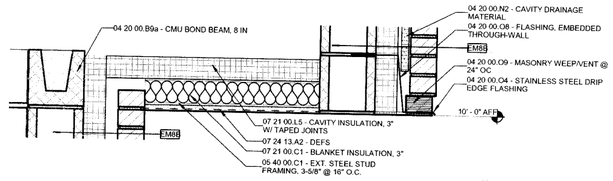
LC EXTERIOR FACILITY UPGRADES - BP2

WALL SECTIONS & DETAILS

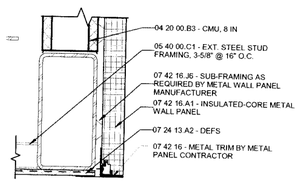
A-311



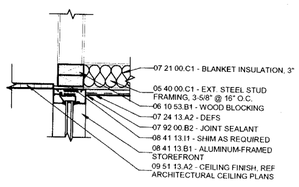
6A WALL SECTION
3/4" = 1'-0"



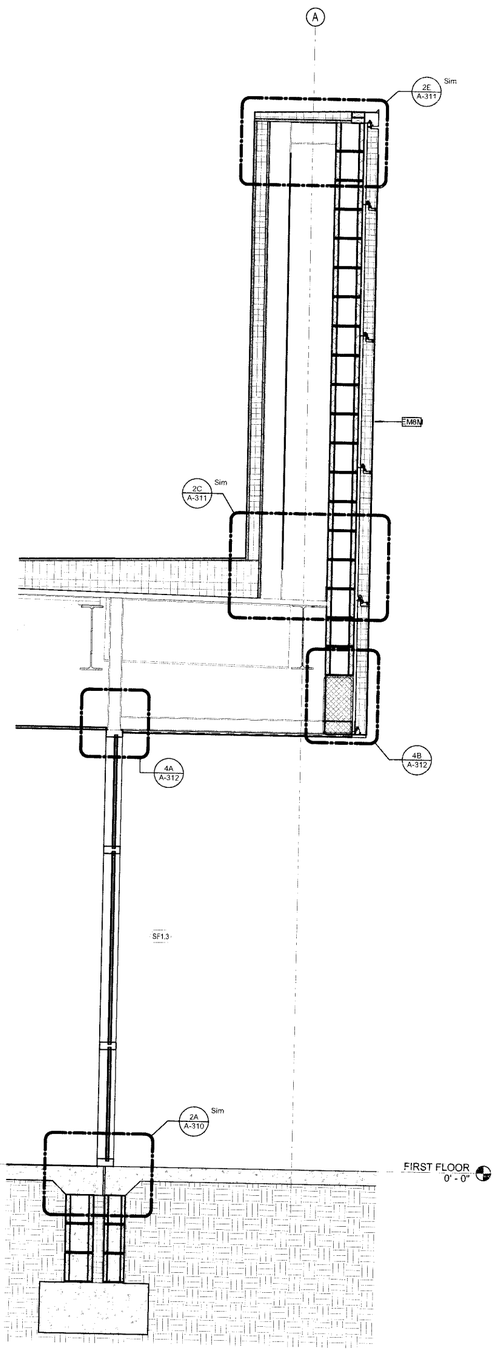
4C WALL SECTION DETAIL
1 1/2" = 1'-0"



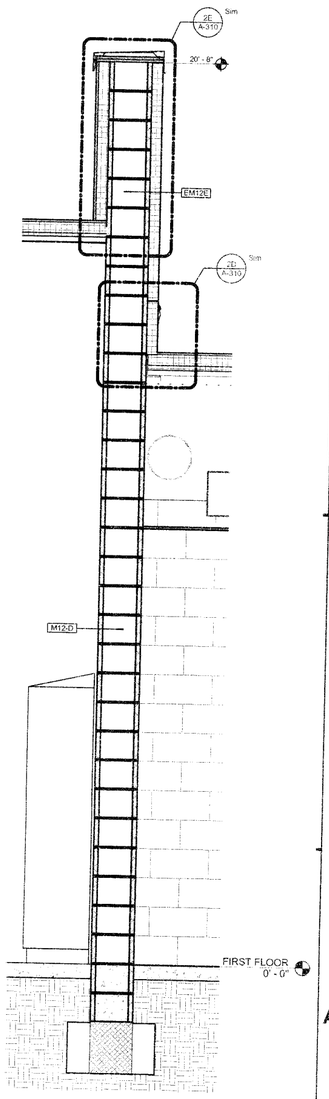
4B WALL SECTION DETAIL
1 1/2" = 1'-0"



4A WALL SECTION DETAIL
1 1/2" = 1'-0"



2A WALL SECTION
3/4" = 1'-0"



1A WALL SECTION
3/4" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No: 2015-121.LCS
Project Date: 04.18.2016
Produced: BGB

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

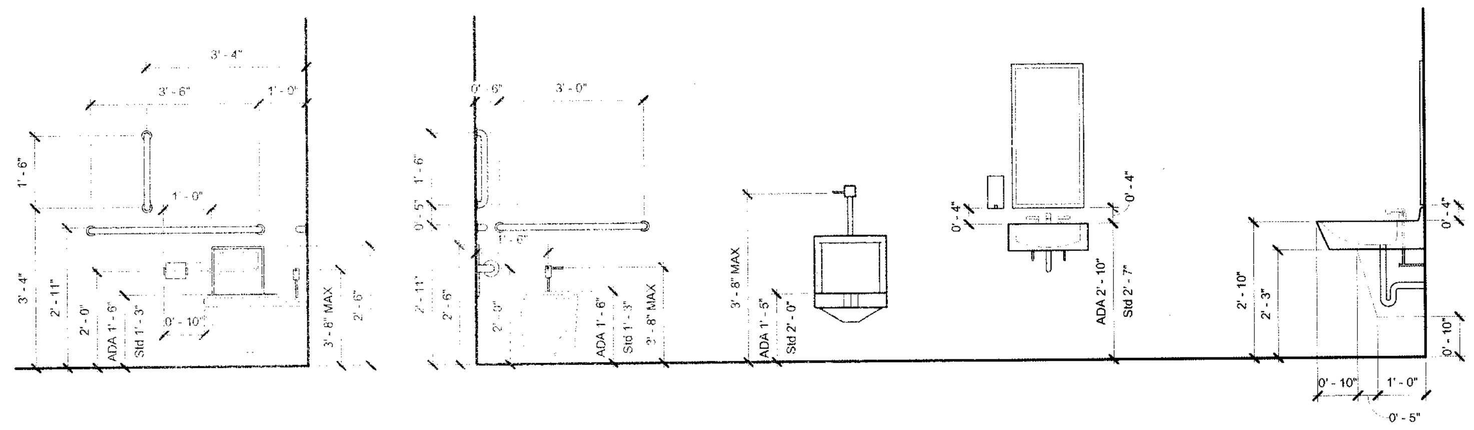
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

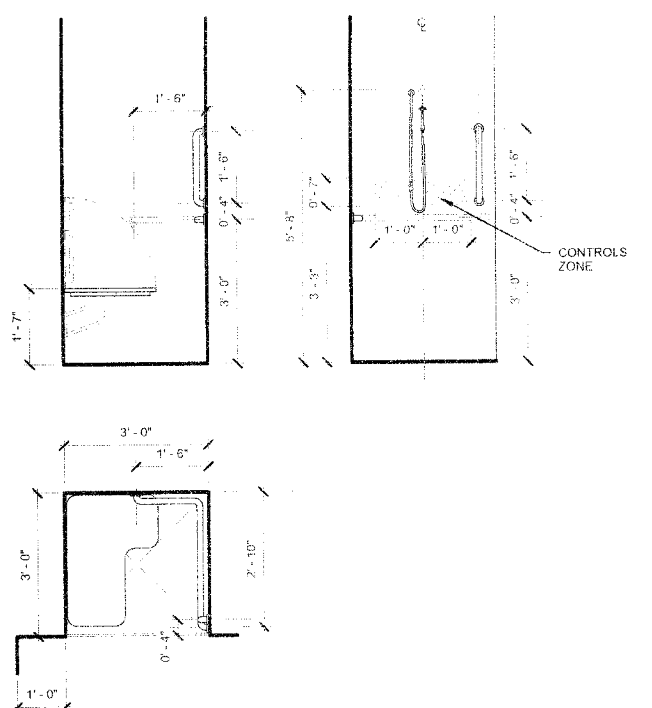
LC EXTERIOR FACILITY UPGRADES - BP2

WALL SECTIONS & DETAILS

A-312



6E STANDARD RESTROOM ELEVATIONS
1/2" = 1'-0"

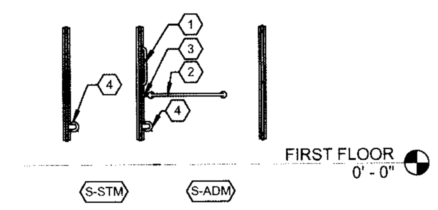


6D STANDARD SHOWER ELEVATIONS
1/2" = 1'-0"

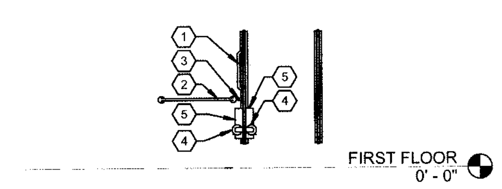
5.4.401 - RESTROOM ACCESSORY SCHEDULE					
Type Mark	Keynote	Description	Mounting	Furnished By	Installed By
1	10 28 00	GRAB BAR - 18" VERTICAL	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR
2	10 28 00	GRAB BAR - 36" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
3	10 28 00	GRAB BAR - 42" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
4	10 28 00	TOILET TISSUE DISPENSER - DOUBLE	BOTTOM @ 1'-6 AFF	OWNER	OWNER
5	10 28 00	SANITARY NAPKIN DISPOSAL - SURFACE	TOP @ 30" AFF	CONTRACTOR	CONTRACTOR
6	10 21 13	TOILET PARTITION	--	CONTRACTOR	CONTRACTOR
7	10 28 00	SOAP DISPENSER	BOTTOM @ 4" ABOVE FIXTURE	OWNER	OWNER
8	10 28 13	MIRROR - 24" X 36"	BOTTOM @ 4" ABOVE FIXTURE	CONTRACTOR	CONTRACTOR
9	10 28 00	HAND DRYER - SLIM	BOTTOM @ 42" AFF	CONTRACTOR	CONTRACTOR
10	10 28 00	ROBE HOOK	CENTER @ 6'-6" AFF	CONTRACTOR	CONTRACTOR
11	10 21 13	URINAL SCREEN	--	CONTRACTOR	CONTRACTOR
12	10 28 00	ADA ROBE HOOK	CENTER @ 3'-8" AFF	CONTRACTOR	CONTRACTOR
13	08 31 13	ACCESS DOOR - 16" X 16"	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR

5.4.402 - RESTROOM STALL TYPES	
Toilet Stall Mark	Description
S-ADM	ADA - MENS' STALL
S-ADW	ADA - WOMENS' STALL
S-STM	STANDARD - MENS' STALL
S-STW	STANDARD - WOMENS' STALL

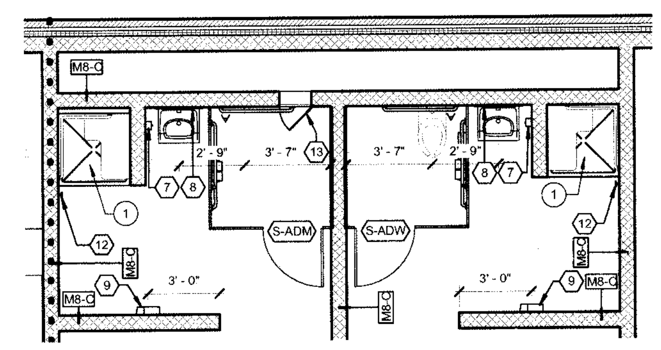
ENLARGED PLAN NOTE	
KEY	NOTE
1	ADA SHOWER, REFERENCE DETAIL 6D/A-401 FOR ACCESSORY HEIGHTS
2	FLOOR TRENCH, REFER TO P-SERIES DRAWINGS
3	SLOPE FLOOR TO SHOWER DRAINS.



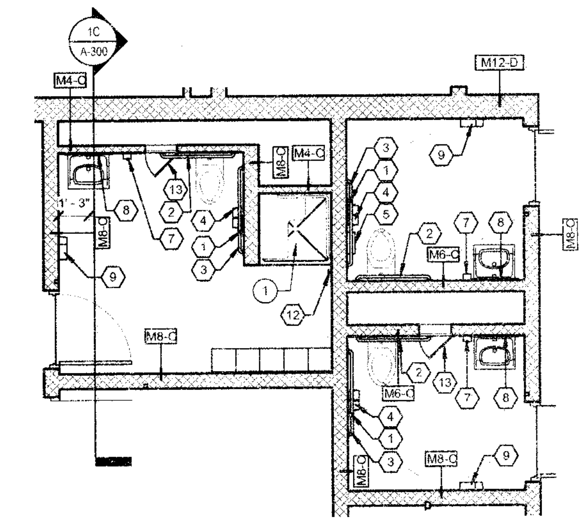
3D Mens WC
1/4" = 1'-0"



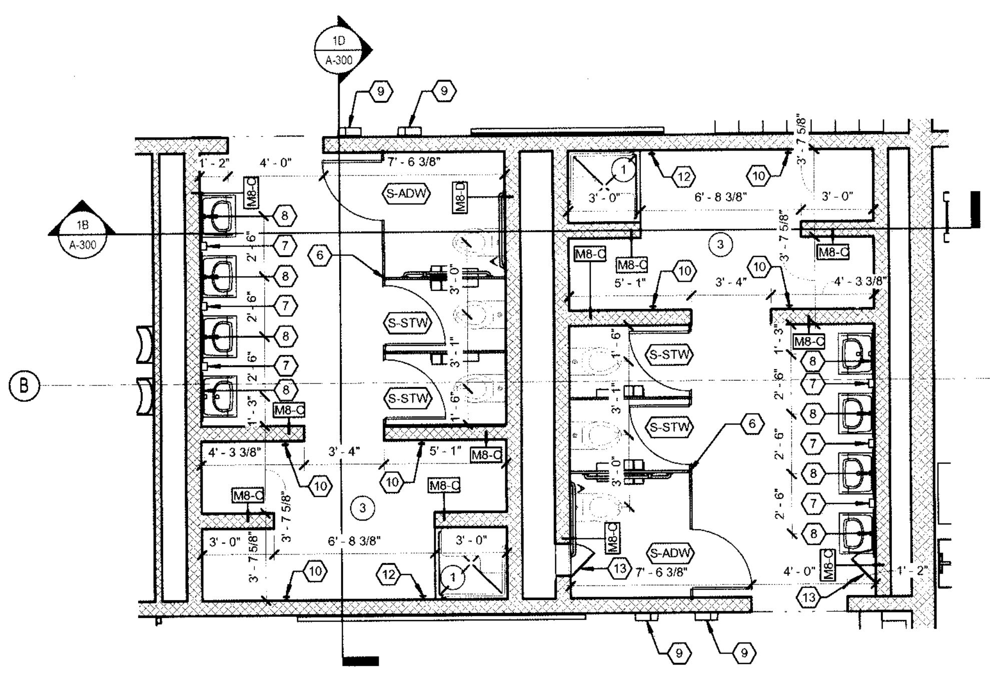
3C Womens WC
1/4" = 1'-0"



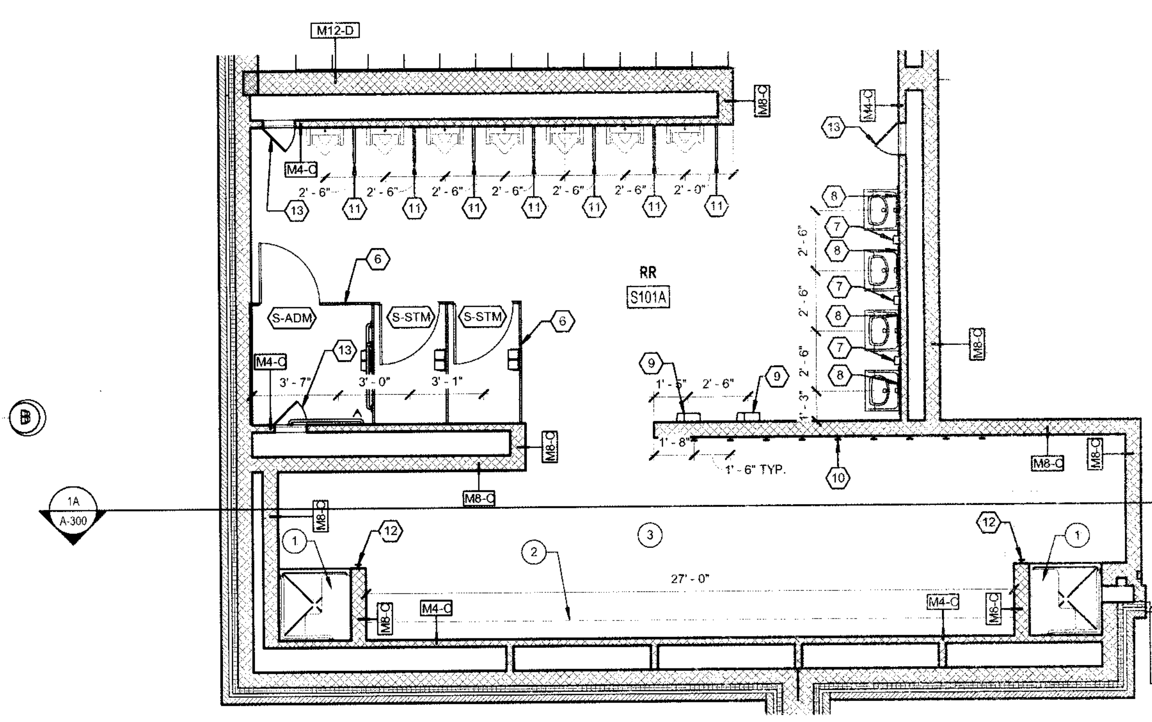
2C COACHES LOCKER ROOM RESTROOM
1/4" = 1'-0"



1C PUBLIC/COACHES RESTROOM
1/4" = 1'-0"



3A LOCKER ROOM RESTROOM
1/4" = 1'-0"



1A FOOTBALL LOCKER ROOM RESTROOM
1/4" = 1'-0"

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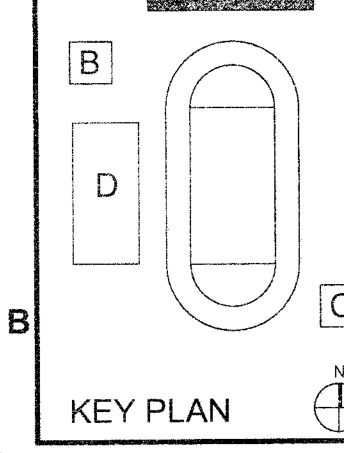
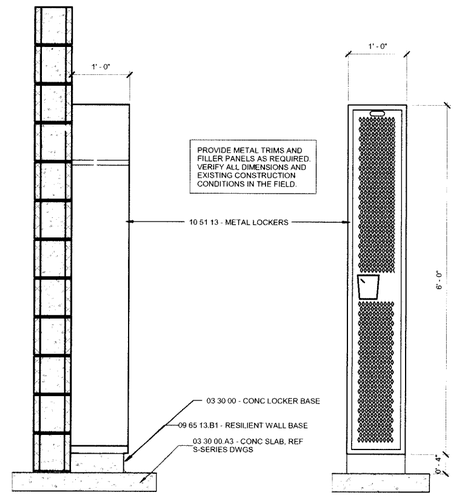


MSD OF LAWRENCE TOWNSHIP

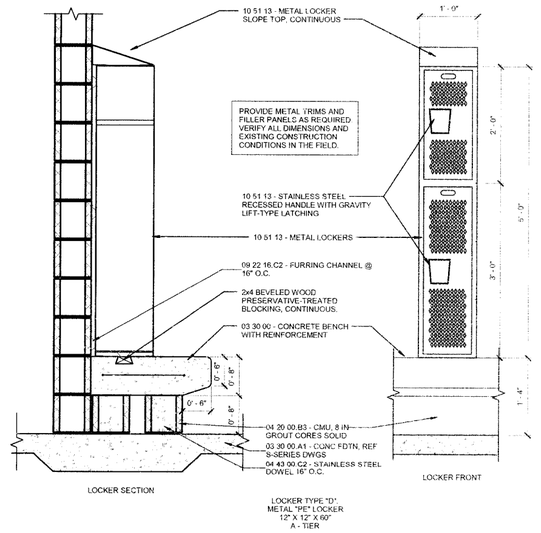
LC EXTERIOR FACILITY UPGRADES - BP2

ENLARGED RESTROOM PLANS

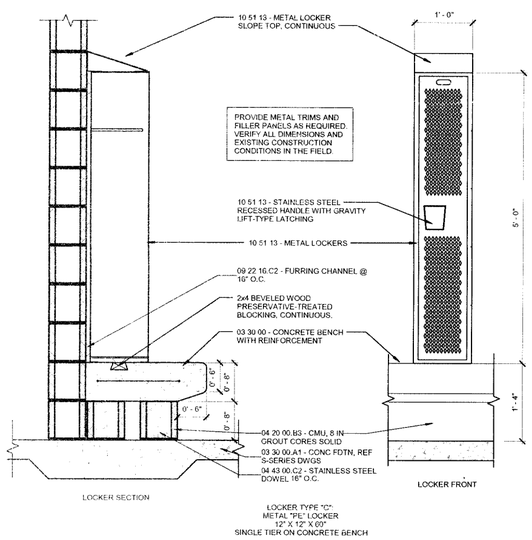
A-401



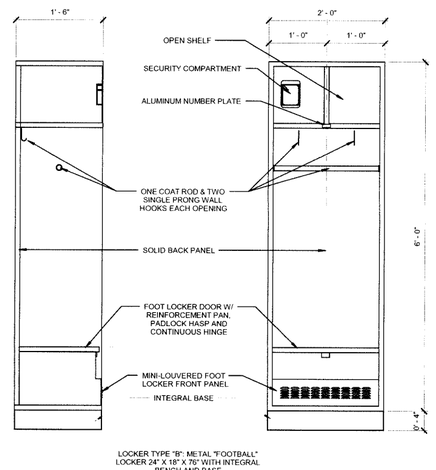
3C **LOCKER TYPE "E"**
1" = 1'-0"



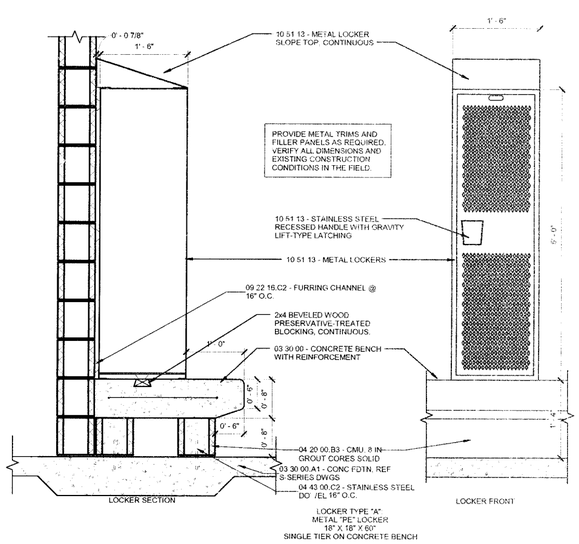
1C **LOCKER TYPE "D"**
1" = 1'-0"



5A **LOCKER TYPE "C"**
1" = 1'-0"



LOCKER TYPE "B"
1" = 1'-0"



1A **LOCKER TYPE "A"**
1" = 1'-0"

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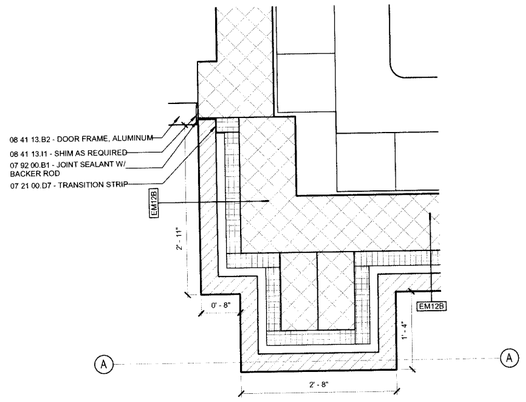
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

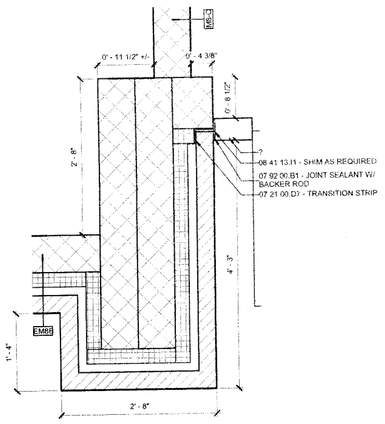
LC EXTERIOR FACILITY UPGRADES - BP2

TYPICAL DETAILS

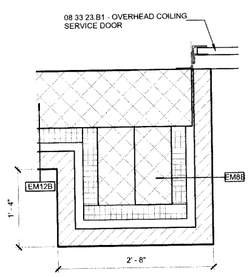
A-500



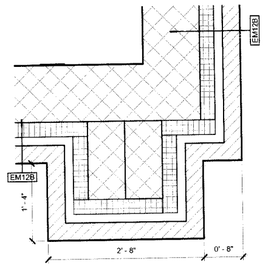
2E **PLAN DETAIL**
1" = 1'-0"



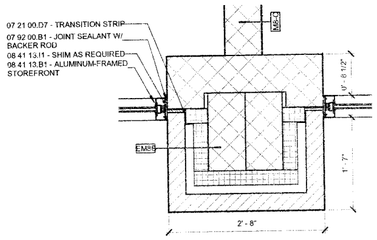
1D **PLAN DETAIL**
1" = 1'-0"



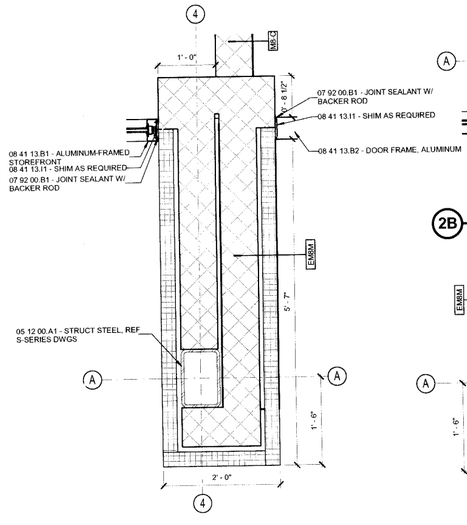
3C **PLAN DETAIL**
1" = 1'-0"



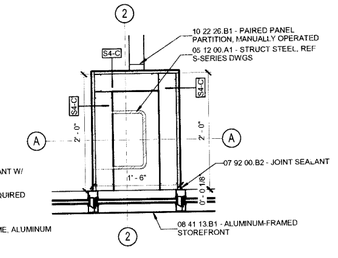
2C **PLAN DETAIL**
1" = 1'-0"



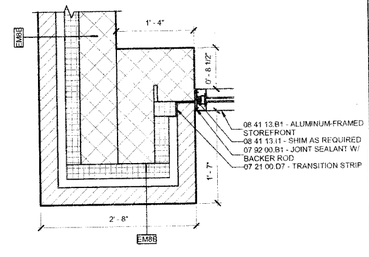
1C **PLAN DETAIL**
1" = 1'-0"



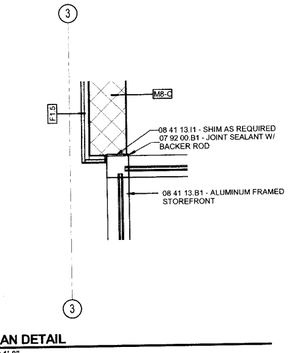
3B **PLAN DETAIL**
1" = 1'-0"



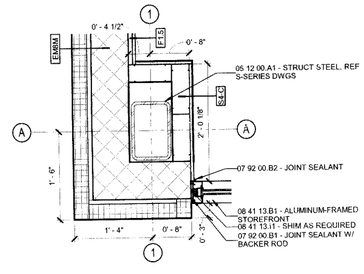
2B **PLAN DETAIL**
1" = 1'-0"



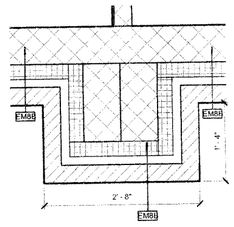
1B **PLAN DETAIL**
1" = 1'-0"



4A **PLAN DETAIL**
1" = 1'-0"



3A **PLAN DETAIL**
1" = 1'-0"



2A **PLAN DETAIL**
1" = 1'-0"

1A **PLAN DETAIL**
1" = 1'-0"

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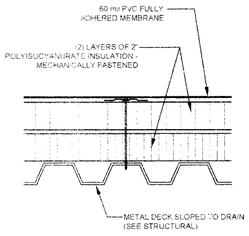
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

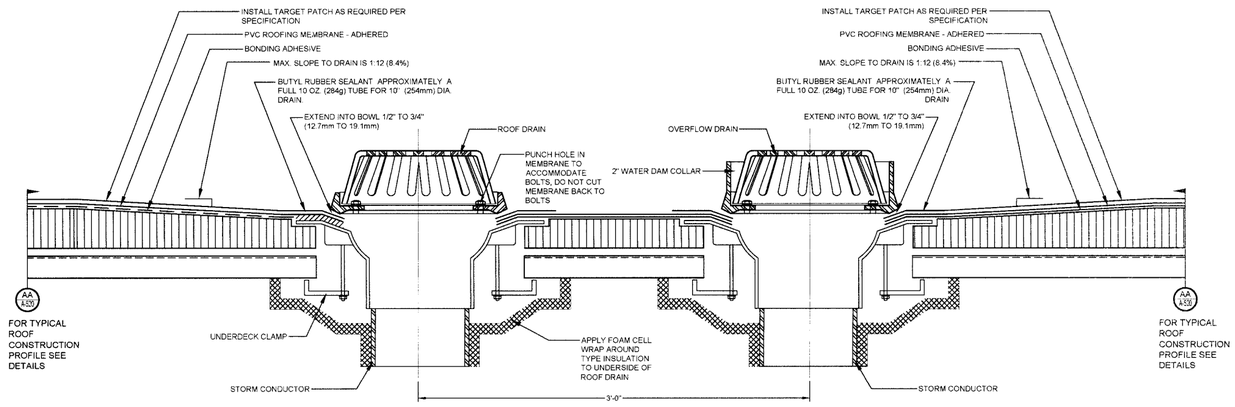
PLAN DETAILS

A-510



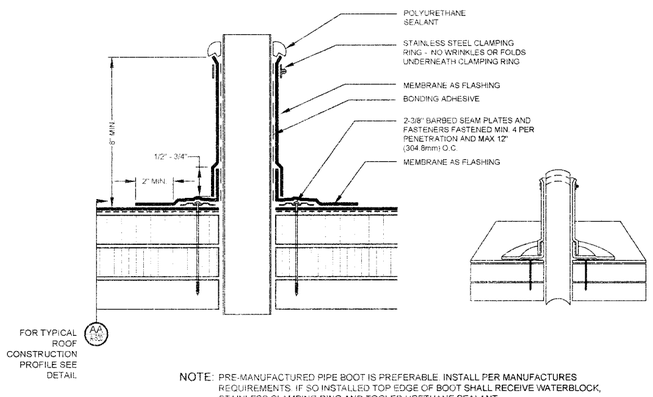
ROOF CONSTRUCTION PROFILE

SCALE: N.T.S.



ROOF DRAIN

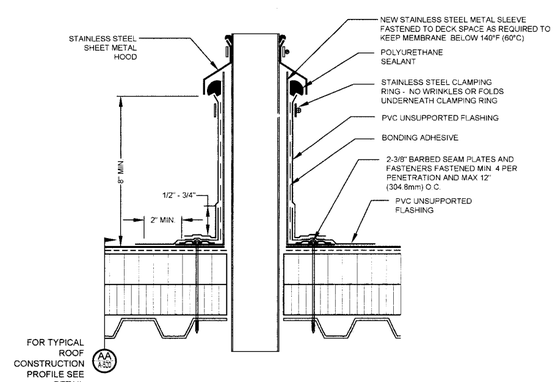
SCALE: N.T.S.



NOTE: PRE-MANUFACTURED PIPE BOOT IS PREFERABLE. INSTALL PER MANUFACTURES REQUIREMENTS. IF SO INSTALLED TOP EDGE OF BOOT SHALL RECEIVE WATERBLOCK, STAINLESS CLAMPING RING AND TOOLED URETHANE SEALANT.

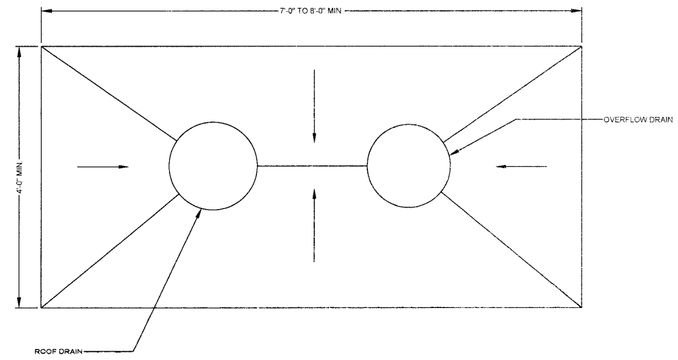
FIELD FABRICATED PIPE FLASHING

SCALE: N.T.S.



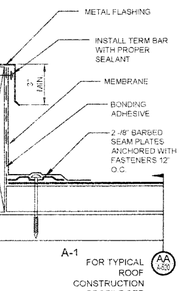
HOT PIPE FLASHING

SCALE: N.T.S.



ROOF DRAIN SUMP

SCALE: N.T.S.

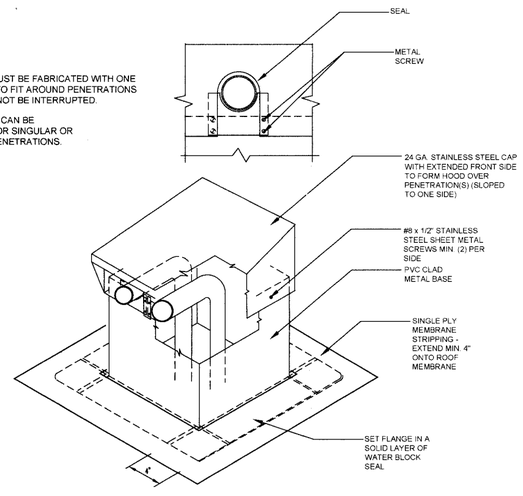


NOTES:
1. INSTALL CURB FLASHING AFTER BASE FLASHING INSTALLATION WITH A MINIMUM OF TWO (2) FASTENERS PER SIDE, SECURELY FASTENED TO THE STRUCTURAL CURB.

TYPICAL CURB FLASHING

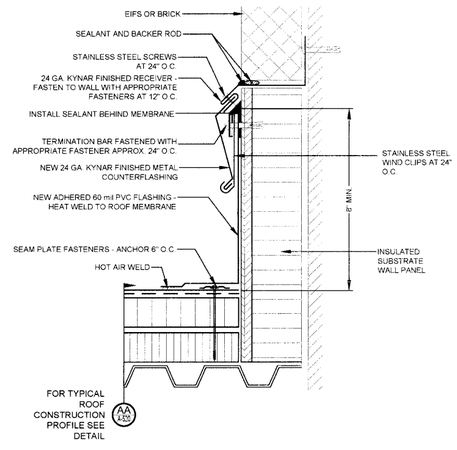
SCALE: N.T.S.

NOTES:
1. CLOSURE MUST BE FABRICATED WITH ONE SIDE OPEN TO FIT AROUND PENETRATIONS WHICH CANNOT BE INTERRUPTED.
2. THIS DETAIL CAN BE MODIFIED FOR SINGULAR OR MULTIPLE PENETRATIONS.



MULTIPLE PENETRATION

SCALE: N.T.S.



THRU-WALL REGLET

SCALE: N.T.S.

SEAL
RODNEY LEE WIEDENKELLER
REGISTERED
No. AR10900131
STATE OF INDIANA
ARCHITECT

PLANS AND SPECIFICATIONS CERTIFIED BY:

Rodney Lee Wiedenkeller
Indiana Registration No.
AR10900131

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Project No. 2015.121.LCS
Project Date 04.18.2016
Produced RLW/MER

#	Revision	Date

Moisture Management
9855 Crosspoint Blvd., Suite 100
Indianapolis, IN 46256
317.577.0910
Fax: 317.577.0912

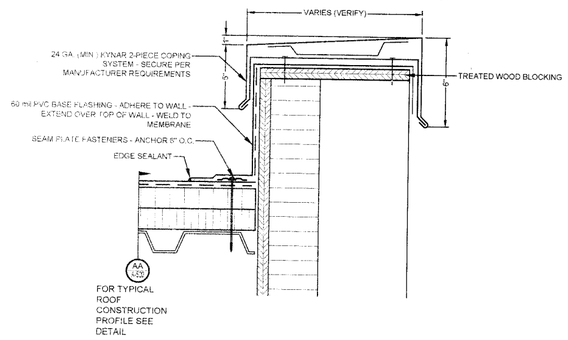
Project Address

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES

ROOF DETAILS

A-520



COPING DETAIL
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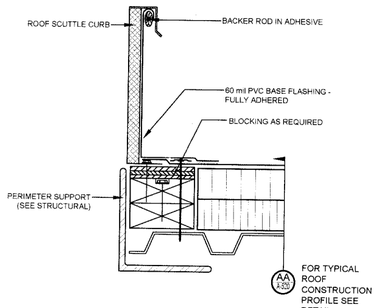
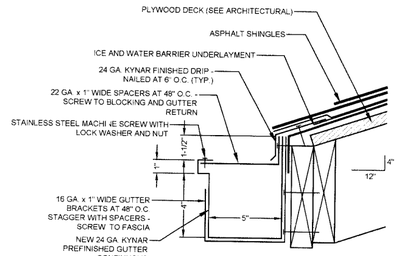
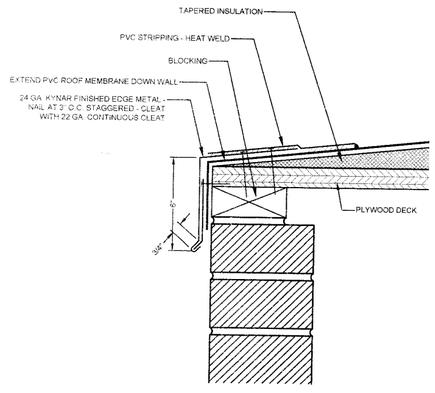


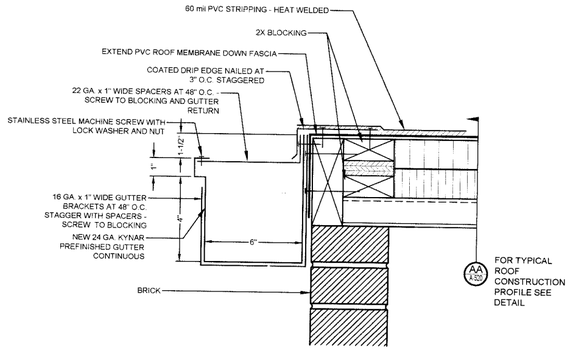
ROOF SCUTTLE DETAIL
SCALE: N.T.S.



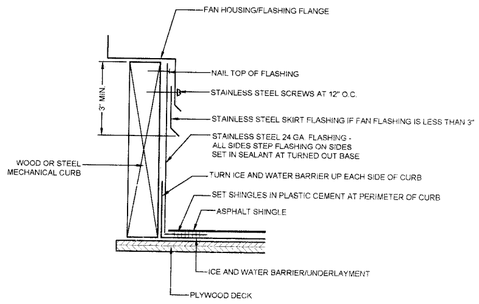
GUTTER DETAIL
SCALE: N.T.S.



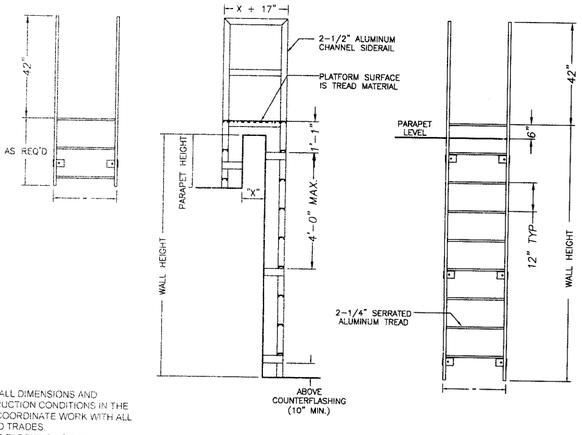
EDGE METAL DETAIL
SCALE: N.T.S.



GUTTER
SCALE: N.T.S.



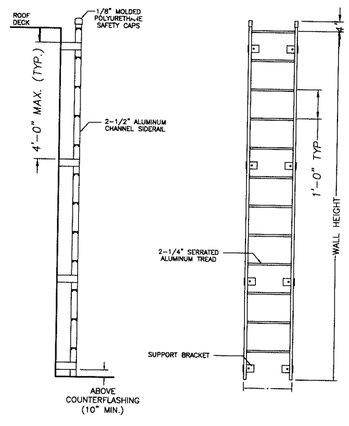
MECHANICAL CURB
SCALE: N.T.S.



NOTE

1. VERIFY ALL DIMENSIONS AND CONSTRUCTION CONDITIONS IN THE FIELD. COORDINATE WORK WITH ALL RELATED TRADES.
2. PROVIDE BLOCKING AS REQUIRED FOR ANCHORING INTO WALL CONSTRUCTION.
3. REFERENCE ROOF ACCESS LADDER SCHEDULE FOR LADDER SPECIFIC INFORMATION.
4. MANUFACTURER: PRECISION LADDERS, LLC.
5. INSTALL LADDER AT 10' MIN. AWAY FROM ADJACENT PARAPET (TYPICAL)

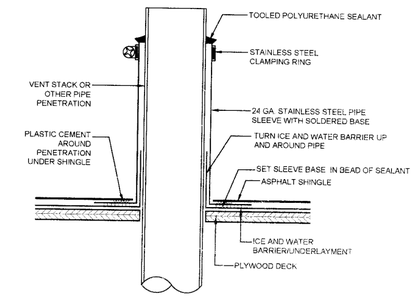
ALUMINUM FIXED LADDER WITH PARAPET PLATFORM
SCALE: N.T.S.



NOTE.

1. VERIFY ALL DIMENSIONS AND CONSTRUCTION CONDITIONS IN THE FIELD. COORDINATE WORK WITH ALL RELATED TRADES.
2. MANUFACTURER: PRECISION LADDERS, LLC.

ALUMINUM FIXED LADDER TO ROOF HATCH
SCALE: N.T.S.



VENT STACK/PIPE PENETRATION
SCALE: N.T.S.

SEAL
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REGISTERED No. AR10900131
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ARCHITECT
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Fax: 317.577.0912

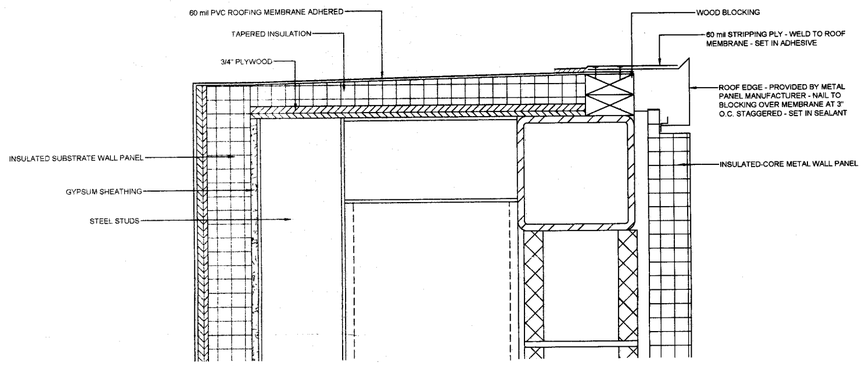
Project Address

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES

ROOF DETAILS

A-521



P/A-522 **WALL SECTION DETAIL**

SCALE: N.T.S.

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Indianapolis, Indiana 46204
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Project No. 2015.121.LCS
Project Date 04.18.2016
Produced RLW/MER

#	Revision	Date

Moisture Management
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Indianapolis, IN 46256
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MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES

SEAL
RODNEY LEE WIEDENKELLER
REGISTERED No. AR10900131
STATE OF INDIANA
ARCHITECT

PLANS AND SPECIFICATIONS CERTIFIED BY:
Rodney Lee Wiedenkeller
Indiana Registration No.
AR10900131

ROOF DETAILS

A-522

INTERIOR FINISH LEGEND

MARK	DESCRIPTION	MANUFACTURER	PATTERN/STYLE	COLOR	SPECIFICATION	COMMENTS
CFC-1	CONCRETE FLOOR COATING	-			09 96 00.99	
CPT-1	CARPET TILE	J&J FLOORING GROUP	KINETEX / VELOCITY 1814	MOVE 1608	09 68 13	QUATER-TURN INSTALLATION.
GR-1	GROUT	-	-	TO BE SELECTED FROM MFR'S STANDARD COLORS	09 30 00	
HP-1	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	EGRET WHITE SW7570	09 91 23	PAINT COLOR FOR PAINTED EXPOSED CEILING / STRUCTURE
HP-2	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	SKYLINE STEEL SW1015	09 91 23	
MWC-1	MARKER WALLCOVERING	VITRULAN	CINCH MAGNETIC WALLCOVERING	SMOOTH M-22	09 72 00	
MWP-1	MARKER WALL PAINT	VITRULAN	SCRIBIL DRY-ERASE PAINT	CLEAR	09 72 00	
PFT-1	PORCELAIN FLOOR TILE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VLT2	09 30 00	SIZE: 12"x24", 1/3 BRICK INSTALLATION
PFTB-1	PORCELAIN FLOOR TILE BASE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VLT2	09 30 00	SIZE: 6"x12", COVE
PL-1	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	EBONY OXIDE 299-58	12 32 00	
PL-2	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	CITADEL WRAP 5882-58	12 32 00	
RSF-1	RESINOUS FLOORING	GENERAL POLYMERS	CERAMIC CARPET	CHARCOAL 332	09 67 23	
UPH-1	UPHOLSTERY	PALLAS	HOLY COW	THUNDERSTORM	12 32 00	
VWB-1	VINYL WALL BASE	JOHNSONITE	-	BURNT UMBER 63	09 65 13	
VWC-1	VINYL WALL COVERING (OPERABLE PARTITIONS)	KOROSEAL	KASHI	SILVER FAN	10 22 26	
WOC-1	WALK-OFF CARPET	TANDUS	ASSERTIVE ACTION 04837	STEELWORK 26202	09 68 13	

INTERIORS GENERAL NOTES

REFERENCE A-001 FOR GENERAL PLAN NOTES. ALL NOTES MAY NOT APPLY TO THIS SHEET.

1. FURNITURE IS NOT PROVIDED IN THIS CONTRACT, LAYOUTS AND FINAL DESIGN WILL NEED TO BE DETERMINED BY THE OWNER.
2. REFERENCE ARCHITECTURAL CEILINGS PLANS FOR CEILING HEIGHTS AND BULKHEAD COLOR DESIGNATIONS. PAINT ALL BULKHEADS HP-1 UNLESS SPECIFICALLY NOTED OTHERWISE. BULKHEADS THAT ARE FLUSH WITH WALLS PROVIDE COLOR TO MATCH ADJACENT WALL COLOR.
3. PAINT INTERIOR HOLLOW METAL DOORS HP-1.
4. PAINT INTERIOR HOLLOW METAL DOOR FRAMES HP-3.
5. PAINT EXTERIOR HOLLOW METAL DOORS AND FRAMES HP-1.
6. PAINT GENERAL WALLS P-1 (NEUTRAL) UNLESS SPECIFICALLY NOTED OTHERWISE.
7. APPLIANCES AND VENDING EQUIPMENT ARE NOT PROVIDED IN THIS CONTRACT.
8. PAINT ALL EXPOSED STRUCTURE, DUCTWORK, PIPING ETC. HP-2.

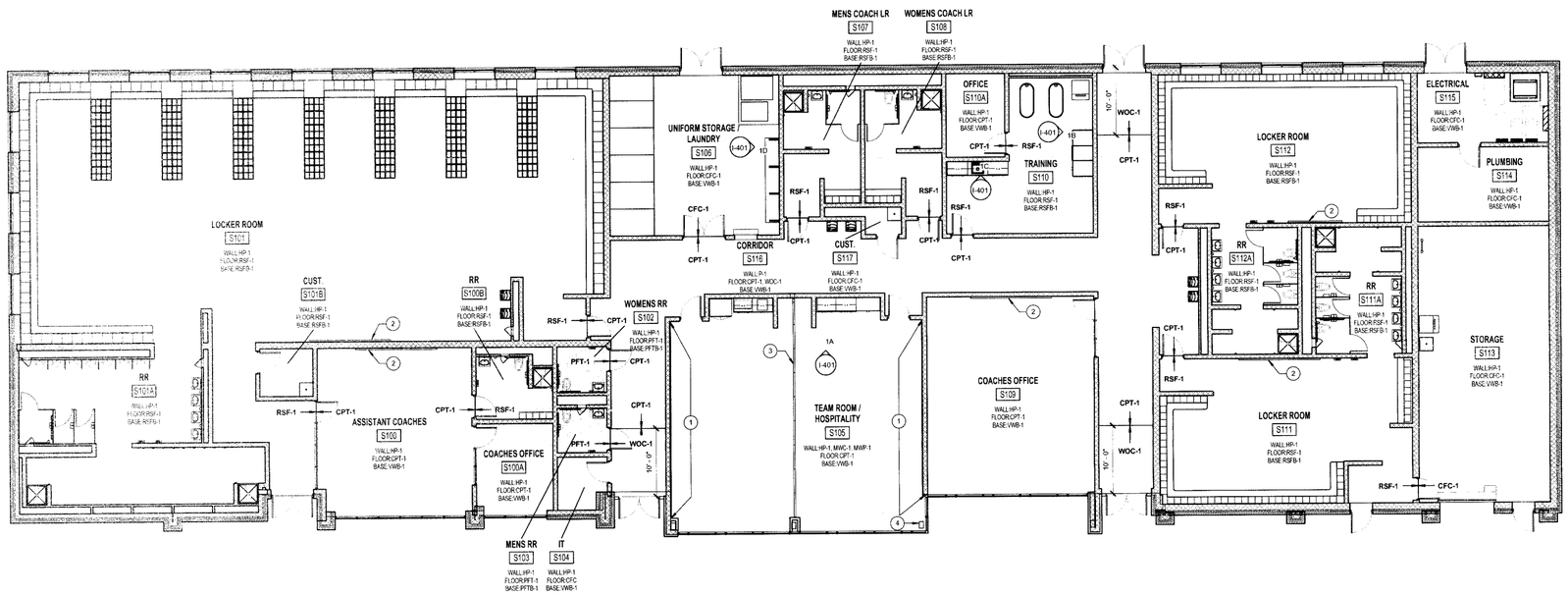
INTERIORS LEGEND

GENERAL

ETR	EXISTING TO REMAIN
NIC	NOT IN CONTRACT
FFE	FURNITURE, FIXTURES & EQUIPMENT

INTERIORS KEY NOTES

KEY	NOTE
1	EXTENT OF WALL TO RECEIVE MWC-1 AND MWP-1.
2	MARKERBOARD- 4'-0" HEIGHT, 12'-0" WIDTH. MOUNT WITH BOTTOM AT 3'-0" AFF.
3	OPERABLE PARTITION VINYL COVERING TO BE VWC-1.
4	PAINT ALL FACES OF EXPOSED COLUMN P-1.



2A **FIRST FLOOR INTERIOR PLAN**
1/8" = 1'-0"

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced Designer AEC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

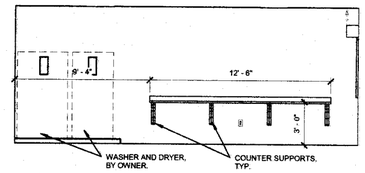
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

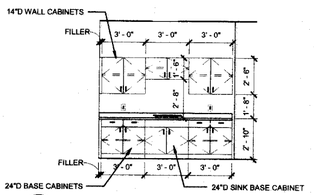
LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR INTERIOR PLAN

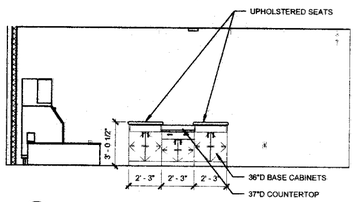
IN1A1



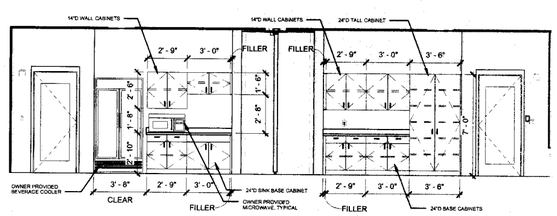
1D **UNIFORM STORAGE / LAUNDRY EAST ELEVATION**
1/4" = 1'-0"



1C **TRAINING NORTH ELEVATION**
1/4" = 1'-0"



1B **TRAINING EAST ELEVATION**
1/4" = 1'-0"



1A **TEAM ROOM / HOSPITALITY NORTH ELEVATION**
1/4" = 1'-0"

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

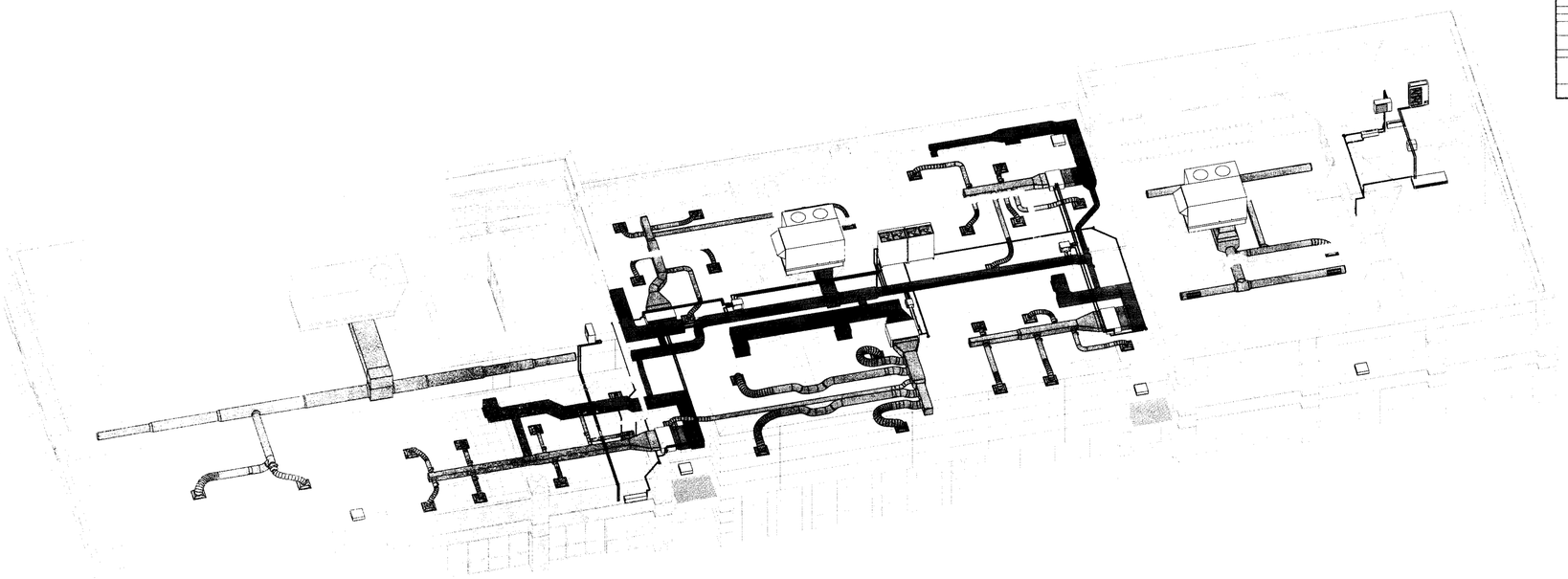
LC EXTERIOR FACILITY UPGRADES - BP2

INTERIOR ELEVATIONS

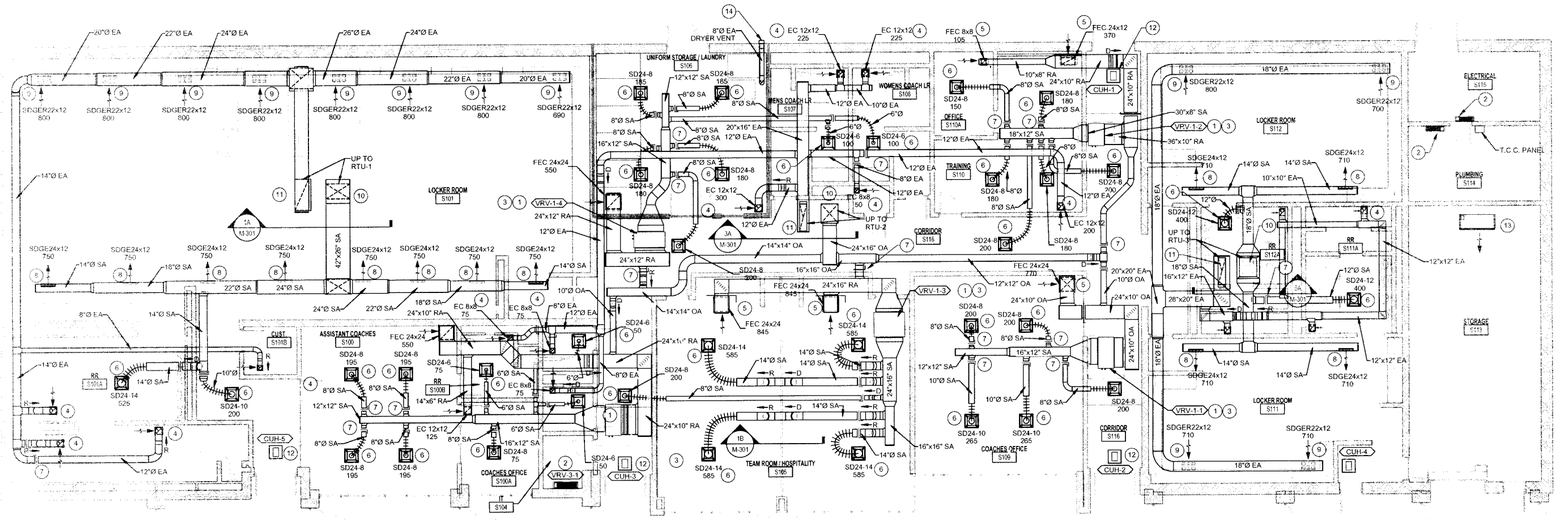
I-401

MECHANICAL HVAC PLAN NOTES

#	NOTE
1	VRV CONCEALED DUCTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURER'S REQUIRMENTATIONS. REF SCHEDULE ON SHEET M-601
2	VRV WALL MOUNTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURER'S REQUIRMENTATIONS. REF SCHEDULE ON SHEET M-601
3	TRANSITION SUPPLY & RETURN AIR CONNECTIONS TO VRV FAN COIL UNIT AS REQUIRED.
4	TYPICAL EGGCRATE T-MAXIDE GRILLE. SEE SCHEDULE ON SHEET M-601
5	TYPICAL RETURN AIR GRILLE WITH 1" AIR FILTER. SEE SCHEDULE ON SHEET M-601 & DETAIL 5A/M-501
6	TYPICAL SUPPLY AIR DIFFUSER IN LAY-IN CEILING. SEE SCHEDULE ON SHEET M-601 & DETAIL 2A&E/M-501
7	TYPICAL MANUAL BALANCING DAMPER LOCATED IN EACH BRANCH DUCT.
8	TYPICAL SIDEWALL SUPPLY AIR GRILLE. SEE SCHEDULE ON SHEET M-601
9	TYPICAL SIDEWALL RETURN AIR GRILLE. SEE SCHEDULE ON SHEET M-601
10	SUPPLY DUCT ROUTED DOWN FROM ROOFTOP UNIT LOCATED ON ROOF. TRANSITION TO UNIT CONNECTION SIZE AS REQUIRED. SEE ROOF PLAN FOR UNIT LOCATION.
11	RETURN DUCT ROUTED DOWN FROM ROOFTOP UNIT LOCATED ON ROOF. TRANSITION TO UNIT CONNECTION SIZE AS REQUIRED. REF ROOF PLAN FOR UNIT LOCATION.
12	CEILING MOUNTED ELECTRIC UNIT HEATER. SEE SCHEDULE ON SHEET M-601.
13	VRV CEILING MOUNTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURER'S REQUIRMENTATIONS. REF SCHEDULE ON SHEET M-601
14	8" DRYER VENT ROUTED THROUGH SIDEWALL. PROVIDE MATCHING DRYER VENT CAP AS REQUIRED. INSTALL PER MANUFACTURERS RECOMMENDATIONS.



1D ISOMETRIC PLAN
NOT TO SCALE



1A FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

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Project Date 04.18.2016
Pre/Post BAW / DBC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
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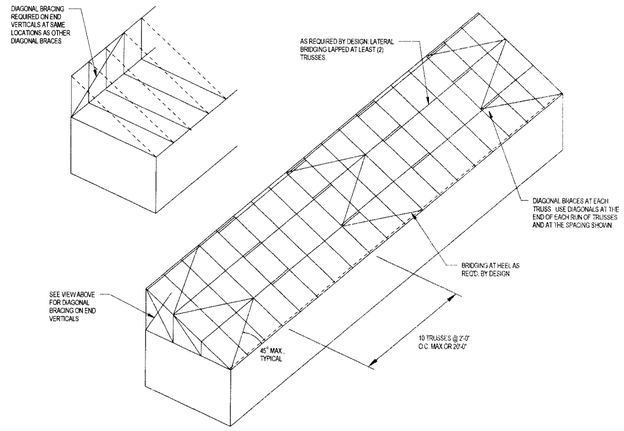
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

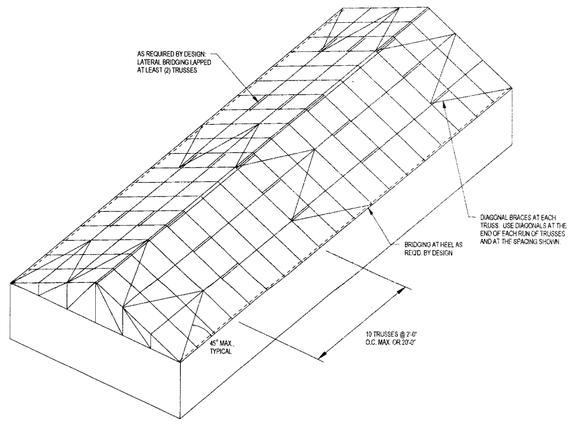
LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR HVAC PLAN - UNIT A

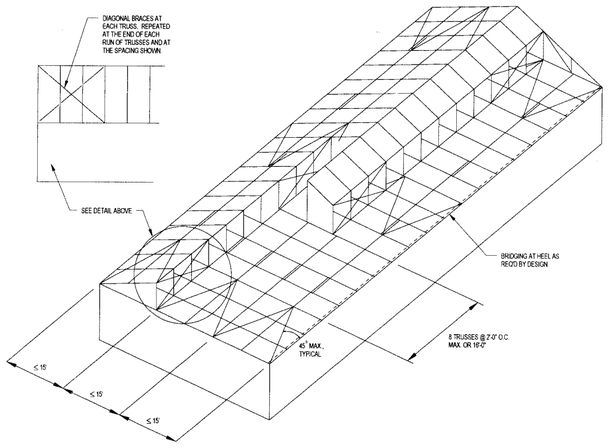
MH1A1



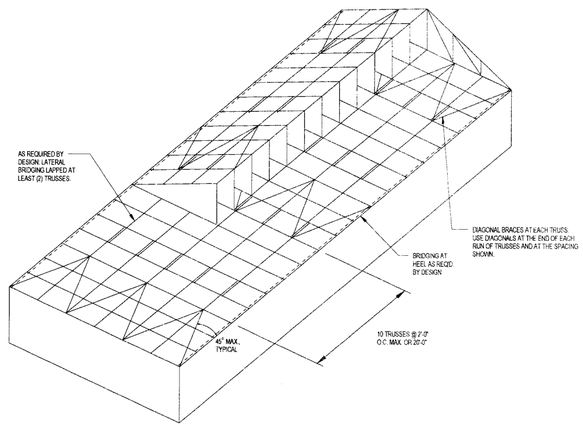
3 TOP CHORD BRACING FOR MONO-PITCH TRUSSES
3/4" = 1'-0"



2 TOP CHORD BRACING FOR GABLE TRUSSES
3/4" = 1'-0"



4 WEB MEMBER BRACING
3/4" = 1'-0"



1 BOTTOM CHORD BRACING
3/4" = 1'-0"

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WESLEY B. HARRISON
PE80804410
STATE OF INDIANA
PROFESSIONAL ENGINEER

#	Revision	Date

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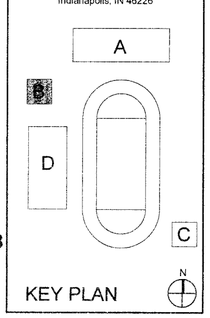


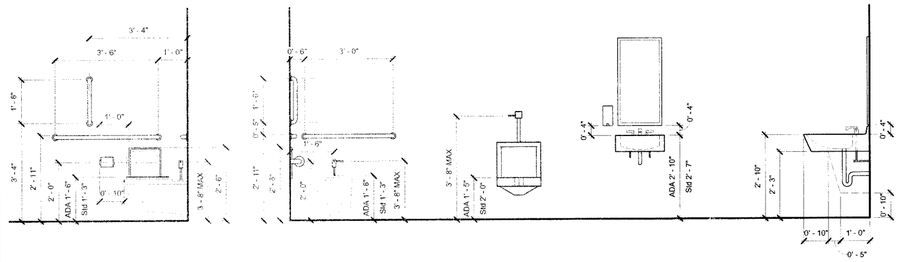
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

TYPICAL DETAILS

S-4B2



6E STANDARD RESTROOM ELEVATIONS
1/2" = 1'-0"

REFLECTED CEILING PLAN LEGEND

GWB Drywall Grid System (09 22 16)	Light Fixture (Reference E-Series Dwgs)
Walls to Deck	Return Air (Reference M-Series Dwgs)
	Supply Air (Reference M-Series Dwgs)
	Exit Light (Reference E-Series Dwgs)
	Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceilings (Reference E-Series Dwgs)
	SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)

General Refl. Ceiling Plan Notes

1. All ceilings are at 9'-6" AFF, unless noted otherwise.
2. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.

5.4.120 - CEILING PLAN NOTES

KEY	NOTE
1	CONTROL JOINT
2	ALUMINUM GUTTER, REFER TO ROOF DETAILS
3	16" X 16" ACCESS PANEL, COORDINATE LOCATION WITH VALVES.

General Plan Notes

1. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.
2. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.
3. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.
4. All door frames are located 4" from adjacent wall, unless noted otherwise.
5. All exposed outside corners of CMU shall be bullnosed.
6. Seal all joints between dissimilar materials.
7. All interior walls are Type "M6-C", unless noted otherwise.
8. Base elevation is 0'-0" = 851.95' (United States Geological Survey data).
9. Hatching within walls shown in plans and sections indicates new construction.

5.4.100 - FLOOR PLAN NOTES

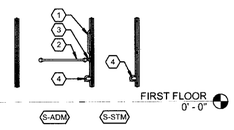
KEY	NOTE
1	EXTERIOR WALL ALTERNATE - PROVIDE SINGLE WYTHE 8IN SPLIT FACE CMU IN LIEU OF EM8-B.
2	STAINLESS STEEL COUNTER & WOOD SHELVING, REFER TO I-SERIES DRAWINGS FOR DETAILS.
3	OWNER PROVIDED EQUIPMENT.
4	DOWNSPOUT, REFER TO ROOF PLAN FOR GUTTER LAYOUT.
5	MOP BASIN, REFER TO P-SERIES DRAWINGS FOR DETAILS.

5.4.401 - RESTROOM ACCESSORY SCHEDULE

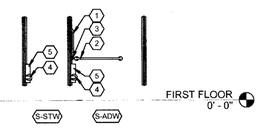
Type Mark	Keynote	Description	Mounting	Furnished By	Installed By
1	10 28 00	GRAB BAR - 18" VERTICAL	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR
2	10 28 00	GRAB BAR - 36" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
3	10 28 00	GRAB BAR - 42" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
4	10 28 00	TOILET TISSUE DISPENSER - DOUBLE	BOTTOM @ 1'-6 AFF	OWNER	OWNER
5	10 28 00	SANITARY NAPKIN DISPOSAL - SURFACE	TOP @ 30" AFF	CONTRACTOR	CONTRACTOR
6	10 21 13	TOILET PARTITION	--	CONTRACTOR	CONTRACTOR
7	10 28 00	SOAP DISPENSER	BOTTOM @ 4" ABOVE FIXTURE	OWNER	OWNER
8	10 28 13	MIRROR - 24" X 36"	BOTTOM @ 4" ABOVE FIXTURE	CONTRACTOR	CONTRACTOR
9	10 28 00	HAND DRYER - STANDARD	BOTTOM @ 38" AFF	CONTRACTOR	CONTRACTOR
11	10 21 13	URINAL SCREEN	--	CONTRACTOR	CONTRACTOR
13	08 31 13	ACCESS DOOR - 16" X 16"	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR

5.4.402 - RESTROOM STALL TYPES

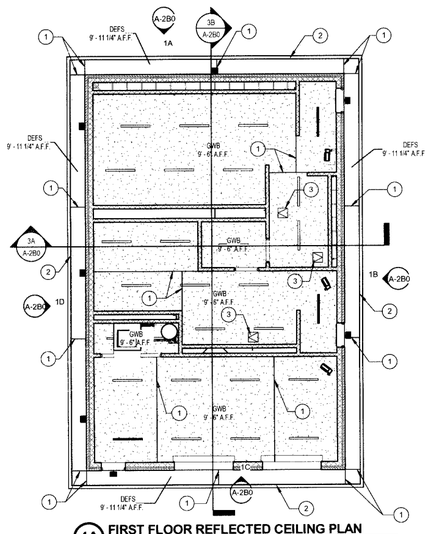
Toilet Stall Mark	Description
S-ADM	ADA - MENS' STALL
S-ADW	ADA - WOMENS' STALL
S-STM	STANDARD - MENS' STALL
S-STW	STANDARD - WOMENS' STALL



4B MENS RESTROOM STALL TYPES
1/4" = 1'-0"



3B WOMENS RESTROOM STALL TYPES
1/4" = 1'-0"



4A FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

1A FIRST FLOOR PLAN
1/4" = 1'-0"

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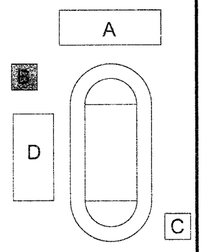
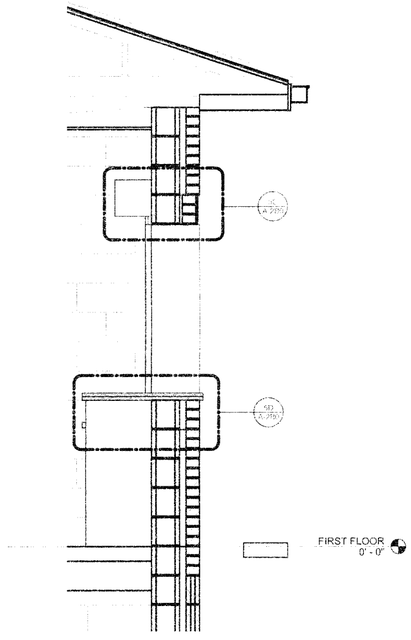


MSD OF LAWRENCE TOWNSHIP

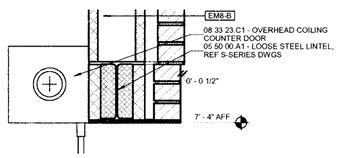
LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR PLAN

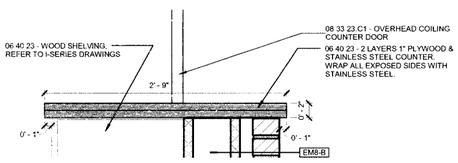
AF1B1



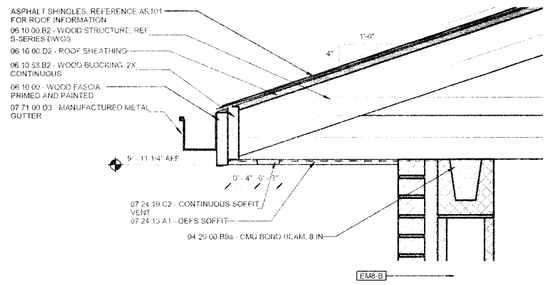
6D WALL SECTION 2
3/4" = 1'-0"



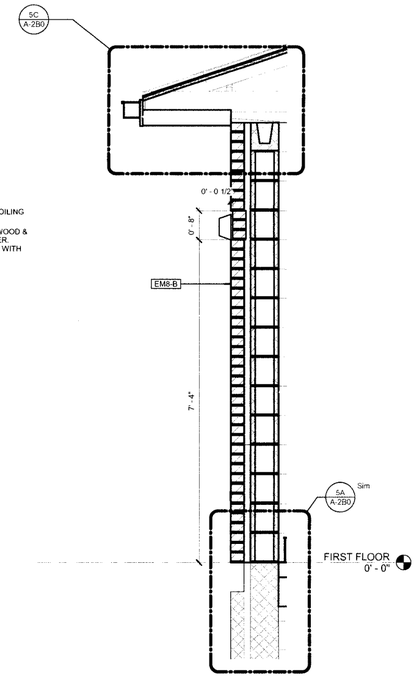
5E WALL SECTION DETAIL
1 1/2" = 1'-0"



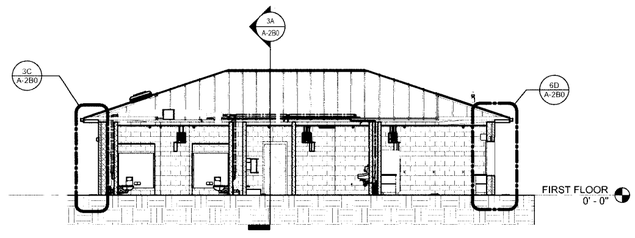
5D WALL SECTION DETAIL
1 1/2" = 1'-0"



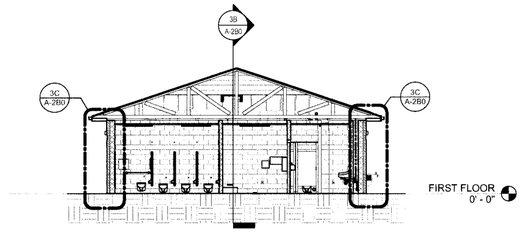
5C ROOF EAVE DETAIL
1 1/2" = 1'-0"



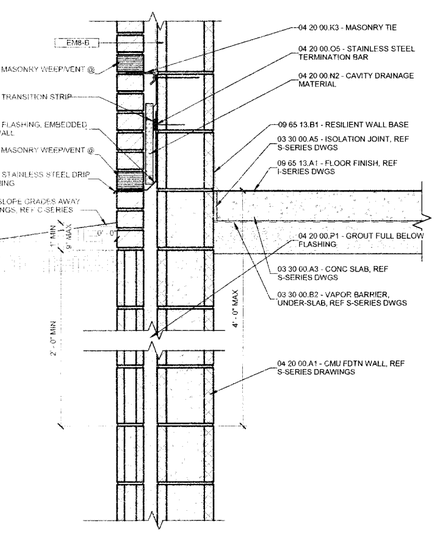
3C WALL SECTION
3/4" = 1'-0"



3B BUILDING SECTION
1/8" = 1'-0"



3A BUILDING SECTION
1/8" = 1'-0"



5A FOUNDATION
1 1/2" = 1'-0"

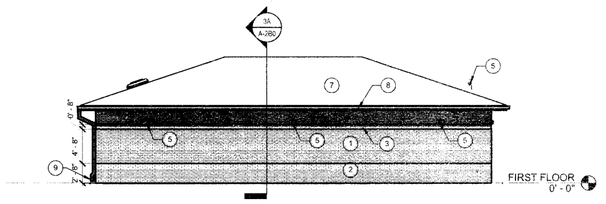
Exterior Finish Schedule

THIS LEGEND IS PROVIDED FOR REFERENCE PURPOSES ONLY. PRODUCTS/COLORS INDICATED ARE BASED ON BASIS OF DESIGN MANUFACTURERS. REFER TO SPECIFICATIONS FOR LIST OF ACCEPTED EQUAL MANUFACTURES/PRODUCTS.

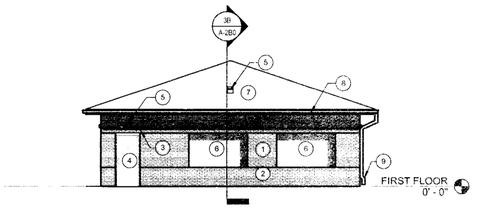
SPEC SECTION	MAT'L	MARK	COLOR: BASIS OF DESIGN
042000	FACE BRICK	A	RED - MT. SHADOW VELOUR
		B	TAN - SEA GRAY VELOUR
077100	FASCIA, GUTTERS, DOWNSPOUTS		REDWOOD
079200	SEALANTS		ALL SEALANTS USED IN MASONRY CONTROL JOINTS SHALL MATCH THE MASONRY MORTAR
			ALL SEALANTS USED IN EXPOSED CONCRETE SHALL MATCH THE SURROUNDING COLOR CONCRETE UNLESS NOTED OTHERWISE
			ALL SEALANTS USED TO SEAL AROUND EXTERIOR WINDOWS AND DOOR FRAMES SHALL MATCH THE WINDOW AND DOOR FRAME COLOR
081113	HM DOORS AND FRAMES		PAINT COLOR AS SELECTED BY ARCHITECT
083323	OH COILING DOOR		PAINT COLOR AS SELECTED BY ARCHITECT

5.4.200 ELEVATION NOTES

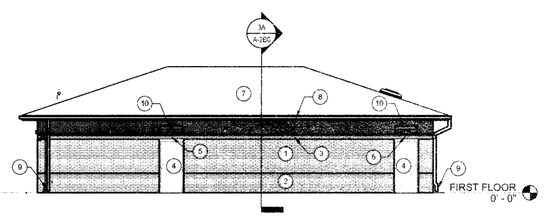
KEY	NOTE
1	04 20 00 - BRICK TYPE "A"
2	04 20 00 - BRICK TYPE "B"
3	04 20 00 - 1/2" RECESSED BRICK BAND, BRICK TYPE "B"
4	08 11 13 - HOLLOW METAL DOOR & FRAME
5	LIGHT FIXTURE, REFER TO E-SERIES DRAWINGS
6	08 3 23 - OVERHEAD COILING COUNTER DOOR
7	07 31 13 - ASPHALT SHINGLES
8	07 71 00 - ALUMINUM GUTTER & DOWNSPOUT
9	DOWNSPOUT TO CONNECT INTO ROOT, REFER TO C-SERIES DRAWINGS.
10	36IN BY 12IN LOUVER, COORDINATE WITH MECHANICAL DAMPER



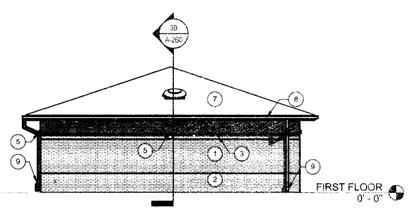
1D WEST BUILDING ELEVATION
1/8" = 1'-0"



1C SOUTH BUILDING ELEVATION
1/8" = 1'-0"



1B EAST BUILDING ELEVATION
1/8" = 1'-0"



1A NORTH BUILDING ELEVATION
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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Project No 2015-121.LCS
Project Date 04.18.2016
Produced BGB

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
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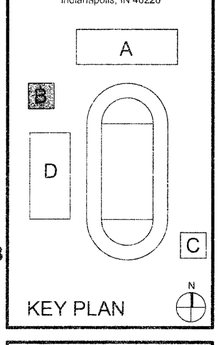


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

ELEVATIONS & SECTIONS

A-2B0

INTERIOR FINISH LEGEND

MARK	DESCRIPTION	MANUFACTURER	PATTERN/STYLE	COLOR	SPECIFICATION	COMMENTS
CFC-1	CONCRETE FLOOR COATING	-	-	-	09 96 00.99	-
CPT-1	CARPET TILE	J&J FLOORING GROUP	KINETEX / VELOCITY 1814	MOVE 1608	09 68 13	QUARTER-TURN INSTALLATION
GR-1	GROUT	-	-	TO BE SELECTED FROM MFR'S STANDARD COLORS	09 30 00	-
HP-1	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	SKYLINE STEEL SW1015	09 91 23	
HP-2	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	EGRET WHITE SW7570	09 91 23	PAINT COLOR FOR PAINTED EXPOSED CEILING / STRUCTURE.
HP-3	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	IRON ORE SW7069	09 91 23	
MWC-1	MARKER WALLCOVERING	VITRULAN	CINCH MAGNETIC WALLCOVERING	SMOOTH M-22	09 72 00	
MWP-1	MARKER WALL PAINT	VITRULAN	SCRIBBL DRY-ERASE PAINT	CLEAR	09 72 00	
PFT-1	PORCELAIN FLOOR TILE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VL72	09 30 00	SIZE: 12"x24", 1/3 BRICK INSTALLATION
PFTB-1	PORCELAIN FLOOR TILE BASE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VL72	09 30 00	SIZE: 6"x12", COVE
PL-1	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	EBONY OXIDE 299-58	12 32 00	
PL--2	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	CITADEL WARP 5882-58	12 32 00	
RSF-1	RESINOUS FLOORING	GENERAL POLYMERS	CERAMIC CARPET	CHARCOAL 332	09 67 23	
UPH-1	UPHOLSTERY	PALLAS	HOLY COW	THUNDERSTORM	12 32 00	
VWB-1	VINYL WALL BASE	JOHNSONITE	-	BURNT UMBER 63	09 65 13	
VWC-1	VINYL WALLCOVERING (OPERABLE PARTITIONS)	KOROSEAL	KASHI	SILVER FAN	10 22 26	
WOC-1	WALK-OFF CARPET	TANDUS	ASSERTIVE ACTION 04837	STEELWORK 26202	09 68 13	

INTERIORS GENERAL NOTES

REFERENCE A-001 FOR GENERAL PLAN NOTES. ALL NOTES MAY NOT APPLY TO THIS SHEET.

1. FURNITURE IS NOT PROVIDED IN THIS CONTRACT. LAYOUTS AND FINAL DESIGN WILL NEED TO BE DETERMINED BY THE OWNER.
2. REFERENCE ARCHITECTURAL CEILINGS PLANS FOR CEILING HEIGHTS AND BULKHEAD COLOR DESIGNATIONS. PAINT ALL BULKHEADS HP-1 UNLESS SPECIFICALLY NOTED OTHERWISE. BULKHEADS THAT ARE FLUSH WITH WALLS PROVIDE COLOR TO MATCH ADJACENT WALL COLOR.
3. PAINT INTERIOR HOLLOW METAL DOORS HP-1.
4. PAINT INTERIOR HOLLOW METAL DOOR FRAMES HP-3.
5. PAINT EXTERIOR HOLLOW METAL DOORS AND FRAMES HP-1.
6. PAINT GENERAL WALLS P-1 (NEUTRAL) UNLESS SPECIFICALLY NOTED OTHERWISE
7. APPLIANCES AND VENDING EQUIPMENT ARE NOT PROVIDED IN THIS CONTRACT.
8. PAINT ALL EXPOSED STRUCTURE, DUCTWORK, PIPING ETC. HP-2.

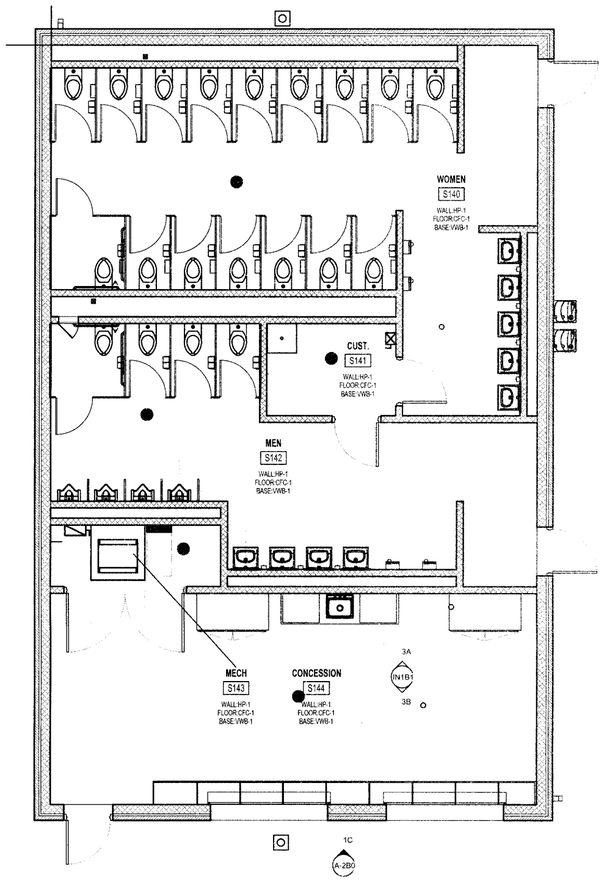
INTERIORS LEGEND

GENERAL

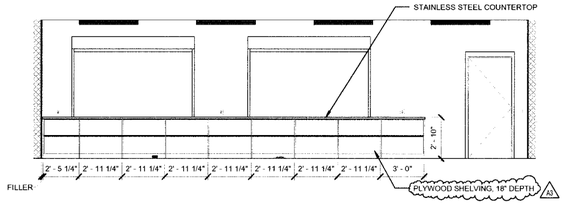
ETR	EXISTING TO REMAIN
NIC	NOT IN CONTRACT
FFE	FURNITURE, FIXTURES & EQUIPMENT

INTERIOR KEY NOTES

KEY	NOTE
1	NOT USED

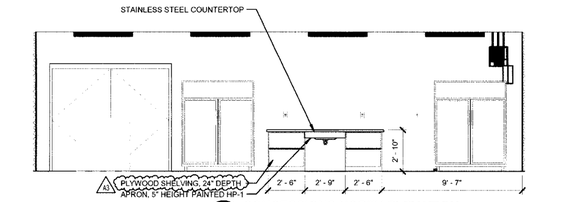


1A INTERIOR FIRST FLOOR PLAN
1/4" = 1'-0"



3B CONCESSIONS SOUTH ELEVATION
1/4" = 1'-0"

SPEC: 12 32 00
COUNTERTOPS: STAINLESS STEEL
A3 PLYWOOD SHELVING: PAINT (HP-1)



3A CONCESSIONS NORTH ELEVATION
1/4" = 1'-0"

SPEC: 12 32 00
COUNTERTOPS: STAINLESS STEEL
A3 PLYWOOD SHELVING: PAINT (HP-1)

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced Designer AEC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A3	Addendum #3	05.12.2016

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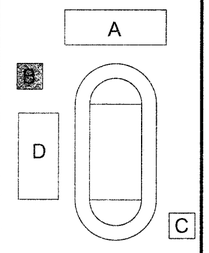


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR INTERIOR PLAN

IN1B1

EXHAUST FAN SCHEDULE

IDENTITY DATA				FAN DATA					ELECTRICAL DATA						
MARK	MANUFACTURER	MODEL	SERVES	EXHAUST AIRFLOW (CFM)	ESP (IN-WG)	RPM	SONES	DBA	HP	BHP	VOLTS (V)	PHASE	DISCONNECT PROVIDER	UNIT CONTROL	NOTES
EF-1	LOREN COOK COMPANY	GN2000	MENS RR RM102 & WOMENS RR RM100	2,125	0.3	851	6.6	55	1	0.371	208	3	ELECTRICAL CONTRACTOR	FAN SPEED CONTROL	

233713 DIFFUSERS, REGISTERS, AND GRILLES

IDENTITY DATA				NECK SIZE (IN)	MODULE SIZE			
MARK	DESCRIPTION	MANUFACTURER	MODEL	Ø	W	L	MATERIAL	NOTES
EC 8x8	EGG CRATE FACE RETURN	PRICE	80 SERIES	0"	8"	8"	ALUMINUM	
EC 12x12	EGG CRATE FACE RETURN	PRICE	80 SERIES	0"	12"	12"	ALUMINUM	

238239 ELECTRIC PROP UNIT HEATER SCHEDULE

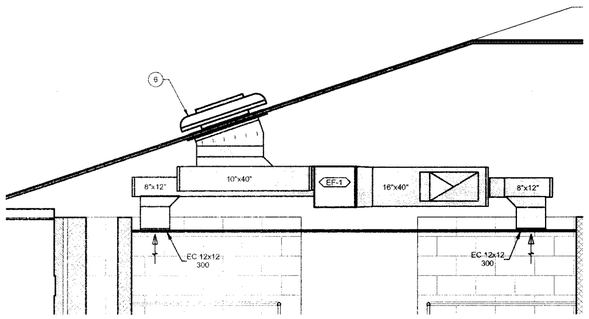
IDENTITY DATA					HEATING DATA				FAN DATA		ELECTRICAL DATA			
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	LOCATION	CAPACITY (W)	STEPS	EAT (°F)	LAT (°F)	AIRFLOW (CFM)	DRIVE	VOLTS (V)	PHASE	CONTROL	NOTES
PUH-1	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	CONCESSION RM144	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	
PUH-2	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	CONCESSION RM144	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	
PUH-3	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	WOMENS RR RM140	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	

DUCT ACCESSORY - CONTROL DAMPERS

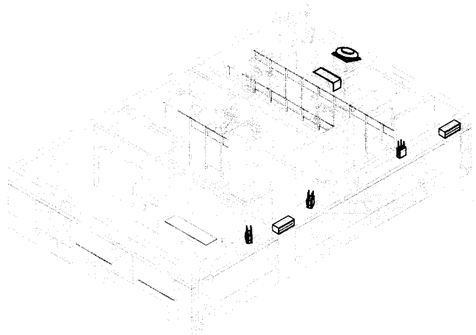
MARK	SIZE	MANUFACTURER	MODEL	TYPE
CD-1	36"x12"	RUSKIN	CD40X2	STANDARD

MECHANICAL HVAC PLAN NOTES

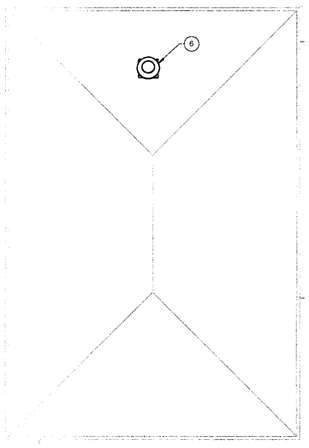
#	NOTE
1	INLINE EXHAUST FAN. SEE SCHEDULE ON SHEET M-1B1.
2	TYPICAL EGGCRATE EXHAUST AIR GRILLE. SEE SCHEDULE ON SHEET M-1B1.
3	ELECTRIC PROP UNIT HEATER. SEE SCHEDULE ON SHEET M-1B1.
4	MAKE UP AIR LOUVER BY ARCHITECT.
5	PROVIDE 36" X 12" MOTORIZED CONTROL DAMPER. MOUNT TO LOUVER AS SHOWN ON DETAIL 1A/MS01.
6	PROVIDE ROOF CAP LIKE LOREN COOK MODEL PR20F. MOUNT DIRECTLY ON THE ROOF WITH INTEGRAL FLASHING. NO CURB IS REQUIRED.



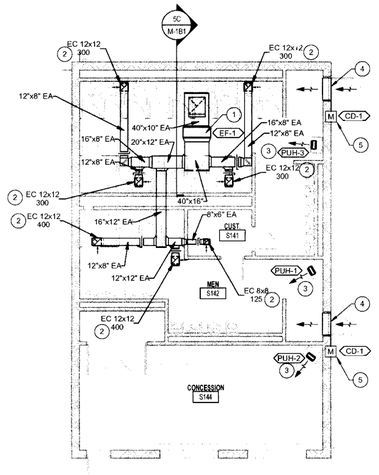
5C ROOF EXHAUST SECTION
1/2" = 1'-0"



2C ISOMETRIC PLAN



5A MECHANICAL HVAC ROOF PLAN
1/8" = 1'-0"



2A FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced BAW / DBC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

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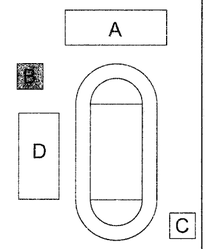


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

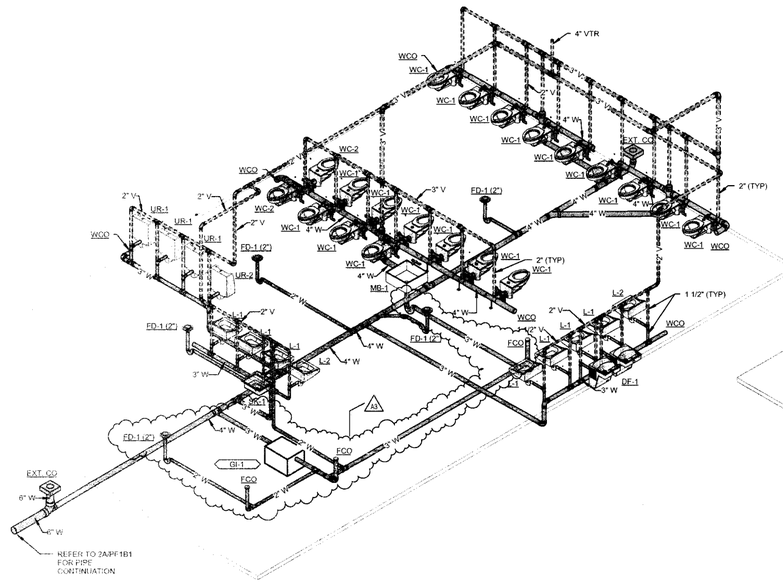
LC EXTERIOR FACILITY UPGRADES - BP2

CONCESSION BUILDING MECHANICAL - UNIT B

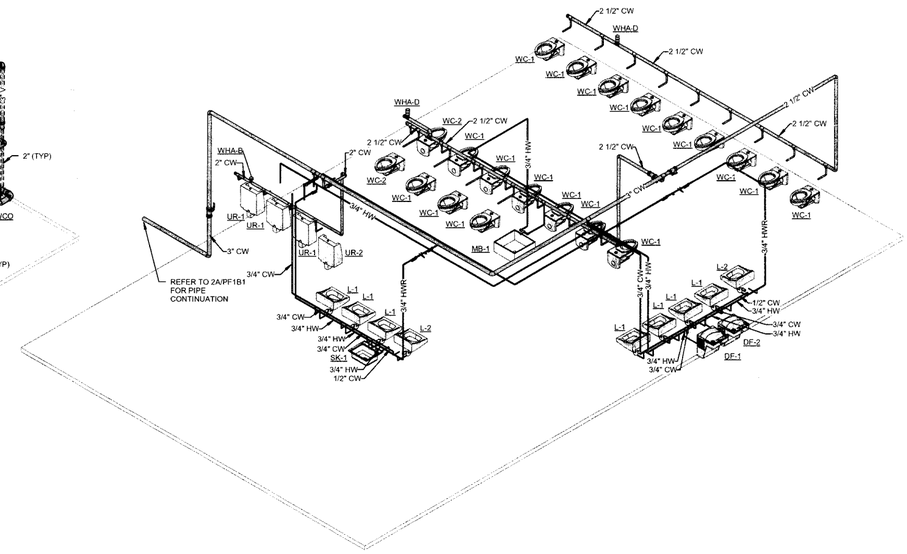
M-1B1

PLUMBING EQUIPMENT SCHEDULE

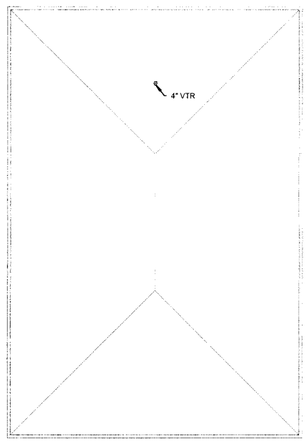
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY	VOLTAGE	PHASE	F.L.A.	RPM	HP	NOTES
	IDENTITY DATA					ELECTRICAL DATA					
GI-1	ZURN	#GT2700-25	GREASE INTERCEPTOR	CONCESSION S144	25 GPM FLOW RATE, 50LBS GREASE CAPACITY						
FCO	SELF-ACCESSED	PIPE TO WALL	NOT WATER PROOF NO RAMP	CONCESSION BUILDINGS MECHANICAL ROOM	NOTE 10 ITEM	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
DWH-2	LOCHINVAR	#ETT050MD	COMPACT ELECTRIC WATER HEATER	CONCESSION BUILDINGS MECHANICAL ROOM	50 GALLONS STORAGE, 42 GPH RECOVERY @ 100 DEGREE TEMP RISE, (2) 5000 WATT ELEMENTS	208 V	3	0.00 A			FLOW CONTROL INLET FITTING



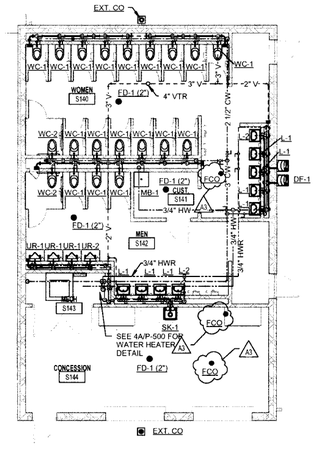
5C OVERALL WASTE AND VENT ISOMETRIC
NOT TO SCALE



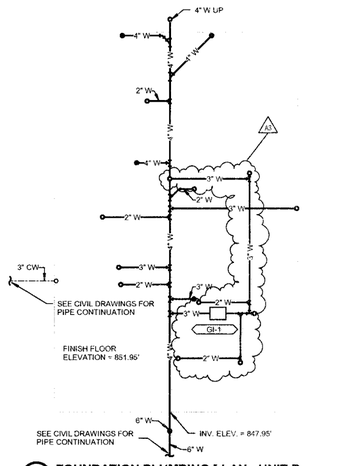
2C OVERALL DOMESTIC WATER ISOMETRIC
NOT TO SCALE



5A ROOF PLUMBING PLAN - UNIT B
1/8" = 1'-0"



3A FIRST FLOOR PLUMBING PLAN - UNIT B
1/8" = 1'-0"



2A FOUNDATION PLUMBING PLAN - UNIT B
1/8" = 1'-0"

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016
A3	ADDENDUM NO. 3	05.12.2016

7300 E. 56th Street
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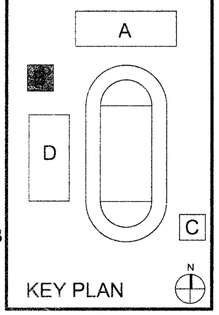


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION, FIRST FLOOR, ROOF, AND ISOMETRIC PLUMBING PLANS - UNIT B

PF1B1

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	CIRCUIT CONNECTION FOR HAND DRYER. COORDINATE MOUNTING HEIGHT WITH A-SERIES DRAWINGS.
2	INSTALL ALL RECEPTACLES AT +46" A.F.F. TO C.L. IN THIS ROOM/AREA.

PANELBOARD SCHEDULE

DESIGNATION: 12B1 — **LOCATION:** MECH S143 — **MOUNTING:** SURFACE — **SUPPLY FROM:** T-B1
VOLTS: 208Y/120 V — **PHASES:** 3 — **WIRES:** 4
MAINS RATING: 400 A — **MAINS TYPE:** MCB — **MCB RATING:** 300 A — **AIC RATING:** 10,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	S144, S143, S142, S141, S140	LIGHTING	20 A	1	1.27	0.55					1	20 A	LIGHTING	EXTERIOR	2
3	S144	RECEPT.	20 A	1			1.00	0.54			1	20 A	RECEPT.	EXTERIOR	4
5	S144	RECEPT.	20 A	1					1.00	0.90	1	20 A	RECEPT.	S142, S141, S140	6
7	S144	RECEPT.	20 A	1	1.00	1.20					1	20 A	HAND DRY.	S140 (GFCI CB)	8
9	S144	RECEPT.	20 A	1			1.00	1.20			1	20 A	HAND DRY.	S140 (GFCI CB)	10
11	S144	RECEPT.	20 A	1					1.00	1.20	1	20 A	HAND DRY.	S142 (GFCI CB)	12
13	S144	RECEPT.	20 A	1	1.00	1.20					1	20 A	HAND DRY.	S142 (GFCI CB)	14
15	S144	RECEPT.	20 A	1			1.00	0.58			3	20 A	EF	S141	16
17	S144	RECEPT.	20 A	1					1.00	0.58	--	--	--	--	18
19	S144	RECEPT.	20 A	1	1.00	0.58					--	--	--	--	20
21	S144	RECEPT.	20 A	1			1.00	3.13			3	30 A	PUH	S142	22
23	S144	RECEPT.	20 A	1					1.00	3.13	--	--	--	--	24
25	S144	RECEPT.	20 A	1	1.00	3.13					--	--	--	--	26
27	S144	RECEPT.	20 A	1			1.00	3.13			3	30 A	PUH	S144	28
29	SPARE		20 A	1					0.00	3.13	--	--	--	--	30
31	S143	CIRC. PUMP	20 A	1	0.53	3.13					--	--	--	--	32
33	12B2	PNL	100 A	3			0.00	3.13			3	30 A	PUH	S140	34
35	--	--	--	--					0.00	3.13	--	--	--	--	36
37	--	--	--	--	0.00	3.13					--	--	--	--	38
39	S143	WTR. HTR.	40 A	3			3.36	0.00			1	20 A		SPARE	40
41	--	--	--	--					3.36	0.00	1	20 A		SPARE	42
43	--	--	--	--	3.36	0.00					1	20 A		SPARE	44
45	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	46
47	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	48
49	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	50
51	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	52
53	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	54
				TOTAL LOAD:	22.08 kVA		20.06 kVA		19.42 kVA						
				TOTAL AMPS:	185 A		168 A		162 A						

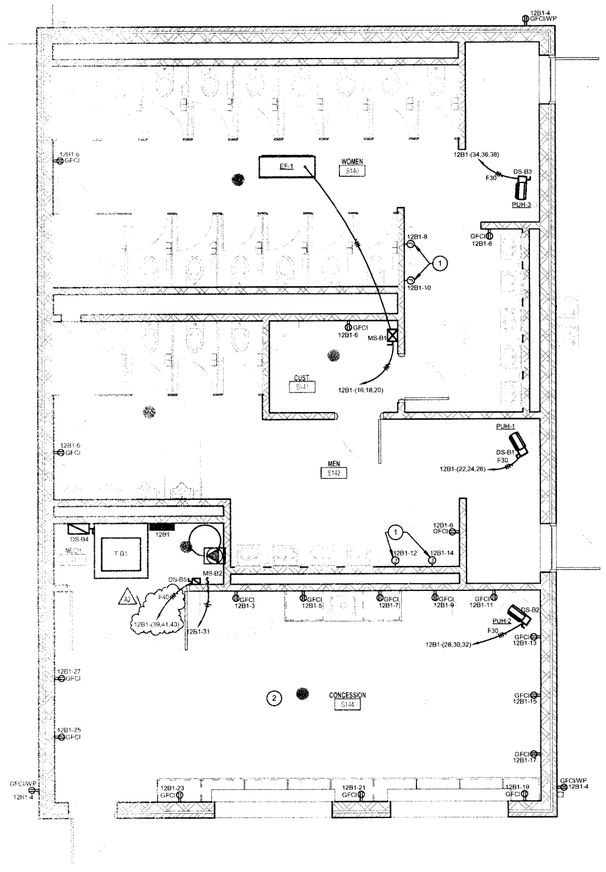
TOTAL CONNECTED LOAD: 61.56 kVA
TOTAL CONNECTED AMPS: 185 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.

GENERAL LIGHTING NOTES

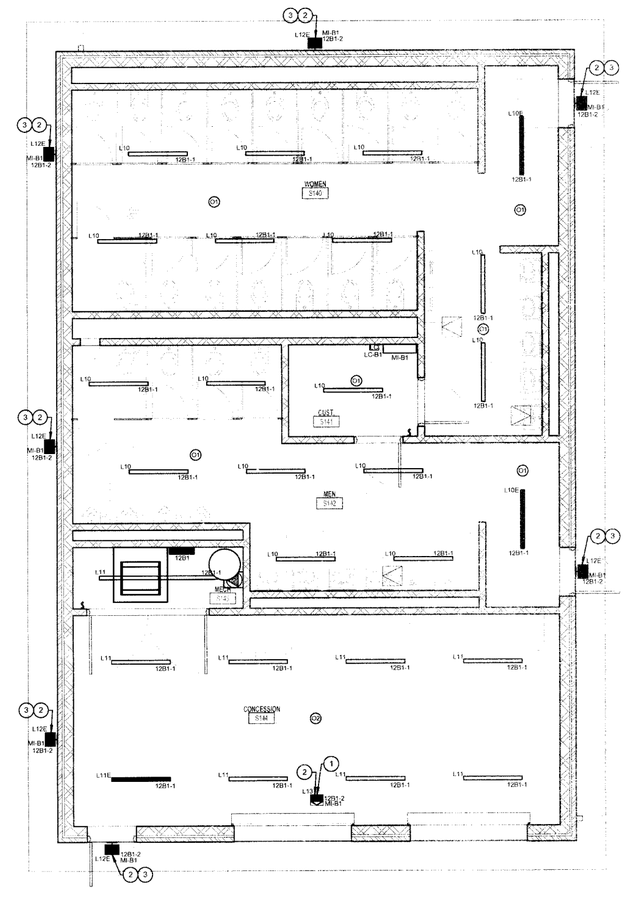
#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING PLAN NOTES

#	NOTES
1	LIGHT FIXTURE MOUNTED TO ROOF. COORDINATE ALL MOUNTING REQUIREMENTS PRIOR TO INSTALLATION. FIELD ADJUST LIGHT FIXTURE FOR MAXIMUM COVERAGE OF SITE.
2	LIGHT FIXTURE CONTROLLED BY LIGHTING CONTACTOR LC-B1.
3	INSTALL LIGHT FIXTURE IN BRICK BAND AROUND BUILDING. REFER TO A-SERIES DRAWINGS FOR MOUNTING HEIGHT.



4A **FIRST FLOOR POWER PLAN**
1/4" = 1'-0"



1A **FIRST FLOOR LIGHTING PLAN**
1/4" = 1'-0"

SCHMIDT ASSOCIATES
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Indianapolis, Indiana 46204
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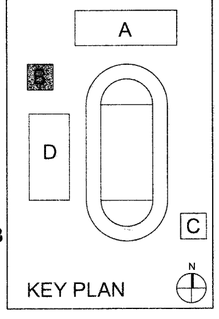
Project No. 2015-121.LCS
Project Date 04.18.2016
Produced SACM/JAR

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

7300 E. 56th Street
Indianapolis, IN 46226

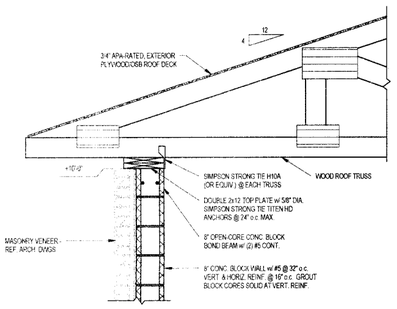


MSD OF LAWRENCE TOWNSHIP

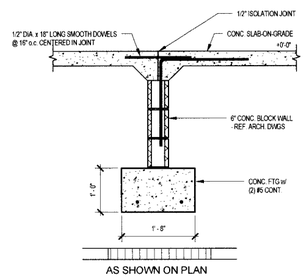
LC EXTERIOR FACILITY UPGRADES - BP2

LIGHTING & POWER PLANS - UNIT B

EL1B1

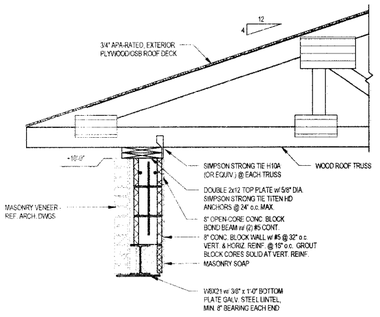


10 SECTION
3/4" = 1'-0"

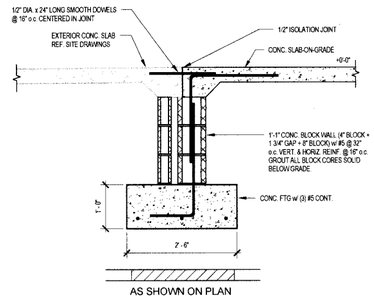


AS SHOWN ON PLAN

6 SECTION
3/4" = 1'-0"

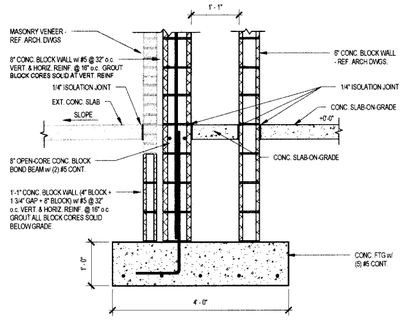


9 SECTION
3/4" = 1'-0"

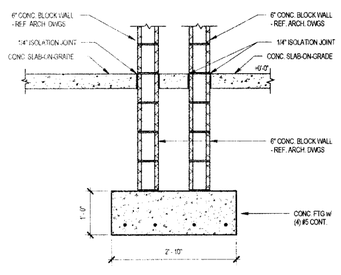


AS SHOWN ON PLAN

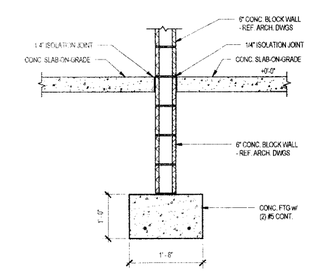
5 SECTION
3/4" = 1'-0"



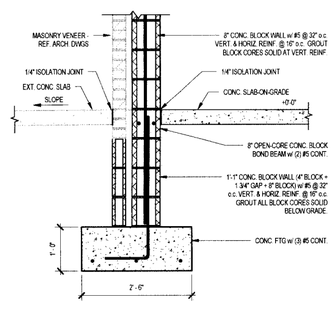
4 SECTION
3/4" = 1'-0"



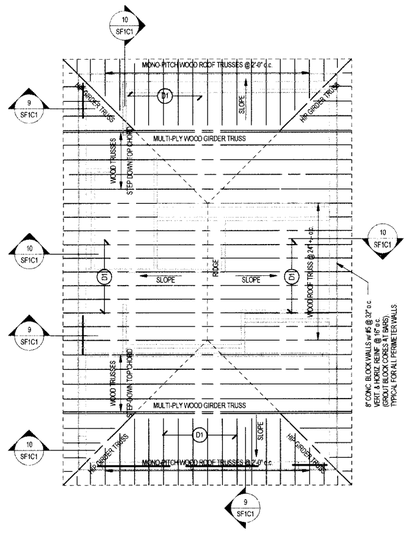
8 SECTION
3/4" = 1'-0"



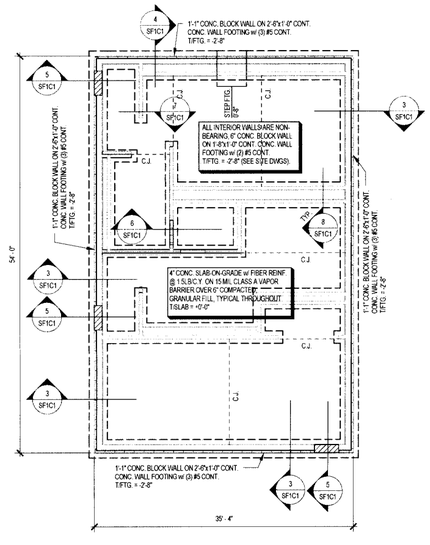
7 SECTION
3/4" = 1'-0"



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



2 ROOF FRAMING PLAN - BUILDING C (ALTERNATE)
1/8" = 1'-0"



1 FOUNDATION PLAN - BUILDING C (ALTERNATE)
1/8" = 1'-0"

STRUCTURAL PLAN NOTES

1. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH ALL DISCIPLINES TO AVOID CONFLICTS. THE MECHANICAL, ELECTRICAL, AND PLUMBING ASPECTS ARE NOT IN THE SCOPE OF THESE DRAWINGS. THEREFORE, ALL REQUIRED MATERIALS AND WORK MAY NOT BE INDICATED.

2. COORDINATE EXACT SIZE & LOCATION OF ALL MECHANICAL OPENINGS IN FOUNDATION WALLS WITH THE MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS.

3. ALL ELEVATIONS ARE REFERENCED FROM THE FIRST FLOOR FINISH FLOOR ELEVATION +0'-0" (U.S.G.S. XXX.XX) REF. CIVIL DWGS.

4. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES

5. REF. S-4B1 FOR TYPICAL FOUNDATION & FRAMING DETAILS.

6. NOTE: PERIMETER WALL AND COLUMN FOOTINGS SHALL BE LOWERED AND/OR SLEEVED TO PASS BELOW PLUMBING LINES (I.E. SANITARY & STORM SEWERS, WATER LINES, ETC.) SHOWN ON THE PLUMBING DRAWINGS. PROVIDE FOOTING STEPS AS REQUIRED PER THE TYPICAL DETAILS ON S-4B1.

7. COORDINATE REINFORCING DOWELS FOR CMU VERTICAL REINFORCING WITH REINF. NOTED ON PLANS & SECTIONS.

8. GROUT ALL CORES OF CMU BELOW FINISH FLOOR SOLID.

9. COLUMN FOOTINGS, TRENCH FOOTINGS AND WALL FOOTINGS SHALL BEAR ON APPROVED SOIL. UNDERCUT AS REQD. TO SUITABLE BEARING MATERIAL AS DETERMINED BY THE GEOTECHNICAL TESTING AGENCY. REF. TYPICAL FOOTING UNDERCUT DETAIL ON S-4B1

10. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (REF. THE TYPICAL DETAILS ON SHEET S-4B1). THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.

11. PLAN LEGEND

- D1 — 3/4" EXTERIOR GRADE PLYWOOD/OSB ROOF DECKING w/ SPACER CLIPS
- F.F. — DENOTES FINISH FLOOR
- T/X — DENOTES TOP OF FTG., GRADE BEAM, SLAB, PIER, ETC.
- C.J. — DENOTES SLAB ON GRADE CONTROL/CONTRACTION JOINT
- STEP FTG. 2'-8" — DENOTES WALL FOOTING WITH STEPS, REF. TYP. DETAIL ON S-4B1

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Produced: JNB, WBH

WESLEY B. HARRISON — PE60809410 — STATE OF INDIANA — PROFESSIONAL ENGINEER

#	Revision	Date

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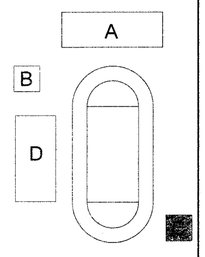


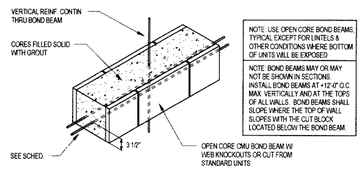
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

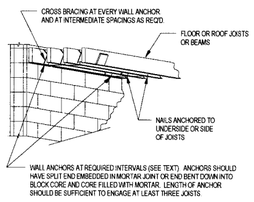
FOUNDATION AND FRAMING PLAN - BUILDING C (ALTERNATE)

SF1C1

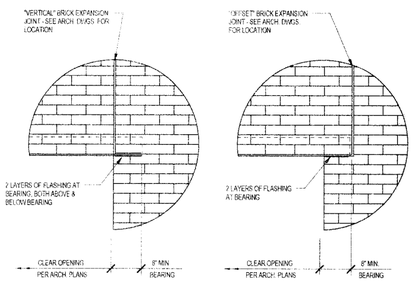


REINFORCING SCHEDULE	
CMU SIZE	CONT. REINF
6"	(1) #5
8"	(2) #5
10"	(2) #6
12"	(2) #6

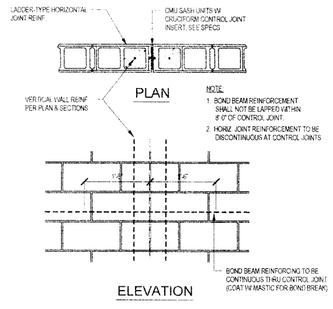
13 CMU BOND BEAM DETAILS
3/4" = 1'-0"



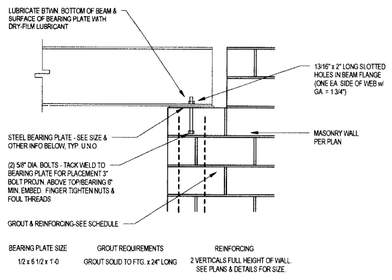
12 ANCHORAGE OF CONCRETE MASONRY WALLS
3/4" = 1'-0"



15 LINTEL BEARING DETAILS
3/4" = 1'-0"

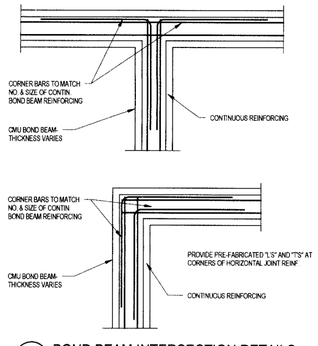


14 CMU CONTROL JOINT DETAIL
3/4" = 1'-0"

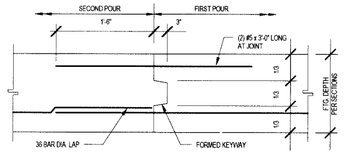


BEARING PLATE SIZE	GROUT REQUIREMENTS	REINFORCING
1/2 x 5 1/2 x 1'-0	GROUT SOLID TO FTG. x 24" LONG	2 VERTICALS FULL HEIGHT OF WALL SEE PLANS & DETAILS FOR SIZE

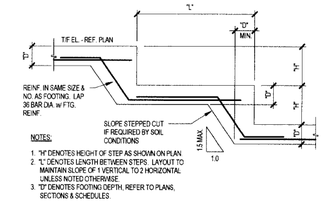
11 BEAM BEARING PLATE DETAIL (PARALLEL)
3/4" = 1'-0"



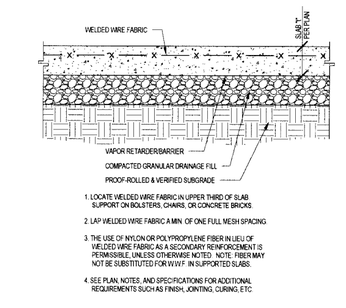
10 BOND BEAM INTERSECTION DETAILS
3/4" = 1'-0"



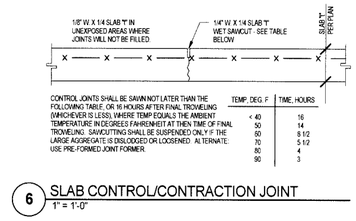
9 WALL FOOTING CONSTRUCTION JOINT
1" = 1'-0"



8 STEPPED FOOTING DETAIL
1/2" = 1'-0"

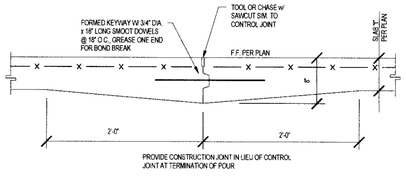


7 SLAB ON GRADE CONSTRUCTION
1" = 1'-0"

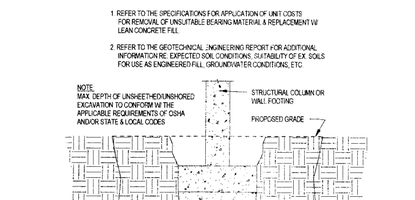


TEMP. DEG. F	TIME, HOURS
< 40	16
50	14
60	9 1/2
70	5 1/2
80	4
90	3

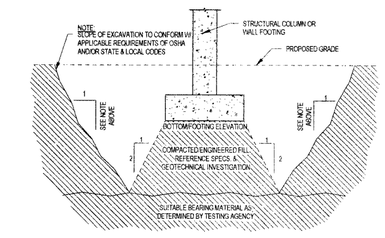
6 SLAB CONTROL/CONTRACTION JOINT
1" = 1'-0"



5 SLAB CONSTRUCTION JOINT
1" = 1'-0"

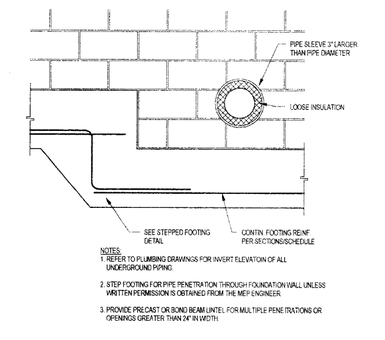


4 OVEREXCAVATION DETAIL - LEAN CONC. FILL
1/2" = 1'-0"



3 OVEREXCAVATION DETAIL - COMPACTED FILL
1/2" = 1'-0"

2 EXCAVATION LIMITS DETAILS
3/4" = 1'-0"



1 CMU FOUNDATION WALL PIPE SLEEVE DETAIL
3/4" = 1'-0"

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PROFESSIONAL ENGINEER

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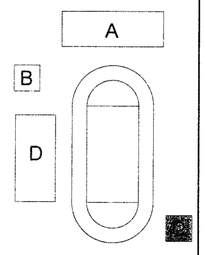


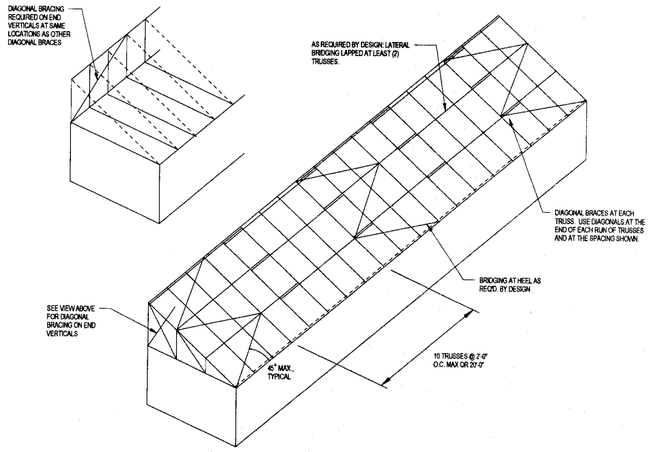
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

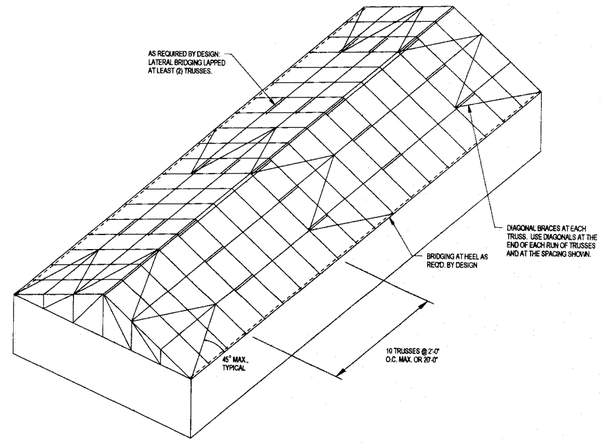
LC EXTERIOR FACILITY UPGRADES - BP2

TYPICAL DETAILS

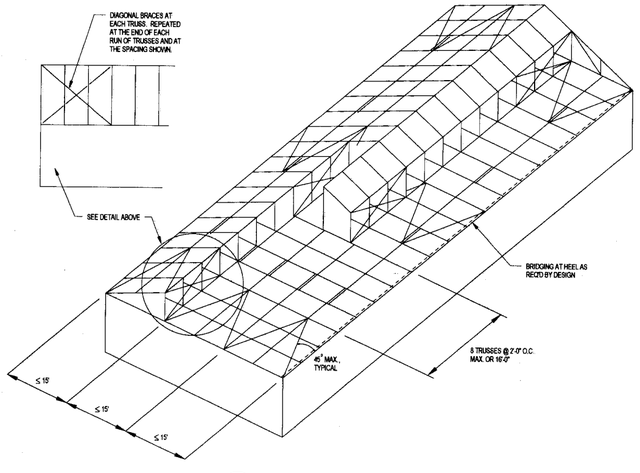
S-4C1



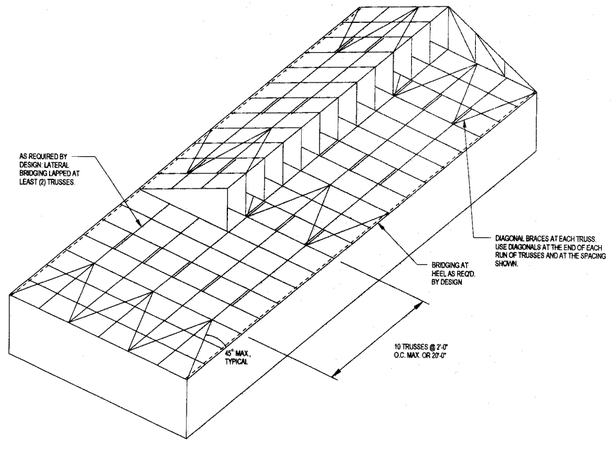
3 TOP CHORD BRACING FOR MONO-PITCH TRUSSES
3/4" = 1'-0"



2 TOP CHORD BRACING FOR GABLE TRUSSES
3/4" = 1'-0"



4 WEB MEMBER BRACING
3/4" = 1'-0"



1 BOTTOM CHORD BRACING
3/4" = 1'-0"

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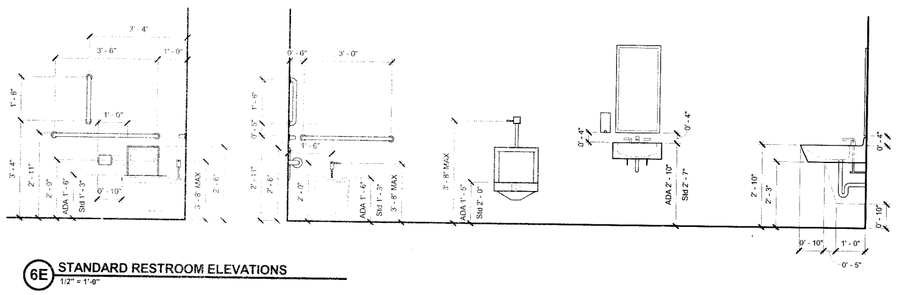
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

TYPICAL DETAILS

S-4C2



6E STANDARD RESTROOM ELEVATIONS
1/2" = 1'-0"

REFLECTED CEILING PLAN LEGEND

GWB Drywall Grid System (09 22 16)	Light Fixture (Reference E-Series Dwgs)
	Return Air (Reference M-Series Dwgs)
	Supply Air (Reference M-Series Dwgs)
	Exit Light (Reference E-Series Dwgs)
Walls to Deck	Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceilings (Reference E-Series Dwgs)
	SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)

General Refl. Ceiling Plan Notes

1. All ceilings are at 9'-6" AFF, unless noted otherwise.
2. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.

5.4.120 - CEILING PLAN NOTES

KEY	NOTE
1	CONTROL JOINT
2	ALUMINUM GUTTER, REFER TO ROOF DETAILS
3	16" X 16" ACCESS PANEL, COORDINATE LOCATION WITH VALVES

General Plan Notes

1. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.
2. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.
3. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.
4. All door frames are located 4" from adjacent wall, unless noted otherwise.
5. All exposed outside corners of CMU shall be bullnosed.
6. Seal all joints between dissimilar materials.
7. All interior walls are Type "M6-C", unless noted otherwise.
8. Base elevation is 0'-0" = 852.7' (United States Geological Survey data).
9. Hatching within walls shown in plans and sections indicates new construction.

5.4.100 - FLOOR PLAN NOTES

KEY	NOTE
1	EXTERIOR WALL ALTERNATE - PROVIDE SINGLE WYTHE RIN SPLIT FACE CMU IN LIEU OF EM6-B.
2	STAINLESS STEEL COUNTER & WOOD SHELVING, REFER TO I-SERIES DRAWINGS FOR DETAILS.
3	OWNER PROVIDED EQUIPMENT.
4	DOWNSPOUT, REFER TO ROOF PLAN FOR GUTTER LAYOUT.
5	MOP BASIN, REFER TO P-SERIES DRAWINGS FOR DETAILS.

5.4.401 - RESTROOM ACCESSORY SCHEDULE

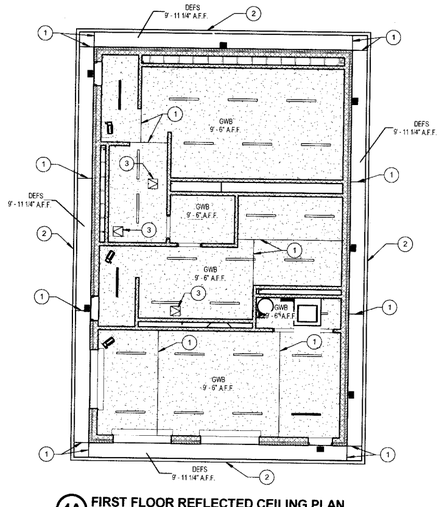
Type Mark	Keynote	Description	Mounting	Furnished By	Installed By
1	10 28 00	GRAB BAR - 18" VERTICAL	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR
2	10 28 00	GRAB BAR - 36" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
3	10 28 00	GRAB BAR - 42" HORIZONTAL	TOP @ 2'-11" AFF	CONTRACTOR	CONTRACTOR
4	10 28 00	TOILET TISSUE DISPENSER - DOUBLE	BOTTOM @ 1'-6 AFF	OWNER	OWNER
5	10 28 00	SANITARY NAPKIN DISPOSAL - SURFACE	TOP @ 30" AFF	CONTRACTOR	CONTRACTOR
6	10 21 13	TOILET PARTITION	--	CONTRACTOR	CONTRACTOR
7	10 28 00	SOAP DISPENSER	BOTTOM @ 4" ABOVE FIXTURE	OWNER	OWNER
8	10 28 13	MIRROR - 24" X 36"	BOTTOM @ 4" ABOVE FIXTURE	CONTRACTOR	CONTRACTOR
9	10 28 00	HAND DRYER - STANDARD	BOTTOM @ 38" AFF	CONTRACTOR	CONTRACTOR
11	10 21 13	URINAL SCREEN	--	CONTRACTOR	CONTRACTOR
13	08 31 13	ACCESS DOOR - 16" X 16"	BOTTOM @ 40" AFF	CONTRACTOR	CONTRACTOR

5.4.402 - RESTROOM STALL TYPES

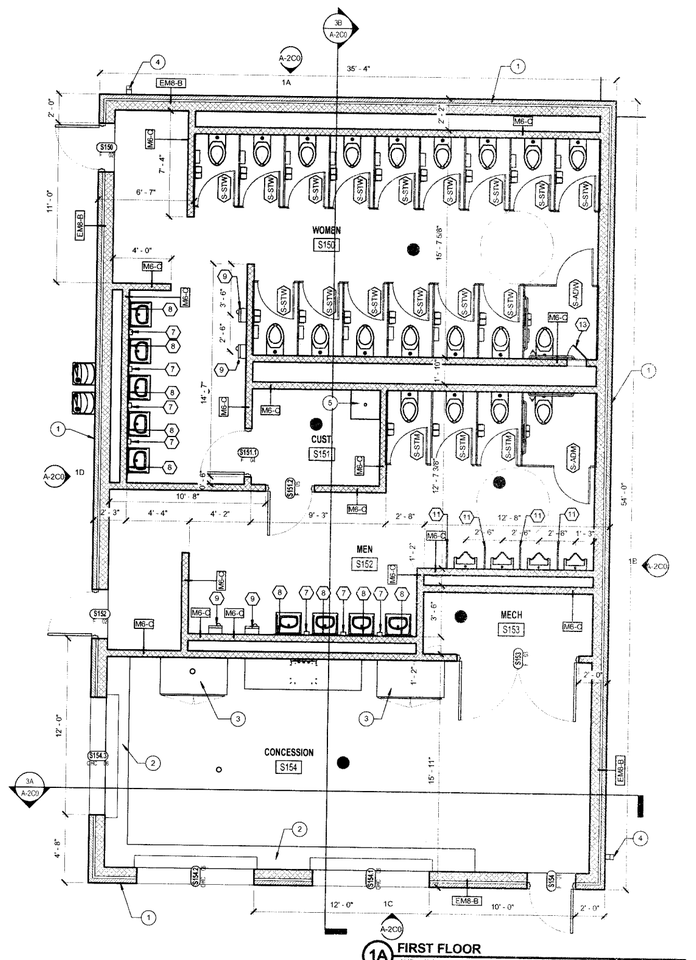
Toilet Stall Mark	Description
S-ADM	ADA - MENS' STALL
S-ADW	ADA - WOMENS' STALL
S-STM	STANDARD - MENS' STALL
S-STW	STANDARD - WOMENS' STALL

4B MENS RESTROOM STALL TYPES
1/4" = 1'-0"

3B WOMENS RESTROOM STALL TYPES
1/4" = 1'-0"



4A FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"



1A FIRST FLOOR
1/4" = 1'-0"

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Project Date 04.18.2016
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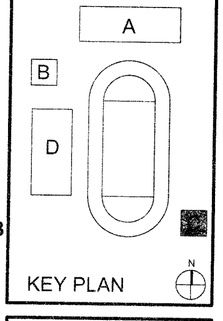
WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226



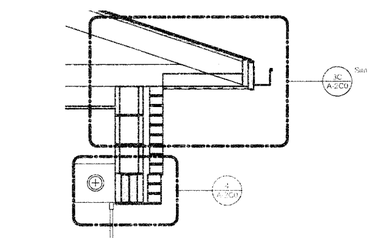
KEY PLAN

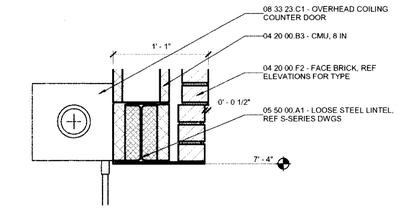
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

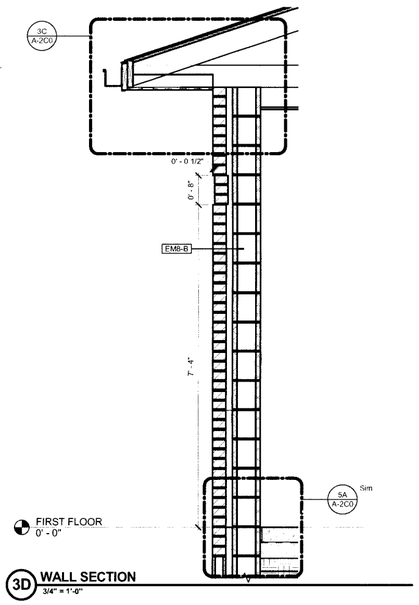
FIRST FLOOR PLAN - UNIT C (ALTERNATE)

AF1C1





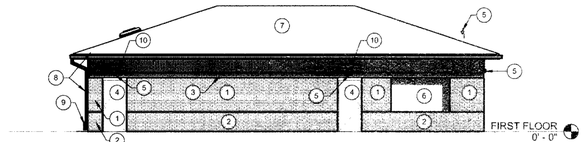
4 **WALL SECTION DETAIL**
1 1/2" = 1'-0"



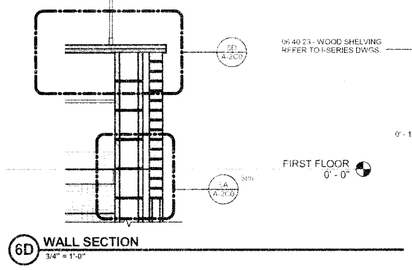
3D **WALL SECTION**
3/4" = 1'-0"

Exterior Finish Schedule			
THIS LEGEND IS PROVIDED FOR REFERENCE PURPOSES ONLY. PRODUCTS/COLORS INDICATED ARE BASED ON BASIS OF DESIGN MANUFACTURERS. REFER TO SPECIFICATIONS FOR LIST OF ACCEPTED EQUAL MANUFACTURES/PRODUCTS.			
SPEC SECTION	**MAT'L**	**MARK**	**COLOR: BASIS OF DESIGN**
042000	FACE BRICK	A	RED - MT. SHADOW VELOUR
		B	TAN - SEA GRAY VELOUR
077100	FASCIA, GUTTERS, DOWNSPOUTS		REDWOOD
079200	SEALANTS		ALL SEALANTS USED IN MASONRY CONTROL JOINTS SHALL MATCH THE MASONRY MORTAR
			ALL SEALANTS USED IN EXPOSED CONCRETE SHALL MATCH THE SURROUNDING COLOR CONCRETE UNLESS NOTED OTHERWISE
			ALL SEALANTS USED TO SEAL AROUND EXTERIOR WINDOWS AND DOOR FRAMES SHALL MATCH THE WINDOW AND DOOR FRAME COLOR.
081113	HM DOORS AND FRAMES		PAINT COLOR AS SELECTED BY ARCHITECT
083323	OH COILING DOOR		PAINT COLOR AS SELECTED BY ARCHITECT

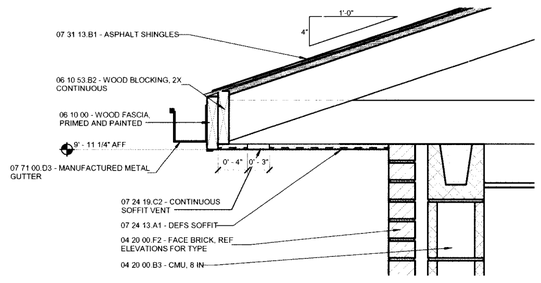
5.4.200 - EXTERIOR ELEVATION NOTES	
KEY	**NOTE**
1	04 20 00 - BRICK TYPE "A"
2	04 20 00 - BRICK TYPE "B"
3	04 20 00 - 1/2" RECESSED BRICK BAND, BRICK TYPE "B"
4	08 11 13 - HOLLOW METAL DOOR & FRAME
5	LIGHT FIXTURE, REFER TO E-SERIES DRAWINGS
6	08 33 23 - OVERHEAD COILING COUNTER DOOR
7	07 31 13 - ASPHALT SHINGLES
8	07 71 00 - ALUMINUM GUTTER & DOWNSPOUT
9	DOWNSPOUT TO CONNECT INTO BOOT, REFER TO C-SERIES DRAWINGS
10	36IN BY 12IN LOUVER, COORDINATE WITH MECHANICAL DAMPER.



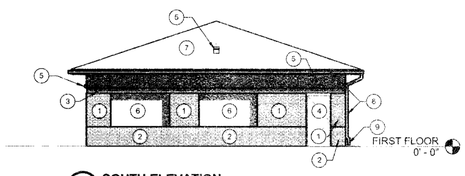
1D **WEST ELEVATION**
1/8" = 1'-0"



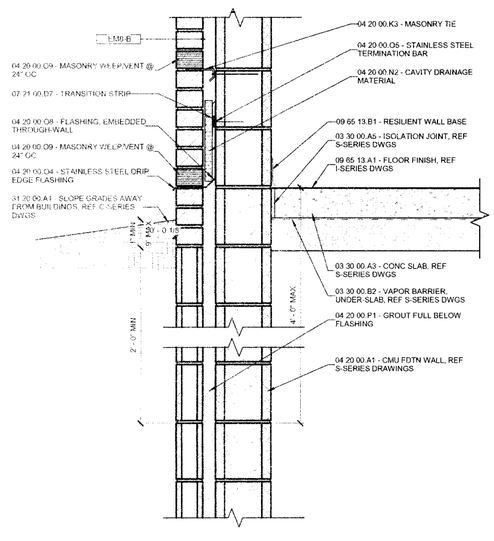
5D **WALL SECTION DETAIL**
1 1/2" = 1'-0"



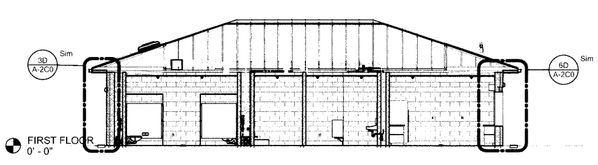
3C **ROOF EAVE DETAIL**
1 1/2" = 1'-0"



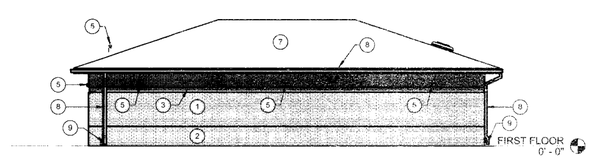
1C **SOUTH ELEVATION**
1/8" = 1'-0"



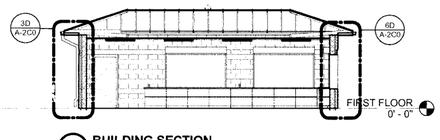
5A **FOUNDATION**
1 1/2" = 1'-0"



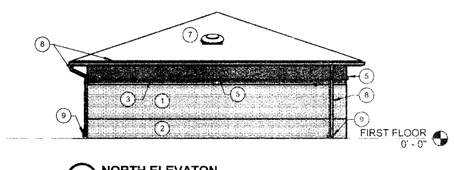
3B **BUILDING SECTION**
1/8" = 1'-0"



1B **EAST ELEVATION**
1/8" = 1'-0"



3A **BUILDING SECTION**
1/8" = 1'-0"



1A **NORTH ELEVATON**
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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Project No. 2015-121.LCS
Project Date 04.18.2016
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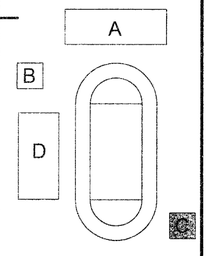


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

ELEVATIONS & SECTIONS (ALTERNATE)

A-2C0

INTERIOR FINISH LEGEND

MARK	DESCRIPTION	MANUFACTURER	PATTERN/STYLE	COLOR	SPECIFICATION	COMMENTS
CFC-1	CONCRETE FLOOR COATING	-	-	-	09 96 00 99	-
CPT-1	CARPET TILE	J&J FLOORING GROUP	KINETEX / VELOCITY 1814	MOVE 1608	09 68 13	QUARTER-TURN INSTALLATION
GR-1	GROUT	-	-	TO BE SELECTED FROM MFR'S STANDARD COLORS	09 30 00	-
HP-1	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	SKYLINE STEEL SW1015	09 91 23	-
HP-2	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	EGRET WHITE SW7570	09 91 23	PAINT COLOR FOR PAINTED EXPOSED CEILING / STRUCTURE
HP-3	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	IRON ORE SW 7069	09 91 23	-
MWC-1	MARKER WALLCOVERING	VITRULAN	CINCH MAGNETIC WALLCOVERING	SMOOTH M-22	09 72 00	-
MWP-1	MARKER WALL PAINT	VITRULAN	SCRIBIL DRY-ERASE PAINT	CLEAR	09 72 00	-
PFT-1	PORCELAIN FLOOR TILE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VL72	09 30 00	SIZE: 12"x24", 1/3 BRICK INSTALLATION
PFTB-1	PORCELAIN FLOOR TILE BASE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VL72	09 30 00	SIZE: 6"x12", COVE
PL-1	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	EBONY OXIDE 299-58	12 32 00	-
PL-2	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	CITADEL WARP 5882-58	12 32 00	-
RSF-1	RESINOUS FLOORING	GENERAL POLYMERS	CERAMIC CARPET	CHARCOAL 332	09 67 23	-
UPH-1	UPHOLSTERY	PALLAS	HOLY COW	THUNDERSTORM	12 32 00	-
VWB-1	VINYL WALL BASE	JOHNSONITE	-	BURNT UMBER 63	09 65 13	-
VWC-1	VINYL WALLCOVERING (OPERABLE PARTITIONS)	KOROSEAL	KASHI	SILVER FAN	10 22 26	-
WOC-1	WALK-OFF CARPET	TANDUS	ASSERTIVE ACTION 04837	STEELWORK 26202	09 68 13	-

INTERIORS GENERAL NOTES

REFERENCE A-001 FOR GENERAL PLAN NOTES. ALL NOTES MAY NOT APPLY TO THIS SHEET.

1. FURNITURE IS NOT PROVIDED IN THIS CONTRACT, LAYOUTS AND FINAL DESIGN WILL NEED TO BE DETERMINED BY THE OWNER.
2. REFERENCE ARCHITECTURAL CEILINGS PLANS FOR CEILING HEIGHTS AND BULKHEAD COLOR DESIGNATIONS. PAINT ALL BULKHEADS HP-1 UNLESS SPECIFICALLY NOTED OTHERWISE. BULKHEADS THAT ARE FLUSH WITH WALLS PROVIDE COLOR TO MATCH ADJACENT WALL COLOR.
3. PAINT INTERIOR HOLLOW METAL DOORS HP-1.
4. PAINT INTERIOR HOLLOW METAL DOOR FRAMES HP-3.
5. PAINT EXTERIOR HOLLOW METAL DOORS AND FRAMES HP-1.
6. PAINT GENERAL WALLS P-1 (NEUTRAL) UNLESS SPECIFICALLY NOTED OTHERWISE.
7. APPLIANCES AND VENDING EQUIPMENT ARE NOT PROVIDED IN THIS CONTRACT.
8. PAINT ALL EXPOSED STRUCTURE, DUCTWORK, PIPING ETC. HP-2.

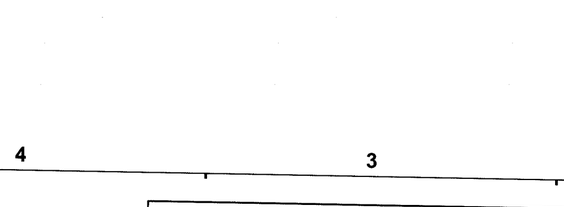
INTERIORS LEGEND

GENERAL

ETR	EXISTING TO REMAIN
NIC	NOT IN CONTRACT
FFE	FURNITURE, FIXTURES & EQUIPMENT

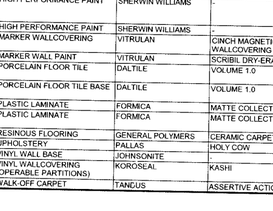
INTERIOR KEY NOTES

KEY	NOTE
1	NOT USED.



3C CONCESSIONS SOUTH ELEVATION
1/4" = 1'-0"

SPEC: 12 32 00
COUTERTOPS: STAINLESS STEEL
PLYWOOD SHELVING: PAINT (HP-1)

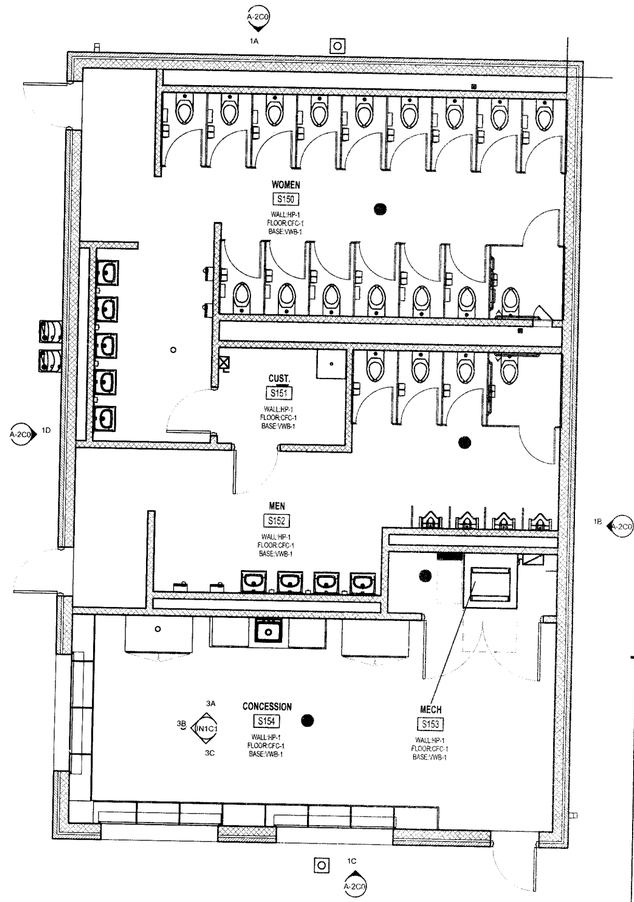


3B CONCESSIONS WEST ELEVATION
1/4" = 1'-0"

SPEC: 12 32 00
COUTERTOPS: STAINLESS STEEL
PLYWOOD SHELVING: PAINT (P-1)

3A CONCESSIONS NORTH ELEVATION
1/4" = 1'-0"

SPEC: 12 32 00
COUTERTOPS: STAINLESS STEEL
PLYWOOD SHELVING: PAINT (HP-1)



1A FIRST FLOOR INTERIOR PLAN
1/4" = 1'-0"

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced Designer AEC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A3	Addendum #3	05.12.2016

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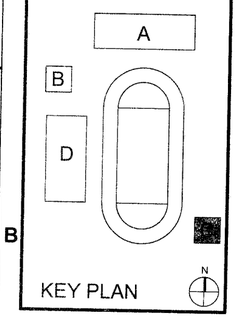


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR INTERIOR PLAN - UNIT C (ALTERNATE)

IN1C1

EXHAUST FAN SCHEDULE

IDENTITY DATA				FAN DATA		NOISE CRITERIA			ELECTRICAL DATA						
MARK	MANUFACTURER	MODEL	SERVES	EXHAUST AIRFLOW (CFM)	ESP (IN-WG)	RPM	SONES	DBA	HP	BHP	VOLTS (V)	PHASE	DISCONNECT PROVIDER	UNIT CONTROL	NOTES
EF-2	LOREN COOK COMPANY	GN2000	MENS RR RM102 & WOMENS RR RM10U	2,125	0.3	851	6.8	55	1	0.371	208	3	ELECTRICAL CONTRACTOR	FAN SPEED CONTROL	

233713 DIFFUSERS, REGISTERS, AND GRILLES

IDENTITY DATA				NECK SIZE (IN)	MODULE SIZE			
MARK	DESCRIPTION	MANUFACTURER	MODEL	Ø	W	L	MATERIAL	NOTES
EC 8x8	EGG CRATE FACE RETURN	PRICE	80 SERIES	0"	8"	8"	ALUMINUM	
EC 12x12	EGG CRATE FACE RETURN	PRICE	80 SERIES	0"	12"	12"	ALUMINUM	

238239 ELECTRIC PROP UNIT HEATER SCHEDULE

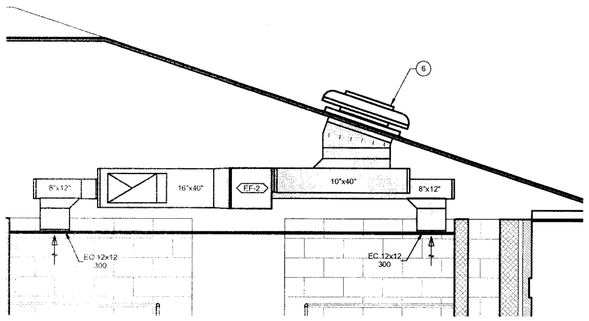
IDENTITY DATA				HEATING DATA				FAN DATA		ELECTRICAL DATA				
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	LOCATION	CAPACITY (W)	STEPS	EAT (°F)	LAT (°F)	AIRFLOW (CFM)	DRIVE	VOLTS (V)	PHASE	CONTROL	NOTES
PUH-4	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	CONCESSION RM144	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	
PUH-5	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	CONCESSION RM144	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	
PUH-6	MARLEY ENGINEERED PRODUCTS	MUH078	38.00	WOMENS RR RM140	7500	1	60	97	650	DIRECT	208	3	WALL MOUNTED	

DUCT ACCESSORY - CONTROL DAMPERS

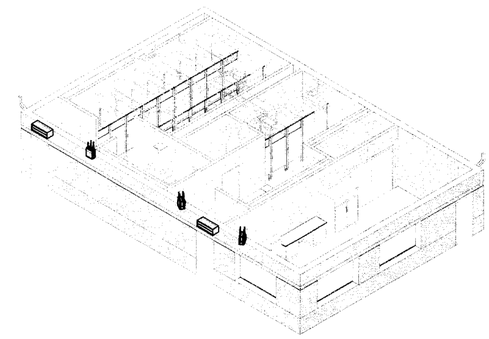
MARK	SIZE	MANUFACTURER	MODEL	TYPE
CD-2	36"x12"	RUSKIN	CD40X2	STANDARD

MECHANICAL HVAC PLAN NOTES

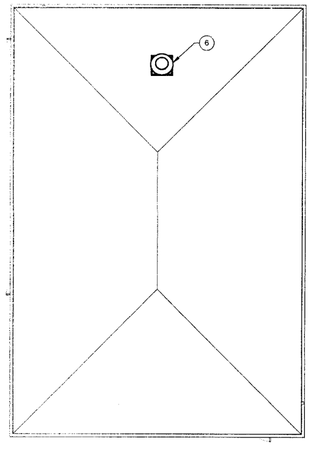
#	NOTE
1	INLINE EXHAUST FAN. SEE SCHEDULE ON SHEET M-1B1
2	TYPICAL EGGCRATE EXHAUST AIR GRILLE. SEE SCHEDULE ON SHEET M-1B1
3	ELECTRIC PROP UNIT HEATER. SEE SCHEDULE ON SHEET M-1B1
4	MAKE UP AIR LOUVER BY ARCHITECT
5	PROVIDE 36" X 12" MOTORIZED CONTROL DAMPER. MOUNT TO LOUVER AS SHOWN ON DETAIL 1A/M501
6	PROVIDE ROOF CAP LIKE LOREN COOK MODEL PR20F. MOUNT DIRECTLY ON THE ROOF WITH INTEGRAL FLASHING. NO CURB IS REQUIRED



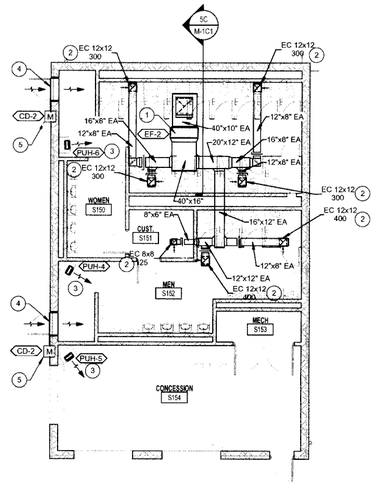
5C ROOF EXHAUST SECTION
1/2" = 1'-0"



2C ISOMETRIC PLAN



5A MECHANICAL HVAC ROOF PLAN
1/8" = 1'-0"



2A FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

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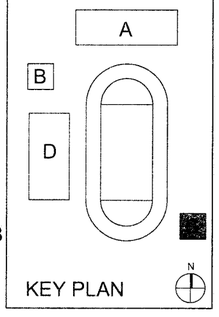


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

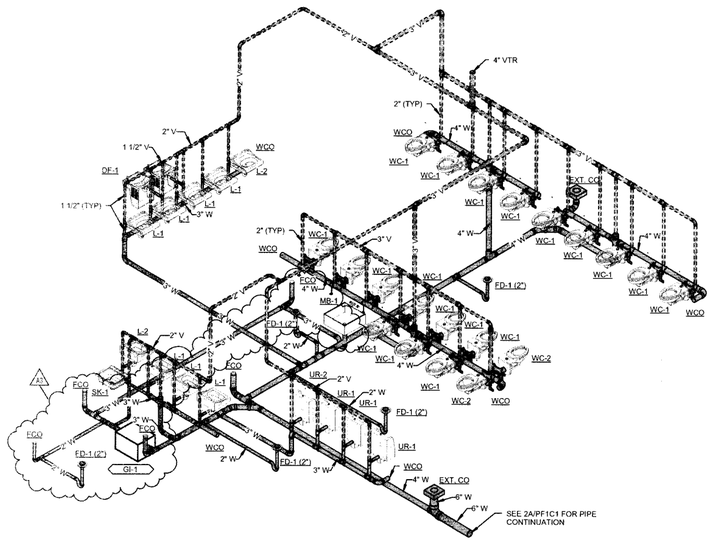
CONCESSION BUILDING MECHANICAL - UNIT C (ALTERNATE)

M-1C1

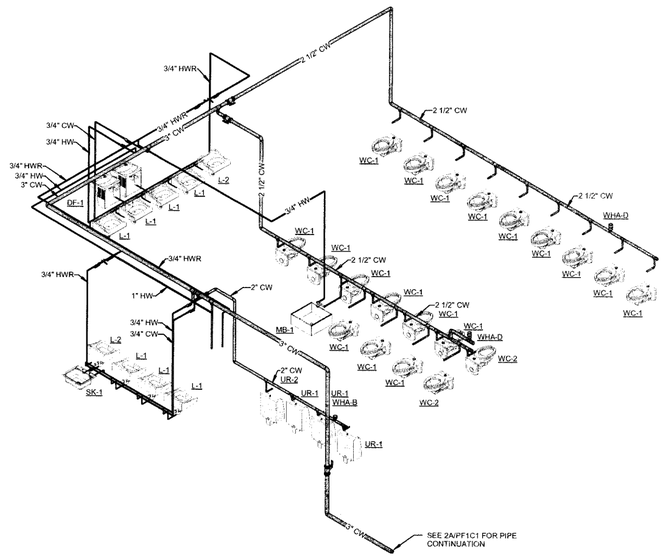
A3

PLUMBING EQUIPMENT SCHEDULE

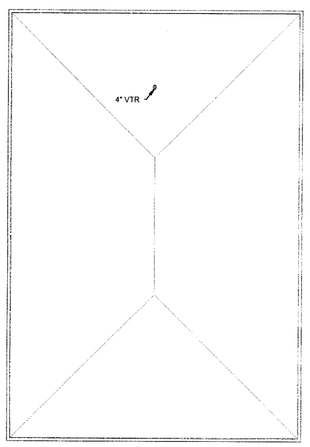
IDENTITY DATA						ELECTRICAL DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY	VOLTAGE (V)	PHASE	FLA	RPM	HP	NOTES
GI-1	ZURN	#GT2700-25	GREASE INTERCEPTOR	CONCESSION S154	25 GPM FLOW RATE. 50 LBS GREASE CAPACITY						FLOW CONTROL INLET FITTING



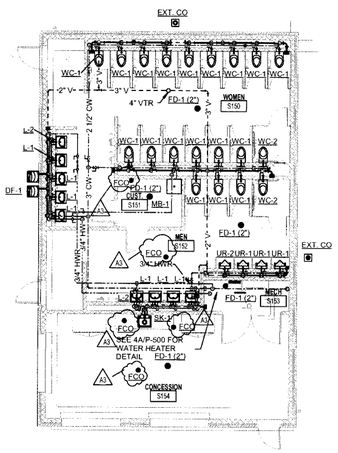
5C **OVERALL WASTE AND VENT ISOMETRIC**
NOT TO SCALE



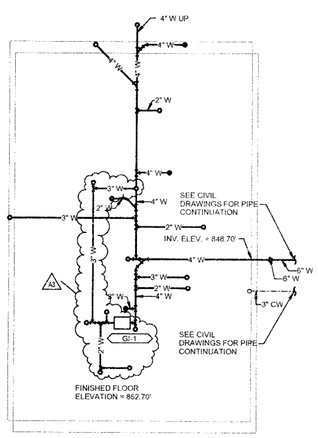
3C **OVERALL DOMESTIC WATER ISOMETRIC**
NOT TO SCALE



5A **ROOF PLUMBING PLAN - UNIT C**
1/8" = 1'-0"



3A **FIRST FLOOR PLUMBING PLAN - UNIT C**
1/8" = 1'-0"



2A **FOUNDATION PLUMBING PLAN - UNIT C**
1/8" = 1'-0"

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A2	ADDENDUM NO. 2	05.06.2016
A3	ADDENDUM NO. 3	05.12.2016

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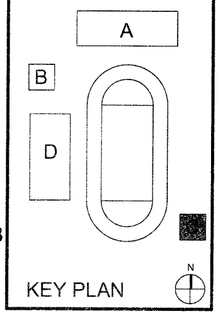


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION, FIRST FLR, ROOF, AND ISOMETRIC PLBING PLANS - UNIT C (ALTERNATE)

PF1C1

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	CIRCUIT CONNECTION FOR HAND DRYER. COORDINATE MOUNTING HEIGHT WITH A-SERIES DRAWINGS.
2	INSTALL ALL RECEPTACLES AT +46" A.F.F. TO C.L. IN THIS ROOM/AREA.

PANELBOARD SCHEDULE

DESIGNATION: 12C1 — **LOCATION:** MECH S153 — **MOUNTING:** SURFACE — **SUPPLY FROM:** T-C1
VOLTS: 208Y/120 V — **PHASES:** 3 — **WIRES:** 4
MAINS RATING: 400 A — **MAINS TYPE:** MCB — **MCB RATING:** 300 A — **AIC RATING:** 10,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	S154, S153, S152, S151, S150	LIGHTING	20 A	1	1.27 0.55			1	20 A	LIGHTING	EXTERIOR	2
3	S154	RECEPT.	20 A	1		1.00 0.54		1	20 A	RECEPT.	EXTERIOR	4
5	S154	RECEPT.	20 A	1			1.00 0.90	1	20 A	RECEPT.	S152, S151, S150	6
7	S154	RECEPT.	20 A	1	1.00 1.20			1	20 A	HAND DRY.	S150 (GFCI CB)	8
9	S154	RECEPT.	20 A	1		1.00 1.20		1	20 A	HAND DRY.	S150 (GFCI CB)	10
11	S154	RECEPT.	20 A	1			1.00 1.20	1	20 A	HAND DRY.	S152 (GFCI CB)	12
13	S154	RECEPT.	20 A	1	0.18 1.20			1	20 A	HAND DRY.	S152 (GFCI CB)	14
15	S154	RECEPT.	20 A	1		0.18 0.58		3	20 A	EF	S151	16
17	S154	RECEPT.	20 A	1			0.18 0.58	--	--	--	--	18
19	S154	RECEPT.	20 A	1	0.18 0.58			--	--	--	--	20
21	S154	RECEPT.	20 A	1		0.18 3.13		3	20 A	PUH	S152	22
23	S154	RECEPT.	20 A	1			1.00 3.13	--	--	--	--	24
25	S154	RECEPT.	20 A	1	1.00 3.13			--	--	--	--	26
27	SPARE		20 A	1		0.00 3.13		3	20 A	PUH	S154	28
29	S153	CIRC. PUMP	20 A	1			0.53 3.13	--	--	--	--	30
31	12C2	PNL	100 A	3	2.00 3.13			--	--	--	--	32
33	--	--	--	--		2.00 3.13		3	20 A	PUH	S150	34
35	--	--	--	--			2.00 3.13	--	--	--	--	36
37	FB SCOREBOARD -	SCRBD	60 A	3	3.60 3.13			--	--	--	--	38
39	--	--	--	--		3.60 0.00		1	20 A		SPARE	40
41	--			--			3.60 0.00	1	20 A		SPARE	42
43	S153	WTR. HTR.	40 A	3	3.36 0.00			1	20 A		SPARE	44
45	--	--	--	--		3.36 0.00		1	20 A		SPARE	46
47	--	--	--	--			3.36 0.00	1	20 A		SPARE	48
49	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	50
51	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	52
53	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	54
				TOTAL LOAD:	25.51 kVA	23.02 kVA	24.73 kVA					
				TOTAL AMPS:	215 A	192 A	208 A					

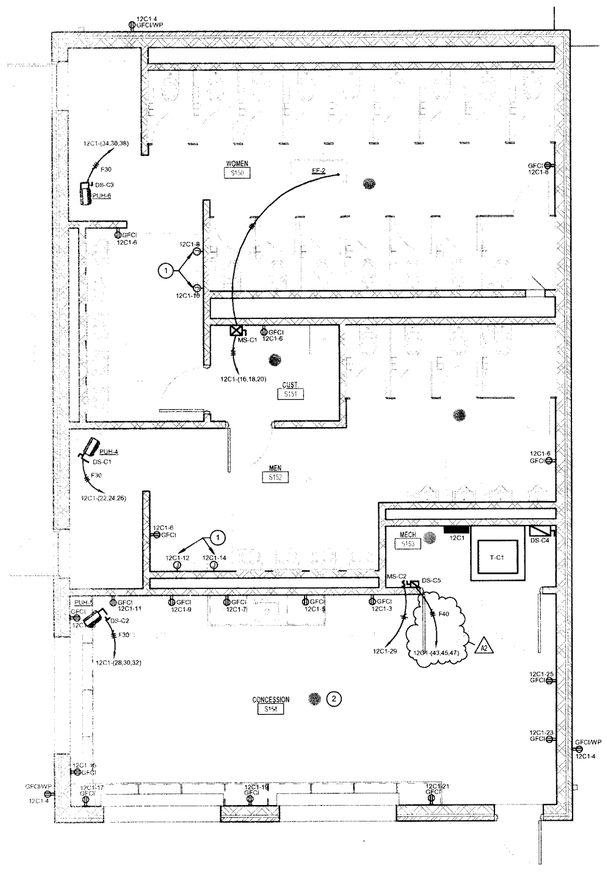
TOTAL CONNECTED LOAD:	73.26 kVA
TOTAL CONNECTED AMPS:	215 A
NOTES:	1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.

GENERAL LIGHTING NOTES

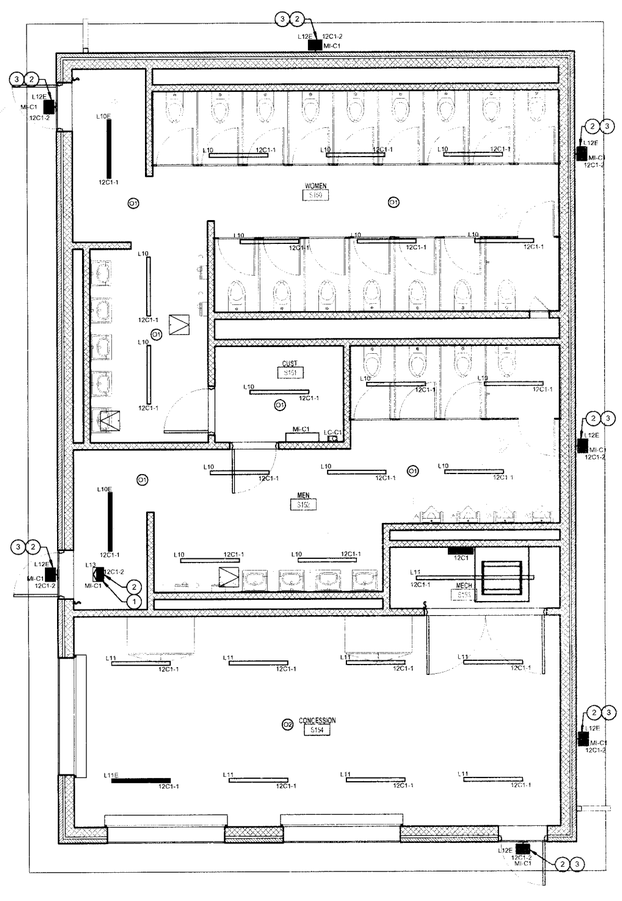
#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING PLAN NOTES

#	NOTES
1	LIGHT FIXTURE MOUNTED TO ROOF. COORDINATE ALL MOUNTING REQUIREMENTS PRIOR TO INSTALLATION. FIELD ADJUST LIGHT FIXTURE FOR MAXIMUM COVERAGE OF SITE.
2	LIGHT FIXTURE CONTROLLED BY LIGHTING CONTACTOR LC-C1.
3	INSTALL LIGHT FIXTURE IN BRICK BAND AROUND BUILDING. REFER TO A-SERIES DRAWINGS FOR MOUNTING HEIGHT.



3A **FIRST FLOOR POWER PLAN**
1/4" = 1'-0"



2A **FIRST FLOOR LIGHTING PLAN**
1/4" = 1'-0"

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Project Date 04.18.2016
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#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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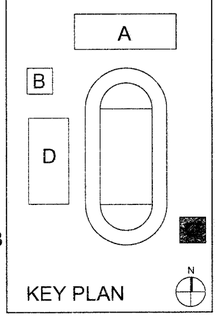


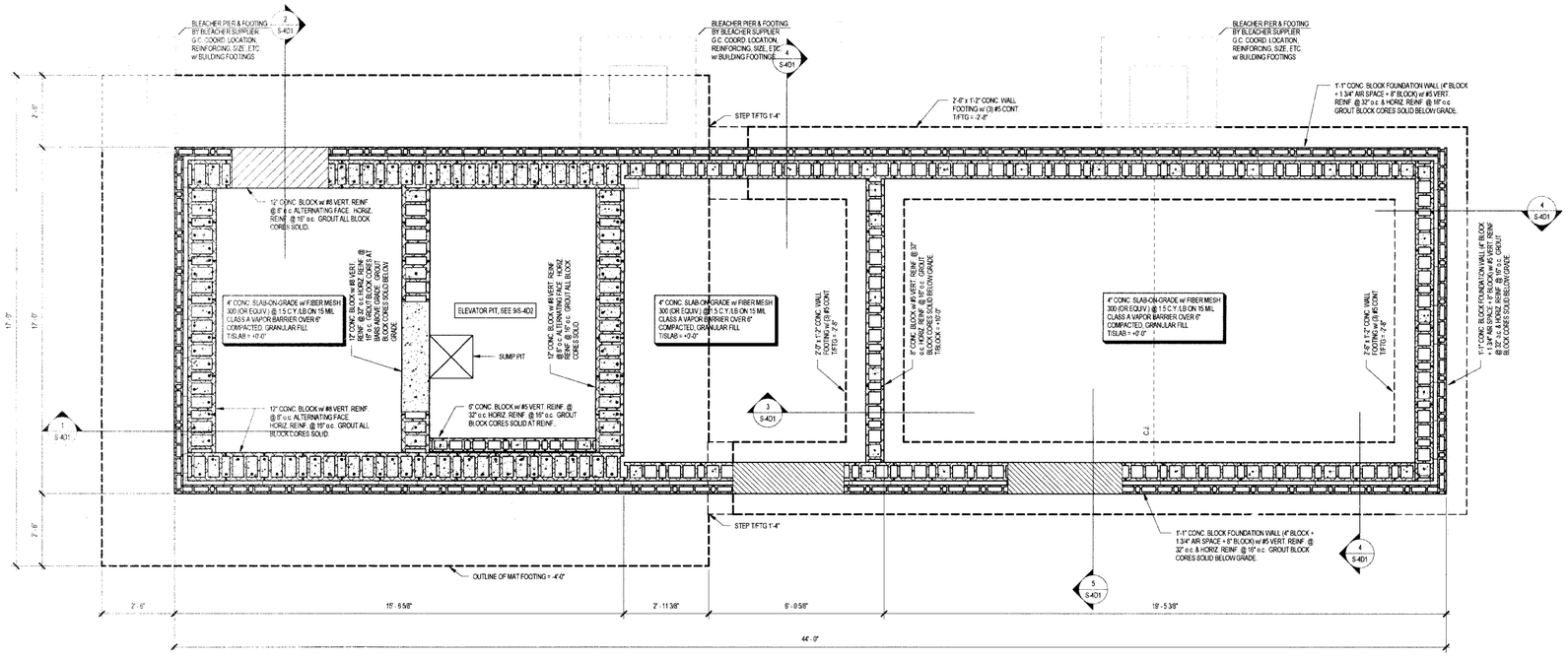
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

LIGHTING & POWER PLANS - UNIT C (ALTERNATE)

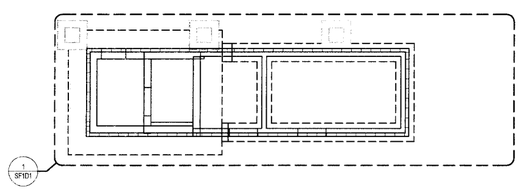
EL1C1



1 FOUNDATION PLAN - DETAIL VIEW
1/2" = 1'-0"

NORTH

SEE NOTE 12: FOUNDATION PLAN NOTES



2 FOUNDATION PLAN
1/8" = 1'-0"

NORTH

FOUNDATION PLAN NOTES

1. REF. S-501 FOR STRUCTURAL NOTES, DESIGN DATA & SCHEDULES.
2. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH ALL DISCIPLINES TO AVOID CONFLICTS. THE MECHANICAL, ELECTRICAL, AND PLUMBING ASPECTS ARE NOT IN THE SCOPE OF THESE DRAWINGS. THEREFORE, ALL REQUIRED MATERIALS AND WORK MAY NOT BE INDICATED.
3. COORDINATE EXACT SIZE & LOCATION OF ALL MECHANICAL OPENINGS IN FOUNDATION WALLS WITH THE MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS.
4. ALL ELEVATIONS ARE REFERENCED FROM THE FIRST FLOOR FINISH FLOOR ELEVATION +0'-0" (U.S.G.S. XXX.XX) REF. CIVIL DWGS.
5. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
6. REF. S-402 FOR TYPICAL FOUNDATION DETAILS.
7. NOTE: PERIMETER WALL AND COLUMN FOOTINGS SHALL BE LOWERED AND/OR SLEEVED TO PASS BELOW PLUMBING LINES (I.E. SANITARY & STORM SEWERS, WATER LINES, ETC.) SHOWN ON THE PLUMBING DRAWINGS. PROVIDE FOOTING STEPS AS REQUIRED PER THE TYPICAL DETAILS ON S-402.
8. COORDINATE REINFORCING DOWELS FOR CMU VERTICAL REINFORCING WITH REINF NOTED ON PLANS & SECTIONS.
9. GROUT ALL CORES OF CMU BELOW FINISH FLOOR SOLID.
10. COLUMN FOOTINGS, TRENCH FOOTINGS AND WALL FOOTINGS SHALL BEAR ON APPROVED SOIL. UNDERCUT AS REQ'D TO SUITABLE BEARING MATERIAL AS DETERMINED BY THE GEOTECHNICAL TESTING AGENCY. REF. TYPICAL FOOTING UNDERCUT DETAIL ON S-407. UNDERCUTTING TO SUITABLE BRG. MATERIAL IS NOT REQUIRED FOR GRADE BEAMS.
11. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (REF. THE TYPICAL DETAILS ON SHEET S-403). ALL JOINTS IN SLABS TO RECEIVE THIN OR THICK-SET TERRAZZO, CERAMIC OR PORCELAIN TILE, VINYL, COMPOSITION TILE (VCT) OR VINYL SHEET GOODS, EPOXY OR SIMILAR THIN FILM FINISH FLOORING SHALL BE CAREFULLY COORDINATED WITH THE FLOORING CONTRACTOR. THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.
12. ALL FOUNDATIONS FOR BLEACHERS TO BE DESIGNED AND SUPPLIED BY OTHERS. G.C. COORDINATE SIZE, LOCATION, REINFORCING, ETC. w/ BUILDING FOUNDATIONS.
13. PLAN LEGEND:

F.F.	DENOTES FINISH FLOOR
T/X	DENOTES TOP OF FTG., GRADE BEAM, SLAB, PIER, ETC.
B/X	DENOTES BOTTOM OF FTG., GRADE BEAM, ETC.
C.J.	DENOTES SLAB ON GRADE CONTROL/CONTRACTION JOINT

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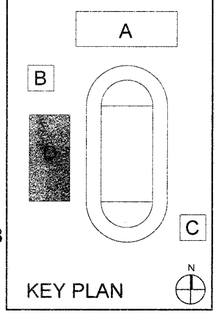
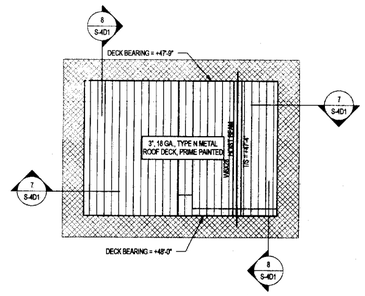


MSD OF LAWRENCE TOWNSHIP

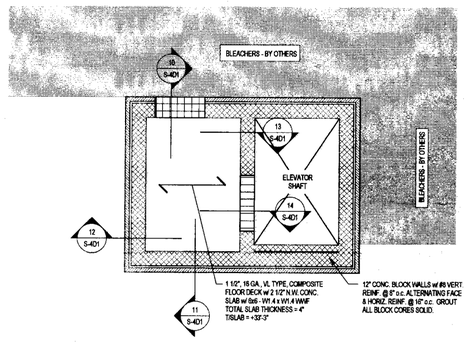
LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION PLANS

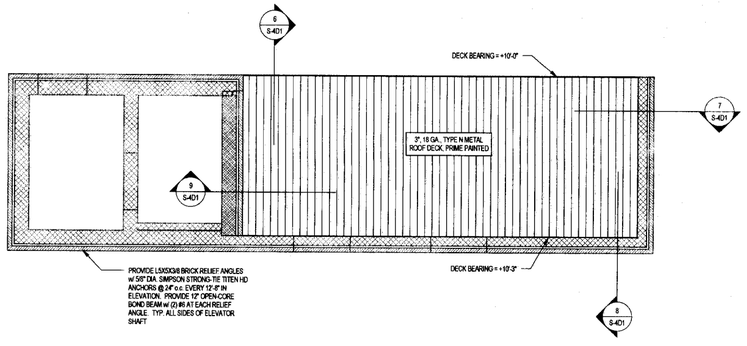
SF1D1



3 ELEVATOR ROOF FRAMING PLAN
1/4" = 1'-0"



2 PRESSBOX LEVEL FLOOR FRAMING PLAN
1/4" = 1'-0"



1 LOW ROOF FRAMING PLAN
1/4" = 1'-0"

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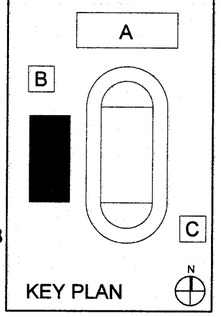


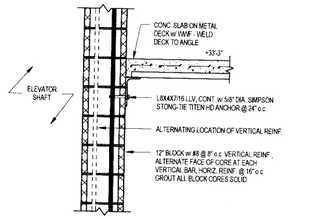
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

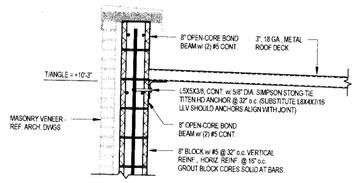
LC EXTERIOR FACILITY UPGRADES - BP2

FRAMING PLANS

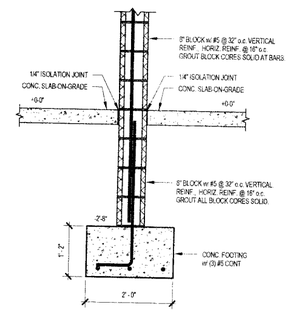
SF1D2



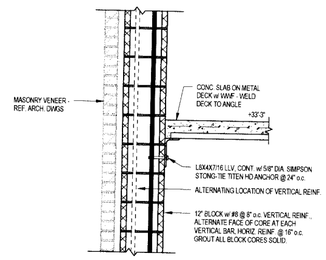
13 SECTION
3/4" = 1'-0"



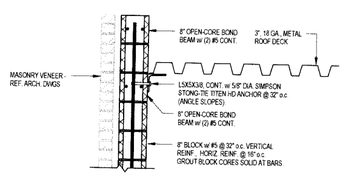
8 SECTION
3/4" = 1'-0"



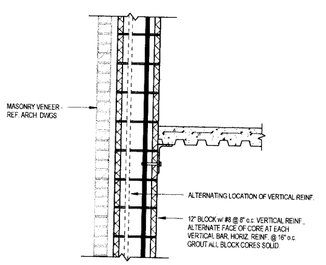
3 SECTION
3/4" = 1'-0"



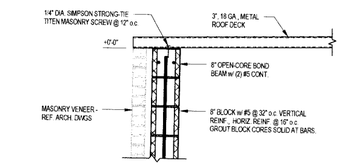
12 SECTION
3/4" = 1'-0"



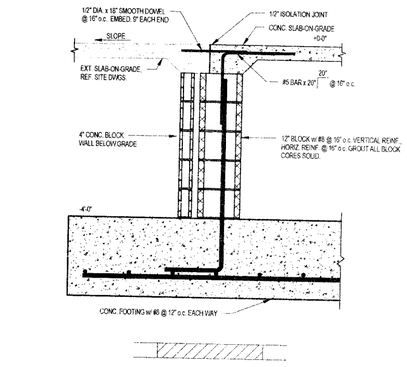
7 SECTION
3/4" = 1'-0"



11 SECTION
3/4" = 1'-0"

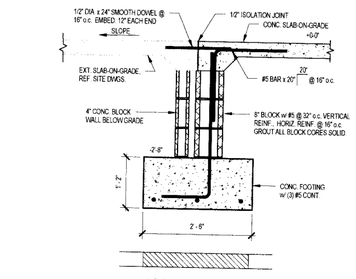


6 SECTION
3/4" = 1'-0"



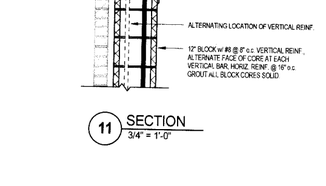
AS SHOWN ON PLAN

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



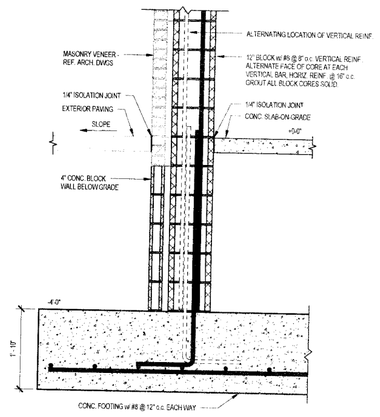
AS SHOWN ON PLAN

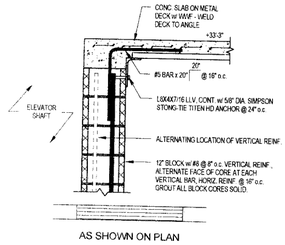
5 SECTION
3/4" = 1'-0"



AS SHOWN ON PLAN

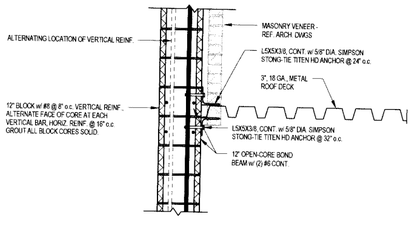
10 SECTION
3/4" = 1'-0"





AS SHOWN ON PLAN

14 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"

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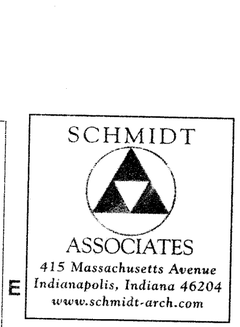


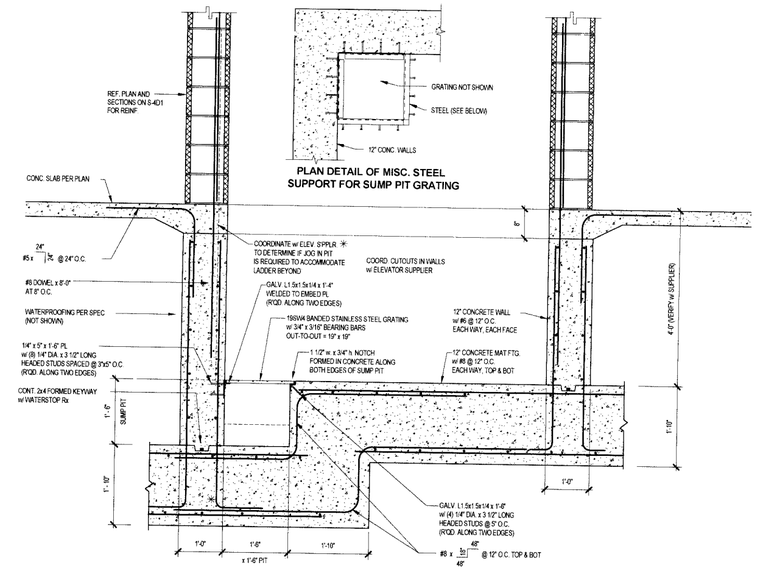
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

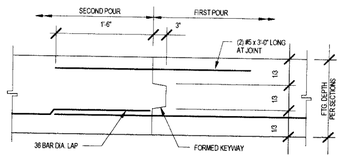
STRUCTURAL SECTIONS

S-4D1

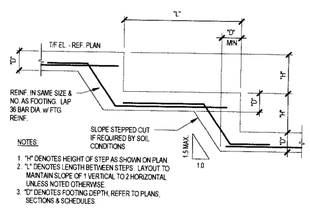


PLAN DETAIL OF MISC. STEEL SUPPORT FOR SUMP PIT GRATING

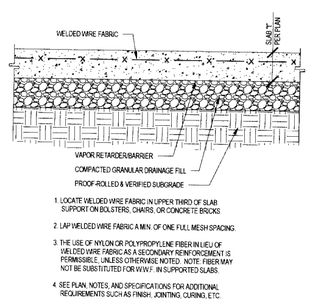
9 ELEVATOR PIT DETAIL
3/4" = 1'-0"



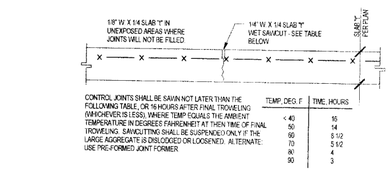
8 WALL FOOTING CONSTRUCTION JOINT
1" = 1'-0"



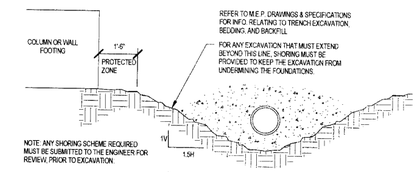
7 STEPPED FOOTING DETAIL
1/2" = 1'-0"



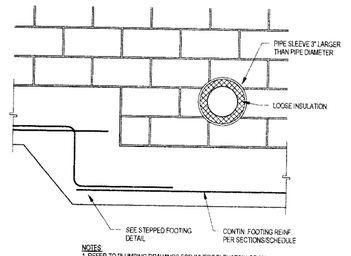
6 SLAB ON GRADE CONSTRUCTION
1" = 1'-0"



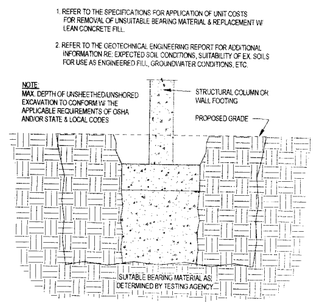
5 SLAB CONTROL/CONTRACTION JOINT
1" = 1'-0"



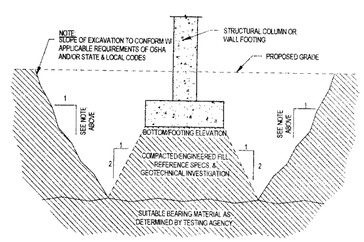
4 EXCAVATION LIMITS DETAILS
3/4" = 1'-0"



3 CMU FOUNDATION WALL PIPE SLEEVE DETAIL
3/4" = 1'-0"



2 OVEREXCAVATION DETAIL - LEAN CONC. FILL
1/2" = 1'-0"



1 OVEREXCAVATION DETAIL - COMPACTED FILL
1/2" = 1'-0"

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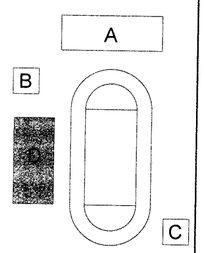


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

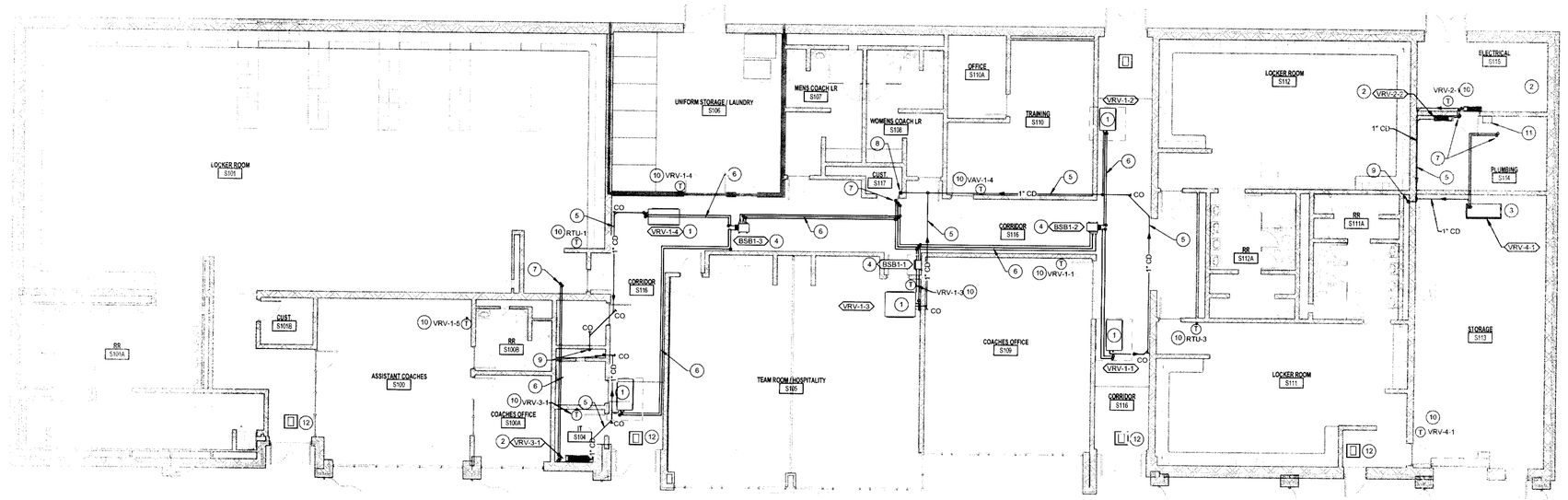
LC EXTERIOR FACILITY UPGRADES - BP2

STRUCTURAL DETAILS

S-4D2

MECHANICAL PIPING PLAN NOTES

#	NOTE
1	VRV CONCEALED DUCTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURER'S RECOMMENDATIONS. SEE SCHEDULE ON SHEET M-601.
2	VRV WALL MOUNTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURER'S RECOMMENDATIONS. SEE SCHEDULE ON SHEET M-601.
3	VRV CEILING MOUNTED FAN COIL UNIT. COORDINATE INSTALLATION WITH LIGHTS, PLUMBING, TECHNOLOGY SYSTEMS, SPRINKLERS AND STRUCTURAL STEEL. MECHANICAL CONTRACTOR TO INSTALL VRV UNITS PER MANUFACTURERS RECOMMENDATIONS. SEE SCHEDULE ON SHEET M-601.
4	VRV BRANCH SELECTION BOX LOCATED ABOVE THE CEILING. CONTRACTOR TO INSTALL BRANCH SELECTOR BOX PER MANUFACTURER'S RECOMMENDATIONS.
5	1" CONDENSATE DRAIN ROUTED ABOVE THE CEILING. SLOPE CONDENSATE PIPING 1/32" PER 1'-0". COORDINATE ROUTING OF CONDENSATE DRAIN WITH ALL OTHER TRADES AND STRUCTURAL STEEL.
6	REFRIGERANT PIPING ROUTED ABOVE CEILING. CONTRACTOR TO INSTALL REFRIGERANT PIPING AS REQUIRED PER VRV MANUFACTURER'S RECOMMENDATIONS. REFRIGERANT PIPING TO BE SIZED BY VRV MANUFACTURER. COORDINATE ROUTING WITH ALL OTHER TRADES AND STRUCTURAL STEEL.
7	REFRIGERANT PIPING DOWN THROUGH ROOF FROM CONDENSING UNIT MOUNTED ON ROOF. SEE ROOF PLAN FOR CONTINUATION OF PIPING & CONDENSING UNIT.
8	TERMINATE CONDENSATE DRAIN +/- 12" ABOVE MOP BASIN
9	TERMINATE CONDENSATE DRAIN AT FUNNEL DRAIN LOCATED IN PLUMBING CHASE.
10	TYPICAL ROOM THERMOSTAT TO BE PROVIDED WITH LOCKABLE, TAMPER PROOF COVER.
11	PROVIDE INTELLIGENT TOUCH CONTROLLER PANEL & MISCELLANEOUS MODULES & LOW VOLTAGE TRANSFORMERS AS REQUIRED FOR COMPLETE HVAC SYSTEMS CONTROLS. THESE SHALL BE CONTAINED IN FABRICATED METAL ENCLOSURE WITH HINGED, LOCKABLE DOOR, MOUNTED ON WALL. COORDINATE WITH DIVISION 26 FOR 120V/1PH.
12	CEILING MOUNTED ELECTRIC UNIT HEATER. SEE SCHEDULE ON SHEET M-601



1A **FIRST FLOOR PIPING PLAN**
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced BAW / DBC

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

KEY PLAN

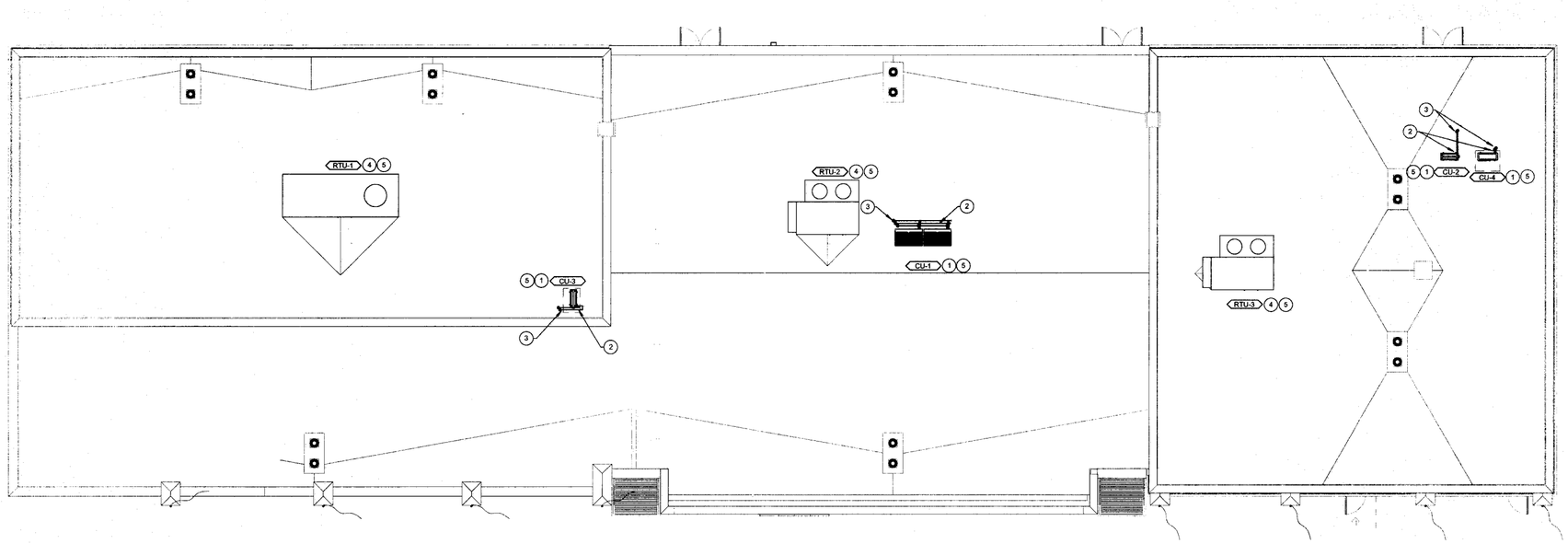
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR PIPING PLAN - UNIT A

MP1A1

MECHANICAL ROOF PLAN NOTES	
#	NOTE
1	AIR COOLED VRV CONDENSING UNIT MOUNTED ON MIRO FRAME ROOF SUPPORTS. SEE SCHEDULE ON M-601 & SEE DETAIL 3A/M-501.
2	REFRIGERANT PIPING ROUTED ON ROOF. PIPING SUPPORTS LIKE MIRO INDUSTRIES PIPE STAND. REFERENCE DETAIL 3A/M-501
3	REFRIGERANT PIPING FROM CONDENSING UNIT ROUTED DOWN THROUGH ROOF CURB. SEE REFRIGERANT CURB INSTALLATION DETAIL 2B/M-501.
4	GAS FIRED DX / GAS FIRED ROOFTOP UNIT. SEE SCHEDULE ON SHEET M-601 & DETAIL 6A/M-501
5	ALL ROOF MOUNTED EQUIPMENT SHALL BE MINIMUM OF 10'-0" AWAY FROM EDGE OF ROOF.



1A MECHANICAL HVAC ROOF PLAN
1/8" = 1'-0"

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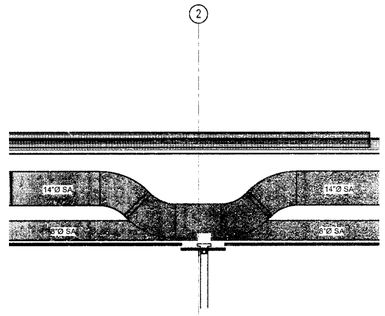
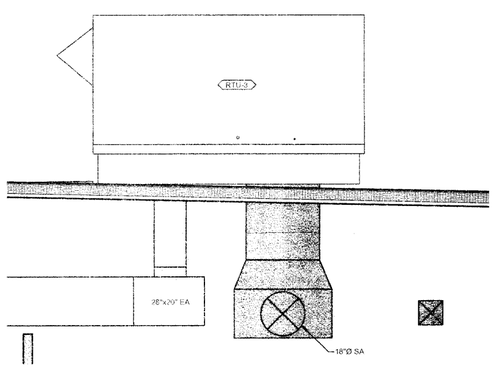
LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL ROOF PLAN - UNIT A

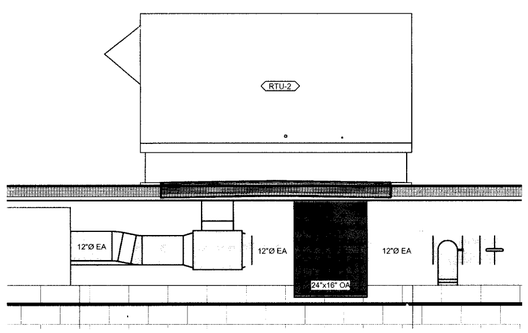
MR1A1



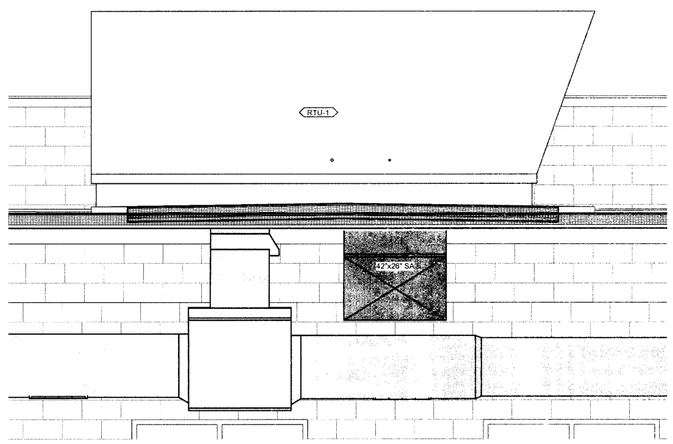
1B DUCT SECTION
1/2" = 1'-0"



5A SECTION AT RTU-3
1/2" = 1'-0"



3A SECTION AT RTU-2
1/2" = 1'-0"



1A SECTION AT RTU-1
1/2" = 1'-0"

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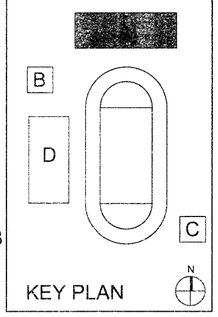


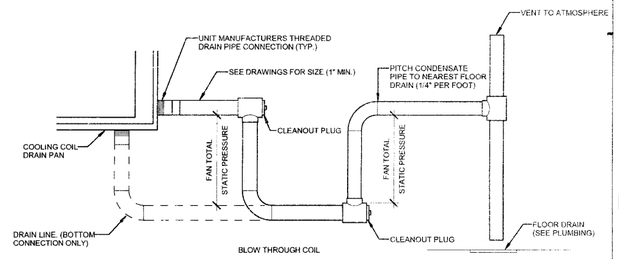
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

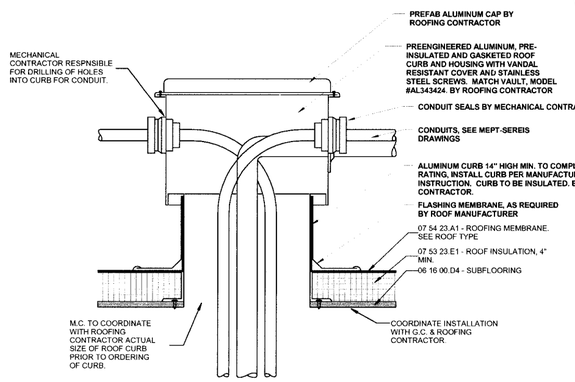
LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL SECTIONS - UNIT A

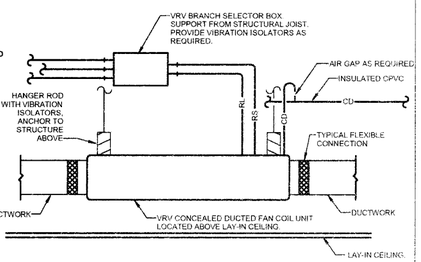
M-301



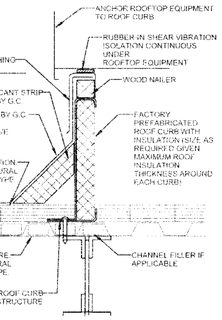
1C **CONDENSATE DRAIN PIPING DETAIL**
1/8" = 1'-0"



2B **REFRIGERANT PIPING CURB DETAIL**
1 1/2" = 1'-0"



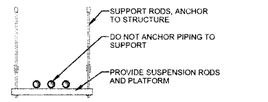
1B **VRV CONCEALED DUCTED FAN COIL UNIT PIPING DIAGRAM1**
1" = 1'-0"



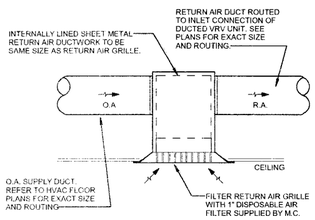
NOTES:

1. ROOF CURBS SHALL BE PROVIDED WITH PROPERLY DESIGNED FABRICATED LEVELING DEVICES SO EQUIPMENT IS LEVEL AND THE ROOF CURB IS INSTALLED TO MATCH THE ROOF SLOPE.
2. PROVIDE PERIMETER ANGLE SUPPORT AT ALL SIDES BETWEEN STRUCTURAL STEEL SIZE OF ANGLE BASED ON LOAD OF EQUIPMENT. MINIMUM SIZE SHALL BE 3" X 3" X 1/4".
3. ROOF CURBS SHALL NOT BE SUPPORTED FROM THE ROOF INSULATION.
4. COORDINATE LOCATION OF ROOF CURB AND ROOF OPENING WITH STRUCTURE.
5. ROOFING INSULATION SHALL BE CONTINUOUS UNDER THE ROOFTOP EQUIPMENT

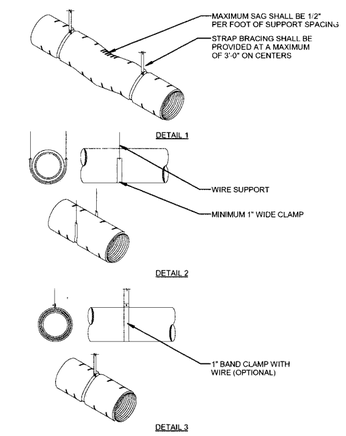
6A **ROOF EQUIPMENT SUPPORT CURB DETAIL**
NOT TO SCALE



5B **REFRIGERANT PIPE SUPPORT DETAIL**
NOT TO SCALE



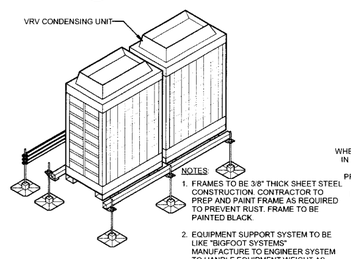
5A **RETURN AIR CONNECTION DETAIL**
NOT TO SCALE



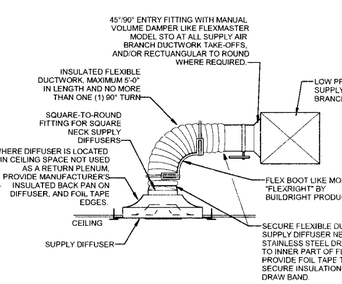
NOTES:

1. METALLIC FLEXIBLE DUCTWORK SHALL BE ATTACHED USING A MINIMUM OF THREE (3) #8 SHEET METAL SCREWS EQUALLY SPACED AROUND THE DUCTWORK CIRCUMFERENCE. DUCTWORK LARGER THAN 12" SHALL HAVE A MINIMUM OF FIVE (5) #8 SHEET METAL SCREWS. SCREWS SHALL BE LOCATED AT LEAST 1/2" FROM THE DUCTWORK END.
2. NON-METALLIC FLEXIBLE DUCTWORK SHALL BE SECURED TO THE SLEEVE OR COLLAR USING A DRAW BAND. IF THE DUCTWORK COLLAR EXCEEDS 12" THE DRAW BAND MUST BE POSITIONED BEHIND A BEAD ON THE METAL COLLAR.
3. INSULATION AND VAPOR BARRIERS PRESENT ON FACTORY-FABRICATED DUCTWORK SHALL BE FITTED OVER THE CORE CONNECTION AND SHALL BE SUPPLEMENTALLY SECURED WITH A DRAW BAND.
4. FLEXIBLE DUCTWORK SEALING SHALL BE A CLASS "B" SEAL FOR LOW PRESSURE DUCTWORK.
5. SUPPORT SYSTEM SHALL NOT DAMAGE OR CAUSE OUT-OF-ROUND SHAPE.

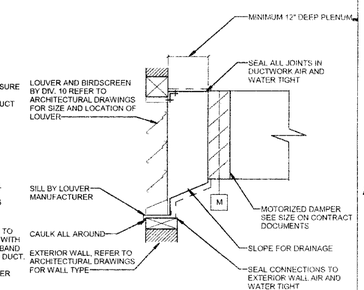
4A **INSULATED FLEXIBLE DUCTWORK DETAIL**
NOT TO SCALE



3A **VRV CONDENSING UNIT FRAME SUPPORT**
1/8" = 1'-0"



SUPPLY DIFFUSER FLEXIBLE DUCT CONNECTION DETAIL
2A NOT TO SCALE



1 **LOUVER CONNECTION DETAIL**
1/8" = 1'-0"

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL DETAILS - UNIT A

M-501

VRV OUTDOOR AIR COOLED CONDENSING UNIT SCHEDULE

IDENTITY DATA					COOLING / HEATING DATA				ENERGY DATA			ELECTRICAL DATA						
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	LOCATION	NOMINAL COOLING CAPACITY (TONS)	REFRIGERANT TYPE	TOTAL COOLING (BTUH)	TOTAL HEATING (BTUH)	COP	IEER	SEER	VOLTS (V)	PHASE	MCA (A)	MFA (A)	RLA (A)	DISCONNECT PROVIDER	NOTES
CU-1	DAIKIN	REYQ336TYDN	1,588	ROOF	28	R-410A	312,000	352,000	3.20	17.00	10.00	460	3	72.2	80	38	ELECTRICAL CONTRACTOR	1,2,3,5
CU-2	DAIKIN	RXN24KEVJU5	168	ROOF	2	R-410A	24,000	30,000	3.20	16.60	12.50	208	1	17.8	20	10.4	ELECTRICAL CONTRACTOR	1,2,3,5,6
CU-3	DAIKIN	RKN18KEVJU5	93	ROOF	1.5	R-410A	18,000	0	0.00	18.00	12.00	208	1	15.0	20	6.8	ELECTRICAL CONTRACTOR	1,2,3,4,5,6
CU-4	DAIKIN	RZQ42PVJU9	285	ROOF	3.5	R-410A	40,500	39,500	2.69	0.00	13.80	208	1	27.0	30	19.6	ELECTRICAL CONTRACTOR	1,2,3,5,6

VRV OUTDOOR AIR COOLED CONDENSING UNIT SCHEDULE NOTES:
1. UNITS TO BE MOUNTED ON PRE-MANUFACTURED STANDS LIKE MIRO. COORDINATE EQUIPMENT WEIGHT WITH SUPPORT SYSTEM MANUFACTURER.
2. VRV SYSTEM TO INCLUDE REFRIGERATION AUTO CHARGING LEAK CHECK FUNCTION & AUTO ADDRESSING FUNCTION.
3. CONTRACTOR TO COORDINATE REFRIGERANT PIPE ROUTING WITH EQUIPMENT MANUFACTURER.
4. COOLING SYSTEM ONLY.
5. RATED TOTAL COOLING & RATED TOTAL HEATING IS BASED ON OUTDOOR TEMPS 95°F DB/75°F WB SUMMER, 47°F DB/43°F WB WINTER.
6. PROVIDE WIND BAFFLE FOR LOW AMBIENT CONTROL DOWN TO 0° F.

VRV FAN COIL UNIT SCHEDULE

IDENTITY DATA				COOLING / HEATING DATA					DIMENSIONS			ELECTRICAL DATA			
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	NOMINAL COOLING (TONS)	COOLING CAPACITY (BTU/h)	HEATING CAPACITY (BTU/h)	OUTSIDE AIR (CFM)	REFRIG. TYPE	H	L	W	VOLTS (V)	PHASE	FREQ (HZ)	NOTES
VRV-1-1	DAIKIN	FXMQ36PVJU	139 lb	3	36,000	40,000	400	R-410A	1'-0"	4'-7"	2'-4"	208	1	60	1,2,3,4
VRV-1-2	DAIKIN	FXMQ30PVJU	99 lb	2.5	30,000	34,000	225	R-410A	1'-0"	3'-3"	2'-4"	208	1	60	1,2,3,4
VRV-1-3	DAIKIN	FXMQ96MVJU	302 lb	8	96,000	108,000	885	R-410A	1'-7"	3'-7"	4'-6"	208	1	60	1,2,3,4
VRV-1-4	DAIKIN	FXMQ36PVJU	139 lb	3	36,000	40,000	560	R-410A	1'-0"	4'-7"	2'-4"	208	1	60	1,2,3,4
VRV-1-5	DAIKIN	FXMQ36PVJU	139 lb	3	36,000	40,000	380	R-410A	1'-0"	4'-7"	2'-4"	208	1	60	1,2,3,4
VRV-2-1	DAIKIN	FTXS12LVJU		1	12,000	14,400	0	R-410A	1'-0"	2'-8"		208	1	60	1,2,3,4
VRV-2-2	DAIKIN	FTXS12LVJU	22 lb	1	12,000	14,400	0	R-410A	1'-0"	2'-8"	0'-8"	208	1	60	1,2,3,4
VRV-3-1	DAIKIN	FTXN18KVJU	27 lb	1.5	18,000	0	0	R-410A	11"	3'-5"	0'-8"	208	1	60	1,2,3,4
VRV-4-1	DAIKIN	FHQ42MVJU	90 lb	3.5	40,500	39,500	0	R-410A	8"	5'-2"	2'-2"	208	1	60	1,2,3,4

VRV FAN COIL UNIT SCHEDULE NOTES:
1. VRV SYSTEM TO INCLUDE ITS OWN TEMPERATURE CONTROL SYSTEM. VRV CONTROL SYSTEM TO BE INTEGRATED INTO THE NEW TEMPERATURE CONTROL SYSTEM FRONT END UTILIZING BACNET IP.
2. ALL VRV UNITS TO HAVE BUILT-IN CONDENSATE PUMPS AS REQUIRED TO PUMP CONDENSATE TO CONDENSATE PIPING OR DRAINS. SEE CONDENSATE DRAIN PIPING ON CONTRACT DOCUMENTS.
3. VRV SYSTEM UNIT DISCONNECTS ARE PROVIDED BY THE ELECTRICAL CONTRACTOR, NOT THE MANUFACTURER.
4. PROVIDE COLOR MATCHING PIPE ENCLOSURE AS REQUIRED TO CONCEAL REFRIGERANT PIPING & CONDENSATE DRAIN FOR WALL UNITS.

DIFFUSERS, REGISTERS, AND GRILLES

IDENTITY DATA					NECK SIZE (IN)	MODULE SIZE		
MARK	SYSTEM ABBREVIATION	DESCRIPTION	MANUFACTURER	MODEL	Ø	W	L	NOTES
EC 8x8	EA	EGG CRATE FACE RETURN	PRICE	80 Series	8"	8"	8"	
EC 10x10	EA	EGG CRATE FACE RETURN	PRICE	80 Series	0"	10"	10"	
EC 12x12	EA	EGG CRATE FACE RETURN	PRICE	80 Series	12"	12"	12"	
SDGER22x12	EA	SPIRAL DUCT GRILLE EXTRUDED RETURN ALUMINUM	PRICE	SDGER	0"	12"	22"	SDGER
FEC 24x24	OA	EGG CRATE FACE FILTER RETURN	PRICE	80FF Series	0"	24"	24"	1,2
EC 12x12	RA	EGG CRATE FACE RETURN	PRICE	80 Series	12"	12"	12"	1,2
FEC 8x8	RA	EGG CRATE FACE FILTER RETURN	PRICE	80FF Series	0"	8"	8"	1,2
FEC 24x12	RA	EGG CRATE FACE FILTER RETURN	PRICE	80FF Series	0"	24"	12"	1,2
FEC 24x24	RA	EGG CRATE FACE FILTER RETURN	PRICE	80FF Series	0"	24"	24"	1,2
SD24-6	SA	SQUARE CONE DIFFUSER	PRICE	ASCDA	6"	24"	24"	1,2
SD24-8	SA	SQUARE CONE DIFFUSER	PRICE	ASCDA	8"	24"	24"	1,2
SD24-10	SA	SQUARE CONE DIFFUSER	PRICE	ASCDA	10"	24"	24"	1,2
SD24-12	SA	SQUARE CONE DIFFUSER	PRICE	ASCDA	12"	24"	24"	1,2
SD24-14	SA	SQUARE CONE DIFFUSER	PRICE	ASCDA	14"	24"	24"	1,2
SDGE24x12	SA	SPIRAL DUCT GRILLE EXTRUDED ALUMINUM	PRICE	SDGE	0"	12"	24"	1,2

DIFFUSERS, REGISTERS, AND GRILLES NOTES:
1. SEE DETAIL 2A/M-501 & 5A/M-501.
2. REFERENCE ARCHITECTURAL REFLECTED CEILING PLAN FOR CEILING TYPE.

BRANCH SELECTOR BOX SCHEDULE

IDENTITY DATA				ELECTRICAL DATA				
MARK	MANUFACTURER	MODEL	NOMINAL COOLING (TONS)	VOLTS (V)	FREQ (HZ)	PHASE	MCA (A)	NOTES
BSB1-1	DAIKIN	BSQ96TVJ	8	208	60	1	0.1	1,2
BSB1-2	DAIKIN	BS4Q54TVJ	4.5	208	60	1	0.4	1,2
BSB1-3	DAIKIN	BS4Q54TVJ	4.5	208	60	1	0.4	1,2

BRANCH SELECTOR BOX SCHEDULE NOTES:
1. INSTALL UNITS PER MANUFACTURER'S RECOMMENDATIONS.
2. VRV SYSTEM UNIT DISCONNECTS ARE PROVIDED BY THE ELECTRICAL CONTRACTOR, NOT THE MANUFACTURER.

CEILING UNIT HEATER SCHEDULE

IDENTITY DATA				HEATING DATA	FAN DATA		ELECTRICAL DATA			
MARK	MANUFACTURER	MODEL	LOCATION	CAPACITY (KW)	CFM	RPM	VOLTAGE	PHASE	FLA	NOTES
CUH-1	MARLEY ENGINEERED PRODUCTS	CDF-558	CORRIDOR 116	5	300	1,400	208	3	13.9	1,2,3
CUH-2	MARLEY ENGINEERED PRODUCTS	CDF-558	CORRIDOR 116	5	300	1,400	208	3	13.9	1,2,3
CUH-3	MARLEY ENGINEERED PRODUCTS	CDF-558	CORRIDOR 116	5	300	1,400	208	3	13.9	1,2,3
CUH-4	MARLEY ENGINEERED PRODUCTS	CDF-558	LOCKER ROOM RM111	5	300	1,400	208	3	13.9	1,2,3
CUH-5	MARLEY ENGINEERED PRODUCTS	CDF-558	LOCKER ROOM RM101	5	300	1,400	208	3	13.9	1,2,3

CEILING UNIT HEATER SCHEDULE NOTES:
1. CEILING RECESSED.
2. DISCONNECT SWITCH AND ALL INTERLOCK RELAYS TO BE INSTALLED WITHIN THE HEATER ENCLOSURE.
3. INTEGRAL THERMOSTAT.

ENERGY RECOVERY WHEEL SCHEDULE

IDENTITY DATA				SUPPLY FAN DATA		EXHAUST FAN DATA		ELECTRICAL DATA			SUMMER				WINTER				
											EAT (°F) (°F)		LAT (°F) (°F)		EAT (°F) (°F)		LAT (°F) (°F)		
MARK	MANUFACTURER	MODEL	LOCATION	AIRFLOW (CFM)	HEAT EXCH SP (IN-WG)	AIRFLOW (CFM)	HEAT EXCH SP (IN-WG)	MOTOR HP	VOLTS	PHASE	DB	WB	DB	WB	HEAT RECOVERED (BTUH)	DB	WB	DB	WB	HEAT RECOVERED (BTUH)	NOTES
RTU-1	DAIKIN APPLIED	DPS028A	ROOF	7,100	0.90	7,275	0.90	0.17	460	3	95	78	82.8	69.3	241,820	-10	-10	35.4	29.0	413,709	1,2,3,4
RTU-2	DAIKIN APPLIED	DPS012A	ROOF	2,500	0.56	1,300	0.56	0.17	460	3	95	78	84.4	70.7	68,443	-10	-10	26.9	24.4	118,566	1,2,3,4
RTU-3	DAIKIN APPLIED	DPS015A	ROOF	3,640	0.81	3,850	0.81	0.17	460	3	95	78	81.9	68.7	132,263	-10	-10	39.2	31.6	227,302	1,2,3,4

ENERGY RECOVERY WHEEL SCHEDULE NOTES:
1. ALL MOTORS WITH VARIABLE FREQUENCY DRIVES TO BE PROVIDED WITH SHAFT GROUNDING RING.
2. AMBIENT TEMP. SUMMER = 95 DEG F / 78 DEG F., RETURN TEMP SUMMER = 75 DEG F. 52 DEG F., AMBIENT TEMP WINTER = -10 DEG F / 10 DEG F., RETURN TEMP WINTER 75 DEG F / 62 DEG F.
3. UNIT MOUNTED VFD BY FACTORY.
4. FROST PROTECTION WITH MODULATING CONTROL.

PACKAGED AIR COOLED WITH GAS FIRED FURNACE ROOF TOP UNIT SCHEDULE

IDENTITY DATA					SUPPLY FAN DATA									RETURN FAN DATA						
												MOTOR							MOTOR	
MARK	MANUFACTURER	MODEL	LOCATION	AREA SERVED	WEIGHT (LBS)	AIRFLOW (CFM)	TYPE	DRIVE	ESP (IN-WG)	TSP (IN-WG)	RPM	BHP	HP	AIRFLOW (CFM)	ESP (IN-WG)	TSP (IN-WG)	TYPE	DRIVE	QTY	BHP	HP
RTU-1	DAIKIN APPLIED	DPS028A	ROOF	LOCKEROOM RM 101	4,816	7,100	SWSI AF	DIRECT	1.5	4.39	1,613	7.58	10	7,275	1	4.39	SWSI AF	DIRECT	1	2.9	4
RTU-2	DAIKIN APPLIED	DPS012A	ROOF	RM103, RM107, RM108, 355	2,585	2,500	SWSI AF	DIRECT	1.5	2.94	2,546	1.9	2.5	1,300	1	2.94	SWSI AF	DIRECT	1	0.6	2.5
RTU-3	DAIKIN APPLIED	DPS015A	ROOF	RM111, RM111A, RM112, RM112A	2,798	3,640	SWSI AF	DIRECT	1.5	3.57	2,500	3.13	4	3,850	1	3.57	SWSI AF	DIRECT	1	2	4

PACKAGED AIR COOLED WITH GAS FIRED FURNACE ROOF TOP UNIT SCHEDULE (CONT.)

IDENTITY DATA	HEATING DATA						COOLING DATA									HOT GAS REHEAT			FILTER		UNIT SIZE			ELECTRICAL DATA				
MARK	INPUT (BTUH)	OUTPUT (BTUH)	STAGES	EDB (°F)	LDB (°F)	REFRIG	LOAD (BTU/H)	SENSIBLE LOAD (BTU/H)	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	FACE AREA (SF)	ROWS	FPI	EER	IEER	CAPACITY (BTUH)	EAT (°F)	LAT (°F)	TYPE	EFF	L	W	H	VOLTS (V)	PHASE	MCA (A)	MOCP (A)	NOTES
RTU-1	600,000	480,000	12:1	35.4	97.7	R410A	336,290	219,474	82.89	69.41	54.62	54.55	21.60	4	15	9.9	17.5	118,485	82.9	70.0	2 inch MERV 8	MERV 8	17' - 2"	6' - 5"	5' - 11"	460	3	69.03	90	1,2,3,4
RTU-2	200,000	160,000	10:1	39.5	98.5	R410A	144,959	87,536	84.44	70.7	52.42	52.41	15.40	4	15	11.4	17.3	47,689	84.4	70.0	2 inch MERV 8	MERV 8	9' - 3"	8' - 1"	4' - 9"	460	3	23.08	30	1,2,3,4
RTU-3	200,000	160,000	5:1	39.2	79.7	R410A	172,909	113,222	81.92	68.66	53.48	53.47	15.40	6	15	10.9	15.3	65,262	81.9	70.0	2 inch MERV 8	MERV 8	9' - 3"	8' - 1"	4' - 9"	460	3	33.7	45	1,2,3,4

PACKAGED AIR COOLED WITH GAS FIRED FURNACE ROOF TOP UNIT SCHEDULE NOTES:
1. COORDINATE LOCATION OF UNIT WITH STRUCTURAL STEEL. COORDINATE SUPPLY AND RETURN DUCT DROPS OUT OF UNIT ROOF CURB AS REQUIRED.
2. UNIT MOUNTED ON 14" TALL ROOF CURB SUPPLIED WITH UNIT. SEE DETAIL 6A/M-501.
3. UNIT PROVIDED WITH HAIL GUARD OVER CONDENSER COIL SECTION.
4. INLET GAS PRESSURE: 7-14 IN. WG. UNIT SUPPLIED WITH GAS PRESSURE REGULATOR.
5. UNIT SUPPLIED WITH BACnet MSTP CAPABILITY.
6. UNIT SUPPLIED WITH ECONOMIZER AND DISCHARGE AIR CONTROL WITH SPACE TEMPERATURE AND HUMIDITY SENSING.
7.
8. UNIT SUPPLIED WITH OUTDOOR AIR INTAKE HOOD AND EXHAUST AIR DISCHARGE HOOD.
9. A MINIMUM OF 36" CLEARANCE IS REQUIRED AROUND LEADING EDGE OF UNIT ON ALL SIDES.
10. BOTH SUPPLY AND RETURN/EXHAUST FANS SUPPLIED WITH VFD FROM FACTORY, WIRED AND PROGRAMMED.
11. UNIT SUPPLIED WITH NON-FUSED DISCONNECT. COORDINATE ELECTRIC POWER REQUIREMENTS WITH E.C.
12. INDIRECT GAS FURNACE SECTION; MODULATING CONTROL 409 STAINLESS STEEL HEAT EXCHANGER, AND ELECTRONIC IGNITION.
13. ALL DAMPERS AND ACTUATORS BY RTU MANUFACTURER.
14. SEE DETAIL 6A/M-501.

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum No. 1	4/29/2016

7300 E. 56th Street
Indianapolis, IN 46226

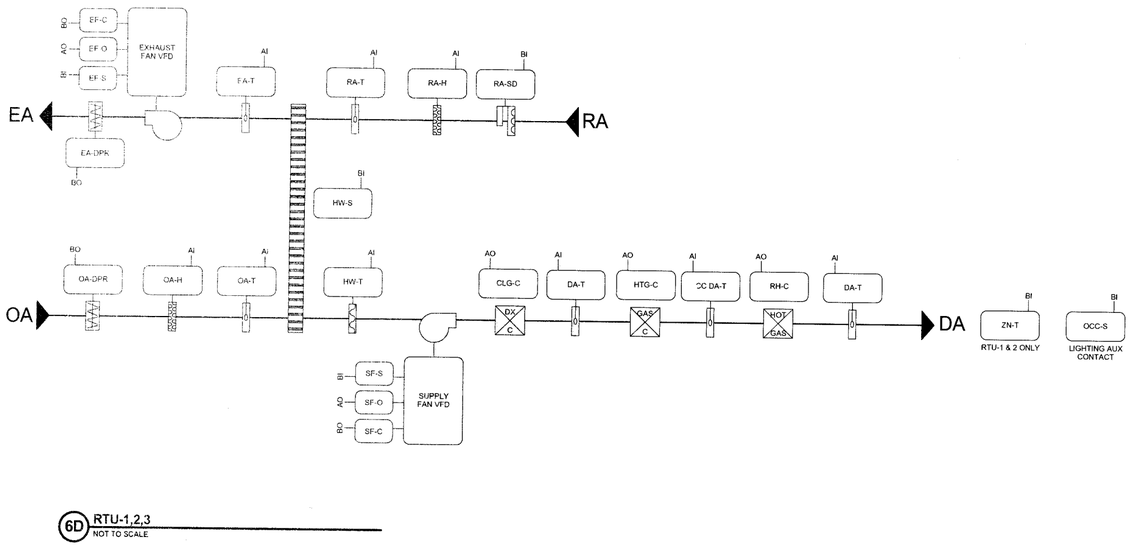
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL SCHEDULES - UNIT A

M-601



6D RTU-1,2,3
NOT TO SCALE

ROOFTOP UNIT SEQUENCE OF OPERATION

Temperature control contractor shall install zone temperature sensor provided by RTU supplier. Occupancy status shall be picked up by an auxiliary contact on the light. RTU-1 shall utilize the lighting occupancy sensor in Locker Room S101. RTU-2 shall utilize the lighting occupancy sensor in each locker room (S111 & S112) such that the unit will run when occupancy is detected in either locker room. RTU-2 shall utilize the lighting occupancy sensor in Corridor S116.

Outdoor Lighting Control
TCC shall provide a relay to wire in series with the building photocell. Relay shall be enabled based on an owner-defined occupancy schedule.

Occupied cycle: The unit runs to provide ventilation to locker rooms for the football field. Unit shall run anytime the occupancy sensor on the lights are activated. Run the unit a minimum of 15 minutes to prevent short cycling. Schedule shall be adjustable so that proper ventilation occurs during football season. Unit shall be off outside of football season unless occupancy is detected or the unoccupied setpoints are not satisfied.

Heat wheel control: The heat wheel will start and run when the ERU is running and the zone temperature rises above the occupied cooling set point by more than the half occupied cooling dead band. It will also run when the zone temperature falls below the occupied heating set point by more than the half occupied heating dead band. The wheel shall be off in all other situations.

Heat Wheel defrost cycle: Condensation and frosting can occur on the enthalpy wheel when the exhaust air leaving the wheel is saturated. This condition will occur when two lines intersect on a psychometric chart, and it will not occur when these two lines do not intersect. One of these lines is the Humidity Ratio versus the dry bulb for saturated air. The other line is the Humidity Ratio versus the dry bulb temperature of the exhaust air leaving the enthalpy wheel. The two ends of this second straight line on a psychometric chart are the OAT at 95% RH and the return air temperature at the return air relative humidity. One line showing frosting conditions and another line showing no frost conditions are shown on the sketch of a psychometric chart shown below. A continuous calculation determines if and at what temperatures these two lines intersect. If they do intersect they intersect at two points. The higher of the two points is referred to as the "Intersection Point". When they do not intersect, the enthalpy wheel runs at full speed. When they do intersect, the enthalpy wheel may be slowed or stopped to maintain the dry bulb temperature of the exhaust air leaving the enthalpy wheel high enough to eliminate the Intersection Point and therefore the threat of frosting conditions.

Zone temperature control (RTU-1 & 2): The gas heat and DX cooling shall be sequenced together to provide a zone setpoint of 72F.

Discharge temperature control (RTU-3): The gas heat and DX cooling shall be sequenced together to provide a discharge setpoint of 70F (winter) and 74F (summer).

Dehumidification control: If the return air humidity exceeds 55%, the unit shall go into a dehumidification mode. In this mode the unit shall go into full cooling and the hot gas reheat coil will be modulated to maintain zone setpoint.

Points list: The following represents the minimum points to be provided and displayed in the system graphics. Additional points required to meet the sequence shall be provided and also shown. Consult with Lawrence Township School Corporation if additional points are needed for monitoring or control purposes.

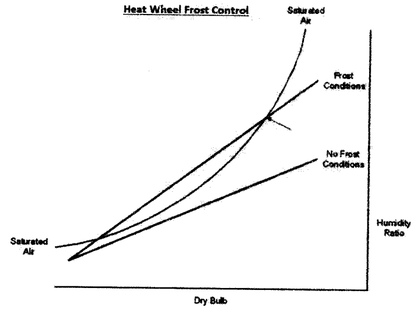
Binary inputs:
- Supply fan status
- Exhaust fan status
- Heat wheel status

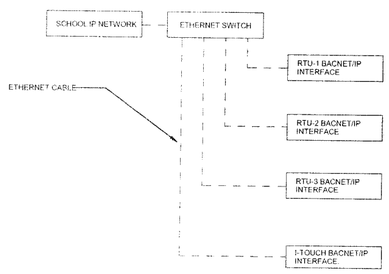
Binary outputs:
- Supply fan start/stop
- Exhaust fan start/stop
- Heat Wheel start/stop
- Damper control

Analog inputs:
- Outside air temperature
- Outside air humidity
- Heat wheel supply discharge temperature
- Heat wheel exhaust discharge temperature
- Return air temperature
- Return air humidity
- Hot gas reheat temperature
- Gas heat discharge temperature
- DX cooling discharge temperature
- Zone temperature

Analog outputs:
- Hot gas heat control
- Gas heat control
- DX cooling controls

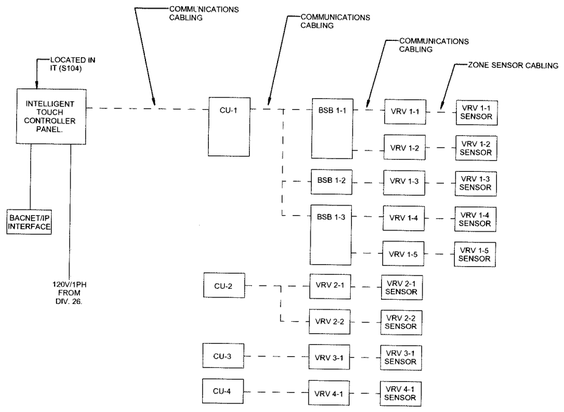
Analog/Multi-state values:
- Occupied Cooling Setpoint
- Unoccupied Cooling Setpoint
- Occupied Heating Setpoint
- Unoccupied Heating Setpoint
- Relative Humidity Setpoint
- Alarm Value
- Occupancy Mode
- Occupancy Source





General Note
TCC responsible for all ethernet cabling between equipment shown. TCC shall also furnish and install the ethernet switch. Data drop to school network provided by others. RTU BACnet/IP interface will be furnished and installed by RTU supplier.

6A BMS IP INTERFACE DIAGRAM
NOT TO SCALE



General Note
TCC responsible for installation of all cabling between equipment shown. TCC shall also install the I-touch panel, I-touch BACnet/IP interface and VRV zone sensors. I-touch panel, I-touch BACnet/IP interface and zone sensors provided by VRV supplier. Follow manufacturer recommendations for installation and wiring requirements as this is a general layout.

4A I-TOUCH NETWORK DIAGRAM1
NOT TO SCALE

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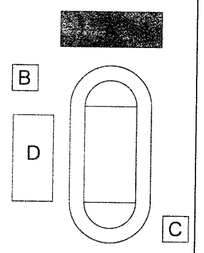


KEY PLAN

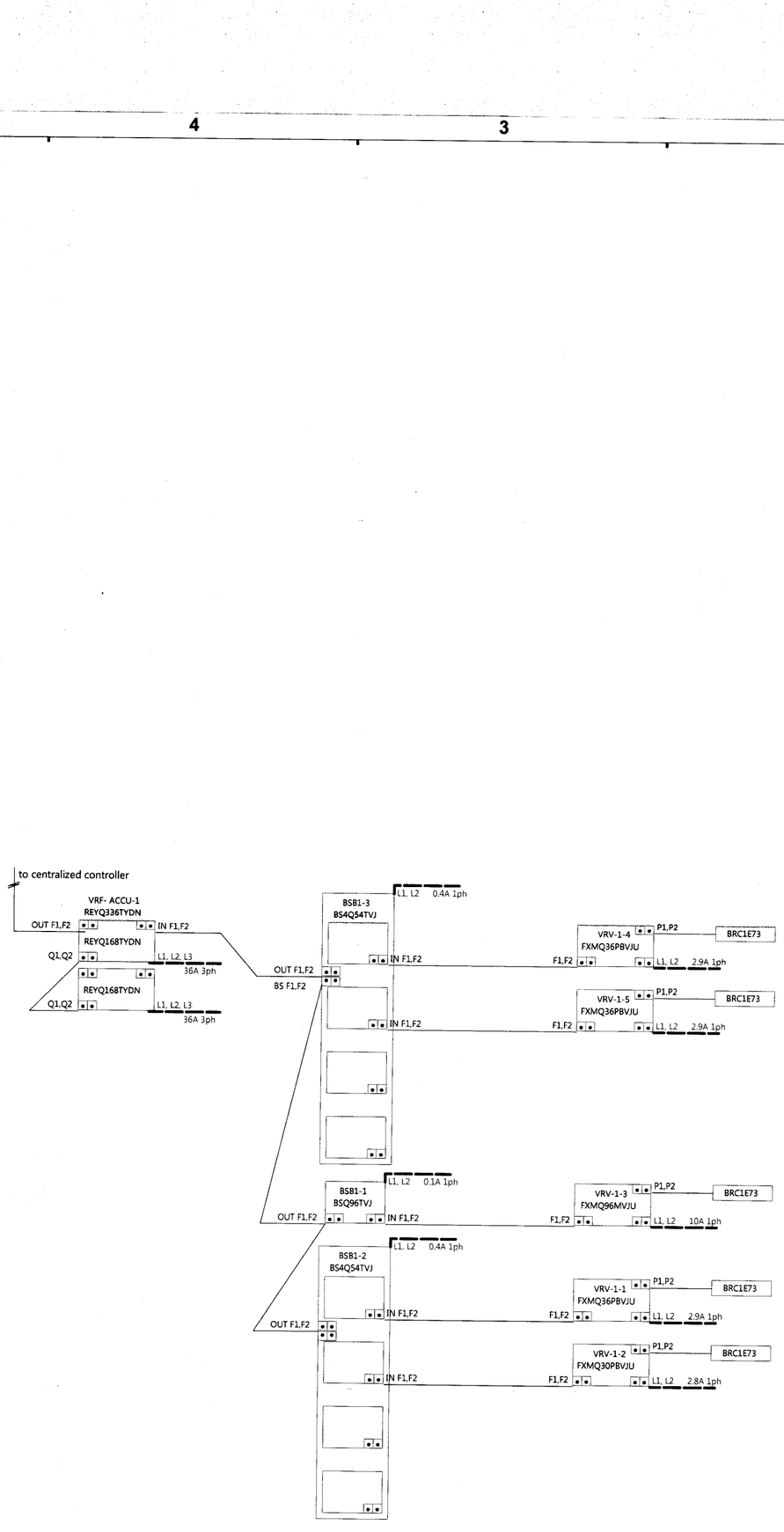
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

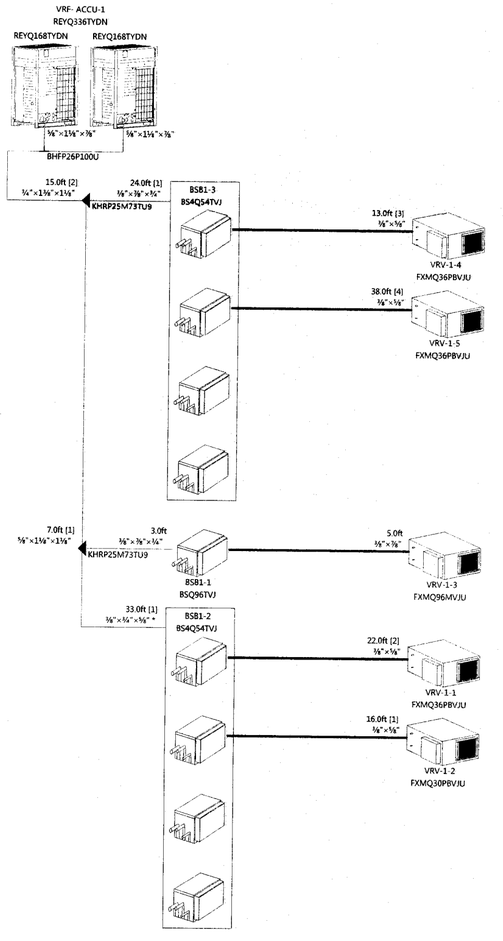
TEMPERATURE CONTROLS SCHEMATICS - UNIT A

M-701

3 **VRF DESIGN CONTROL WIRING**
NOT TO SCALE



2 **VRF-WIRING**
NOT TO SCALE



1A **VRF- PIPING**
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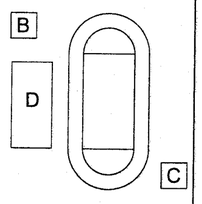
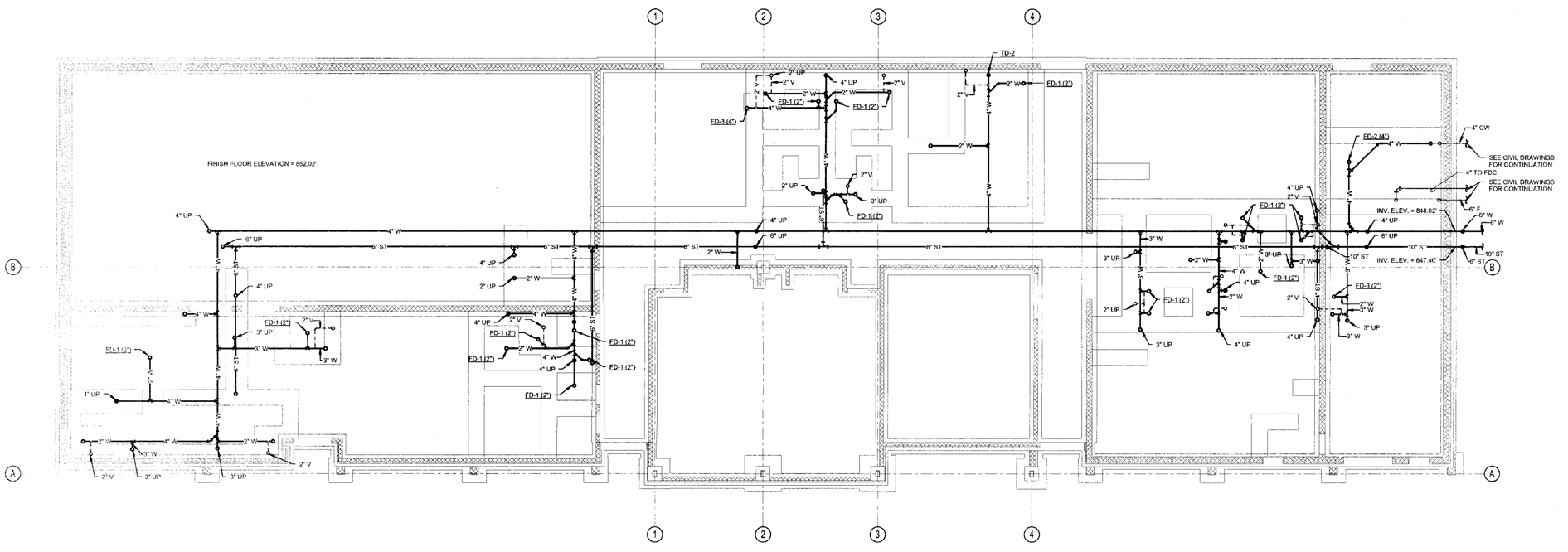


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

MECHANICAL SCHEMATICS - UNIT A

M-801



2A **FOUNDATION PLUMBING PLAN - UNIT A**
1/8" = 1'-0"

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#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

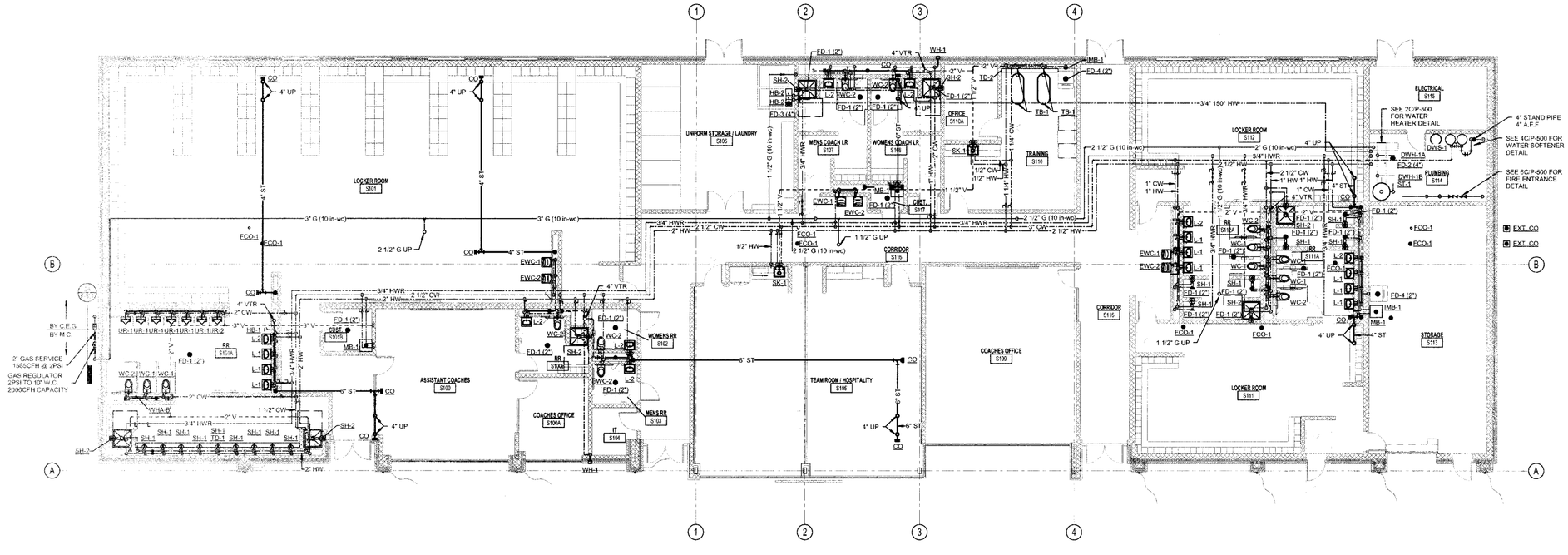
LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION PLUMBING PLAN - UNIT A

PF1A0

PLUMBING EQUIPMENT SCHEDULE

Type Mark	IDENTITY DATA					ELECTRICAL DATA					
	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY	VOLTAGE (V)	PHASE	FLA	RPM	HP	NOTES
DCVA-1	ZURN	#950ADA-4"	DOUBLE CHECK DETECTOR ASSEMBLY	PLUMBING S114	500 GPM @ 5PSI						SEE 6CP-500 FOR DETAIL



2A FIRST FLOOR PLUMBING PLAN - UNIT A
1/8" = 1'-0"

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#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016
A3	ADDENDUM NO. 3	05.12.2016

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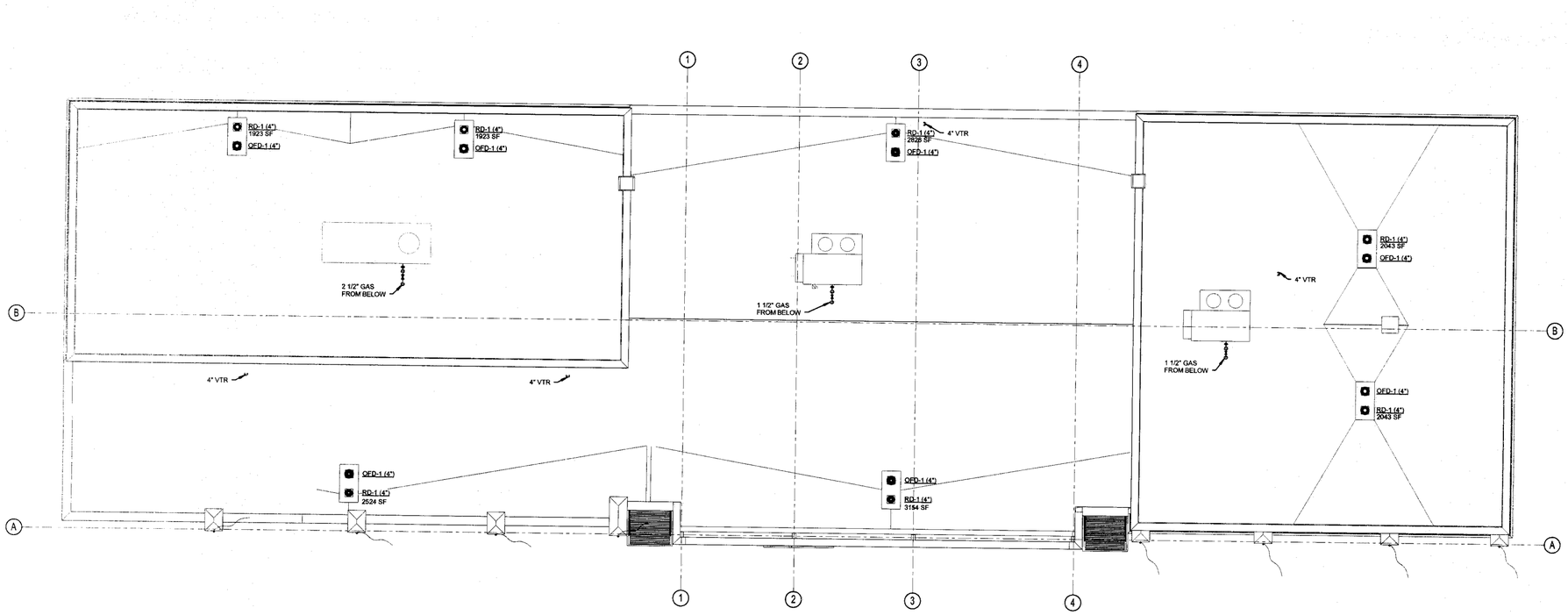
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR PLUMBING PLAN - UNIT A

PF1A1



2A ROOF PLUMBING PLAN - UNIT A
1/8" = 1'-0"

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#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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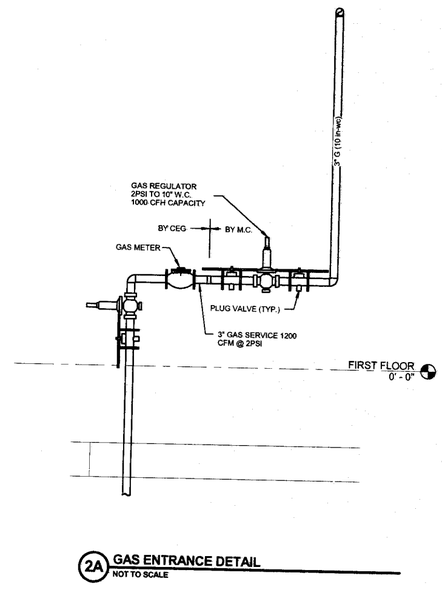
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

ROOF PLUMBING PLAN - UNIT A

PR100



2A **GAS ENTRANCE DETAIL**
NOT TO SCALE

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#	Revision	Date
A2	ADDENDUM NO. 2	05.06.2016

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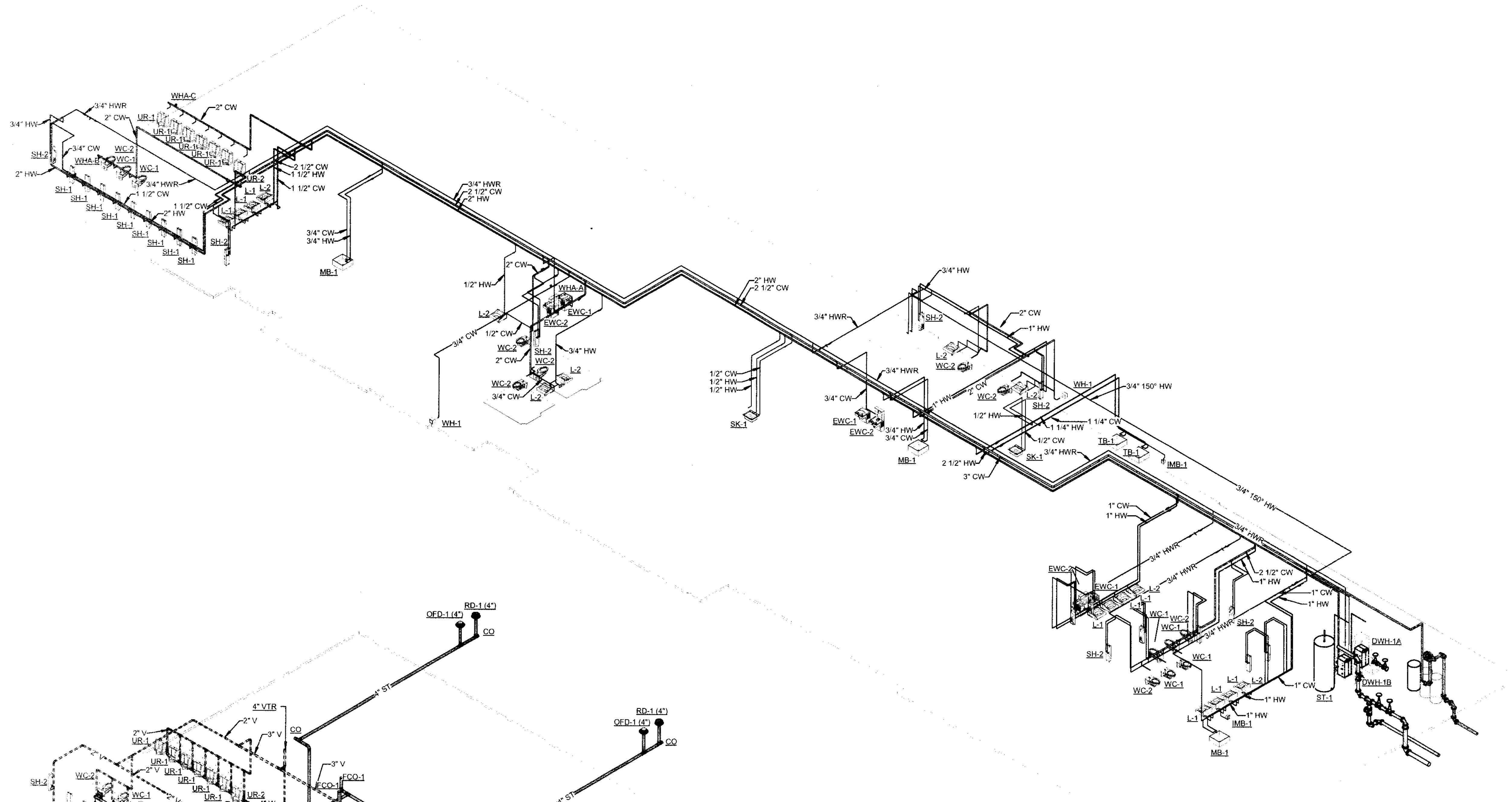
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

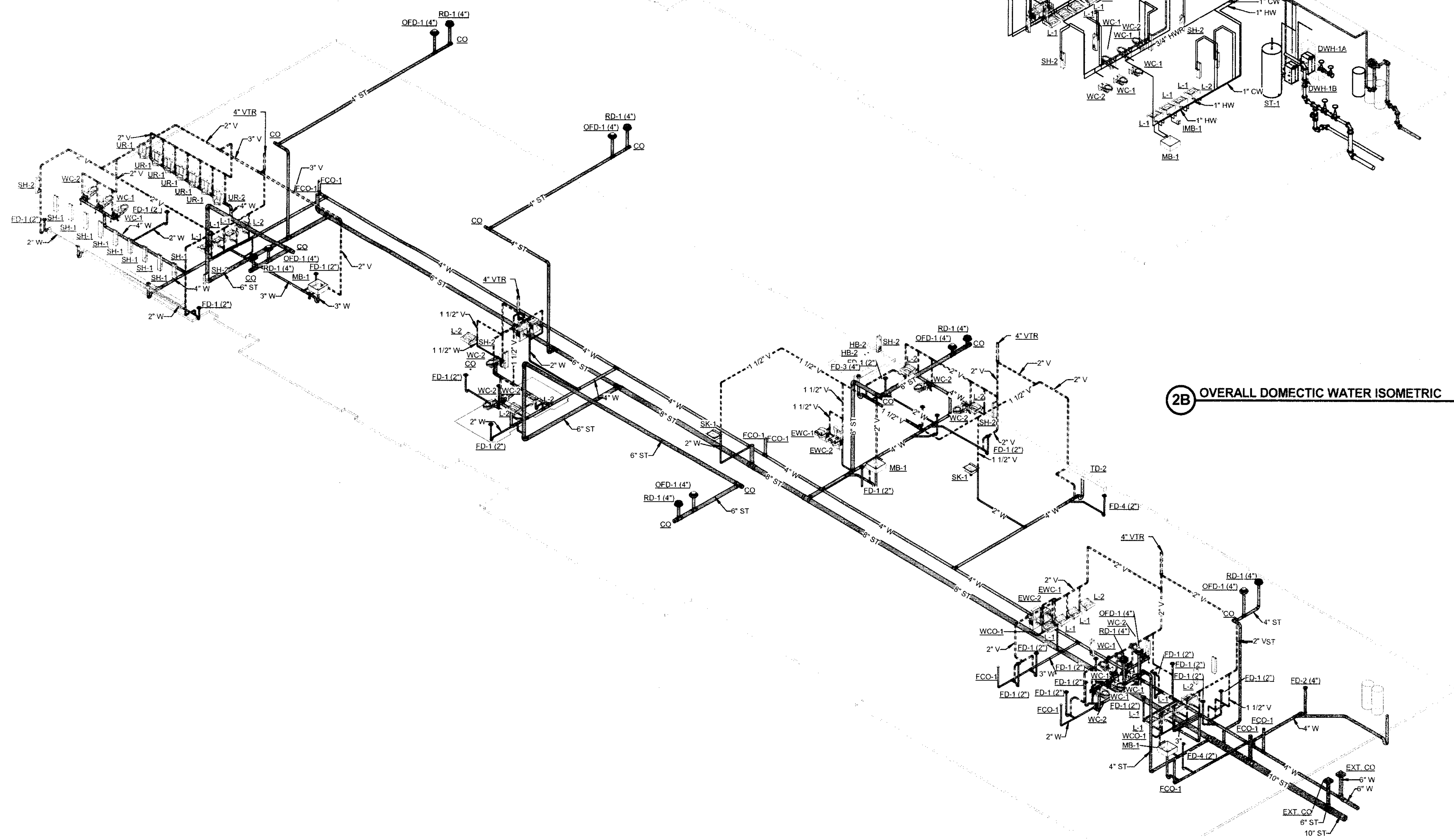
LC EXTERIOR FACILITY UPGRADES - BP-2

PLUMBING DETAILS

P-501



2B OVERALL DOMECTIC WATER ISOMETRIC



2A OVERALL WASTE AND VENT ISOMETRIC

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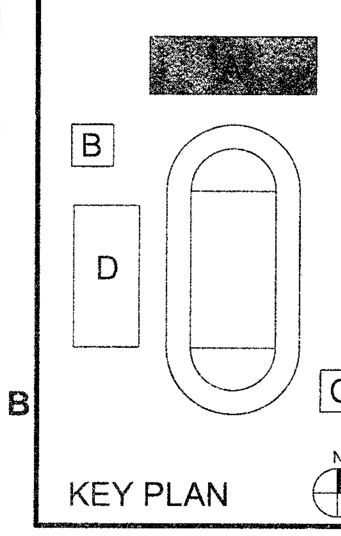


KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

PLUMBING ISOMETRICS

P-900

PANELBOARD SCHEDULE

DESIGNATION: 14A1 | LOCATION: ELECTRICAL S115 | MOUNTING: SURFACE | SUPPLY FROM: 14ADP
VOLTS: 480Y/277 V | PHASES: 3 | WIRES: 4
MAINS RATING: 100 A | MAINS TYPE: MLO | MCB RATING: | AIC RATING: 35,000 A

CKT NO	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO
1	EXTERIOR	LIGHTING	20 A	1	0.50	0.48					1	20 A	LIGHTING	EXTERIOR	2
3	S101	LIGHTING	20 A	1			1.78	1.35			1	20 A	LIGHTING	S101A, , S100, S100A, S104	4
5	S106, S110, S105	LIGHTING	20 A	1					2.23	0.59	1	20 A	LIGHTING	S116	6
7	S112, S112A, S111, S113, S11	LIGHTING	20 A	1	2.51	0.00					1	20 A		SPARE	8
9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10
11	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	12
13	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	14
15	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	16
17	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	18
19	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	20
21	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	22
23	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	24
25	SPACE	--	--	--	0.00	0.00					--	--	--	SPACE	26
27	SPACE	--	--	--			0.00	0.00			--	--	--	SPACE	28
29	SPACE	--	--	--					0.00	0.00	--	--	--	SPACE	30
31	SPACE	--	--	--	0.00	0.00					--	--	--	SPACE	32
33	SPACE	--	--	--			0.00	0.00			--	--	--	SPACE	34
35	SPACE	--	--	--					0.00	0.00	--	--	--	SPACE	36
37	SPACE	--	--	--	0.00	0.00					--	--	--	SPACE	38
39	SPACE	--	--	--			0.00	0.00			--	--	--	SPACE	40
41	SPACE	--	--	--					0.00	0.00	--	--	--	SPACE	42
				TOTAL LOAD:	3.49 kVA		3.13 kVA		2.81 kVA						
				TOTAL AMPS:	13 A		11 A		10 A						

TOTAL CONNECTED LOAD: 9.42 kVA
TOTAL CONNECTED AMPS: 13 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 14ADP | LOCATION: ELECTRICAL S115 | MOUNTING: SURFACE | SUPPLY FROM: IP&L
VOLTS: 480Y/277 V | PHASES: 3 | WIRES: 4
MAINS RATING: 800 A | MAINS TYPE: MCB | MCB RATING: 800 A | AIC RATING: 50,000 A

CKT NO	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO
1	T-A1	XFMR	350 A	3	34.04	3.49					3	100 A	PNL	14A1	2
3	--	--	--	--			30.31	3.13			--	--	--	--	4
5									32.46	2.81	--	--	--	--	6
7	S106	DRYER	20 A	3	4.16	0.83					3	20 A	WASHER	S106	8
9	--	--	--	--			4.16	0.83			--	--	--	--	10
11									4.16	0.83	--	--	--	--	12
13	ROOF	RTU	90 A	3	19.13	6.40					3	30 A	RTU	ROOF	14
15	--	--	--	--			19.13	6.40			--	--	--	--	16
17	--	--	--	--					19.13	6.40	--	--	--	--	18
19	ROOF	RTU	45 A	3	9.34	10.00					3	40 A	CU	ROOF	20
21	--	--	--	--			9.34	10.00			--	--	--	--	22
23	--	--	--	--					9.34	10.00	--	--	--	--	24
25	ROOF	CU	40 A	3	10.00	16.48					3	175 A	XFMR	T-B1	26
27	--	--	--	--			10.00	14.20			--	--	--	--	28
29	--	--	--	--					10.00	16.74	--	--	--	--	30
31					0.00						3	30 A	XFMR	15 KVA XFMR (SL2)	32
33							0.00				--	--	--	--	34
35									0.00		--	--	--	--	36
37															38
39															40
41															42
				TOTAL LOAD:	113.87 kVA		107.50 kVA		111.87 kVA						
				TOTAL AMPS:	414 A		388 A		406 A						

TOTAL CONNECTED LOAD: 333.24 kVA
TOTAL CONNECTED AMPS: 414 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.
2. PROVIDE 100% MAIN CIRCUIT BREAKER WITH LSIG.
3. PROVIDE INTEGRAL SPD.
4. PROVIDE (6) 100A-3P SPACES.

GENERAL LIGHTING NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING PLAN NOTES

#	NOTES
1	INSTALL OCCUPANCY SENSORS ON THE BOTTOM OF STRUCTURE IN THIS ROOM/AREA.
2	LIGHTING CONTACTOR LC-A1.
3	CONTROL FIXTURE/CIRCUIT THROUGH LIGHTING CONTACTOR LC-A1.
4	INSTALL FIXTURE AT +6'-10" TO C.L. OF FIXTURE.
5	INSTALL FIXTURE AT +8'-0" TO BOTTOM OF FIXTURE.
6	INSTALL FIXTURES AT +13'-6" A.F.F. TO TOP OF FIXTURE.

PANELBOARD SCHEDULE

DESIGNATION: 12A2 | LOCATION: ELECTRICAL S115 | MOUNTING: SURFACE | SUPPLY FROM: 12ADP
VOLTS: 208Y/120 V | PHASES: 3 | WIRES: 4
MAINS RATING: 225 A | MAINS TYPE: MLO | MCB RATING: | AIC RATING: 22,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	S106	RECEPT.	20 A	1	0.72	0.36					1	20 A	RECEPT.	EXTERIOR	2
3	S106, S107	RECEPT.	20 A	1			0.36	0.36			1	20 A	RECEPT.	S112	4
5	S107 (GFCI CB)	HAND DRY	20 A	1					1.20	1.20	1	20 A	HAND DRY	S112 (GFCI CB)	6
7	S108 (GFCI CB)	HAND DRY	20 A	1	1.20	1.20					1	20 A	HAND DRY	S112 (GFCI CB)	8
9	S115A	RECEPT.	20 A	1			0.72	0.36			1	20 A	RECEPT.	S112A, S111A	10
11	S110	RECEPT.	20 A	1					0.36	0.54	1	20 A	RECEPT.	S111	12
13	S110	RECEPT.	20 A	1	0.72	1.20					1	20 A	HAND DRY	S111 (GFCI CB)	14
15	S110	TUB	20 A	1			0.36	1.20			1	20 A	HAND DRY	S111 (GFCI CB)	16
17	S110	TUB	20 A	1					0.90	0.90	1	20 A	RECEPT.	S113	18
19	S110	ICE M.	20 A	1	0.96	0.96					1	20 A	ICE M.	S113	20
21	S115	RECEPT.	20 A	1			0.18	0.54			1	20 A	RECEPT.	S114	22
23	S115	RACK	20 A	1					0.00	0.18	1	20 A	RECEPT.	ROOF	24
25	S116	CUH	20 A	3	1.67	0.18					1	20 A	RECEPT.	ROOF	26
27	--						1.67	0.18			1	20 A	RECEPT.	ROOF	28
29	--								1.67	1.67	3	20 A	CUH	S116	30
31	S101	CUH	20 A	3	1.67	1.67					--	--	--	--	32
33	--						1.67	1.67			--	--	--	--	34
35	--								1.67	1.67	3	20 A	CUH	S111	36
37	S116	CUH	20 A	3	1.67	1.67					--	--	--	--	38
39	--						1.67	1.67			--	--	--	--	40
41	--								1.67	1.15	2	20 A	VRV	S105, S116	42
43	S116	VRV	40 A	2	1.15	1.15					--	--	--	--	44
45	--						1.15	0.00			1	20 A		SPARE	46
47	S114	DWH	20 A	1					1.00	0.00	1	20 A		SPARE	48
49	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	50
51	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	52
53	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	54
				TOTAL LOAD:	18.15 kVA		14.36 kVA		16.43 kVA						
				TOTAL AMPS:	152 A		120 A		140 A						

TOTAL CONNECTED LOAD: 48.94 kVA
TOTAL CONNECTED AMPS: 194 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.

PANELBOARD SCHEDULE

DESIGNATION: 12A1 | LOCATION: ELECTRICAL S115 | MOUNTING: SURFACE | SUPPLY FROM: 12ADP
VOLTS: 208Y/120 V | PHASES: 3 | WIRES: 4
MAINS RATING: 225 A | MAINS TYPE: MLO | MCB RATING: | AIC RATING: 22,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	S101A	RECEPT.	20 A	1	0.18	0.36					1	20 A	RECEPT.	S104	2
3	S101A (GFCI CB)	HAND DRY	20 A	1			1.20	0.36			1	20 A	T. RACK	S104	4
5	S101A (GFCI CB)	HAND DRY	20 A	1					1.20	0.36	1	20 A	T. RACK	S104	6
7	S101B	RECEPT.	20 A	1	0.72	0.36					1	20 A	T. RACK	S104	8
9	S100	RECEPT.	20 A	1			0.72	0.50			1	20 A	M. RACK	S104	10
11	S100	RECEPT.	20 A	1					1.08	0.90	1	20 A	RECEPT.	S117, S116	12
13	S100	RECEPT.	20 A	1	0.72	0.90					1	20 A	RECEPT.	S116	14
15	S101	RECEPT.	20 A	1	0.54	1.00					1	20 A	EWC	S116	16
17	S101	EWC	20 A	1			1.00	1.00			1	20 A	EWC	S116	18
19	S100A	RECEPT.	20 A	1	0.72	0.72					1	20 A	RECEPT.	S105	20
21	S100B, S102, S103	RECEPT.	20 A	1			0.54	0.72			1	20 A	RECEPT.	S105	22
23	S100B (GFCI CB)	HAND DRY	20 A	1					1.20	0.72	1	20 A	RECEPT.	S105	24
25	S102 (GFCI CB)	HAND DRY	20 A	1	1.20	1.20					1	20 A	REFRIG.	S105	26
27	S103 (GFCI CB)	HAND DRY	20 A	1			1.20	0.18			1	20 A	RECEPT.	S105	28
29	S109	RECEPT.	20 A	1					0.72	0.18	1	20 A	RECEPT.	S105	30
31	S109	RECEPT.	20 A	1	0.72	1.00					1	20 A	EAC	S116	32
33	S109	RECEPT.	20 A	1			0.72	0.86			1	20 A	MON/PRJ	S105	34
35	S109	RECEPT.	20 A	1					0.72	0.00	1	20 A		SPARE	36
37	S109		20 A	1	0.72	0.00					1	20 A		SPARE	38
39	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	40
41	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	42
43	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	44
45	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	46
47	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	48
49	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	50
51	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	52
53	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	54
				TOTAL LOAD:	9.52 kVA		8.54 kVA		9.08 kVA						
				TOTAL AMPS:	80 A		71 A		76 A						

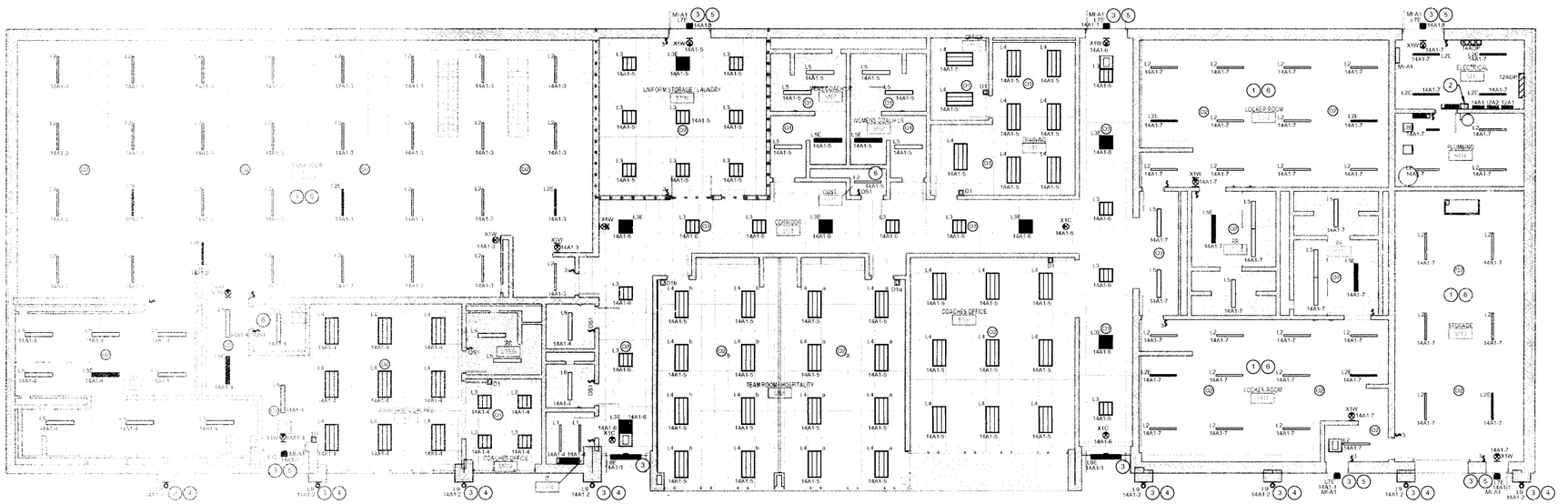
TOTAL CONNECTED LOAD: 27.14 kVA
TOTAL CONNECTED AMPS: 80 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 12ADP | LOCATION: ELECTRICAL S115 | MOUNTING: SURFACE | SUPPLY FROM: T-A1
VOLTS: 208Y/120 V | PHASES: 3 | WIRES: 4
MAINS RATING: 800 A | MAINS TYPE: MCB | MCB RATING: 800 A | AIC RATING: 22,000

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A		B		C		POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	12A1	PNL	200 A	3	9.52	18.15					3	200 A	PNL	12A2	2
3	--	--	--	--			8.54	14.36			--	--	--	--	4
5	--	--	--	--					9.08	16.41	--	--	--	--	6
7	ROOF	CU	20 A	2	1.85	1.56					2	20 A	CU/VRV	ROOF	8
9	--	--	--	--			1.85	1.56			--	--	--	--	10
11	ROOF	CU	30 A	2					2.81	0.15	2	20 A	VRV	113	12
13	--	--	--	--	2.81	0.15					--	--	--	--	14
15	BASEBALL SCOREBOARD		100 A	2			4.00	0.00			--	--	--	SPACE	16
17	--		100 A	2					4.00	0.00	--	--	--	SPACE	18
19	SPARE		100 A	3	0.00	0.00					3	200 A		SPARE	20
21	--	--	--	--			0.00	0.00			--	--	--	--	22
23	--	--	--	--					0.00	0.00	--	--	--	--	24
25	SPARE		20 A	3	0.00	0.00					3	20 A		SPARE	26
27	--	--	--	--			0.00	0.00			--	--	--	--	28
29	--	--	--	--					0.00	0.00	--	--	--	--	30
31	SPACE	--	--	--	0.00	0.00					--	--	--	SPACE	32
33	SPACE	--	--	--			0.00	0.00			--	--	--	SPACE	34
35	SPACE	--	--	--					0.00	0.00	--	--	--	SPACE	36
37	SPACE	--	--	--	0.00	0.00					--	--	--	SPACE	38
39	SPACE	--	--	--			0.00	0.00			--	--	--	SPACE	40
41	SPACE	--	--	--					0.00	0.00	--	--	--	SPACE	42
				TOTAL LOAD:	34.04 kVA		30.31 kVA		32.46 kVA						
				TOTAL AMPS:	286 A		253 A		273 A						

TOTAL CONNECTED LOAD: 96.81 kVA
TOTAL CONNECTED AMPS: 286 A
NOTES: 1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99.
2. PROVIDE 100% MAIN CIRCUIT BREAKER WITH LSI.



2A FIRST FLOOR LIGHTING PLAN
1/8" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, Indiana 46204
www.schmidt-arch.com

Project No: 2015-121.LCS
Project Date: 04.18.2016
Produced: SAC/MJAR

WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

LIGHTING PLAN - UNIT A

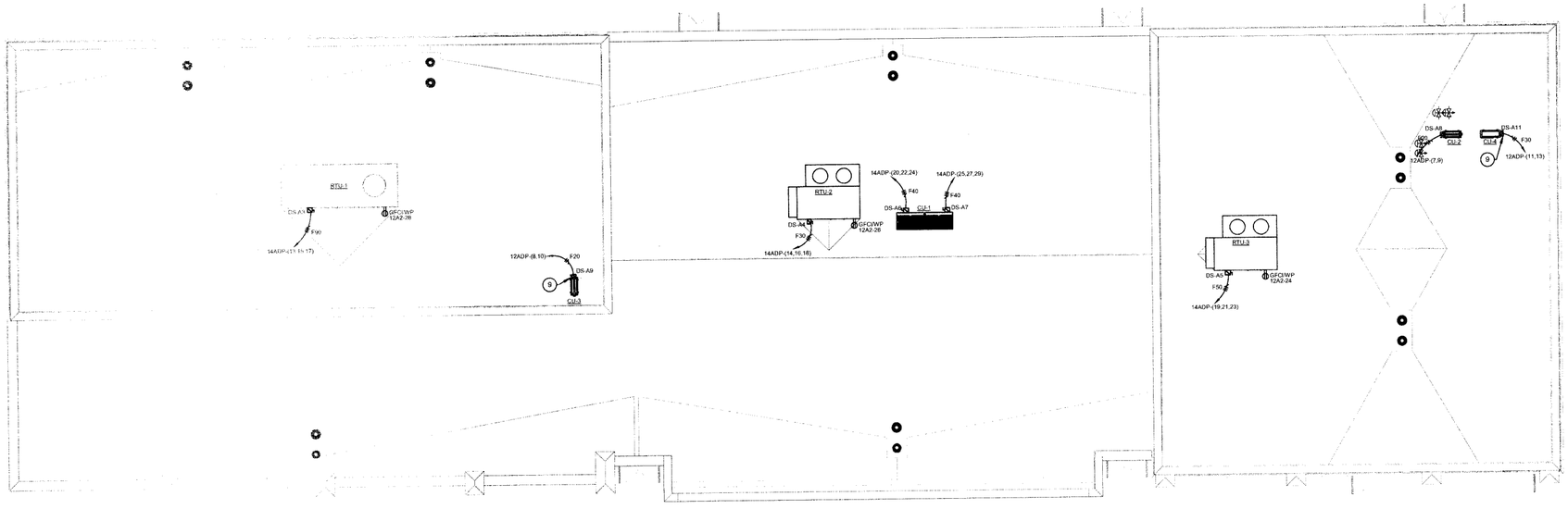
EL1A1

GENERAL POWER NOTES

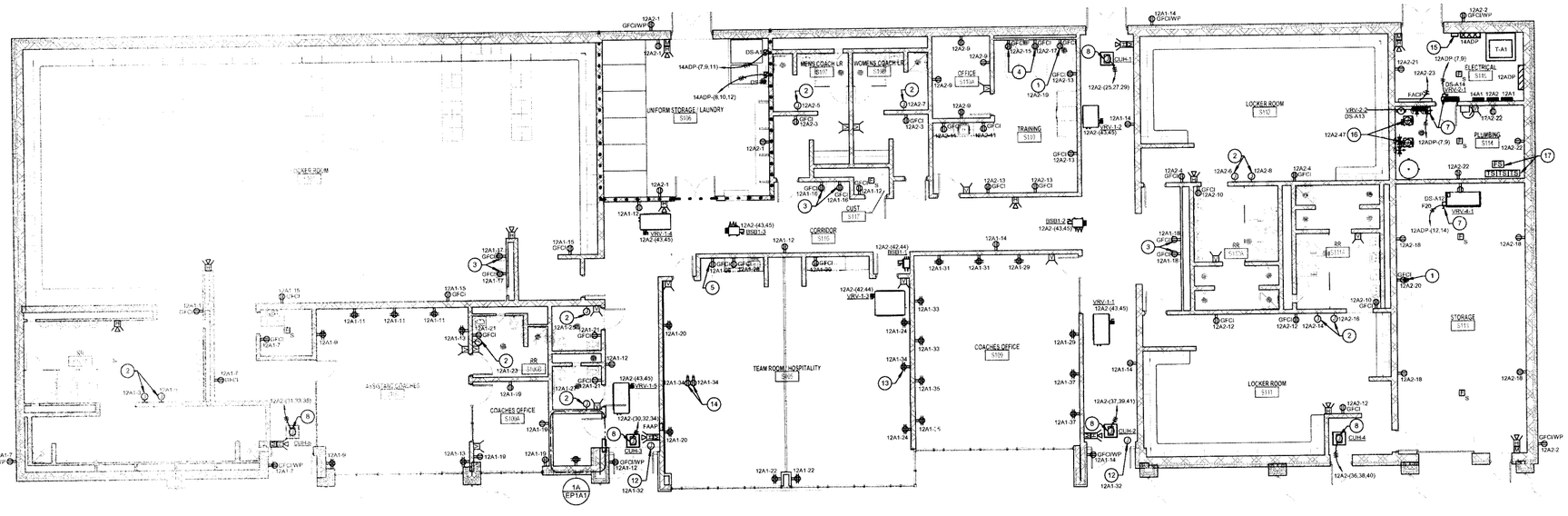
#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	PROVIDE AND INSTALL FRACTIONAL HORSEPOWER MANUAL CONTROLLERS FOR ALL VARIABLE REFRIGERANT VOLUME BOXES (VRVs) FOR DISCONNECTING MEANS AS INDICATED. REFER TO SPECIFICATIONS.
C	PROVIDE AND INSTALL MOTOR STARTING SWITCHES FOR ALL BRANCH SELECTOR BOXES (BSBs) FOR DISCONNECTING MEANS AS INDICATED. REFER TO SPECIFICATIONS.

POWER PLAN NOTES

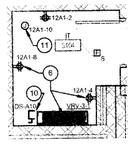
#	NOTES
1	RECEPTACLE FOR ICE MACHINE LOCATED AT +18" A.F.F. TO C.L.
2	CIRCUIT CONNECTION FOR HAND DRYER. COORDINATE MOUNTING HEIGHT WITH A-SERIES DRAWINGS.
3	RECEPTACLE FOR EWC/BOTTLE FILLER. COORDINATE MOUNTING WITH MANUFACTURER.
4	RECEPTACLE FOR WHIRLPOOL TUB LOCATED AT +18" A.F.F. TO C.L.
5	RECEPTACLE FOR REFRIGERATOR/VENDING MACHINE LOCATED AT +36" A.F.F. TO C.L.
6	QUADRAPLEX RECEPTACLE FOR TELECOMMUNICATIONS RACKS LOCATED AT +84" A.F.F. TO C.L.
7	SPLIT-SYSTEM CONDENSING UNIT WITH INDOOR VRV. COORDINATE CONNECTIONS WITH ROOF MOUNTED CONDENSING UNIT MANUFACTURER PRIOR TO INSTALLATION.
8	CONNECT TO MANUFACTURER PROVIDED DISCONNECT SWITCH.
9	SPLIT-SYSTEM CONDENSING UNIT WITH INDOOR VRV. COORDINATE CONNECTIONS WITH INDOOR VRV UNIT MANUFACTURER PRIOR TO INSTALLATION.
10	SPLIT-SYSTEM CONDENSING UNIT WITH INDOOR VRV. COORDINATE CONNECTIONS WITH ROOF MOUNTED CONDENSING UNIT MANUFACTURER PRIOR TO INSTALLATION. VRV POWERED THROUGH CONDENSING UNIT.
11	CIRCUIT CONNECTION FOR TEMPERATURE CONTROL SYSTEM.
12	CIRCUIT CONNECTION FOR EAC SYSTEM.
13	QUADRAPLEX RECEPTACLE FOR MONITOR LOCATED AT +84" A.F.F. TO C.L.
14	(2) RECEPTACLES LOCATED IN CEILING MOUNTED PAN FOR PROJECTOR.
15	BUILDING GROUNDING ELECTRODE SYSTEM BUS BAR.
16	CIRCUIT CONNECTION FOR DWH CONTROLS.
17	TIE INTO FIRE ALARM SYSTEM.



2C ROOF POWER PLAN
1/8" = 1'-0"



2A FIRST FLOOR POWER PLAN
1/8" = 1'-0"



1A POWER PLAN - IT S104
1/4" = 1'-0"

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Project No 2015-121.LCS
Project Date 04.18.2016
Produced SACM/JAR

WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

POWER PLAN - UNIT A

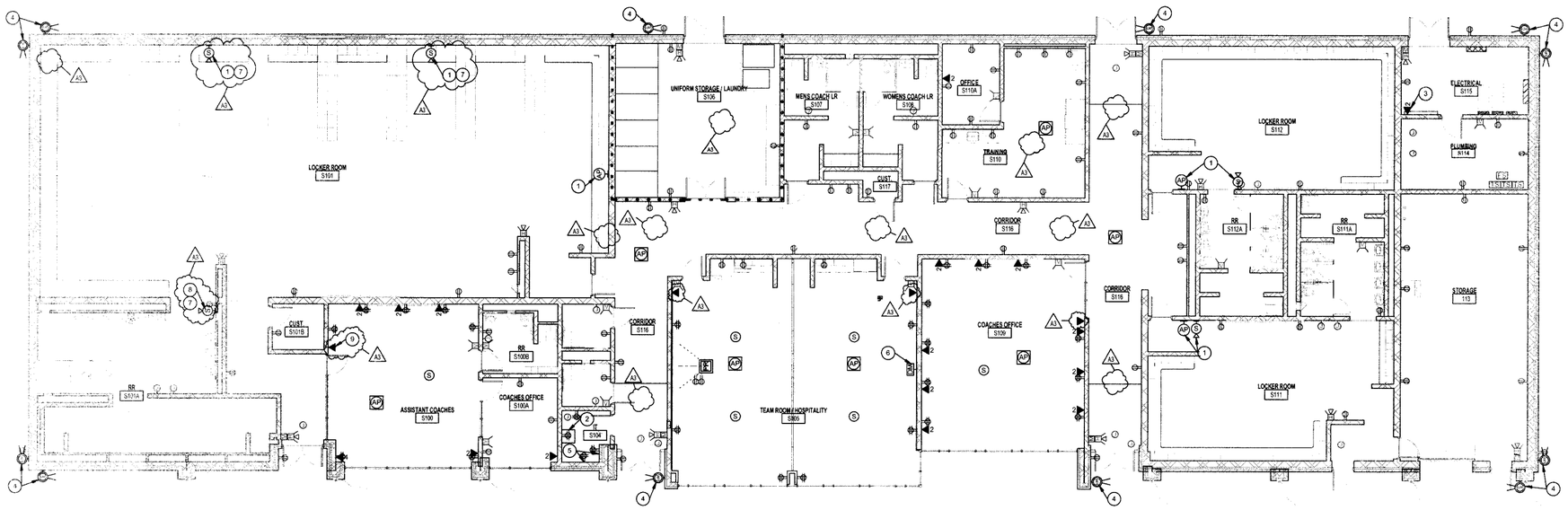
EP1A1

GENERAL TELECOMMUNICATIONS NOTES

#	NOTES
A	REFER TO SHEET T-001 FOR ADDITIONAL INFORMATION.

TELECOMMUNICATIONS PLAN NOTES

#	NOTES
1	AP AND/OR SPEAKER ROUGH-IN AT 10' A.F.F.
2	PROVIDE WALL MOUNTED CABINET AS SPECIFIED.
3	2-PORT DATA OUTLET FOR FIRE ALARM CONTROL PANEL
4	PROVIDE SURVEILLANCE CAMERA ROUGH-IN AT 12' A.F.F.
5	PROVIDE 3/4" (4' x 8') FIRE RETARDANT PLYWOOD. INSTALL HORIZONTALLY, 4" A.F.F.
6	PROVIDE ROUGH-IN AT 84" A.F.F.
7	CONDUIT TO BE ROUTED TO ABOVE CEILING IN CORRIDOR S116.
8	SPEAKER ROUGH-IN AT 8' A.F.F.
9	PROVIDE 2-GANG BOX (AT 46" A.F.F.) AND 1" CONDUIT TO ABOVE NEAREST ACCESSIBLE CEILING.



1 **FIRST FLOOR TELECOMMUNICATIONS PLAN**
1/8" = 1'-0"

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced MD

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A3	ADDENDUM 3	05.12.2016

7300 E. 56th Street
Indianapolis, IN 46226

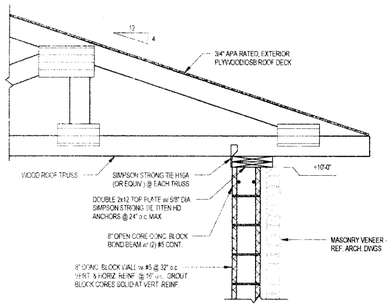
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

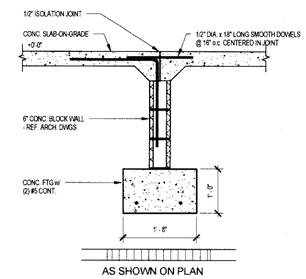
LC EXTERIOR FACILITY UPGRADES - BP2

TELECOMMUNICATIONS PLAN

T-101

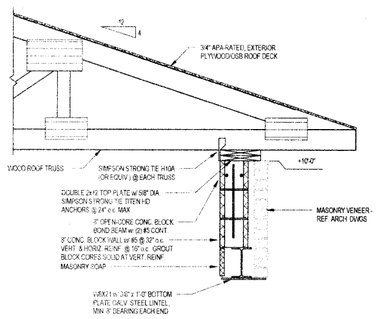


10 SECTION
3/4" = 1'-0"

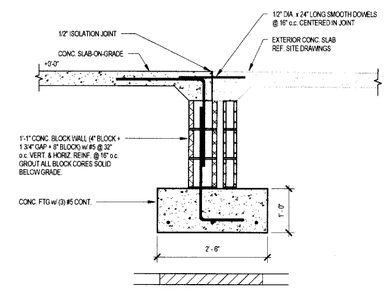


AS SHOWN ON PLAN

6 SECTION
3/4" = 1'-0"

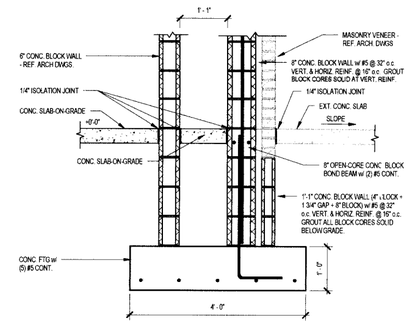


9 SECTION
3/4" = 1'-0"

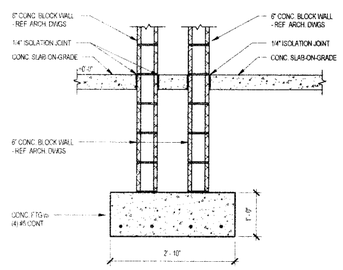


AS SHOWN ON PLAN

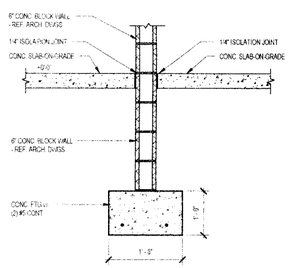
5 SECTION
3/4" = 1'-0"



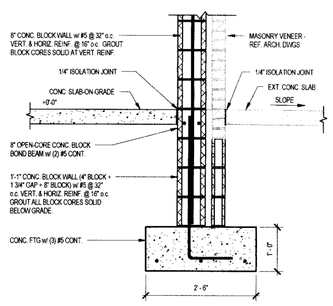
4 SECTION
3/4" = 1'-0"



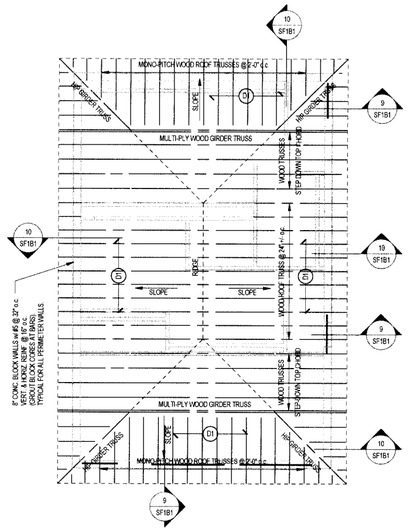
8 SECTION
3/4" = 1'-0"



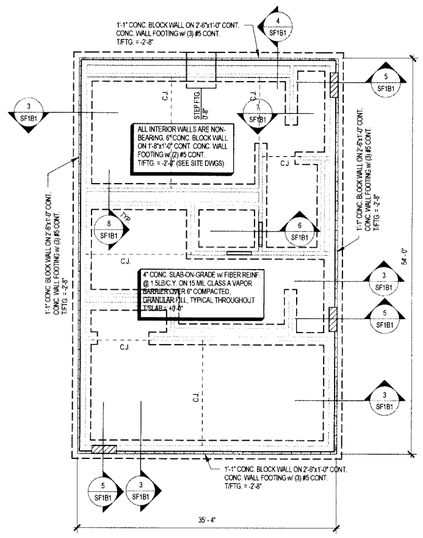
7 SECTION
3/4" = 1'-0"



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



2 ROOF FRAMING PLAN - BUILDING B
1/8" = 1'-0"



1 FOUNDATION PLAN - BUILDING B
1/8" = 1'-0"

STRUCTURAL PLAN NOTES

1. ALL CONTRACTORS ARE REQUIRED TO COORDINATE THEIR WORK WITH ALL DISCIPLINES TO AVOID CONFLICTS. THE MECHANICAL, ELECTRICAL AND PLUMBING ASPECTS ARE NOT IN THE SCOPE OF THESE DRAWINGS. THEREFORE, ALL REQUIRED MATERIALS AND WORK MAY NOT BE INDICATED.

2. COORDINATE EXACT SIZE & LOCATION OF ALL MECHANICAL OPENINGS IN FOUNDATION WALLS WITH THE MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS.

3. ALL ELEVATIONS ARE REFERENCED FROM THE FIRST FLOOR FINISH FLOOR ELEVATION =0'-0" (U.S.G.S. XXX.XX) REF. CIVIL DWGS.

4. REF. ARCH. DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

5. REF. S-481 FOR TYPICAL FOUNDATION & FRAMING DETAILS.

6. NOTE: PERIMETER WALL AND COLUMN FOOTINGS SHALL BE LOWERED AND/OR STEPPED TO PASS BELOW PLUMBING LINES (I.E. SANITARY & STORM SEWERS, WATER LINES, ETC.) SHOWN ON THE PLUMBING DRAWINGS. PROVIDE FOOTING STEPS AS REQUIRED PER THE TYPICAL DETAILS ON S-481.

7. COORDINATE REINFORCING DOWELS FOR CMU VERTICAL REINFORCING WITH REINF. NOTED ON PLANS & SECTIONS.

8. GROUT ALL CORES OF CMU BELOW FINISH FLOOR SOLID.

9. COLUMN FOOTINGS, TRENCH FOOTINGS AND WALL FOOTINGS SHALL BEAR ON APPROVED SOIL. UNDERCUT AS REQ'D TO SUITABLE BEARING MATERIAL AS DETERMINED BY THE GEOTECHNICAL TESTING AGENCY. REF. TYPICAL FOOTING UNDERCUT DETAIL ON S-481.

10. PROVIDE CONTROL/CONTRACTION JOINTS IN SLABS ON GRADE (SEE THE TYPICAL DETAILS ON SHEET S-481). THE CONTRACTOR SHALL SUBMIT SLAB JOINT LAYOUT TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO PLACING SLABS.

11. PLAN LEGEND

D1	3/4" EXTERIOR GRADE PLYWOOD/OSB ROOF DECKING w/ SPACER CLIPS
F.F.	DENOTES FINISH FLOOR
T/X'	DENOTES TOP OF FTG., GRADE BEAM, SLAB, PIER, ETC.
C.J.	DENOTES SLAB ON GRADE CONTROL/CONTRACTION JOINT.
	DENOTES WALL FOOTING WITH STEPS, REF. TYP. DETAIL ON S-481

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Project No. 2015-121.LCS
Project Date 04.18.2016
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#	Revision	Date

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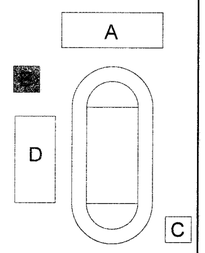


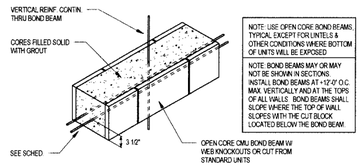
KEY PLAN

MSD OF LAWRENCE TOWNSHIP

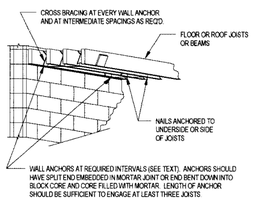
LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION AND FRAMING PLAN - BUILDING B

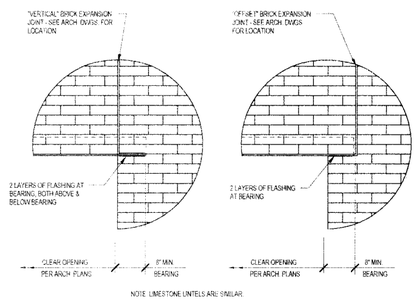
SF1B1



13 CMU BOND BEAM DETAILS
3/4" = 1'-0"



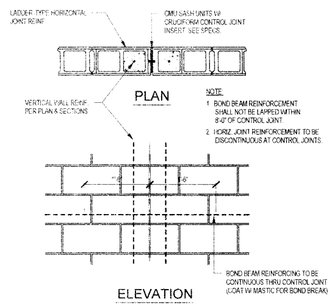
12 ANCHORAGE OF CONCRETE MASONRY WALLS
3/4" = 1'-0"



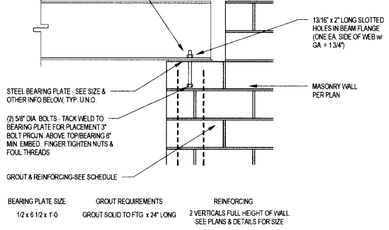
AT "VERTICAL" BRICK EXPANSION JOINT

AT "OFFSET" BRICK EXPANSION JOINT

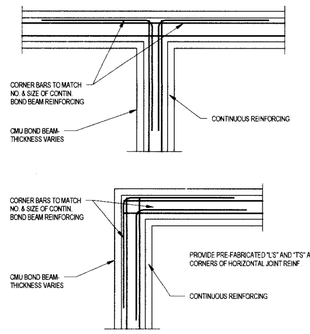
15 LINTEL BEARING DETAILS
3/4" = 1'-0"



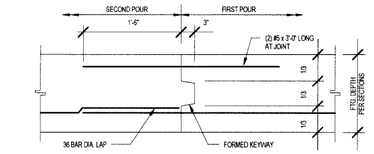
14 CMU CONTROL JOINT DETAIL
3/4" = 1'-0"



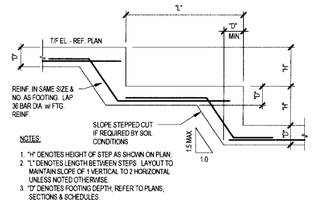
11 BEAM BEARING PLATE DETAIL (PARALLEL)
3/4" = 1'-0"



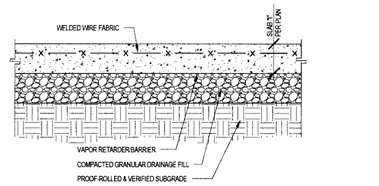
10 BOND BEAM INTERSECTION DETAILS
3/4" = 1'-0"



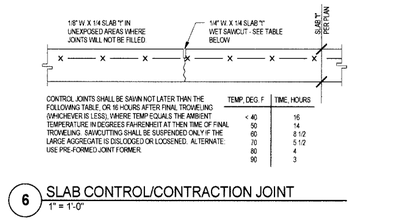
9 WALL FOOTING CONSTRUCTION JOINT
1" = 1'-0"



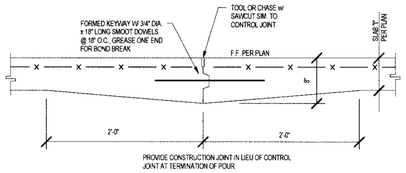
8 STEPPED FOOTING DETAIL
1/2" = 1'-0"



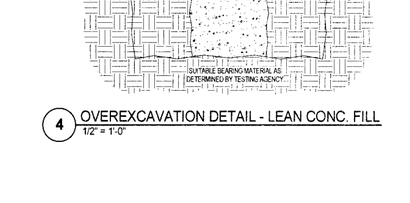
7 SLAB ON GRADE CONSTRUCTION
1" = 1'-0"



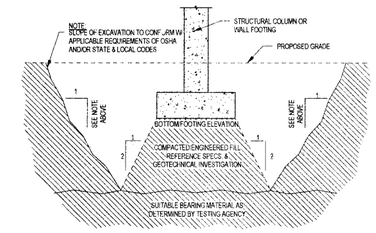
6 SLAB CONTROL/CONTRACTION JOINT
1" = 1'-0"



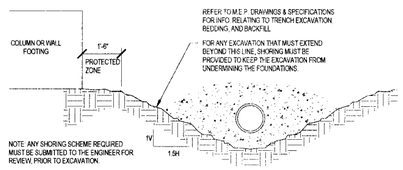
5 SLAB CONSTRUCTION JOINT
1" = 1'-0"



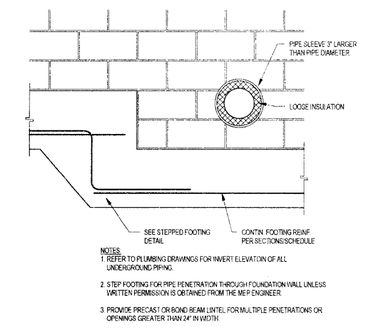
4 OVEREXCAVATION DETAIL - LEAN CONC. FILL
1/2" = 1'-0"



3 OVEREXCAVATION DETAIL - COMPACTED FILL
1/2" = 1'-0"



2 EXCAVATION LIMITS DETAILS
3/4" = 1'-0"



1 CMU FOUNDATION WALL PIPE SLEEVE DETAIL
3/4" = 1'-0"

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Project No: 2015-121.LCS
Project Date: 04.18.2016
Produced: JNB WBH

WESLEY B. HARRISON — 10/31/2017 — PE80860410 — STATE OF INDIANA — PROFESSIONAL ENGINEER

#	Revision	Date

7300 E. 56th Street
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KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

TYPICAL DETAILS

S-4B1

REFLECTED CEILING PLAN LEGEND

GWB	Drywall Grid System (09 22 16)	Light Fixture (Reference E-Series Dwgs)	
		Return Air (Reference M-Series Dwgs)	
		Supply Air (Reference M-Series Dwgs)	
		Exit Light (Reference E-Series Dwgs)	
Walls to Deck		Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceiling (Reference E-Series Dwgs)	
		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)	S

General Refl. Ceiling Plan Notes

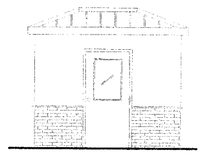
1. All ceilings are at 9'-0" AFF, unless noted otherwise.
2. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.

General Plan Notes

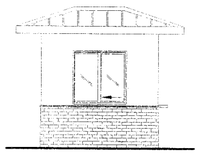
1. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.
2. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.
3. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.
4. All door frames are located 4" from adjacent wall unless noted otherwise.
5. All exposed outside corners of CMU shall be bullnosed.
6. Seal all joints between dissimilar materials.
7. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.
8. All interior walls are Type "M8-D", unless noted otherwise.
9. Base elevation is 0'-0" = 852.5' (United States Geological Survey data).
10. Hatching within walls shown in plans and sections indicates new construction.

5.4.100 - FLOOR PLAN NOTES

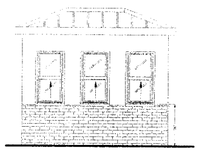
KEY	NOTE
1	VERIFY ELEVATOR SHAFT SIZE WITH SELECTED MANUFACTURER
2	EXTERIOR WALL ALTERNATE - PROVIDE SINGLE WYTHE 8IN SPLIT FACE CMU IN LIEU OF EM8-B
3	EXTERIOR WALL ALTERNATE - PROVIDE SINGLE WYTHE 12IN SPLIT FACE CMU IN LIEU OF EM12-B
4	ELEVATOR PIT LADDER
5	ADA PUSH BUTTON



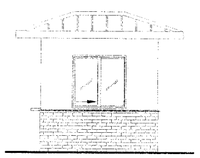
NORTH ELEVATION



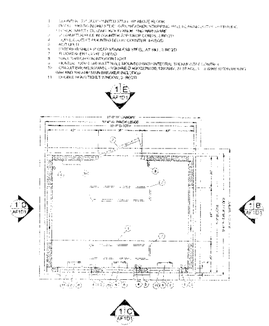
WEST ELEVATION

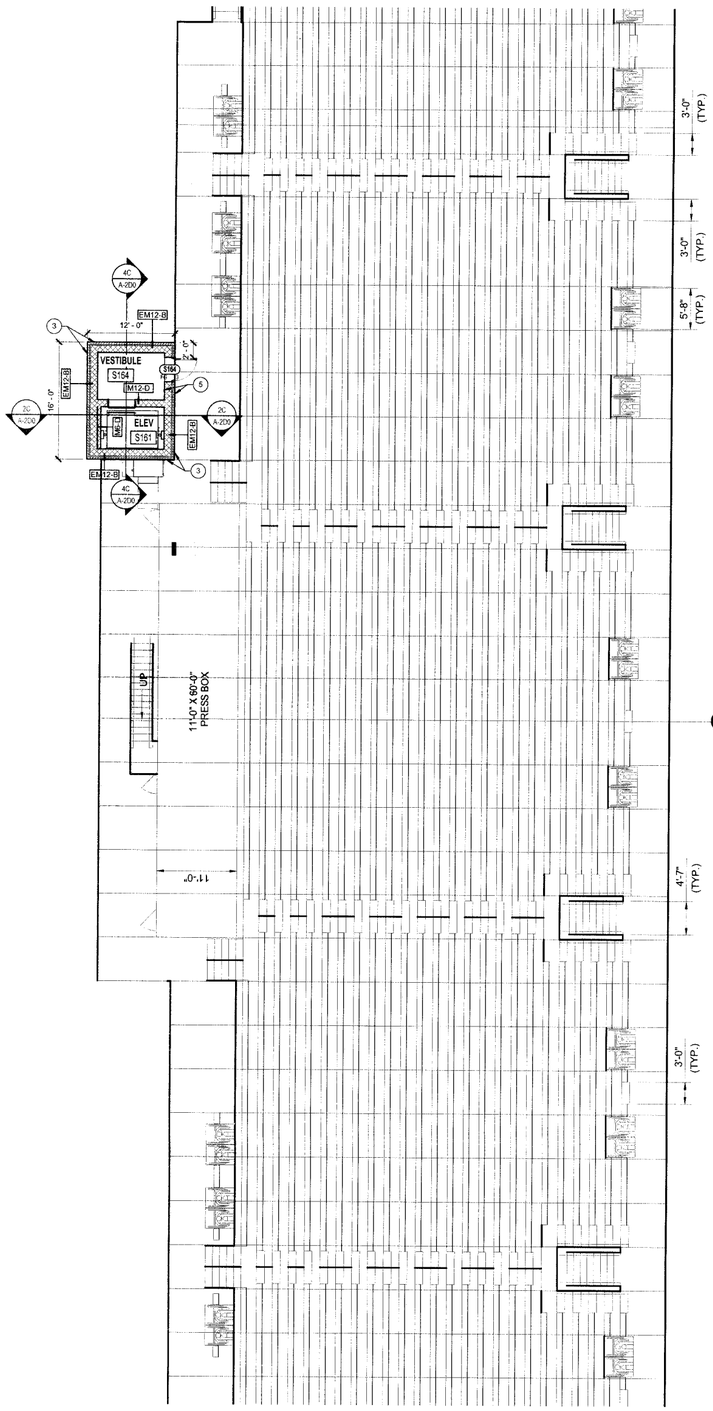


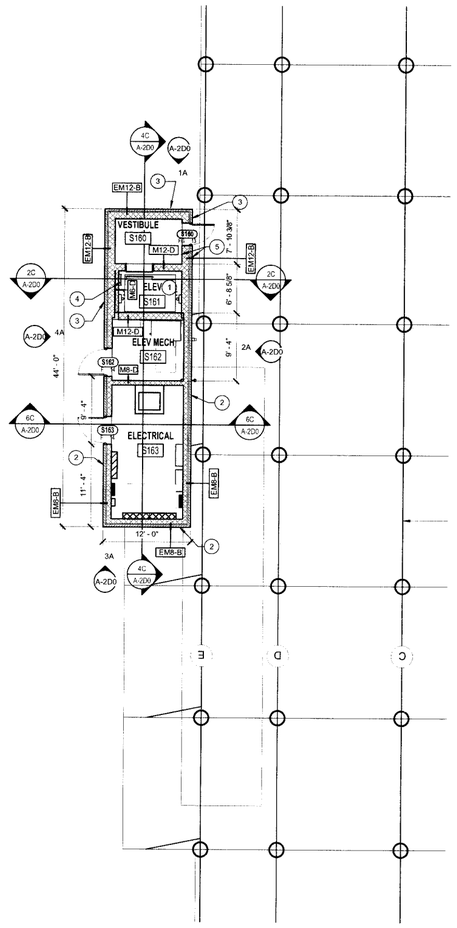
SOUTH ELEVATION

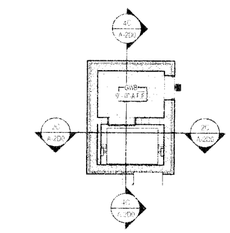


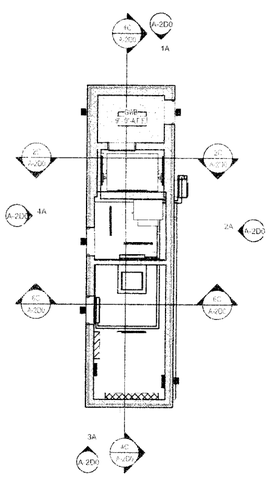
EAST ELEVATION











6C PRESS BOX LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

6A FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

4A PRESS BOX LEVEL
1/8" = 1'-0"

2A FIRST FLOOR PLAN
1/8" = 1'-0"

1A TICKET BOOTH (REFER TO SITE FOR LOCATION)
1/4" = 1'-0"

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WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

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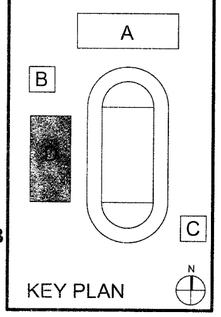


KEY PLAN

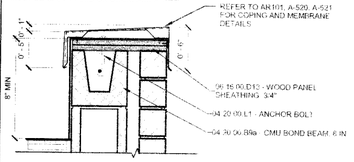
MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

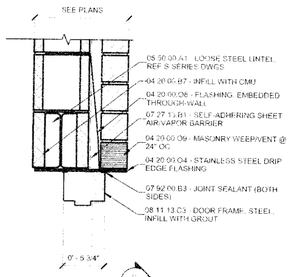
FIRST FLOOR PLAN - UNIT D

AF1D1

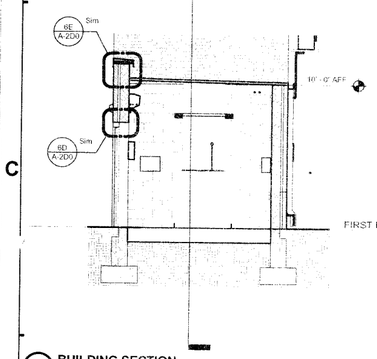
NOTE:
ALL STEEL FASTENERS PENETRATING TREATED WOOD OR TREATED PLYWOOD MUST BE GALVANIZED OR STAINLESS STEEL



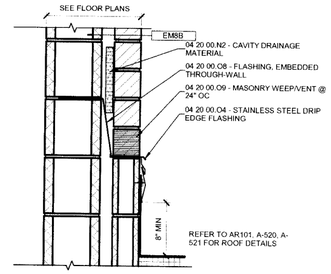
6E METAL COPING
1 1/2" = 1'-0"



6D HEAD
1 1/2" = 1'-0"

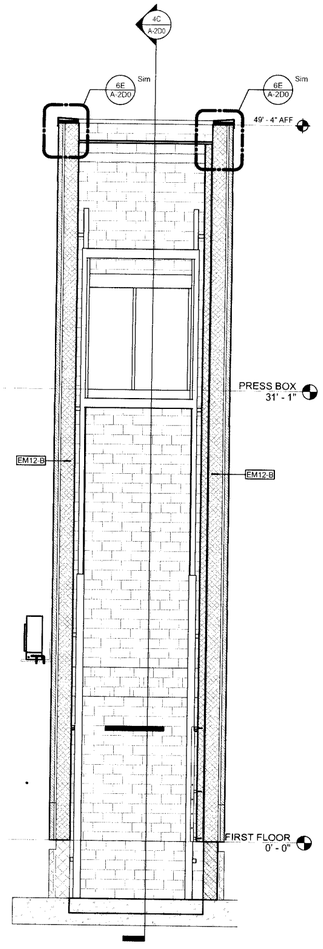


6C BUILDING SECTION
1/4" = 1'-0"

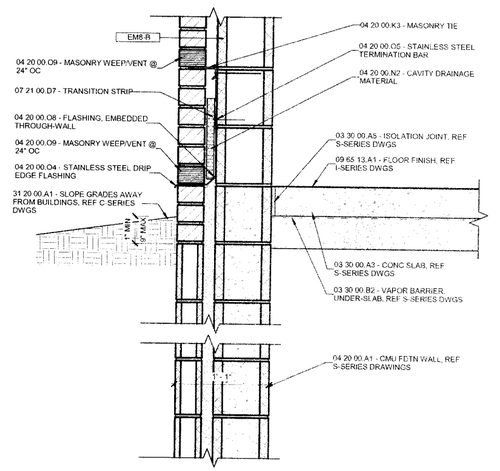


6 ROOF TERMINATION
1 1/2" = 1'-0"

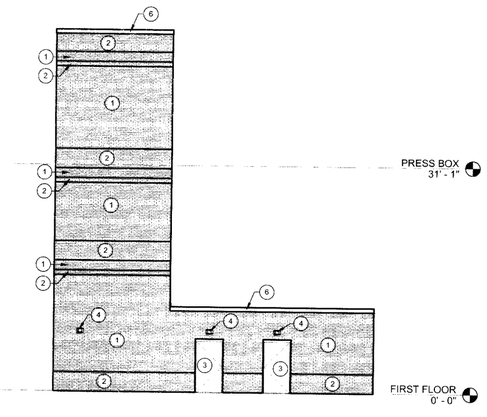
4C BUILDING SECTION
1/4" = 1'-0"



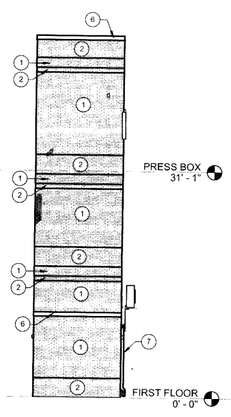
2C ELEVATOR SECTION
1/4" = 1'-0"



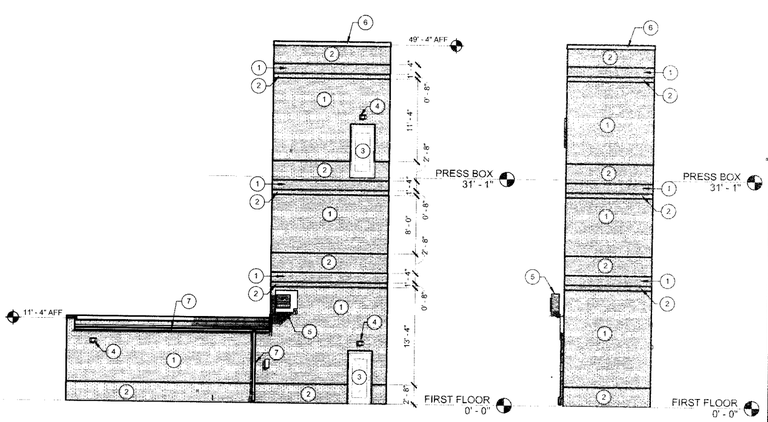
1C FOUNDATION
1 1/2" = 1'-0"



4A WEST ELEVATION
1/8" = 1'-0"



3A SOUTH ELEVATION
1/8" = 1'-0"



2A EAST ELEVATION
1/8" = 1'-0"

1A NORTH ELEVATION
1/8" = 1'-0"

5.4.200 - BUILDING ELEVATION NOTES

KEY	NOTE
1	04 20 00 - BRICK TYPE "A"
2	04 20 00 - BRICK TYPE "B"
3	08 11 13 - HOLLOW METAL DOOR & FRAME
4	LIGHT FIXTURE, REFER TO E-SERIES DRAWINGS
5	MECHANICAL EQUIPMENT, REFER TO M-SERIES DRAWINGS
6	07 71 00 - METAL COPING
7	07 71 00 - ALUMINUM GUTTER & DOWNSPOUT

Exterior Finish Schedule

THIS LEGEND IS PROVIDED FOR REFERENCE PURPOSES ONLY. PRODUCTS/COLORS INDICATED ARE BASED ON BASIS OF DESIGN MANUFACTURERS. REFER TO SPECIFICATIONS FOR LIST OF ACCEPTED EQUAL MANUFACTURES/PRODUCTS.

SPEC SECTION	MAT'L	MARK	COLOR: BASIS OF DESIGN
042000	FACE BRICK	A	RED - MT. SHADOW VELOUR
		B	TAN - SEA GRAY VELOUR
077100	FASCIA, GUTTERS, DOWNSPOUTS		REDWOOD
079200	SEALANTS		ALL SEALANTS USED IN MASONRY CONTROL JOINTS SHALL MATCH THE MASONRY MORTAR
			ALL SEALANTS USED IN EXPOSED CONCRETE SHALL MATCH THE SURROUNDING COLOR CONCRETE UNLESS NOTED OTHERWISE
			ALL SEALANTS USED TO SEAL AROUND EXTERIOR WINDOWS AND DOOR FRAMES SHALL MATCH THE WINDOW AND DOOR FRAME COLOR
081113	HM DOORS AND FRAMES		PAINT COLOR AS SELECTED BY ARCHITECT

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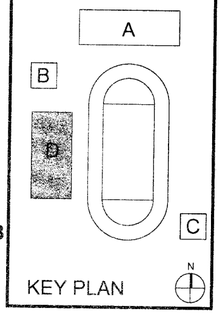


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

ELEVATIONS & SECTIONS

A-2D0

INTERIOR FINISH LEGEND

MARK	DESCRIPTION	MANUFACTURER	PATTERN / STYLE	COLOR	SPECIFICATION	COMMENTS
-	-	-	-	-	09 96 00 99	-
CFC-1	CONRETE FLOOR COATING	-	-	MOVE 1808	09 68 13	QUARTER-TURN INSTALLATION
CPT-1	CARPET TILE	J&J FLOORING GROUP	KINETEX / VELOCITY 1814	TO BE SELECTED FROM MFR'S STANDARD COLORS	09 30 00	-
GR-1	GROUT	-	-	SKYLINE STEEL SW1015	09 91 23	
HP-1	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	EGRET WHITE SW7570	09 91 23	PAINT COLOR FOR PAINTED EXPOSED CEILING / STRUCTURE.
HP-2	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	IRON ORE SW7069	09 91 23	
HP-3	HIGH PERFORMANCE PAINT	SHERWIN WILLIAMS	-	SMOOTH M-22	09 72 00	
MWC-1	MARKER WALLCOVERING	VITRULAN	CINCH MAGNETIC WALLCOVERING	CLEAR	09 72 00	
MWP-1	MARKER WALL PAINT	VITRULAN	SCRIBIL DRY-ERASE PAINT	INTENSITY PEBBLE VL72	09 30 00	SIZE: 12"x24", 1/3 BRICK INSTALLATION
PFT-1	PORCELAIN FLOOR TILE	DALTILE	VOLUME 1.0	INTENSITY PEBBLE VL72	09 30 00	SIZE: 6"x12", COVE
PFTB-1	PORCELAIN FLOOR TILE BASE	DALTILE	VOLUME 1.0	EBONY OXIDE 299-58	12 32 00	
PL-1	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	CITADEL WARP 5882-58	12 32 00	
PL-2	PLASTIC LAMINATE	FORMICA	MATTE COLLECTION	CHARCOAL 332	09 67 23	
RSF-1	RESINOUS FLOORING	GENERAL POLYMERS	CERAMIC CARPET	THUNDERSTORM	12 32 00	
UPH-1	UPHOLSTERY	PALLAS	HOLY COW	BURNT UMBER 63	09 65 13	
VWB-1	VINYL WALL BASE	JOHNSONITE	-	SILVER FAN	10 22 26	
VWC-1	VINYL WALLCOVERING (OPERABLE PARTITIONS)	KOROSEAL	KASHI			
WOC-1	WALK-OFF CARPET	TANDUS	ASSERTIVE ACTION 04837	STEELWORK 26202	09 68 13	

INTERIORS GENERAL NOTES

REFERENCE A-001 FOR GENERAL PLAN NOTES. ALL NOTES MAY NOT APPLY TO THIS SHEET.

1. FURNITURE IS NOT PROVIDED IN THIS CONTRACT, LAYOUTS AND FINAL DESIGN WILL NEED TO BE DETERMINED BY THE OWNER.
2. REFERENCE ARCHITECTURAL CEILINGS PLANS FOR CEILING HEIGHTS AND BULKHEAD COLOR DESIGNATIONS. PAINT ALL BULKHEADS HP-1 UNLESS SPECIFICALLY NOTED OTHERWISE. BULKHEADS THAT ARE FLUSH WITH WALLS PROVIDE COLOR TO MATCH ADJACENT WALL COLOR.
3. PAINT INTERIOR HOLLOW METAL DOORS HP-1.
4. PAINT INTERIOR HOLLOW METAL DOOR FRAMES HP-3.
5. PAINT EXTERIOR HOLLOW METAL DOORS AND FRAMES HP-1.
6. PAINT GENERAL WALLS P-1 (NEUTRAL) UNLESS SPECIFICALLY NOTED OTHERWISE.
7. APPLIANCES AND VENDING EQUIPMENT ARE NOT PROVIDED IN THIS CONTRACT.
8. PAINT ALL EXPOSED STRUCTURE, DUCTWORK, PIPING ETC. HP-2.

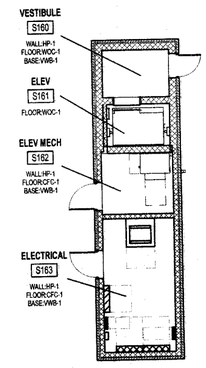
INTERIORS LEGEND

GENERAL

ETR	EXISTING TO REMAIN
NIC	NOT IN CONTRACT
FFE	FURNITURE, FIXTURES & EQUIPMENT

INTERIORS KEY NOTES

KEY	NOTE
1	NOT USED.



1A FIRST FLOOR FINISH PLAN
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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Indianapolis, Indiana 46204
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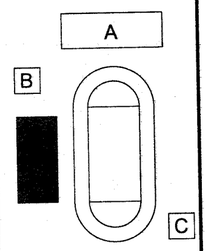
Project No. 2015-121.LCS
Project Date 04.18.2016
Produced Designer AEC

WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7300 E. 56th Street
Indianapolis, IN 46226



KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR INTERIOR PLAN - UNIT D

IN1D1

AIR COOLED MULTI-SPLIT HEAT PUMP CONDENSING UNIT SCHEDULE

IDENTITY DATA					COOLING / HEATING DATA			ENERGY DATA		ELECTRICAL DATA						
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	LOCATION	NOMINAL COOLING (TONS)	REFG. TYPE	TOTAL COOLING (BTUH)	TOTAL HEATING (BTUH)	COP	SEER	VOLTS (V)	PHASE	MCA (A)	MOP (A)	RLA (A)	DISCONNECT PROVIDER	NOTES
CU-1	DAIKIN AC	4MXS36NMVJU	139	GRADE	3	R-410A	36,000	36,000	4.5	18.6	208	1	19.8	20	17.5	ELECTRICAL CONTRACTOR	1-9

MULTI-SPLIT HEAT PUMP FCU SCHEDULE NOTES:

1. COORDINATE LOCATION OF WALL UNIT WITH ALL TRADES.
2. REFERENCE INSTALLATION DETAIL ON THIS SHEET.
3. EACH UNIT SHALL HAVE BUILT IN CONDENSATE PUMP AS REQUIRED TO PUMP CONDENSATE NORTH TO NEAREST DRAIN. SEE CONDENSATE DRAIN PIPING ON FLOOR PLANS FOR ROUTING.
4. UNIT CONTROLS ARE PROVIDED BY THE ELECTRICAL CONTRACTOR, NOT BY THE MECHANICAL CONTRACTOR.
5. DO NOT RUN CONTROL WIRING BETWEEN INDOOR UNIT AND OUTDOOR UNIT WITHOUT THE MECHANICAL CONTRACTOR. COORDINATE ALL MAIN POWER WIRING WITH E.C. AS REQUIRED.
6. COORDINATE ELECTRIC POWER REQUIREMENTS WITH E.C.

MULTI-SPLIT HEAT PUMP FAN COIL UNIT SCHEDULE

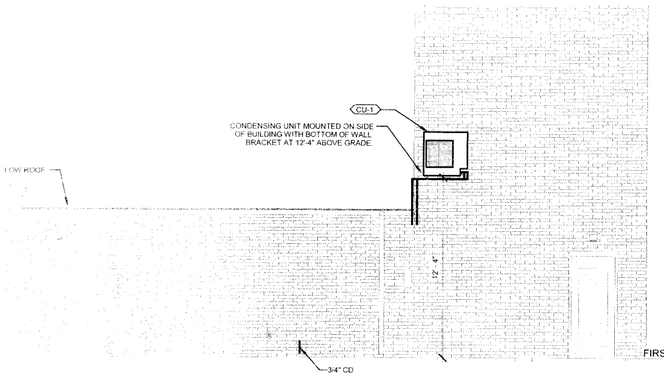
IDENTITY DATA				COOLING / HEATING DATA						ELECTRICAL DATA				
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	NOMINAL COOLING (TONS)	COOLING CAPACITY (BTU/h)	HEATING CAPACITY (BTU/h)	MINIMUM AIRFLOW (CFM)	MAXIMUM AIRFLOW (CFM)	REFRIG TYPE	VOLTS (V)	PHASE	FREQ (HZ)	NOTES
FCU-1A	DAIKIN AC	FTXS12LVJU	22	1	12,000	14,400	155	400	R-410A	208	1	60	1-6
FCU-1B	DAIKIN AC	FTXS24LVJU	31	2	21,000	25,400	328	643	R-410A	208	1	60	1-6

MULTI-SPLIT HEAT PUMP CONDENSING SCHEDULE NOTES:

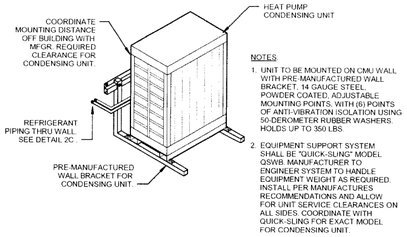
1. COORDINATE LOCATION OF UNIT ON (BUILDING EXTERIOR WALL) WITH ALL OTHER TRADES AS REQUIRED. FAN DISCHARGE SHALL BE POINTED AWAY FROM BUILDING.
2. REFERENCE INSTALLATION DETAILS ON THIS SHEET.
3. UNIT SHALL BE MOUNTED ON PRE-MANUFACTURED WALL BRACKET MADE BY QUICK-SLING. COORDINATE EQUIPMENT WEIGHT WITH SUPPORT SYSTEM MANUFACTURER FOR CORRECT BRACKET MODEL.
4. SYSTEM TO INCLUDE A REFRIGERANT AUTO CHARGING, LEAK CHECK FUNCTION, AND AUTO ADDRESSING FUNCTION.
5. MECHANICAL CONTRACTOR SHALL COORDINATE REFRIGERANT PIPE ROUTING WITH EQUIPMENT MANUFACTURER.
6. UNIT RATED TOTAL COOLING INFORMATION IS BASED ON OUTDOOR AIR TEMPS. 95 °FDB, 74 °F WB SUMMER AND 47 °FDB, 43 °F WB WINTER.
7. PROVIDE OPTIONAL WIND BAFFLE FOR LOW AMBIENT OPERATION DOWN TO 0 °F.
8. COORDINATE ELECTRIC POWER REQUIREMENTS WITH E.C.
9. BOTTOM OF BRACKETS 12'-4" ABOVE GRADE.

MECHANICAL HVAC PLAN NOTES

#	NOTE
1	INDOOR HEAT PUMP WALL MOUNTED FAN COIL UNIT. SEE SCHEDULE ON THIS SHEET. SEE DETAIL 3C ON THIS SHEET.
2	HEAT PUMP CONDENSING UNIT MOUNTED ON PRE-MANUFACTURED STEEL WALL SUPPORT FRAME BRACKET KIT BY QUICK-SLING, MODEL QSWB. SEE SCHEDULE ON THIS SHEET FOR UNIT SIZING INFO. SEE DETAIL 3D ON THIS SHEET.
3	PROVIDE WALL SEAL SYSTEM TITAN GS30 TO ROUTE REFRIGERANT LINE SET PIPING THRU EXTERIOR WALL FROM INDOOR UNIT TO OUTDOOR UNIT. SEE DETAIL 2C ON THIS SHEET.
4	REFRIGERANT PIPING SHALL BE SIZED BY UNIT MANUFACTURER. ALL HORIZONTAL RUNS SHALL BE SUPPORTED ON UNI-STRUT. SEE DETAIL 2D ON THIS SHEET.
5	ROUTE CONDENSATE FROM INDOOR FAN COIL UNITS TO EXTERIOR AND DUMP ON GRADE. SEE DETAIL 3B ON THIS SHEET.

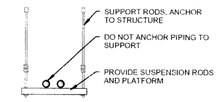


5D SECTION THRU ELEVATOR VESTIBULE
1/4" = 1'-0"

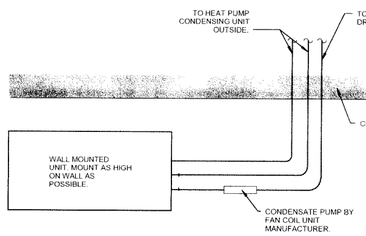


NOTES:
1. UNIT TO BE MOUNTED ON CMU WALL WITH PRE-MANUFACTURED WALL BRACKET, 14 GAUGE STEEL, POWDER COATED, ADJUSTABLE MOUNTING POINTS, WITH (6) POINTS OF ANTI-VIBRATION ISOLATION USING 50-DEROMETER RUBBER WASHERS. HOLDS UP TO 350 LBS.
2. EQUIPMENT SUPPORT SYSTEM SHALL BE "QUICK-SLING" MODEL QSWB. MANUFACTURER TO ENGINEER SYSTEM TO HANDLE EQUIPMENT WEIGHT AS REQUIRED. INSTALL PER MANUFACTURES RECOMMENDATIONS AND ALLOW FOR UNIT SERVICE CLEARANCES ON ALL SIDES. COORDINATE WITH QUICK-SLING FOR EXACT MODEL FOR CONDENSING UNIT.

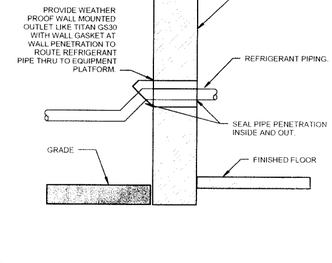
3D VRV CONDENSING UNIT FRAME SUPPORT
NOT TO SCALE



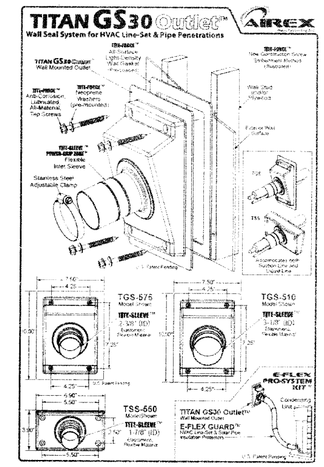
2D REFRIGERANT PIPE SUPPORT DETAIL
NOT TO SCALE

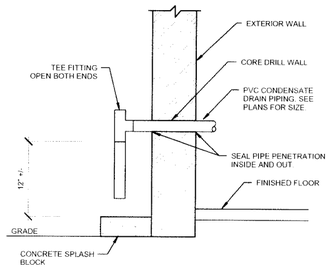


3C HEAT PUMP WALL MOUNTED FAN COIL UNIT PIPING DIAGRAM
NOT TO SCALE

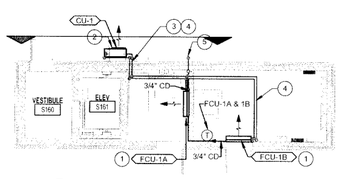


2C EXTERIOR REFRIGERANT PIPING DETAIL
NOT TO SCALE

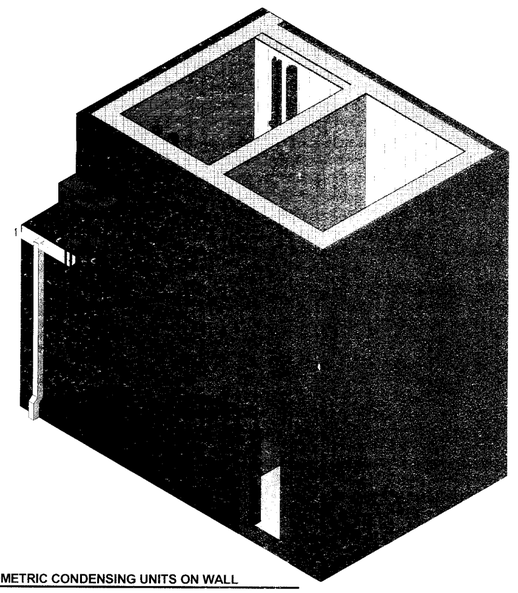




3B EXTERIOR CONDENSATE DRAIN PIPING DETAIL
NOT TO SCALE



3A FIRST FLOOR MECHANICAL PLAN
1/8" = 1'-0"



2A 3D ISOMETRIC CONDENSING UNITS ON WALL

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Project No. 2015-121.LCS
Project Date 04.18.2016
Produced BAW / TCC

#	Revision	Date

7300 E. 56th Street
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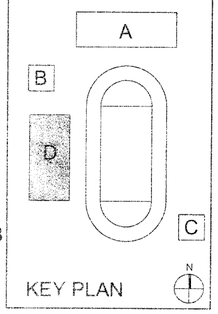
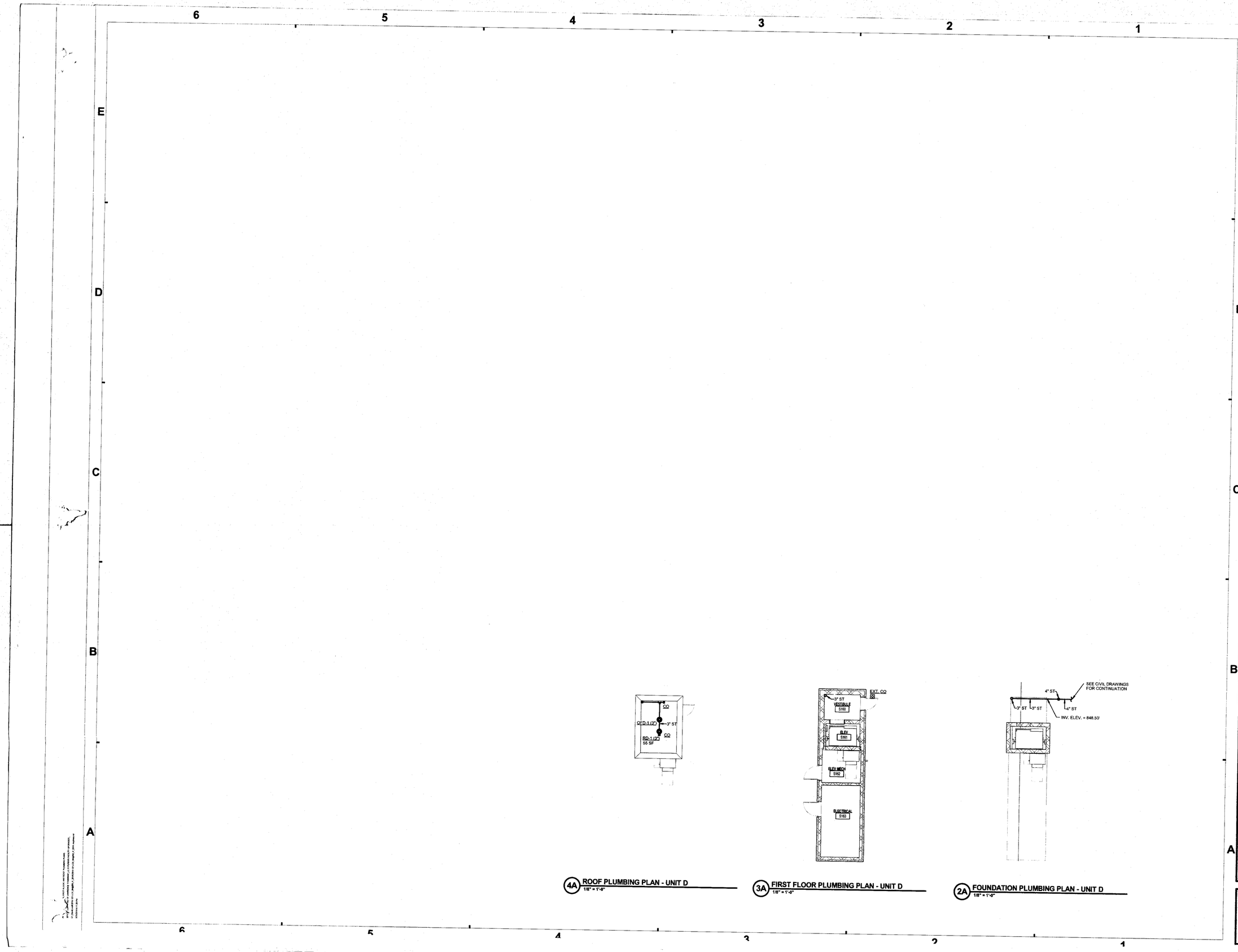


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FIRST FLOOR MECHANCIAL PLAN - UNIT D

MH1D1



4A ROOF PLUMBING PLAN - UNIT D
1/8" = 1'-0"

3A FIRST FLOOR PLUMBING PLAN - UNIT D
1/8" = 1'-0"

2A FOUNDATION PLUMBING PLAN - UNIT D
1/8" = 1'-0"

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Project No. 2015-121.LNS
Project Date 03.17.2016
Produced CCW / IOP

WAYNE S. SCHMIDT REGISTERED NO. 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date

7802 Hague Road
Indianapolis, IN 46256

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

FOUNDATION, FIRST FLOOR, AND ROOF PLUMBING PLANS

PF1D1

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 12DDP
LOCATION: ELECTRICAL S163
MOUNTING: SURFACE
SUPPLY FROM: T-D1

VOLTS: 208Y/120 V
PHASES: 3
WIRES: 4

MAINS RATING: 400 A
MAINS TYPE: MCB
MCB RATING: 400 A
AIC RATING: 22,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	12D1	PNL	200 A	3	1.28 0.00			3	150 A	PNL	22D1	2
3	--	--	--	--		1.27 0.00		--	--	--	--	4
5	--	--	--	--			1.33 0.00	--	--	--	--	6
7	SPARE	--	200 A	3	0.00 0.00			3	100 A	--	SPARE	8
9	--	--	--	--		0.00 0.00		--	--	--	--	10
11	--	--	--	--			0.00 0.00	--	--	--	--	12
13												14
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
		TOTAL LOAD:			1.28 kVA	1.27 kVA	1.33 kVA					
		TOTAL AMPS:			11 A	11 A	11 A					

TOTAL CONNECTED LOAD: 12.89 kVA
TOTAL CONNECTED AMPS: 11 A

NOTES:
1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99
2. PROVIDE 100% RATED MAIN CIRCUIT BREAKER WITH LSI
3. PROVIDE (6) 100A 3P SPACES

PANELBOARD SCHEDULE

DESIGNATION: 12D1
LOCATION: ELECTRICAL S163
MOUNTING: SURFACE
SUPPLY FROM: 12DDP

VOLTS: 208Y/120 V
PHASES: 3
WIRES: 4

MAINS RATING: 225 A
MAINS TYPE: MLO
MCB RATING:
AIC RATING: 22,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	S161	PIT REC	20 A	1	0.18 1.00			1	20 A		FIELD CIRCUITS	2
3	S162	ELEV. LTS.	20 A	1		0.12 1.00		1	20 A		FIELD CIRCUITS	4
5	S162	RECEPT	20 A	1			0.18 1.00	1	20 A		FIELD CIRCUITS	6
7	S163, S180, S164	RECEPT	20 A	1	0.90 1.00			1	20 A		FIELD CIRCUITS	8
9	S162, S163	CU	20 A	2		1.15 1.00		1	20 A		FIELD CIRCUITS	10
11	--	EAC	20 A	1	0.20 1.00		1.15 1.00	1	20 A		FIELD CIRCUITS	12
13	S160		20 A	1		0.00 1.00		1	20 A		FIELD CIRCUITS	14
15	SPARE		20 A	1			0.00 1.00	1	20 A		FIELD CIRCUITS	16
17	SPARE		20 A	1				1	20 A		FIELD CIRCUITS	18
19	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	20
21	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	22
23	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	24
25	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	26
27	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	28
29	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	30
31	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	32
33	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	34
35	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	36
37	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	38
39	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	40
41	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	42
		TOTAL LOAD:			4.28 kVA	4.27 kVA	4.33 kVA					
		TOTAL AMPS:			36 A	36 A	36 A					

TOTAL CONNECTED LOAD: 12.89 kVA
TOTAL CONNECTED AMPS: 36 A

NOTES:
1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99
2. FIELD VERIFY AND IDENTIFY ON DIRECTORY CARD EXISTING EVEN CIRCUITS 2-18.

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	CIRCUIT CONNECTION FOR EAC.
2	120 VOLT STAND-ALONE SMOKE DETECTOR WITH AUXILIARY CONTACTS FOR ELEVATOR RECALL.
3	BUILDING GROUNDING ELECTRODE SYSTEM BUS BAR.

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 14DDP
LOCATION: ELECTRICAL S163
MOUNTING: SURFACE
SUPPLY FROM:

VOLTS: 480Y/277 V
PHASES: 3
WIRES: 4

MAINS RATING: 800 A
MAINS TYPE: MCB
MCB RATING: 800 A
AIC RATING: 50,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	T-D1	XFMR	250 A	3	1.28 2.01			3	100 A	PANEL	14D1	2
3	--	--	--	--		1.27 0.89		--	--	--	--	4
5	--	--	--	--			1.33 1.37	--	--	--	--	6
7	W. FB NORTH POLE	LIGHTING	50 A	3	10.00 33.25			3	175 A	LIGHTING	LC-D1 (E. STADIUM PANEL)	8
9	--	--	--	--		10.00 33.25		--	--	--	--	10
11	--	--	--	--			10.00 33.75	--	--	--	--	12
13	W. FB CENTER POLE	LIGHTING	50 A	3	10.00 0.00			3	175 A	XFMR	T-C1	14
15	--	--	--	--		10.00 0.00		--	--	--	--	16
17	--	--	--	--			10.00 0.00	--	--	--	--	18
19	W. FB SOUTH POLE	LIGHTING	50 A	3	10.00 0.00			3	200 A	PNL	FH2	20
21	--	--	--	--		10.00 0.00		--	--	--	--	22
23	--	--	--	--			10.00 0.00	--	--	--	--	24
25	ELEVATOR	ELEV	70 A	3	9.42 0.00			3	100 A	--	SPARE	26
27	--	--	--	--		9.42 0.00		--	--	--	--	28
29	--	--	--	--			9.42 0.00	--	--	--	--	30
31					0.00			3	200 A		SPARE	32
33						0.00		--	--	--	--	34
35							0.00	--	--	--	--	36
37												38
39												40
41												42
		TOTAL LOAD:			75.96 kVA	74.84 kVA	75.38 kVA					
		TOTAL AMPS:			275 A	270 A	272 A					

TOTAL CONNECTED LOAD: 226.17 kVA
TOTAL CONNECTED AMPS: 275 A

NOTES:
1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99
2. PROVIDE 100% RATED MAIN CIRCUIT BREAKER WITH LSIG.
3. PROVIDE INTEGRAL SPD...

PANELBOARD SCHEDULE

DESIGNATION: 14D1
LOCATION: ELECTRICAL S163
MOUNTING: SURFACE
SUPPLY FROM: 14DDP

VOLTS: 480Y/277 V
PHASES: 3
WIRES: 4

MAINS RATING: 100 A
MAINS TYPE: MLO
MCB RATING:
AIC RATING: 50,000 A

CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	POLES	A	B	C	POLES	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.
1	EXTERIOR	LIGHTING	20 A	1	0.47 0.17			1	20 A	LIGHTING	S161	2
3	S162	LIGHTING	20 A	1		0.37 0.52		1	20 A	LIGHTING	EXTERIOR	4
5	SITE POLE LIGHTS	LIGHTING	20 A	2			1.37 0.00	1	20 A		SPARE	6
7	--	--	--	--	1.37 0.00			1	20 A		SPARE	8
9	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	10
11	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	12
13	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	14
15	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	16
17	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	18
19	SPARE		20 A	1	0.00 0.00			1	20 A		SPARE	20
21	SPARE		20 A	1		0.00 0.00		1	20 A		SPARE	22
23	SPARE		20 A	1			0.00 0.00	1	20 A		SPARE	24
25	SPACE	--	--	--	0.00 0.00			--	--	--	SPACE	26
27	SPACE	--	--	--		0.00 0.00		--	--	--	SPACE	28
29	SPACE	--	--	--			0.00 0.00	--	--	--	SPACE	30
31	SPACE	--	--	--	0.00 0.00			--	--	--	SPACE	32
33	SPACE	--	--	--		0.00 0.00		--	--	--	SPACE	34
35	SPACE	--	--	--			0.00 0.00	--	--	--	SPACE	36
37	SPACE	--	--	--	0.00 0.00			--	--	--	SPACE	38
39	SPACE	--	--	--		0.00 0.00		--	--	--	SPACE	40
41	SPACE	--	--	--			0.00 0.00	--	--	--	SPACE	42
		TOTAL LOAD:			2.01 kVA	0.89 kVA	1.37 kVA					
		TOTAL AMPS:			8 A	3 A	5 A					

TOTAL CONNECTED LOAD: 4.27 kVA
TOTAL CONNECTED AMPS: 8 A

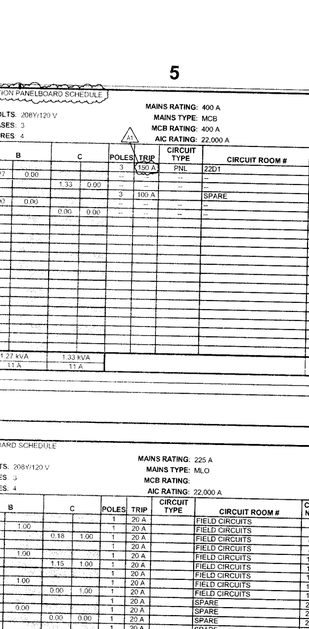
NOTES:
1. MODIFY AIC AS REQUIRED PER SPECIFICATION SECTION 260574.99
2. PROVIDE INTEGRAL SPD.

GENERAL LIGHTING NOTES

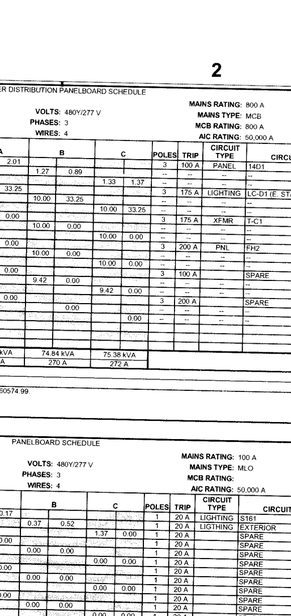
#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING PLAN NOTES

#	NOTES
1	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-D3.



4A POWER PLAN - UNIT D
1/4" = 1'-0"



2A LIGHTING PLAN - UNIT D
1/4" = 1'-0"

SCHMIDT ASSOCIATES
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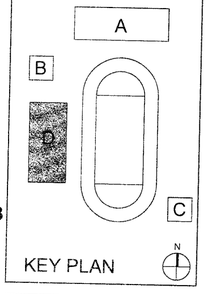
Project No. 2015-121.LCS
Project Date 04.18.2016
Produced SACM/JAR

WAYNE S. SCHMIDT REGISTERED NO 32631 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	ADDENDUM NO. 1	04.29.2016

7300 E. 56th Street
Indianapolis, IN 46226

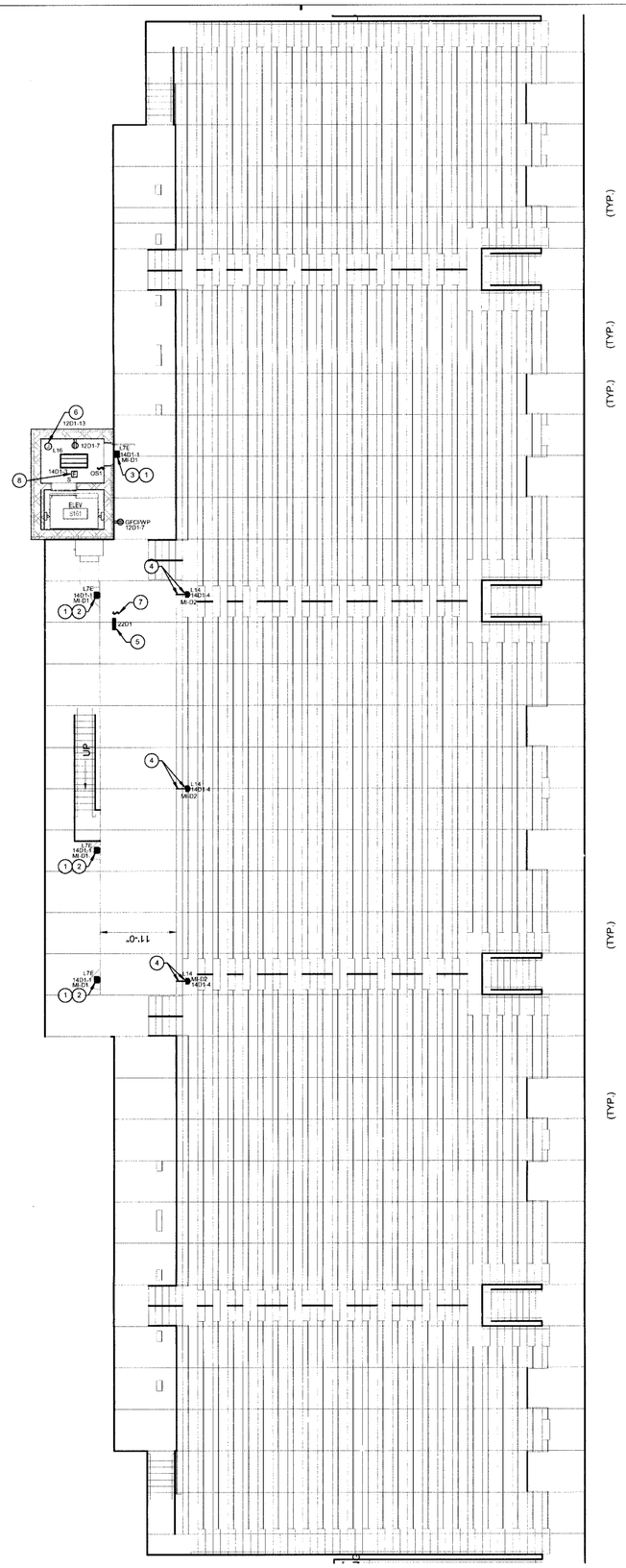


MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

LIGHTING & POWER PLANS - UNIT D

EL1D1



3A **LIGHTING & POWER - PRESSBOX/BLEACHERS**
1/8" = 1'-0"

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

GENERAL LIGHTING NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING & POWER PLAN NOTES

#	NOTES
1	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-D1.
2	FIXTURE MOUNTED ABOVE DOOR TO PRESSBOX.
3	FIXTURE MOUNTED ABOVE ELEVATOR DOOR.
4	FIXTURE MOUNTED TO PRESSBOX WITH 24" POLE. COORINDATE LOCATION WITH PRESSBOX PRIOR TO INSTALLATION. INSTALL FIXTURE ABOVE PRESSBOX WINDOWS AND BELOW LANDING ON TOP OF PRESSBOX.
5	VERIFY EXACT LOCATION OF PRESS BOX PANELBOARD WITH PRESS BOX MANUFACTURER.
6	CIRCUIT CONNECTION FOR EAC.
7	SWITCH FOR L14 FLOOD LIGHTS ON PRESSBOX. VERIFY LOCATION IN PRESSBOX PRIOR TO INSTALLATION.
8	120 VOLT STAND-ALONE SMOKE DETECTOR WITH AUXILIARY CONTACTS FOR ELEVATOR RECALL.

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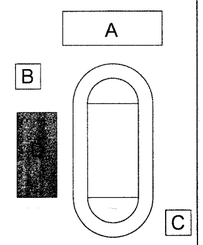

KEY PLAN

MSD OF LAWRENCE TOWNSHIP

LC EXTERIOR FACILITY UPGRADES - BP2

LIGHTING & POWER PLANS - PRESSBOX/BLEACHERS

EL1D2