STRUCTURAL ASSESSMENT OF THE CONSOLIDATION JAIL PROJECT

1400 ST. ANTONIE
DETROIT, MICHIGAN 48226

NOVEMBER 16, 2016

PREPARED FOR:
WAYNE COUNTY BUILDING AUTHORITY
500 GRISWOLD
DETROIT, MICHIGAN 48226

Mannik Smith GROUP

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1400 ST. ANTONIE
DETROIT, MICHIGAN 48226

NOVEMBER 16, 2016

PREPARED BY: _____
FELICIA R. KOCH
PROJECT ENGINEER

REVIEWED BY: _____
FRANCIS J. BIEHL, P.E.
SENIOR PROJECT MANAGER

Mannik Smith GROUP

November 16, 2016

Karla Henderson
CC: Steve Ohm
Wayne County Building Authority
500 Griswold
Detroit, Michigan 48226

RE: Structural Assessment of the Consolidation Jail Project
1400 St. Antonie
Detroit, Michigan 48226
MSG Project No: W2470001

Dear Karla Henderson:

We have completed our structural assessment for the proposed continuation of the Wayne County Jail Project in Detroit, Michigan. Based on the results of our evaluations, we have developed recommendations for proceeding with further construction. Our investigation, evaluation and recommendations are detailed in the attached report.

We trust that this report addresses your project needs. We appreciate the opportunity to work with you on this very important project and look forward to providing additional services in the future. Please contact us if you have any questions or if we can be of further assistance.

Sincerely,
The Mannik & Smith Group, Inc.

Felicia Koch
Project Engineer

Francis J. Biehl, P.E.
Senior Project Manager

Enclosures

Submitted: One (1) Electronic Copy via email
File

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EXECUTIVE SUMMARY

The Mannik & Smith Group, Inc., (MSG) was retained by the Wayne County Building Authority to conduct a structural assessment and conditions report for the Wayne County Authority Consolidated Jail Project in Detroit, Michigan. A summary of the findings and recommendations are presented below:

- Our field investigation consisted of observing the entire site and assessing it in building sections. The daily field reports and photo log are divided into these sections referring to the original building plans (Area A, Area B, etc.). Our assessment presented in this report is broken into construction material sections (Structural Steel, Masonry, and Concrete) and methods of assessment (Survey and Sewer Assessment). A survey of the first and second floor slabs was completed to obtain as-built elevations to inspect for any deviations from the specifications. All elevation deviations found were due to concrete slab finishing and are all within tolerance of the project and ACI specifications.

- MSG inspectors performed a visual inspection of the steel by scraping or brushing the layer of oxidation off and looking for any signs of damage or section loss. MSG inspected every member for section loss and anything that would impact structural integrity, to which they found none. MSG suggests the oxidation on structural steel members and cast-in-place (C.I.P.) steel plates where welding will take place to be sandblasted or removed by hand and power tools or by another method before continuing construction. Galvanized structural steel and pan decking on-site was in excellent condition and does not require any further cleaning or inspection before construction continues.

- A visual inspection was performed on completed and partially completed CMU walls. Inspectors looked for any cracks or bulges and checked for alignment and for any signs of movement. This assessment found no evidence of movement or structural integrity concerns with the masonry walls; however, there was some efflorescence present on the CMU walls. The efflorescence present does not appear to have caused any structural issues with the CMU walls. MSG suggests the efflorescence be cleaned off the surfaces before continuing construction and to further prevent efflorescence from occurring.

- Hairline cracking can be seen throughout the concrete on-site; however, no major cracking due to deflection, flexural, or settlement. Hairline cracking is normal to a certain extent in concrete. The joints throughout the site appear to be excellent condition. There are some expansion cracks present in the C.I.P. concrete walls and slabs and in the CMU walls throughout the site, which is expected of any new construction. The cracking throughout the site is of no structural concern.

- There appears to be no issue with internal corrosion or degrading of the steel reinforcement. There is only oxidation present where the steel reinforcement has been exposed to the elements for the length of time that construction on the site has been idle. Any rust “bleeding” seen on sight is from the oxidation on the exposed reinforcement at uncompleted cold joints and not from inside the completed slabs, walls, and columns. There is surface discoloration on the tops and running down the sides of the unfinished columns, due to the oxidation on the exposed rebar at the top and when it rained and snowed, the rust-colored water ran down the sides of the column and left the rust color on the columns. This is only visually on the surface and has not compromised the strength of the concrete.

- Installed and uninstalled jail cell units on-site and the cells at International Precast Solution location are in good condition.

- A video inspection was completed of the installed storm and sanitary sewer pipelines on site. The results of this investigation revealed no issues (i.e. cracking, leaking joints, etc.) with the installed sanitary and storm sewer pipelines.

This Executive Summary articulates selective findings and recommendations and is provided solely for the purposes of overview and should not be counted upon to provide details in its entirety for the feasibility evaluation of the proposed project.

1.0 PROJECT DESCRIPTION

The purpose of this investigation was to perform an on-site assessment and produce a condition report for the Wayne County Building Authority on the current condition of the Wayne County Authority Consolidated Jail Project, located at 1400 St. Antoine in Detroit, Michigan. Construction at the Site was discontinued on or about June 10, 2013. This assessment is to verify that the installed improvements are suitable for continuation of construction work.

2.0 INVESTIGATION PROCEDURES

Our investigation consisted of a visual and physical inspection by a team of MSG inspectors. MSG inspectors that performed the assessment on-site have years of experience on inspecting structural steel, concrete, and masonry construction. MSG's team of inspectors was led by David K. Wehner, a Senior Construction Engineer, who has more than 29 years in the construction engineering field and is a licensed professional engineer in Michigan and Ohio and a licensed residential builder in Michigan.

3.0 FIELD EXPLORATION

Our field investigation consisted of observing the entire site and assessed in sections. The daily field reports and photo log are divided into these sections referring to the original building plans (Area A, Area B, etc.). Our assessment presented in this report is broken into construction material sections (Structural Steel, Masonry, and Concrete) and methods of assessment (Survey and Sewer Assessment). Throughout this report and photo log, the Area zones (A, B, C, etc.) from the original plans are referenced. A copy of these plans for the sub-basement, basement, first and second floors is presented in Appendix A.

3.1 Structural Steel Assessment

Our investigation of the structural steel followed AISC (American Institute of Steel Construction) 303-10 *Code of Standard Practice for Steel Buildings and Bridges* in procedure and inspection. MSG inspectors performed a visual inspection of the steel by scraping or brushing the layer of oxidation off and looking for any signs of damage or section loss. Area G contains a partially completed structural steel building exposed to the elements, as can be seen in *Figure 1*. MSG inspected every member for section loss and anything that would cause structural integrity, to which they found none.

Figure 1: Area G Structural Steel Building (Photo log Image #180)

In the sub-basement, due to heavy rain fall and two of the permanent in-place sump pumps losing power there had been approximately 22 inches of water collected in the sub-basement at one point in time (depth measured from the water line marks left on the walls). All the water since has been removed after the sump pump intakes were cleaned and power restored. This rain water caused the oxidation at the base of the structural columns, as can be seen in *Figure 2*. After scraping and brushing the oxidation off, MSG inspected visually for any section loss or corrosion issues. There appeared to be no damage to the steel besides the oxidation that occurred on the surface.

Figure 2: Area G Basement Column Oxidation (Photo log Image #214)

MSG suggests the oxidation on structural steel members and cast-in-place (C.I.P.) steel plates where welding will take place to be sandblasted or removed by hand and power tools or by another method before continuing construction in accordance to ISO (International Organization of Standardization) 8501 *Preparation of Steel Substrates before Application of Paints and Related Products*. MSG is uncertain of the state of the structural steel after installation; if it will be painted or coated with fire protection, further cleaning maybe necessary. After the oxidation has been removed, MSG highly advises to further inspect the steel members for pitting or corrosion that would further compromise the strength of the steel.

Galvanized structural steel and pan decking on-site was in excellent condition and does not require any further inspection before construction continues.

3.2 Masonry Assessment

Our inspection of the masonry conditions on-site followed the ACI (American Concrete Institute) 530-02/ASCE (American Society of Civil Engineers) 5-02/TMS (The Masonry Society) 402-02 *Building Code Requirements for Masonry Structures* and ACI 530.1-02/ASCE6-02/TMS 602-02 *Specification for Masonry Structures*. There are several completed and partially completed Concrete Masonry Unit (CMU) walls throughout the site, including the Southwest wall in Area A in *Figure 3*. A visual inspection was performed on completed and partially completed CMU walls.

Figure 3: Area A Southwest Exterior Wall (Photo log Image #6)

Inspectors looked for any cracks or bulges and checked for alignment and for any signs of movement. This assessment found no evidence of movement or structural integrity concerns with the masonry walls; however, there was some efflorescence present on the CMU walls, as seen in *Figure 4*. Efflorescence is due to excess moisture, and in this case from being exposed to the elements since construction on the site became idle. The efflorescence present does not appear to have caused any structural issues with the CMU

walls. MSG suggests the efflorescence be cleaned off the surfaces before continuing construction and to further prevent efflorescence from occurring in accordance with ASTM (American Society for Testing and Materials) C1400 *Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls*.

Figure 4: Area A Partial CMU wall (Photo log Image #5)

3.3 Concrete Assessment

Our investigation followed the ACI 201.1R-92 *Guide for Making a Condition Survey of Concrete in Service* and ACI 364.1R-94 *Guide for Evaluation of Concrete Structures Prior to Rehabilitation* for the concrete C.I.P. slabs, walls, and columns. The terminology used in this report to describe the condition of the concrete is in accordance with these ACI standards. Surface mapping, crack survey, and nondestructive testing were performed in accordance with ACI 207.3R-94 *Practices for Evaluation of Concrete in Existing Massive Structures for Service Conditions*, ACI 228.2R-98 *Nondestructive Test Methods for Evaluation of Concrete in Structures,* and ACI 437R-91 *Strength Evaluation of Existing Concrete Buildings*. A sounding hammering or "echoing" technique was used to test the condition of the concrete around cracks, especially where efflorescence was present.

From the first floor looking at the bottom of the second floor slab a shadow effect can be seen of the layout of the rebar. This shows there is very little cover for the rebar. There is no discoloration in the concrete or rust bleeding present; therefore, this shadow effect is of no structural concern, just cosmetic. This shadow effect can be seen in *Figure 5* as the grid of the rebar can be seen ever so slightly. Review of the original construction plans and in reference to ACI 318-02/318R-02 (*Building Code Requirements for Structural Concrete*) for the concrete protection for reinforcement, the bottom reinforcement coverage in the second floor slab meets requirements and design.

Figure 5: Area F/F1, Re-steel Reflection (Photo log Image #175)

Hairline cracking can be seen throughout the concrete on-site; however, no major cracking due to deflection, flexural, or settlement. Hairline cracking is normal to a certain extent in concrete. The joints throughout the site appear to be excellent condition. There are some expansion cracks present in the C.I.P. concrete walls and slabs and in the CMU walls throughout the site, which is expected of any new construction. The cracking throughout the site is of no structural concern. Maps of the hairline cracks can be found in Appendix D. There was a large crack (dimensions of this crack have not be confirmed and possibly cannot due to the location) that is of some concern in Area D on the Southern side of the area at a column aligned with one of the basement openings, as can be seen in the *Figure 6* and *Figure 7* below. We recommend repair of this crack in accordance with ACI 224.1R *Causes, Evaluation, and Repair of Cracks in Concrete Structures* prior to the upcoming 2016-2017 Winter Season.

Figure 6: South Open Area to Small Basement Chamber (Photo log Image #80)

Figure 7: South Open Area to Small Basement Chamber, Crack Close-Up

Our investigation of the steel reinforcement followed the ACI 222R-01 *Protection of Metals in Concrete Against Corrosion*, ASTM A615/A615M *Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement* and ACI 318-02/318R-02 *Building Code Requirements for Structural Concrete*. There appears to be no issue with internal corrosion or degrading of the steel reinforcement. There is only oxidation present where the steel reinforcement has been exposed to the elements for the length of time that construction on the site has been idle. Any rust "bleeding" seen on sight is from the oxidation on the exposed reinforcement at uncompleted cold joints and not from inside the completed slabs, walls, and columns. Straightening of bent rebar, as depicted in several photographs in Appendix C, should occur in accordance with ACI 318 *Building Code Requirements for Structural Concrete and Commentary*.

There is surface discoloration on the tops and running down the sides of the unfinished columns, due to the oxidation on the exposed rebar at the top and when it rained and snowed, the rust-colored water ran down the sides of the column and left the rust color on the columns. This is only visually on the surface and has

not compromised the strength of the concrete, as can be seen in *Figure 8*. The same has occurred where rebar is exposed at cold joints, as in *Figure 9* at a column base on the second floor slab.

Figure 8: Oxidation on Top of Unfinished Columns (Photo log Image #127)

Figure 9: Oxidation at Base of Column on Second Floor Slab (Photo log Image #126)

In accordance with ACI 318-02, steel reinforcement with rust, mill scale, or a combination of both shall be considered satisfactory, providing the minimum dimensions and weight of a hand-wire-brushed test specimen comply with ASTM A615 *Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement*. "Tight" rust on reinforcing bars does not inhibit the bond between the reinforcement and the concrete; however, rust that flasks or can be brushed off is excessive and can inhibit the bond. MSG recommends the excessive rust on the steel reinforcement be sandblasted or removed by another method before continuing with concrete. The same should be done with any in place dowels and other embedment materials.

There was ponding water on the first and second floor slabs during our investigation. The issue was further investigated by survey for surface elevation. There are no structural issues with these ponding areas; it is just a result of the finish grade of the concrete being low in these areas.

3.4 Elevator Shafts and Stair Towers

An assessment was completed of the elevator shafts and stair towers installed on-site. The elevator shafts and stair towers in Area E and D are constructed of C.I.P. concrete, and the elevator shafts and stair towers in Area G are constructed of CMU. All elevator shafts and stair towers were well constructed and are currently in excellent condition. There is no evidence of unexpected cracking, displacement, or any damage

from being exposed to the elements for the set amount of time since construction on the site became idle. There is no structural concern with these shafts and towers.

3.5 Jail Cell Units Assessment

An assessment was completed for all installed and stored jail cell units on-site and for the cells stored at International Precast Solution (I.P.S.) location. MSG counted 120 installed and 14 uninstalled units on-site. At the I.P.S. site, MSG counted 109 jail cell units. All units were in good condition, with the exception of a unit at the I.P.S. location which was damaged beyond repair and which appeared to be a demo or test unit being used by electrical and mechanical contractors to determine suitable arrangement of mechanical and electrical features on the backside of the cell. There were two other units, one on-site and one off-site each with minor cosmetic damage (e.g. eight-inch diameter chip). The minor cosmetic damage can be repaired in accordance with the manufacturer's recommendations (which is likely to be in accordance with ACI 546 *Concrete Repair Guide*).

3.6 Survey Assessment

A survey of the structure was conducted to check that the partially cantilevered slab sections supported by scaffolding and other slabs have not experienced any deflection over time. New survey control points were first set for this assessment and possibly for further construction as the original survey control points set in support of the original construction could not be located. The survey data is provided in Appendix E. These as-built elevations show that on the first floor there is no more than a tenth deviation from the design elevation (that is 0.1 feet or 1.2 inches) and no more than two tenths deviation from the design elevation on the second floor. These deviations are due to finishing of the slab and not from deflection. The current elevation of the partially cantilevered slab supported by scaffolding was of high priority and the greatest deviation present there was 0.11 feet. There is no evidence in cracking that this partially cantilevered slab is deflecting; these deviations are most likely due to concrete finishing. These deviations throughout the first and second floor slabs all fall within the tolerance presented in the project specifications in reference to ACI 117 *Specification for Tolerances for Concrete Construction and Materials.*

3.7 Storm, Sanitary, and Combined Sewer Assessment

As depicted in the "Utility Plan", Sheet Number CU-00-01, a copy of which is included in Appendix A, storm, sanitary and combined sewers were proposed along the eastern and western edges of the Site. Advanced Underground Services LLC (AUS) was on-site October 25, 2016 and November 1, 2016 to perform a video inspection of the storm, sanitary and combined sewer installed on the east side of the site (the proposed storm, sanitary and combined sewer on the west side of the site has not been installed).

During the initial inspection AUS confirmed that the a majority of the sewer system could not be video inspected due to the pipes and manhole structures being filled with water, debris and sediment likely due to the discharge of the sub-basement water into Manhole 3B and to a lesser extent there being a 3 to 4 inch opening or gap in the cover at Manhole 11. In addition, the video inspection could not be completed since three of the manhole structures were not visible (i.e. were buried). The exact locations of the structures were determined with a Schonstedt metal detector. The structure lids or covers were then exposed using hand tools (shovel and pick) in in order for the video inspection to continue.

MSG attained a fire hydrant water usage permit from the City of Detroit for water-jet washing and vacuuming of the sewer pipes before video inspection could continue. The cleaning of the sewers and video inspection was then performed on November 1, 2016. The results of this investigation revealed no issues (i.e. cracking, leaking joints, etc.) with the installed sanitary and storm sewer pipelines. Copies of the video inspection reports are contained in Appendix F. The videos are being provided under separate cover. Please note that additional cleaning may be required due to subsequent future discharges to Manhole 3B or due to removal of manhole lids.

4.0 SUMMARY OF ASSESSMENT

The table below provides a summary of the issues that should to be addressed before continuing construction. While not a structural concern, there are multiple locations with exposed, unsealed electrical conduit ends or termination points which likely are holding water. The water should be removed (by appropriate measures such as vacuuming) and the conduit ends sealed (e.g. use of a sealing agent such as Polywater FST Duct Seal or other suitable, industry standard measures).

Table 1: Summary of Issues

Issue	Area of Problem	Notes	Example Photos
Exposed re-bar	• Throughout the site	• Sandblasted before continuing with concrete • Bent re-bar and dowels need to be corrected or replaced	#56-57, #88, #91, #126, #130, #137, #144, #149, #151, #152
Efflorescence[1]	• Area A • Area D • Area E	• No structural concern • Clean off before continuing • Present in cracks on bottom of second floor, no structural concern	#5, #18, #20, #86-87, #89, #153, #162-163, #167
Oxidization[2]	• Throughout the site	• Exposed anchor bolts, dowels, and rebar are oxidized and need to be sandblasted before continuing with concrete • Structural steel need to be sandblasted where welding will take place	#22, #134-135, #157, #178-186, #189-201, #203-207
Watermarks	• Basement • Sub-basement	• 22" waterline on sub-basement wall • No structural concern, just visual	#210, #212, #213, #221-223
Cracks in slabs	• Throughout site	• Hairline cracks[3] in slabs • Concerns where larger cracks in thicker slabs	#29, #63-65, #82-84, #85-87, #89, #104-107, #133, #153, #162-164, #167-168, #183, #184
Cracks in walls	• Area D	• Minor diagonal cracks[4] and vertical cracking in C.I.P. walls, stress cracking is expected	#77, 80

[1]*Efflorescence* is a deposit of salts, usually white, formed on a surface, the substance having emerged in solution from within either concrete or masonry and subsequently been precipitated by evaporation (ACI 201.1R-92).
[2]*Oxidation* is corrosion; rusting; rust; chemically, the combining with oxygen (Allen 2009).
[3]*Hairline cracks* are cracks in an exposed concrete surface having widths so small as to be barely perceptible (ACI 201.1R-92).
[4]*Diagonal cracks* in a flexural member, an inclined crack caused by shear stress, usually at about 45 degree to the axis; or a crack in a slab, not parallel to either the lateral or longitudinal directions (ACI 201.1R-92).

5.0 SUMMARY OF STOCKPILES

There are multiple stockpiles with various supplies and materials throughout the site. It was made clear to MSG that a thorough inventory has already been taken of all the stockpiled supplies and materials on-site and taking inventory was not part of our assessment. We did take note of where the stockpiles are located and in what condition they appear to be in. Designated use of these materials would be between the County and future Contractor working on-site. The table below summarizes the condition of the materials and location of these stockpiles. In general, additional material storage protection measures (use of tarps, relocation of stored materials from open, unprotected areas to more protected areas, etc.) will be beneficial for those materials still potentially usable that are at least

partially exposed (e.g. stockpiles of materials that are under roof cover but placed on an unpaved surface and/or exposed to the elements due to no side walls).

Table 2: Summary of Stockpiles

Location	Materials	Example Photos
Area A	• CMU block - usable • 3" Owens corning Styrofoam - usable • Mortar and cement – not usable • Type N mortar, covered – usable • Nuts and bolts - unusable	#1, #3, #4, #7, #8, #10, #11, #12-14, #27-28
Area B	• CMU block – usable	#58
Area C	• Structural steel – possibly usable after sandblasting	#71-72
Area D	• Electrical Conduit in basement– majority usable	#96, #99
Area E	• Structural steel – possibly usable after sandblasting • Cells – majority in good condition, check for damages before using • Stored material, dowels, J-hooks, etc. - usable	#103, #140-143, #147, #154-156
Area F	• Electrical conduit and materials – in good condition and usable • Sprinkler and plumbing piping – usable • CMU ties - usable	#176-177
Area G	• Structural steel – possibly usable after sandblasting • CMU block - usable	#186
I.P.S. Site	• Cells in good condition, inspect individual units before using	#225-237

6.0 REFERENCES

1. *ACI Manual of Concrete Practices*, Vol. 1-6, American Concrete Institute International, Farmington Hills, MI, 2003.

    a. ACI 117, Specification for Tolerances for Concrete Construction and Materials

    b. ACI 201.1R-92, Guide for Making a Condition Survey of Concrete in Service

    c. ACI 207.3R-94, Practices for Evaluation of Concrete in Existing Massive Structures for Service Conditions

    d. ACI 222R-01, Protection of Metals in Concrete Against Corrosion

    e. ACI 228.2R-98, Nondestructive Test Methods for Evaluation of Concrete in Structures

    f. ACI 318-02/318R-02, Building Code Requirements for Structural Concrete

    g. ACI 364.1R-94, Guide for Evaluation of Concrete Structures Prior to Rehabilitation

    h. ACI 437R-91, Strength Evaluation of Existing Concrete Buildings

    i. ACI 530-02/ASCE 5-02/TMS 402-02, Building Code Requirements for Masonry Structures

    j. ACI 530.1-02/ASCE6-02/TMS 602-02, Specification for Masonry Structures

2. AISC 303-10, Code of Standard Practice for Steel Buildings and Bridges, American Institute of Steel Construction, Chicago, IL, 2010.

3. ASTM Standards, American Society of Testing and Materials, West Conshohocken, PA, 2003.

    a. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

    b. ASTM A615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

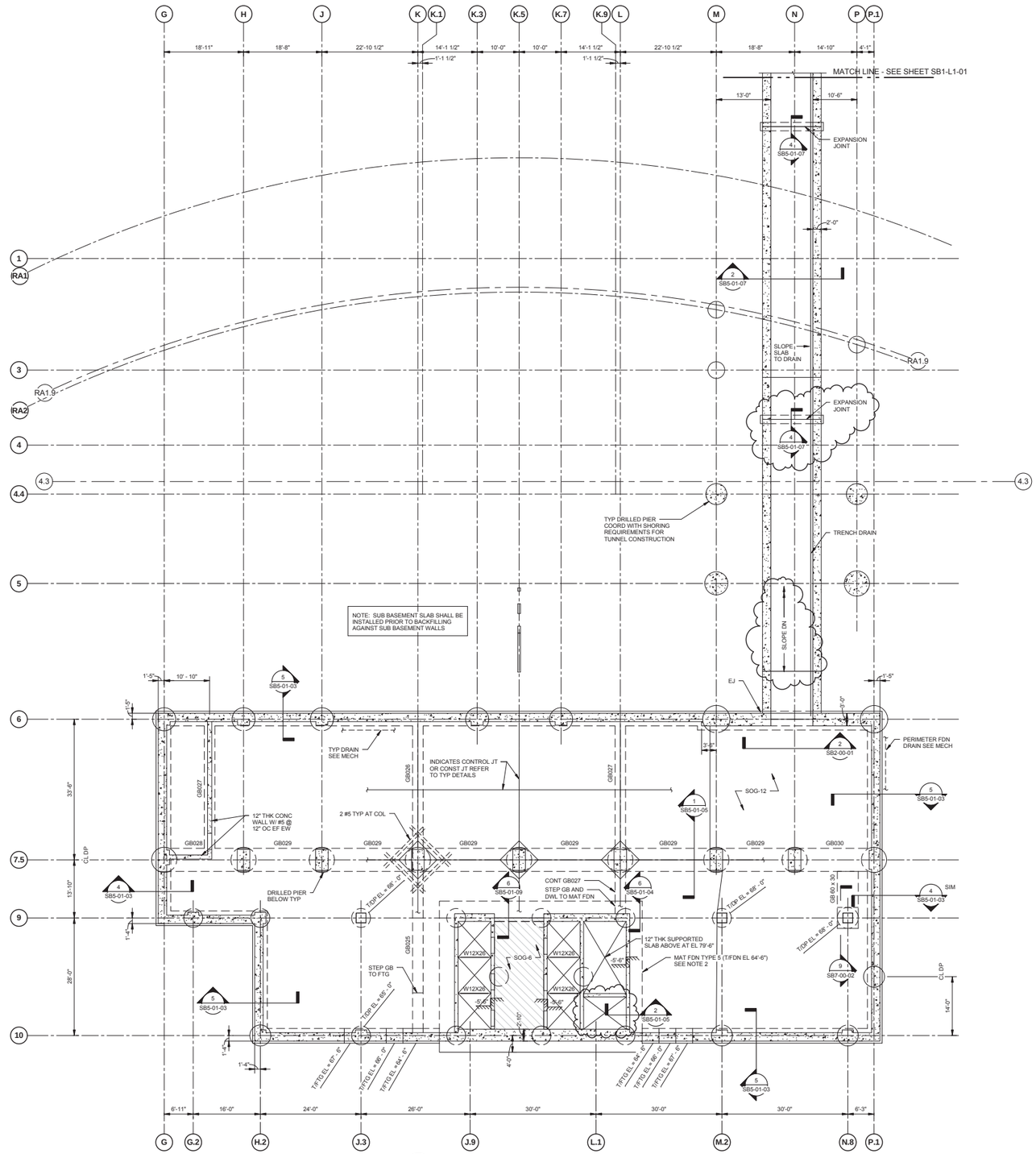
    c. ASTM C1400-98, Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls

4. Allen, Edward and Joseph Iano, *Fundamentals of Building Construction Materials and Methods*, John Wiley & Sons, Hoboken, NJ, 2009.

5. ISO 8501 Preparation of Steel Substrates before Application of Paints and Related Products, ISO/TC 35 SC 12, Ed. 2, International Standardization Organization, ISO Central Secretariat, CH – 1211 Genève 20, Switzerland, 2007.

APPENDIX A

PROJECT LAYOUT



SUB BASEMENT AREA 'B'

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

NORTH

FINISHED FLOOR EL 70'-0" UON
TOP OF FOOTING EL 69'-0" UON
TOP OF DRILLED PIER EL 66'-6" UON
TOP OF GRADE BEAM EL 69'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC, AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@ 12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @ 12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS.

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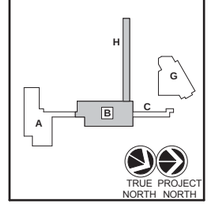
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
27	11/20/12	REVISION 17
16	07/05/12	REVISION 12
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

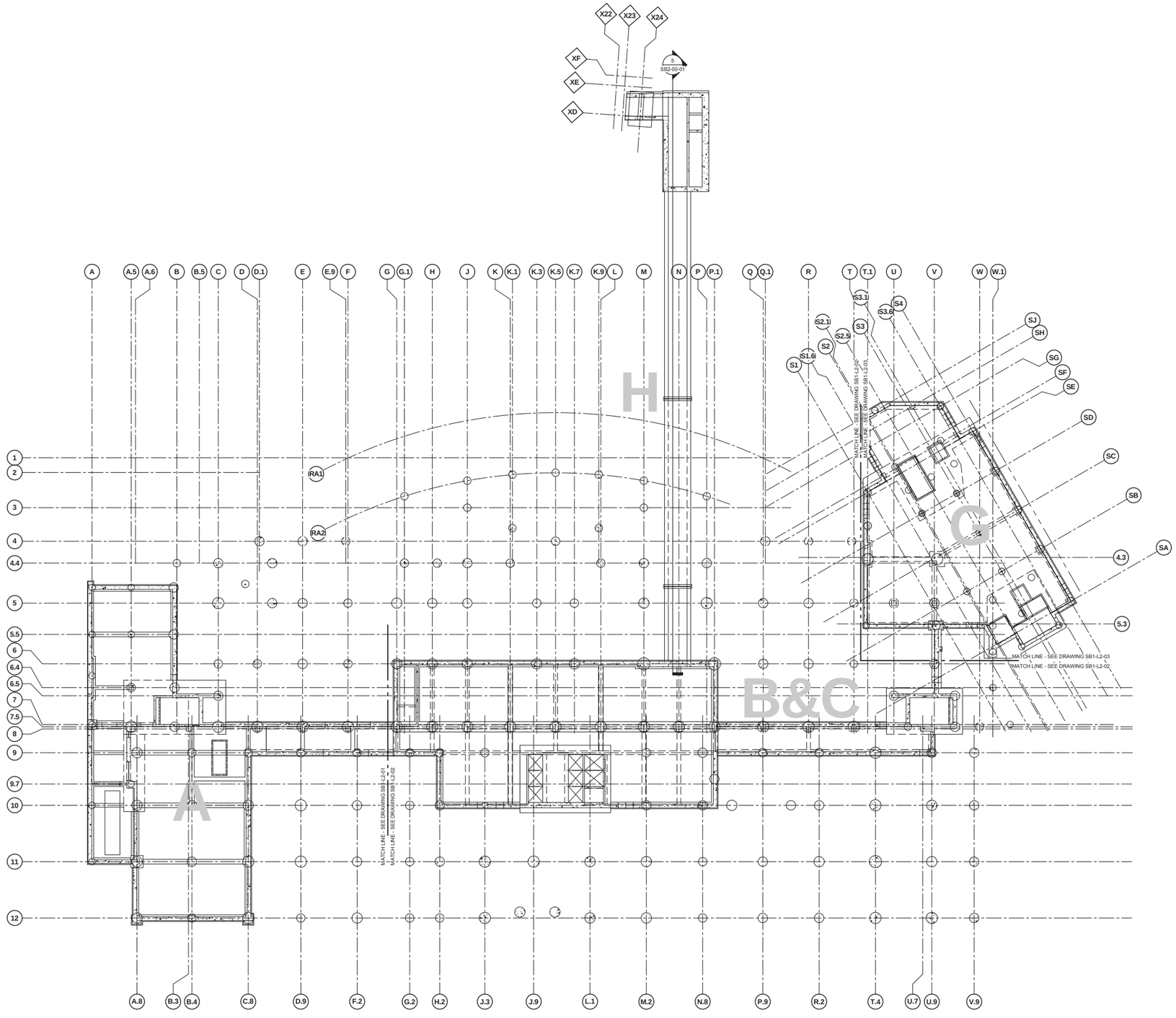
SHEET TITLE

STRUCTURAL FOUNDATION PLAN SUB BASEMENT AREA 'B'

SB1-L1-02

SHEET NUMBER

11/19/2012 2:41:31 PM



BASEMENT COMPOSITE PLAN
SCALE: 3/64" = 1'-0"
NORTH

ARCHITECTURE | ENGINEERING
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Wayne County
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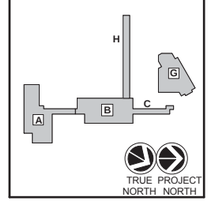
Detroit, MI

REV	DATE	ISSUED FOR
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



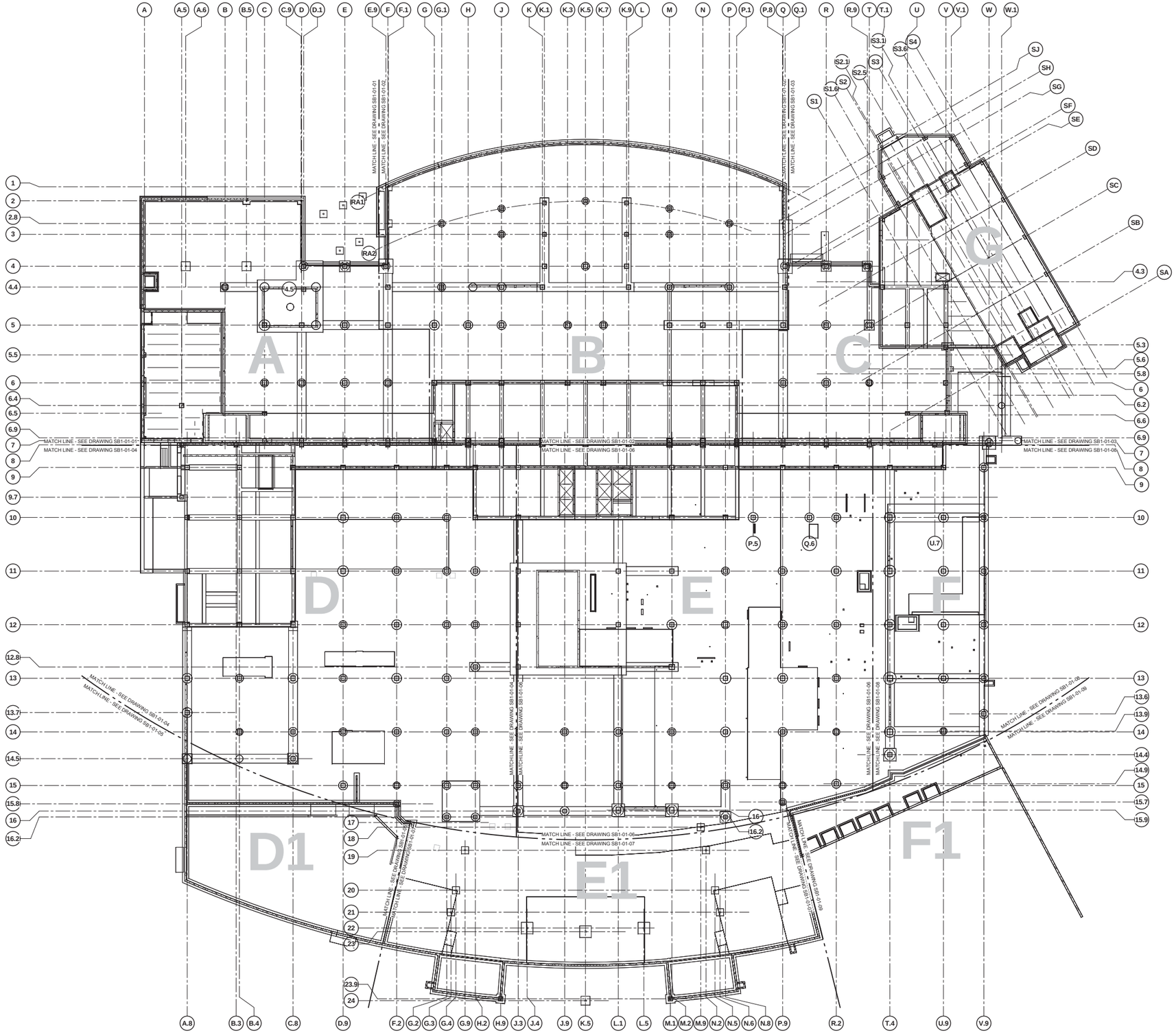
PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN BASEMENT COMPOSITE

SB1-L2-00
SHEET NUMBER

2/10/2012 2:23:34 PM



FIRST FLOOR COMPOSITE PLAN

SCALE: 3/64" = 1'-0"

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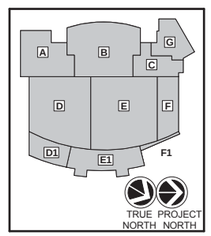
Detroit, MI

REV	DATE	ISSUED FOR
S	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



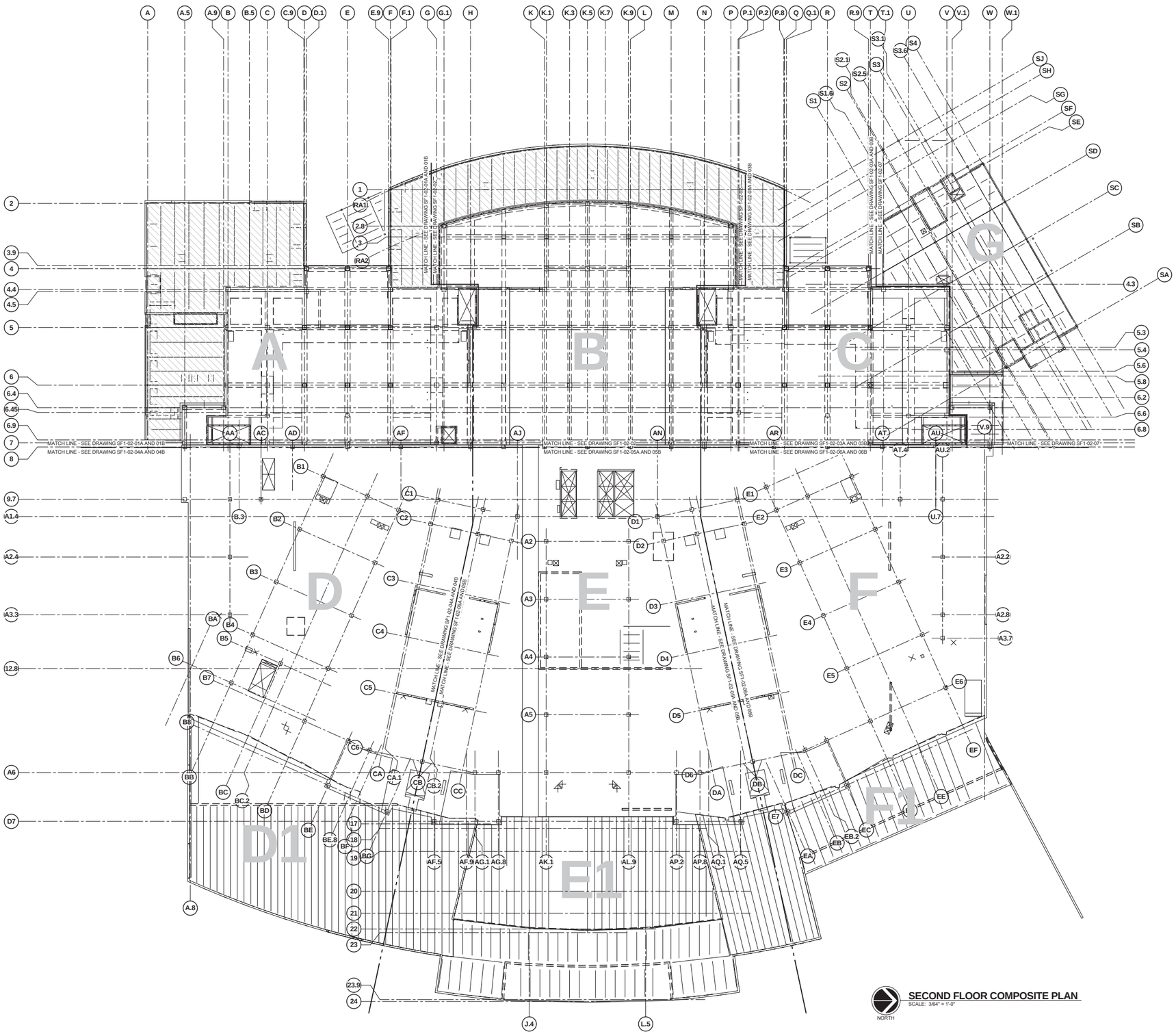
PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN FIRST FLOOR COMPOSITE

SB1-01-00
SHEET NUMBER

2/10/2012 3:23:06 PM



SECOND FLOOR COMPOSITE PLAN

SCALE: 3/64" = 1'-0"

NORTH

ARCHITECTURE | ENGINEERING

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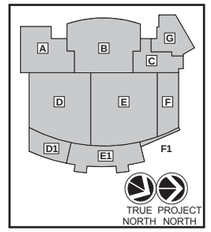
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
17	07/31/12	STRUCTURAL PODIUM PACKAGE
13	05/11/12	SUPERSTRUCTURE PERMIT SET
L	04/10/12	STRUCT. STL. PROCUREMENT, ELEVATOR & CIVIL
K	03/23/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE UPDATE
J	03/09/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

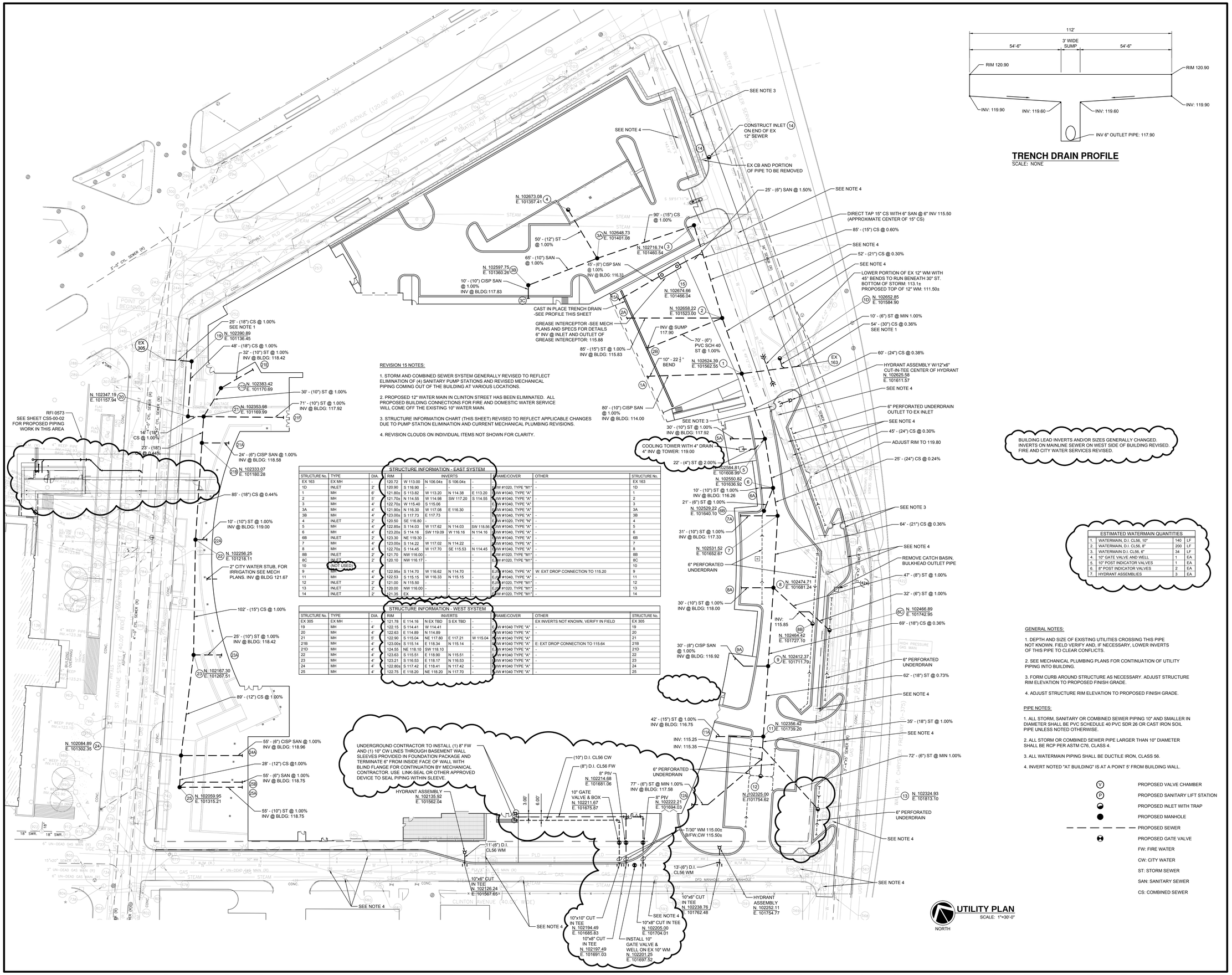
SHEET TITLE

STRUCTURAL FRAMING PLAN SECOND FLOOR COMPOSITE

SF1-02-00

SHEET NUMBER

7/30/2012 5:58:49 PM



STRUCTURE INFORMATION - EAST SYSTEM

STRUCTURE No.	TYPE	DIA.	RIM	INVERTS				FRAME/COVER	OTHER	STRUCTURE No.
EX 163	EX MH	-	120.72	W 113.00	N 106.04±	S 106.04±	-	-	-	EX 163
1D	INLET	2'	120.90	S 116.90	-	-	-	EJIW #1020, TYPE "M1"	-	1D
1	MH	6'	121.80±	S 113.82	W 113.20	N 114.38	E 113.20	EJIW #1040, TYPE "A"	-	1
2	MH	5'	121.70±	N 114.55	W 114.98	SW 117.20	S 114.55	EJIW #1040, TYPE "A"	-	2
3	MH	4'	122.70±	W 115.40	S 115.06	-	-	EJIW #1040, TYPE "A"	-	3
3A	MH	4'	121.90±	N 116.30	W 117.08	E 116.30	-	EJIW #1040, TYPE "A"	-	3A
3B	MH	4'	123.00±	S 117.73	E 117.73	-	-	EJIW #1040, TYPE "A"	-	3B
4	INLET	2'	120.50	SE 116.80	-	-	-	EJIW #1020, TYPE "N"	-	4
5	MH	4'	122.85±	S 114.03	W 117.62	N 114.03	SW 118.55	EJIW #1040, TYPE "A"	-	5
6	MH	4'	123.20±	S 114.16	SW 119.09	W 116.16	N 114.16	EJIW #1040, TYPE "A"	-	6
6B	INLET	2'	123.30	NE 119.30	-	-	-	EJIW #1040, TYPE "A"	-	6B
7	MH	4'	123.00±	S 114.22	W 117.02	N 114.22	-	EJIW #1040, TYPE "A"	-	7
8	MH	4'	122.70±	S 114.45	W 117.70	SE 115.53	N 114.45	EJIW #1040, TYPE "A"	-	8
8B	INLET	2'	121.70	NW 116.00	-	-	-	EJIW #1020, TYPE "M1"	-	8B
8C	INLET	2'	120.10	NW 116.17	-	-	-	EJIW #1020, TYPE "M1"	-	8C
10	(NOT USED)									10
9	MH	4'	122.95±	S 114.70	W 116.62	N 114.70	-	EJIW #1040, TYPE "A"	W: EXT DROP CONNECTION TO 115.20	9
11	MH	4'	122.53	S 115.15	W 116.33	N 115.15	-	EJIW #1040, TYPE "A"	-	11
12	INLET	2'	121.00	N 115.50	-	-	-	EJIW #1020, TYPE "M1"	-	12
13	INLET	2'	120.00	NW 116.00	-	-	-	EJIW #1020, TYPE "M1"	-	13
14	INLET	2'	121.35	EX	-	-	-	EJIW #1020, TYPE "M1"	-	14

STRUCTURE INFORMATION - WEST SYSTEM

STRUCTURE No.	TYPE	DIA.	RIM	INVERTS				FRAME/COVER	OTHER	STRUCTURE No.
EX 305	EX MH	-	121.78	E 114.16	N EX TBD	S EX TBD	-	-	EX INVERTS NOT KNOWN, VERIFY IN FIELD	EX 305
19	MH	4'	122.15	S 114.41	W 114.41	-	-	EJIW #1040 TYPE "A"	-	19
20	MH	4'	122.63	E 114.89	N 114.89	-	-	EJIW #1040 TYPE "A"	-	20
21	MH	5'	122.90	S 115.04	NE 117.80	E 117.21	W 115.04	EJIW #1040 TYPE "A"	-	21
21B	MH	4'	123.00±	S 115.14	E 118.34	N 115.14	-	EJIW #1040 TYPE "A"	E: EXT DROP CONNECTION TO 115.64	21B
21D	MH	4'	124.55	NE 118.10	SW 118.10	-	-	EJIW #1040 TYPE "A"	-	21D
22	MH	4'	123.63	S 115.51	E 118.90	N 115.51	-	EJIW #1040 TYPE "A"	-	22
23	MH	4'	123.21	S 116.53	E 118.17	N 116.53	-	EJIW #1040 TYPE "A"	-	23
24	MH	4'	122.80±	S 117.42	E 118.41	N 117.42	-	EJIW #1040 TYPE "A"	-	24
25	MH	4'	122.75	E 118.20	NE 118.20	N 117.70	-	EJIW #1040 TYPE "A"	-	25

ESTIMATED WATERMAIN QUANTITIES

1.	WATERMAIN, D.I. CL56, 10"	140	LF
2.	WATERMAIN, D.I. CL56, 8"	200	LF
3.	WATERMAIN D.I. CL56, 6"	34	LF
4.	10" GATE VALVE AND WELL	1	EA
5.	10" POST INDICATOR VALVES	1	EA
6.	8" POST INDICATOR VALVES	2	EA
7.	HYDRANT ASSEMBLIES	3	EA

DESIGNER

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Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
32	05/01/13	REVISION 20
23	10/16/12	REVISION 15
21	09/05/12	CIVIL PERMIT DRAWING UPDATE
9	04/10/12	Struct, Sd, Procurement, Elevator & Civil
H	11/14/11	DESIGN DEVELOPMENT

TRUE PROJECT NORTH NORTH

PROJECT #	107301
PROJECT MANAGER	S.H.
DESIGNED BY	D.P.
DRAWN BY	D.C.
QUALCHECK	
SHEET TITLE	

UTILITY PLAN

CU1-00-01
SHEET NUMBER

APPENDIX B

DAILY FIELD REPORTS

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	1
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/5/16	**Day:**	Wednesday	**Temp:**	68	**a.m.**	70	**p.m.**
MSG CQA Personnel:		David Wehner Andrew Mikolajczk Felicia Koch Francis Biehl		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

Area A Notes
- No cracking in CMU walls-good qualities
- Heavy moisture and efflorescence all CMU walls on interior (no structural concern)
- All structural steel good – little oxidation
- Large stockpile of 3 feet Styrofoam, Larger stockpile of block and mortar and cement (most mortar and cement no good)
- Exposed re-bar at top of C.I.P. walls and at foundation. Needs to be sandblasted before pour.
- Minor slab cracking
- No issues with basement area

Area B Notes
- Footing concrete looks good and Columns look good
- Many bent re-bar dowels in open area
- Slab area-standing water and ¾' low in large south/center (3 sets), Many slab cracks running east-west

Area C Notes
- Much like area 'B' with caissons caps, re-bar out of caps and footing needs to be sandblasted before pour.
- Large stockpile structural steel
- One unfinished column (U.7/7)

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type

Supervisor:	

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	2
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/7/16	**Day:**	Friday	**Temp:**	29	**a.m.**	70	**p.m.**
MSG CQA Personnel:		David Wehner Andrew Mikolajczk		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

Area D Notes

- All concrete columns are in good conditions
- Concerns with cracks in thick slabs
- Limited cover on bottom re-bar of second floor slab (average ¾" +/-)
- Some minor vertical and angled cracking on C.I.P. concrete walls

Basement

- No structural, electrical, or mechanical concerns
- Minor ceiling cracking in-line with documents first floor marked cracks

Area E

- Inspected first floor slab in Area 'E'
- Found several cracks (hairline stress cracks) in limited slab (1st floor) Area 'E' (see marked up plan sheet)
- Viewed stored material in Area 'E'

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	3
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/11/16	**Day:**	Tuesday	**Temp:**	60	**a.m.**	66	**p.m.**
MSG CQA Personnel:		David Wehner Andrew Mikolajczk		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

Second Floor Slab

- Number of Cell Units
  - One of nine rows of 16x6 = 96 cells (48 double units) are installed
  - 4x16 = 24 cells (12 double units) installed
  - Total 120 cells – precast installed on-site
  - Total project = 960 required. Total not installed 840.
- All installed cells (pre-cast) look good, no deterioration or structural concern
- The 2' – 8.5" thick C.I.P. slab is in good condition with some small cracking, all being hairline and random. (see crack map sheet)
- Exposed anchor bolts and re-steel highly oxidized and need to be sandblasted if poured against.
- All tops of columns and tops of C.I.P. walls in good condition, with no visible concrete deterioration.
- Electrical conduits and sleeves through floor are in good condition.

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	4
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/12/16	**Day:**	Wednesday	**Temp:**	64	**a.m.**	75	**p.m.**
MSG CQA Personnel:		David Wehner Andrew Mikolajczk		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

Area E
- Completed investigation of columns, steel framing, and bottom side of second floor slab, and C.I.P. walls
- No structural concerns or deteriorated areas noted (see photos)

Area F
- Completed investigation of all columns, C.I.P. walls, and bottom of slab (second floor)
- No structural concerns or deteriorations (see photos)
- Note: Extensive storage of electrical materials on grade in this area (very high value)

Area G
- Completed full investigation of complete structure (masonry walls, C.I.P. walls, steel structure, stair and elevator shafts, basement and sub-basement, and slabs)
- Based on oxidization and water marker, the only concern noted was the 22" water that stood in the basement for long period of time.
- No structural concerns

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	5
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/13/16	**Day:**	Thursday	**Temp:**	51	**a.m.**	57	**p.m.**
MSG CQA Personnel:		David Wehner Andrew Mikolajczk		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

River Rouge-I.P.S.

- Visited pre-cast company (I.P.S.) site and visually inspected all pre-cast cell units in storage
- No significant issues noted
- Only several minor chips and cracks but no structural concerns.
- Some units finished but some not rubbed or painted and no accessories installed
- Double short units=58
- Double tall units=50
- 6 – units - two piece unit=1
- One damaged short unit used for mechanical and electrical demo unit.

Site Investigation

- Walked around entire site and looked at site plan and found majority of East combined storm and sewer system (see mark ups in plans)
- Placed lathe with pink tape on all found and opened M.H. (manhole) covers. Three manhole covers where not able to be located, assumed to be buried. MSG plans on doing further investigation to locate said manholes.

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	Report No.:	6
Project:	Assessment – Wayne County Jail Project	Job No.:	W2470001

Date:	10/14/16	Day:	Friday	Temp:	60	a.m.	60	p.m.
MSG CQA Personnel:		David Wehner Andrew Mikolajczk Felicia Koch Francis Biehl		Cloud Cover:		a.m.		p.m.
				Precipitation:		a.m.		p.m.
MSG Hours On-Site:				Contractors:				

Work Performed/Comments/Other Observations:

1. On-site meeting.
2. Review what inspection had been completed and punch list further work.
3. Did not go into sub-basement as planned due to the presence of water.
4. Walked site and reviewed with David and Andrew the condition of the structure and key points to be noted in the final report.

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	Geosynthetic Forms	☐	☒	Survey Info	☐	☒	
Photographs Taken	☒	☐	Sketch	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	Yes ☐ No ☐	If "no", why not:	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	7
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/17/16	**Day:**	Monday	**Temp:**	60	**a.m.**	60	**p.m.**
MSG CQA Personnel:		Andrew Mikolajczk Ilyes Benhamida Brad Woodworth		**Cloud Cover:**		**a.m.**		**p.m.**
				Precipitation:		**a.m.**		**p.m.**
MSG Hours On-Site:				**Contractors:**				

Work Performed/Comments/Other Observations:

Area G – Steel Inspection

- With lift, inspection in detail all structural steel installed
- Marked on plans what structural steel had been installed

Area D

- When moving lift, noticed a crack at the base of a column in the open basement area. See photo log and report

Survey

- Could not find original controls
- Established new controls
- Surveyed elevations of first and second floor slabs, including partially cantilevered slab

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

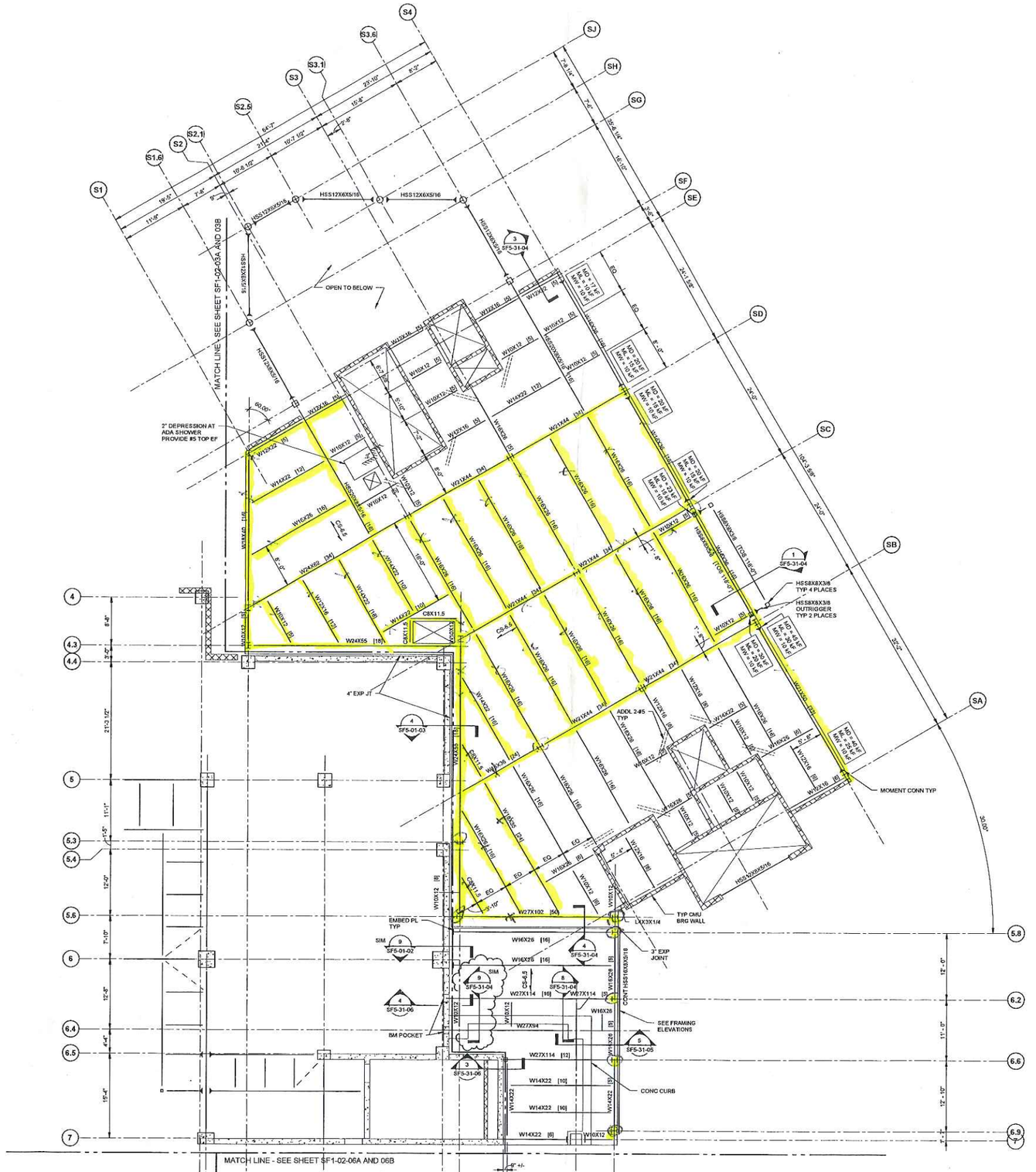
	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	



SECOND FLOOR FRAMING PLAN AREA 'G'

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

NORTH

FINISHED FLOOR EL 114'-0" UON
TOP OF STEEL EL 113'-5 1/2" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - 500-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-10-## FOR PRECAST CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC, AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

STEEL NOTES:

1. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.
2. AT FLOOR OPENINGS, THE DIMENSION FROM EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.
3. (X) INDICATES THE MINIMUM NUMBER OF 3/4" DIAMETER X 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS IN ACCORDANCE WITH AISC REQUIREMENTS.
4. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.

CS-6.5 — INDICATES 4 1/2" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W 6X6-W2.9XW2.9 WWF PLACED 1" FROM TOP

MD = XX kF	INDICATES BEAM END MOMENT DUE TO DEAD LOAD IN KIP-FT
ML = XX kF	INDICATES BEAM END MOMENT DUE TO LIVE LOAD IN KIP-FT
MW= XX kF	INDICATES BEAM END MOMENT DUE TO WIND LOAD IN KIP-FT

ARCHITECTURE | ENGINEERING

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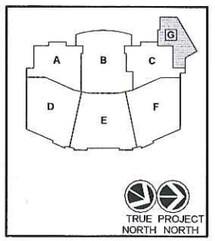
Wayne County
Consolidated Jail Facility
Detroit, MI

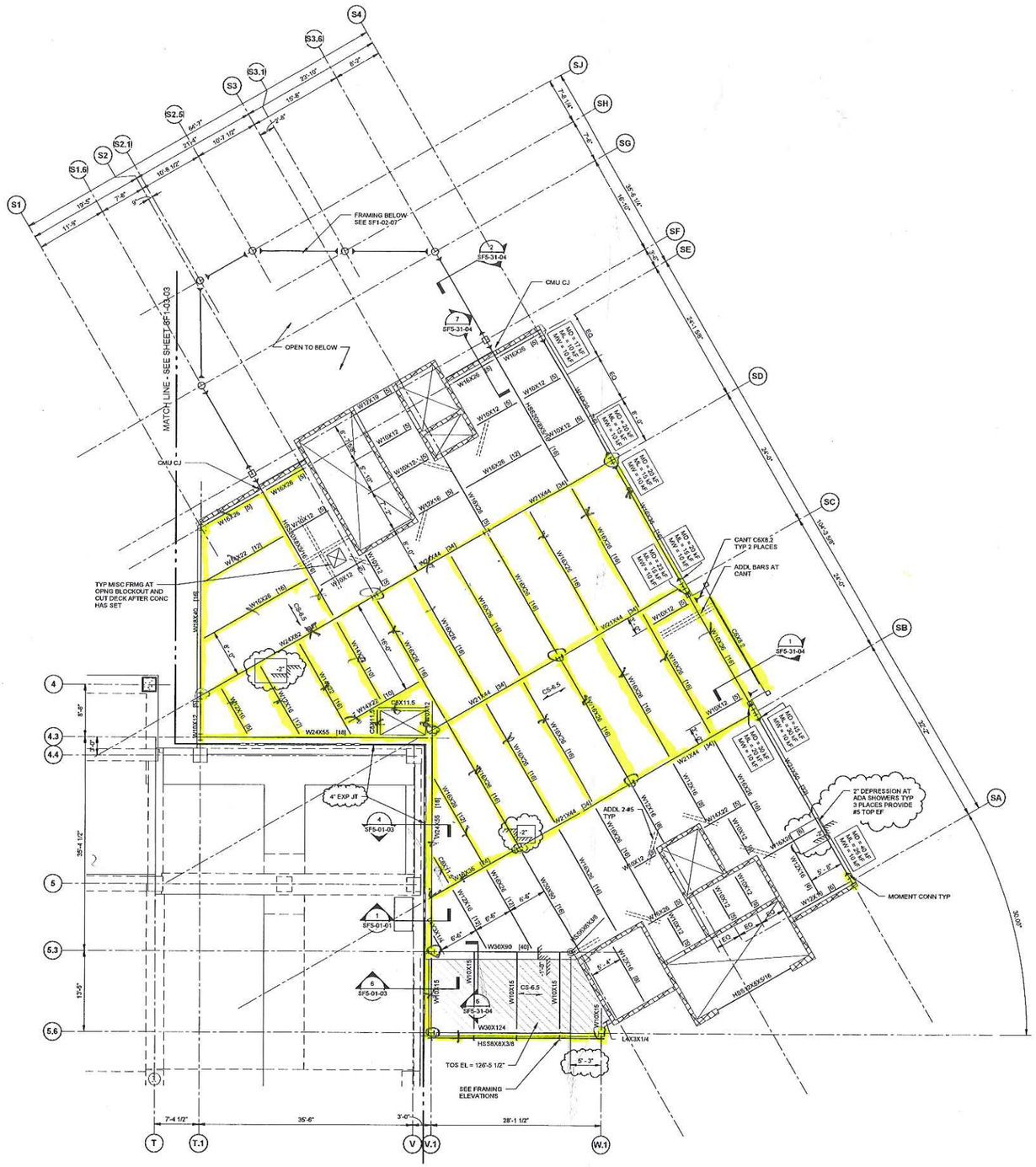
REV	DATE	ISSUED FOR
27	11/20/12	REVISION 17
23	10/16/12	REVISION 15
17	07/31/12	STRUCTURAL PODIUM PACKAGE
13	05/11/12	SUPERSTRUCTURE PERMIT SET
L	04/10/12	STRUCT. STL. PROCUREMENT, ELEVATOR & CIVIL
K	03/23/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE UPDATE
J	03/09/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FRAMING PLAN SECOND FLOOR AREA 'G'



THIRD FLOOR AREA 'G'

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

NORTH

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-10-## FOR PRECAST CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
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   - SF7-31-## FOR STEEL COLUMN SCHEDULES
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4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC, AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

CS-6.5 — INDICATES 4 1/2" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W/ 6X6-W2.9XW2.9 WWF PLACED 1" FROM TOP

MD = XX kF	INDICATES BEAM END MOMENT DUE TO DEAD LOAD IN KIP-FT
ML = XX kF	INDICATES BEAM END MOMENT DUE TO LIVE LOAD IN KIP-FT
MW= XX kF	INDICATES BEAM END MOMENT DUE TO WIND LOAD IN KIP-FT

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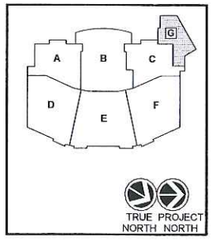
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
23	10/16/12	REVISION 15
17	07/31/12	STRUCTURAL PODIUM PACKAGE
13	05/11/12	SUPERSTRUCTURE PERMIT SET
L	04/10/12	STRUCT. STL PROCUREMENT, ELEVATOR & CIVIL
K	03/23/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE UPDATE
J	03/09/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FRAMING PLAN THIRD FLOOR AREA 'G'

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	8
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	10/25/16	**Day:**	Tuesday	**Temp:**	42	**a.m.**	60	**p.m.**
MSG CQA Personnel:		Kazimierz Luszczki		**Cloud Cover:**	Sunny	**a.m.**		**p.m.**
				Precipitation:	None	**a.m.**		**p.m.**
MSG Hours On-Site:		8:40 am – 10:45 am		**Contractors:**	Advanced Underground Services			

Work Performed/Comments/Other Observations:

1. MSG observed the contractor videotape the underground sewer pipe lines from MH #3 to MH#2. Vision from camera was not clear due to the conditions (dark water about 4" – 5" deep and sedimentation on sides where water level had been.
2. Video running from MH#3 to MH#3A was not possible – camera was stuck at about 3' from starting point.

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☒	☐	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures

Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	**Report No.:**	9
Project:	Assessment – Wayne County Jail Project	**Job No.:**	W2470001

Date:	11/1/16	**Day:**	Tuesday	**Temp:**	70	**a.m.**	75	**p.m.**
MSG CQA Personnel:	Andrew Mikolajczk Sara Jaafer			**Cloud Cover:**	Sunny	**a.m.**	sunny	**p.m.**
				Precipitation:	none	**a.m.**	none	**p.m.**
MSG Hours On-Site:	8:00am-2:40pm			**Contractors:**	Advanced Underground Inspection			

Work Performed/Comments/Other Observations:

- MSG arrived on-site to witness Advanced Underground Inspection water-jet and vac the pipes clean. Manhole 3B was left uncovered for the pumping and draining of the basement and there was gravel that had washed into the structure and had been swept into the pipe between 3B and 3A, likely about 3.5 – 4 feet. The issue was resolved when they cleaned the line, though it will likely be recurring while that manhole cover is off.
- MSG inspected Advanced Underground Inspection as they video inspected the pipelines
- Manhole 3A was entirely buried by about 18 inches of gravel, and dirt which MSG dug out, so Advanced could remove the manhole cover and finish the job. It was discussed that the sewer lines that were full of dirt were likely that way due to the act of pumping out the basement levels and discharging that water into the system.
- Crew pointed out the metal casing at Manhole 11 is not set well on the concrete structure and has about 3-4 inch gap between the casing and concrete which is allowing dirt and gravel to wash into the structure from the ground outside and if this is not taken care of, the pipe will need to be cleaned again.
- Additionally, there were no structures at MH 4 as well as at MH12, plans indicated inlet with trap at these locations and video observed those lines terminate with a 90 degree bend downward.
- MH #3 to MH #4 – pipe is good, stain from dirt indicates that this pipe was approx.. ¼ full of dirt at one point before cleaning
- MH #3 to MH #2 – pipe is good, stain from dirt indicates that the pipe was approx.. ½ full of dirt at one point before cleaning
- MH #2 to MH #2A – pipe is good, line terminates with a wooden board at the end
- MH #11 to MH #12 – pipe is good, terminates at 90 degree downward bend at #12, some dirt and gravel was present before cleaning from the casing at #11 having a gap between it and concrete structure
- MH #3A to MH #4 – pipe is good, terminates at a 90 degree bend downward at 4
- MH #3A to MH #3B – pipe is good, gravel at pipe at 3B was vacuumed out when line was cleaned
- MH #1 to MH #1A - pipe is good, cameras showed no errors or issues
- MH #5 to MH #5A - pipe is good, cameras showed no errors or issues
- MH #6 to MH #6A - pipe is good, cameras showed no errors or issues
- MH #7 to MH #7A - pipe is good, cameras showed no errors or issues
- MH #8 to MH #8A - pipe is good, cameras showed no errors or issues
- MH #9 to MH #9A - pipe is good, cameras showed no errors or issues

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
Advanced Underground Inspection	4 men	Shovel, pipeline camera
Supervisor:		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	**Geosynthetic Forms**	☐	☒	**Survey Info**	☐	☒	
Photographs Taken	☐	☒	**Sketch**	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

Problem Identification and Corrective Measures			
Resolved?	**Yes** ☐ **No** ☐	**If "no", why not:**	

CQA FIELD REPORT

Client:	Wayne County, Michigan	Report No.:	10
Project:	Assessment – Wayne County Jail Project	Job No.:	W2470001

Date:	11/4/16	Day:	Friday	Temp:	N/A	a.m.	55	p.m.
MSG CQA Personnel:		Ilyes BenHamida		Cloud Cover:	N/A	a.m.	Partly	p.m.
				Precipitation:	N/A	a.m.	N/A	p.m.
MSG Hours On-Site:		11:00am-1:00pm		Contractors:	N/A			

Work Performed/Comments/Other Observations:

- MSG arrived on-site to inspect and take pictures of sub-basement.
- Found two cracks along the west wall of sub-basement, and one crack along the south wall of tunnel (NOTE: water noted in Report No. 6 not present in sub-basement).
- Did not inspect the end of the tunnel because there was still water at the end (NOTE: tunnel to court house is incomplete with construction stopped at the edge of St. Antoine. Tunnel slopes towards court house, thus the reason for the presence of water at the end of the tunnel)..

Contractor's Information:

Contractor	Number of Men & Type	Equipment Type
N/A	N/A	N/A
Supervisor: N/A		

Documents Attached:

	Yes	No		Yes	No		Yes	No	
Geotechnical Forms	☐	☒	Geosynthetic Forms	☐	☒	Survey Info	☐	☒	
Photographs Taken	☒	☐	Sketch	☐	☒				

Testing:

	Yes	No	N/A	
Geotechnical	☐	☒	☐	If yes, refer to moisture/density sheets for results
Geosynthetic	☐	☒	☐	If yes, refer to Chain-of-Custody
Sampling	☐	☒	☐	If yes, refer to Chain-of-Custody

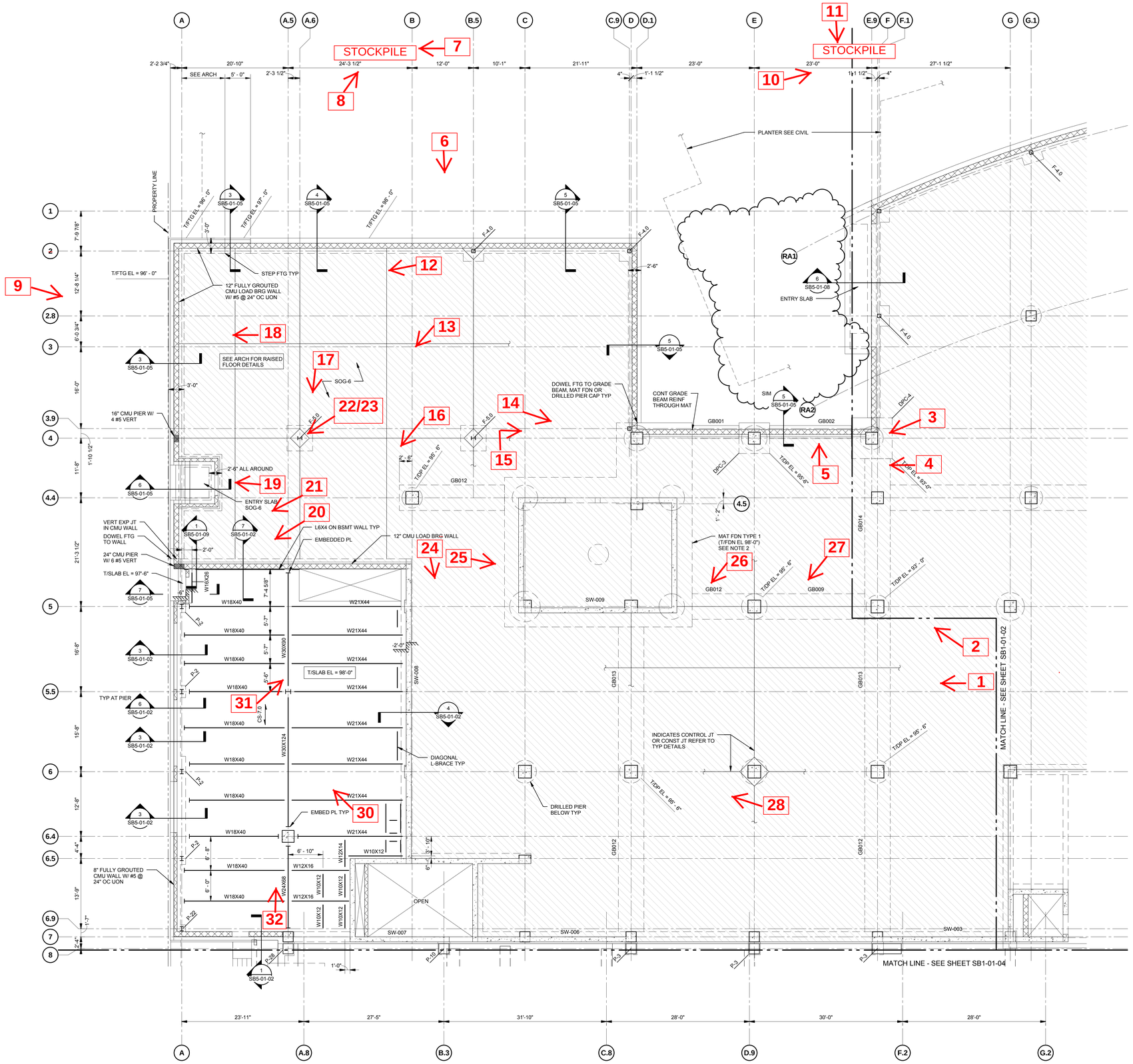
Problem Identification and Corrective Measures

Resolved?	Yes ☐ No ☐	If "no", why not:	

APPENDIX C

PHOTO LOG

AREA A
AREA B
AREA C
AREA D
AREA E
AREA F/F.1
AREA G
SUB-BASEMENT
G - BASEMENT
CELLS AT I.P.S



FIRST FLOOR FOUNDATION PLAN AREA 'A'

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

NORTH

FINISHED FLOOR EL 100'0" UON
TOP OF FOOTING EL 98'-0" UON
TOP OF DRILLED PIER CAP OR SHAFT EL 98'-0" UON
TOP OF GRADE BEAM EL 98'-0" UON
TOP OF STEEL EL 97'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC, AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

- SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- CS-7.0: INDICATES 5" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W/ #4 @ 12" OC EACH WAY TOP AND #4 EACH FLUTE BOTTOM

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS.

STEEL NOTES:

1. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.
2. AT FLOOR OPENINGS, THE DIMENSION FROM EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.
3. [X] INDICATES THE MINIMUM NUMBER OF 3/4" DIAMETER X 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS IN ACCORDANCE WITH AISC REQUIREMENTS.
4. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.

ARCHITECTURE | ENGINEERING

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500 Griswold, Suite 2420
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T. 313-436-8900
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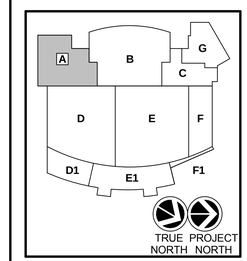
Wayne County Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
32	05/01/13	REVISION 20
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN FIRST FLOOR AREA 'A'

SB1-01-01
SHEET NUMBER

4/19/2013 8:46:02 AM

SECOND FLOOR FRAMING PLAN AREA 'A'

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

NORTH

FINISH SECOND FLOOR EL 124'-0" UON
TOP OF CONCRETE SLAB EL 124'-0" UON
TOP OF LOW ROOF STEEL EL 116'-0" UON

SUPPORTED SLAB NOTES:

1. SLAB TYPES:

   CS-6.5: 4 1/2" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W/ 6X6-W2.9XW2.9 WWF PLACED 1" FROM TOP.

2. [X] INDICATES MINIMUM NUMBER OF 3/4" DIAMETER BY 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS AS REQUIRED BY THE AISC.

3. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.

4. AT FLOOR OPENINGS THE DIMENSION FROM THE EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.

5. REFER TO THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED W/ APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS PRIOR TO APPROVAL.

6. DIMENSIONS INDICATED THUS (V) SHALL BE VERIFIED W/ APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS PRIOR TO FABRICATION.

7. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.

8. COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENING W/ STAIR MANUFACTURER TO ACCOMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE "PIN CONNECTED". REFER TO TYPICAL DETAILS.

ROOF FRAMING NOTES:

1. REFERENCE ELEVATION 100'-0" = DETROIT CITY DATUM (DCD) ELEVATION 125.0'.

2. UNDERSIDE OF DECK EL VARIES SEE ROOF PROFILES ON THIS SHEET UON.

3. METAL ROOF DECK TYPES:

   RD-1.5: 1 1/2" X 20 GA MINIMUM WIDE RIB GALVANIZED METAL ROOF DECK (MIN 3 SPAN CONTINUOUS).

4. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - SB1-00-XX FOR GENERAL STRUCTURAL NOTES
   - SF3-00-XX FOR SHEAR WALL ELEVATIONS
   - SF5-00-XX FOR WELDED DECK ATTACH TO SUPPORTS AND SIDE LAPS
   - SF7-00-XX FOR COLUMN SCHEDULES

5. BEAMS AND PURLINS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.

6. AT ROOF OPENINGS THE DIMENSION FROM THE EDGE OF DECK TO THE BACK OF ANGLE AND THE DIMENSIONS FROM THE EDGE OF DECK TO THE EDGE OF THE TOP FLANGE OF ADJACENT BEAM SHALL BE 0" UNLESS OTHERWISE NOTED.

7. DIMENSIONS INDICATED THUS (V) SHALL BE VERIFIED W/ APPROVED MANUFACTURERS EQUIPMENT SHOP DRAWINGS PRIOR TO FABRICATION.

8. IN CASES WHERE MECHANICAL OR ELECTRICAL EQUIPMENT LOADING ON APPROVED SHOP DRAWINGS EXCEED THE DESIGN LOAD INDICATED ON THE DESIGN DRAWING, THE CONTRACTOR SHALL NOTIFY THE ENDINEER PRIOR TO COMMENCING WITH THE WORK.

SUPPORTED PRECAST SLAB NOTES:

1. REFERENCE ELEVATION 100'-0" = DETROIT CITY DATUM (DCD) ELEVATION 125.0'.

2. PRECAST CONCRETE MODULAR CELL UNIT BASIS OF DESIGN TAKEN BY ROTONDO WEIRICH.

3. [ ] INDICATES STACKED PRECAST CELL UNITS, PRECAST WALL, OR PRECAST COLUMN, TYPICAL.

4. STEEL FRAMED METAL STAIR.

5. SLAB TYPES:

   PC-4: 4 INCH SOLID PRECAST CONCRETE SLAB WITH 3" NORMAL WEIGHT CONCRETE TOPPING.

   PC-8: 8 INCH HOLLOWCORE PRECAST CONCRETE SLAB WITH 3" NORMAL WEIGHT CONCRETE TOPPING.

   PC-10: 10 INCH HOLLOWCORE PRECAST CONCRETE SLAB WITH 3" NORMAL WEIGHT CONCRETE TOPPING.

6. COORDINATE TOPPING REQUIREMENTS W/ ARCH, MECH & ELEC.

7. FOR EXACT LOCATION AND DIMENSIONS OF DEPRESSIONS AND HOUSEKEEPING PADS, REFER TO MECHANICAL, ELECTRICAL, AND ARCHITECTURAL DRAWINGS. GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL LOCATIONS AND SIZES. FOR LOCATION OF DOOR OPENINGS, WINDOWS, LOUVERS, OR ANY OTHER OPENINGS IN THE PRECAST PLANKS AND PANELS, REFER TO MECHANICAL, ELECTRICAL, PLUMBING, AND ARCHITECTURAL DRAWINGS.

8. EXTERIOR PANELS ARE PRECAST LOAD BEARING CONCRETE WALLS W/ FINISHED EXTERIOR FACE, REFER TO ARCH.

9. PRECASTER SHALL COORDINATE SUPPORT DETAILS WITH ARCHITECTURAL REQUIREMENTS WHERE FRAMING MEMBERS AND PRECAST PLANKS BEAR ON PRECAST CELLS, TYPICAL.

10. SEE S00-00-01 AND S00-00-02 FOR GENERAL NOTES

11. PRECAST PLANKS SHALL BE DESIGNED TO SUPPORT NON-LOAD BEARING WALLS, SPORTING EQUIPMENT AND M/E EQUIPMENT. REFER TO ARCH, MECH AND ELEC DRAWINGS FOR SIZES AND LOCATIONS.

12. PROVIDE HEADERS AT PRECAST OPENINGS AS REQUIRED.

DESIGNER

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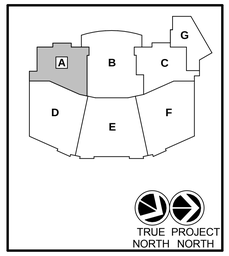
ARCHITECTURE | ENGINEERING | CONSULTING

Wayne County
Consolidated Jail Facility
Detroit, MI

PRELIMINARY
NOT FOR CONSTRUCTION

REV	DATE	ISSUED FOR
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301.001
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FRAMING PLAN SECOND FLOOR AREA 'A'

SF1-02-01

SHEET NUMBER

10/31/2011 11:17:22 AM

AREA A

Photo 1: Area A: Looking Southeast at general areas where CMU block is being stored

Photo 2: Looking South at columns in Area A

Photo 3: Looking Southeast at partial CMU wall on Northeast side of Area A

Photo 4: Looking Southeast at the North side of partial CMU wall

Photo 5: Close up of partial CMU wall with efflorescence

Photo 6: Looking Southeast of finished masonry wall in good condition

AREA A

Photo 7: Stockpile of mortar and misc. material. The mortar and cement are not good for future construction.

Photo 8: Type 'N' mortar that is covered is good for future construction

Photo 9: Looking Northeast at the Southeast facing wall of Area A at alley – in good condition. There are no visible cracks.

Photo 10: Looking Northwest at block storage just West of Area B

Photo 11: Looking North at block storage just West of Area B

Photo 12: General interior at building Area A were 3" Owens corning Styrofoam is being stored and safe from the elements

AREA A

Photo 13: General interior at building Area A were 3" Owens corning Styrofoam is being stored and safe from the elements

Photo 14: General interior at building Area A were 3" Owens corning Styrofoam is being stored and safe from the elements

Photo 15: Steel beam framing and galvanized pan decking

Photo 16: Steel beam framing and galvanized pan decking

Photo 17: Buried electrical conduit will require clean-out due to open ends and possibility of water and dirt in lines.

Photo 18: Close up of Southeast wall with interior efflorescence

AREA A

Photo 19: Facing West at South entry door frame

Photo 20: Facing West looking interior CMU wall which is in good condition with some efflorescence on South wall

Photo 21: West interior wall foundation

Photo 22: Before and after clean off oxidation dust on steel column base

Photo 23: Before and after clean off oxidation dust on steel column base

Photo 24: Facing East looking at South C.I.P concrete wall in good condition

AREA A

Photo 25: Looking North at South face interior room wall

Photo 26: Looking East at North side interior room

Photo 27: Looking Southeast at stockpile CMU block and columns

Photo 28: Looking South at CMU block stockpile

Photo 29: Southeast concrete column with cracking and spacing

Photo 30: Looking Southwest down at steel column line in the south area

AREA A

Photo 31: Looking West at south concrete area

Photo 32: Looking Southwest at center of South room

Photo 33: Looking down stairwell at two sump pumps lines to the basement

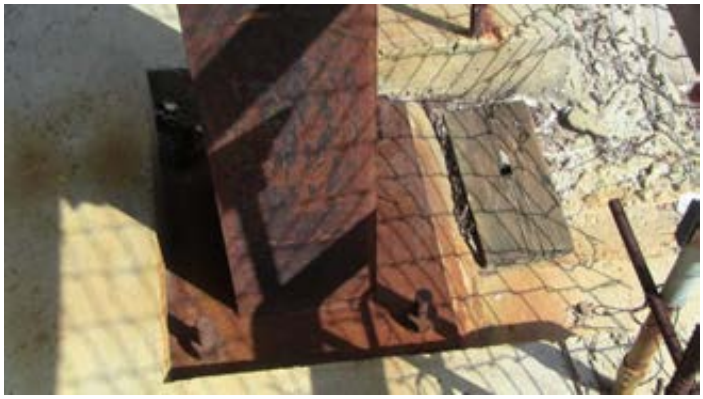


Photo 34: Looking at steel column bearing plate which is in good conditions

Photo 35: Looking Southeast on second floor, galvanized steel all in good condition

Photo 36: Looking west at treated steel, rust visible

AREA A

Photo 37: Looking South at treated steel, rust visible

Photo 38: Looking South at treated steel, rust visible

Photo 39: Close-up, Looking South at treated steel, rust visible

Photo 40: Looking West at pan decking on second floor

Photo 41: Looking Southwest at pan decking on second floor

Photo 42: Looking South at pan decking on second floor

AREA A

Photo 43: Close-up, looking Northwest at top of C.I.P. concrete wall at the corner on second floor

Photo 44: Looking Southeast at top of C.I.P concrete wall on second floor.

Photo 45: Looking Northeast at top of C.I.P. concrete wall on second floor

Photo 46: Looking East at pan deck on second floor

Photo 47: Looking Northeast at edge of Southern wall on second floor, galvanized steel in good condition

Photo 48: Looking Southwest at edge of Southern wall on second floor

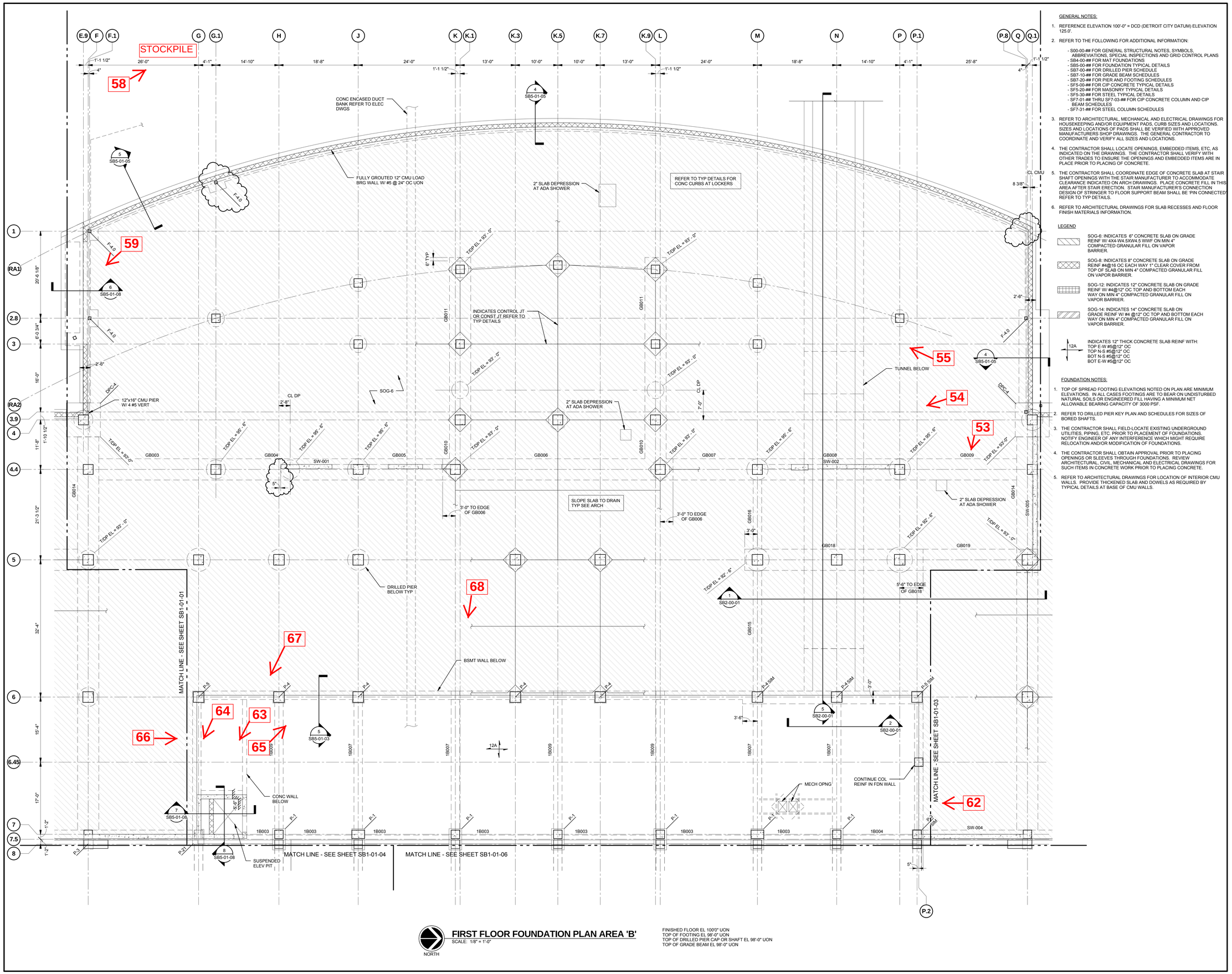
AREA A

Photo 49: Looking Northwest at edge of the Western wall on the second floor

Photo 50: Looking North at pan decking which is in good condition

Photo 51: Looking Northeast at pan decking which is in good condition

Photo 52: Looking East at pan decking which is in good condition



FIRST FLOOR FOUNDATION PLAN AREA 'B'

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

NORTH

FINISHED FLOOR EL 100'0" UON
TOP OF FOOTING EL 98'-0" UON
TOP OF DRILLED PIER CAP OR SHAFT EL 98'-0" UON
TOP OF GRADE BEAM EL 98'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC. AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED' REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

- SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5X4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- 12A: INDICATES 12" THICK CONCRETE SLAB REINF WITH:
  TOP E-W #5@12" OC
  TOP N-S #5@12" OC
  BOT N-S #5@12" OC
  BOT E-W #5@12" OC

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS.

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Consolidated Jail Facility
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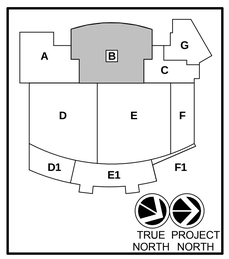
REV	DATE	ISSUED FOR
27	11/20/12	REVISION 17
23	10/16/12	REVISION 15
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER
SHEET TITLE	

STRUCTURAL FOUNDATION PLAN FIRST FLOOR AREA 'B'

SB1-01-02
SHEET NUMBER

11/19/2012 4:33:15 PM

AREA B

Photo 53: Area B is mostly open with exposed rebar of the column footing. Some bars are bent and oxidized.

Photo 54: Area B is mostly open with exposed rebar of the column footing. Some bars are bent and oxidized.

Photo 55: Area B is mostly open with exposed rebar of the column footing. Some bars are bent and oxidized.

Photo 56: Bent column rebar exposed and oxidized.

Photo 57: Bent column rebar exposed and oxidized.

Photo 58: Looking at Northwest at footing and block stockpile

AREA B

Photo 59: Looking East at South column line

Photo 60: Dowels were cut off, oxidized where the ends are exposed

Photo 61: Dowels were cut off, oxidized where the ends are exposed

Photo 62: Looking South at standing water on slab

Photo 63: Cracks in C.I.P. concrete slab on South end of slab

Photo 64: Cracks in C.I.P. concrete slab on South end of slab

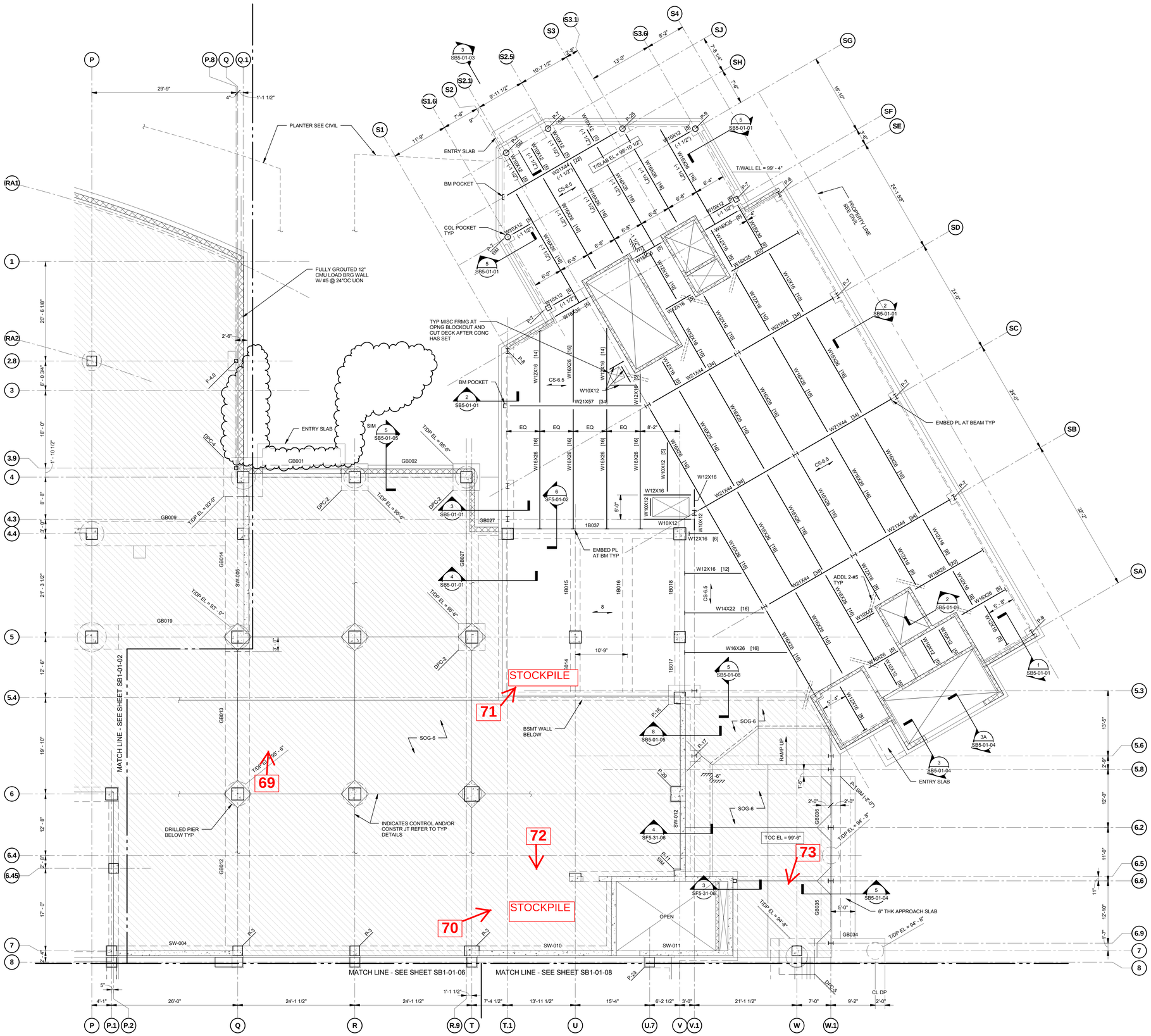
AREA B

Photo 65: Cracks in C.I.P. concrete slab on South end of slab

Photo 66: South end of slab with electrical conduits unprotected ends

Photo 67: West end of slab with electrical conduit unprotected ends

Photo 68: Looking Northeast at electrical conduits at edge of slab



FIRST FLOOR FOUNDATION PLAN AREAS 'C' AND 'G'

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

NORTH

FINISHED FLOOR EL 100'-0" UON
TOP OF PIER EL 98'-0" UON
TOP OF FOOTING EL 98'-0" UON
TOP OF DRILLED PIER CAP OR SHAFT EL 98'-0" UON
TOP OF GRADE BEAM EL 98'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC. AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

- SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- CS-6.5: INDICATES 4 1/2" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W/ 6X6-W2.9XW2.9 WWF PLACED 1" FROM TOP
- 8: INDICATES 8" THICK CONCRETE SLAB REINF WITH:
  TOP E-W #5@12" OC
  TOP N-S #6@12" OC
  BOT E-W #5@12" OC
  BOT N-S #6@12" OC

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS.

STEEL NOTES:

1. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.
2. AT FLOOR OPENINGS, THE DIMENSION FROM EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.
3. [X] INDICATES THE MINIMUM NUMBER OF 3/4" DIAMETER X 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS IN ACCORDANCE WITH AISC REQUIREMENTS.
4. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.

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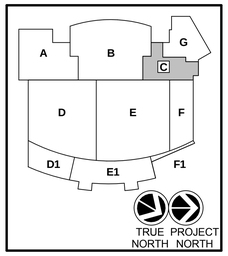
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
32	05/01/13	REVISION 20
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN FIRST FLOOR AREAS 'C' & 'G'

SB1-01-03

SHEET NUMBER

4/19/2013 8:46:21 AM

AREA C

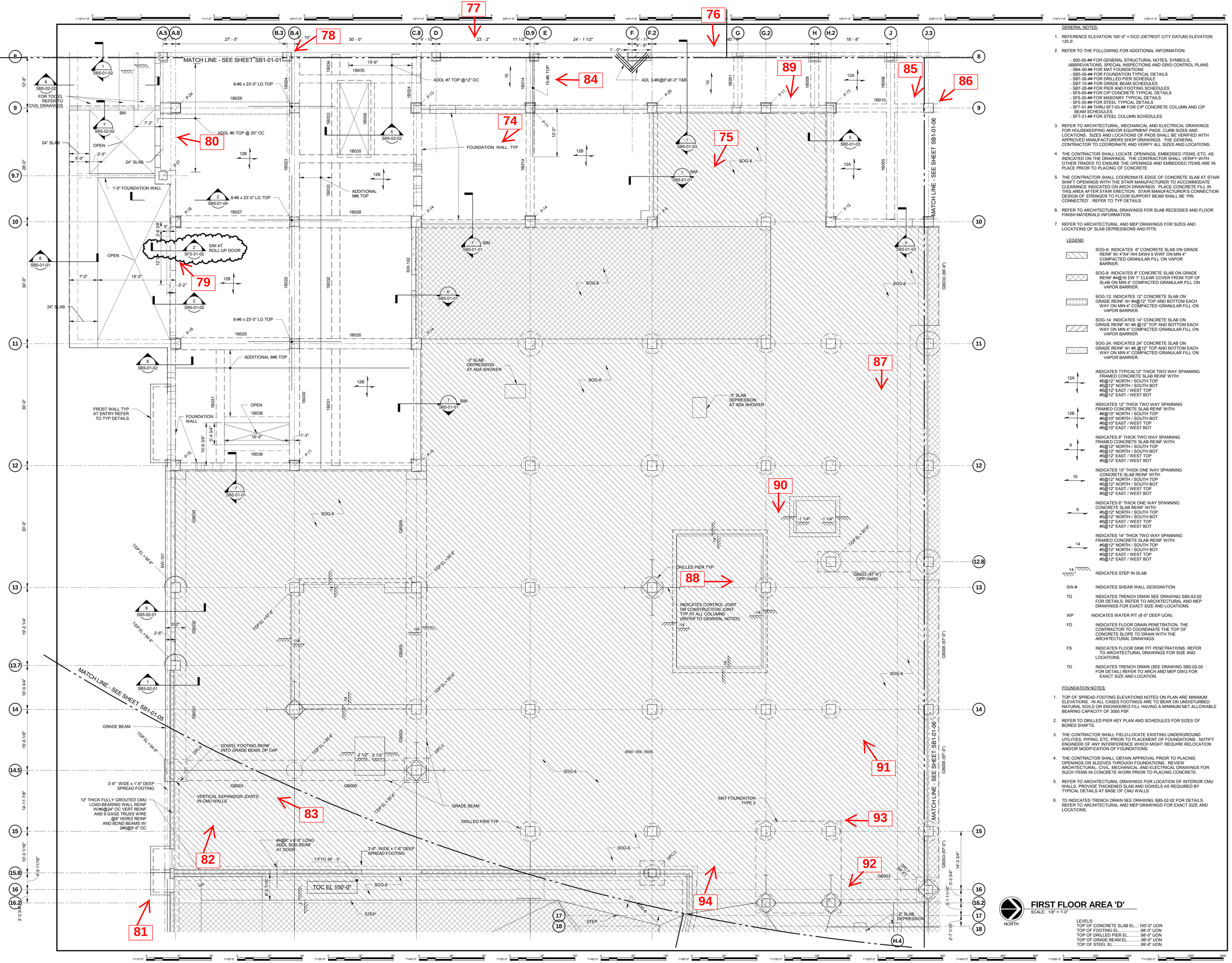
Photo 69: General photo looking West

Photo 70: General photo looking North

Photo 71: Stockpile of structural steel

Photo 72: Stockpile of structural steel

Photo 73: North side of Area 'C' – unfinished column, sandblast steel before construction



GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC, AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.
7. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR SIZES AND LOCATIONS OF SLAB DEPRESSIONS AND PITS.

LEGEND

SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4"X4"-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 EW 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-24: INDICATES 24" CONCRETE SLAB ON GRADE REINF W/ #6 @12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

12A — INDICATES TYPICAL12" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

12B — INDICATES 12" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#6@10" NORTH / SOUTH TOP
#6@10" NORTH / SOUTH BOT
#6@10" EAST / WEST TOP
#6@10" EAST / WEST BOT

8 — INDICATES 8" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

10 — INDICATES 10" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

6 — INDICATES 6" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

14 — INDICATES 14" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

14 — INDICATES STEP IN SLAB

SW-# — INDICATES SHEAR WALL DESIGNATION

TD — INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.

WP — INDICATES WATER PIT (8'-0" DEEP UON).

FD — INDICATES FLOOR DRAIN PENETRATION. THE CONTRACTOR TO COORDINATE THE TOP OF CONCRETE SLOPE TO DRAIN WITH THE ARCHITECTURAL DRAWINGS.

FS — INDICATES FLOOR SINK PIT PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS.

TD — INDICATES TRENCH DRAIN (SEE DRAWING SB5-02-02 FOR DETAIL) REFER TO ARCH AND MEP DWG FOR EXACT SIZE AND LOCATION.

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS
6. TD INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.

FIRST FLOOR AREA 'D'

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

NORTH

LEVELS:
TOP OF CONCRETE SLAB EL....100'-0" UON
TOP OF FOOTING EL.....98'-0" UON
TOP OF DRILLED PIER EL.....98'-0" UON
TOP OF GRADE BEAM EL.....98'-0" UON
TOP OF STEEL EL.....99'-6" UON

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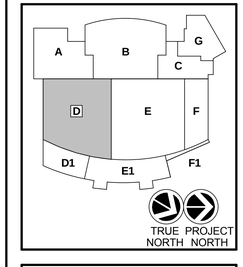
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
29	01/17/13	REVISION 18
27	11/20/12	REVISION 17
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PRECUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	
DESIGNED BY	AA
DRAWN BY	GF
QUALCHECK	ST
SHEET TITLE	

STRUCTURAL PLAN FIRST FLOOR AREA 'D'

SB1-01-04
SHEET NUMBER

11/7/2013 11:27:21 AM

AREA D

Photo 74: General Area 'D' looking Southeast

Photo 75: General area 'D' looking Northeast

Photo 76: Vertical wall cracks between F and G on #8

Photo 77: Diagonal cracking in Wall #8 at D

Photo 78: Electrical box embedded oxidizing #8 at B.3

Photo 79: South open large basement chamber

AREA D

Photo 80: South open area to small basement chamber

Photo 81: Looking West at Southeast corner of Area D

Photo 82: Photo of Southeast corner, first floor cracks to mechanical openings

Photo 83: General photo of South-East corner , first floor cracks to mechanical openings

Photo 84: Several cracks running West to East between E and F/8 and 9

Photo 85: Ceiling under-slab cracks between 9 and 10 at J.3

AREA D

Photo 86: Ceiling under-slab cracks between 9 and 10 at J.3

Photo 87: Ceiling under-slab cracks between 11 and 12 at J.3

Photo 88: Looking Northwest at second floor slab cold joint G.2/13 and H.2/12.8

Photo 89: Second floor ceiling crack between G.2 and H/9

Photo 90: Looking East at second floor slab shoring Bay F.2-G.2

Photo 91: Looking South at cold joint second floor slab bay F.2-G.2. Limited bottom rebar cover and bars oxidized

AREA D

Photo 92: Looking East at cold joint second floor slab bay F.2-G.2. Limited bottom rebar cover and bars oxidized

Photo 93: Looking East at cold joint second floor slab bay F.2-G.2. Limited bottom rebar cover and bars oxidized

Photo 94: Looking West at second floor cantilever cold joint slab with dowels

Photo 95: Basement center steel columns and beaming in good condition

Photo 96: General photos in basement areas

Photo 97: General photos in basement areas

AREA D

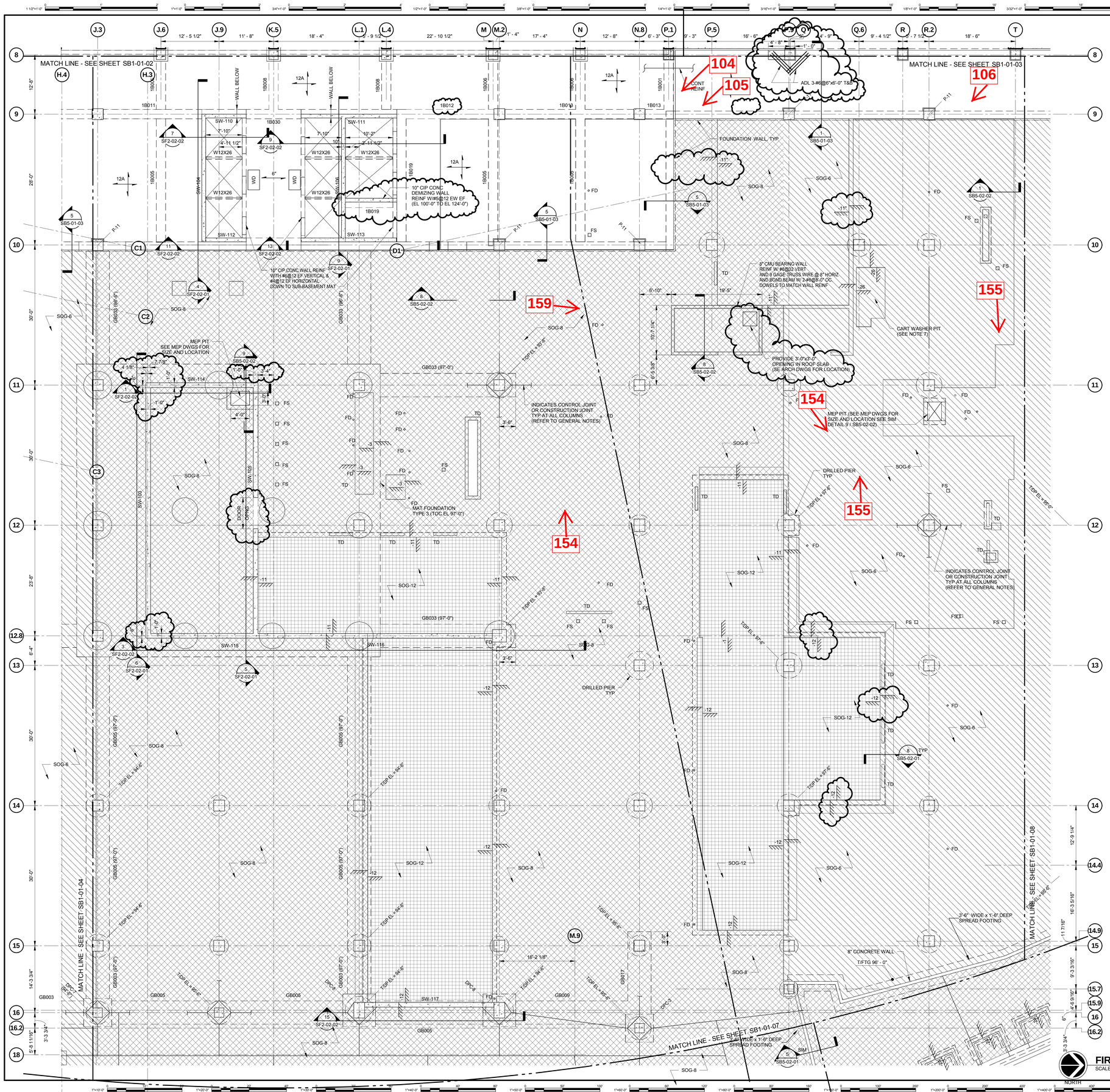
Photo 98: General photos in basement areas

Photo 99: General photos in basement areas

Photo 100: General photos of Area D, South large room basement

Photo 101: General photos of Area D, South large room basement

Photo 102: Vertical crack at contour joint in basement between F and G on #8



FIRST FLOOR AREA 'E'

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

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
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6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.
7. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR SIZES AND LOCATIONS OF SLAB DEPRESSIONS AND PITS.

LEGEND

- SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4"X4"-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 EW 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
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  #5@12" NORTH / SOUTH TOP
  #5@12" NORTH / SOUTH BOT
  #5@12" EAST / WEST TOP
  #5@12" EAST / WEST BOT
- 12B: INDICATES 12" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
  #6@10" NORTH / SOUTH TOP
  #6@10" NORTH / SOUTH BOT
  #6@10" EAST / WEST TOP
  #6@10" EAST / WEST BOT
- 8: INDICATES 8" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
  #5@12" NORTH / SOUTH TOP
  #5@12" NORTH / SOUTH BOT
  #5@12" EAST / WEST TOP
  #5@12" EAST / WEST BOT
- 10: INDICATES 10" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
  #5@12" NORTH / SOUTH TOP
  #5@12" NORTH / SOUTH BOT
  #5@12" EAST / WEST TOP
  #5@12" EAST / WEST BOT
- 6: INDICATES 6" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
  #5@12" NORTH / SOUTH TOP
  #5@12" NORTH / SOUTH BOT
  #5@12" EAST / WEST TOP
  #5@12" EAST / WEST BOT
- 14: INDICATES 14" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
  #5@12" NORTH / SOUTH TOP
  #5@12" NORTH / SOUTH BOT
  #5@12" EAST / WEST TOP
  #5@12" EAST / WEST BOT
- 14: INDICATES STEP IN SLAB
- SW-#: INDICATES SHEAR WALL DESIGNATION
- TD: INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.
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- FD: INDICATES FLOOR DRAIN PENETRATION. THE CONTRACTOR TO COORDINATE THE TOP OF CONCRETE SLOPE TO DRAIN WITH THE ARCHITECTURAL DRAWINGS.
- FS: INDICATES FLOOR SINK PIT PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS.
- TD: INDICATES TRENCH DRAIN (SEE DRAWING SB5-02-02 FOR DETAIL) REFER TO ARCH AND MEP DWG FOR EXACT SIZE AND LOCATION.

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS
6. TD INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.

STEEL NOTES:

1. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.
2. AT FLOOR OPENINGS, THE DIMENSION FROM EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.
3. [X] INDICATES THE MINIMUM NUMBER OF 3/4" DIAMETER X 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS IN ACCORDANCE WITH AISC REQUIREMENTS.
4. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.
5. PROVIDE C5x6.7 FOR ROOF DECK SUPPORT AT LOCATIONS WHERE ROOF BEAM IS OFFSET BELOW THE TYPICAL TOP OF STEEL ELEVATION.

LEVELS:
TOP OF CONCRETE SLAB EL....100'-0" UON
TOP OF FOOTING EL.....98'-0" UON
TOP OF DRILLED PIER EL.....98'-0" UON
TOP OF GRADE BEAM EL.....96'-0" UON
TOP OF STEEL EL.....99'-6" UON

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AECOM

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Detroit, Michigan 48226
T. 313-436-8900
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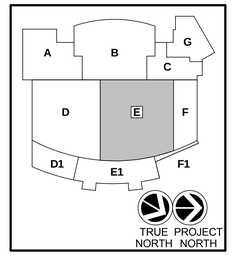
Wayne County Consolidated Jail Facility Detroit, MI

REV	DATE	ISSUED FOR
29	01/17/13	REVISION 18
27	11/20/12	REVISION 17
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PRECUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	
DESIGNED BY	AA
DRAWN BY	GF
QUALCHECK	ST

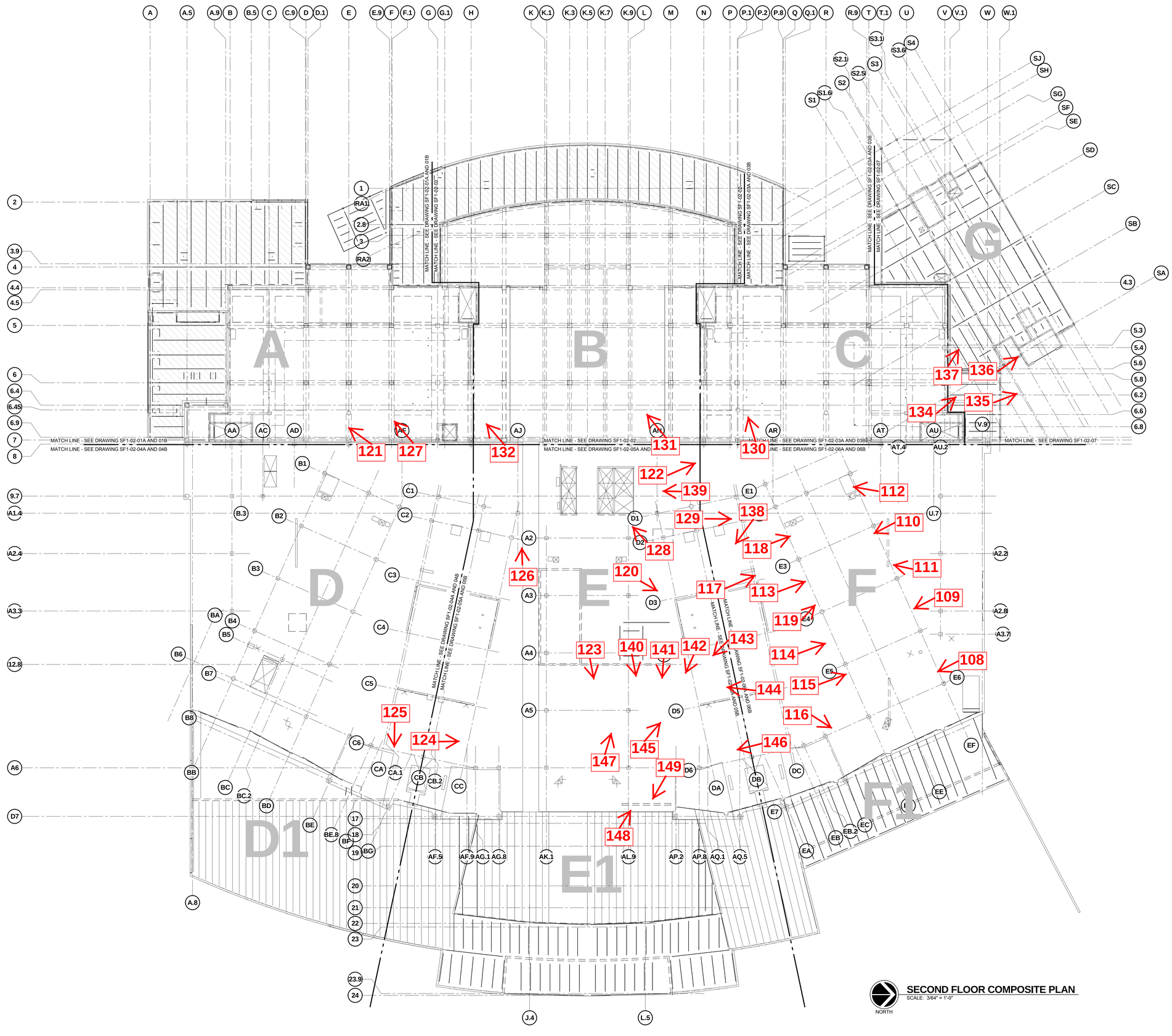
SHEET TITLE

STRUCTURAL PLAN FIRST FLOOR AREA 'E'

SB1-01-06

SHEET NUMBER

1/17/2013 11:27:23 AM



SECOND FLOOR COMPOSITE PLAN
SCALE: 3/64" = 1'-0"
NORTH

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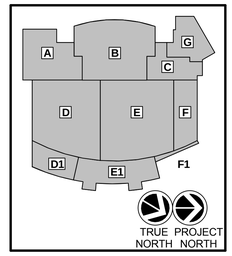
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
17	07/31/12	STRUCTURAL PODIUM PACKAGE
13	05/11/12	SUPERSTRUCTURE PERMIT SET
L	04/10/12	STRUCT. STL. PROCUREMENT, ELEVATOR & CIVIL
K	03/23/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE UPDATE
J	03/09/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER
SHEET TITLE	

STRUCTURAL FRAMING PLAN SECOND FLOOR COMPOSITE

SF1-02-00
SHEET NUMBER

7/30/2012 6:59:49 PM

AREA E

Photo 103: Stockpile steel on slab

Photo 104: Many first floor slab cracks between N.8 and P.9/8 and 9.

Photo 105: Many first floor slab cracks between N.8 and P.9/8 and 9.

Photo 106: Many cracks running West to East on first floor slab between R.2 and T.4/8 and 9

AREA E

Photo 107: Looking South

Photo 108: Back-side of precast 96 cells in Areas E and F

Photo 109: Back-side of precast 96 cells in Areas E and F

Photo 110: Back-side of precast 96 cells in Areas E and F

AREA E

Photo 111: Back-side of precast 96 cells in Areas E and F

Photo 112: Back-side of precast 96 cells in Areas E and F

Photo 113: 96 cells with 8' cantilever front slab

Photo 114: 96 cells with 8' cantilever front slabs

AREA E

Photo 115: 96 cells with 8' cantilever front slabs

Photo 116: 96 cells with 8' cantilever front slabs

Photo 117: Some cells have temporary plywood doors

Photo 118: Some cells have temporary plywood doors

AREA E

Photo 119: Some cells have temporary plywood doors

Photo 120: Looking South at North cell line 96+24 units

Photo 121: Looking South down at block storage in Area A

Photo 122: Looking Southwest at general deck of re-steel

Photo 123: Looking West at general deck of re-steel

Photo 124: Looking North at general deck of re-steel

AREA E

Photo 125: Looking Southeast at cantilever deck pour

Photo 126: Base of column re-steel column L4/ CB

Photo 127: Top of column at second floor J-7

Photo 128: Looking Southwest at stair /elevator shaft

Photo 129: Looking Northwest at top second slab of penetration

Photo 130: Looking at tops of columns from second floor

AREA E

Photo 131: Looking at tops of columns from second floor

Photo 132: Looking at tops of columns from second floor

Photo 133: Several cracks in second floor slab at E5-E4/Dc

Photo 134: Looking West over Area G

Photo 135: Looking Northwest over Area G

Photo 136: Looking Northwest over Area G

AREA E

Photo 137: Looking Southwest over areas with unfinished columns

Photo 138: Looking East at second floor unfinished wall

Photo 139: Looking South at unfinished electrical/stairway

Photo 140: Damaged top corner of stored cell.

Photo 141: Looking at tops if stored cell.

Photo 142: Looking at tops if stored cell.

AREA E

Photo 143: Looking at tops if stored cell.

Photo 144: Close-up of top of column and wall near stored CMU

Photo 145: Looking West at top column and cold joint

Photo 146: Looing East at top of a column

Photo 147: Looking at top of stored cells

Photo 148: Looking East at top of east limit wall in Area D, in good condition

AREA E

Photo 149: Looking West at top of east limit wall in Area D, in good condition

Photo 150: Cold joint –showing vertical 2'-8" face at #10 rebar

Photo 151: Cold joint –showing vertical 2'-8" face at #10 rebar

Photo 152: Looking at top of a column, in good condition

Photo 153: Close up of crack on 2nd floor of efflorescence there was no issue of sounding-hammer

Photo 154: Stored materials on North/center. Area E–masonry and concrete embedded items

AREA E

Photo 155: Stored materials on North/center. Area E–masonry and concrete embedded items

Photo 156: Stored electrical materials in Areas E and F

Photo 157: Welded structural steel connection to embedded steel plate in good condition

Photo 158: Bolted structural steel cantilever in good condition

Photo 159: Looking North down bay column lines 10-11

Photo 160: Looking Northwest at electrical conduit

AREA E

Photo 161: Looking Northeast at storm piping

Photo 162: Two cracks on second floor ceiling at efflorescence near 11-R.2

Photo 163: Two cracks at second floor between 11 and 12/R.2

Photo 164: Four angled stress cracks 6-8' long at C.I.P wall between L.1 and M.1/13

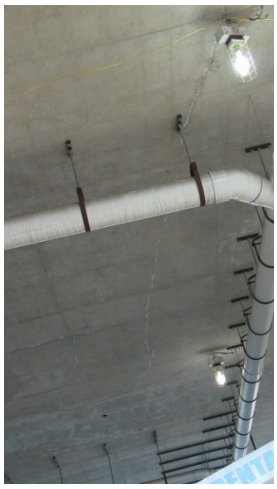


Photo 165: Long hairline second floor slab crack between columns #12 and 13/R.2

Photo 166: Cantilevered slab shoring section between column # 13 and 158/N.8 and P.9

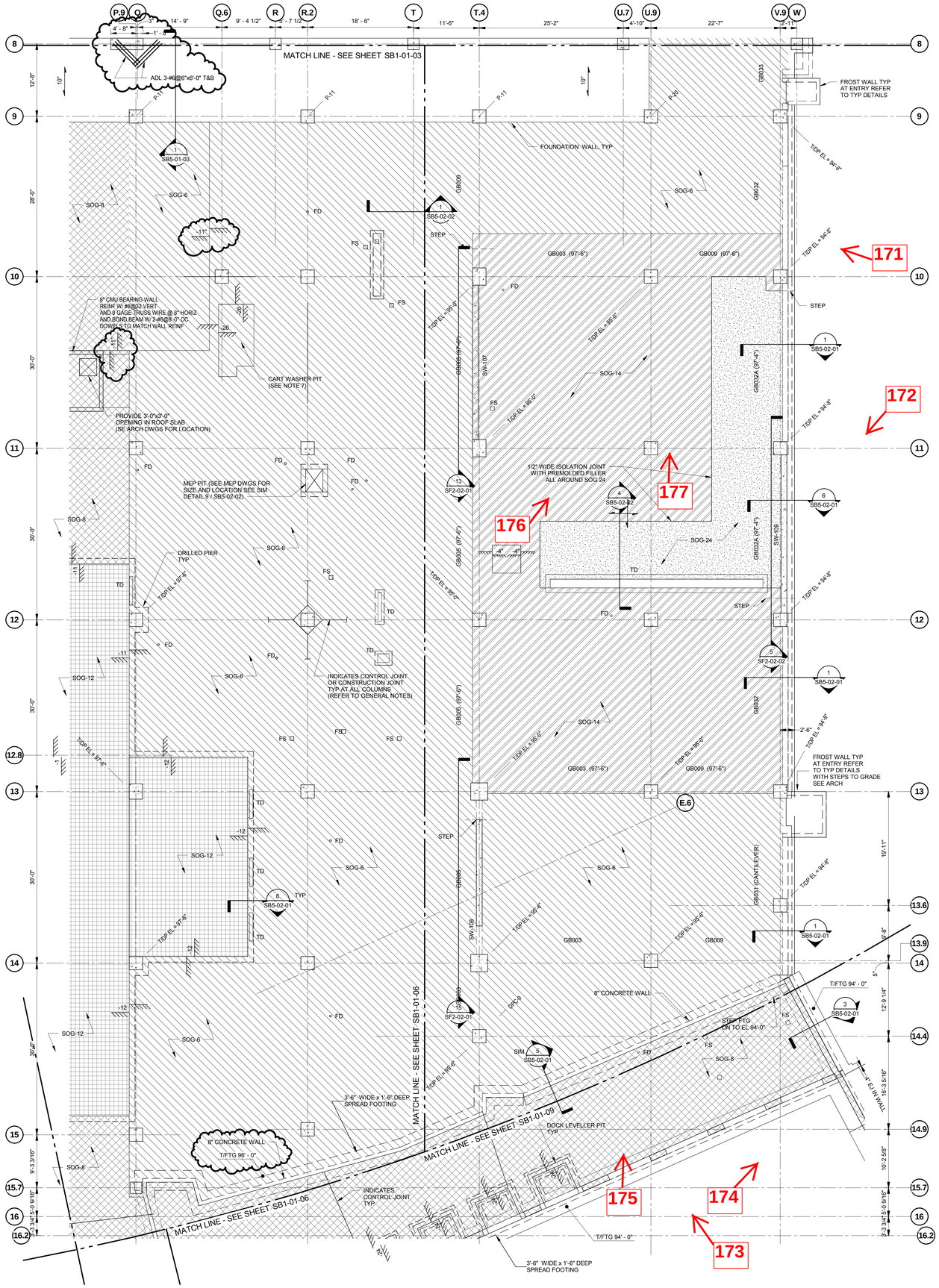
AREA E

Photo 167: West between column, Several cracks # 12 and 14/R.2 and t.4

Photo 168: Looking East at crack between column # 14/R.2 and T.4

Photo 169: Slab moisture straining and re-steel bleed at North front column # P.9/15

Photo 170: Looking West at bay between T.4 and U.9



GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC. AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.
7. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR SIZES AND LOCATIONS OF SLAB DEPRESSIONS AND PITS.

LEGEND

SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4"X4"-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 EW 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-24: INDICATES 24" CONCRETE SLAB ON GRADE REINF W/ #6 @12" TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

12A — INDICATES TYPICAL12" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

12B — INDICATES 12" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#6@10" NORTH / SOUTH TOP
#6@10" NORTH / SOUTH BOT
#6@10" EAST / WEST TOP
#6@10" EAST / WEST BOT

8 — INDICATES 8" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

10 — INDICATES 10" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

6 — INDICATES 6" THICK ONE WAY SPANNING CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

14 — INDICATES 14" THICK TWO WAY SPANNING FRAMED CONCRETE SLAB REINF WITH:
#5@12" NORTH / SOUTH TOP
#5@12" NORTH / SOUTH BOT
#5@12" EAST / WEST TOP
#5@12" EAST / WEST BOT

14 — INDICATES STEP IN SLAB

SW-# — INDICATES SHEAR WALL DESIGNATION

TD — INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.

WP — INDICATES WATER PIT (8'-0" DEEP UON).

FD — INDICATES FLOOR DRAIN PENETRATION. THE CONTRACTOR TO COORDINATE THE TOP OF CONCRETE SLOPE TO DRAIN WITH THE ARCHITECTURAL DRAWINGS.

FS — INDICATES FLOOR SINK PIT PENETRATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS.

TD — INDICATES TRENCH DRAIN (SEE DRAWING SB5-02-02 FOR DETAIL) REFER TO ARCH AND MEP DWG FOR EXACT SIZE AND LOCATION.

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
4. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO PLACING OPENINGS OR SLEEVES THROUGH FOUNDATIONS. REVIEW ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SUCH ITEMS IN CONCRETE WORK PRIOR TO PLACING CONCRETE.
5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS
6. TD INDICATES TRENCH DRAIN SEE DRAWING SB5-02-02 FOR DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT SIZE AND LOCATIONS.

NORTH

FIRST FLOOR AREA 'F'

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

LEVELS:
TOP OF CONCRETE SLAB EL.....100'-0" UON
TOP OF FOOTING EL.....98'-0" UON
TOP OF DRILLED PIER EL.....98'-0" UON
TOP OF GRADE BEAM EL.....98'-0" UON
TOP OF STEEL EL.....99'-6" UON

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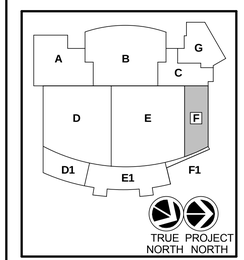
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PRECUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	
DESIGNED BY	AA
DRAWN BY	GF
QUALCHECK	ST
SHEET TITLE	

STRUCTURAL PLAN FIRST FLOOR AREA 'F'

SB1-01-08
SHEET NUMBER

10/16/2012 11:01:26 AM

AREA F/F1

Photo 171: Looking South at columns and edge of second floor

Photo 172: Looking Southeast at C.I.P. concrete wall and edge of second floor

Photo 173: Looking South at columns in F1 and edge of second floor and cell tower on second floor

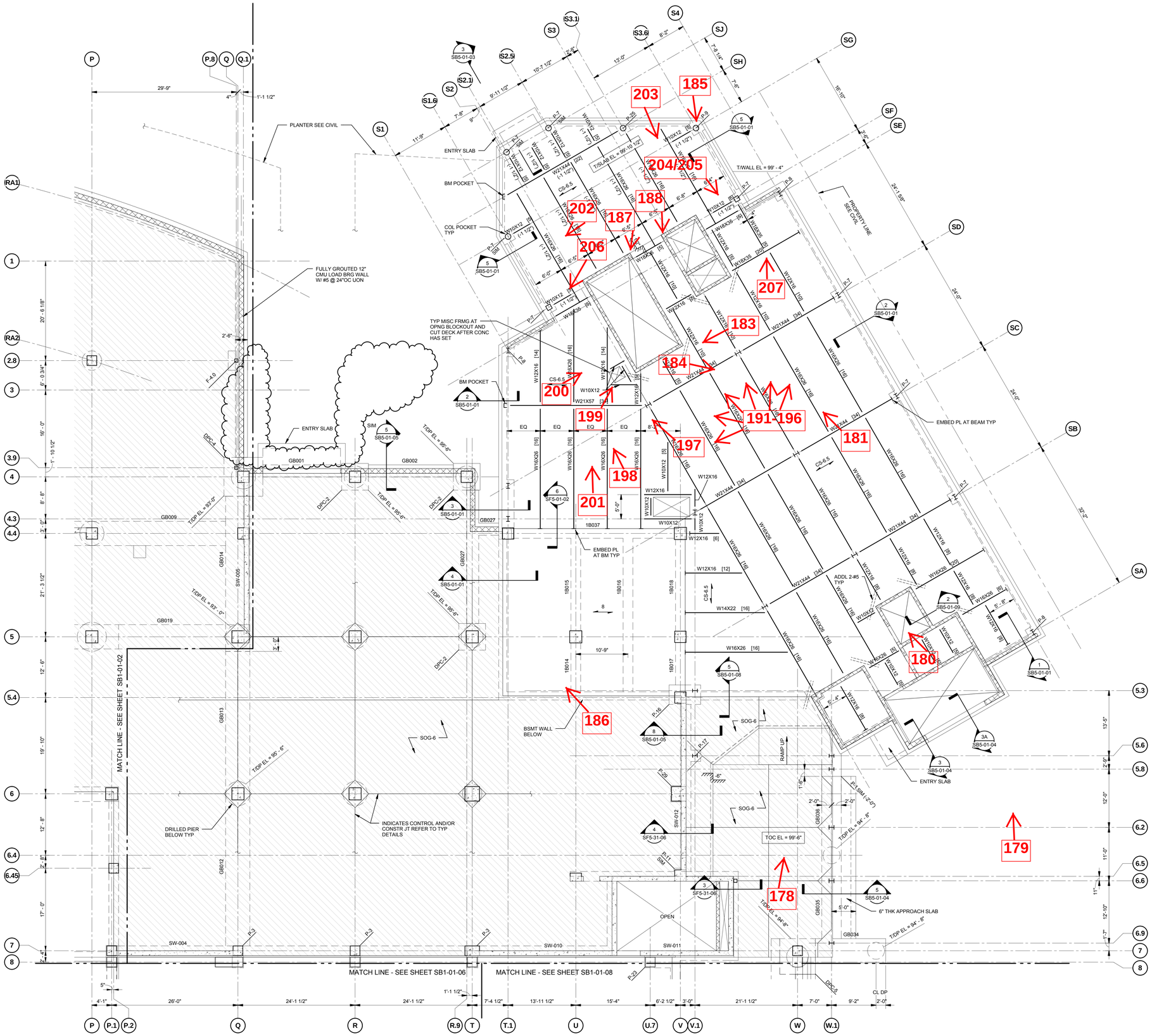
AREA F/F1

Photo 174: Looking West at bay between U.9 and V.9

Photo 175: Re-steel reflection per limited cover

Photo 176: General photos on electrical supplies being stored

Photo 177: General photos on electrical supplies being stored



FIRST FLOOR FOUNDATION PLAN AREAS 'C' AND 'G'

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

NORTH

FINISHED FLOOR EL 100'-0" UON
TOP OF PIER EL 98'-0" UON
TOP OF FOOTING EL 98'-0" UON
TOP OF DRILLED PIER CAP OR SHAFT EL 98'-0" UON
TOP OF GRADE BEAM EL 98'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
4. THE CONTRACTOR SHALL LOCATE OPENINGS, EMBEDDED ITEMS, ETC. AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY WITH OTHER TRADES TO ENSURE THE OPENINGS AND EMBEDDED ITEMS ARE IN PLACE PRIOR TO PLACING OF CONCRETE.
5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

- SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.
- CS-6.5: INDICATES 4 1/2" NORMAL WEIGHT CONCRETE ON 2" 20 GAGE MINIMUM COMPOSITE GALVANIZED METAL DECK (MIN 3 SPAN CONT) REINFORCED W/ 6X6-W2.9XW2.9 WWF PLACED 1" FROM TOP
- 8: INDICATES 8" THICK CONCRETE SLAB REINF WITH:
  TOP E-W #5@12" OC
  TOP N-S #6@12" OC
  BOT E-W #5@12" OC
  BOT N-S #6@12" OC

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
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5. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF INTERIOR CMU WALLS. PROVIDE THICKENED SLAB AND DOWELS AS REQUIRED BY TYPICAL DETAILS AT BASE OF CMU WALLS.

STEEL NOTES:

1. BEAMS SHALL BE EQUALLY SPACED WITHIN A BAY UNLESS OTHERWISE NOTED.
2. AT FLOOR OPENINGS, THE DIMENSION FROM EDGE OF SLAB TO THE CENTERLINE OF ADJACENT BEAM SHALL BE 6" UNLESS OTHERWISE NOTED.
3. [X] INDICATES THE MINIMUM NUMBER OF 3/4" DIAMETER X 5" LONG SHEAR STUDS WELDED TO TOP OF BEAMS AND GIRDERS IN ACCORDANCE WITH AISC REQUIREMENTS.
4. PROVIDE W10X12 FRAMING AROUND ALL FLOOR OPENINGS UNLESS OTHERWISE NOTED.

ARCHITECTURE | ENGINEERING

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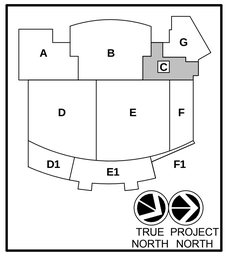
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
32	05/01/13	REVISION 20
23	10/16/12	REVISION 15
16	07/05/12	REVISION 12
12	05/02/12	REVISION 10
10	04/13/12	REVISION 08
8	03/21/12	REVISION 06
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN FIRST FLOOR AREAS 'C' & 'G'

SB1-01-03

SHEET NUMBER

4/19/2013 8:46:21 AM

AREA G

Photo 178: Looking West at masonry structure

Photo 179: Looking Southwest at masonry structure

Photo 180: Looking South at steel framing

Photo 181: Looking South at stair and electrical shaft

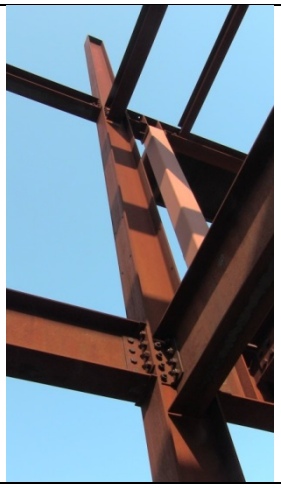


Photo 182: Looking at the top steel connections which are in good condition

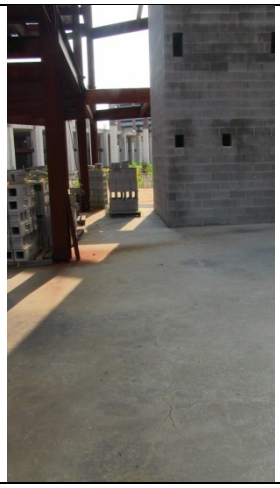


Photo 183: Looking Southeast at slab crack

AREA G

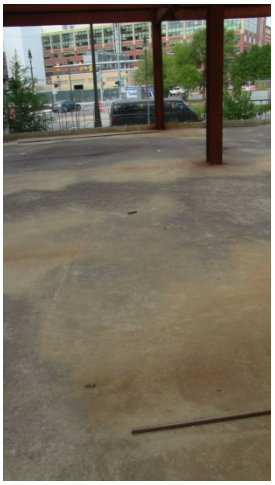


Photo 184: Looking Northwest at slab cracked

Photo 185: Corner bearing plate for column Northwest corner

Photo 186: Looking Southwest at stockpile of steel on slab

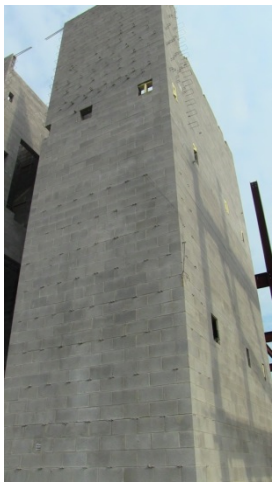


Photo 187: Looking North at the stair and electrical dowels

Photo 188: Looking North at stair and electrical dowels

AREA G

Photo 189: Looking South at top structural steel

Photo 190: Welded connection at column - top 9'-6"

Photo 191: Panoramic view (Phots 170 through 175) of structural steel framing of second and third floor in Area G. All Steel is structurally sound and some orientation, but no section loss

Photo 192:

AREA G

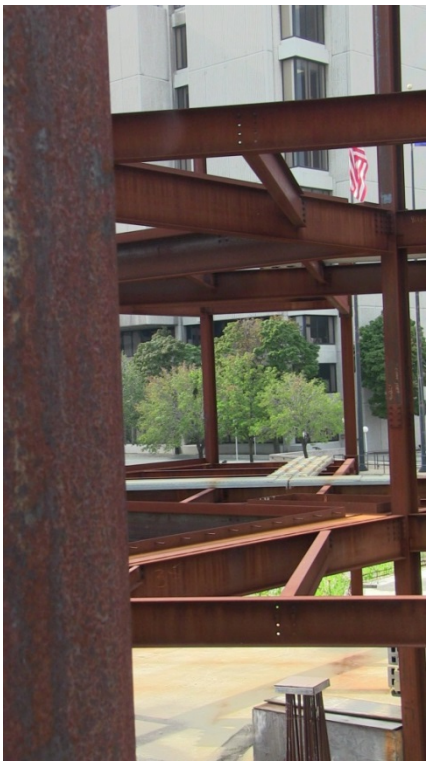


Photo 193:

Photo 194:

Photo 195:

Photo 196:

AREA G

Photo 197: Looking South at far Southwest corner of second floor

Photo 198: General photos of third floor, steel framing and pan decking are in good condition

Photo 199: General photos of third floor, steel framing and pan decking are in good condition

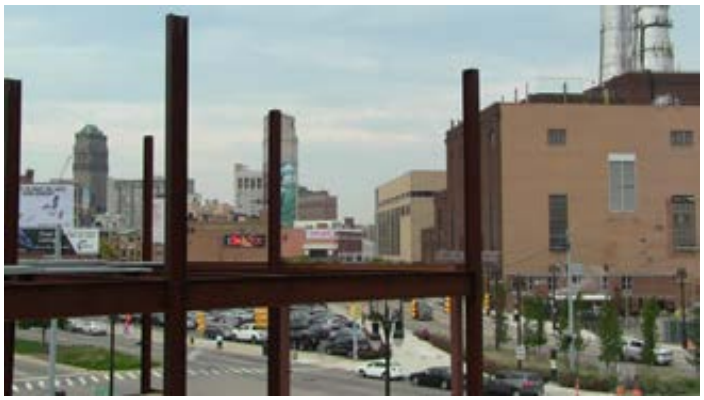


Photo 200: General photos of third floor, steel framing and pan decking are in good condition

Photo 201: General photos of steel framing in Area G, in good condition

Photo 202: Looing Southwest at slab on South end of Area G, some ponding

AREA G

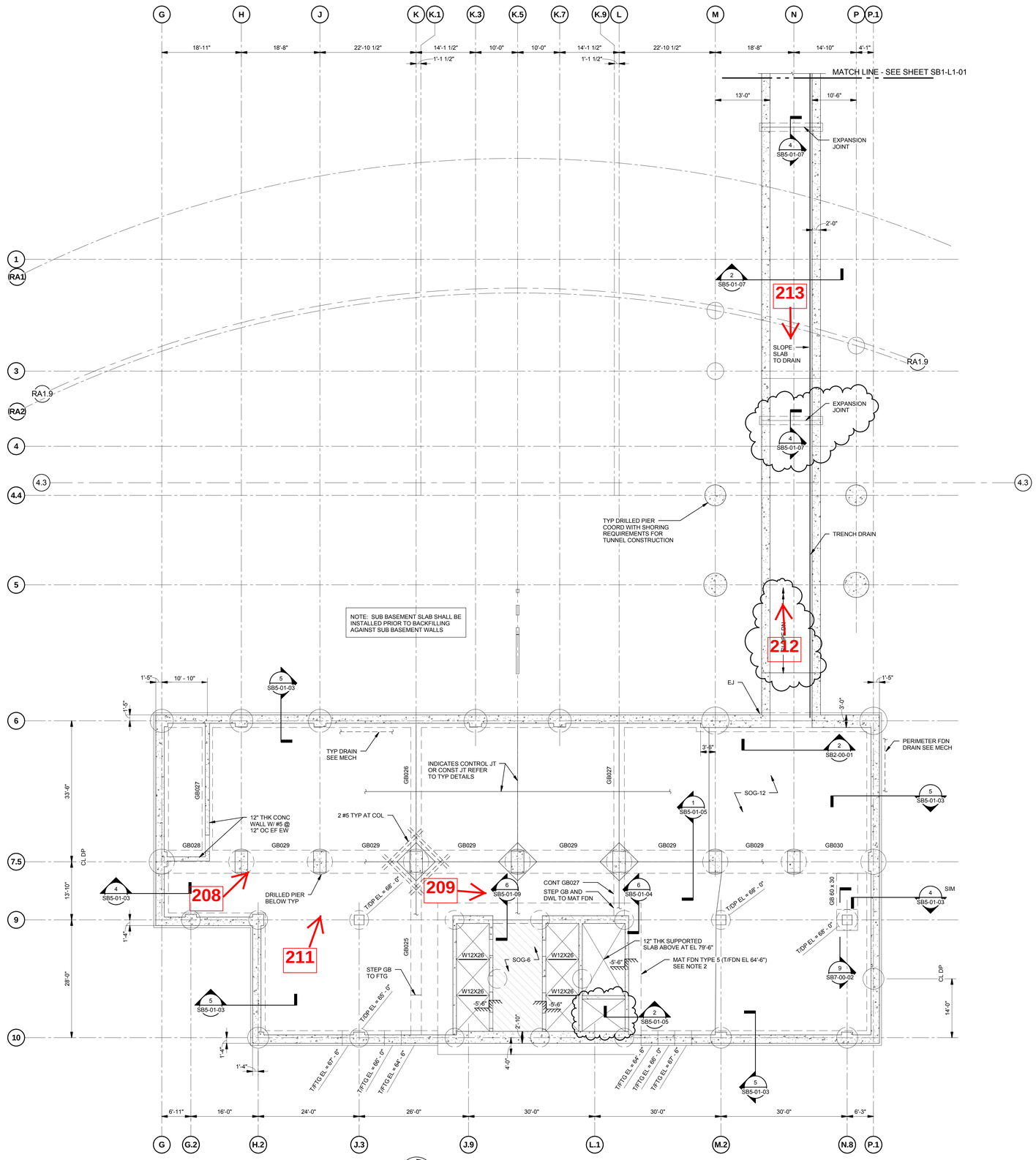
Photo 203: Corner bearing plate for column Northwest corner

Photo 204: Looking North at slab and steel framing West of elevator and electrical shaft

Photo 205: Looking North at slab and steel framing West of elevator and electrical shaft

Photo 206: Looking East at corner of steel framing on South end of Area G

Photo 207: Looking Southwest at corner of steel framing on West end of Area G



SUB BASEMENT AREA 'B'

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

NORTH

FINISHED FLOOR EL 70'-0" UON
TOP OF FOOTING EL 69'-0" UON
TOP OF DRILLED PIER EL 66'-6" UON
TOP OF GRADE BEAM EL 69'-0" UON

GENERAL NOTES:

1. REFERENCE ELEVATION 100'-0" = DCD (DETROIT CITY DATUM) ELEVATION 125.0'.
2. REFER TO THE FOLLOWING FOR ADDITIONAL INFORMATION:
   - S00-00-## FOR GENERAL STRUCTURAL NOTES, SYMBOLS, ABBREVIATIONS, SPECIAL INSPECTIONS AND GRID CONTROL PLANS
   - SB4-00-## FOR MAT FOUNDATIONS
   - SB5-00-## FOR FOUNDATION TYPICAL DETAILS
   - SB7-00-## FOR DRILLED PIER SCHEDULE
   - SB7-10-## FOR GRADE BEAM SCHEDULES
   - SB7-20-## FOR PIER AND FOOTING SCHEDULES
   - SF5-00-## FOR CIP CONCRETE TYPICAL DETAILS
   - SF5-20-## FOR MASONRY TYPICAL DETAILS
   - SF5-30-## FOR STEEL TYPICAL DETAILS
   - SF7-01-## THRU SF7-03-## FOR CIP CONCRETE COLUMN AND CIP BEAM SCHEDULES
   - SF7-31-## FOR STEEL COLUMN SCHEDULES
3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR HOUSEKEEPING AND/OR EQUIPMENT PADS, CURB SIZES AND LOCATIONS. SIZES AND LOCATIONS OF PADS SHALL BE VERIFIED WITH APPROVED MANUFACTURERS SHOP DRAWINGS. THE GENERAL CONTRACTOR TO COORDINATE AND VERIFY ALL SIZES AND LOCATIONS.
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5. THE CONTRACTOR SHALL COORDINATE EDGE OF CONCRETE SLAB AT STAIR SHAFT OPENINGS WITH THE STAIR MANUFACTURER TO ACCOMMODATE CLEARANCE INDICATED ON ARCH DRAWINGS. PLACE CONCRETE FILL IN THIS AREA AFTER STAIR ERECTION. STAIR MANUFACTURER'S CONNECTION DESIGN OF STRINGER TO FLOOR SUPPORT BEAM SHALL BE 'PIN CONNECTED'. REFER TO TYP DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB RECESSES AND FLOOR FINISH MATERIALS INFORMATION.

LEGEND

SOG-6: INDICATES 6" CONCRETE SLAB ON GRADE REINF W/ 4X4-W4.5XW4.5 WWF ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-8: INDICATES 8" CONCRETE SLAB ON GRADE REINF #4@16 OC EACH WAY 1" CLEAR COVER FROM TOP OF SLAB ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-12: INDICATES 12" CONCRETE SLAB ON GRADE REINF W/ #4@ 12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

SOG-14: INDICATES 14" CONCRETE SLAB ON GRADE REINF W/ #4 @ 12" OC TOP AND BOTTOM EACH WAY ON MIN 4" COMPACTED GRANULAR FILL ON VAPOR BARRIER.

FOUNDATION NOTES:

1. TOP OF SPREAD FOOTING ELEVATIONS NOTED ON PLAN ARE MINIMUM ELEVATIONS. IN ALL CASES FOOTINGS ARE TO BEAR ON UNDISTURBED NATURAL SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 3000 PSF.
2. REFER TO DRILLED PIER KEY PLAN AND SCHEDULES FOR SIZES OF BORED SHAFTS.
3. THE CONTRACTOR SHALL FIELD-LOCATE EXISTING UNDERGROUND UTILITIES, PIPING, ETC. PRIOR TO PLACEMENT OF FOUNDATIONS. NOTIFY ENGINEER OF ANY INTERFERENCE WHICH MIGHT REQUIRE RELOCATION AND/OR MODIFICATION OF FOUNDATIONS.
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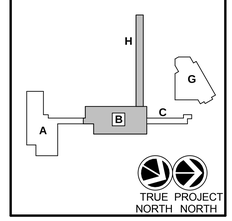
Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
27	11/20/12	REVISION 17
16	07/05/12	REVISION 12
7	02/21/12	REVISION 05
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FOUNDATION PLAN SUB BASEMENT AREA 'B'

SB1-L1-02

SHEET NUMBER

11/19/2012 4:41:31 PM

SUB-BASEMENT

Photo 208: General cell area

Photo 209: Rough mechanical and electrical and fire protection down

Photo 210: 16" water level

Photo 211: Girdle and columns-top in good conditions

Photo 212: Looking West to lower

Photo 213: Looking East to high-end

SUB-BASEMENT

Photo 214: Crack along joint, no structural concern

Photo 215: Crack along joint, no structural concern

Photo 216: Utilities running through CMU wall

Photo 217: Crack in ceiling, wet due to excess moisture, no structural concern

Photo 218: Crack in ceiling, wet due to excess moisture, no structural concern

Photo 219: Crack along corner in CMU wall, no structural concern

SUB-BASEMENT

Photo 220: Crack along corner in CMU wall, no structural concern

G - BASEMENT

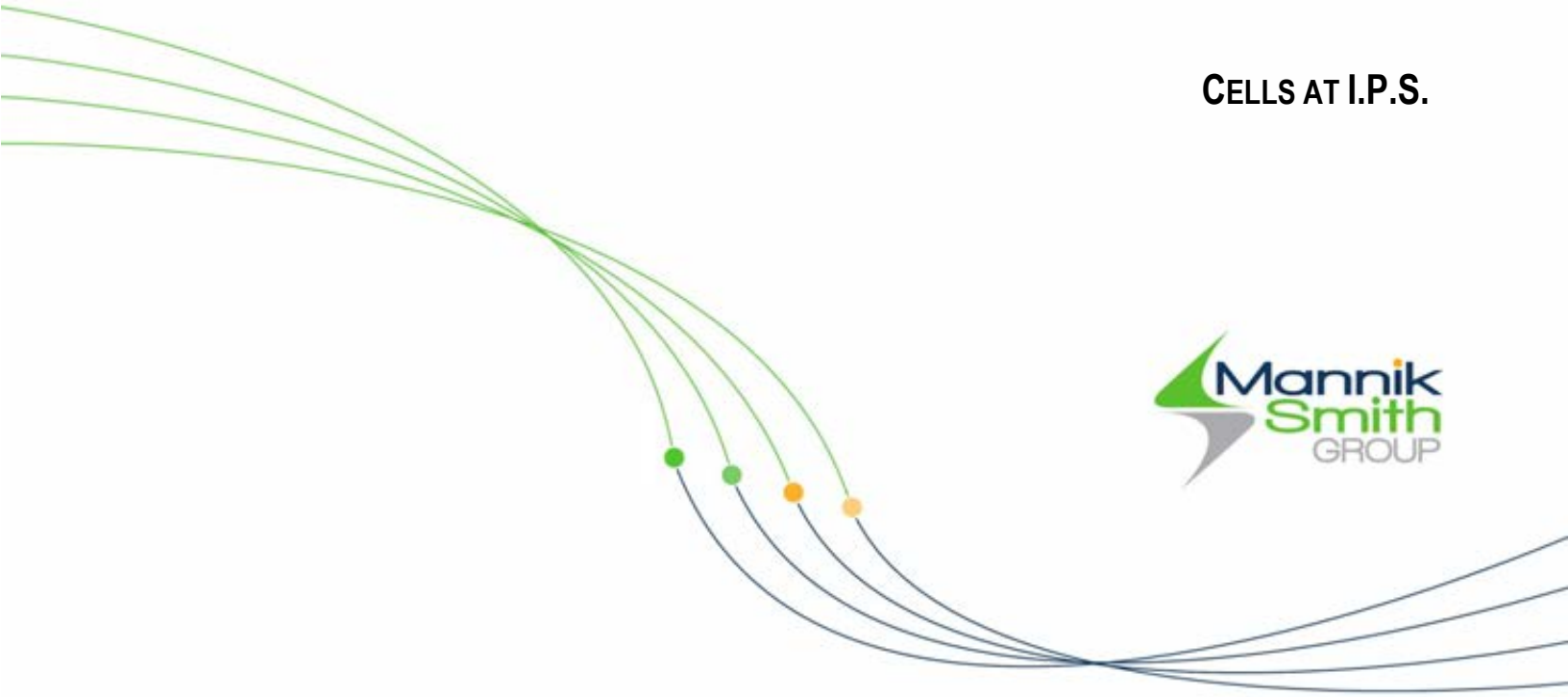
Photo 221: Water stood in this basement for long term at max 22”

Photo 222: Heavy oxidation at bottom of steel conduits. No major section loss

Photo 223: No structural damage to masonry or concrete walls

Photo 224: Basement ceiling of steel pan decking of thinner concrete slab above.

CELLS AT I.P.S.



CELLS AT I.P.S.

Photo 225: General photo of stored double cells

Photo 226: General photos of stored double cells-Looking South-East

Photo 227: General photos of stored double cells-Looking South-East

Photo 228: General Photos looking North at stored 80 double cells

Photo 229: General Photos looking North at stored 80 double cells

Photo 230: General Photos looking North at stored 80 double cells

CEILS AT I.B.C.

Photo 231: General photos looking South-West at double CMU storage at R/R R/W

Photo 232: General photos looking South-West at double CMU storage at R/R R/W

Photo 233: General photos looking South-West at OBL CMU storage at R/R R/W

Photo 234: General photos looking South-West at DBL CMU storage at R/R R/W

Photo 235: Damaged frame

Photo 236: 6-person

CEILS AT I.B.C.

Photo 237: Test unit back side of mechanical/electrical

APPENDIX D

CRACK MAPPING

LEGEND

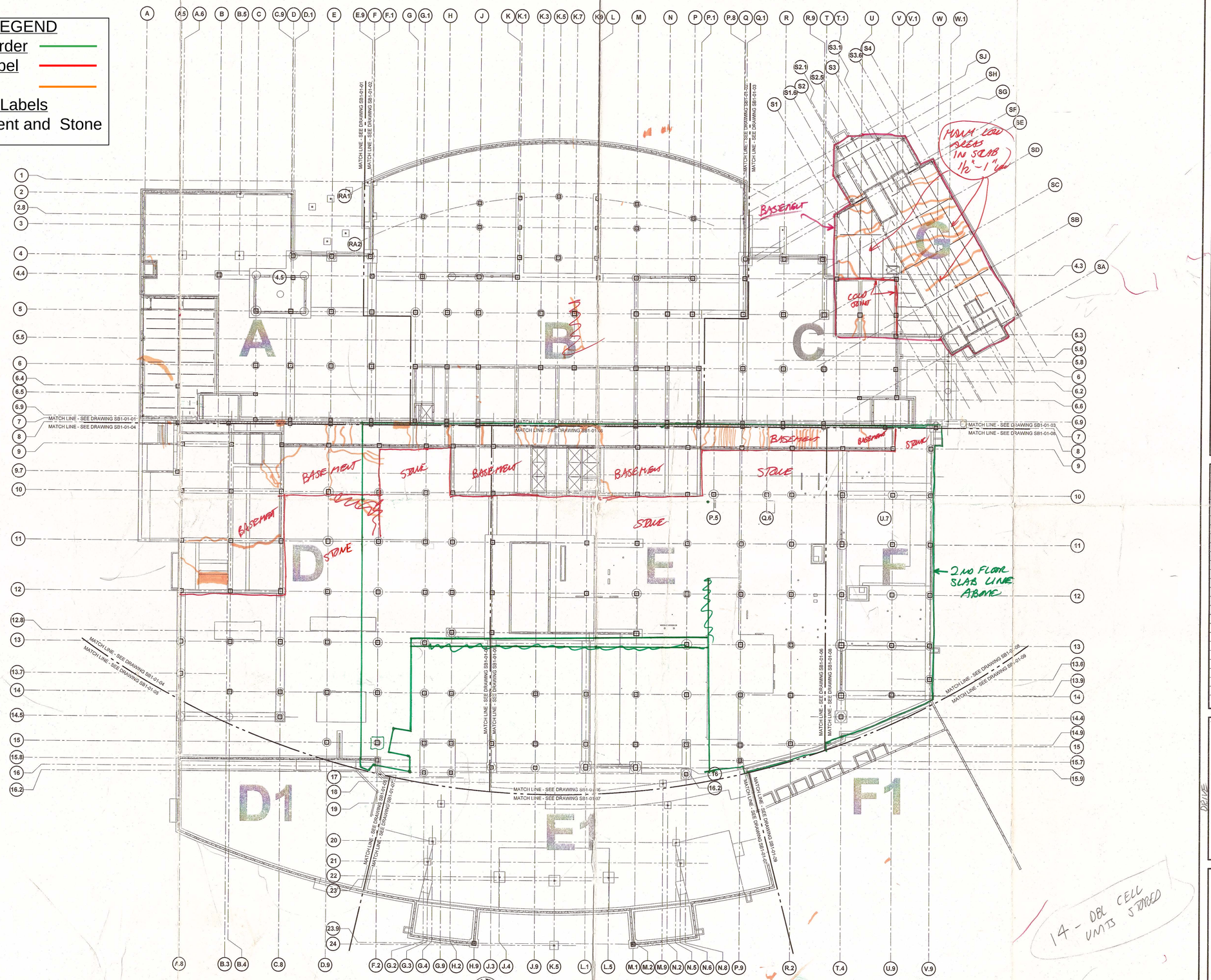
Area Border

Area Label

Cracks

Labels

Basement and Stone



FIRST FLOOR COMPOSITE PLAN

SCALE: 3/64" = 1'-0"

ARCHITECTURE | ENGINEERING

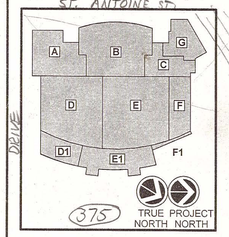
AECOM

GHAFARI

The Guardian Building
500 Griswold, Suite 2420
Detroit, Michigan 48226
T. 313-436-8900
F. 313-965-3058

Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
5	02/10/12	FOUNDATION PACKAGE
2	12/09/11	FOUNDATION PACKAGE - VOID
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

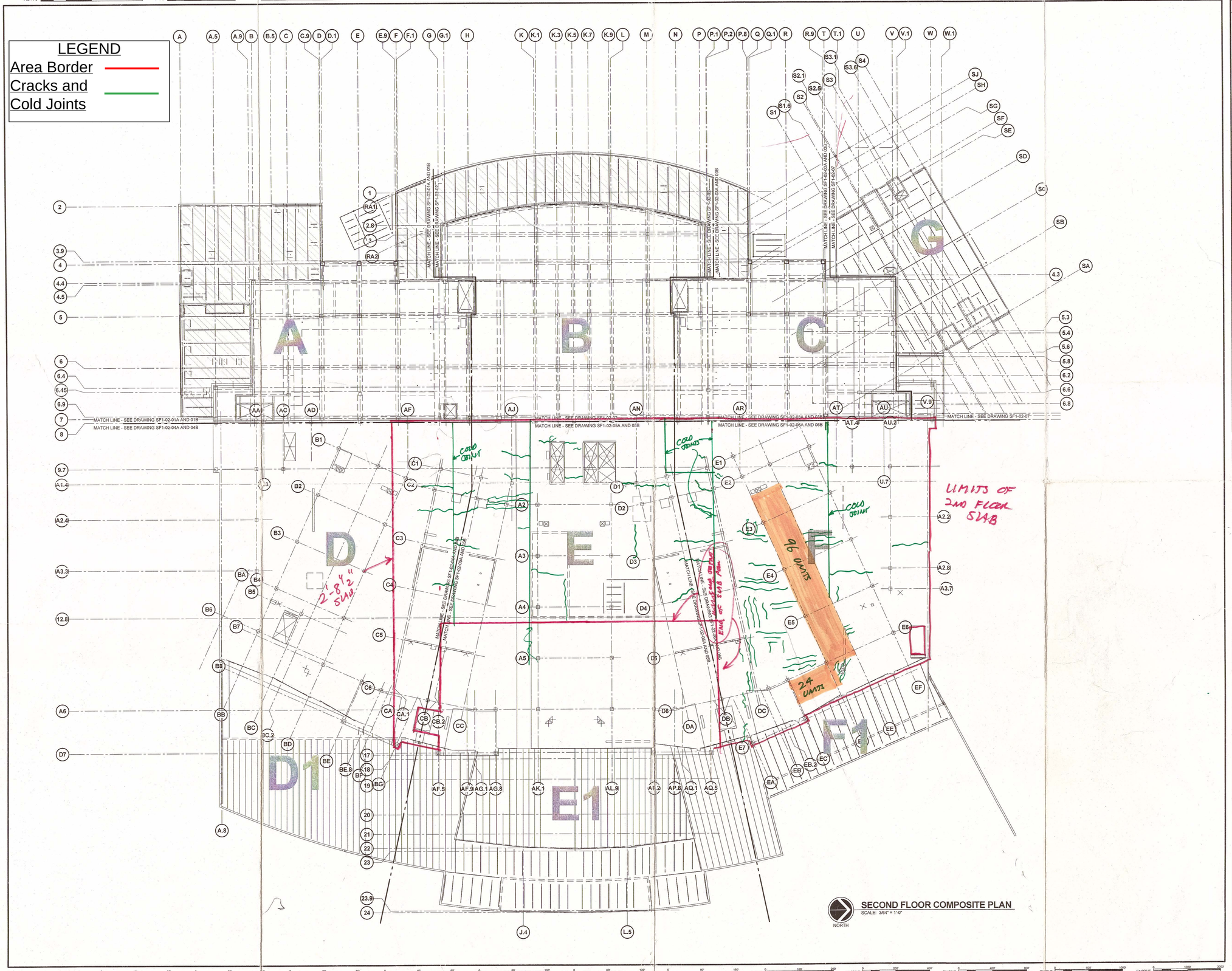
SHEET TITLE

STRUCTURAL FOUNDATION PLAN FIRST FLOOR COMPOSITE

SB1-01-00

SHEET NUMBER

2/10/2012 3:23:06 PM



SECOND FLOOR COMPOSITE PLAN
SCALE: 3/64" = 1'-0"

ARCHITECTURE | ENGINEERING

AECOM
GHAFARI

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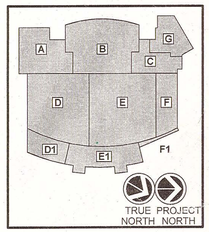
500 Griswold, Suite 2420
Detroit, Michigan 48226
T. 313-436-8900
F. 313-965-3058

Wayne County
Consolidated Jail Facility
Detroit, MI

REV	DATE	ISSUED FOR
17	07/31/12	STRUCTURAL PODIUM PACKAGE
13	05/11/12	SUPERSTRUCTURE PERMIT SET
L	04/10/12	STRUCT. STL. PROCUREMENT; ELEVATOR & PODIUM STRUCTURAL
K	03/23/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE UPDATE
J	03/09/12	PODIUM STRUCTURAL PROCUREMENT PACKAGE
H	11/14/11	DESIGN DEVELOPMENT
G	10/31/11	PRECAST PROCUREMENT PACKAGE
F	10/14/11	DESIGN DEVELOPMENT REVIEW



PROJECT #	107301
PROJECT MANAGER	S. HAHN
DESIGNED BY	C. COSTIS
DRAWN BY	J. HADUCK
QUALCHECK	S. BOWKER

SHEET TITLE

STRUCTURAL FRAMING PLAN SECOND FLOOR COMPOSITE

SF1-02-00
SHEET NUMBER

7/30/2012 6:59:49 PM

APPENDIX E

SURVEYED AS-BUILT ELEVATIONS

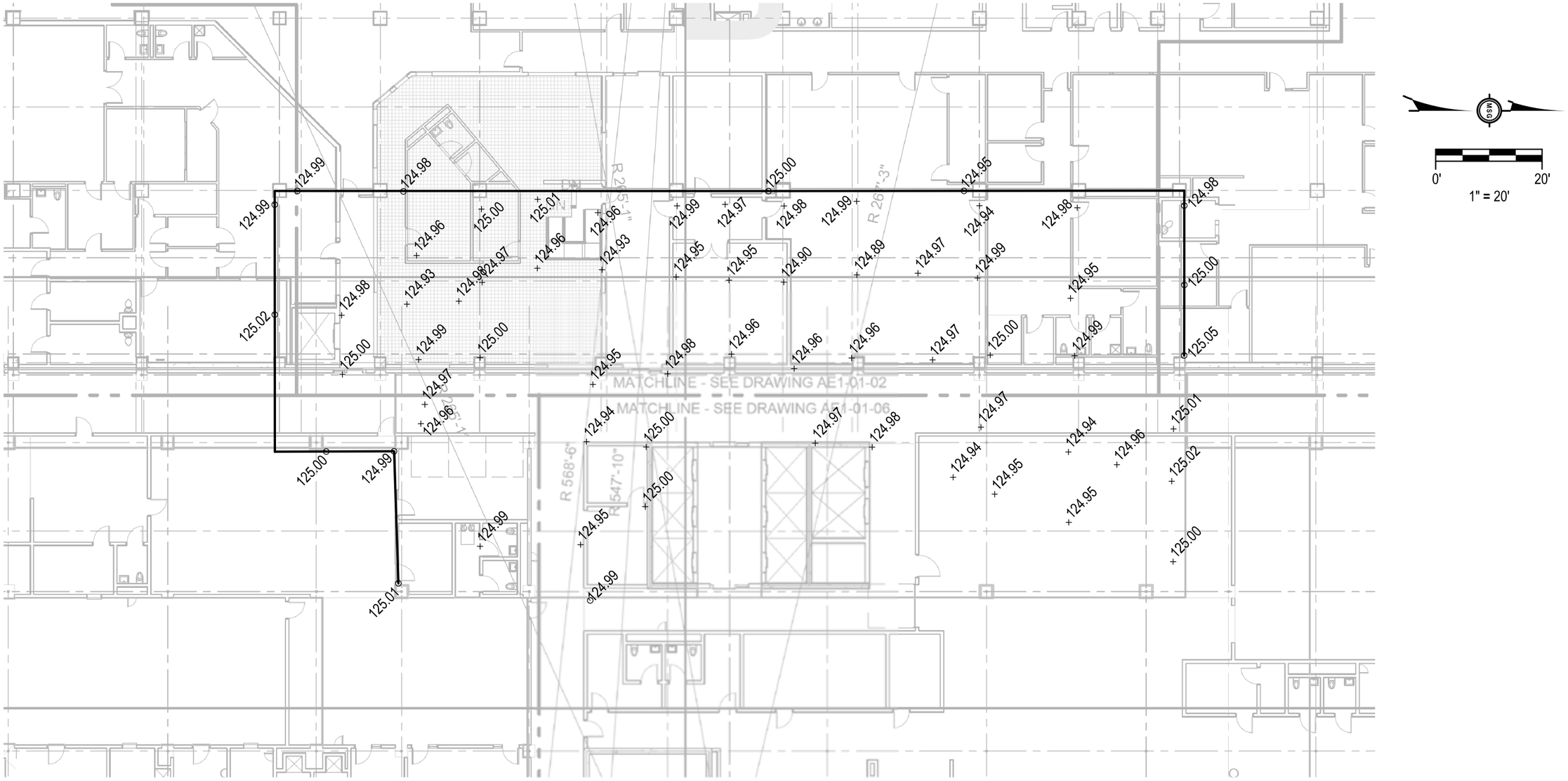


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FIGURE 2
AS-BUILT ELEVATIONS
FIRST FLOOR

Wayne County Jail
Gratiot Avenue
Detroit, Wayne County, Michigan

DATE	DRAWN BY	CHECKED BY	PROJECT NO.
11/1/2016	RAR	FJB	W2470001

11/1/2016 1:34:43 PM
W:\Projects\Projects U-Z\W2470001\CAD\BASE\W2470001_AB_MIF_1ST_FLOOR.dgn

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FIGURE 2
AS-BUILT ELEVATIONS
SECOND FLOOR

Wayne County Jail
Gratiot Avenue
Detroit, Wayne County, Michigan

DATE	DRAWN BY	CHECKED BY	PROJECT NO.
11/4/2016	RAR	FJB	W2470001

11/4/2016 9:47:00 AM
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APPENDIX F

STORM AND SANITARY SEWER VIDEO INSPECTION REPORT

Sanitary and Storm Sewer Inspection

Photo 1: Manhole #3A, uncovered

Photo 2: Manhole #3B and the pipe draining the rain water from the basement bring pumped out, this opening is how gravel and sedimentation got into the pipeline

Photo 3: First attempt at video inspection, pipes contained dirty water and sedimentation, could not continue inspection until pipes jet/vac cleaned out

Photo 4: First attempt at video inspection, pipes contained dirty water and sedimentation, could not continue inspection until pipes jet/vac cleaned out

Photo 5: First attempt at video inspection, pipes contained dirty water and sedimentation, could not continue inspection until pipes jet/vac cleaned out

Advanced Underground Inspection L.L.C.
38657 Webb Drive
Westland MI. 48185
734-721-0081
info@advui.com

/ Main sections

Project name	Project Number :	Responsible :	Date :
MANNIK SMITH GROUP 11-1-16			**11/1/2016**

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
15	8B	8		GRATOIT AVE		Reinforced Concrete Pipe	46.00	
22	9A	9		GRATOIT AVE		Ductile Iron Pipe	22.00	

Pipe size: CIRCULAR 8 = 68 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
13	8A	8		GRATOIT AVE		Polyvinyl Chloride	27.00	
14	7A	7		GRATOIT AVE		Polyvinyl Chloride	32.00	
16	6A	6		GRATOIT AVE		Polyvinyl Chloride	10.00	
17	5A	5		GRATOIT AVE		Polyvinyl Chloride	29.00	
18	1A	1		GRATOIT AVE		Ductile Iron Pipe	76.00	

Pipe size: CIRCULAR 10 = 174 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
20	4	3A		GRATOIT AVE		Reinforced Concrete Pipe	46.00	
21	3B	3A		GRATOIT AVE		Polyvinyl Chloride	62.00	

Pipe size: CIRCULAR 12 = 108 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
1	3A	3		GRATOIT AVE		Reinforced Concrete Pipe	90.00	
2	3	2		GRATOIT AVE		Reinforced Concrete Pipe	84.00	
3	2A	2		GRATOIT AVE		Reinforced Concrete Pipe	81.00	
6	11A	11		GRATOIT AVE		Reinforced Concrete Pipe	39.00	

Pipe size: CIRCULAR 15 = 294 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
5	12	11		GRATOIT AVE		Reinforced Concrete Pipe	29.00	
7	11	9		GRATOIT AVE		Reinforced Concrete Pipe	62.00	
8	9	8		GRATOIT AVE		Reinforced Concrete Pipe	66.00	

Pipe size: CIRCULAR 18 = 157 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
4	2	1		GRATOIT AVE		Reinforced Concrete Pipe	53.00	
9	8	7		GRATOIT AVE		Reinforced Concrete Pipe	64.00	

Pipe size: CIRCULAR 21 = 117 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
10	7	6		GRATOIT AVE		Reinforced Concrete Pipe	26.00	
11	6	5		GRATOIT AVE		Reinforced Concrete Pipe	43.00	
12	5	1		GRATOIT AVE		Reinforced Concrete Pipe	55.00	

Pipe size: CIRCULAR 24 = 124 ft (0 ft)

No.	Start MH	End MH	Date	Street	Disc	Material	FT	(Segment)
19	1	EXISTING 163		GRATOIT AVE		Reinforced Concrete Pipe	48.00	

Pipe size: CIRCULAR 30 = 48 ft (0 ft)

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/ Main sections

Project name	Project Number :	Responsible :	Date :
MANNIK SMITH GROUP 11-1-16			**11/1/2016**

All sections = 1090 ft (0 ft)

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Westland MI. 48185
734-721-0081
info@advui.com

Inspection Report

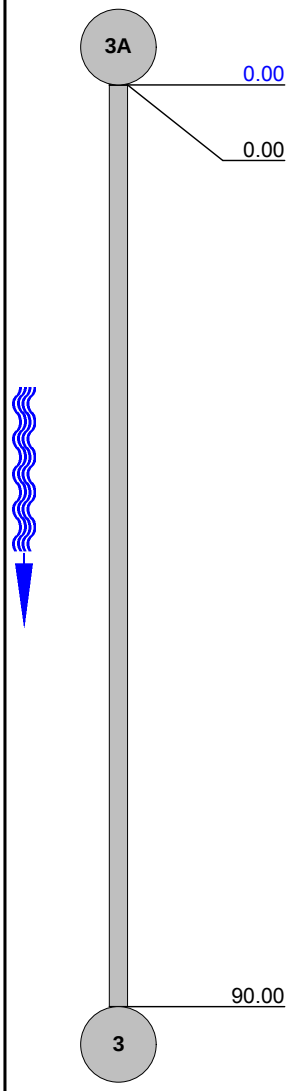
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**1**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**3A**
City	**DETROIT**	Drainage Area		Dowstream MH	**3**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**90.00 ft**	Section Length	**90.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**15 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:225	Position	Observation
3A	0.00	Water Level, 5 % of cross sectional area
	0.00	Downstream Manhole, Survey Begins / MH 3
	90.00	Upstream Manhole, Survey Ends / MH 3A
3		



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Westland MI. 48185
734-721-0081
info@advui.com

Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**2**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**3**
City	**DETROIT**	Drainage Area		Dowstream MH	**2**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**84.00 ft**	Section Length	**84.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**15 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:210	Position	Observation
3		
	0.00	Water Level, 5 % of cross sectional area
	0.00	Upstream Manhole, Survey Begins / MH 3
	25.70	Tap Factory Made, at 03 o'clock, 6", within 8 inches of joint: YES
	84.00	Downstream Manhole, Survey Ends / MH 2
2		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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734-721-0081
info@advui.com

Inspection Report

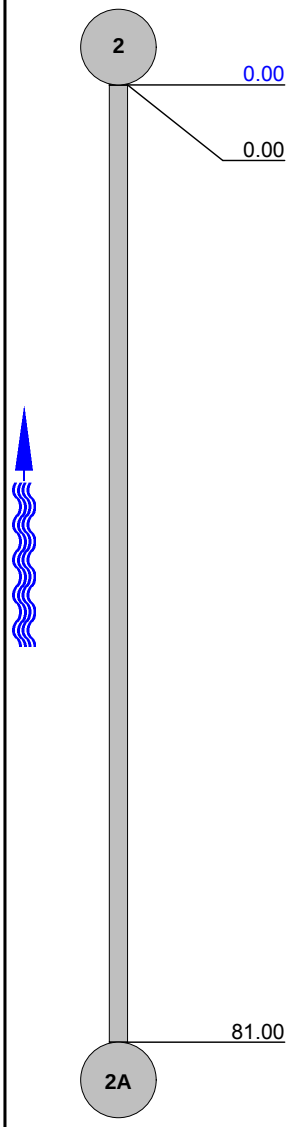
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**3**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**2A**
City	**DETROIT**	Drainage Area		Dowstream MH	**2**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**81.00 ft**	Section Length	**81.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**15 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:195 **Position** **Observation**



Position	Observation
0.00	Water Level, 5 % of cross sectional area
0.00	Downstream Manhole, Survey Begins / MH 2A
81.00	Upstream Manhole, Survey Ends / MH 2A

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Westland MI. 48185
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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**4**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**2**
City	**DETROIT**	Drainage Area		Dowstream MH	**1**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**53.00 ft**	Section Length	**53.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**21 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:135	Position	Observation
2	0.00	Water Level, 5 % of cross sectional area
	0.00	Upstream Manhole, Survey Begins / MH 2
	53.00	Downstream Manhole, Survey Ends / MH 1
1		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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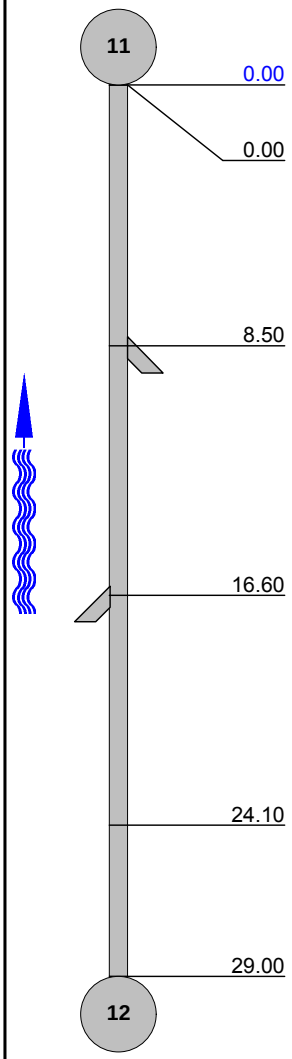
Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**5**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**12**
City	**DETROIT**	Drainage Area		Dowstream MH	**11**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**29.00 ft**	Section Length	**29.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**18 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :



1:75 Position	Observation
0.00	Water Level, 5 % of cross sectional area
0.00	Downstream Manhole, Survey Begins / MH 11
8.50	Tap Factory Made, at 09 o'clock, 6", within 8 inches of joint: YES
16.60	Tap Factory Made, at 03 o'clock, 6", within 8 inches of joint: YES
24.10	Material Change, Polyvinyl Chloride (PVC) / PVC
29.00	Drop Connection, Survey Ends / MH 12

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

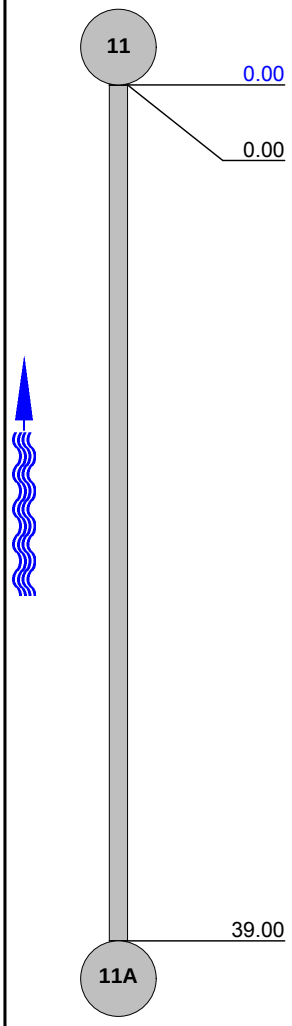
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**6**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**11A**
City	**DETROIT**	Drainage Area		Dowstream MH	**11**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**39.00 ft**	Section Length	**39.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**15 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:105 **Position** **Observation**



Position	Observation
0.00	Water Level, 5 % of cross sectional area
0.00	Downstream Manhole, Survey Begins / MH 11
39.00	Upstream Manhole, Survey Ends / MH 11A

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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info@advui.com

Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**7**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**11**
City	**DETROIT**	Drainage Area		Dowstream MH	**9**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**62.00 ft**	Section Length	**62.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**18 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:150	Position	Observation
11		
	0.00	Water Level, 5 % of cross sectional area
	0.00	Upstream Manhole, Survey Begins / MH 11
	62.00	Downstream Manhole, Survey Ends / MH 9
9		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Westland MI. 48185
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Inspection Report

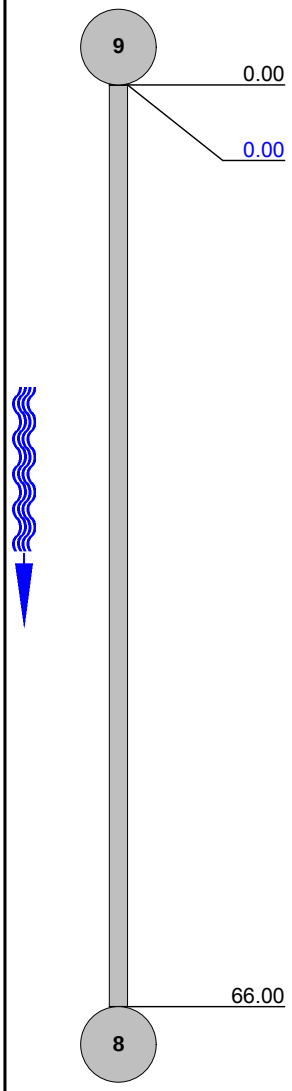
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**8**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**9**
City	**DETROIT**	Drainage Area		Dowstream MH	**8**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**66.00 ft**	Section Length	**66.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**18 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:165 **Position** **Observation**



Position	Observation
0.00	Upstream Manhole, Survey Begins / MH 9
0.00	Water Level, 5 % of cross sectional area
66.00	Downstream Manhole, Survey Ends / MH 8

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**9**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**8**
City	**DETROIT**	Drainage Area		Dowstream MH	**7**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**64.00 ft**	Section Length	**64.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**21 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:165	Position	Observation
8	0.00	Upstream Manhole, Survey Begins / MH 8
	0.00	Water Level, 5 % of cross sectional area
	64.00	Downstream Manhole, Survey Ends / MH 7
7		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

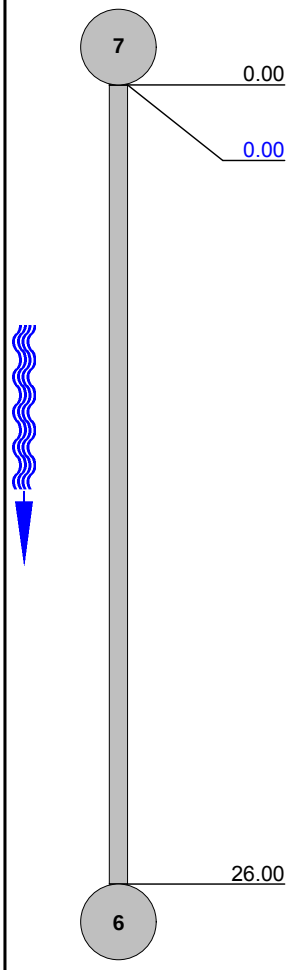
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**10**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**7**
City	**DETROIT**	Drainage Area		Dowstream MH	**6**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**26.00 ft**	Section Length	**26.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**24 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:75	Position	Observation
7	0.00	Upstream Manhole, Survey Begins / MH 7
	0.00	Water Level, 5 % of cross sectional area
	26.00	Downstream Manhole, Survey Ends / MH 6
6		



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

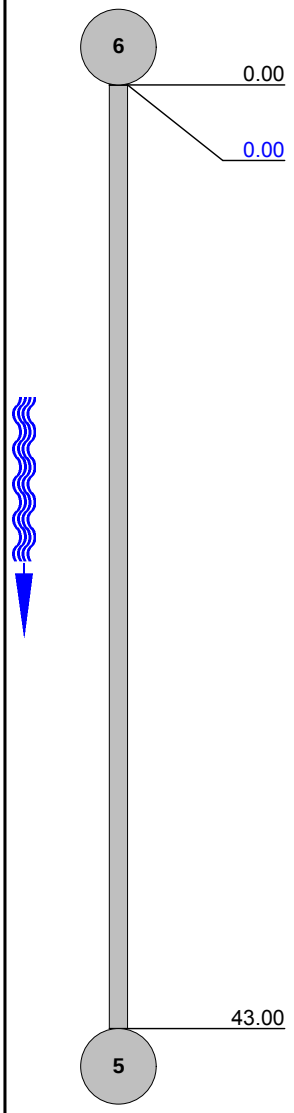
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**11**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**6**
City	**DETROIT**	Drainage Area		Dowstream MH	**5**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**43.00 ft**	Section Length	**43.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**24 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:105 **Position** **Observation**



Position	Observation
0.00	Upstream Manhole, Survey Begins / MH 6
0.00	Water Level, 5 % of cross sectional area
43.00	Downstream Manhole, Survey Ends / MH 5

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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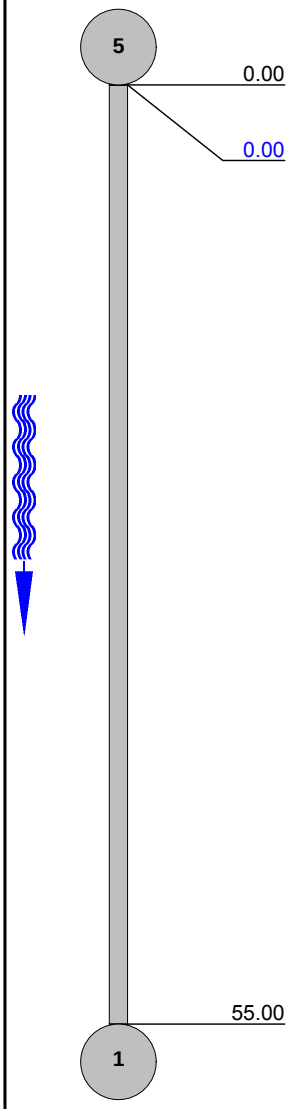
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**12**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**5**
City	**DETROIT**	Drainage Area		Dowstream MH	**1**
Loc. details		Flow Control		Dir. of Survey	**Downstream**
Location Code	**Easement/Right of Way**	Length surveyed	**55.00 ft**	Section Length	**55.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**24 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:135 **Position** **Observation**



0.00 Upstream Manhole, Survey Begins / MH 5

0.00 Water Level, 5 % of cross sectional area

55.00 Downstream Manhole, Survey Ends / MH 1

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**13**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**8A**
City	**DETROIT**	Drainage Area		Dowstream MH	**8**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**27.00 ft**	Section Length	**27.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**10 inch**
Year Rehabilitated		Material	**Polyvinyl Chloride**
Tape / Media No.		Lining Method	

Add. Information :

1:75	Position	Observation
8	0.00	Downstream Manhole, Survey Begins / MH 8A
	0.00	Water Level, 5 % of cross sectional area
	27.00	Upstream Manhole, Survey Ends / MH 8A
8A		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**14**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**7A**
City	**DETROIT**	Drainage Area		Dowstream MH	**7**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**32.00 ft**	Section Length	**32.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**10 inch**
Year Rehabilitated		Material	**Polyvinyl Chloride**
Tape / Media No.		Lining Method	

Add. Information :

1:90	Position	Observation
7	0.00	Downstream Manhole, Survey Begins / MH 7
	0.00	Water Level, 5 % of cross sectional area
	32.00	Upstream Manhole, Survey Ends / MH 7A
7A		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

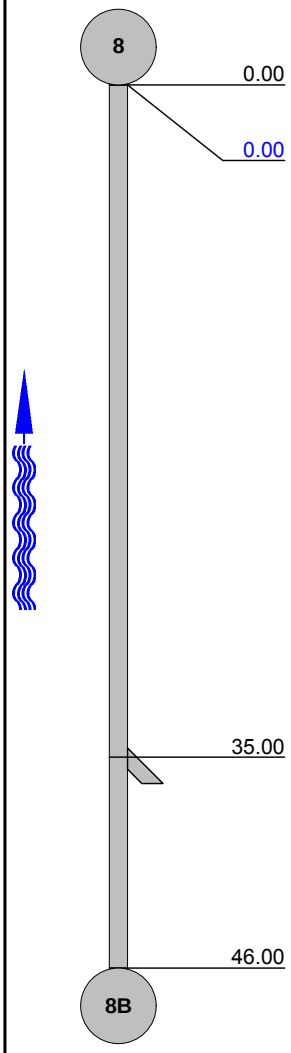
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**15**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**8B**
City	**DETROIT**	Drainage Area		Dowstream MH	**8**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**46.00 ft**	Section Length	**46.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**8 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:120 **Position** **Observation**



Position	Observation
0.00	Downstream Manhole, Survey Begins / MH 8
0.00	Water Level, 5 % of cross sectional area
35.00	Tap Factory Made, at 10 o'clock, 6", within 8 inches of joint: YES
46.00	Upstream Manhole, Survey Ends / MH 8A

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	BILLYKROEGER II		16
Certificate No.	**Survey Customer**	**System Owner**	**Date Cleaned**	**Pre-Cleaning**	**Sewer Category**
U-416-07003709					

Street	GRATOIT AVE	Use of Sewer	Combined	Upstream MH	6A
City	DETROIT	Drainage Area		Dowstream MH	6
Loc. details		Flow Control		Dir. of Survey	Upstream
Location Code	Easement/Right of Way	Length surveyed	10.00 ft	Section Length	10.00 ft

Purpose of Survey	Post-Rehabilitation Survey	Joint Length	
Year Laid		Dia./Height	10 inch
Year Rehabilitated		Material	Polyvinyl Chloride
Tape / Media No.		Lining Method	

Add. Information :

1:50	Position	Observation
6	0.00	Downstream Manhole, Survey Begins / MH 6
	0.00	Water Level, 5 % of cross sectional area
6A	10.00	Upstream Manhole, Survey Ends / MH 6A

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2100	0	2	2	0	2	2

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Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**17**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**5A**
City	**DETROIT**	Drainage Area		Dowstream MH	**5**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**29.00 ft**	Section Length	**29.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**10 inch**
Year Rehabilitated		Material	**Polyvinyl Chloride**
Tape / Media No.		Lining Method	

Add. Information :

1:75	Position	Observation
5	0.00	Upstream Manhole, Survey Begins / MH 5
	0.00	Water Level, 5 % of cross sectional area
	29.00	Upstream Manhole, Survey Ends / MH 5A
5A		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

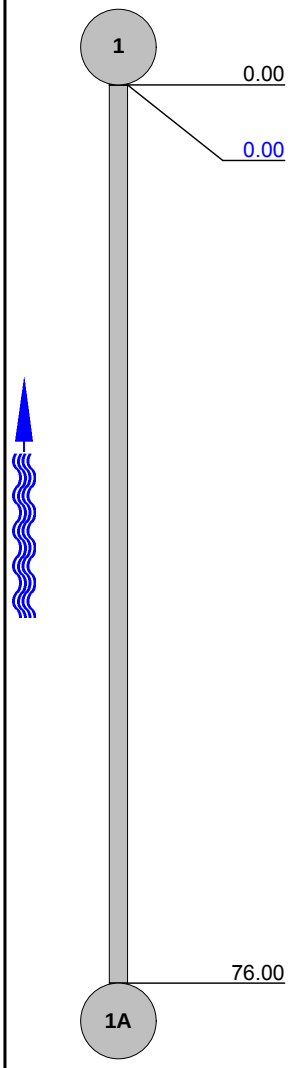
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**18**
Certificate No.	**Survey Customer**	**System Owner**	**Date Cleaned**	**Pre-Cleaning**	**Sewer Category**
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**1A**
City	**DETROIT**	Drainage Area		Dowstream MH	**1**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**76.00 ft**	Section Length	**76.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**10 inch**
Year Rehabilitated		Material	**Ductile Iron Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:195	Position	Observation
	0.00	Downstream Manhole, Survey Begins / MH 1
	0.00	Water Level, 5 % of cross sectional area
	76.00	Upstream Manhole, Survey Ends / MH 1A



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	BILLYKROEGER II		19
Certificate No.	**Survey Customer**	**System Owner**	**Date Cleaned**	**Pre-Cleaning**	**Sewer Category**
U-416-07003709					

Street	GRATOIT AVE	Use of Sewer	Combined	Upstream MH	1
City	DETROIT	Drainage Area		Dowstream MH	EXISTING 163
Loc. details		Flow Control		Dir. of Survey	Downstream
Location Code	Easement/Right of Way	Length surveyed	48.00 ft	Section Length	48.00 ft

Purpose of Survey	Post-Rehabilitation Survey	Joint Length	
Year Laid		Dia./Height	30 inch
Year Rehabilitated		Material	Reinforced Concrete Pipe
Tape / Media No.		Lining Method	

Add. Information :

1:120	Position	Observation
1	0.00	Upstream Manhole, Survey Begins / MH 1
	0.00	Water Level, 5 % of cross sectional area
	33.30	Tap Factory Made, at 10 o'clock, 6", within 8 inches of joint: YES
EXISTING 163	48.00	Downstream Manhole, Survey Ends / EXISTING 163

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2100	0	2	2	0	2	2

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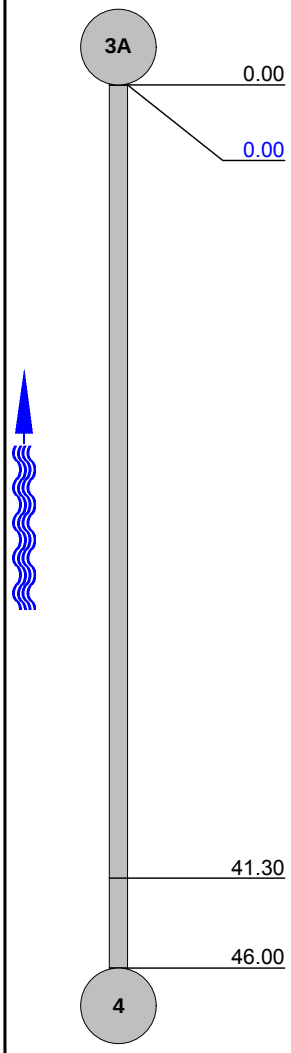
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**20**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**4**
City	**DETROIT**	Drainage Area		Dowstream MH	**3A**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**46.00 ft**	Section Length	**46.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**12 inch**
Year Rehabilitated		Material	**Reinforced Concrete Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:120 **Position** **Observation**



Position	Observation
0.00	Downstream Manhole, Survey Begins / MH 3A
0.00	Water Level, 0 % of cross sectional area
41.30	Material Change, Polyvinyl Chloride (PVC) / PVC
46.00	Cleanout Mainline, Survey Ends / 4

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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Inspection Report

Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**21**
Certificate No.	Survey Customer	System Owner	Date Cleaned	Pre-Cleaning	Sewer Category
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**3B**
City	**DETROIT**	Drainage Area		Dowstream MH	**3A**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**62.00 ft**	Section Length	**62.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**12 inch**
Year Rehabilitated		Material	**Polyvinyl Chloride**
Tape / Media No.		Lining Method	

Add. Information :

1:150	Position	Observation
3A	0.00	Downstream Manhole, Survey Begins / 3A
	0.00	Water Level, 0 % of cross sectional area
	62.00	Upstream Manhole, Survey Ends / MH 3B
3B		

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**2100**	**0**	**2**	**2**	**0**	**2**	**2**

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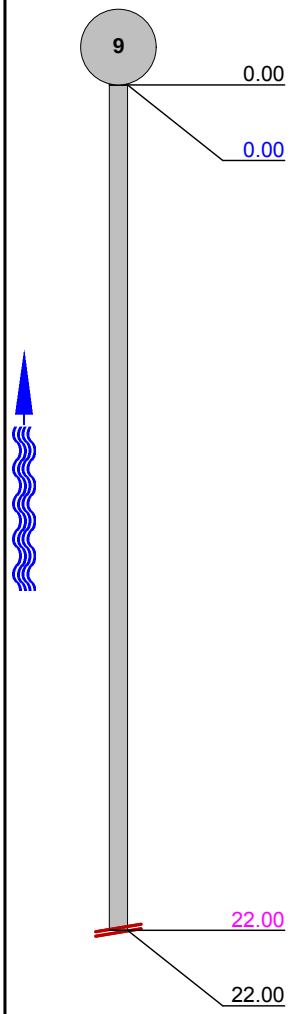
Date	Project Number	Weather	Surveyor's Name	Pipe Segment Reference	Section No.
		Dry	**BILLYKROEGER II**		**22**
Certificate No.	**Survey Customer**	**System Owner**	**Date Cleaned**	**Pre-Cleaning**	**Sewer Category**
U-416-07003709					

Street	**GRATOIT AVE**	Use of Sewer	**Combined**	Upstream MH	**9A**
City	**DETROIT**	Drainage Area		Dowstream MH	**9**
Loc. details		Flow Control		Dir. of Survey	**Upstream**
Location Code	**Easement/Right of Way**	Length surveyed	**22.00 ft**	Section Length	**22.00 ft**

Purpose of Survey	**Post-Rehabilitation Survey**	Joint Length	
Year Laid		Dia./Height	**8 inch**
Year Rehabilitated		Material	**Ductile Iron Pipe**
Tape / Media No.		Lining Method	

Add. Information :

1:60	Position	Observation
	0.00	Downstream Manhole, Survey Begins / MH 9
	0.00	Water Level, 5 % of cross sectional area
	22.00	Alignment Right, 75 %
	22.00	Survey Abandoned / DUE TO 75% TURN



QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	**4121**	**0**	**6**	**6**	**0**	**3**	**3**