CITY OF BALTIMORE

BERNARD C. "JACK" YOUNG,
Mayor

DEPARTMENT OF RECREATION AND PARKS

CAPITAL DEVELOPMENT AND PLANNING
2600 Madison Avenue
Baltimore, Maryland 21217

ADDENDUM NO. 2

DATE: January 28, 2020

For
DRAWINGS, SPECIFICATIONS, PROPOSAL, CONTRACT AND BOND

For
MIDDLE BRANCH WELLNESS AND FITNESS
CONTRACT NO. RP 19808

FOR THE MAYOR AND CITY COUNCIL OF BALTIMORE

TO BIDDERS: THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS ON WHICH THE CONTRACT WILL BE BASED, AND IS ISSUED TO MODIFY, EXPLAIN AND/OR CORRECT THE ORIGINAL DRAWINGS AND SPECIFICATIONS.
PLEASE ATTACH THIS ADDENDUM TO YOUR CONTRACT DOCUMENTS AND ACKNOWLEDGE IT ON THE BID OR PROPOSAL PAGE WHERE INDICATED.

ALL BIDS DUE BY FEB 5, 2020 AT 11 AM.
SEE ATTACHED FOR CHANGES TO THE SPECIFICATIONS

APPROVED:

Adam Boarman, RLA
CHIEF OF CAPITAL DEVELOPMENT
DEPARTMENT OF RECREATION AND PARKS

Reginald Moore
DIRECTOR OF RECREATION AND PARKS

01. The following specification documents have been issued as part of this Addendum #2. (If a document sharing the title and/or page number was in the original advertised package, these documents will supersede those within the proposed contract.)

a. Pages 8-14 - Wage Rates
b. Pages 344-352g - 05 1200 Structural Steel (inspection table attach added)
c. Pages 360-367 - 05 3100 Steel Decking
d. Pages 441-450 - 07 5423 Thermoplastic-Polyolefin Roofing
e. Pages 503-509 - 08 4413 Glazed Aluminum Curtain Walls
f. Pages 647-652 - 11 6623 Gymnasium Equipment
g. Pages 660-664 - 12 6613 Telescoping Bleachers
h. Pages 1352-1358 - 26 0010 Electrical General Provisions
i. Pages 1530, 1533, 1534, 1535 - 31 2300 Excavating, Filling, & Grading
j. Pages 1607-1611 - 32 1400 Unit Paving

02. The following drawings have been issued as part of this Addendum #2.

Civil:
a) Sheet C3.00
b) Sheet C4.04
c) Sheet C4.05
d) Sheet C5.01
e) Sheet C6.00
f) Sheet C7.00
g) Sheet C8.00
h) Sheet C8.03
i) Sheet C8.04
j) Sheet C8.05
k) Sheet C9.00
l) Sheet C9.02
m) Sheet C9.03
n) Sheet C9.04
o) Sheet C9.06 *Note: this sheet was included as a blank sheet in the bid set, now it is called Sediment Basin #1 Phased Construction*

Landscape:
p) Sheet L1.00
q) Sheet L1.01
r) Sheet L1.02
s) Sheet L2.00
t) Sheet L3.00
u) Sheet L4.00

Architectural:
v) Sheet CS.1
w) Sheet AC.1
x) Sheet AC.2
y) Sheet AS.1
z) Sheet A1.2
aa) Sheet A1.3
bb) Sheet A3.2
cc) Sheet A4.3
dd) Sheet A4.4
ee) Sheet A5.2
ff) Sheet A6.4

gg) Sheet A6.5
hh) Sheet A6.7
ii) Sheet A7.5
Structural:
jj) Sheet S1.0
kk) Sheet S1.2
ll) Sheet S1.4
mm) Sheet S1.5
nn) Sheet S3.1
oo) Sheet S4.2
Plumbing:
pp) Sheet P1.1
qq) Sheet P1.2
rr) Sheet E1.3
ss) Sheet E1.6
Electrical:
tt) Sheet E101
uu) Sheet E202
vv) Sheet E501
ww) Sheet E602

03. The following should be noted:

a. Specifications 027000, 027200, 027300 require the contractor or their subcontractor to have minimum experience. Proof of this experience is not required to be submitted as part of the bid. However, when the city approves subcontractors, it will require this experience; and the contractor or subcontractor should be able to demonstrate previous successful experience as outlined in these sections.

04. *Answers to Bidder Questions:*

1. *Please confirm the MBE contractors/suppliers we utilize on this project are required to be a first tier contractor/supplier to the general contractor and contracted directly to the GC.* YES

2. *Please confirm the "Green Book" is part of the Contract Documents.* YES, See Page 3, Item 4.

3. *Please advise how many days the GC's bid needs to remain valid for.* There is no specified expiration on bids.

4. *Will the Owner hire a Construction Manager for the project? If so, does the Owner know who this will be?* Engineer (Owner) provides on-site construction inspection.

5. *If there is a CM on the jobsite, will they be supplying a trailer, internet, and temp toilets for their usage at their own cost?* Please refer to specifications section 01 5000, as well as 13 2200 in the "Book of Standards". A trailer with restroom "of a size acceptable to the Engineer" will be supplied and installed by the Contractor. A unit similar to "Trailer 3" [13 2200 Part 4 (page 396)] in size will be acceptable to the Engineer. Note that a conference room (table) should substitute for the 2nd office space. See 13 2200 Section 3.5 for "Construction Requirements for all Offices". Provisions within this section include, but are not limited to, electrical service, heating and cooling, bulletin board, internet access, and hard-wired telephone with answering machine. Certain requirements such

as the cassette recorder/player will be waived due to obsolescence. Section 3.6 requires provision of a "microcomputer system" (desktop and monitor, et. Al.) for the office including one-touch copier, printer and fax machine. Substitution of laptop with minimum 14" screen, i7 processor, and built-in front and rear camera (similar to a Microsoft Surface Pro 7) and printer with scanning capability, is acceptable. A consistent wireless connection is acceptable as a substitute for hard-wired internet.

6. *Page 2 of the Notice of Letting states that the BATP is excluded from this contract however, page 5 and 6 of the Special Provisions says that the BATP forms must be submitted with our bid. Please clarify.* BATP is excluded however you must still complete the forms

7. *Please confirm all the other programs such as Employ Baltimore, Youthworks Program and Local Hiring apply to this project.* YES

8. *In the event we lose time in our schedule due to weather during the Monday-Friday work week, are Saturday's permitted?* The contract is for consecutive calendar days. Saturdays are permitted, however special procedures must be followed per the contract which includes informing the Engineer. *If so, would we be required to pay for the CM's time?* The contractor will have to pay for overtime, including for the Engineer's Construction Inspection staff.

9. *Please confirm that the GC is to procure the TAB consultant to perform the work specified in 230593.* CONFIRMED

10. *It was mentioned that GTA will be onsite during earthwork operations. Does the GC also need to have a 3rd Party T&I Agency for the soils? Please clearly delineate the roles of GTA and the 3rd party T&I agency hired by the GC.* Please see answers from Addendum #1. Please read pages 1536-1540 which clearly spell out each party's role. Paraphrasing this document, in general it is the Engineer's responsibility to administer and test, while it is the Contractor's role to dig, move, fill, etc., and of course inform the Engineer of unforeseen conditions (like any other part of the contract).

11. *How are the contaminated soils to be handled? We will not know what is "hot" and what is good dirt until we start digging and the 3rd party T&I agency does the testing as we work. Instead of creating a "hot" pile and a good dirt pile and running the risk of cross contamination, it may be easier just to haul all materials (and utility trench materials) off and import soils as needed.* Provide pricing per the contract. Answers to these questions were given in Addendum #1. Export of soils off-site is NOT anticipated.

12. *Please provide a Hazmat allowance. We do not know how to bid this job as nobody knows what is there until work starts and the material is tested. What is meant by "Hazmat allowance"?* If by this it is meant the cost for treating or removing impacted soils, this is not anticipated, and therefore not requested for bid.

13. *It appears a 2' buffer cap of clean fill and fabric is required in all landscape areas. Is the 2' buffer cap required under all utility trenches? This is very difficult to do with narrow trenches.* There does not need to be a cap under or within utility trenches. The cap will be place over the utility trench per the specifications in the EMP.

14. *The environmental management plan issued with the documents doesn't have any analytical data. The document did mention Phase I and Phase II site investigations were completed. Please provide these documents and any lab data available.* These investigations were used by the engineer's to craft the contract. Those documents are

unnecessary to properly bid the contract, however they may be made available to the awarded bidder upon ratification of the contract.

18. *Regarding the EMP What are the contaminants of concern? It mentions metals contamination but I don't see mention of them testing for petroleum contamination. Do they suspect petroleum contamination?* NO

19. *The EMP does not have any specific values of any of the contaminants. There are hits on PCB's and metals and we need to see that data to know how to bid.* Please provide pricing per the contract. Treatments specific to PCBs and Metals are not anticipated, and therefore not requested for bid. A bid requiring simple reapportioning of impacted, as well as non-impacted, soils is requested.

20. **Reference section 329300 Planting. Section 1.2.B references section 329113 Soil Preparation for planting soils. Please provide this specification as the detail 1/L4.00 requires an extensive amount of soil preparation.* Reference to section 329113 has been removed and the soil preparation details has been altered to reflect what is documented in the Environmental Management Plan and geotechnical report, see revised sheet L4.00.

21. **Reference L1.0 Key note C-1 Lawn Areas. The keynote refers to 1/L4.00 Soil placement Detail "d-bedprep-dwg". Please verify if this detail is intended to be used in lawn areas. Some lawn areas have very little grade change however this detail creates a substantial amount of work in these lawn areas.* Lawn areas and placement of soils will be prepared and amended as identified in the Environmental Management Plan and geotechnical report. See revised detail 1/L4.00.

22. *Please confirm that the intent is for the areas in red on the attached drawing to receive P-1 Pavers, and the areas in blue to receive P-2 Pavers. There are several different areas with differing keynotes but all are drawn the same.* Please see revised sheet L1.01 to clarify the paver locations.

23. *Dwg L1.00 Hardscape Plan shows a Sundeck (on the north-east side of the Fitness Cen) as P-5 (Patio Add Alternate). There are only 5 Alternate Bid Items on the Bid Form, and none of them would include this Sundeck/Patio. Please clarify if this is part of the Base Bid, or if you need to add another Alternate to the Bid Form.* We feel it is clearly spelled out as #2 in the alternates.

24. *Drawing C-6.00 shows a "concrete sidewalk with SUNDEK (add ALT.#2). We are unable to find this detail, but specs Sec. 012300/1 indicates ALT #2 " hydraulic Overhead door ". Please clarify.* Alternate 2 includes the Sundek as indicated on C-6.00. See specification section 01 2300 paragraph 1.3.B.2.

25. *We are unable to locate a detail for item C-5 Bollards on L1.01. Please provide a detail.* Please see revised sheet L1.01 and revised sheet L3.00 with added detail #7.

26. *Detail 2/C-5.00 shows a 5" concrete sidewalk and detail 1/ L-3.00 shows a 4" sidewalk. Please indicate the detail to be followed.* Detail 1/L-3.00 has been revised to match 2/C-5.00. See revised sheet L-3.00.

27. *Please confirm there are only 3 seat walls as indicated on L-drawings. C-4.06 & C-6.00 show one more seat wall at NW of the building but drawing AS. 1 shows another seat wall at West of Drop-Off.* There are six (6) total seat walls. Four (4) as indicated on 1/L1.00 and two (2) as indicated on 2/L1.00. Sheets C-4.06, C-6.00, and AS.1 have been revised to clarify.

28. *Drawing C6.00 – confirm "No Parking/No Stopping" markings can be regular traffic paint.* CONFIRMED

29. *Specified section 01 2300 Alternates. Paragraph 1.3 section C. line 2 calls for sunshades on type (L.2) on drawings page A8.5. There isn't sunshade configuration for frame type L.2 shown on that page. Please provide sunshade configuration for frame type L.2* Line 2 is not meant to call for sunshades to be included for type L.2. **There are no sunshades associated with L.2 for either the base bid OR the alternate**. Sun shade blades are associated with window types H, J, K, and L.1 as indicated on A8.3A. Window L.2 does not receive shades. Window L.2 shall receive glazing types in Alternate No. 3 as indicated on A8.5.

30. *Reference 9/A5.2 Elevator Mezzanine Floor Plan. Please verify if a door is required in the back of the shaft. Only the floor plans and 9/A5.2 indicate proposed door.* CONFIRMED, Door is required for equipment access per the Drawings.

31. *The basis of design for the curtainwall is EFCO Series 5500X system. It calls for 1" glass, which will not work with that system.* The basis of design for the curtain wall should be EFCO series 5600 XTherm which does take 1" glass, please see revised specification section 08 4413.

32. *See page A2.2 reflective ceiling plan. Also Reference soffit type 1.01. There is a large ceiling above the main lobby 1st fl / over the south track are identified as ceiling type 5.01. Regarding Ceiling type 5.01:*

a. *055000-R suspended metal sub frame – spec says this is a "Slotted Channel framing, fabricated from structural steel…) What is this exactly? Is it 4'-0" oc? What supports it?* Per specification 05 5000 paragraph 1.3.B, subframe and supports are part of the contractor's delegated design.
b. *062000-C : Wood furring ¾" thick. Is this attached to the 055000-R material? Is it 16" oc?* Attach wood furring to metal subframe. Include furring spacing as part of the contractor's delegated design of ceiling 5.01.
c. *062000-B: Tongue and Groove Wood Paneling, ¾" thick (NIC). Please confirm the Owner is furnishing and installing this.* See specification 06 2000 paragraph 2.1.C.2. Material will be furnished by Engineer and Installed by Contractor.
d. 099000-A: Water Based Fire Retardant. I guess whoever is doing the 062000-B has this on the material? 099000-A shall be applied to 062000-B by Contractor.

33. *Can it be confirmed that all HVAC and lights will be mounted above or even with the bottom of the truss chord to avoid interference with the ceiling mounted basketball hoops and divider curtain?* CONFIRMED

34. *Section 116623 specifies the basketball hoop electric winches and height adjusters and the divider curtain are to be operated by a group control touch pad but one is not specified. Can a specification be provided for a touch pad (NOTE: A TSC1500 total control system by Performance Sports Systems would be recommended)?* See revised specification 11 6623 paragraphs 2.3.A.3.b and 2.5.B.5.b.

35. *Section 116623 , paragraph 2.5.B.4 specifies that the height adjuster in paragraph 2.5.B.3 is to be electric; however, drawing E101 does not indicate power for the height adjuster but does show power for the electric winch. Can you please confirm that the height adjusters for basketball backstops are to be electric?* CONFIRMED

36. *Section 116623, paragraph 2.7.A.2. and 2.7.A.3. specify two different types of foam. What type of foam should be used, as each carrier is a different price point (NOTE: paragraph 2.7.A.3 would provide a wall pad assembly that is a Class A rated)?* Open

cell polychloroprene should be used. Specification section 11 6623 paragraph 2.7.A.2 is removed. See revised specification.

37. *Section 116623, paragraph 2.8. does not specify an operation of the scoreboards and shot clocks, either hardwired or wireless. What operation of these is required (NOTE: Wireless would be recommended, as this would delete control wiring from each scoreboard/shot clock to a scorer's table location)?* Scoreboards and shot clocks operation to be wireless, infrastructure for hardwiring to remain as indicated in the contract documents. See revised specification 11 6623.

38. *Drawing E101, drawing note #3 states, "to motorize basketball backboard. Provide all the required receptacles, plug, and audible alarm kit per manufacturer's requirement." Section 116623, paragraph 2.5 does not specify an audible alarm. Will audible alarms be required for the motorized basketball backstops in the gymnasium?* **Audible alarm is not required.**

39. *Can it be confirmed the bleacher in Section 126613 should be wall attached and include an extended rear filler to notch around the columns on the wall, which will provide a continuous top row of seating?* Confirmed. See specification 12 6613 paragraph 2.5.A.2.

40. *Section 126613 does not specify the type of ADA spaces to be used, permanent or recoverable. What type of ADA spaces should be provided with the bleachers, permanent or recoverable?* ADA spaces to be recoverable. See revised specification 12 6613 paragraph 2.2.A.5.

41. *Reference A6.4 and A6.5 top of wall flashing and coping. Majority of wall section refer to section details 4/6.4 and 8/6.4. Please advise how flashings are to attach to the structure as no wood blocking is identified in particular the cavity space where cavity insulation is flush with top of exterior gypsum sheathing.* Please see revised details 4/A6.4 and 8/A6.4 on sheet A6.4 to include blocking

42. **The specs call for mechanically fastening the insulation which will pierce the vapor barrier. Would it be preferable to adhere the insulation to the vapor barrier?* Roof at natatorium shall be adhered, elsewhere mechanically fastened will remain. Please refer to revised sheet AC.1 and revise specification section 07 5423.

43. *The majority of the feeders for the gear shown on the one line diagram (drawing E501) do not match the feeders listed on the panel schedules on drawings E602, E603, E604. Please indicate which is correct.* Follow the feeder sizes shown on E501

44. *Reference E100 and E200. Are the handholds precast concrete or polymer concrete?* Handholds are polymer concrete.

45. *General Electrical Note #41 (on E001) references the T-series drawings for information on requirements on telecom/security, but the T-series drawings do not appear to be in included in the bid documents. Will they be made available or is the work by the owner.* There are no T-series drawings refer to specification 27 4100 for audio visual requirements.

46. *Spec 260010-1.15-B references "TE" drawings however none were issued with the documents. If these drawings are part of the project, please issue them.* There are no TE drawings as part of the project. Refer to specification 27 4100 for audio visual requirements. Specification section 26 0010 -1.15B has been revised.

47. *Can low voltage lighting control cable be installed open (no conduit) when in a concealed ceiling?* YES

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CLASSIFICATION NO. 1

The following minimum hourly wage rates shall apply to all contracts in excess of One Hundred Thousand Dollars ($100,000) in connection with new building construction, major remodeling and rehabilitation of buildings and for construction, reconstruction, erection, conversion installation, alteration, renovation, razing, demolition, moving or removing on any airport, pier wharf, sewer, drain, main, conduit, machinery or mechanical, electrical or other equipment or any other operation, or work to be done or performed in, on, upon or in connection with any building, bridge over water, tunnel, tower, stack, filtration plant, waste water or sewage treatment works, pumping stations, and other such structures.

JOURNEYMEN	HOURLY RATE	FRINGE BENEFITS	TOTAL
Asbestos Workers/Insulation Mechanics	$36.53	$16.00	$52.53
Boilermakers	17.62	6.96	24.58
Bricklayers	32.00	11.56	43.56
Carpenters/Resilient & Soft Floor Layers	26.66	15.00	41.66
Millwright	32.11	16.75	48.86
Piledriver	31.13	15.65	46.78
Cement Mason/Plasterers'	28.45	11.47	39.92
Electricians	38.00	18.19	56.19
Elevator Construction Mechanic	46.88	39.37	86.25
Firestop Mechanic	23.33	7.95	31.28
Glaziers	30.13	22.00	52.13
Ironworkers			
Ornamental	30.13	22.00	52.13
Structural	30.13	22.00	52.13
Reinforcing Rodmen	30.13	22.00	52.13
Fence Erectors	28.70	20.66	49.36
Laborers			
General Laborers: Flaggers, Tool and Material Handlers (Except Tenders), Clean-Up, Janitors, Truck Checkers, Dumpmen, Spotter, Landscape Laborer, Mulcher, Watchmen (Including Fire Watchmen)	18.25	6.29	24.54
Construction Laborers: All Laborers not Otherwise Classified.	19.10	6.29	25.39
Semi-Skilled Laborers: Potmen, Power or Air Tool Operators, Pipelayers, Drillers Concrete Laborers, Signalmen, Small Machine Operators, Laser Beam Operators, Scaffold Builders, Caisson Laborer, Jack Hammer Operator(80 lbs and over).	19.41	6.29	25.70

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JOURNEYMEN	HOURLY RATE	FRINGE BENEFITS	TOTAL
Painters			
Brush and Trim	$25.06	$9.86	$34.92
Spackling, Taping, Wall Covering.	25.06	9.86	34.92
Spray, Structural Steel, Steam Cleaning, Sandblasting	33.73	9.90	43.63
Plumbers/Steamfitters/Pipiefitter	40.10	20.31	60.41
Roofers			
Slate and Tile	26.44	12.24	38.68
Wood Block	26.44	12.24	38.68
Composition – Water proofer	26.44	12.24	38.68
Sheet Metal Worker (Inc. Air Balance, Metal Roofing)	40.77	21.38	62.15
Sprinkler Fitter	34.40	19.14	53.54
Stonemason	38.81	18.29	57.10
Tile, Terrazzo, Marble Workers	29.10	12.27	41.37
Tile, Terrazzo, Marble Finisher	24.10	11.24	35.34
POWER EQUIPMENT OPERATORS			
GROUP I: Certified Crane Operators (CCO).	35.70	15.90	51.60
GROUP II: Backfiller, backhoe, batching plants, boat captain, cableway, loader hoe, (with a front end bucket over 1 ¼ yds)., concrete mixing plant, concrete paver, derrick boat, double concrete pump, dragline, Eimco type overhead loader, elevating grader, scraper or pan type excavator (25 yds and over), front end loader (1 ¾ yds and over), gradall, grader, hoist (2 active drums or more), multiple conveyor, pile driving machine, power shovel, repair mechanic, shield, standard gauge locomotive, trenching machine, tunnel mucking machine, twin engine scraper, welder, whirley rig.	30.23	13.17	43.40

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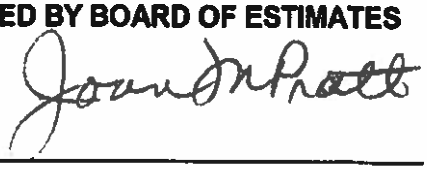

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JOURNEYMEN	HOURLY RATE	FRINGE BENEFITS	TOTAL
GROUP III: Asphalt spreader bulldozer, bull float, loader, hoe, (with a front end bucket 1 ¼ yds. and under), concrete mixer (with skip), concrete pump, concrete spreader, scraper or pan type excavator (under 25 yds.) finishing machine, front end tractor loader (under 1 ¾ yds), hi-lift fork lift, longitudinal float, narrow gauge locomotive, one drum hoist, power roller, screeding machine, snooper/vac truck,stone crusher, stone spreader, sub-grader tractor with attachments (2 or more provided both attachments are being used).	$28.28	$13.17	$41.45
GROUP IV: Crawler or rubber tire tractor (no attachments), compressors, elevator operator, firemen, fuel truck, grease truck, grout pump, light plant, mighty midget with compressor, single conveyor, space heaters, welding machines, welldriller, wellpoint system, deck hands, oilers (all types).	24.65	13.17	37.82
Truck Drivers			
Goose Neck Drop Frame	15.82	3.75	19.57
Trailer Driver	15.50	3.75	19.25
Flat Bed and Pickup	13.89	3.75	17.64
Dump Truck Driver (Site Only)	12.85	4.60	17.45

Welder Receives Rate For Craft Involved

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APPRENTICESHIP RATES
PERCENTAGE OF JOURNEYMAN'S HOURLY RATE
PLUS FULL JOURNEYMAN'S FRINGE BENEFTIS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

ASBESTOS WORKERS	
First year	45
Second year	55
Third year	65
Fourth year	75
Fifth year	85
BOILERMAKERS	
First 6 month	50
Second 6 months	60
Third 6 month	65
Fourth 6 month	70
Fifth 6 months	75
Sixth 6 months	80
Seventh 6 months	85
Ninth 6 month	90
BRICKLAYERS & STONE MASONS	
First 6 months	50
Second 6 months	55
Third 6 months	60
Fourth 6 months	70
Fifth 6 months	80
Sixth 6 months	90
CARPENTERS	
First year	60
Second year	70
Third year	80
Fourth year	90
CEMENT FINISHERS	
First 500 hours	50
Second 500 hours	55
Third 500 hours	60
Fourth 500 hours	65
Fifth 500 hours	70
Sixth 500 hours	75
Seventh 500 hours	80
Eighth 500 hours	90

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APPRENTICESHIP RATES
PERCENTAGE OF JOURNEYMAN'S HOURLY RATE
PLUS FULL JOURNEYMAN'S FRINGE BENEFTIS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

ELECTRICIANS	
First 6 months	40
Second 6 months	40
Second year	55
Third year	65
Fourth year	70
Fifth year	75
ELEVATORS	
First year	55
Second year	65
Third year	70
Fourth year	80
IRONWORKERS	
First period 0 hours	60
Second 1,000 hours	65
Third 1,000 hours	70
Fourth 1,000 hours	75
Fifth 1,000 hours	80
Sixth 1,000 hours	85
Seventh 1,000 hours	90
Eighth 1,000 hours	95
MILLWRIGHTS	
First year	60
Second year	70
Third year	80
Fourth year	90
PAINTERS	
First 1,000 hours	55
Second 1,000 hours	70
Third 1,000 hours	85
PLASTERERS	
First 1,000 hours	50
Second 1,000 hours	55
Third 1,000 hours	60
Fourth 1,000 hours	65
Fifth 1,000 hours	70
Sixth 1,000 hours	75
Seventh 1,000 hours	80
Eighth 1,000 hours	85

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APPRENTICESHIP RATES
PERCENTAGE OF JOURNEYMAN'S HOURLY RATE
PLUS FULL JOURNEYMAN'S FRINGE BENEFTIS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

PLUMBERS/STEAMFITTERS/PIPEFITTERS

First year	40
Second year	50
Third year	60
Fourth year	70
Fifth year	80

POWER EQUIPMENT OPERATORS

First period	55
Second period	60
Third period	65
Fourth period	70
Fifth period	75
Sixth period	80

ROOFERS

First year	55
Second year	65
Third year	75

SHEET METAL WORKERS

First 6 months	40
Second 6 months	45
Third 6 months	50
Fourth 6 months	55
Fifth 6 months	60
Sixth 6 months	65
Seventh 6 months	70
Eighth 6 months	75
Ninth 6 months	80
Tenth 6 months	85

SPRINKLER FITTERS

First 6 months	45
Second 6 months	50
Third 6 months	55
Fourth 6 months	60
Fifth 6 months	65
Sixth 6 months	70
Seventh 6 months	75
Eighth 6 months	80
Ninth 6 months	85
Tenth 6 months	90

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APPRENTICESHIP RATES
PERCENTAGE OF JOURNEYMAN'S HOURLY RATE
PLUS FULL JOURNEYMAN'S FRINGE BENEFTIS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

LABORERS

First year	70
Second year	90

LABORER'S WORK

Laborers may not assist mechanics in the performance of mechanic's work, nor use tools peculiar to established trades. Their work should be confined to the following manual tasks:

1. Digging and filling holes and trenches.
2. Loading, unloading and stockpiling materials.
3. Cleaning and sweeping.
4. Driving stakes.
5. Placing concrete and asphalt (not finishing)
6. Stripping forms.
7. Ripping out material which is to be discarded, including asbestos.
8. Clearing and grubbing.

The above definition is to preclude inadvertent misclassification of laborers.

APPROVED BY BOARD OF ESTIMATES

Joann M. Pratt

Clerk to the Board of Estimates

DEC 11 2019

SECTION 05 1200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. Structural steel.
2. Architecturally exposed structural steel.
3. Grout.

1.2 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

B. Architecturally Exposed Structural Steel (AESS): Structural steel designated as architecturally exposed structural steel in the Contract Documents.

1.3 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator to withstand ASD-service loads indicated and comply with other information and restrictions indicated.
1. Select and complete connections using schematic details indicated and AISC's "Manual of Steel Construction, Allowable Stress Design," Part 4.
2. Engineering Responsibility: Fabricator's responsibilities include using a qualified Maryland licensed professional engineer, with a minimum five-year experience with a similar or larger project size to prepare structural analysis data for structural-steel connections. **ADDENDUM #2**

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
5. For structural-steel connections indicated to comply with design loads, include structural analysis data prepared by the qualified professional engineer responsible for their preparation. Submit structural analysis data signed and sealed by licensed professional engineer. **ADDENDUM #2**

6. Indicate Architecturally Exposed Structural Steel designations of all AESS elements and ensure details comply with AESS Category requirements.

C. Welding certificates.

D. Qualification Data: For Installer, fabricator, professional engineer and, testing and inspection agency. Submit qualification data indicating a minimum five years of experience with similar or larger project. **ADDENDUM #2**

E. Mill Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
1. Structural steel including chemical and physical properties.
2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
3. Direct-tension indicators.
4. Tension-control, high-strength bolt-nut-washer assemblies.
5. Shear stud connectors.
6. Shop primers.
7. Nonshrink grout.

F. Source quality-control test reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.

B. Fabricator Qualifications: A qualified fabricator who participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.

C. Testing and Inspection Agency: Testing and Inspection agency to follow International building code and AISC 360 requirement. **ADDENDUM #2**

D. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."

E. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

F. Comply with applicable provisions of the following specifications and documents:
1. AISC's "Code of Standard Practice for Steel Buildings and Bridges."
2. AISC's "Seismic Provisions for Structural Steel Buildings" and "Supplement No. 2."
3. AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
4. AISC's "Specification for the Design of Steel Hollow Structural Sections."
5. AISC's "Specification for Allowable Stress Design of Single-Angle Members."

G. Mockups: Build mockups of architecturally exposed structural steel to set quality standards for fabrication and installation.
1. Coordinate finish painting and coating requirements with Division 9 sections.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.
   1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
   2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.7 COORDINATION

A. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is as great as possible but not less than a minimum of 50 percent.

B. W-Shapes: ASTM A 992, Grade 50.

C. Channels and Angles Shapes: ASTM A 36.

D. Plate and Bar: ASTM A 36.

E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.

F. Steel Pipe: ASTM A 53, Type E or S, Grade B.
   1. Weight Class: as indicated.
   2. Finish: Black, except where indicated to be galvanized.

G. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
   1. Finish: Plain or where exposed to weather Hot-dip zinc coating, ASTM A 153, Class C.
   2. Direct-Tension Indicators: ASTM F 959, Type 325 compressible-washer type.

a. Finish: Plain

B. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1, Type B.

C. Anchor Rods: ASTM F 1554, Grade 36.
1. Configuration: as indicated on drawings.
2. Nuts: ASTM A 563 heavy hex carbon steel.
3. Washers: ASTM F 436 hardened carbon steel.
4. Finish: Plain.

D. Threaded Rods: ASTM A 307, Grade A.
1. Nuts: ASTM A 563 heavy]hex carbon steel.
2. Washers: ASTM A 36 carbon steel.
3. Finish: Plain.

2.3 PRIMER

A. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer and compatible with specified paintings and coatings.

B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.4 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
1. Camber structural-steel members where indicated.
2. Identify high-strength structural steel according to ASTM A 6 and maintain markings until structural steel has been erected.
3. Mark and match-mark materials for field assembly.
4. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Architecturally Exposed Structural Steel: Comply with fabrication requirements, including tolerance limits, of AISC's "Code of Standard Practice for Steel Buildings and Bridges" (ANSI 303-16) for structural steel identified as architecturally exposed structural steel.
1. All exposed structural steel is to comply with AESS Category 1: Basic Elements, as a minimum. Exposed columns, connections to columns, and cross bracing elements between columns are to comply with AESS Category 2: Feature Elements not in Close View.

C. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

D. Bolt Holes: Cut, drill or punch standard bolt holes perpendicular to metal surfaces.

E. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

F. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning, SSPC-SP 2, "Hand Tool Cleaning or SSPC-SP 3, "Power Tool Cleaning."

G. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

H. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wall-opening framing to be attached to structural steel. Straighten as required to provide uniform, square, and true members in completed wall framing.

I. Welded Door Frames: Build up welded door frames attached to structural steel. Weld exposed joints continuously and grind smooth. Plug-weld fixed steel bar stops to frames. Secure removable stops to frames with countersunk, cross-recessed head machine screws, uniformly spaced not more than 10 inches o.c., unless otherwise indicated.

J. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
1. Cut, drill, or punch holes perpendicular to steel surfaces.
2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
1. Joint Type: Slip critical.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
1. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
3. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.
   a. Grind butt welds flush.
   b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

2.7 SHOP PRIMING

A. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. Surfaces to be high-strength bolted with slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials.
5. Galvanized surfaces.

B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
1. SSPC-SP 2, "Hand Tool Cleaning."
2. SSPC-SP 3, "Power Tool Cleaning."
3. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
4. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning." This is required by ANSI 303-16 for AESS elements.
5. SSPC-SP 7/NACE No. 4, "Brush-Off Blast Cleaning."
6. At natatorium and within anti-corrosive envelope, as indicated on the drawings; refer to 099600 “High Performance Coatings” for surface preparation.

C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a dry film thickness of not less than 1.5 mils. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
2. Apply two coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first. Primer color should be approved by the Engineer and the Architect.
3. At natatorium and within anti-corrosive envelope, as indicated on the drawings; refer to 099600 “High Performance Coatings” for shop primers.

D. Paintings and coatings of structural steel is specified in Division 9 Sections "Painting and Coating" and “High Performance Coatings.” Shop priming to be compatible with finish coats specified in these sections.

2.8 GALVANIZING

A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/ A 123M.
1. Fill vent holes and grind smooth after galvanizing.
2. Galvanize lintels, shelf angles at the exterior wall and structural steel exposed to weather.

2.9 SOURCE QUALITY CONTROL

A. The Contractor will engage an independent qualified testing and inspecting agency to perform shop tests and inspections and submit prepare inspection and test reports to the Engineer for approval.
1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
2. Structural tests and special inspections to be in accordance with International building code, chapter 17.

B. All material before being incorporated in the work shall be inspected, tested by the contractor's independent agency and approved by the Engineer, Any work in which such materials are used without prior test and approval or written permission of the Engineer shall be considered defective and unauthorized and will not be paid for. Unless otherwise designated, when a reference is made in these specifications, to a specification, or test designation of ASTM, ACI or any other recognized non proprietary national organization, it shall mean the specification or test method which is current on the date of advertisement for bids. All materials used are subject to inspection, test or rejection at any time during the preparation and use.

C. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

D. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Welded Connections: In addition to visual inspection, shop-welded penetration connections will be tested and inspected according to AWS D1.1 and the following inspection procedures, at testing agency's option:
   1. Liquid Penetrant Inspection: ASTM E 165.
   2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
   3. Ultrasonic Inspection: ASTM E 164.
   4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated.
   1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."

B. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting base and bearing plates. Clean bottom surface of base and bearing plates.
   1. Set base and bearing plates for structural members on wedges, shims, or setting nuts as required.
   2. Weld plate washers to top of base plate.
   3. Pretension anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base or bearing plate before packing with grout.
   4. Promptly pack grout solidly between bearing surfaces and base or bearing plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

C. Maintain erection tolerances of structural steel and architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
   1. Level and plumb individual members of structure.
   2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated.

F. Remove erection bolts on welded, architecturally exposed structural steel; fill holes with plug welds; and grind smooth at exposed surfaces.

G. Do not use thermal cutting during erection unless approved by Engineer. If approved, finish thermally cut sections within smoothness limits in AWS D1.1.

H. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

I. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
   1. Joint Type: Slip critical.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
   1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
   2. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.

3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
4. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.
   a. Grind butt welds flush.
   b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: The Contractor will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections and submit test reports to the Engineer for review and approval.
   1. Structural tests and special inspections to be in accordance with International building code, chapter 17.

B. All material before being incorporated in the work shall be inspected, tested and approved by the Contractor’s independent inspection and testing agency. Any work in which such materials are used without prior test and approval or written permission of the Engineer shall be considered defective and unauthorized and will not be paid for. Unless otherwise designated, when a reference is made in these specifications, to a specification, or test designation of ASTM, ACI or any other recognized non proprietary national organization, it shall mean the specification or test method which is current on the date of advertisement for bids. All materials used are subject to inspection, test or rejection at any time during the preparation and use.

C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

D. Welded Connections: Field welds will be visually inspected according to AWS D1.1.
   1. In addition to visual inspection, penetration field welds will be tested according to AWS D1.1 and the following inspection procedures, at testing agency's option:
      a. Liquid Penetrant Inspection: ASTM E 165.
      b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
      c. Ultrasonic Inspection: ASTM E 164.
      d. Radiographic Inspection: ASTM E 94.

E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories, bearing plates, and abutting structural steel.
   1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.

2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

C. Touchup Painting: Cleaning and touchup painting for high performance coating are specified in Division 9 painting Sections.

END OF SECTION

TABLE 1704.3
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION
(REF. STANDARDS: AISC 360, AWS D1.1 & D1.3, APPLICABLE ASTM STANDARDS)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. Material verification of high-strength bolts, nuts and washers:		
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	–	X
b. Manufacturer's certificate of compliance required.	–	X
2. Inspection of high-strength bolting:		
a. Snug-tight joints.	–	X
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	–	X
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.	X	–
3. Material verification of structural steel and cold-formed steel deck:		
a. For structural steel, identification markings to conform to AISC 360.	–	X
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	–	X
c. Manufacturer's certified test reports.	–	X
4. Material verification of weld filler materials:		
a. Identification markings to conform to AWS specification in the approved construction documents.	–	X

TABLE 1704.3 - continued
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION
(REF. STANDARDS: AISC 360, AWS D1.1 & D1.3, APPLICABLE ASTM STANDARDS)

5. Inspection of Welding:		
a. Structural steel, steel deck and cold formed metal framing:		
1) Complete and partial joint penetration groove welds.	X	–
2) Multi-pass fillet welds.	X	–
3) Single-pass fillet welds> 5/16"	X	–
4) Plug and slot welds.	X	–
5) Single-pass fillet welds ≤ 5/16"	–	X
6) Floor and roof deck welds.	–	X
b. Reinforcing steel:		
1) Verification of weldability of reinforcing steel other than ASTM A 706.	–	X
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	X	–
3) Shear reinforcement.	X	–
4) Other reinforcing steel.	–	X
6. Inspection of steel frame joint details for compliance:		
a. Details such as bracing and stiffening.	–	X
b. Member locations.	–	X
c. Application of joint details at each connection.	–	X

TABLE 1705.3
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION
(REF. ACI 318)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. Inspection of reinforcing steel and placement.	–	X
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	–	–
3. Inspection of anchors cast in concrete where allowable loads have been increased or where strength design is used.	–	X
4. Inspection of anchors post-installed in hardened concrete members(b).	–	X
5. Verifying use of required design mix.	–	X
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	–
7. Inspection of concrete and shotcrete placement for proper application techniques.	X	–
8. Inspection for maintenance of specified curing temperature and techniques.	–	X
9. Inspect formwork for shape, location and dimensions of the concrete member being formed.	–	X

TABLE 1705.6
REQUIRED VERIFICATION AND INSPECTION OF SOILS

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODICALLY
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	–	X
2. Verify excavations are extended to proper depth and have reached proper material.	–	X
3. Perform classification and testing of compacted fill materials.	–	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	X	–
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	–	X
6.		

TABLE 1704.5.1
LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION
(REF. ACI 530)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
1. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	–	X
2. Verification of f'_c and f'_{mc} prior to construction except where specifically exempted by this code.	–	X
3. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.	X	–
4. As masonry construction begins, the following shall be verified to ensure compliance:		
a. Proportions of site-prepared mortar.	–	X
b. Construction of mortar joints.	–	X
c. Location of reinforcement, connectors, prestressing tendons and anchorages.	–	X
d. Prestressing technique.	–	X
e. Grade and size of prestressing tendons and anchorages.	–	X
5. During construction the inspection program shall verify:		
a. Size and location of structural elements.	–	X
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	–	X
b. Specified size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.	–	X
d. Welding of reinforcing bars.	X	–
e. Preparation, construction and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	–	X
f. Application and measurement of prestressing force.	X	–

TABLE 1704.5.1 − continued
LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION
(REF. ACI 530)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC
6. Prior to grouting, the following shall be verified to ensure compliance:		
a. Grout space is clean.	−	X
b. Placement of reinforcement and connectors, and prestressing tendons and anchorages.	−	X
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	−	X
d. Construction of mortar joints.	−	X
7. Grout placement shall be verified to ensure compliance:	X	−
a. Grouting of prestressing bonded tendons.	X	−
8. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	−	X

SECTION 05 3100 - STEEL DECKING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Roof deck.
   2. Composite Floor Deck.

1.2 SUBMITTALS

A. Product Data: For each type of deck, accessory, and product indicated.

B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, deck openings, special jointing, accessories, and attachments to other construction.

C. Product Certificates: Signed by steel deck manufacturers certifying that products furnished comply with requirements.

D. Welding Certificates: Copies of certificates for welding procedures and personnel.

E. Product Test Reports: From a qualified testing agency indicating that each of the following complies with requirements, based on comprehensive testing of current products:

   1. Mechanical fasteners.
   2. Acoustical roof deck.

F. Research/Evaluation Reports: Evidence of steel deck's compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing joists similar to those indicated for this Project and with a record of successful in-service performance.

   1. Manufacturer must be a member of a Steel Deck Institute.
   2. Assumes responsibility for engineering special decks to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
   3. Professional Engineer Qualifications: A professional engineer who is legally authorized to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of decks that are similar to those indicated for this Project in material, design, and extent.

B. Installer Qualifications: An experienced installer who has completed steel deck similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548.

D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."

E. AISI Specifications: Calculate structural characteristics of steel deck according to AISI's "Specification for the Design of Cold-Formed Steel Structural Members."

F. FM Listing: Provide steel roof deck evaluated by FM and listed in FM's "Approval Guide, Building Materials" for Class 1 fire rating and Class 1-90 windstorm ratings.

G. Noise reduction coefficients shall be verified by the result of sound absorption tests conducted in accordance with ASTM C423 and E795.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.

B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Steel Deck:

a. BHP Steel Building Products USA Inc.
b. Consolidated Systems, Inc.
c. Epic Metals Corp.
d. Marlyn Steel Products, Inc.
e. Nucor Corp.; Vulcraft Div.
f. Roof Deck, Inc.
g. United Steel Deck, Inc.
h. Verco Manufacturing Co.
i. Wheeling Corrugating Co.; Div. of Wheeling-Pittsburgh Steel Corp.
j. New Millennium Building Systems **ADDENDUM #2**

2.2 ROOF DECK

A. Roof deck at the locations indicated on drawings.

B. Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:

1. Galvanized-Steel Sheet: ASTM A 653, Structural Steel (SS), Grade 33, G90 zinc coating.
2. Deck Profile, depth and thickness: As indicated
3. Side Laps: Overlapped or interlocking seam at Contractor's option.

C. At natatorium and within anti-corrosive envelope, as indicated on the drawings; refer to 099600 “High Performance Coatings” for surface preparation and shop primer.

2.3 ACOUSTICAL ROOF DECK **ADDENDUM #2**

A. Acoustical Roof Deck Manufacturer:
1. Epic Metals Corporation; EpicDeck WP450A:
   a. 18/18 gauge at Natatorium
   b. 16/18 gauge at Gymnasium
2. New Millennium Building Systems; DeepDek 4.5 Cellular Acoustical Roof:
   a. 18/18 gauge at Natatorium
   b. 18/16 gauge at Gymnasium

B. Acoustic roof deck shall serve as a structural roof deck and a finished ceiling as indicated on the Drawings. Acoustical roof deck shall be cold-formed by the continuous roll forming process and resistance-welded together to form an integral cellular unit.
1. Acoustical roof deck shall have interlocking and vertically self-aligning sidelaps that present a flush appearance with tight fitting joints from the underside.
2. Acoustical roof deck shall have roll-formed embossments located between the longitudinal stiffening ribs in the top flanges and horizontal stiffening ribs along the vertical webs to enhance the structural performance.
3. Shallow stiffening ribs shall be roll-formed into the bottom plates the acoustical roof deck. The ribs shall be located in the area between the webs to enhance flatness of the bottom plate.

C. Acoustical Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:

1. Galvanized and Shop-Primed Steel Sheet: ASTM A 653, Structural Steel (SS), G60 zinc coating; cleaned, pretreated, and primed with manufacturer’s standard baked-on, rust-inhibitive primer.

   a. Color: Gray top surface with white underside.
2. Epoxy Intermediate Coat at Natatorium ceiling surface: Factory-applied, oven-baked polyamide epoxy, equal to Epic Metals Corporation “Natacoat.”
3. At natatorium and within anti-corrosive envelope, as indicated on the drawings; refer to 099600 “High Performance Coatings” for surface preparation and shop primer.
4. Deck Profile: as indicated above. Perforated horizontal ceiling surface.
5. Profile Depth:4-1/2 inches.

6. Design Uncoated-Steel Thickness: 18 gauge. (Minimum)
7. Span Condition: Simple span.
8. Deck shall be fastened to all supporting members with 3/4" diameter puddle welds as indicated on the manufacturer's erection drawings, but not less then indicated on drawing.
9. Side Laps: Overlapped. Side laps shall be fastened together as indicated on manufacturer's erection drawings, but not less then indicated on drawing.
10. Acoustical Perforations: Deck units with manufacturer's standard perforated bottom ceiling surface**.**
11. Sound-Absorbing Insulation: The bottom plates in the area located between the webs shall be perforated for enhanced acoustic performance with uniform rows of holes. Acoustic elements shall be provided for the cells of the panels.
    a. These shall be factory installed.
    b. The acoustic elements shall be supported above the bottom plate by either individual push pins or continuous mesh to avoid plugging the perforations when field painting.
    c. A minimum NRC value of .90 shall be provided. The value shall be established by sound absorption tests without the use of fiberglass insulation above the panels.
    d. Properly sized sound absorbing elements encapsulated in polyethylene bags shall be provided in cavities of the acoustical roof deck.
    e. To facilitate field painting of the perforated surfaces, the sound absorbing elements shall be supported on corrosion resistance mesh spacers. Sound absorbing elements and mesh spacers shall be factory installed.

2.4 COMPOSITE FORM DECK

A. Composite Steel Form Deck: Fabricate ribbed-steel sheet composite form deck panels to comply with "SDI Specifications and Commentary for composite Steel Form Deck," in SDI Publication No. 29, the minimum section properties indicated, and the following:
   1. Galvanized Steel Sheet: ASTM A 653, Structural Steel (SS), Grade 33, G60 zinc coating.
   2. Profile Depth and steel thickness: as noted.
   3. Span Condition: As indicated.
   4. Side Laps: Overlapped or interlocking seam at Contractor's option.

B. At natatorium and within anti-corrosive envelope, as indicated on the drawings; refer to 099600 “High Performance Coatings” for surface preparation and shop primer.

2.5 ACCESSORIES

A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.

B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.

C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 minimum diameter.

D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.

E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi, not less than 0.0359-inch design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.

F. Steel Sheet Accessories: Steel sheet, of same material, finish, and thickness as deck, unless otherwise indicated.

G. Stops and Girder Fillers: Steel sheet, minimum yield strength of 33,000 psi, of same material and finish as deck, and of thickness and profile recommended by SDI Publication No. 29 for overhang and slab depth.

H. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck, unless otherwise indicated.

I. Flat Sump Plates: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck. For drains, cut holes in the field.

J. Recessed Sump Pans: Single-piece steel sheet, 0.0747 inch thick, of same material and finish as deck, with 3-inch wide flanges and recessed pans of 1-1/2 minimum depth. For drains, cut holes in the field.

K. Galvanizing Repair Paint: ASTM A 780 and SSPC-Paint 20 or DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

3.2 INSTALLATION, GENERAL

A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 29, manufacturer's written instructions, and requirements in this Section.

B. Install temporary shoring before placing deck panels, if required to meet deflection limitations.

C. Locate decking bundles to prevent overloading of supporting members.

D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

1. Align deck panels for entire length of cell runs and align cells at ends of abutting panels.

E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.

F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to decking.

G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of decking, and support of other work.

H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.

I. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install according to deck manufacturer's written instructions.

3.3 ROOF-DECK INSTALLATION

A. Fasten roof-deck panels to steel supporting members and Side-Lap and Perimeter Edge Fastening. Refer to drawings for fastening requirement.

B. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:

1. End Joints: Lapped 2 inches minimum or butted at Contractor's option.

C. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and weld flanges to top of deck. Space welds not more than 12 inches apart with at least one weld at each corner.

D. Flexible Closure Strips: Install flexible closure strips over partitions, walls, and where indicated. Install with adhesive according to manufacturer's written instructions to ensure complete closure.

E. Air Dams: Install air dams where acoustical roof deck transitions from interior to exterior. The acoustical perforations shall be omitted at exterior locations.

F. Sound-Absorbing Insulation: Installation into topside ribs of acoustical roof deck over plastic mesh spacer according to manufacturer’s written instructions.

G. Acoustical Roof Deck: Refer to acoustical roof deck section 2.3 for fastening requirement.

3.4 FLOOR DECK INSTALLATION

A. Fasten floor deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated and as follows:

1. Weld Diameter: 5/8 inch, nominal.
2. Weld Spacing: Weld edge ribs of panels at each support. Space additional welds an average of 18 inches apart, but not more than 20 inches apart.
3. Weld Washers: Install weld washers at each weld location.

B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of 1/2 of the span or 36 inches, and as one of the following method:

1. Mechanically fasten with self-drilling No. 10 diameter or larger carbon-steel screws.
2. Fasten with a minimum of 1-1/2-inch long welds.

C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:

1. End Joints: Lapped or butted at Contractor's option.

D. Pour Stops and Fillers: Weld steel sheet pour stops and fillers to supporting structure according to SDI recommendations, unless otherwise indicated.

E. Floor Deck Closures: Weld steel sheet column closures, cell closures, and Z-closures to deck, according to SDI recommendations, to provide tight-fitting closures at open ends of ribs and sides of decking. Weld cover plates at changes in direction of floor deck panels, unless otherwise indicated.

3.5 FIELD QUALITY CONTROL

A. Inspection and Testing: The Contractor will engage a qualified independent inspection and testing agency to perform field quality-control inspection and testing and submit reports to the Engineer for approval.
   1. Structural tests and special inspections to be in accordance with International building code, chapter 17.

B. All material before being incorporated in the work shall be inspected, tested and approved by the Contractor's independent agency. Any work in which such materials are used without prior test and approval or written permission of the Engineer shall be considered defective and unauthorized and will not be paid for. Unless otherwise designated, when a reference is made in this specification, to a specification, or test designation of ASTM, ACI or any other recognized non proprietary national organization, it shall mean the specification or test method which is current on the date of advertisement for bids. All materials used are subject to inspection, test or rejection at any time during the preparation and use.

C. Field welds will be subject to inspection.

D. Testing agency will report test results promptly and in writing to the Engineer, Contractor, Architect and Structural Engineer.

E. Remove and replace work that does not comply with specified requirements.

F. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

A. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.

   1. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
   2. Wire brushing, cleaning, and repair painting of bottom deck surfaces are included in Division 9 sections "High Performance Coatings" and "Painting and Coating."
   3. Clean and prepare bottom surface of acoustical roof deck for field painting as specified in Division 9 sections "High Performance Coatings" and "Painting and Coating."

B. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 07 5423 - THERMOPLASTIC-POLYOLEFIN ROOFING (TPO)

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Adhered system with thermoplastic roofing membrane.

B. Insulation, flat and tapered.

C. Flashings.

D. Commencement of work by General Contractor shall constitute acknowledgement by General Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. No modification of the Contract Sum will be made for failure to adequately examine the Contract Documents or the project conditions.

1.2 REFERENCE STANDARDS

A. ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.

B. ASTM C209 - Standard Test Methods for Cellulosic Fiber Insulating Board.

C. ASTM C473 - Standard Test Methods for Physical Testing of Gypsum Panel Products.

D. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

E. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.

F. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

G. ASTM C1549 - Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.

H. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.

I. ASTM D1004 - Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.

J. ASTM D1621 - Standard Test Method for Compressive Properties Of Rigid Cellular Plastics.

K. ASTM D1622/D1622M - Standard Test Method for Apparent Density of Rigid Cellular Plastics.

L. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.

M. ASTM D6878/D6878M - Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing.

N. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

O. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C.

P. FM 4470 - Approval Standard for Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction.

1.3 SUBMITTALS

A. Product Data:
   1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
   2. Where UL or FM requirements are specified, provide documentation that shows that the roofing system to be installed is UL-Classified or FM-approved, as applicable; include data itemizing the components of the classified or approved system.
   3. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.

B. Samples: Submit samples of at least the following:
   1. Sample of roof membrane.
   2. Sample of walkway pads.

C. Shop Drawings: Provide:
   1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
   2. For tapered insulation, provide project-specific layout and dimensions for each board.

D. Specimen Warranty: Submit prior to starting work.

E. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.

F. Pre-Installation Notice: Copy to show that manufacturer's required Pre Installation Notice (PIN) has been accepted and approved by the manufacturer.

G. Executed Warranty.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Roofing installer shall have the following:
   1. Current approval, license, or authorization as applicator by the manufacturer.
   2. At least five years experience in installing specified system.
   3. Capability to provide payment and performance bond to Engineer.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.

B. Store materials clear of ground and moisture with weather protective covering.

C. Keep combustible materials away from ignition sources.

1.6 WARRANTY

A. Comply with all warranty procedures required by manufacturer, including notifications, scheduling, and inspections.

B. Warranty: Provide manufacturer's system warranty covering membrane, roof insulation, and other indicated components of the system, for the term indicated.
   1. Limit of Liability: No dollar limitation.
   2. Warranty Term: 20 years.
   3. Scope of Coverage: Repair leaks in the roofing system and damage caused by:
      a. Ordinary wear and tear of the elements.
      b. Manufacturing defect in Firestone brand materials.
      c. Defective workmanship used to install these materials.
      d. Damage due to winds up to 55 mph.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer - Roofing System: Firestone Building Products LLC, Carmel, IN: www.firestonebpco.com/#sle.
   1. Roofing systems manufactured by others are acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
      a. Specializing in manufacturing the roofing system to be provided.
      b. Minimum ten years of experience manufacturing the roofing system to be provided.

B. Manufacturer of Insulation and Cover Boards: Same manufacturer as roof membrane.

2.2 ROOFING SYSTEM DESCRIPTION

A. Roofing System: Thermoplastic polyolefin (TPO) single-ply membrane.
   1. Membrane Attachment: Fully adhered.
   2. Comply with applicable local building code requirements.

B. Roofing System Components: Listed in order from the top of the roof down:
   1. Membrane: Thickness 0.072 inch, minimum. Factory fabricated into largest sheets possible.
   2. Base Sheet Over Insulation: fully adhered at roof type D5.1.3A, mechanically attached elsewhere. **ADDENDUM 2**
   3. Insulation Cover Board: High density polyisocyanurate; fully adhered at roof type D5.1.3A, mechanically attached elsewhere. **ADDENDUM 2**
   4. Insulation:

a. Maximum Board Thickness: 3 inches; use as many layers as necessary; stagger joints in adjacent layers.
b. Tapered: Slope as indicated; provide minimum R-value at thinnest point; place tapered layer on bottom.
c. Total R-value of 30, minimum.
d. Top Layer: Polyisocyanurate foam board, non-composite; fully adhered at roof type D5.1.3A, mechanically attached elsewhere. **ADDENDUM 2**
e. Intermediate Layer(s), If Any: Polyisocyanurate foam board, non-composite; loose-laid, no attachment.
f. Bottom Layer: Polyisocyanurate foam board, non-composite; fully adhered at roof type D5.1.3A, mechanically attached elsewhere. **ADDENDUM 2**
g. Crickets: Tapered insulation of same type as specified for top layer; slope as indicated.
h. Vapor Barrier: As specified in 07 2500.

5. Deck Cover Board: Gypsum-based board, 1/2 inch thick; fully adhered at roof type D5.1.3A, mechanically attached elsewhere. **ADDENDUM 2**
6. Base Sheet: Fire-rated coated glass fiber slip sheet, loose-laid.

2.3 MEMBRANE MATERIALS

A. Membrane: Flexible, heat weldable sheet composed of thermoplastic polyolefin polymer and ethylene propylene rubber; complying with ASTM D6878/D6878M, with polyester weft inserted reinforcement and the following additional characteristics:
1. Thickness: 0.060 inch plus/minus 10 percent, with coating thickness over reinforcement of 0.024 inch plus/minus 10 percent.
2. Puncture Resistance: 265 lbf, minimum, when tested in accordance FTM 101C Method 2031.
3. Solar Reflectance: 0.79, minimum, when tested in accordance with ASTM C1549.
4. Color 1: White. Refer to drawings for locations. ***ADDENDUM 1***
5. Color 2: Gray. Refer to drawings for locations. Gray not required to meet solar reflectance minimum above. ***ADDENDUM 1***

B. Slip Sheet: Coated glass fiber mat; qualified as part of Class A assembly over combustible and non-combustible decks, complying with ASTM D828 tensile testing.

C. Membrane Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.

D. Curb and Parapet Flashing: Same material as membrane, with encapsulated edge which eliminates need for seam sealing the flashing-to-roof splice; precut to 18 inches wide.

E. Formable Flashing: Non-reinforced, flexible, heat weldable sheet, composed of thermoplastic polyolefin polymer and ethylene propylene rubber.
1. Thickness: 0.060 inch plus/minus 10 percent.
2. Tensile Strength: 1550 psi, minimum, when tested in accordance with ASTM D638 after heat aging.
3. Elongation at Break: 650 percent, minimum, when tested in accordance with ASTM D638 after heat aging.
4. Tearing Strength: 12 lbf, minimum, when tested in accordance with ASTM D1004 after heat aging.
5. Color: White.
6. Acceptable Product: UltraPly TPO Flashing by Firestone.

F. Tape Flashing: 5-1/2 inch nominal wide TPO membrane laminated to cured rubber polymer seaming tape, overall thickness 0.065 inch nominal; TPO QuickSeam Flashing by Firestone.

G. Bonding Adhesive: Neoprene and SBR rubber blend, formulated for compatibility with the membrane other substrate materials, including masonry, wood, and insulation facings; UltraPly Bonding Adhesive by Firestone.

H. Pourable Sealer: Two-part polyurethane, two-color for reliable mixing; Pourable Sealer by Firestone.

I. Seam Plates: Steel with barbs and Galvalume coating; corrosion-resistance complying with FM 4470.

J. Termination Bars: Aluminum bars with integral caulk ledge; 1.3 inches wide by 0.10 inch thick; Firestone Termination Bar by Firestone.

K. Cut Edge Sealant: Synthetic rubber-based, for use where membrane reinforcement is exposed; UltraPly TPO Cut Edge Sealant by Firestone.

L. General Purpose Sealant: EPDM-based, one part, white general purpose sealant; UltraPly TPO General Purpose Sealant by Firestone.

M. Molded Flashing Accessories: Unreinforced TPO membrane pre-molded to suit a variety of flashing details, including pipe boots, inside corners, outside corners, etc.; UltraPly TPO Small and Large Pipe Flashing by Firestone.

N. Roof Walkway Pads: Non-reinforced TPO walkway pads, 0.130 inch by 30 inches by 40 feet long with patterned traffic bearing surface; UltraPly TPO Walkway Pads by Firestone.

2.4 ROOF INSULATION AND COVER BOARDS

A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C1289 Type II Class 1, with the following additional characteristics:
   1. Thickness: As indicated elsewhere.
   2. Size: 48 inches by 96 inches, nominal.
      a. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
   3. R-value (LTTR):
      a. 1.0 inch Thickness: 6.0, minimum.
      b. 1.25 inch Thickness: 7.5, minimum.
      c. 1.5 inch Thickness: 9.0, minimum.
      d. 1.75 inch Thickness: 10.5, minimum.
      e. 2.0 inch Thickness: 12.1, minimum.
      f. 3.0 inch Thickness: 18.5, minimum.
      g. 4.0 inch Thickness: 25.0, minimum.
   4. Compressive Strength: 20 psi when tested in accordance with ASTM C1289.
   5. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
   6. Recycled Content: 19 percent post-consumer and 15 percent pre-consumer (post-industrial), average.

B. High Density Polyisocyanurate Cover Board: Non-combustible, water resistant, high density closed cell polyisocyanurate core with coated glass mat facers, with the following characteristics:
   1. Size: 48 inches by 96 inches, nominal.
   2. Thickness: 1/2 inch.
   3. Thermal Value: R-value of 2.5, when tested in accordance with ASTM C518 and ASTM C177.
   4. Surface Water Absorption: 3 percent, maximum, when tested in accordance with ASTM C209.
   5. Compressive Strength: 120 psi, when tested in accordance with ASTM D1621.
   6. Density: 5 pcf, when tested in accordance with ASTM D1622/D1622M.
   7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
   8. Mold Growth Resistance: Passing ASTM D3273.

C. Gypsum-Based Cover Board: Non-combustible, water resistant gypsum core with embedded glass mat facers, complying with ASTM C1177/C1177M, and with the following additional characteristics:
   1. Size: 48 inches by 96 inches, nominal.
      a. Exception: Board to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
   2. Thickness: As indicated elsewhere.
   3. Surface Water Absorption: 2.5 g, maximum, when tested in accordance with ASTM C473.
   4. Spanning Capability: Recommended by manufacturer for following minimum flute spans:
   5. Surface Burning Characteristics: Flame spread index of 0 (zero), smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
   6. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
   7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
   8. Mold Growth Resistance: Zero growth, when tested in accordance with ASTM D3273 for minimum of 4 weeks.

D. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer. **ADDENDUM 2**

E. Adhesive for Insulation Attachment: Type as required by roof membrane manufacturer for roofing system and warranty to be provided; use only adhesives furnished by roof membrane manufacturer. **ADDENDUM 2**

PART 3 EXECUTION

3.1 GENERAL

A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.

B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.

C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.

D. Perform work using competent and properly equipped personnel.

E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.

F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.

G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
   1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
   2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
   3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.

I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

3.2 EXAMINATION

A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.

B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.

C. Examine roof substrate to verify that it is properly sloped to drains.

D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

3.3 PREPARATION

A. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.

B. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.

C. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.

D. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

3.4 VAPOR RETARDER

A. Before installing insulation install vapor retarder directly over the deck.

B. Ensure that all penetrations and edge conditions are sealed to prevent moisture and air drive into the roofing system.

3.5 INSULATION AND COVER BOARD INSTALLATION

A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.

B. Install insulation in a manner that will not compromise the vapor retarder integrity.

C. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.

D. Lay roof insulation in courses parallel to roof edges.

E. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch. Fill gaps greater than 1/4 inch with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch.

F. Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by membrane manufacturer.

G. Cold Adhesive Attachment: Apply in accordance with membrane manufacturer's instructions and recommendations; "walk-in" individual roof insulation boards to obtain maximum adhesive contact. **ADDENDUM 2**

3.6 SINGLE-PLY MEMBRANE INSTALLATION

A. Beginning at low point of roof, place membrane without stretching over substrate and allow to relax at least 30 minutes before attachment or splicing; in colder weather allow for longer relax time.

B. Lay out the membrane pieces so that field and flashing splices are installed to shed water.

C. Install membrane without wrinkles and without gaps or fishmouths in seams; bond and test seams and laps in accordance with membrane manufacturer's instructions and details.

D. Install membrane adhered to the substrate, with edge securement as specified.

E. Adhered Membrane: Bond membrane sheet to substrate using membrane manufacturer's recommended bonding material, application rate, and procedures.

F. Edge Securement: Secure membrane at all locations where membrane terminates or goes through an angle change greater than 2 in 12 inches using mechanically fastened reinforced perimeter fastening strips, plates, or metal edging as indicated or as recommended by roofing manufacturer.
   1. Exceptions: Round pipe penetrations less than 18 inches in diameter and square penetrations less than 4 inches square.

2. Metal edging is not merely decorative; ensure anchorage of membrane as intended by roofing manufacturer.

3.7 FLASHING AND ACCESSORIES INSTALLATION

A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.

B. Metal Accessories: Install metal edgings, gravel stops, and copings in locations indicated on the drawings, with horizontal leg of edge member over membrane and flashing over metal onto membrane.
   1. Follow roofing manufacturer's instructions.
   2. Remove protective plastic surface film immediately before installation.
   3. Install water block sealant under the membrane anchorage leg.
   4. Flash with manufacturer's recommended flashing sheet unless otherwise indicated.
   5. Where single application of flashing will not completely cover the metal flange, install additional piece of flashing to cover the metal edge.
   6. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, install an additional piece of self-adhesive flashing membrane over the metal lap to the top of the gravel stop; apply seam edge treatment at the intersections of the two flashing sections.
   7. When the roof slope is greater than 1:12, apply seam edge treatment along the back edge of the flashing.

C. Scuppers: Set in sealant and secure to structure; flash as recommended by manufacturer.

D. Roofing Expansion Joints: Install as shown on drawings and as recommended by roofing manufacturer.

E. Flashing at Walls, Curbs, and Other Vertical and Sloped Surfaces: Install weathertight flashing at all walls, curbs, parapets, curbs, skylights, and other vertical and sloped surfaces that the roofing membrane abuts to; extend flashing at least 8 inches high above membrane surface.
   1. Use the longest practical flashing pieces.
   2. Evaluate the substrate and overlay and adjust installation procedure in accordance with membrane manufacturer's recommendations.
   3. Complete the splice between flashing and the main roof sheet with specified splice adhesive before adhering flashing to the vertical surface.
   4. Provide termination directly to the vertical substrate as shown on roof drawings.

F. Roof Drains:
   1. Taper insulation around drain to provide smooth transition from roof surface to drain. Use specified pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope; slope not to exceed manufacturer's recommendations.
   2. Position membrane, then cut a hole for roof drain to allow 1/2 to 3/4 inch of membrane to extend inside clamping ring past drain bolts.
   3. Make round holes in membrane to align with clamping bolts; do not cut membrane back to bolt holes.
   4. Apply sealant on top of drain bowl where clamping ring seats below the membrane
   5. Install roof drain clamping ring and clamping bolts; tighten clamping bolts to achieve constant compression.

G. Flashing at Penetrations: Flash all penetrations passing through the membrane; make flashing seals directly to the penetration.

1. Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.
2. Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2 inches deep, with at least 1 inch clearance from penetration, sloped to shed water.
3. Structural Steel Tubing: If corner radii are greater than 1/4 inch and longest side of tube does not exceed 12 inches, flash as for pipes; otherwise, provide a standard curb with flashing.
4. Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by manufacturer.
5. High Temperature Surfaces: Where the in-service temperature is, or is expected to be, in excess of 180 degrees F, protect the elastomeric components from direct contact with the hot surfaces using an intermediate insulated sleeve as flashing substrate as recommended by membrane manufacturer.

3.8 FINISHING AND WALKWAY INSTALLATION

A. Install walkways at access points to the roof, around rooftop equipment that may require maintenance, and where indicated on the drawings.

B. Walkway Pads: Adhere to the roofing membrane, spacing each pad at minimum of 1.0 inch and maximum of 3.0 inches from each other to allow for drainage.
   1. If installation of walkway pads over field fabricated splices or within 6 inches of a splice edge cannot be avoided, adhere another layer of flashing over the splice and extending beyond the walkway pad a minimum of 6 inches on either side.
   2. Prime the membrane, remove the release paper on the pad, press in place, and walk on pad to ensure proper adhesion.

3.9 FIELD QUALITY CONTROL

A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).

B. Perform all corrections necessary for issuance of warranty.

3.10 CLEANING

A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.

B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.

C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.11 PROTECTION

A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

END OF SECTION

SECTION 08 4413 - GLAZED ALUMINUM CURTAIN WALLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Aluminum-framed curtain wall, with vision glazing and glass infill panels.

1.2 REFERENCE STANDARDS

A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site.

B. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems.

C. AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls and Sloped Glazing Systems.

D. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document).

E. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections.

F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix).

G. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.

H. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

I. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

J. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric).

K. ASTM C1401 - Standard Guide for Structural Sealant Glazing

L. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

M. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors.

N. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors

O. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference.

P. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic").

1.3 ADMINISTRATIVE REQUIREMENTS

A. Coordinate with installation of other components that comprise the exterior enclosure.

B. Preinstallation Meeting: Conduct a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.4 SUBMITTALS

A. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, internal drainage details, glazing, and infill.

B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required. Submit signed and sealed shop drawings.

C. Shop Drawings: Provide details of proposed structural sealant glazing (SSG) and weather sealant joints indicating dimensions, materials, bite, thicknesses, profile, and support framing.

D. Samples: Submit two samples 2 by 6 inches in size illustrating finished aluminum surface, and.

E. Manufacturer's Certificate: Certify that the products supplied meet or exceed the specified requirements.

F. Design Data: Provide framing member structural and physical characteristics and engineering calculations, and identify dimensional limitations; include load calculations at points of attachment to building structure. Submit signed and sealed calculations.

G. Field Quality Control Submittals: Report of field testing for water penetration and air leakage.

H. Warranty: Submit manufacturer warranty and ensure forms have been completed in Engineer's name and registered with manufacturer.

1.5 QUALITY ASSURANCE

A. Designer Qualifications: Design curtain wall and its structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed at the State in which the Project is located.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with not less than three years of documented experience.

C. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

D. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1.6 MOCK-UP

A. Provide mock-up as indicated on the drawings, including each component being used on the project. Assemble to illustrate component assembly including glazing materials, weep drainage system, attachments, anchors, and perimeter sealant.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.8 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.9 WARRANTY

A. Correct defective Work within a two year period after Date of Substantial Completion.

B. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

C. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Glazed Aluminum Curtain Walls: EFCO, a Pella Company; 5600 XTherm: www.efcocorp.com/#sle. **ADDENDUM #2**
   1. Other Manufactures:
      a. Kawneer North America: www.kawneer.com/#sle.
      b. Oldcastle Building Envelope: www.oldcastlebe.com/#sle.

2.2 CURTAIN WALL

A. Aluminum-Framed Curtain Wall: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
   1. Outside glazed, with pressure plate and mullion cover, where indicated on drawings.
   2. Finish: Superior performing organic coatings.
      a. Factory finish surfaces that will be exposed in completed assemblies.
      b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
      c. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
   3. Provide flush joints and corners, weathersealed, accurately fitted and secured; prepared to receive anchors; fasteners and attachments concealed from view; reinforced as required for imposed loads.

4. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
5. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
6. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glazing and inner sheet of infill panel and heel bead of glazing compound.

B. Structural Performance Requirements: Design and size components to withstand the following load requirements without damage or permanent set. Any steel reinforcing required inside the mullions based on the design, shall be included.
1. Design Wind Loads: Comply with loads as indicated on Structural Drawings.
2. Seismic Loads: Design and size components to withstand seismic loads and sway displacement in accordance with loads as indicated on Structural Drawings.
3. Movement: Accommodate the following movement without damage to components or deterioration of seals:
   a. Expansion and contraction caused by 180 degrees F surface temperature.
   b. Expansion and contraction caused by cycling temperature range of 170 degrees F over a 12 hour period.
   c. Movement of curtain wall relative to perimeter framing.
   d. Deflection of structural support framing, under permanent and dynamic loads.

C. Water Penetration Resistance on Manufactured Assembly: No uncontrolled water on indoor face when tested as follows:
1. Test Pressure Differential: 15 psf.

D. Air Leakage Laboratory Test: Maximum of 0.06 cu ft/min sq ft of wall area, when tested in accordance with ASTM E283 at 6.27 psf pressure differential across assembly.

E. Thermal Performance Requirements:
1. Condensation Resistance Factor of Framing: 70, minimum, measured in accordance with AAMA 1503.
2. Overall U-value Including Glazing: 0.34 Btu/(hr sq ft deg F), maximum.

2.3 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
1. Framing members for interior applications need not be thermally broken.
2. Cross-Section: 2-1/2 inch width by 6 inch nominal dimension and 2-1/2 inch width by 7-1/2 inch, as indicated on the drawings.
3. Structurally Reinforced Members: Extruded aluminum with internal reinforcement of structural steel member.

B. Glazing: As specified in Section 08 8000.

C. Pressure Plates: Fiberglass

D. Sun Screens (Keynotes: 084413-I, 084413-J, 084413-K; Alternate No. 3): Shop fabricated, shop finished, extruded aluminum outriggers, louvers, and fascia, free of defects impairing strength, durability or appearance.
1. Sun Screen Configuration: As indicated on drawings.
2. Louver Type: Airfoil.

3. Sun Screen Angle: 0 degrees from horizontal.
4. Outrigger Shape: Straight.
5. Design Criteria: Design and fabricate to resist the same loads as curtain wall system as indicated on the drawings.
6. Sizes: As indicated on drawings.
7. Shop fabricate to the greatest extent possible; disassemble if necessary for shipping.

2.4 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Structural Steel Sections: ASTM A36/A36M; galvanized in accordance with requirements of ASTM A123/A123M.

C. Structural Supporting Anchors Attached to Structural Steel: Design for bolted attachment.

D. Fasteners: Stainless steel; type as required or recommended by curtain wall manufacturer.

E. Fiberglass Pressure Plate

F. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

G. Glazing Accessories: As specified in Section 08 8000.

H. Touch-Up Primer for Galvanized Steel Surfaces: SSPC-Paint 20, zinc rich.

I. Fiberglass Pressure Plate:
1. Material shall be a fiberglass composite with a Flexural strength of no less than 82 ksi (565 Mpa) along the lineal's major axis.
2. Material thermal conductivity shall be no more than 2 BTU in/hr ft2 degress F (0.289 W/m2.K)

2.5 FINISHES

A. Superior Performing Organic Coatings: AAMA 2605 multiple coat, thermally cured polyvinylidene fluoride system.

B. Color: Color 1: PPG Cosmic Gray Mica, UC106686F; Color 2: Metallic Mist UC106703XL; Color 3: Drylac Bengal Red 049/33333. Locations as indicated on drawings..

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other related work.

B. Verify that curtain wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

C. Verify that anchorage devices have been properly installed and located.

3.2 INSTALLATION

A. Install curtain wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.

G. Coordinate attachment and seal of perimeter air and vapor barrier materials.

H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

I. Pressure Plate Framing: Install glazing and infill panels in accordance with Section 08 8000, using exterior dry glazing method.

J. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.3 TOLERANCES

A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 0.5 inches per 100 ft, whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

C. Sealant Space Between Curtain Wall Mullions and Adjacent Construction: Maximum of 3/4 inch and minimum of 1/4 inch.

3.4 FIELD QUALITY CONTROL

A. Provide services of curtain wall manufacturer's field representative to observe for proper installation of system and submit report.

B. See Section 01 4000 - Quality Requirements, for independent field testing and inspection requirements, and requirements for monitoring quality of specified product installations.

C. Water-Spray Test: Provide water spray quality test of installed curtain wall components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.
   1. Perform a minimum of two tests in each designated area as directed by Architect.
   2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.

D. Provide field testing of installed curtain wall system by independent laboratory in accordance with AAMA 503 during construction process and before installation of interior finishes.
   1. Perform a minimum of two tests in each designated area as directed by Architect.

2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.
3. Field test for water penetration in accordance with ASTM E1105 with uniform static air pressure difference (Procedure A) not less than 4.18 psf.
    a. Maximum allowable rate of water penetration in 15-minute test is 0.5 ounce that is not contained in an area with provisions to drain to exterior, or collected on surface of interior horizontal framing member.
4. Field test for air leakage in accordance with ASTM E783 with uniform static air pressure difference of 1.57 psf.
    a. Maximum allowable rate of air leakage is 0.09 cfm/sq ft.

E. Repair or replace curtain wall components that have failed designated field testing, and retest to verify performance conforms to specified requirements.

F. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

G. Test Area: Perform tests on one bay at least 30 feet (9.1 m), by one story.

H. Glazed aluminum curtain walls will be considered defective if they do not pass tests and inspections.

I. Prepare test and inspection reports.

3.5 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, take care to remove dirt from corners, and wipe surfaces clean.

C. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.

3.6 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

SECTION 11 6623 - GYMNASIUM EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Basketball backboards, goals, and support framing.

B. Floor sleeves for net and goal posts.

C. Wall mounted protection pads.

D. Gym divider curtains.

E. Volleyball nets, posts, and floor sleeves.

F. Scoreboard and shot clocks.

G. Wall mounted metal benches.

1.2 REFERENCE STANDARDS

A. AWS D1.1/D1.1M - Structural Welding Code - Steel.

B. NFPA 70 - National Electrical Code.

C. NFPA 101 - Life Safety Code.

1.3 SUBMITTALS

A. Product Data: Provide manufacturer's data showing configuration, sizes, materials, finishes, hardware, and accessories; include:
   1. Electrical characteristics and connection locations.
   2. Structural steel welder certifications.
   3. Manufacturer's installation instructions.

B. Samples: Submit samples of wall pad coverings, metal bench cushions, and divider curtain in manufacturer's available range of colors.

C. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Engineer's name and registered with manufacturer.

1.4 WARRANTY

A. Provide 5 year manufacturer warranty for materials and workmanship, including but not limited to: basketball backboard failures including glass breakage, and faulty operation of basketball backstops.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Gymnasium Equipment:
1. Draper, Inc; : www.draperinc.com/#sle.
2. IPI by Bison, Inc; : www.ipibybison.com/#sle.
3. Performance Sports Systems; : www.perfsports.com/#sle.
4. Porter Athletic Equipment Company; : www.porterathletic.com/#sle.
5. Builtrite Bleachers: www.builtritebleachers.com
6. Daktronics: www.daktronics.com

2.2 GENERAL REQUIREMENTS

A. See drawings for sizes and locations, unless noted otherwise.

B. Provide mounting plates, brackets, and anchors of sufficient size and strength to securely attach equipment to building structure; comply with requirements of contract documents.

C. Hardware: Heavy duty steel hardware, as recommended by manufacturer.

D. Electrical Wiring and Components: Comply with NFPA 70; provide UL-listed equipment.

E. Structural Steel Fabrications: Welded in accordance with AWS D1.1/D1.1M, using certified welders.

2.3 DIVIDER CURTAINS

A. Gymnasium Divider Curtains, Alternate No. 5:
1. Curtain Material: Class A rated, self-extinguishing vinyl coated polyester meeting NFPA 101.
a. Upper Section: 9 oz/sq yd vinyl mesh fabric.
1) Color: As selected from manufacturer's standard range.
b. Lower Section: 18 oz/sq yd solid vinyl coated polyester.
1) Color: As selected from manufacturer's standard range.
2. Operation: Vertical lift roll-up, curtain coils on bottom rail .
3. Controls: Group control touch pad.
a. Touch pad to include all backstops and divider curtain.
b. Product: Performance Sports Systems Keypad group controller; TSC1500.
ADDENDUM 2

2.4 BENCHES

A. Wall-mounted Metal Folding Bench: Hide-A-Bench. (Keynote: 116623-K)
1. 2-Tier, clear anodized aluminum bench.
2. Length: Provide in manufacturer's standard lengths.
3. Provide integrated pads to match gymnasium wall pads.

2.5 BASKETBALL

A. Basketball System: Backstop assembly, backboard, and goal.

B. Ceiling-Suspended Backstop Assemblies: Capable of mounting both rectangular and fan-shaped backboards.
   1. Framing: Center strut; forward folding and side folding framing.
   2. Folding Control System: Electric hoist that folds backstop with 115 volt actuator, integral limit switches that provide automatic shut-off in both positions, and safety catch with automatic reset.
   3. Height Adjuster: Raises or lowers assembly by 2 feet to adjust goal height.
   4. Height Control System: Electric hoist that adjusts backstop with 115 volt actuator, and integral limit switches that provide automatic shut-off in both positions.
   5. Controls: Group control touch pad.
      a. Touch pad to include all backstops and divider curtain.
      b. Product: Performance Sports Systems Keypad group controller; TSC1500.
         ADDENDUM 2
   6. Framing Color: Manufacturer's standard.

C. Backboards: Tempered glass, rectangular shaped.
   1. Frame: Brushed aluminum edge, steel mounting.
   2. Provide conversion frame, mountable on both assemblies designed for fan shaped backboards and assemblies designed for rectangular backboards.
   3. Markings: Painted.
   4. Provide safety padding for bottom edge of backboard.
   5. Provide mounting kit.
   6. Color: Manufacturer's standard.

D. Goals: Steel rim, mounted to backboard, with attached nylon anti-whip net; complete with mounting hardware.
   1. Net Attachment Device: Tube-tie.
   2. Breakaway mechanism, adjustable.
   3. Provide safety pad for goal mounting.
   4. Finish: Powder coat orange.

2.6 FLOOR-MOUNTED EQUIPMENT

A. Volley Ball Nets and Posts: One court system of adjustable posts, net, and tensioning winch meeting requirements for FIVB, USA Volleyball, NCAA and NFHS competition requirements.
   1. Posts: 3-1/2 inch O.D. schedule 80 aluminum tube with 1 inch height adjustments between 42 and 96 inches.
   2. Net: 4 inch square #36 nylon cord with vinyl coated polyester hem, double stitched around the perimeter.
   3. Tensioning Winch: Manual crank heavy duty, self-locking worm gear mechanism.

B. Floor Sleeves for Posts: Metal sleeve, with latch cover, cast into concrete subfloor to hold poles for nets and goals; installed flush with finish floor surface.
   1. Latch Cover: Brass, round; tamper resistant lock with key.
   2. Sleeve: Aluminum.
   3. Depth of Sleeve: 9 inches from floor surface to bottom, including latch cover.

2.7 WALL PADDING

A. Safety Wall Padding: Foam filling bonded to backing board, wrapped in covering; each panel fabricated in one piece.
   1. Covering: Vinyl-coated polyester fabric, mildew and rot resistant; stapled to back of board.
      a. Color: As selected from manufacturer's standard range.

b. Texture: Embossed leather-look.
c. Fabric Weight: 14 oz/sq yd.

2. **ADDENDUM #2**
3. Foam: Open cell polychloroprene (Neoprene) 5.5 pcf nominal density.
4. Foam Thickness: 1-1/2 inches.
5. Backing Board: Plywood.
6. Panel Dimensions: As indicated on drawings.
7. Mounting: Permanent; using screws.

B. Specially Shaped Padding: Same construction as standard padding; custom fabricate to fit irregularly shaped members, areas, and protrusions in gymnasium as indicated; provide padding for:
1. Structural Steel including columns and cross-bracing, as indicated on drawings.

2.8 ELECTRONIC SCOREBOARD AND CONTROL CONSOLE

A. Main Electronic LED Scoreboard (Keynote: 116623-F): Daktronics BB-2103 single sided basketball scoreboard which can also score volleyball and wrestling.
1. Scoreboard displays period time to 99:59, HOME and GUEST scores to 199, PERIOD to nine, PLAYER number to 99, player FOUL to nine, team FOULS to 19, optional time outs left to nine and indicates possession, bonus. When period time is less than one minute, the scoreboard displays time to tenths-of-a-second.
2. Include vibrating horn mounted behind the scoreboard face, which sounds automatically when period clock counts down to zero and can be sounded manually as controlled by the operator.
3. Display digits to be LED, seven bar segments per digit.
4. Wireless opperation. **ADDENDUM 2**

B. Main Electronic LED Scoreboard (Keynote: 116623-H): Daktronics BB-2121 single sided basketball scoreboard which can also score volleyball and wrestling.
1. Scoreboard displays period time to 99:59, HOME and GUEST scores to 199, PERIOD to nine, optional time outs left to nine and indicates possession, bonus. When period time is less than one minute, the scoreboard displays time to tenths-of-a-second.
2. Include vibrating horn mounted behind the scoreboard face, which sounds automatically when period clock counts down to zero and can be sounded manually as controlled by the operator.
3. Display digits to be LED, seven bar segments per digit.
4. Wireless opperation. **ADDENDUM 2**

C. Scoreboard Control Console: Daktronics All Sport 5000 Control Console.
1. Capable of scoring basketball, volleyball, and wrestling through the use of keyboard inserts.
2. Console shall recall clock, score and period information if power is lost.
3. Has a practice timer mode.
4. Can sound horn at the end of each segment.
5. Has 99 programmable segments.
6. Displays the segment number and length.
7. Has a programmable interval time.
8. Has a 2.4 GHz spread spectrum radio for scoreboard control.
9. Durable carrying case.
10. Console face is water resistant.
11. Controls both main and secondary scoreboard together.

2.9 SHOT CLOCKS

A. Shot Clock: Daktronics BB-2114 single sided basketball shot timer.
   1. Shot Timer displays shot times up to 59 seconds and counts down from any preset time between 0 and 59 seconds. Includes two displays.
   2. Display digits to be LED, seven bar segments per digit.
   3. Mount each shot clock to main court backstops in accordance with manufacturer's instructions. Untio to be plumb and level.
   4. Shot clock displays are controlled by basketball scoreboard control console. Provide hand held start/stop reset switch.
   5. Wireless opperation. **ADDENDUM 2**

B. Shot Clock Bracket: Arizona Courtliners, Inc. (ACI) Shot Clock Rack - Bank Extension Mounted.

PART 3 EXECUTION

3.1 EXAMINATION

A. Take field measurements to ensure proper fitting of work. If taking field measurements before fabrication will delay work, allow for adjustments within recommended tolerances.

B. Inspect areas and conditions before installation, and notify Architect in writing of unsatisfactory or detrimental conditions.

C. Do not proceed with this work until conditions have been corrected; commencing installation constitutes acceptance of work site conditions.

D. Verify that electrical services are correctly located and have proper characteristics.

3.2 INSTALLATION

A. Install in accordance with contract documents and manufacturer's instructions.

B. Coordinate installation of inserts and anchors that must be built in to flooring or subflooring.

C. Install equipment rigid, straight, plumb, and level.

D. Secure equipment with manufacturer's recommended anchoring devices.

E. Install wall padding securely, with edges tight to wall and without wrinkles in fabric covering.

F. Separate dissimilar metals to prevent electrolytic corrosion.

3.3 ADJUSTING

A. Verify proper placement of equipment.

B. Verify proper placement of equipment anchors and sleeves, and use actual movable equipment to be anchored if available.

C. Adjust operating equipment for proper operation; remove and replace equipment causing noise or vibration; lubricate equipment as recommended by manufacturer.

3.4 CLEANING

A. Remove masking or protective covering from finished surfaces.

B. Clean equipment in accordance with manufacturer's recommendations.

3.5 PROTECTION

A. Protect installed products until Date of Substantial Completion.

B. Replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 12 6613 - TELESCOPING BLEACHERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Telescoping bleachers.

B. Electric motor operators, controls, and internal wiring.

1.2 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design.

B. NFPA 102 - Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures.

C. PS 1 - Structural Plywood.

D. AWS D1.1/D1.1M - Structural Welding Code - Steel.

E. AWS D1.3/D1.3M - Structural Welding Code - Sheet Steel.

1.3 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage handling and requirements.
   3. Installation methods.

B. Shop Drawings: Complete layout with dimensions, seat heights, row spacing and rise, aisle widths and locations, points of connection to substrate, assembly dimensions, and material types and finishes.
   1. Provide drawings customized to this project.
   2. Include Professional Engineer certification.

C. Selection Samples: For each material for which color selection is required, submit samples, 2 by 2 inches in size, illustrating colors and finishes available.

D. Operation and Maintenance Data: Manufacturer's operation and maintenance instructions, including annual inspection and maintenance and bi-annual inspection by a Professional Engineer or manufacturer factory service personnel.

E. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Engineer's name and registered with manufacturer.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.

B. Installer Qualifications: Manufacturer's installation crew.

C. Welder Qualifications: Certified by AWS for the process employed.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store, in original packaging, under cover and elevated above grade.

1.6 WARRANTY

A. Correct defective Work within a five year period after Date of Substantial Completion. Replace parts that fail under normal use at no extra charge to Engineer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Telescoping Bleachers:
1. Interkal LLC; : www.interkal.com/#sle.
2. Irwin Telescopic Seating Company; : www.irwintelescopicseating.com/#sle.
3. Hussey Seating Company; : www.husseyseating.com/#sle.

2.2 TELESCOPING BLEACHERS

A. Telescoping Bleachers: Factory assembled tiered benches that retract horizontally into depth approximately the same as a single row depth, with fixed seats mounted on leading edge of platforms.
1. Provide a design certified by a licensed Professional Engineer licensed in the State in which the Project is located.
2. Design to comply with applicable requirements of NFPA 102 and requirements of code authorities having jurisdiction; where conflicts between requirements occur, comply with whichever is more stringent.
3. Design with solid fascia (riser) or seat fronts that conceal interior mechanisms when fully retracted, fitting tightly enough to prevent climbing up face; at front row provide key locked, hinged fascia (skirt) to cover gap between seat riser/fascia and floor.
4. Configurations: As indicated on drawings.
5. Wheelchair Spaces: Comply with ADA Standards as required for project. Allow portions of first row to be manually retracted without affecting other rows as required; provide removable railings at row two behind wheelchair spaces. ADDENDUM #2
6. Cutouts: Fit units to irregular wall surfaces, columns, pilasters, roof drain leaders, and other obstructions; take field measurements prior to fabrication.
7. Operation:
a. Base Bid: Manual operated.
b. Alternate No. 4: Motor operated.

B. Design Loads: Design to withstand the following loading conditions:
1. Live Load on Structural Supports: 100 psf, minimum, of gross horizontal projection.
2. Live Load on Seats and Walking Surfaces: 120 pounds per linear foot.
3. Lateral Sway Stress on Structural Supports: 24 pounds per linear foot of seat plank.
4. Perpendicular Sway Stress on Structural Supports: 10 pounds per linear foot of seat plank.

C. Dimensions:
1. See drawings for overall dimensions.

2. Rows: 5.
3. Rise Per Row: 10 inches.
4. Row Depth: 22 inches.
5. Seat Height Above Tread: 6 inches.

D. Structural Supports: Steel or aluminum; manufacturer's standard wheeled carriages supporting each tier separately, with moving parts permanently lubricated and metal parts cushioned to prevent metal-to-metal contact during operation.
1. Design so that each row carriage so that it will individually support the design loads and is self supporting when fully assembled without dependence on platform panels or boards, seats, or fascia.
2. Welding: In accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M.
3. Bolting: Use lock-washers or locknuts.
4. Wheels: Minimum 5 inch diameter by 1-1/8 inch wide, with non-marring rubber tires; ball, roller, or oil-impregnated metal bearings; minimum of 2 wheels at each floor support.
5. Finish: Manufacturer's standard enamel or powder coating.
6. Row Locking: Automatically mechanically lock each carriage to adjacent carriages when fully extended.
7. Unlocking: Provide single manual release mechanism to allow retraction of all carriages, concealed behind skirt board of first row.

2.3 SEAT AND PLATFORM COMPONENTS

A. Seat/Fascia Assembly: Continuous, molded UV-stabilized high-density polyethylene plastic, seat minimum 1 inch thick, textured finish, homogeneous color throughout, color as selected from manufacturer's standard selection; approximately 18 inch long sections independently removable with tongue-and-groove or rabbeted interlock at end joints.
1. Shape: Ergonomically contoured, with internal ribs spaced for natural flexibility; rear edge cantilevered to provide toe room of not less than 3 inches; no openings to trap debris.
2. Provide end caps of same material and finish on each exposed end.
3. Supports: Internal steel reinforcement of each seat segment bolted to platform nose member; minimum two bolts per segment.

B. Platform, Tread, and Step Structure: Plywood continuously supported on front and rear with side joints tongue-and-grooved.
1. Plywood: PS 1, 5-ply southern pine or polyethylene-overlaid douglas fir or southern pine, Grade A-C.
2. Plywood Thickness: 5/8 inch, minimum.
3. Front (Nose), Rear, and Intermediate Supports: Steel channel or tube, hot-dipped galvanized.
4. Provide end caps of same material and finish on each exposed end.
5. Finish: High gloss clear urethane, both sides, unless polyethylene finished.
6. Nosings: Formed steel,, minimum, G60/Z275 hot-dipped galvanized.

2.4 HANDRAILS AND RAILINGS

A. Provide the following railings:
1. End of Row Guardrails: Self-storing, at open ends of sections beginning at row 2.
2. Height: 42 inches above adjacent platform or tread.

B. Design handrails and railings to withstand the following loads:
1. Live Load on Guardrails:
a. Horizontal: 50 pounds per linear foot, applied at the guardrail height.
b. Vertical: 100 pounds per linear foot, applied vertically to top of guardrail.

C. Railing Construction: Round steel or aluminum pipe or tube, with formed elbows at corners and caps at ends of straight runs.
   1. Steel: 1-1/2 inch minimum outside diameter, with 11 gage, 0.12 inch minimum wall thickness; textured powder coat epoxy finish.

2.5 ACCESSORIES

A. Fillers and Closures:
   1. Ends of Retracted Units: Plywood panels, finished to match platforms.
   2. Top Row: Provide seat level rear filler panels to close openings between top row seat and wall; finish to match platforms.

B. Fasteners: Provide hardware and fasteners in accordance with manufacturer92s recommendations.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are consistent with those on the shop drawings.

B. Do not begin installation until substrates have been properly prepared and area has been cleared of obstructions.

C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Do not field cut or alter seats, fascia, or structural members without approval.

C. Provide manufacturer's field representative to inspect completed installation.

3.4 ADJUSTING

A. Lubricate, test, and adjust each moving assembly to ensure proper operation in compliance with manufacturer's recommendations.

3.5 CLEANING

A. Clean exposed and semi-exposed assembly surfaces.

B. Touch up finishes on damaged or soiled areas.

3.6 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 26 0010 - ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SCOPE

A. General: The provisions of this section are general and are intended to apply to all electrical sections, to govern the quality of design, fabrication, workmanship and operation of materials, equipment and appurtenances to be furnished and/or installed thereunder.

B. Equipment: All electrical equipment, including but not limited to, wiring devices, wiring materials and electrical construction materials shall be new and of the highest quality and latest improved design.

C. Workmanship: Workmanship shall be of the highest grade and all installation work shall be performed by thoroughly qualified mechanics of the appropriate trade. All equipment shall be installed and connected in accordance with the best engineering practice. Manufacturer's instructions and recommendations shall be followed and all electric connections shall be provided.

D. Completeness: The Contractor shall furnish all labor, materials, tools, equipment and services necessary for the complete electrical system ready for continuous operation. Provide all required mounting hardware and accessories to install all equipment and devices. Make all equipment and devices fully operational.

E. Drawings: The drawings showing the layout of the electrical system indicate approximate locations of outlets, apparatus and equipment. The runs of feeders and branches as shown, the drawings are schematic only and are not intended to show the exact routing and location of conduits and conduit terminations. The final determination as to routing, location and termination shall be governed by structural conditions, obstructions and job conditions. This shall not be construed to mean that the design of the system may be changed without the written approval of the Engineer; it merely refers to the exact run of raceways and the exact placement of outlets, etc. It shall be the Contractor's responsibility to obtain all shop drawings affecting conduit terminations to the equipment specified in this or other sections or furnished by others, and to verify conduit locations before installation. The Contractor shall consult all contract drawings and specifications which may affect the location of any outlet, equipment or conduit run, to avoid improper locations of such items and to avoid interference with other trades.

F. Accessibility: Electrical equipment such as junction and pull boxes, panelboards, switches, controls and such other apparatus as may require maintenance or operation from time to time, is made easily accessible. Although the equipment may be shown on the drawings in certain locations, in the course of building construction, it may develop that such locations do not afford

proper accessibility, in which case the Contractor shall direct the Engineer's attention to the condition before advancing the construction.

G. Site examinations: All bidders, prior to submitting a bid, shall thoroughly acquaint themselves with the conditions under which the work will be performed. No allowance shall be made subsequently in connection with this, for any error or negligence on the contractor's part.

H. Unless noted as "existing" or "relocated", all construction is new and shall be furnished and installed by the contractor.

1.3 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Comply with electrical construction code requirements of State, City and such other local political subdivision specifications as may exceed the requirements of national codes, standards and approving bodies.

B. All electrical equipment installed under this contract shall bear UL label. Equipment shall be installed in accordance with the requirements of UL and the manufacturer.

C. Comply with the National Electrical Code.

D. Certificates and Permits: Upon completion of work, and prior to final payment, furnish to the Engineer formal certification of final inspections from authorities having jurisdiction and secure required permits or certificates (if any) from such authorities. Additionally, prepare detailed diagrams and drawings which may be required by those authorities having jurisdiction. All the cost for obtaining certificates and permits will be paid by the Contractor.

1.4 REFERENCES AND DEFINITIONS

A. Basic References: The following codes, standards, and approvals as referenced throughout the Sections of **Division 26**, shall serve as the minimum standards and quality requirements directly appropriate to the work and workmanship. References to catalogs, standards, codes, specifications and recommendations, etc., means latest edition of such publications in effect at the date of invitation to submit bid.

1. American National Standards Institute (ANSI): ANSI C2; National Electrical Safety Code .
2. National Electric Manufacturer's Association (NEMA) Standards as apply to specified Products.
3. National Fire Protection Association (NFPA): NFPA 70 (National Electrical Code), NFPA 72 (National Fire Alarm Code), NFPA 70E (Standard for Electrical Safety Requirements for Employee Workplaces), and other applicable NFPA codes
4. Underwriters' Laboratories, Inc. (UL) Listings, Labels, and Approvals shall govern the quality and performance of specified Products.
5. Americans with Disabilites Act (ADA)
6. Institute of Electrical and Electronics Engineers, Inc (IEEE)
7. National Electrical Contractor's Association (NECA)
8. International Electrical Testing Association (NETA)
9. Occupational Safety and Health Administration (OSHA)

B. Definitions:

1. "Provide" - means "furnish and install"
2. "Indicated" - means "indicated in contract documents"
3. "Concealed" - means items referred to are hidden from normal sight, this includes items partly excavated or crawl spaces and in service tunnels used solely for repairs and maintenance
4. "Exposed" - means items are not "concealed"
5. "Feeder" - means "All circuit conductors between the service equipment, the source of a separately derived system, or other power supply source and the final branch-circuit overcurrent device"
6. "Feeder circuit breakers" - means circuit breakers protecting feeders.
7. NETA ATS - International Electrical Testing Association Acceptance Testing Specifications 2007 Edition
8. "Building" – A structure that stands alone or that is cut off from adjoining structures by fire walls with all openings therein protected by approved fire doors
9. "degrees C" – means "degrees Celsius"
10. "degrees F" – means "degrees Fahrenheit"

1.5 SUBMITTALS

A. Product Data: Submit Product Data applicable to items listed under Submittals in each Section of **Division 26**; and such items as may be indicated on the Drawings.

B. Coordination Drawings:

1. Submit 3 sets of coordination drawings. Coordination drawing shall have reflected ceiling plans, structural plans, floor plans and other relevant drawings, drawn to scale on one drawing, on which the following items are shown and coordinated with each other, based on actual dimensions of the items, input from actual installer of the items involved, and existing conditions:

    a. Routing of underground ducts or ductbanks.
    b. Routing of conduit encased in concrete slab.
    c. Routing of Electrical Feeders
    d. Structural trusses and columns.
    e. Motors and all other mechanical equipment.
    f. Mechanical pipes and ducts
    g. Electrical Distribution Equipment (switchgear, transformers, motor control centers, etc.)

C. Shop Drawings

1. General: The Contractor shall submit to the Engineer for approval, before fabrication, detailed shop drawings for all electrical equipment and materials.
2. Shop drawings shall clearly indicate, using arrows and/or highlighting on all copies, which items are being submitted and that each item being submitted is in compliance with all requirements on the drawings and in these specifications. All pertinent specification and drawing requirements shall be indicated on the manufacturer's drawings. Complete model number of equipment shall be indicated.
3. Shop drawings of related equipment shall be submitted together.

D. "As-Built" Drawings:

1. Accurate project record drawings and specifications, showing in red ink on the working drawings and electrical drawings all changes from the original plans made during installation of the work. Upon completion of the work the contractor shall deliver to the Engineer one neat set of drawings with alterations and notations made in red ink.

E. Operating and Maintenance Manuals

1. General: Upon completion of the work, the Contractor shall furnish Operating and Maintenance Manuals for use by the Engineer. The manuals shall include operating and maintenance information on all systems and items of equipment. The data shall consist of catalogs, brochures, bulletins, charts, schedules and drawings describing location, operation, maintenance, lubrication, operating weight and other information necessary for the Engineer to establish an effective operating and maintenance program.
2. Shop Drawings: Copies of appropriate shop drawings shall be included in the Operating and Maintenance Manuals. The requirements for manuals is a separate contractual item and in no way supersedes the requirements for shop drawings and vice-versa.
3. Approval: Completed manuals shall be submitted to the Engineer for review and approval. Incomplete or inadequate manuals will be returned to the Contractor for correction and resubmission.
4. Provide 3 copies of each operating and maintenance manual unless a greater quantity is specified elsewhere in the specifications, in which case the higher quantity will apply.
5. Equipment keys and passwords shall be provided to the BCRP's authorized representative or representatives. A document shall be provided indicating who received the keys and what are the passwords. Document shall be neat and typewritten.
6. All factory and field test reports shall be included into the O&M Manuals.
7. Provide a separate section in the O&M Manuals for maintenance testing schedules of all equipment. A factory authorized representative of the equipment manufacturer shall certify the maintenance program. Include calendar schedule in table format to indicate all maintenance actions included during the warranty period with spaces for future testing.
8. Records of all factory and field tests by the contractor, manufacturer, or independent testing company shall be included in the O&M Manuals.
9. Wiring diagrams for all factory and field wiring shall be included in the O&M Manuals.

F. Spare Parts and Accessories List

1. A complete list of spare parts and Accessories for equipment shall be provided.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and equipment to the Project site in a clean condition with openings plugged or capped (or otherwise sealed by packaging) both during shipping and during temporary storage.

B. Delivered electrical equipment crating and/or packaging shall clearly identify pick-points or lift-points. In the absence of crating or packaging, pick-points or lift-points must be identified on the equipment.

C. When unloading materials and equipment provide special lifting harness or apparatus as may be required by manufacturers. Handle materials and equipment in accordance with manufacturer's written instructions.

D. The Contractor shall determine the required equipment needed for unloading operations and have such equipment on site to perform unloading work on the date of equipment delivery.

E. Store materials and equipment, both on and off site, in accordance with manufacturer's written instructions. Keep equipment in a dry location.

1. Temporary Heating: Apply temporary heat to materials and equipment, according to manufacturer's written instructions, throughout periods when environment is not controlled for temperature and humidity within manufacturer's stipulated service conditions.

1.7 WARRANTY

A. The Contractor shall guarantee that all work performed and all materials and equipment installed by him are free from defects. He shall repair or replace any defective equipment, materials or workmanship, free of cost to the BCRP for a period of two (2) years from date of acceptance. Where individual specification sections indicate a Special Warranty period longer than two (2) years, the longer warranty period shall apply.

B. During this warranty period the Contractor shall:

1. Correct and make good all electrical defects. Faulty equipment and materials shall be repaired or replaced as required to produce satisfactory results as directed by the engineer and without additional cost to the BCRP. Contractor shall provide service within 24 hours after the call has been made by the BCRP.

1.8 DAMAGE TO OTHER WORK

A. Damage: Cutting or damage to existing structures, surfaces or installations shall be repaired at the expense of the Contractor. All such repairs or patching shall be done by mechanics of the appropriate trade and shall be neatly done by mechanics of the appropriate trade and shall be neatly done and in such a fashion as to leave no readily apparent joint or change in appearance, and to leave no structural or other weakness.

1.9 TEMPORARY POWER

A. Contractor shall be entirely responsible for temporary power. All applications, fees, temporary connections, etc. shall be made by the contractor.

1.10 COORDINATION

A. General: The Contractor shall coordinate the work performed and equipment furnished by the Electrical Contractor with work performed and equipment furnished by other trades to ensure a complete and satisfactory installation.

B. In Maryland, contact “Miss Utility” prior to starting any site work.

1.11 INTERRUPTION OF ELECTRIC SERVICE

A. Do not interrupt electric, telephone or cable tv service to facilities occupied by Engineer or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Construction Manager no fewer than 10 days in advance of proposed interruption of electric service.
2. Do not proceed with interruption of electric service without Construction Manager's written permission.

1.12 WIRING INDICATED IN THE MECHANICAL DRAWINGS AND SPECIFICATIONS

A. Additional HVAC (Heating, Ventilation, and Air Conditioning) circuits/wiring are indicated in the mechanical drawings and specifications. The electrical contractor shall coordinate with the mechanical contractor to make sure that all the circuits/wiring required in order to make the HVAC system fully operational is included in the bid price. All HVAC circuits/wiring shall be provided in accordance with the NEC and the Contract Documents. Wiring shown on the mechanical drawings and specification include, but are not limited to, wiring for dampers, thermostats, heat tracing, and other HVAC controls.

1.13 CORROSIVE LOCATIONS

A. Corrosive locations shall be defined as the following areas:
1. Pool Equipment and Pump Rooms
2. Chemical storages

1.14 WET LOCATIONS

A. Wet location shall be defined as the following areas:
1. Outdoor
2. Pool
3. Pool Storages
4. Locker rooms
5. Shower areas

1.15 ELECTRICAL WORK REQUIRED FOR THE ELEVATOR SYSTEM

A. The electrical contractor shall coordinate with the elevator contractor to make sure that all circuits/wiring/raceway required in order to make the elevator system complete and fully operational are included in the bid price. All elevator circuits/wiring/raceway shall be provided in accordance with the requirements of the NEC, the elevator manufacturer, and the Contract Documents.

B. Provide circuits, wiring, and raceway from the elevator controller and elevator machine room to the elevator shaft, elevator cab, elevator push buttons, elevator controls and other elevator system components.

C. The electrical contractor and elevator contractor shall review the Contract Documents to determine the locations of the different elevator system components (elevator controller, machine room, shaft, cab, buttons, controls, etc.). Where the elevator system components are located remotely from each other, provide circuits, wiring, and raceway between all elevator system components, through all intermediate areas and spaces, in order to make the elevator system complete and fully operational. Field survey and verify exact locations of the elevator system components. All work shall be included in the Contractor's bid price.

1. Provide a 2-hour fire rated enclosure or chase to enclose all circuits, wiring, and raceway which are run through intermediate areas and spaces, between the elevator machine room and the elevator shaft. The 2-hour fire rated enclosure or chase shall be included in the Contractor's bid price, whether or not it is shown in the drawings.

END OF SECTION

and sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

D. Provide adequate pumps, well points, and other equipment, appurtenances, power, drains, material, and labor necessary to do all pumping needed to keep the excavations, pits, trenches, and all spaces included in the area of the swimming pool and building dry during the casting of mats, footings, slabs, and walls, and at such other times as the progress of the work may demand.

E. During excavation and placing of mats, footings, slabs, and walls, ground water shall be maintained a minimum of one foot below the levels of their bottoms. The dewatering system shall maintain such levels until the backfilling is completed and the removal of the dewatering equipment will not cause or endanger any construction, as determined by the Engineer.

F. The dewatering system shall also be adequate to remove storm water from the excavations and prevent accumulation of surface water within the construction area.

3.3 BACKFILLING BELOW-GRADE AREAS

A. Completely fill below-grade areas and void resulting from the demolition of the site improvements and pavements with compacted fill, as described below, to the grades as shown as existing grades on the drawings.

1. Use satisfactory soil materials, as defined by ASTM D 2487, consisting of SM , SC, SP, GM, GC, and GP having a liquid limit less than 35 and a plasticity index less than 20; free of rock or gravel large than 4 inches in any dimension, debris, waste, frozen materials, vegetation and other deleterious matter. However, materials used as backfill behind below-grade walls or retaining walls should have classifications of Sandy SILT (ML), or more granular, in accordance with ASTM D 2487, and should have at least 30 percent by weight of soil particles retained on the No. 200 sieve.
2. **ADDENDUM NO. 2:** Prior to placement of compacted structural fill, the fill subgrade should be stripped of organic layers and then proof rolled under the observation of the Engineers Testing Agency. A minimum 35 ~~20~~ ton dump truck should be used for proof rolling. Areas of subgrade that exhibit pumping or contain organic material should be removed down to firm, natural soils. Any additional loose or unsuitable soils found should be removed and replaced with compacted fill.
3. **ADDENDUM NO. 2:** Place fill materials in horizontal layers not exceeding 8 inches in loose depth. Compact each layer to a density not less than 92% ~~95%~~ of the maximum dry density when tested in accordance with ASTM D-1557, Modified Proctor. In building and pavement areas, the top 12 inches of fill should be compacted to 98% ~~95%~~ of the maximum density when tested in accordance with ASTM D-1557, Modified Proctor. Fill materials should be placed at moisture contents within +2 points of the optimum moisture content. No compacted fill shall be placed unless a soils technician is present to monitor fill compaction.

B. Testing Agency shall verify compliance of borrow material at both the in-situ location and after the material has been brought to the site.

3.4 EXCAVATION

A. Explosives: Do not use explosives.

B. Unclassified Excavation: Excavation is unclassified and includes excavation to required subgrade elevations regardless of the character of materials and obstructions encountered.

3.5 STABILITY OF EXCAVATIONS

A. Comply with local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

B. Slope sides of excavation to comply with local codes, ordinances, and requirements of authorities having jurisdiction. Shore and brace where sloping is not possible because of space

1. **ADDENDUM NO. 2:** Provide minimum 4 inches of drainage fill below all slabs. Drainage fill shall be an evenly graded mixture of natural or crushed gravel or crushed stone and natural sand with 95-100 percent passing a 1 inch sieve and less than 12 percent passing a No. 200 sieve. Place in a single layer and compact to a minimum of 98 ~~95~~ percent of the maximum dry density, as determined by the Modified Proctor compaction test method ASTM D 1557. Overlay fill with vapor barrier below all slabs.

3.15 SUBSURFACE DRAINAGE BACKFILL

A. Subsurface Drain: Place a layer of filter fabric around perimeter of drainage trench or at footing, as indicated. Place a 6 inch compacted course of filtering material on filter fabric to support drainage pipe. After installing and testing, encase drainage pipe in a minimum of 6 inches of compacted filtering material and wrap in filter fabric, overlapping edges at least 6 inches.

B. Impervious Fill: Place and compact impervious fill material for top 12" to final subgrade.

3.16 FILL

A. Preparation: Remove vegetation, topsoil, debris, wet, and unsatisfactory soil materials, obstruction, and deleterious materials from ground surface prior to placing fills.
   1. Plow strip, or break up sloped surface steeper than 1 vertical 4 horizontal so fill material will bond with existing surface. Compact all surfaces with a minimum 10-ton smooth drum or sheepfoot roller.

B. When subgrade or existing ground surface to receive fill has density less than required for fill, break up ground surface to depth required, pulverize, moisture-condition or aerate soil and re-compact to required density.

C. Place fill material in layers to required elevations for each location listed below.
   1. Under grass, use satisfactory excavated or borrow soil material.
   2. Under walks, pavements, and footings use subbase or base material, or satisfactory excavated or borrow soil material.
   3. Under steps and ramps, use subbase material.
   4. Under piping and conduit and equipment, use subbase materials where required over rock bearing surface and for correction of unauthorized excavation. Shape excavation bottom to fit bottom 90 degrees of cylinder.

3.17 MOISTURE CONTROL

A. **ADDENDUM NO. 2:** Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 ~~3~~ percent of optimum moisture content.
   1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
   2. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.
   a. Stockpile or spread and dry removed wet satisfactory soil material.

3.18 COMPACTION

A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill materials evenly on all sides of structures to required elevations to prevent wedging action. Place backfill and fill uniformly along the full length of each structure.

C. Control soil and fill compaction, providing minimum percentage of density specified for each area classification indicated below. Correct improperly compacted areas or lifts as directed by Engineer if soil density tests indicate inadequate compaction.

D. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum dry density according to ASTM D-1557 (Modified Proctor):

1. **ADDENDUM NO. 2** Under structures, building slabs, steps, compact the top 12 inches of fill materials below subgrade to 98 ~~95~~ percent maximum density. Each layer of backfill or fill material below the top 12 inches should be compacted to 92 ~~90~~ percent maximum dry density.
2. **ADDENDUM NO. 2:** Under pavement, compact the top 12 inches of fill materials below subgrade to 98 ~~95~~ percent maximum density. Each layer of backfill or fill material below the top 12 inches should be compacted to92 ~~90~~ percent maximum dry density.
3. **ADDENDUM NO. 2:** Under walkways, compact the top 6 inches below subgrade and each layer of backfill or fill material at 92 ~~90~~ percent maximum density.
4. Under lawn or unpaved areas, compact the top 6 inches below subgrade and each layer of backfill or fill material at 85 percent maximum density.

E. **ADDENDUM NO. 2:** Proof roll all areas which are to receive pavements and slab-on-grade for the proposed building with vehicle having a minimum axle load of 35 ~~20~~ tons. Unsuitable materials shall be removed and replaced with new compacted fill.

F. When existing ground surface has a density less than that specified under “Compaction” for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

3.19 GRADING

A. General: Uniformly grade areas to a smooth surface free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
1. Provide a smooth transition between existing adjacent grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
1. Lawn or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Grading Inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.20 SUBBASE AND BASE COURSES

A. Under pavements and walks, place subbase course material on prepared subgrades. Place base course material over subbases to pavements.
1. **ADDENDUM NO. 2:** Compact subbase course within 2 percent of ~~at~~ optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 ~~95~~ percent of ASTM D 1557 maximum dry ~~4254 relative~~ density.
2. Shape subbase and base to required crown elevations and cross-slope grades.
3. When thickness of compacted subbase or base course is 6 inches or less, place materials in a single layer.
4. When thickness of compacted subbase or base course exceed 6 inches, place materials in equal layers, with no layer more than 6 inches thick or less than 3 inches thick when compacted.

B. Pavement Shoulders: Place shoulder along edges of subbase and base course to prevent lateral movement. Construct shoulders at least 12 inches wide of acceptable soil materials and compact simultaneously with each subbase and base layer.

3.21 DRAINAGE FILL

A. Under slabs-on-grade, place drainage fill course on prepared subgrade.
1. Compact drainage fill to required cross sections and thickness,

2. When compacted thickness of drainage fill is 6 inches or less, place materials in a single layer.
3. When compacted thickness of drainage exceeds 6 inches thick place materials in equal layers, with no layer more than 6 inches thick nor less than 3 inches thick when compacted.

3.22 FIELD QUALITY CONTROL

A. Testing Agency Service: Engage qualified independent testing agency to inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements that shall be reviewed and approved by the Engineer.
   1. Perform field-in-place density tests according to ASTM D 1556 (sand cone method).
      a. Field-in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1556. With each density calibration check, check the calibration curves furnished with the moisture gages according to ASTM D 3017.
      b. When field-in-place density tests are performed using nuclear methods, make calibration checks of both density and moisture gages at beginning of work, on each difference type of material encountered, and at intervals as directed by the Engineer.
   2. Footing Subgrade: Inspect bearing state at each column footing and at twenty foot intervals in wall footings, at the footing subgrade, to verify required bearing capacity.
   3. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, perform at least one field in-place density test for every 2000 sq. ft. or less of paved areas or building slab, but in no case fewer than three tests.
   4. Foundation Wall Backfill: In each compacted backfill layer, perform at least one field in-place density test for each 50 feet or less of wall length, but no fewer than two tests along a wall face.
   5. Trench Backfill: In each compacted backfill layer, perform at least one field in-place density test for each 50 feet or less of trench, but no fewer than two tests.

B. When qualified independent testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained. Testing will be paid by the Contractor at no additional cost to the Engineer.

3.23 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.
   1. Scarify or remove and replace material to depth directed by the Engineer; reshape and re-compact at optimum moisture content to the required density.

C. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.
   1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.24 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Contractor shall remove and dispose of offsite all excess topsoil and/or borrow remaining after final grading has been completed.
   1. Remove waste material, including unsatisfactory soil trash, debris, and legally dispose of off the Engineer's property.

END OF SECTION

SECTION 321400 - UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Concrete Pavers.

1.3 ACTION SUBMITTALS

A. Product Data: For the following:

   1. Pavers.

   2. Bituminous setting materials.

B. Samples for Initial Selection: For the following:

   3. Each type of unit paver indicated.

   4. Joint materials involving color selection.

C. Samples for Verification:

   5. Full-size units of each type of unit paver indicated.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of unit paver, and pedestal from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
   2. Mockups shall be a minimum of 10’ X 10’ and include adjacent accent bands. Accent bands should include full width; minimum of 10 pavers.
   3. Pavers installed on radii shall show full range of curvature. Mockup will be reviewed for tightness of paver curve. Smooth, clean edges and elimination of gaps between pavers will be required.
   4. No paver shall be installed at less than 1/3 of original size.
   5. Provide a minimum 3 day notice to Landscape Architect for mockup approval.

C. Pre-installation Conference: Conduct conference at Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

B. Store asphalt cement and other bituminous materials in tightly closed containers.

1.6 PROJECT CONDITIONS

A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Retain first paragraph below if bituminous setting bed is used.

B. Weather Limitations for Bituminous Setting Bed:

1. Install bituminous setting bed only when ambient temperature is above 40 deg F and when base is dry.
2. Apply asphalt adhesive only when ambient temperature is above 50 deg F and when temperature has not been below 35 deg F for 12 hours immediately before application. Do not apply when setting bed is wet or contains excess moisture.

C. Weather Limitations for Mortar and Grout:

1. Cold-Weather Requirements: Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.
2. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6. Provide artificial shade and windbreaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F and higher.

    a. When ambient temperature exceeds 100 deg F or when wind velocity exceeds 8 mph and ambient temperature exceeds 90 deg F set pavers within 1 minute of spreading setting-bed mortar.

PART 2 - PRODUCTS

2.1 PAVERS

A. Basis-of-Design Product:

1. Paver A (P-1) – Hanover Prest Paver; Hanover Architectural Products 5000 Hanover Road, Hanover, PA 17331. 717-637-7145 www.hanoverpavers.com
    a. Series: Plankstone Paver.
    b. Face Size: 6” x 24”.
    c. Thickness: 3”.
    d. Color: 60% Charcoal, 40% Limestone Gray mix.
    e. Set on bituminous setting bed; see details. See plans for pattern.

ADDENDUM 2

2. Paver A (P-1.1) – Hanover Prest Paver; Hanover Architectural Products 5000 Hanover Road, Hanover, PA 17331. 717-637-7145 www.hanoverpavers.com
    a. Series: Plankstone Paver.

b. Face Size: 6” x 24”.
c. Thickness: 3”.
d. Color: 60% Charcoal, 40% Limestone Gray mix.
e. Set on bituminous setting bed; see details. Install on vehicular grade concrete section. Refer to Civil Drawings for details. See landscape plans for pattern.

3. Paver B – Vehicular (P-2) – Hanover Prest Brick; Hanover Architectural Products 5000 Hanover Road, Hanover, PA 17331. 717-637-7145 www.hanoverpavers.com
   a. Series: Prest Brick; Traditional.
   b. Face Size: Nominal 4”X8” (3 7/8” X 7 7/8”)
   c. Thickness: 3”.
   d. Color: Charcoal; Natural.
   e. Set on bituminous setting bed; see civil details.
   f. Patterns: 45° Herringbone for vehicular use. See landscape plans for pattern.

4. Exterior Fitness Tile – ECOmax (P-3) – Ecore International; 715 Fountain Avenue, Lancaster, PA 17601. 877.258.0843 www.ecorecommercial.com
   a. Product: ECOmax, beveled tile.
   b. Face Size: 24” x 24”.
   c. Thickness: 2-1/2”.
   d. Color: Silver Lake.
   e. Set per manufacturers recommendations using Quad Blocks and full-spread adhesion; E-Grip III.
   f. To be installed with top elevation flush to adjacent hardscape.
   g. Follow ecore recommendations for ‘Initial Cleaning’ on outdoor maintenance after installation.

2.2 ACCESSORIES

A. Cork Joint Filler: Preformed strips complying with ASTM D1752, Type II.

B. Compressible Foam Filler: Preformed strips complying with ASTM D1056, Grade 2A1.

2.3 BITUMINOUS SETTING-BED MATERIALS

A. Primer for Base: ASTM D2028/D2028M, cutback asphalt, grade as recommended by unit paver manufacturer.

B. Fine Aggregate for Setting Bed: ASTM D1073, No. 2 or No. 3.

C. Asphalt Cement: ASTM D3381/D3381M, Viscosity Grade AC-10 or Grade AC-20.

D. Neoprene-Modified Asphalt Adhesive: Paving manufacturer's standard adhesive consisting of oxidized asphalt combined with 2 percent neoprene and 10 percent long-fibered mineral fibers containing no asbestos.

E. Sand for Joints: Fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 sieve and no more than 10 percent passing No. 200 sieve.

1. Provide sand of color needed to produce required joint color.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Where pavers are to be installed over waterproofing, examine waterproofing installation, with waterproofing Installer present, for protection from paving operations, including areas where waterproofing system is turned up or flashed against vertical surfaces.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove substances from substrates that could impair pedestal installation.

B. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

3.3 INSTALLATION, GENERAL

A. Do not use pavers or tiles with chips, cracks, voids, discolorations, or other visible defects.

B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
   1. Paver A to be installed with a consistent 60% Charcoal, 40% Limestone Gray mix throughout field.

C. Cut pavers as manufacturer identifies to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Do not use less than 1/3 full paver size. Hammer cutting is not acceptable.

D. Pattern: As indicated on plans.
   1. Vehicular pavers at 45° Herringbone.

3.4 BITUMINOUS SETTING-BED APPLICATIONS

A. Apply primer to concrete slab or binder course immediately before placing setting bed.

B. Prepare for setting-bed placement by locating 3/4-inch deep control bars approximately 11 feet apart and parallel to one another, to serve as guides for striking board. Adjust bars to subgrades required for accurate setting of paving units to finished grades indicated.

C. Place bituminous setting bed where indicated, in panels, by spreading bituminous material between control bars. Spread mix at a minimum temperature of 250 deg F. Strike setting bed smooth, firm, even, and not less than 3/4 inch thick. Add fresh bituminous material to low, porous spots after each pass of striking board. After each panel is completed, advance first control bar to next position in readiness for striking adjacent panels. Carefully fill depressions that remain after removing depth-control bars.

1. Roll setting bed with power roller to a nominal depth of 3/4 inch. Adjust thickness as necessary to allow accurate setting of unit pavers to finished grades indicated. Complete rolling before mix temperature cools to 185 deg F.

D. Apply neoprene-modified asphalt adhesive to cold setting bed by squeegeeing or troweling to a uniform thickness of 1/16 inch. Proceed with setting of paving units only after adhesive is tacky and surface is dry to touch.

E. Place pavers carefully by hand in straight courses, maintaining accurate alignment and uniform top surface. Protect newly laid pavers with plywood panels on which workers can stand. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of pavers. If additional leveling of paving is required, and before treating joints, roll paving with power roller after sufficient heat has built up in the surface from several days of hot weather.

3.5 REPAIRING, POINTING, AND CLEANING

A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION 321400

CITY OF BALTIMORE

DEPARTMENT OF PUBLIC WORKS
DEPARTMENT OF RECREATION AND PARKS

FOR

THE MAYOR AND CITY COUNCIL OF BALTIMORE

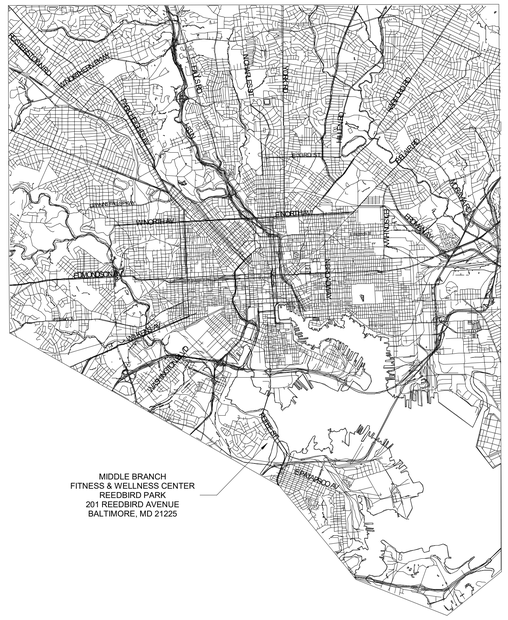
BERNARD C. "JACK" YOUNG, MAYOR

TABLE OF CONTENTS

CONTRACT NO. RP19808

GWWO PROJECT NO. 18010

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL



GWWO INC.
ARCHITECT
800 WYMAN PARK DR., STE. 300
BALTIMORE, MD 21211
(410) 332-1009
FAX (410) 332-0038

CHIEF OF CAPITAL DEVELOPMENT

DIRECTOR OF RECREATION AND PARKS

DATE: 12/13/2019

231 SHEETS IN SET

SHEET 1 OF 231

DRAWING NO. CS.1r2

RP 19808 - MIDDLE BRANCH FITNESS & WELLNESS CENTER

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DEMOLITION PLAN

SCALE: 1"=60'

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)
1" inch = 60'

DEMOLITION KEY

1. EX. ASPHALT DRIVEWAY TO BE REMOVED
2. EX. SIDEWALKS TO BE REMOVED
3. EX. TENNIS COURT CONCRETE/FOUNDATION TO BE REMOVED
4. EX. BASKETBALL COURT CONCRETE/FOUNDATION TO BE REMOVED
5. EX. SPLASH POOL CONCRETE/FOUNDATION TO BE REMOVED
6. EX. STORM DRAIN INLET/MANHOLE TO BE REMOVED
7. EX. FENCE TO BE REMOVED
8. EX. LIGHT & BASE TO BE REMOVED
9. EX. TIMBER WALL TO BE REMOVED
10. EX. BOLLARD TO BE REMOVED
11. EX. BENCHES & TABLES TO BE REMOVED
12. EX. PAVILION FOUNDATION TO BE REMOVED
13. EX. OVERHEAD WIRES TO RELOCATED
14. EX. WHEEL STOPPERS TO BE REMOVED
15. EX. CONCRETE SLAB TO BE REMOVED
16. EX. TREES TO BE REMOVED TO LIMIT OF DISTURBANCE
17. EX. PLAYGROUND EQUIPMENT & FOUNDATIONS TO BE REMOVED
18. EX. PAVERS TO BE REMOVED

DEMOLITION NOTES

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON AVAILABLE AS-BUILT PLANS PROVIDED BY BALTIMORE CITY RECREATION & PARKS, BALTIMORE CITY DPW, BALTIMORE CITY GIS, AND A SUPPLEMENTAL SURVEY CONDUCTED BY NAVARRO & WRIGHT CONSULTING ENGINEERS, LLC. DURING JUNE 2018.
3. EXISTING UTILITY INFORMATION SHOWN HEREON IS BASED ON THE BEST AVAILABLE INFORMATION, WHICH INCLUDES A FIELD SURVEY CONDUCTED BY A1 DATA LLC. DURING JUNE 2018, AS-BUILT WATER, WASTEWATER AND STORM DRAIN PLANS FROM BALTIMORE COUNTY DEPARTMENT OF PUBLIC WORKS AND BALTIMORE GAS AND ELECTRIC COMPANY PLANS.
4. OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. MK CONSULTING ENGINEERS, LLC. DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR THE COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY ALL SUCH INFORMATION TO HIS OWN SATISFACTION. IN THE EVENT THAT INFORMATION IS IN CONFLICT WITH INFORMATION OUTLINED, THE CONTRACTOR SHALL IMMEDIATELY BRING IT TO THE ATTENTION OF THE ARCHITECT PRIOR TO STARTING ANY WORK.
5. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES SHOWN HEREON BEFORE STARTING ANY WORK ON THESE PLANS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR THE COST OF ANY AND ALL DAMAGES WHICH OCCUR AS A RESULT OF A FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES INDICATED TO REMAIN.
6. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. CONTRACTOR SHALL ADJUST ALL FRAMES, GRATES AND COVERS OF ALL EXISTING UTILITIES WITHIN THE LIMITS OF THE CONTRACT TO THE PROPOSED GRADES AS REQUIRED.
8. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES AT ALL TIMES.
9. CONTRACTOR SHALL COORDINATE ALL DISCONNECTIONS AND REMOVAL OF EXISTING GAS, ELECTRIC AND TELEPHONE SERVICES AND EQUIPMENT WITH BALTIMORE GAS & ELECTRIC, VERIZON AND BALTIMORE CITY.
10. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING MECHANICAL AND ELECTRICAL EQUIPMENT AND ACCESSORIES NOT REMOVED BY LOCAL UTILITY COMPANIES, OR SPECIFIED TO BE REMOVED BY OWNER.
11. ALL EXCAVATION SHALL BE BACKFILLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN THE EVENT THAT A PORTION OF A UTILITY IS TO BE REMOVED THE CONTRACTOR SHALL TERMINATE AND CAP TO THE LIMITS INDICATED IN ACCORDANCE WITH ALL STATE AND LOCAL REQUIREMENTS.
12. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION FROM THIS PLAN PRIOR TO ANY CHANGE BEING MADE. ANY DEVIATION FROM THIS PLAN WITHOUT WRITTEN AUTHORIZATION FROM THE ENGINEER WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
15. SOIL BORINGS WERE COMPLETED BY RUMMEL, KLEPPER & KAHL, LLP. DECEMBER 2018.
16. CONTRACTOR SHALL SECURE THE CONSTRUCTION AREA AT THE END OF EACH WORKING DAY AND WILL INSPECT THE SECURITY FENCING TO INSURE ITS INTEGRITY.
17. ALL CONSTRUCTION DEBRIS WILL BE REMOVED FROM THE SITE AND TAKEN TO AN APPROVED, PERMITTED DISPOSAL FACILITY. NO RUBBLE IS TO BE LEFT ON SITE.
18. CONTRACTOR SHALL INSPECT AND TAKE PICTURES OF ADJACENT BUILDING WALLS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION ON THE SITE. EXISTING WALL CRACKS (IF ANY) WILL BE NOTED.
19. CONTRACTOR SHALL CONTINUALLY MONITOR THE WALLS OF THE ADJACENT BUILDINGS FOR ANY SIGNS OF STRUCTURAL DISTRESS. IF ANY DISTRESS IS NOTED, CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY OWNER.
20. CONTRACTOR SHALL NOT EXPOSE, UNDERMINE, OR IMPACT THE ZONE OF INFLUENCE FOR FOOTINGS AND FOUNDATIONS OF ADJACENT BUILDINGS. CONTRACTOR WILL BE RESPONSIBLE FOR THE COST TO REPAIR ADJACENT BUILDINGS THAT ARE DAMAGED DUE TO HIS OPERATION.
21. CONTRACTOR SHALL PROVIDE THE NECESSARY MEANS TO CONTROL DUST AND MAINTAIN BALTIMORE CITY AIR QUALITY STANDARDS DURING THE DEMOLITION AND REMOVAL OF SITE DEBRIS AND THE NEW CONSTRUCTION.
22. CONTRACTOR SHALL SAWCUT EXISTING PAVING TO MINIMIZE DAMAGE TO EXISTING PAVING REMAINING.
23. CONTRACTOR SHALL REMOVE EXISTING CURBS & CONCRETE WALKS TO THE NEAREST JOINT. NO PATCHING WILL BE PERMITTED.
24. THE DEMOLITION INFORMATION SHOWN ON THIS DRAWINGS IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LIMITS OF DEMOLITION AND REMOVAL OF AFFECTED SITE ITEMS.
25. CONTRACTOR SHALL PROVIDE 8' HIGH TEMPORARY CONSTRUCTION FENCE AROUND THE LIMITS OF DISTURBANCE AS REQUIRED. REFER TO THE EROSION AND SEDIMENT CONTROL PLANS FOR LOCATIONS OF LOD DURING PHASES.
26. THE CONTRACTOR SHALL PROVIDE A PRIVATE UTILITY LOCATOR TO LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING ANY CONSTRUCTION.
27. THE CONTRACTOR SHALL REMOVE ALL UNDERGROUND UTILITY PIPING, NOTHING SHALL BE ABANDONED IN PLACE.

LEGEND

- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- CRITICAL AREA 100' BUFFER
- EX. CURB AND GUTTER
- EX. STORM DRAIN
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- EX. TREE
- EX. WOODS LINE
- EX. TREE TO BE REMOVED
- EX. UTILITIES, FENCE, CURB AND GUTTER TO BE REMOVED
- APPROXIMATE LIMIT OF PAVING TO BE REMOVED
- APPROXIMATE LIMITS OF PAVING TO REMAIN

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25068, EXPIRATION DATE 11/17/20

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=60'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: DEMOLITION PLAN

Drawing Number: C3.00r2

Sheet: 01

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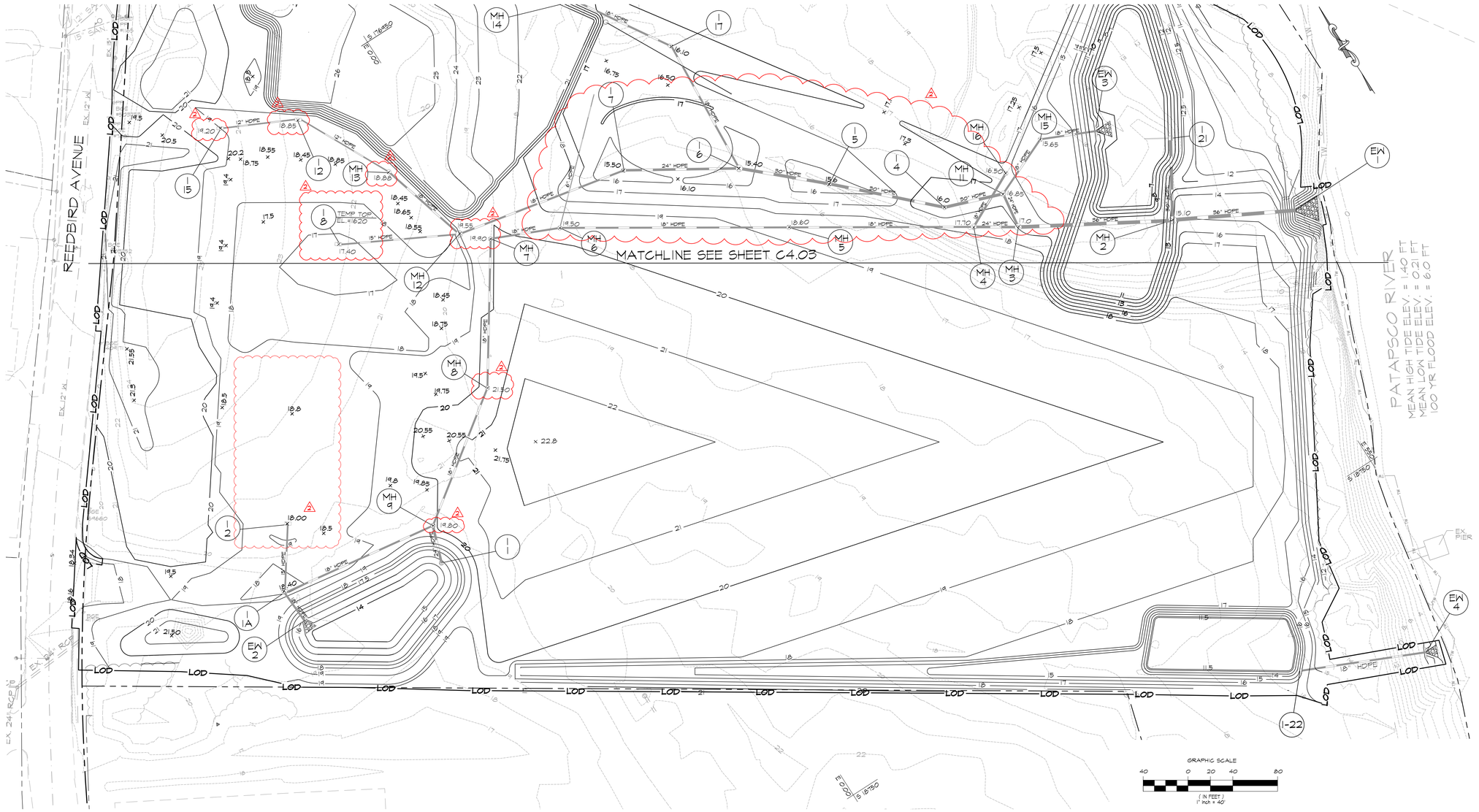

LEGEND

20	EX. INDEX CONTOUR
21	EX. INTERMEDIATE CONTOUR
	PROPERTY LINE
	EX. CURB AND GUTTER
EX. 12"D	EX. STORM DRAIN
EX. 8" SAN.	EX. SANITARY SEWER
EX. 6"W	EX. WATER
EX. GAS	EX. GAS
EX. UNDERGROUND ELEC.	EX. UNDERGROUND ELECTRIC
EX. OVERHEAD ELEC.	EX. OVERHEAD ELECTRIC
	EX. FENCE
	EX. MANHOLE
	EX. INLET
	EX. TREE
	EX. WOODS LINE
LOD	LIMIT OF DISTURBANCE
20	PROP. INDEX CONTOURS
21	PROP. INTERMEDIATE CONTOURS

STAGE 1 - SITE & GRADING PLAN

SCALE: 1"=40'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25058, EXPIRATION DATE 11/17/20

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=40'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: STAGE 1 - SITE & GRADING PLAN

Drawing Number: C4.04r2

Sheet: Of

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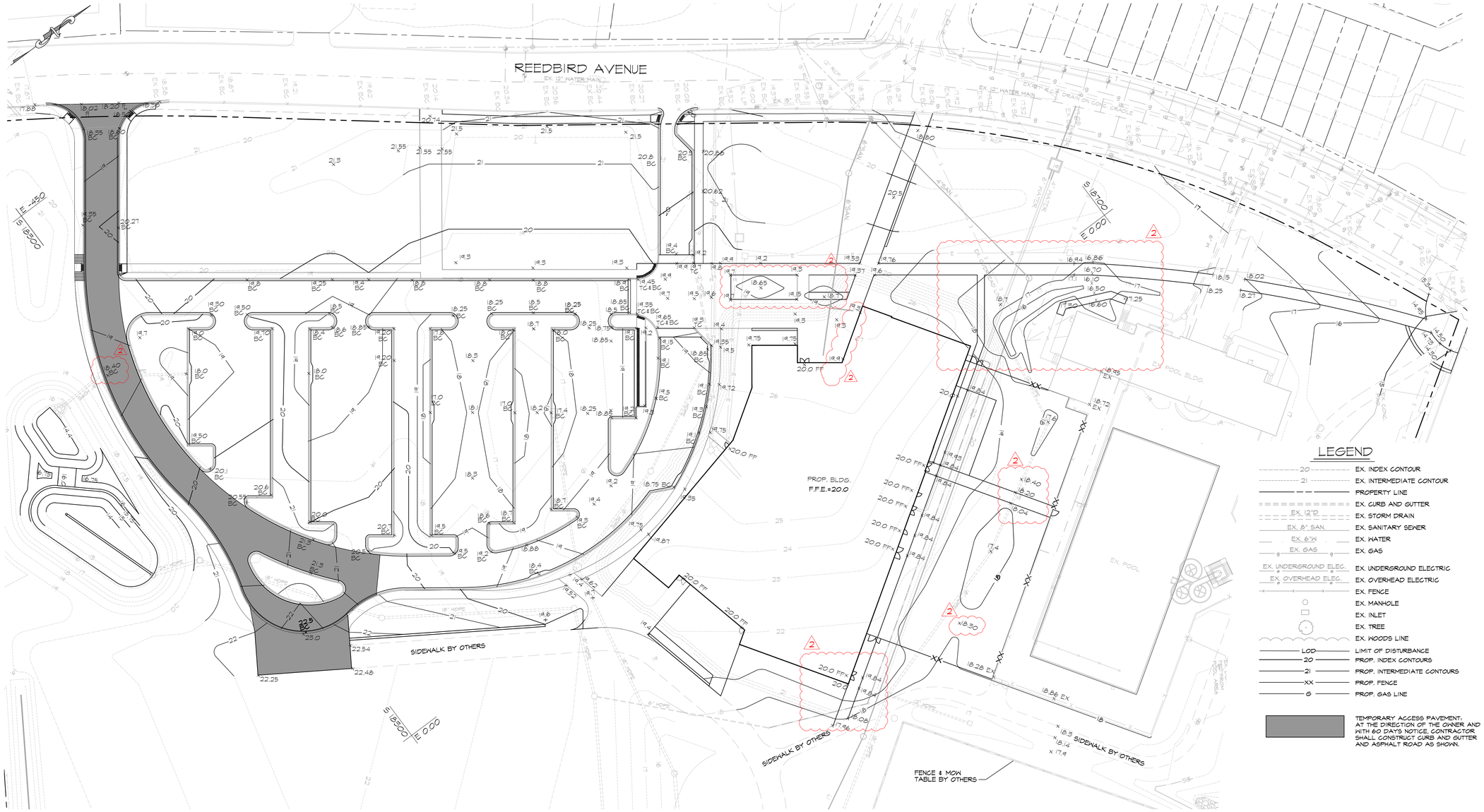

NOTE:
SEE DWG. C4.00 FOR FINAL GRADING IN AREAS NOT SHOWN ON THIS PLAN

STAGE 2 - GRADING PLAN

SCALE: 1"=30'

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1" INCH = 30'

LEGEND

- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- EX. CURB AND GUTTER
- EX. STORM DRAIN
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- EX. TREE
- EX. WOODS LINE
- LOD — LIMIT OF DISTURBANCE
- 20 — PROP. INDEX CONTOURS
- 21 — PROP. INTERMEDIATE CONTOURS
- XX — PROP. FENCE
- G — PROP. GAS LINE

TEMPORARY ACCESS PAVEMENT. AT THE DIRECTION OF THE OWNER AND WITH 60 DAYS NOTICE, CONTRACTOR SHALL CONSTRUCT CURB AND GUTTER AND ASPHALT ROAD AS SHOWN.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25058, EXPIRATION DATE 11/17/20.

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=30'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: STAGE 2 GRADING PLAN

Drawing Number: C4.05r2

Sheet: Of

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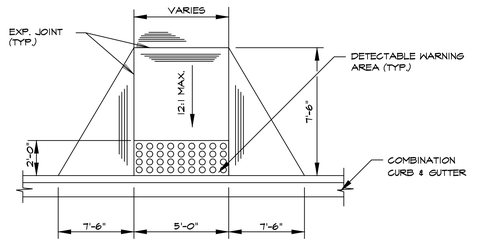
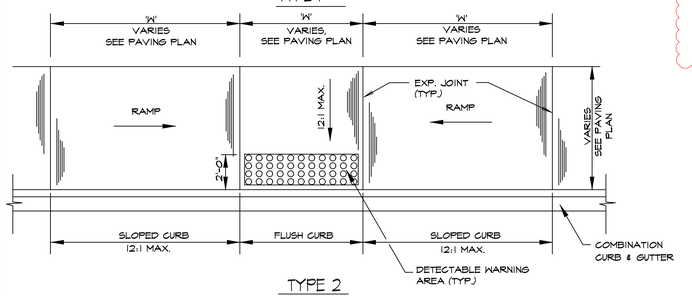
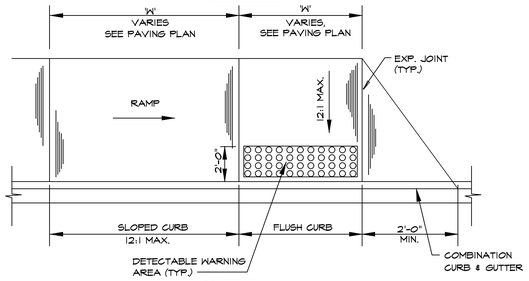


TYPE 1



TYPE 2

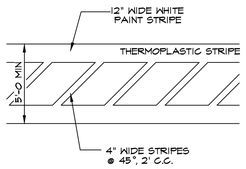


TYPE 3

NOTES:

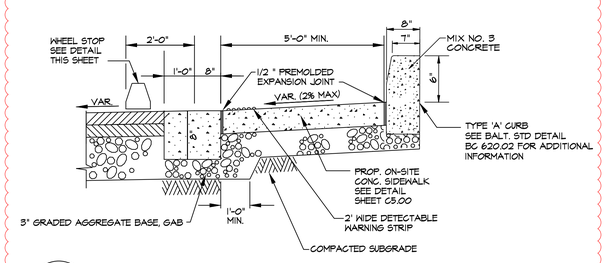
1. SURFACE TEXTURE OF RAMPS SHALL BE COARSE BROOMING OR NON SKID SURFACE.
2. SEE BALT. CITY STD DETAILS 655.11-13 FOR ADDITIONAL INFORMATION.
3. DETECTABLE WARNING AREAS SHALL BE SQUARE PATTERN RED MASONRY UNITS, PARALLEL ALIGNMENT. SEE BALT. CITY STD. BC 655.40 FOR ADDITIONAL INFORMATION OR ONE PIECE REPLACEABLE ADA SOLUTIONS PLASTIC TOPS.
4. SEE DEPRESSED CURB AND GUTTER AT PEDESTRIAN RAMP DETAIL, THIS SHEET.

1 / C5.01 PEDESTRIAN RAMP
NOT TO SCALE

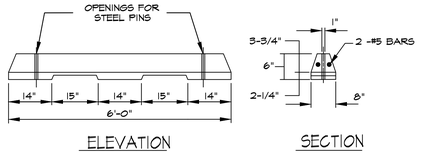


2 / C5.01 CROSSWALK STRIPING
NOT TO SCALE

2

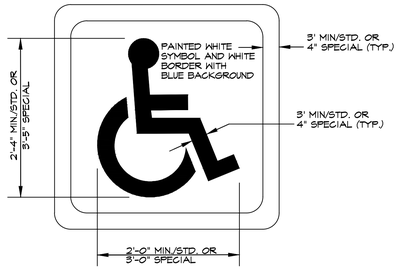


3 / C5.01 DEPRESSED CURB & GUTTER AT PEDESTRIAN RAMP
NOT TO SCALE



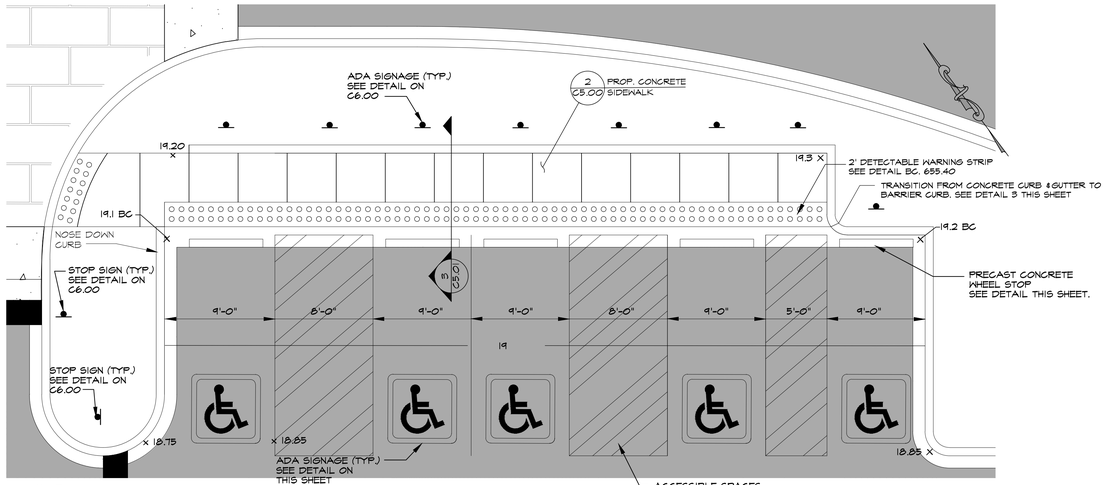
NOTE:
1. CONTRACTOR TO PROVIDE TWO (2) NO.8 REBARS, 16" LONG FOR EACH WHEEL STOP.

4 / C5.01 PRECAST CONCRETE WHEEL STOP
NOT TO SCALE



6 / C5.01 ADA PARKING SYMBOL
NOT TO SCALE

2



NOTE:
SEE GRADING PLAN FOR ELEVATIONS, ACCESSIBLE SPACES AND LOADING AREAS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION

NOTE:
SEE GRADING PLAN FOR ELEVATIONS, ACCESSIBLE SPACES AND LOADING AREAS SHALL NOT EXCEED 2% SLOPE IN ANY DIRECTION

5 / C5.01 ADA PARKING AREA DETAIL
SCALE: 1" = 5'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	AS SHOWN	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: SITE DETAILS

Drawing Number: C5.01r2

Sheet: Of

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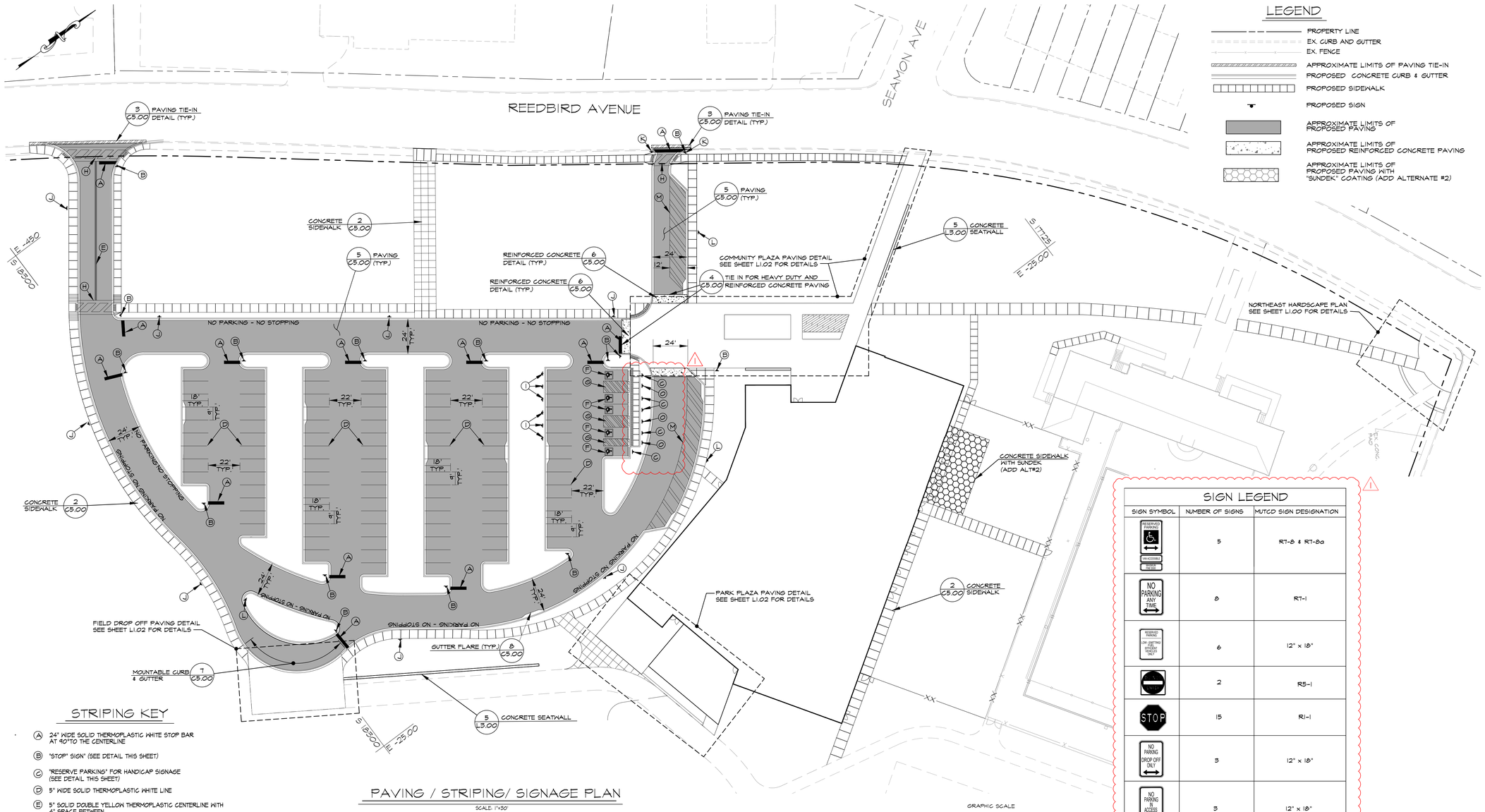

STRIPING KEY

- (A) 24" WIDE SOLID THERMOPLASTIC WHITE STOP BAR AT 90°TO THE CENTERLINE
- (B) "STOP" SIGN" (SEE DETAIL THIS SHEET)
- (C) "RESERVE PARKING" FOR HANDICAP SIGNAGE (SEE DETAIL THIS SHEET)
- (D) 5" WIDE SOLID THERMOPLASTIC WHITE LINE
- (E) 5" SOLID DOUBLE YELLOW THERMOPLASTIC CENTERLINE WITH 4" SPACE BETWEEN.
- (F) ADA PARKING SYMBOL. SEE DETAIL SHEET C5.01
- (G) 4" SOLID THERMOPLASTIC WHITE LINES WITH 30" SPACING AT 45°FROM PARKING SPACES / CURB
- (H) 12" WIDE WHITE THERMOPLASTIC CROSSWALK LINES SPACED 5' APART WITH 4' WIDE SOLID WHITE LINES AT 24" SPACING @ 45°. SEE DETAIL SHEET C5.01
- (I) LOW EMISSION & FUEL EFFICIENT VEHICLE PARKING ONLY SIGN (SEE DETAIL THIS SHEET)
- (J) "NO PARKING" SIGN SPACED 150' APART. (SEE DETAIL THIS SHEET)
- (K) "DO NOT ENTER" SIGN (SEE DETAIL THIS SHEET)
- (L) VEHICLE DROP OFF SIGN (SEE DETAIL THIS SHEET)
- (M) 24" SOLID THERMOPLASTIC WHITE LINES WITH 72" SPACING AT 45° FROM CURB.
- (O) "NO PARKING IN ACCESS AISLE" SIGN (SEE DETAIL THIS SHEET)

PAVING / STRIPING/ SIGNAGE PLAN

SCALE: 1"=30'

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1" inch = 30'

8" NO PARKING / NO STOPPING
FACE OF CURB
GUTTER PAN

1. CURB TO BE PAINTED YELLOW
2. LETTERING TO BE BLACK PAINTED, 6" TALL CENTERED ON TOP OF CURB.

NO PARKING / NO STOPPING CURB MARKING DETAIL

SCALE: NOT TO SCALE

SIGN LEGEND

SIGN SYMBOL	NUMBER OF SIGNS	MUTCD SIGN DESIGNATION
RESERVED PARKING / VAN ACCESS / VAN ACCESS	5	R7-8 & R7-8a
NO PARKING ANY TIME	8	R7-1
RESERVED PARKING / LOW EMITTING FUEL EFFICIENT VEHICLES ONLY	6	12" x 18"
DO NOT ENTER	2	R5-1
STOP	15	R1-1
NO PARKING DROP OFF ONLY	3	12" x 18"
NO PARKING IN ACCESS AISLE	3	12" x 18"

KEY PLAN:

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BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=30'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: PAVING / STRIPING & SIGNAGE PLAN

Drawing Number: C6.00 r2

Sheet: Of

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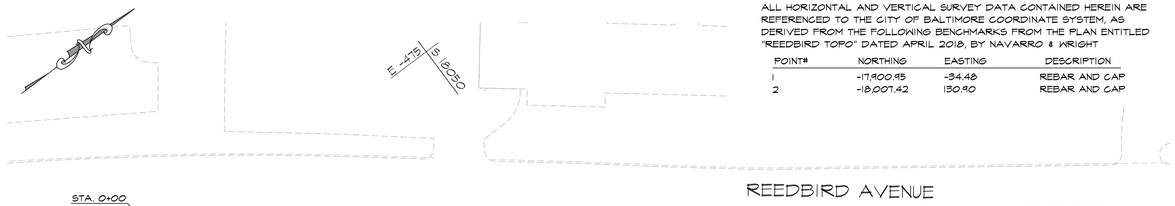
BENCHMARK DATA

ALL HORIZONTAL AND VERTICAL SURVEY DATA CONTAINED HEREIN ARE REFERENCED TO THE CITY OF BALTIMORE COORDINATE SYSTEM, AS DERIVED FROM THE FOLLOWING BENCHMARKS FROM THE PLAN ENTITLED "REEDBIRD TOPO" DATED APRIL 2018, BY NAVARRO & WRIGHT

POINT#	NORTHING	EASTING	DESCRIPTION
1	-17,900.95	-34.48	REBAR AND CAP
2	-18,007.42	130.90	REBAR AND CAP



REEDBIRD AVENUE

GEOMETRY PLAN

SCALE: 1"=30'

BASELINE DATA

STA.	NORTHING	EASTING	BEARING/ RADIUS	DISTANCE/ ARC LENGTH	CHORD
0+00	-18,208.32	-479.62			
			S53°5'25.06"E	113.39'	
1+13.39'	-18,276.42	-388.96			
			212'	334.19	N81°44'57.98"E 300.65'
4+47.58	-18,233.27	-91.42			
			N36°35'21.01"E	37.54'	
4+85.17	-18,203.09	-69.01			
			148'	231.64'	N8°14'57.74"W 208.71'
7+16.83	-17,996.54	-48.96			
			N53°5'16.80"W	30.54'	
7+47.40	-17,979.17	-123.41			
100+00	-18,225.23	-309.00			
			N53°5'16.80"W	139.43'	
101+39.43	-18,308.98	-197.52			
200+00	-18,263.28	-118.49			
			N53°5'16.80"W	175.17'	
201+75.17	-18,158.07	-258.55			
300+00	-18,198.06	-65.44			
			N53°5'16.80"W	178.42	
301+78.42	-18,090.91	-208.10			
400+00	-18,112.21	-39.87			
			N53°5'16.80"W	147.31	
401+47.31	-18,023.74	-157.65			
500+00	-17,968.55	-146.21			
			N53°5'16.80"W	103.00'	
501+03	-17,906.75	-228.47			
			21'	32.72'	N8°26'46.68"W 29.51'
501+35.72	-17,877.56	-252.80			

POINT DATA BASELINE 'A'

POINT NO.	STATION / NORTH	OFFSET / EAST
1	0+0.42	35.00 LT.
2	0+01.64	38.41 RT.
3	0+25.34	12.00 LT.
4	0+26.20	12.00 RT.
5	1+13.39	12.00 RT.
6	1+13.39	12.00 LT.
6A	1+19.04	12.00 LT.
7	1+23.34	16.78 LT.
8	1+52.53	31.19 LT.
9	1+70.27	12.00 LT.
10	2+78.08	12.00 LT.
11	2+84.06	12.00 RT.
12	3+23.18	12.00 LT.
13	3+42.76	20.75 RT.
14	3+45.64	34.70 RT.
15	3+45.80	12.00 RT.
16	3+85.71	12.00 LT.
17	4+20.72	12.00 RT.
18	4+03.77	20.74 RT.
19	4+10.90	31.86 RT.
20	4+21.27	12.00 LT.
21	4+44.60	12.00 RT.
21A	4+47.58	12.00 LT.
22	4+75.43	12.00 LT.
23	4+85.17	12.00 RT.
24	5+10.46	12.00 LT.
25	5+75.78	12.00 LT.
26	6+25.11	12.00 RT.
27	6+25.80	12.00 LT.
28	6+35.49	24.00 RT.
29	7+16.81	12.00 LT.
30	7+16.81	24.00 RT.
31	7+25.39	24.00 RT.
32	7+29.40	12.00 LT.
33	7+37.40	12.00 RT.
34	7+47.40	30.00 LT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

POINT DATA BASELINE 'B'

POINT NO.	STATION / NORTH	OFFSET / EAST
100	100+09.64	11.00 RT.
101	100+10.43	11.00 RT.
102	100+12.43	29.00 RT.
103	100+12.43	13.00 RT.
104	100+35.92	11.00 LT.
105	100+46.44	11.00 LT.
106	100+48.44	29.00 LT.
107	100+48.44	13.00 LT.
108	101+29.43	29.00 RT.
109	101+29.43	29.00 LT.
110	101+29.43	16.00 LT.
111	101+29.43	16.00 RT.
112	101+39.43	16.00 RT.
113	101+39.43	16.00 LT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

POINT DATA BASELINE 'C'

POINT NO.	STATION / NORTH	OFFSET / EAST
200	200+14.74	11.00 RT.
201	200+19.18	11.00 RT.
202	200+21.18	29.00 RT.
203	200+21.18	13.00 RT.
204	200+21.30	11.00 LT.
205	200+28.17	11.00 LT.
206	200+30.17	29.00 LT.
207	200+30.17	13.00 RT.
208	201+65.17	29.00 RT.
209	201+65.17	29.00 LT.
210	201+65.17	16.00 LT.
211	201+65.17	16.00 RT.
212	201+75.17	16.00 RT.
213	201+75.17	16.00 LT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

POINT DATA 'BUILDING'

POINT NO.	STATION / NORTH	OFFSET / EAST
600	-18,103.48	-5.62
601	-17,944.32	-74.50

NOTE:
ALL POINTS SHOWN ARE FROM FINISH FACE OF BUILDING

POINT DATA BASELINE 'D'

POINT NO.	STATION / NORTH	OFFSET / EAST
300	300+16.78	11.00 LT.
301	300+18.87	11.00 RT.
302	300+22.42	11.00 LT.
303	300+24.42	29.00 LT.
304	300+24.42	13.00 LT.
305	300+31.43	11.00 RT.
306	300+33.43	29.00 RT.
307	300+33.43	13.00 RT.
308	301+68.42	29.00 RT.
309	301+68.42	29.00 LT.
310	301+68.42	16.00 LT.
311	301+68.42	16.00 RT.
312	301+78.42	16.00 RT.
313	301+78.42	16.00 LT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

POINT DATA BASELINE 'E'

POINT NO.	STATION / NORTH	OFFSET / EAST
400	400+11.31	14.00 LT.
401	400+11.31	29.00 LT.
402	400+41.14	11.00 RT.
403	400+13.31	11.00 RT.
404	400+75.31	13.00 RT.
405	400+75.31	29.00 RT.
406	400+81.31	35.61 RT.
407	400+83.31	30.00 RT.
408	400+83.31	35.61 RT.
409	401+37.31	29.61 RT.
410	401+37.31	29.00 LT.
411	401+37.31	16.00 LT.
412	401+37.31	16.00 RT.
413	401+37.98	35.61 RT.
414	401+47.31	16.00 LT.
415	401+47.31	16.00 RT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

POINT DATA BASELINE 'F'

POINT NO.	STATION / NORTH	OFFSET / EAST
500	500+00	21.33 LT.
501	500+11	18.00 RT.
502	500+15	6.00 LT.
503	500+88.65	18.00 RT.
504	500+99.72	6.93 RT.
505	501+01.58	6.06 RT.
506	501+02.84	6.00 LT.
507	501+11.38	6.00 LT.
508	501+13.22	10.32 LT.
509	501+35.72	6.00 RT.

NOTE:
ALL STATION OFFSETS SHOWN ARE FROM FACE OF CURB

LEGEND

EX. CURB AND GUTTER

PROP. CURB & GUTTER

(1) GEOMETRY POINT NUMBER

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1" inch = 30'

LAYOUT (STAKEOUT) GENERAL NOTES

1. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IF THERE ARE ANY DIMENSIONAL DISCREPANCY BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS. ALSO, SEE CONSTRUCTION DETAILS AND GRADING PLAN FOR EACH INDIVIDUAL PLAZA, PARKING LOT, ATHLETIC COURT, STEP, ENTRY WALK AND RAMP FOR FURTHER DIMENSIONAL LAYOUT INFORMATION.
2. NEW WORK SHALL MEET AND MATCH EXISTING ALIGNMENTS OF FEATURES AND FINISHED GRADES AT LIMITS OF WORK. ADJUST HEIGHTS OF EXISTING MANHOLES AND SURFACE UTILITY COVERS TO MEET FLUSH WITH PROPOSED WALKS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND IMMEDIATELY AND REPORT DISCREPANCIES TO ENGINEER TO MAKE NECESSARY ADJUSTMENTS BEFORE COMMENCING WITH WORK.
3. FOR LAYOUT, ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL STAKE THE LAYOUT AND ELEVATIONS OF ALL SITE FEATURES INCLUDING WALLS, WALKS, GATES, SIGNS, SWINGS AND OUTDOOR FITNESS EQUIPMENT.
5. DIMENSIONS ARE SHOWN FROM THE FRONT FACE OF CURBS, WALLS AND STEPS UNLESS OTHERWISE SPECIFIED ON THE LAYOUT (STAKE OUT) PLAN OR CONSTRUCTION DETAILS. PAVEMENTS ARE DIMENSIONED FROM EDGE TO EDGE OF PAVEMENT.
6. PAVEMENT RADII ARE 5 FEET UNLESS OTHERWISE DIMENSIONED ON THE LAYOUT PLAN.
7. FOR ADDITIONAL LAYOUT INFORMATION, DIMENSIONAL SIZES AND MATERIALS, SEE THE GRADING PLAN ON SHEET C4.00-C4.06 AND CONSTRUCTION DETAILS ON SHEET C5.00-C5.01.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=30'	Checker	AP
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Drawing Title: GEOMETRY PLAN

Drawing Number: C7.00r2

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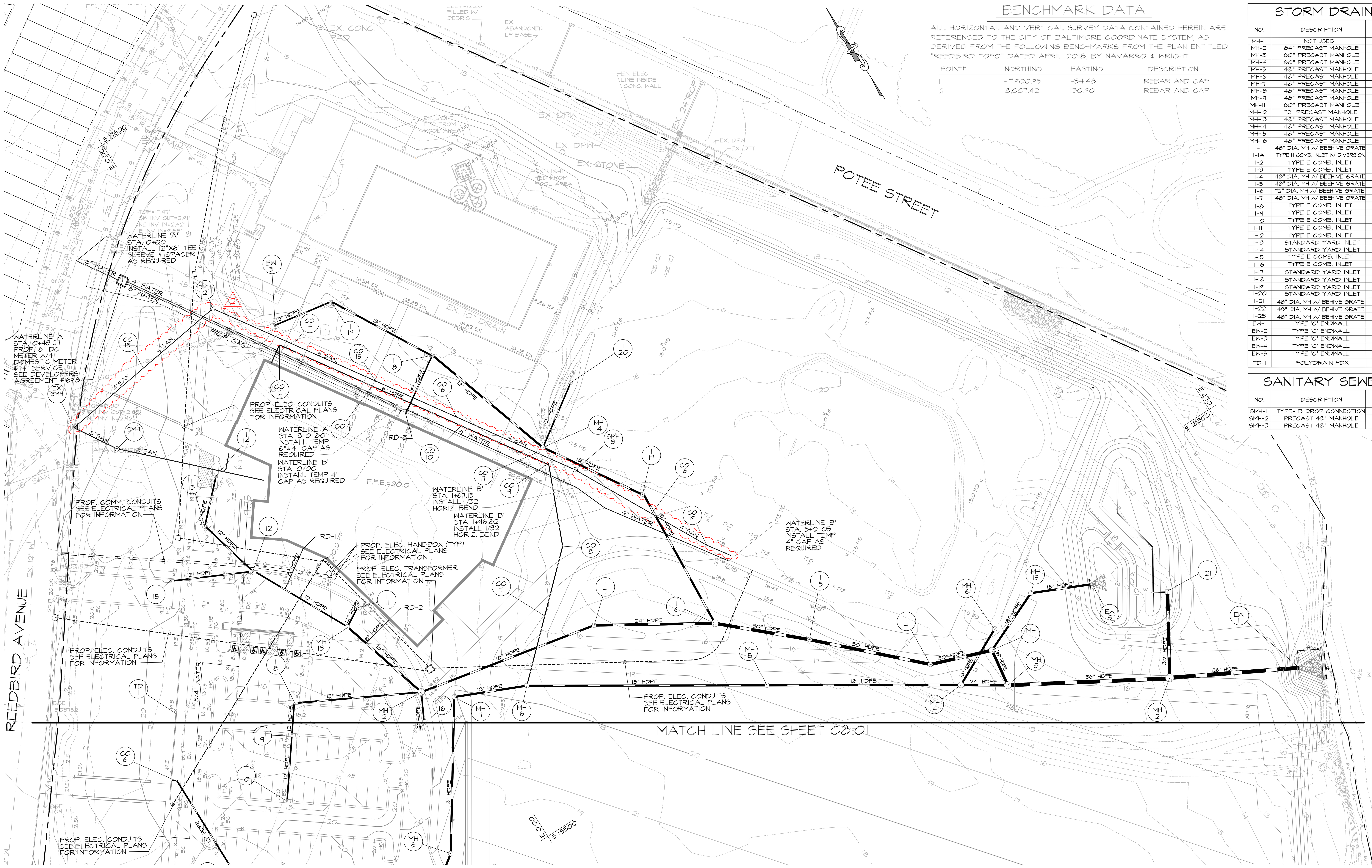

UTILITY PLAN

SCALE: 1"=40'

GRAPHIC SCALE

40 0 20 40 80

(IN FEET)
1" inch = 40'

BENCHMARK DATA

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POINT#	NORTHING	EASTING	DESCRIPTION
1	-17,900.95	-34.48	REBAR AND CAP
2	18,007.42	130.90	REBAR AND CAP

STORM DRAIN STRUCTURE SCHEDULE

NO.	DESCRIPTION	REMARKS	COORDINATES	
			NORTHING	EASTING
MH-1	NOT USED			
MH-2	84" PRECAST MANHOLE	BC STD BC 383.07	-18473.25	517.95
MH-3	60" PRECAST MANHOLE	BC STD BC 383.05	-18403.82	398.75
MH-4	60" PRECAST MANHOLE	BC STD BC 383.05	-18382.08	365.41
MH-5	48" PRECAST MANHOLE	BC STD BC 383.04	-18292.92	226.39
MH-6	48" PRECAST MANHOLE	BC STD BC 383.04	-18182.47	54.40
MH-7	48" PRECAST MANHOLE	BC STD BC 383.04	-18157.12	-2.76
MH-8	48" PRECAST MANHOLE	BC STD BC 383.04	-18267.73	-77.45
MH-9	48" PRECAST MANHOLE	BC STD BC 383.04	-18344.66	-185.04
MH-11	60" PRECAST MANHOLE	BC STD BC 383.05	-18371.47	403.52
MH-12	72" PRECAST MANHOLE	BC STD BC 383.06	-18138.47	-24.04
MH-13	48" PRECAST MANHOLE	BC STD BC 383.04	-18057.63	-46.82
MH-14	48" PRECAST MANHOLE	BC STD BC 383.04	-18019.43	175.74
MH-15	48" PRECAST MANHOLE	BC STD BC 383.04	-18348.58	457.79
MH-16	48" PRECAST MANHOLE	BC STD BC 383.04	-18354.58	414.99
I-1	48" DIA. MH W/ BEEHIVE GRATE	SEE DETAIL SHEET C11.08	-18376.53	-196.51
I-1A	TYPE H COMB. INLET W/ DIVERSION	SEE DETAIL SHEET C11.08	-18320.92	-327.70
I-2	TYPE E COMB. INLET	BC STD BC 376.24	-18271.81	-291.37
I-3	TYPE E COMB. INLET	BC STD BC 376.24	-18205.63	-242.33
I-4	48" DIA. MH W/ BEEHIVE GRATE	SEE DETAIL SHEET C11.08	-18353.28	352.93
I-5	48" DIA. MH W/ BEEHIVE GRATE	SEE DETAIL SHEET C11.08	-18279.83	277.92
I-6	72" DIA. MH W/ BEEHIVE GRATE	SEE DETAIL SHEET C11.08	-18224.61	217.80
I-7	48" DIA. MH W/ BEEHIVE GRATE	SEE DETAIL SHEET C11.08	-18170.27	130.36
I-8	TYPE E COMB. INLET	BC STD BC 376.24	-18087.58	-119.53
I-9	TYPE E COMB. INLET	BC STD BC 376.24	-18109.47	-136.12
I-10	TYPE E COMB. INLET	BC STD BC 376.24	-18154.46	-170.68
I-11	TYPE E COMB. INLET	BC STD BC 376.24	-18048.29	-30.19
I-12	TYPE E COMB. INLET	BC STD BC 376.24	-17975.20	-89.92
I-13	STANDARD YARD INLET	SHA STD MD 381.01	-17920.24	-102.79
I-14	STANDARD YARD INLET	SHA STD MD 381.01	-17889.15	-71.24
I-15	TYPE E COMB. INLET	BC STD BC 376.24	-17939.31	-149.89
I-16	TYPE E COMB. INLET	BC STD BC 376.24	-18162.46	-36.05
I-17	STANDARD YARD INLET	SHA STD MD 381.01	-18100.38	226.07
I-18	STANDARD YARD INLET	SHA STD MD 381.01	-17902.44	139.16
I-19	STANDARD YARD INLET	SHA STD MD 381.01	-17817.42	91.46
I-20	STANDARD YARD INLET	SHA STD MD 381.01	-17985.85	225.50
I-21	48" DIA. MH W/ BEHIVE GRATE	DETAIL SHEET C11.08	-18410.78	556.04
I-22	48" DIA. MH W/ BEHIVE GRATE	DETAIL SHEET C11.08	-18887.00	381.74
I-23	48" DIA. MH W/ BEHIVE GRATE	DETAIL SHEET C11.08	-18674.05	75.33
EW-1	TYPE 'C' ENDWALL	BC STD BC 354.02	-18529.78	614.26
EW-2	TYPE 'C' ENDWALL	BC STD BC 354.02	-18353.50	-327.43
EW-3	TYPE 'C' ENDWALL	BC STD BC 354.02	-18370.31	505.57
EW-4	TYPE 'C' ENDWALL	BC STD BC 354.02	-18921.28	496.29
EW-5	TYPE 'C' ENDWALL	BC STD BC 354.02	-17806.77	30.52
TD-1	POLYDRAIN PDX	SEE DETAIL SHEET C11.08	-18092.62	276.32

SANITARY SEWER STRUCTURE SCHEDULE

NO.	DESCRIPTION	REMARKS	COORDINATES	
			NORTHING	EASTING
SMH-1	TYPE- B DROP CONNECTION	BC STD BC 831.09	-17,824.00	-129.51
SMH-2	PRECAST 48" MANHOLE	BC STD BC 831.04	-17,767.92	3.59
SMH-3	PRECAST 48" MANHOLE	BC STD BC 831.04	-18,050.32	188.52

LEGEND

- 20 — EX. INDEX CONTOUR
- 21 — EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- EX. CURB AND GUTTER
- EX. 12"D — EX. STORM DRAIN
- EX. 8" SAN. — EX. SANITARY SEWER
- EX. 6"W — EX. WATER
- EX. GAS — EX. GAS
- EX. UNDERGROUND ELEC. — EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELEC. — EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- EX. TREE
- EX. WOODS LINE
- LOD — LIMIT OF DISTURBANCE
- PROP. ELECTRICAL CONDUIT
- 20 — PROP. INDEX CONTOURS
- 21 — PROP. INTERMEDIATE CONTOURS
- PROP. 15" DRAIN — PROP. STORM DRAIN
- PROP. MANHOLE
- PROP. INLET

NOTE:

SEE SHEET C8.01 FOR UTILITY NOTES

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

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Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=40'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: UTILITY PLAN

Drawing Number: C8.00r2

Sheet Of

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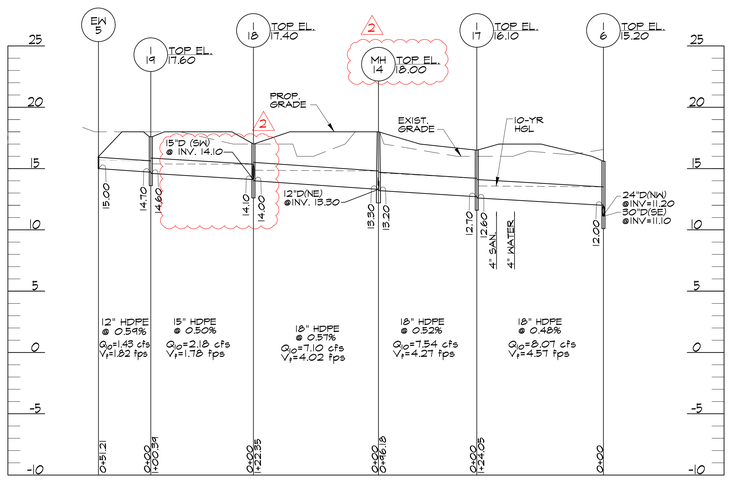
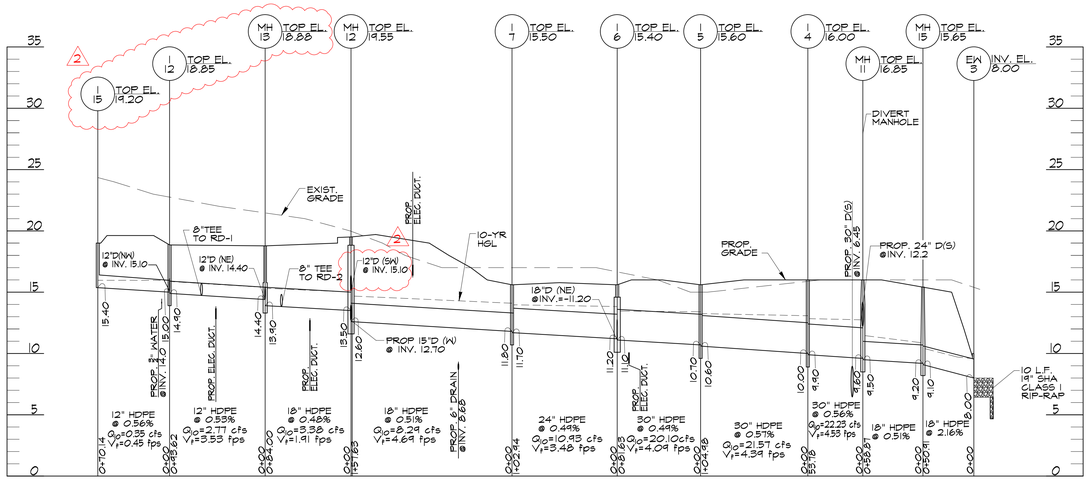


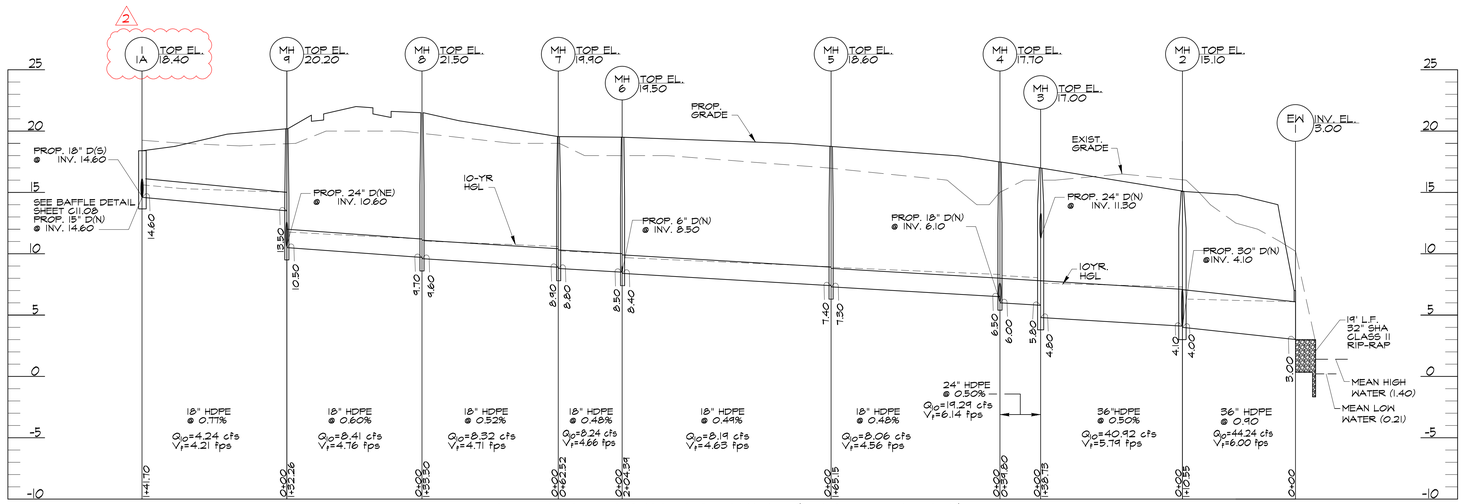
STORM DRAIN PROFILE (EW-5 TO I-6)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



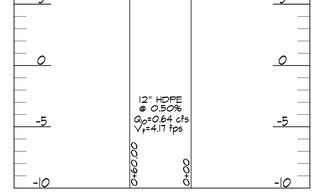
STORM DRAIN PROFILE (I-15 TO EW-3)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



STORM DRAIN PROFILE (I-1A TO EW-1)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



STORM DRAIN PROFILE (I-20 TO MH-14)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

KEY PLAN:

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667-309-6193

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800 WYMAN PARK DRIVE, SUITE 300
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Revisions:

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2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	AS SHOWN	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: STORM DRAIN PROFILES

Drawing Number: C8.03r2

Sheet: Of

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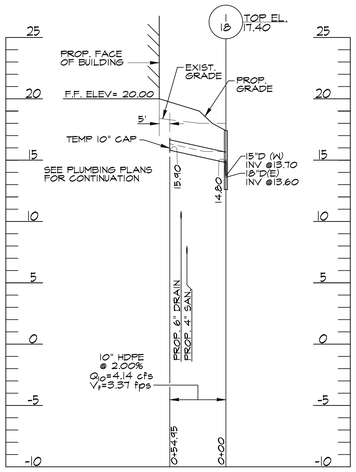
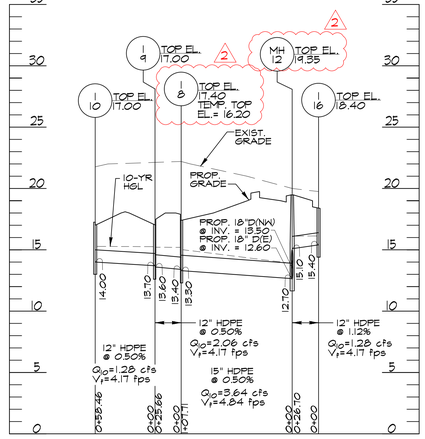


STORM DRAIN PROFILE

(ROOF TO I-18)

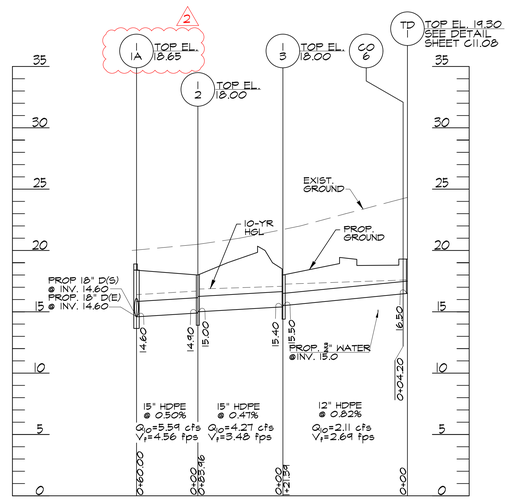
SCALE: HORIZ. 1"=60'
VERT. 1"=5'



STORM DRAIN PROFILE

(I-10 TO MH-12)

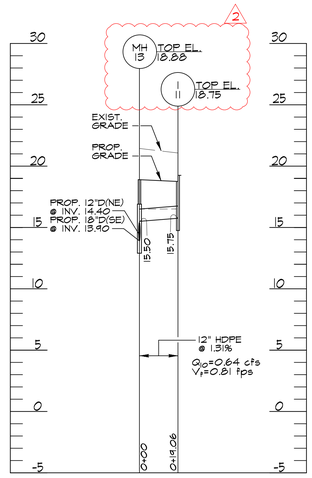
SCALE: HORIZ. 1"=60'
VERT. 1"=5'



STORM DRAIN PROFILE

(TD-1 TO I-1A)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



STORM DRAIN PROFILE

(I-11 TO MH-13)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

STORM DRAIN PROFILE

(MH-11 TO MH-3)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

STORM DRAIN PROFILE

(I-14 TO I-12)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

STORM DRAIN PROFILE

(MH-4 TO MH-16)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

STORM DRAIN PROFILE

(POOL TO MH-6)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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667-309-6193

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BALTIMORE, MARYLAND 21211, 410-332-1009

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Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

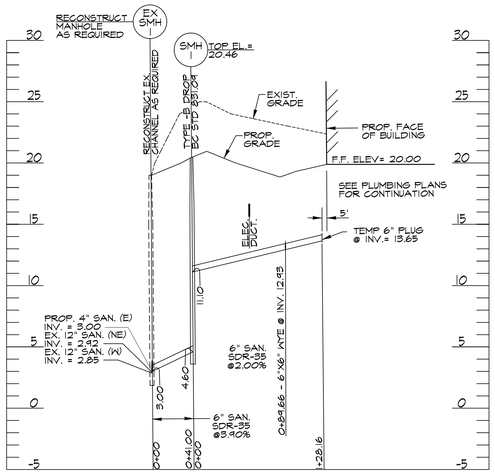
BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale		Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: STORM DRAIN PROFILES

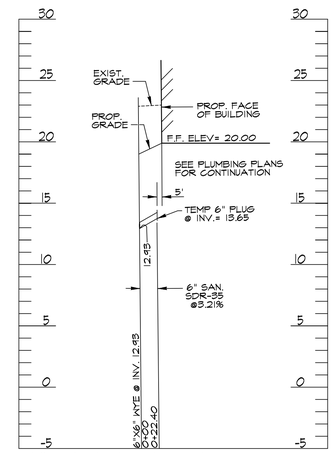
Drawing Number: C8.04r2

Sheet: Of



6" SANITARY SEWER PROFILE
(BUILIDNG TO EX. SMH-1)

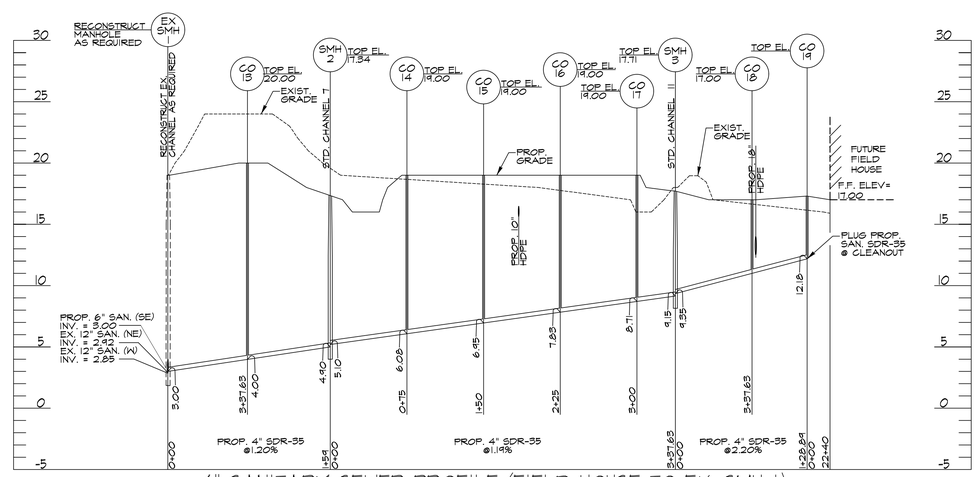
SCALE: HORIZ. 1"=60'
VERT. 1"=5'



6" SANITARY SEWER PROFILE
(BUILIDNG TO PROP. 6"X"6 WYE)

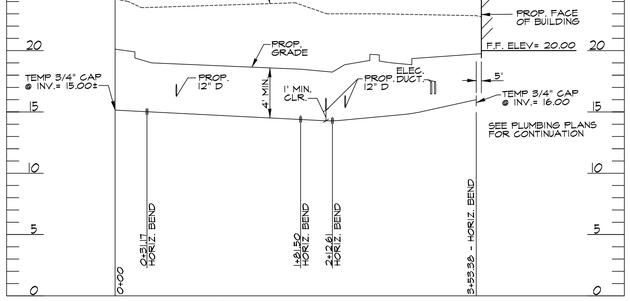
SCALE: HORIZ. 1"=60'
VERT. 1"=5'

2



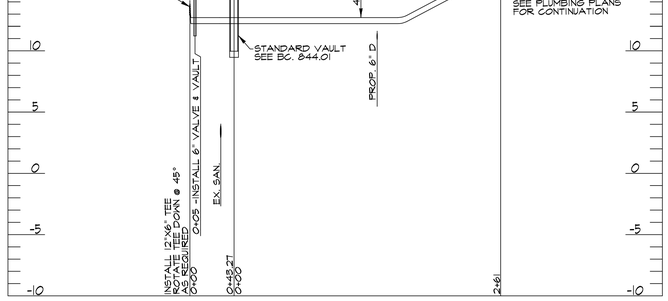
4" SANITARY SEWER PROFILE (FIELD HOUSE TO EX. SMH-1)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



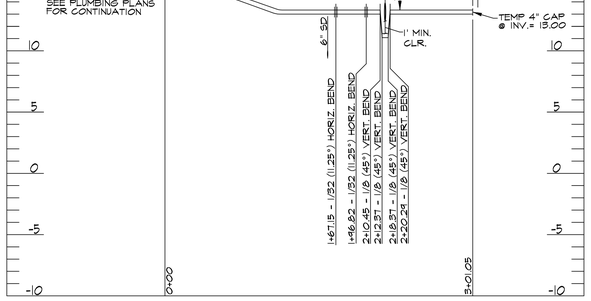
3/4" WATER PROFILE

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



6" WATER PROFILE

SCALE: HORIZ. 1"=60'
VERT. 1"=5'



4" WATER PROFILE (FIELD HOUSE)

SCALE: HORIZ. 1"=60'
VERT. 1"=5'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

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Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	AS SHOWN	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: UTILITY PROFILES

Drawing Number: C8.05r2

Sheet: Of

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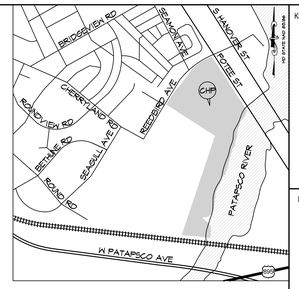
STABILIZATION SCHEDULE

AREA	SQ. FT.	STABILIZATION TYPE	SEQUENCE #
(A) PERVIOUS AREAS	726,116	SEEDING (TEMPORARY)	4
		SEEDING (PERMANENT)	8
(B) IMPERVIOUS AREAS	1,092	SEEDING/STONE BASE (TEMPORARY)	4 & 6
		CONCRETE/PAVEMENT (PERMANENT)	8
(C) SEDIMENT CONTROLS	129,617	SEEDING (PERMANENT)	8

* AREAS TO BE VEGETATIVELY STABILIZED TO SATISFY THE 5 / 7 DAY REQUIREMENTS AS PER THE BALTIMORE CITY STANDARD EROSION AND SEDIMENT CONTROL NOTES.



VICINITY MAP

SCALE: 1"= 1000'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

LEGEND

- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- EX. CURB AND GUTTER
- EX. 12"D STORM DRAIN
- EX. 8" SAN. SANITARY SEWER
- EX. 6"W WATER
- EX. GAS GAS
- EX. TIDAL WETLANDS
- EX. UNDERGROUND ELEC. EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELEC. EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- SCE STABILIZED CONSTRUCTION ENTRANCE W/ MOUNTABLE BERM
- LOD LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- BAFFLE BOARD
- A-2 EARTH DIKE EARTH DIKE
- RPS REMOVABLE PUMPING STATION
- CD CHECK DAM
- GABION INFLOW PROTECTION
- SIP STANDARD INLET PROTECTION
- CIP CURB INLET PROTECTION

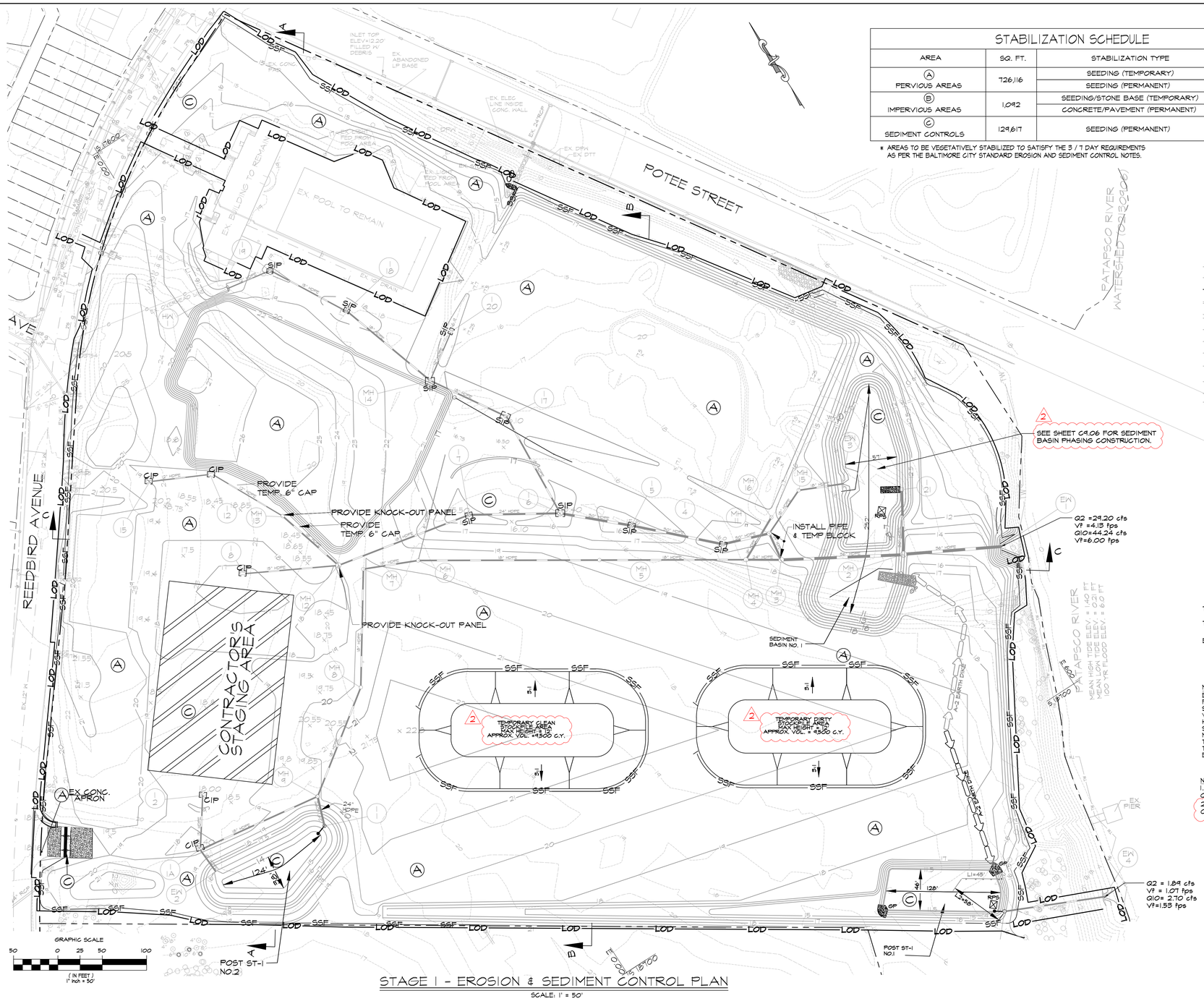
EARTHWORK ANALYSIS

TOTAL LOT/SITE AREA:	32.37 AC.
TOTAL LIMIT OF DISTURBANCE:	842,450 S.F. OR 19.34 AC.
EARTHWORK:	CUT = 25,496 C.Y. FILL = 33,794 C.Y. CUT / FILL RATIO = 1.33 : 1

EXCESS FILL MATERIAL SHALL BE RELOCATED ONSITE TO AN APPROVED LOCATION PER ENGINEER.

NOTE:
ESTIMATES OF EARTHWORK QUANTITIES ARE PROVIDED SOLELY FOR THE PURPOSE OF DETERMINING PERMITTING REQUIREMENTS. SINCE FINAL EARTHWORK QUANTITIES ARE BASED ON MANY VARIABLE CONDITIONS, OVER WHICH MK CONSULTING ENGINEERS, LLC. HAS NO CONTROL, INCLUDING VARIABILITY OF SOILS, ALLOWABLE SURVEY AND CONSTRUCTION TOLERANCES AND COMPACTION RATIOS, MK CONSULTING ENGINEERS, LLC. DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THE ESTIMATES FOR FINAL CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE THEIR OWN ESTIMATES OF THE EARTHWORK QUANTITIES.

NOTES:
1. FOR SEQUENCE OF CONSTRUCTION SEE SHEET C9.10.
2. SEE SHEET C9.06 FOR SEDIMENT BASIN PHASING CONSTRUCTION.



STAGE 1 - EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 50'

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Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

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800 WYMAN PARK DRIVE, SUITE 300
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Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	1"=50'	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: STAGE 1 - EROSION & SEDIMENT CONTROL PLAN

Drawing Number: C9.00 r2

Sheet: Of

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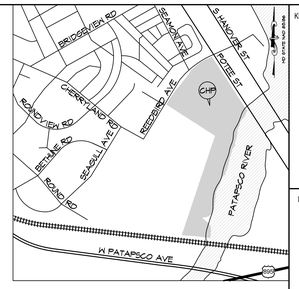
BENCHMARK DATA

ALL HORIZONTAL AND VERTICAL SURVEY DATA CONTAINED HEREIN ARE REFERENCED TO THE CITY OF BALTIMORE COORDINATE SYSTEM, AS DERIVED FROM THE FOLLOWING BENCHMARKS FROM THE PLAN ENTITLED "REEDBIRD TOPO" DATED APRIL 2018, BY NAVARRO & WRIGHT

POINT#	NORTHING	EASTING	DESCRIPTION
1	-17,900.95	-34.48	REBAR AND CAP
2	-18,007.42	150.90	REBAR AND CAP



VICINITY MAP

SCALE: 1"= 1000'

LEGEND

- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- EX. CURB AND GUTTER
- EX. 12"D — EX. STORM DRAIN
- EX. 8" SAN. — EX. SANITARY SEWER
- EX. 6"W — EX. WATER
- EX. GAS — EX. GAS
- EX. UNDERGROUND ELEC. — EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELEC. — EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- DRAINAGE AREA BOUNDARY LINES
- SCE — STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
- LOD — LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- DF — DIVERSION FENCE
- BAFFLE BOARD
- A-2 EARTH DIKE — EARTH DIKE
- RPS — REMOVABLE PUMPING STATION
- CD — CHECK DAM
- GABION INFLOW PROTECTION

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Revisions:

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BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale		Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: EROSION & SEDIMENT CONTROL PLAN EX. DA

Drawing Number: C9.02r2

Sheet: Of

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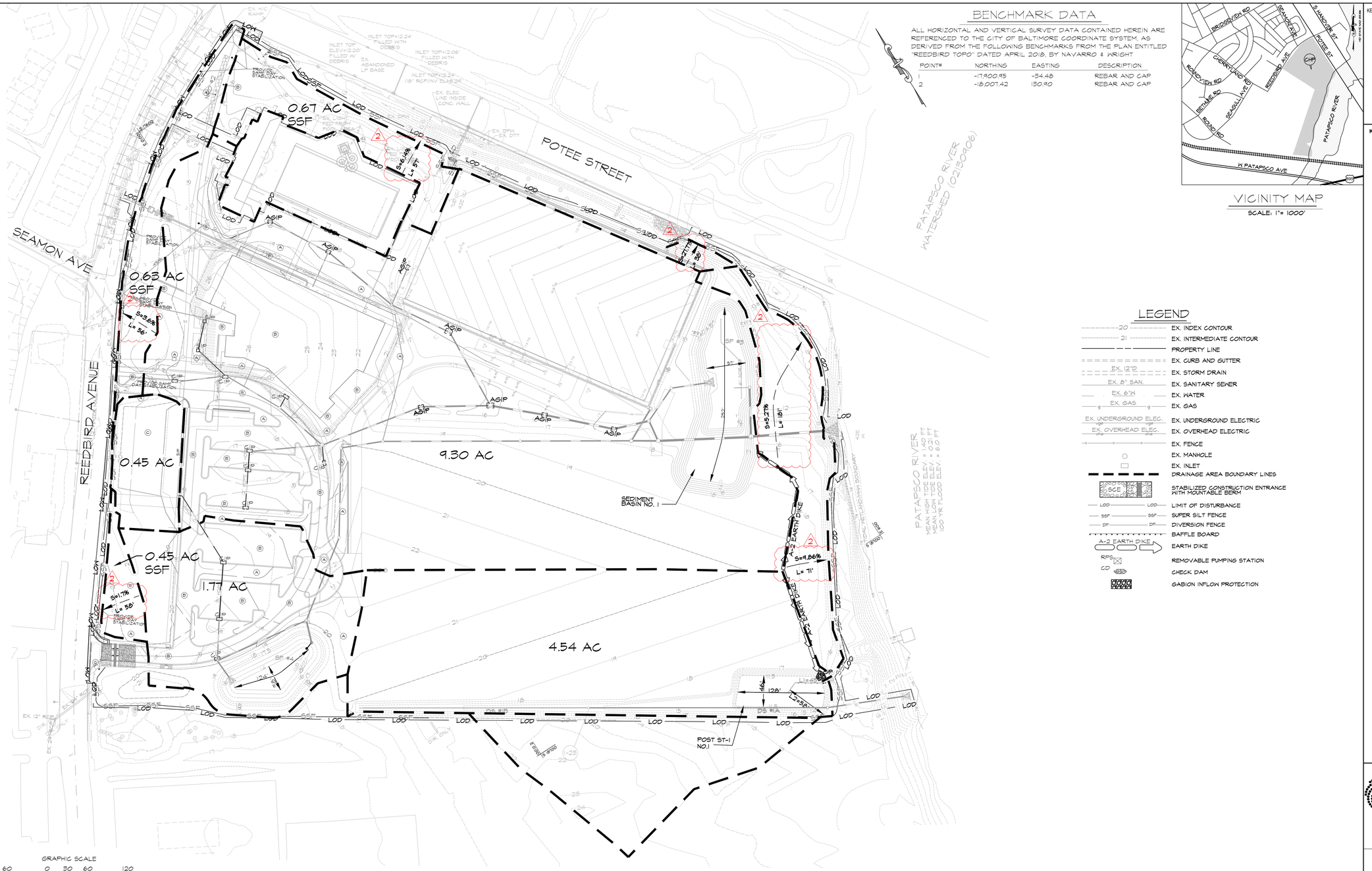

EROSION & SEDIMENT CONTROL PROPOSED DRAINAGE AREA MAP

SCALE: 1" = 60'

BENCHMARK DATA

ALL HORIZONTAL AND VERTICAL SURVEY DATA CONTAINED HEREIN ARE REFERENCED TO THE CITY OF BALTIMORE COORDINATE SYSTEM, AS DERIVED FROM THE FOLLOWING BENCHMARKS FROM THE PLAN ENTITLED "REEDBIRD TOPO" DATED APRIL 2018, BY NAVARRO & WRIGHT

POINT#	NORTHING	EASTING	DESCRIPTION
1	-17,900.95	-54.48	REBAR AND CAP
2	-18,007.42	150.90	REBAR AND CAP

VICINITY MAP

SCALE: 1"= 1000'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

LEGEND

- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROPERTY LINE
- EX. CURB AND GUTTER
- EX. STORM DRAIN
- EX. SANITARY SEWER
- EX. WATER
- EX. GAS
- EX. UNDERGROUND ELECTRIC
- EX. OVERHEAD ELECTRIC
- EX. FENCE
- EX. MANHOLE
- EX. INLET
- DRAINAGE AREA BOUNDARY LINES
- SCE — STABILIZED CONSTRUCTION ENTRANCE WITH MOUNTABLE BERM
- LOD — LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- DF — DIVERSION FENCE
- BAFFLE BOARD
- A-2 EARTH DIKE
- RPS — REMOVABLE PUMPING STATION
- CD — CHECK DAM
- GABION INFLOW PROTECTION

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25068, EXPIRATION DATE 11/17/20

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale		Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: EROSION & SEDIMENT CONTROL PLAN PROP. DA

Drawing Number: C9.03 r2

Sheet: Of

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EMBANKMENT CENTERLINE DATA

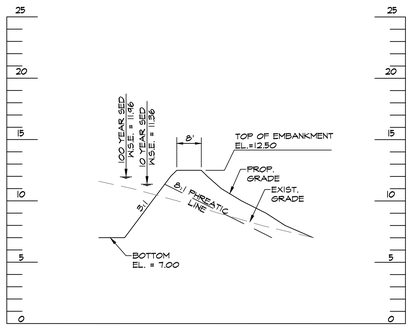
STA.	BEARING / RADIUS	DISTANCE / ARC LENGTH	CHORD
0+00			
	4.0'	3.09'	N58°20'09.20"E L=3.01'
0+03.09			
	32.0'	27.40'	N55°54'15.57"E L=26.57'
0+30.49			
	N31°22'26.17"E	50.57'	
0+81.06			
	N16°12'14.65"E	76.23'	
1+57.29			
	32.0'	21.24'	N02°48'47.11"W L=20.85'
1+78.53			
	N21°49'48.86"W	28.53'	
2+07.06			

BASIN STRUCTURE SCHEDULE

NO.	TYPE	NORTHING	EASTING	REMARKS
MH-2	TYPE 'G' PRECAST 84" MANHOLE	-18485.06	510.74	SEE BC STD BC 383.07
I-21	PRECAST CONCRETE RISER	-18410.78	556.04	SEE DETAILS SHEET C9.05
EW-3	PRECAST ENDWALL	-18370.59	506.18	SEE BC STD BC 354.02
MH-15	TYPE 'G' PRECAST 48" MANHOLE	-18348.58	457.79	SEE BC STD BC 383.04

SEDIMENT BASIN TABLE

EXISTING DRAINAGE AREA (AC.)		8.32
INTERIM DRAINAGE AREA (AC.)		8.98
PROPOSED DRAINAGE AREA (AC.)		9.74
STORAGE REQUIRED (C.F.)	WET	17,532
	DRY	17,532
	TOTAL	35,064
STORAGE PROVIDED (C.F.)	WET	18,523
	DRY	19,206
	TOTAL	37,729
EXISTING GROUND ELEV.		N/A
TOP EMBANKMENT ELEV.		12.50
RISER CREST ELEV.		10.50
WET STORAGE / OUTLET ELEV.		9.00
CLEANOUT ELEV.		8.00
BOTTOM ELEV.		7.00
EMBANKMENT WIDTH		8.0'
EMERGENCY SPILLWAY WIDTH (EARTHEN)		N/A
BOTTOM DIMENSION (AVG.)		250' X 55'
TRAP SIDESLOPES		3:1 / 4:1
TRAP DEPTH	WET	2.00'
	DRY	1.50'
	TOTAL	3.50'
WET STORAGE ELEV. RANGE		7.00 - 9.00
DRY STORAGE ELEV. RANGE		9.00 - 10.50
TOP OF BAFFLE ELEV.		9.75

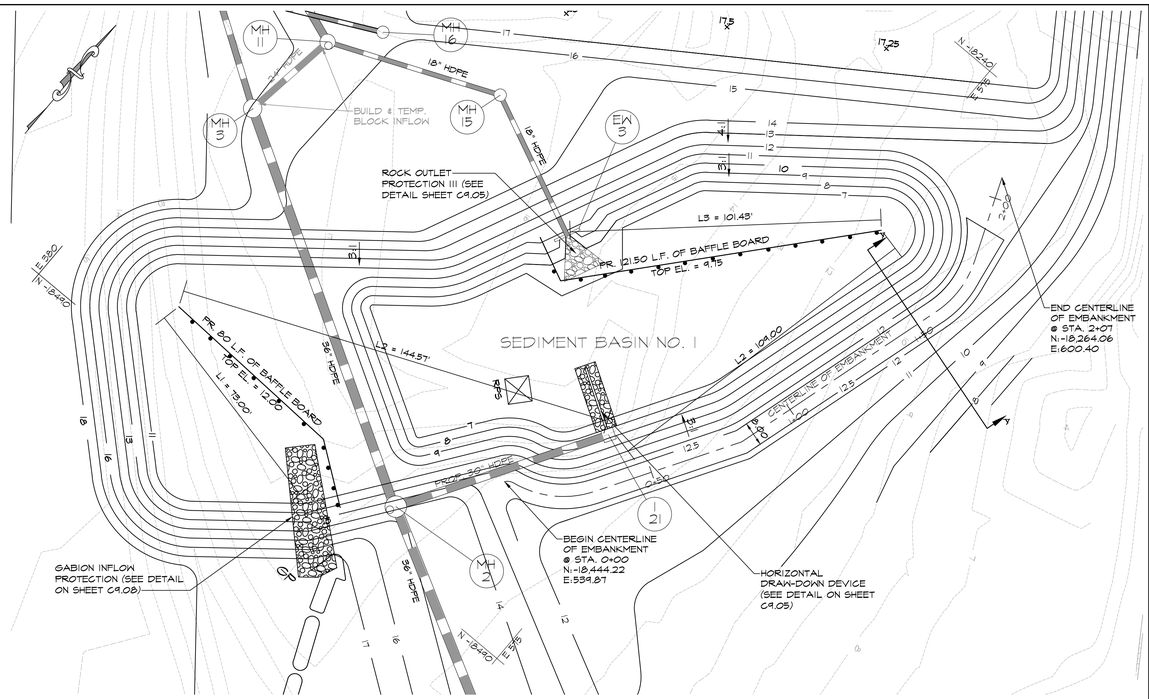


SECTION A-A THRU EMBANKMENT

SCALE: HORIZ. 1" =20'
VERT. 1" = 5'

LEGEND

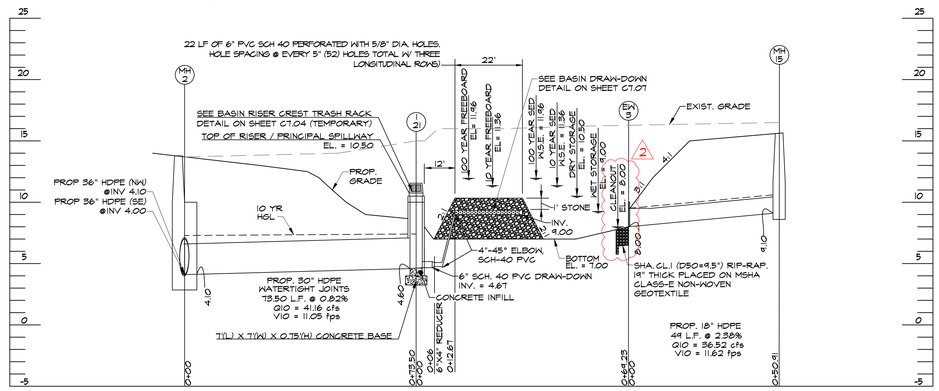
- EX. INDEX CONTOUR
- EX. INTERMEDIATE CONTOUR
- PROP. 24" DRAIN — PROPOSED STORM DRAIN
- PROPOSED INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED MANHOLE
- PROPOSED CONCRETE ENDWALL
- BASELINE
- BAFFLE BOARD
- ROP III — ROCK OUTFALL PROTECTION III
- GP — GABION INFLOW PROTECTION
- PROPOSED CONCRETE RISER STRUCTURE
- RPS — REMOVABLE PUMPING STATION
- A-1 — EARTH DIKE



SEDIMENT BASIN

SCALE: 1" =20'

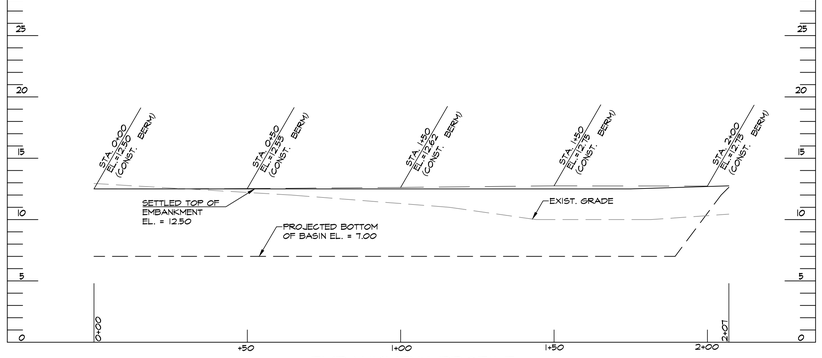
GRAPHIC SCALE
20 0 10 20 40
(IN FEET)
1" inch = 20'



PRINCIPAL SPILLWAY PROFILE

SCALE: HORIZ. 1" =20'
VERT. 1" = 5'

NOTE:
DISTANCE FROM RISER CREST TO CLEANOUT ELEV. = 2.50'. THIS SHALL BE CLEARLY MARKED ON THE RISER ABOVE THE PERMANENT POOL ELEVATION



EMBANKMENT PROFILE

SCALE: HORIZ. 1" =20'
VERT. 1" = 5'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25508, EXPIRATION DATE 11/17/20

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	AS SHOWN	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: EROSION & SEDIMENT CONTROL PLAN BASIN #1

Drawing Number: C9.04r2

Sheet: Of

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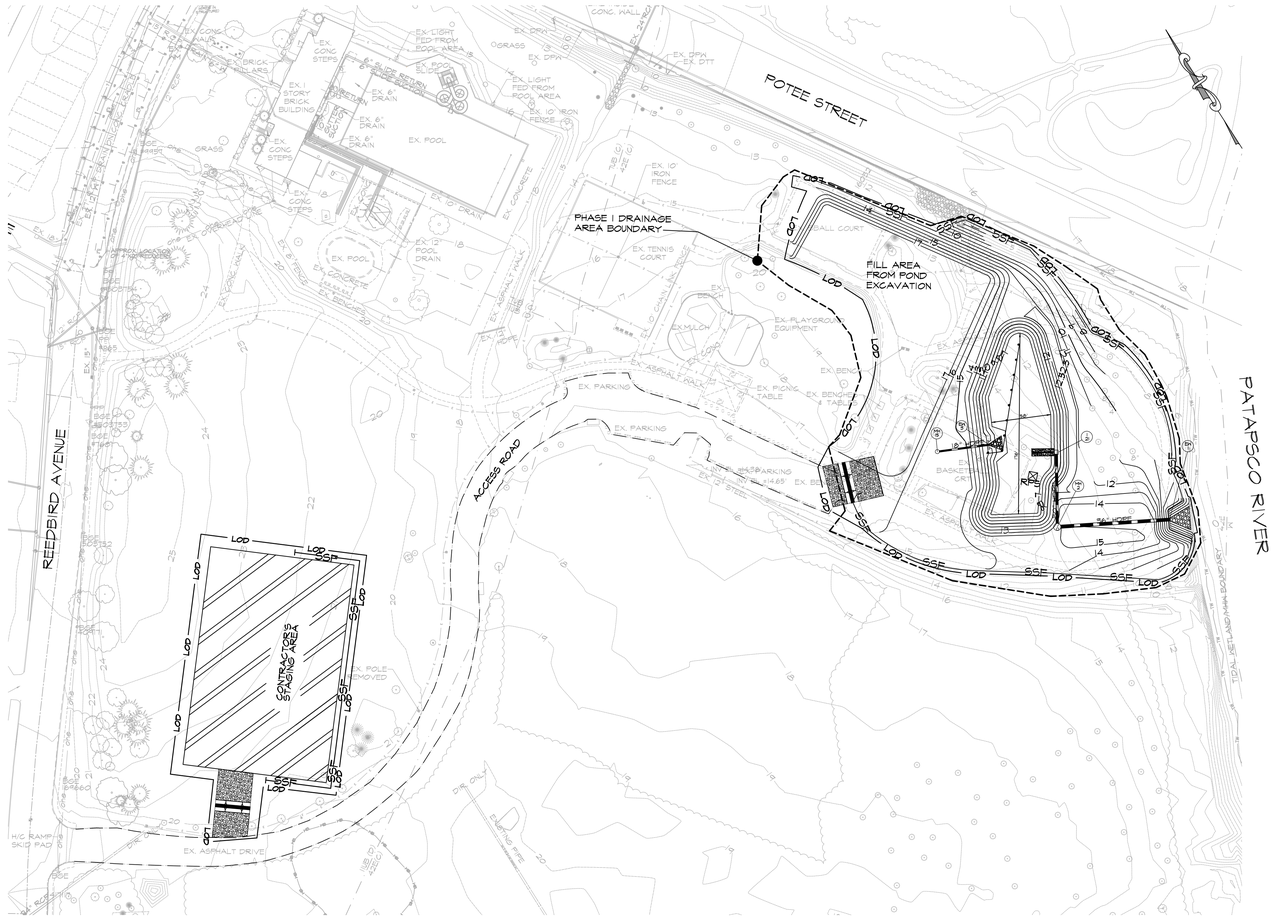


LEGEND

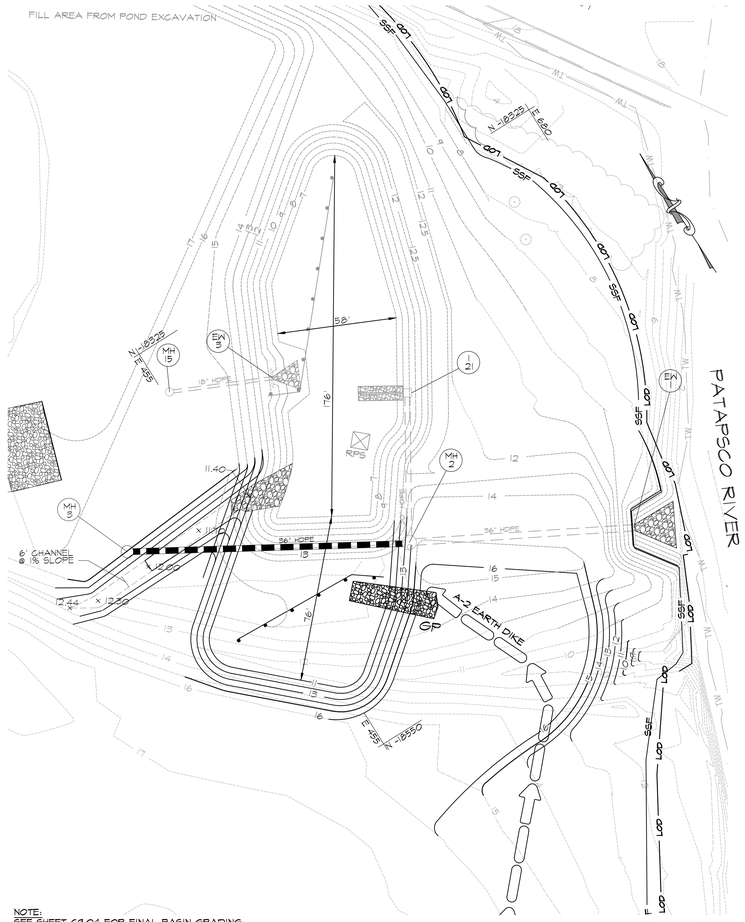
- EX. INDEX CONTOUR (20)
- EX. INTERMEDIATE CONTOUR (21)
- EX. TIDAL WETLAND (TW)
- PROPOSED STORM DRAIN (PROP. 24" DRAIN)
- PROPOSED INTERMEDIATE CONTOUR (12)
- PROPOSED INDEX CONTOUR (10)
- PROPOSED MANHOLE
- PROPOSED CONCRETE ENDWALL
- BAFFLE BOARD
- GABION INFLOW PROTECTION (GP)
- SUPER SILT FENCE (SSF)
- DIVERSION FENCE (DF)
- LIMIT OF DISTURBANCE (LOD)
- REMOVABLE PUMPING STATION (RPS)
- CONTRACTOR ACCESS ROAD (ACCESS ROAD)

SEDIMENT BASIN #1 PHASE 1 CONSTRUCTION

SCALE: 1"=60'

GRAPHIC SCALE
60 0 30 60 120
(IN FEET)
1" inch = 60'

SEDIMENT BASIN TABLE		
EXISTING DRAINAGE AREA (AC.)		2.58
INTERIM DRAINAGE AREA (AC.)		2.58
PROPOSED DRAINAGE AREA (AC.)		2.58
STORAGE REQUIRED (C.F.)	WET	4,644
	DRY	4,644
	TOTAL	9,288
PHASE 1 STORAGE PROVIDED (C.F.)	WET	18,491
	DRY	11,374
	TOTAL	29,865
EXISTING GROUND ELEV.		N/A
TOP EMBANKMENT ELEV.		12.50
RISER CREST ELEV.		10.50
WET STORAGE / OUTLET ELEV.		9.00
CLEANOUT ELEV.		8.00
BOTTOM ELEV.		7.00
EMBANKMENT WIDTH		8.0'
EMERGENCY SPILLWAY WIDTH (EARTHEN)		N/A
BOTTOM DIMENSION (AVG.)		250' X 55'
TRAP SIDESLOPES		3:1 / 4:1
TRAP DEPTH	WET	2.00'
	DRY	1.50'
	TOTAL	3.50'
WET STORAGE ELEV. RANGE		7.00 - 9.00
DRY STORAGE ELEV. RANGE		9.00 - 10.50
TOP OF BAFFLE ELEV.		9.75



NOTE:
SEE SHEET C9.04 FOR FINAL BASIN GRADING.

SEDIMENT BASIN #1 PHASE 2 CONSTRUCTION

SCALE: 1"=30'

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1" inch = 30'

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

mk Consulting Engineers, LLC
Whitehall Mill
3300 Clipper Mill Road, Suite 201
Baltimore, MD 21211
667-309-6193

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 25058, EXPIRATION DATE 11/17/20

Revisions:

No.	Date	Description
2	1/28/20	Addendum #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	SG
Scale	AS SHOWN	Checker	AP
Date	1/28/2019	Approver	SM

Drawing Title: SEDIMENT BASIN #1 PHASED CONSTRUCTION

Drawing Number: C9.06 r2

Sheet: Of

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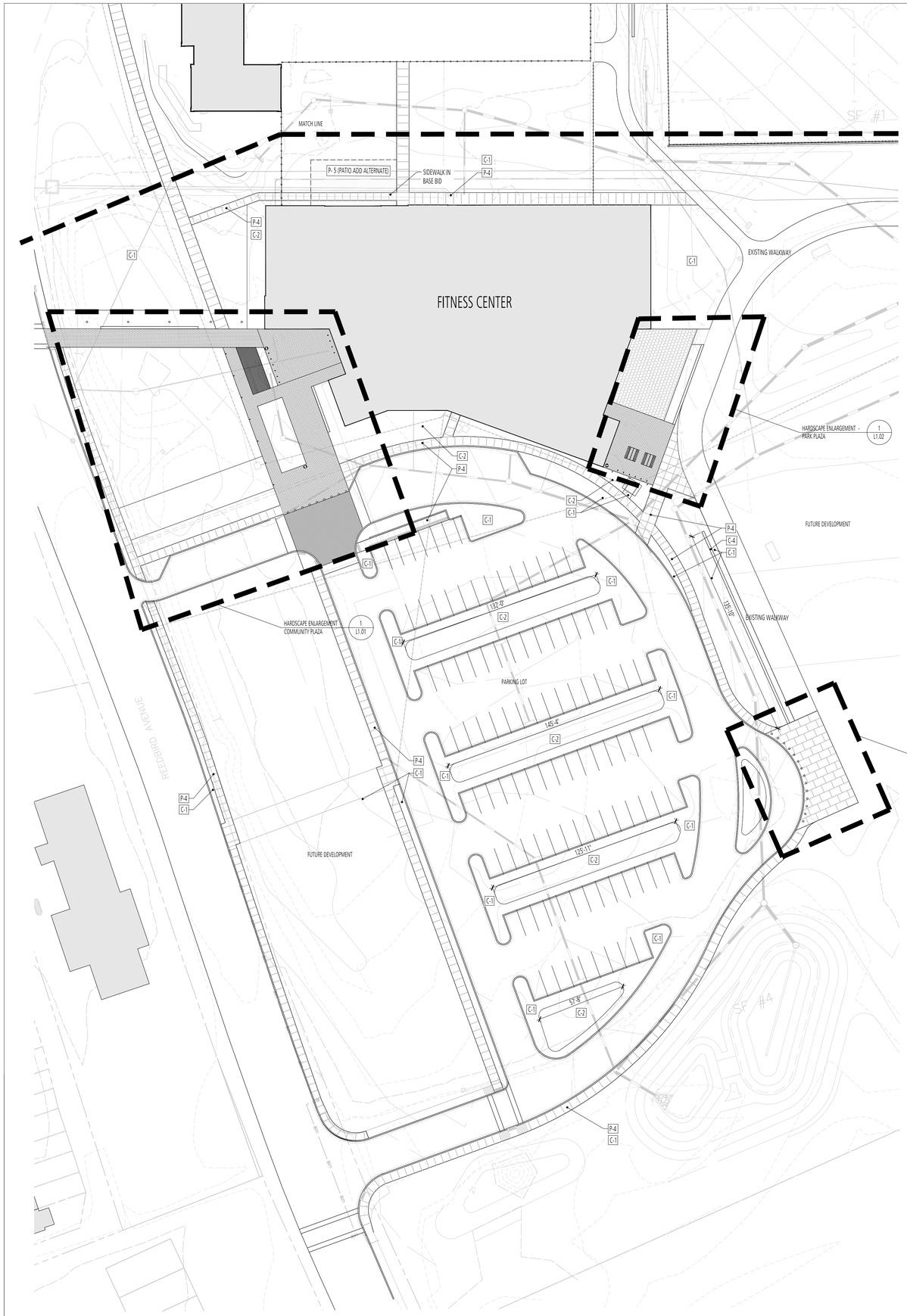
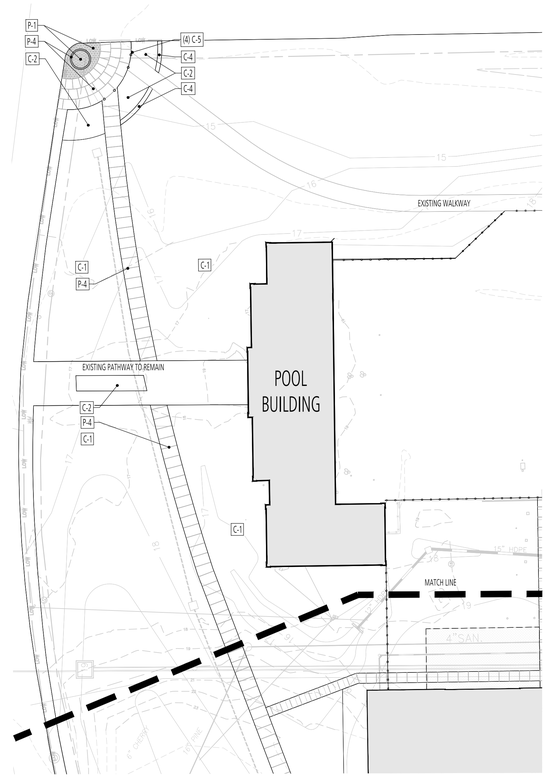


KEYNOTES:

CONSTRUCTION NOTES			
SYMBOL	**ITEM TYPE**	**NOTES**	**REFERENCE**
C-1	LAWN		1/L4.00
C-2	PLANTING BED		1/L4.00
C-3	BENCH A	REFER TO SPECIFICATIONS	
C-4	CONCRETE SEATWALL		5/L3.00
C-5	VEHICULAR GRADE BOLLARDS	REFER TO SPECIFICATIONS	7/L3.00
C-6	LIGHT COLUMN	REFER TO ELECTRICAL	
C-7	LIGHT BOLLARDS	REFER TO ELECTRICAL	
C-8	LITTER RECEPTACLE	REFER TO SPECIFICATIONS	
C-9	BICYCLE RACK	REFER TO SPECIFICATIONS	
C-10	HARVEST TABLE	REFER TO SPECIFICATIONS	
PAVEMENT NOTES			
SYMBOL	**PAVER TYPE**	**NOTES**	**REFERENCE**
P-1	PAVER A	REFER TO SPECIFICATIONS	2/L 300
P-1.1	PAVER A .1	REFER TO SPECIFICATIONS	3/L3.00
P-2	PAVER B - VEHICULAR USE	REFER TO SPECIFICATIONS	3/L3.00
P-3	EXTERIOR FITNESS TILE	REFER TO SPECIFICATIONS	4/L3.00
P-4	SCORED CONCRETE		1/L3.00
P-5	SUNDECK	REFER TO ARCHITECTURAL DRAWINGS	

GENERAL NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY SITE CONDITIONS PRIOR TO THE START OF ANY WORK. ANY DISCREPANCY FOUND SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
2. THE CONTRACTOR SHALL CONTACT THE ARCHITECT IMMEDIATELY UPON FINDING ANY UNFORESEEN CONDITIONS.
3. MAINTAIN POSITIVE DRAINAGE FROM BUILDINGS THROUGHOUT CONSTRUCTION, REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING AND SPOT ELEVATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ANY WASTE FROM THE SITE.
5. PROVIDE MOCK UPS OF WALL AND PAVING ASSEMBLIES PRIOR TO STARTING INSTALLATION. APPROVED MOCK UPS MAY BE USED IN COMPLETED PROJECT IF UNDAMAGED THROUGHOUT CONSTRUCTION.



1 SOUTHWEST HARDSCAPE PLAN
PLAN
FTLA_L1.00-Overall Hardscape Plan.dwg
SCALE: 1"=30'-0"

2 NORTHEAST HARDSCAPE PLAN
PLAN
SCALE: 1"=30'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

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Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved
Drawing Title	OVERALL HARDSCAPE PLAN	Drawing Number	L1.00r2
Sheet			Of

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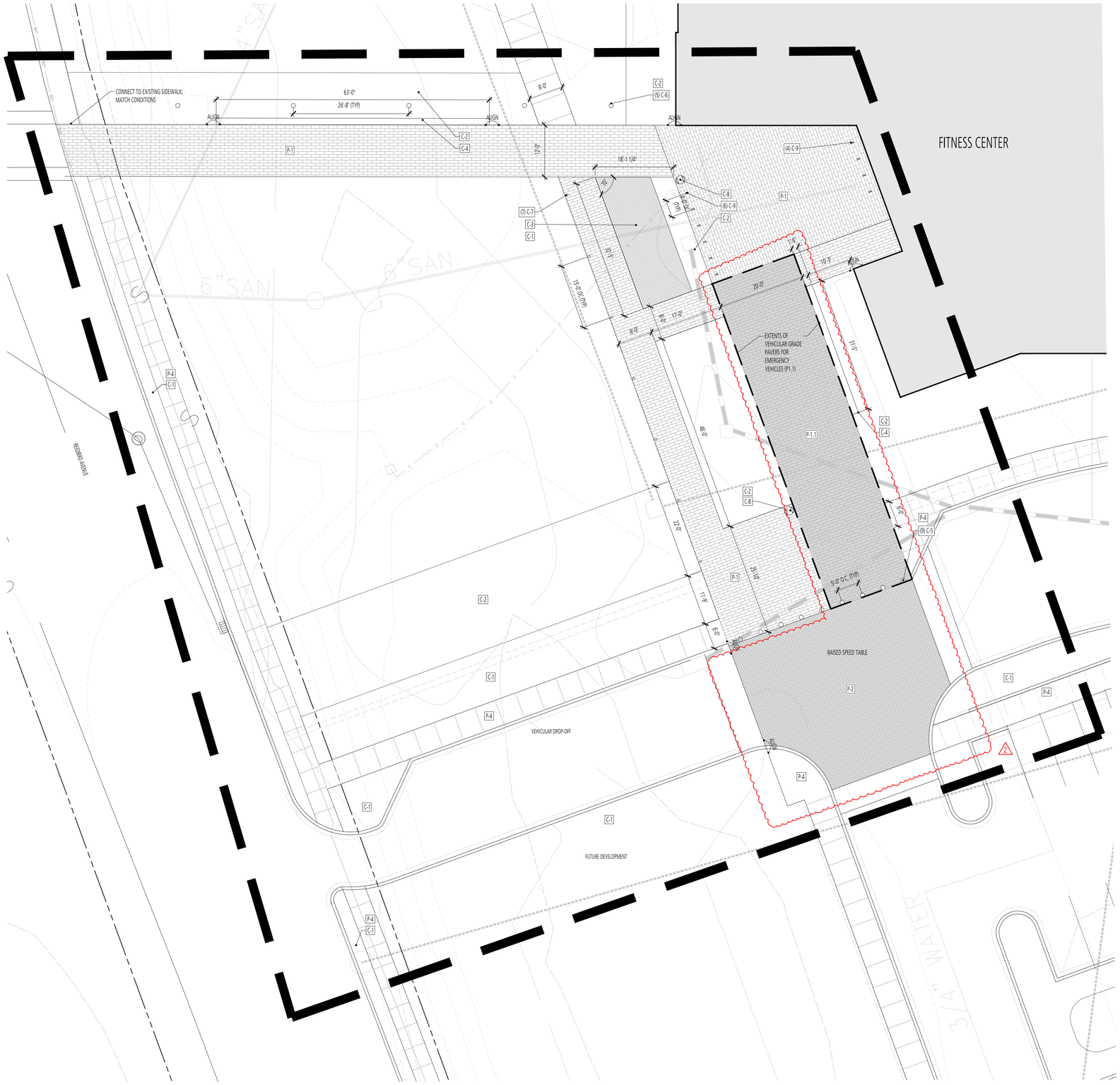

KEYNOTES:

CONSTRUCTION NOTES			
SYMBOL	**ITEM TYPE**	**NOTES**	**REFERENCE**
C-1	LAWN		1/L4.00
C-2	PLANTING BED		1/L4.00
C-3	BENCH A	REFER TO SPECIFICATIONS	
C-4	CONCRETE SEATWALL		5/L3.00
C-5	VEHICULAR GRADE BOLLARDS	REFER TO SPECIFICATIONS	7/L3.00
C-6	LIGHT COLUMN	REFER TO ELECTRICAL	
C-7	LIGHT BOLLARDS	REFER TO ELECTRICAL	
C-8	LITTER RECEPTACLE	REFER TO SPECIFICATIONS	
C-9	BICYCLE RACK	REFER TO SPECIFICATIONS	
C-10	HARVEST TABLE	REFER TO SPECIFICATIONS	
PAVEMENT NOTES			
SYMBOL	**PAVER TYPE**	**NOTES**	**REFERENCE**
P-1	PAVER A	REFER TO SPECIFICATIONS	2/L 300
P-1.1	PAVER A.1	REFER TO SPECIFICATIONS	3/L3.00
P-2	PAVER B - VEHICULAR USE	REFER TO SPECIFICATIONS	3/L3.00
P-3	EXTERIOR FITNESS TILE	REFER TO SPECIFICATIONS	4/L3.00
P-4	SCORED CONCRETE		1/L3.00
P-5	SUNDECK	REFER TO ARCHITECTURAL DRAWINGS	

GENERAL NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO FIELD VERIFY SITE CONDITIONS PRIOR TO THE START OF ANY WORK. ANY DISCREPANCY FOUND SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY.
2. THE CONTRACTOR SHALL CONTACT THE ARCHITECT IMMEDIATELY UPON FINDING ANY UNFORESEEN CONDITIONS.
3. MAINTAIN POSITIVE DRAINAGE FROM BUILDINGS THROUGHOUT CONSTRUCTION, REFER TO CIVIL DRAWINGS FOR PROPOSED GRADING AND SPOT ELEVATIONS.
4. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND PROPER DISPOSAL OF ANY WASTE FROM THE SITE.
5. PROVIDE MOCK UPS OF WALL AND PAVING ASSEMBLIES PRIOR TO STARTING INSTALLATION. APPROVED MOCK UPS MAY BE USED IN COMPLETED PROJECT IF UNDAMAGED THROUGHOUT CONSTRUCTION.

PAVING LEGEND:

PAVER A: 3" THICK HANOVER PLANKSTONE PAVER WITH PEDESTRIAN RATED SUBGRADE

PAVER A.1: 3" THICK HANOVER PLANKSTONE PAVER WITH VEHICULAR RATED SUBGRADE

PAVER B: 3" THICK HANOVER PAVER WITH VEHICULAR RATED SUBGRADE

1 HARDSCAPE ENLARGEMENT PLAN - COMMUNITY PLAZA
PLAN

FTLA_L1.01-Hardscape Enlargment Plan - Community Plaza
SCALE: 1"= 10'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

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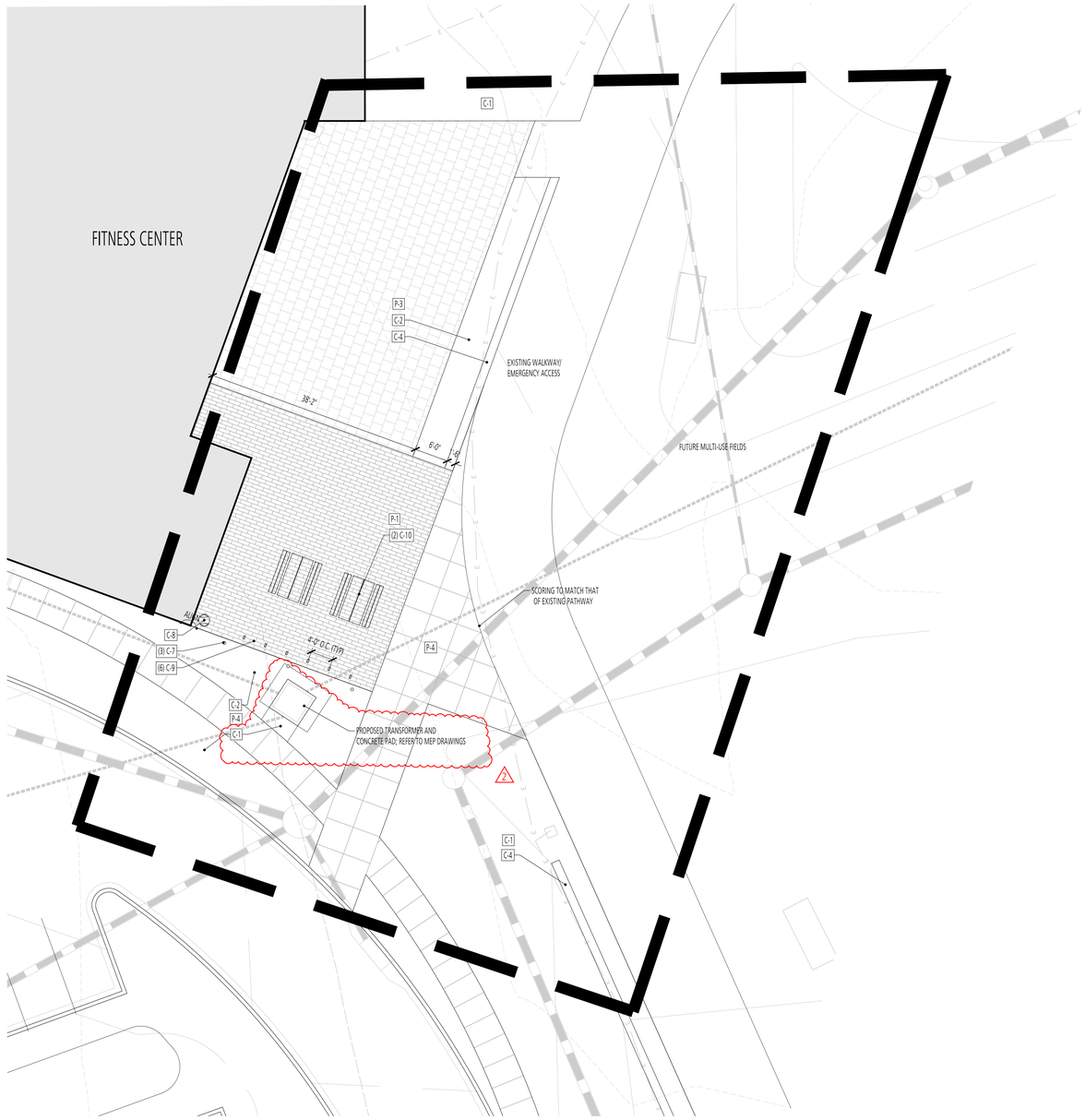
Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

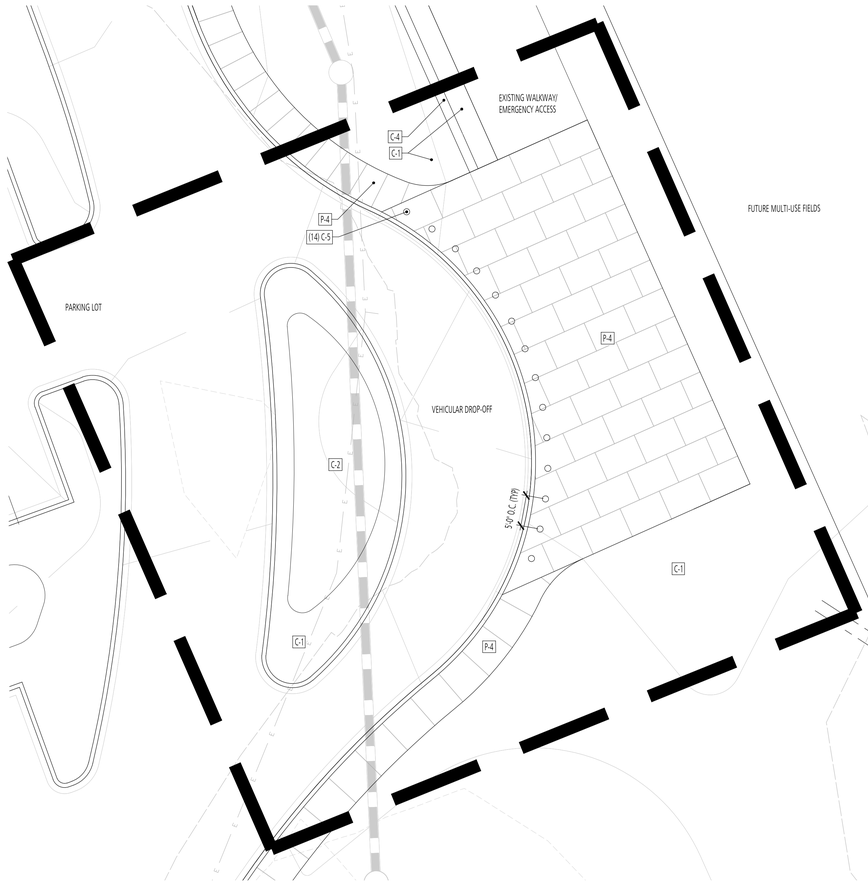
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved
Drawing Title	HARDSCAPE ENLARGEMENT - COMMUNITY PLAZA	Drawing Number	L1.01r2
Sheet			Of



1 HARDSCAPE ENLARGEMENT PLAN - PARK PLAZA
PLAN

FTLA_L1.02-Hardscape Enlargment Plans - Park Plaza and Field Drop Off
SCALE: 1"=10'-0"



2 HARDSCAPE ENLARGEMENT PLAN
- FIELD DROP OFF
PLAN

HARDSCAPE ENLARGEMENT PLAN - PARK PLAZA
SCALE: 1"=10'-0"

KEYNOTES:

CONSTRUCTION NOTES			
SYMBOL	**ITEM TYPE**	**NOTES**	**REFERENCE**
C-1	LAWN		1/L4.00
C-2	PLANTING BED		1/L4.00
C-3	BENCH A	REFER TO SPECIFICATIONS	
C-4	CONCRETE SEATWALL		5/L3.00
C-5	VEHICULAR GRADE BOLLARDS		
C-6	LIGHT COLUMN	REFER TO ELECTRICAL	
C-7	LIGHT BOLLARDS	REFER TO ELECTRICAL	
C-8	LITTER RECEPTACLE	REFER TO SPECIFICATIONS	
C-9	BICYCLE RACK	REFER TO SPECIFICATIONS	
C-10	HARVEST TABLE	REFER TO SPECIFICATIONS	
PAVEMENT NOTES			
SYMBOL	**PAVER TYPE**	**NOTES**	**REFERENCE**
P-1	PAVER A	REFER TO SPECIFICATIONS	2/L.300
P-1.1	PAVER A.1	REFER TO SPECIFICATIONS	3/L3.00
P-2	PAVER B - VEHICULAR USE	REFER TO SPECIFICATIONS	3/L3.00
P-3	EXTERIOR FITNESS TILE	REFER TO SPECIFICATIONS	4/L3.00
P-4	SCORED CONCRETE		1/L3.00
P-5	SUNDECK	REFER TO ARCHITECTURAL DRAWINGS	

GENERAL NOTES:

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5. PROVIDE MOCK UPS OF WALL AND PAVING ASSEMBLIES PRIOR TO STARTING INSTALLATION. APPROVED MOCK UPS MAY BE USED IN COMPLETED PROJECT IF UNDAMAGED THROUGHOUT CONSTRUCTION.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

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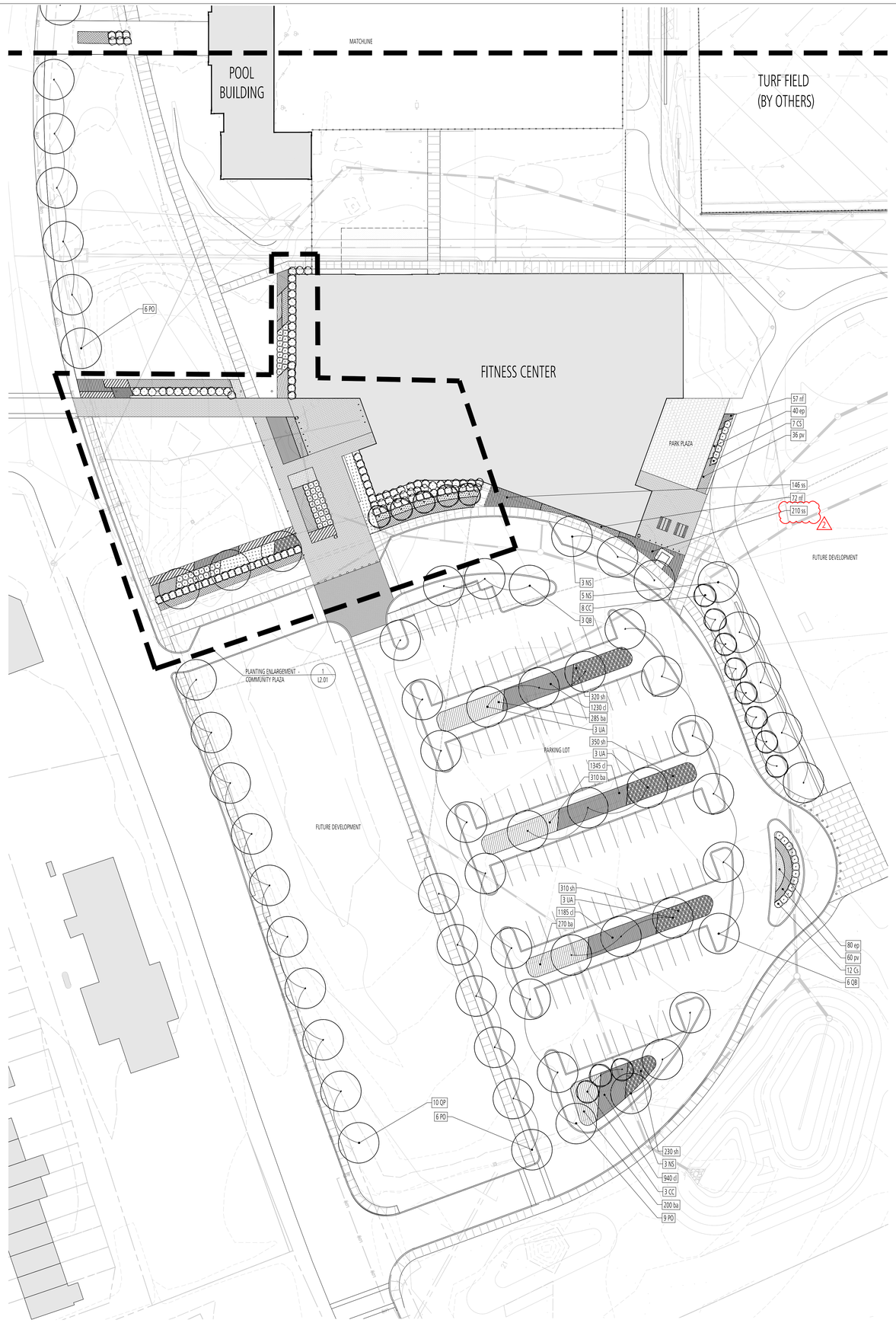
Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved
Drawing Title			Drawing Number
HARDSCAPE ENLARGEMENTS - PARK PLAZA AND FIELD DROP OFF			L1.02r2
Sheet			Of



1 SOUTHWEST PLANTING PLAN
PLAN

FTLA_L2.00-Overall Planting Plan.dwg
SCALE: 1"=30'-0"

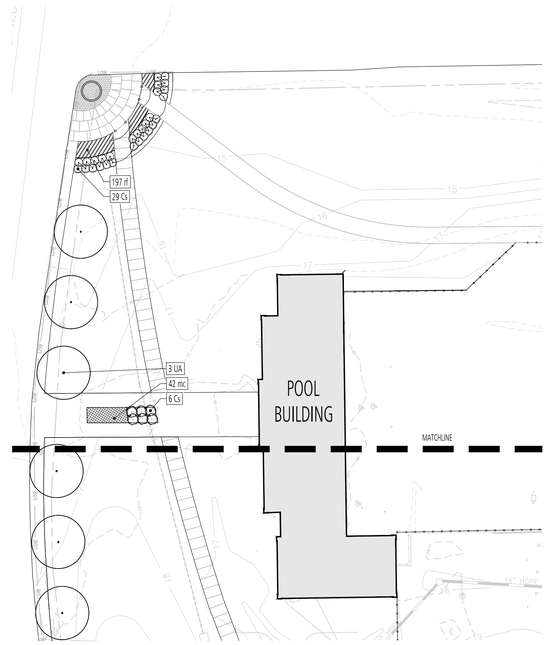
STREETSCAPE, PARKING LOT, AND PARK PLAZA PLANT SCHEDULE:

Symbol	Quantity	Botanical Name	Common Name	Size	Note	Native or Adaptive
Major Trees						
NS	11	Nyssa sylvatica	Black Gum	3" Cal.	B&B	Native
PO	15	Platanus occidentalis	Sycamore	3" Cal.	B&B	Native
QB	9	Quercus bicoler	Swamp White Oak	3" Cal.	B&B	Native
QP	16	Quercus phellos	Willow Oak	3" Cal.	B&B	Native
UA	10	Ulmus americana 'Princeton'	Princeton Elm	3" Cal.	B&B	Native
Minor Trees						
Symbol	Quantity	Botanical Name	Common Name	Size	Note	
CC	11	Cercis canadensis	Eastern Redbud	8' ht.	B&B	Native
Deciduous & Coniferous Shrubs						
Symbol	Quantity	Botanical Name	Common Name	Size	Note	
Cs	19	Cornus stolonifera 'Farrow'	Arctic Fire Red Twig Dogwood	24" Ht.	CG	Native
Grasses and Perennials						
Symbol	Quantity	Botanical Name	Common Name	Size	Note	
ba	1065	Baptisia australis	Wild Blue Indigo	#SP4	18" OC	Native
cl	4700	Camassia leichtlinii	Large Camas	bulb	plant randomly in groups of 3 bulbs	Native
ep	120	Echinacea purpurea	Purple Coneflower	1 Qt.	15" OC	Native
mc	42	Muhlenbergia capillaris	Pink Muhly Grass	1 Gal.	24" OC	Native
nf	125	Nepeta x faassenii 'Walker's Low'	Walker's Low Catmint	1 Qt.	18" OC	Native
pv	84	Panicum virgatum 'Shenandoah'	Switchgrass	1 Gal.	24" OC	Native
rf	197	Rudbeckia fulgida var. fulgida	Black Eyed Susan	1 Qt.	15" OC	Native
sh	1210	Sporobolus heterolepis	Prairie Dropseed	1 Gal.	24" OC	Native
ss	356	Schizacyrium scoparium 'Standing Ovation'	Little Blue Stem	1 Gal.	18" OC	Native

2

PLANTING NOTES:

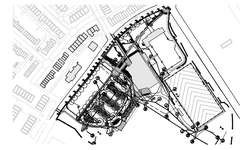
1. ALL PLANT MATERIAL SHALL CONFORM TO THE SIZES GIVEN IN THE PLANT SCHEDULE AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE 'AMERICAN STANDARDS FOR NURSERY STOCK, ANSI260.1-2004' LATEST EDITION PREPARED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 230 SOUTHERN BUILDING, WASHINGTON, D.C. 20005.
2. CONTRACTOR MUST VERIFY THE CORRECT LOCATION OF ANY EXISTING UTILITIES WHICH ARE UNDERGROUND, PRIOR TO PLANT INSTALLATION. THE CONTRACTOR SHALL CALL MISS UTILITY (1-800-257-7777) A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND REQUIREMENTS FOR CONSTRUCTION.
3. ALL PLANT BEDS SHALL BE MULCHED WITH 3" OF MULCH WITHIN TWO DAYS AFTER PLANTING. THIS SHALL BE SHREDDED HARDWOOD BARK, AND SHALL COVER ENTIRELY THE PLANTING BED.
4. ALL PLANTS SHALL BE GUARANTEED TO REMAIN ALIVE AND HEALTHY FOR A PERIOD OF TWO FULL YEARS AFTER INITIAL ACCEPTANCE. ANY REPLACEMENT PLANTS, REQUIREMENTS, ETC. AND METHOD OF PLACING SHALL COMPLY WITH THE REQUIREMENTS SPECIFIED HEREIN, WITHIN THE SPECIFICATIONS, AND ON THE DRAWINGS.
5. EXISTING SOIL IN PLANTING BED AREAS SHALL BE AMENDED TO A MINIMUM DEPTH OF 12" PER THE SOIL PLACEMENT SPECIFICATIONS.
6. PLANT MATERIAL AVAILABILITY MAY VARY AT THE TIME OF CONSTRUCTION. ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE (OR LARGER), AND MUST BE APPROVED BY ENGINEER BEFORE INSTALLATION.
7. WHERE THE CONDITION EXISTS THAT THE BALLED AND BURLAPPED TREES ARE DELIVERED IN WIRE BASKETS, THE WIRE BASKETS SHALL BE CUT DOWN THE SIDE OF EACH MESH AND PEELED AWAY FROM THE ROOTBALL OR REMOVED ENTIRELY. NO PORTION OF THE WIRE BASKET SHALL REMAIN INTACT AROUND THE SIDES OF THE ROOTBALL OR EXTEND ABOVE FINISHED GRADE.
8. ANY DAMAGE TO THE EXISTING UTILITIES, BUILDINGS, PAVING, CURBS, WALLS, VEGETATION AND ANY OTHER EXISTING FEATURES NOT DESIGNATED FOR REMOVAL ON THESE PLANS, SHALL BE REPAIRED TO PREVIOUS CONDITION OR REPLACED BY THE CONTRACTOR AT THE HIS OR HER EXPENSE. ALL AREAS DISTURBED DURING CONSTRUCTION ARE TO BE SEEDED PER THE PLANS AND SPECIFICATION UNLESS OTHERWISE NOTED.
9. FOR PLANTS DENOTED TO 'NATURALIZE', PLANT IN CLUSTERS OF 2-3 PLANTS, RANDOMLY SPACED THROUGHOUT AREA SHOWN ON PLAN.
10. DO NOT PRUNE PLANT MATERIAL TO CONFORM TO SPECIFIED SIZES. HEIGHT AND/OR SPREAD INDICATED IN THE PLANT SCHEDULE SHALL BE THE MINIMUM ACCEPTABLE SIZE.



2 NORTHEAST PLANTING PLAN
PLAN

SCALE: 1"=30'-0"

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX.XXXXXX, EXPIRATION DATE XX/XX/XXXX.

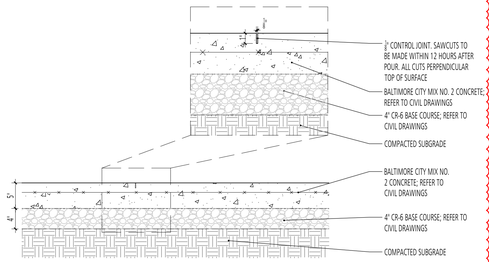
Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

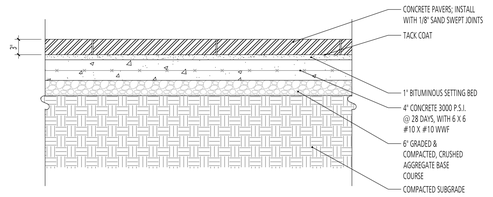
MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

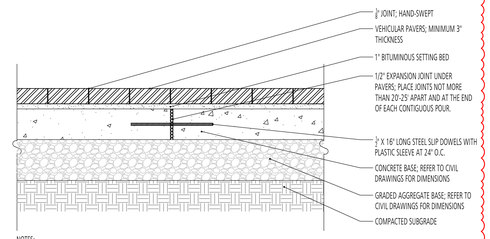
Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved
Drawing Title	OVERALL PLANTING PLAN	Drawing Number	L2.00r2
Sheet			Of



1 CONCRETE AND CONTROL JOINT DETAIL — d-conc_a.dwg
SECTION — SCALE: 1"=1'-0"

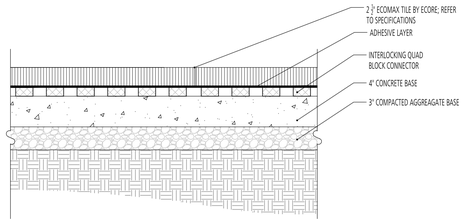


2 CONCRETE PAVER INSTALLATION — d-paver.dwg
SECTION — SCALE: 1"=1'-0"



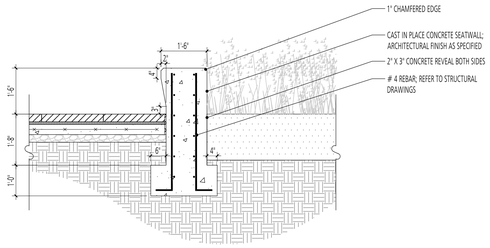
NOTES:
1. ALL WALKING SURFACES SHALL SATISFY ADA REQUIREMENTS. LIPPAGE BETWEEN PAVERS SHALL NOT EXCEED 1/8".

3 VEHICULAR PAVER INSTALLATION — d-paver vehicular.dwg
SECTION — SCALE: 1"=1'-0"



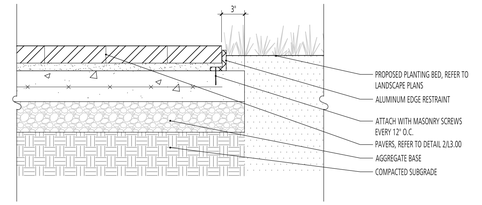
NOTE: DETAIL DRAWN IS FOR DESIGN INTENT ONLY. CONFIRM WITH MANUFACTURER ON PROPER INSTALLATION PRACTICES: ECORE COMMERCIAL, 715 FOUNTAIN AVENUE LANCASTER, PA 17601; 877-258-0843

4 EXTERIOR FITNESS TILE
SECTION — SCALE: 1-1/2"=1'-0"

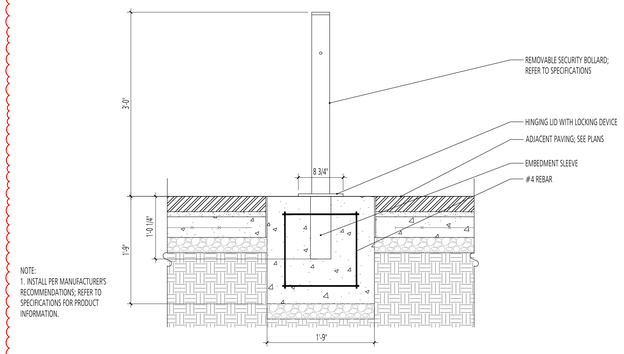


NOTE: EXTND ARCHITECTURAL FINISH 3" BELOW FINISH GRADE

5 CONCRETE SEATWALL — d-concrete seatwall.dwg
SECTION — SCALE: 1/2" = 1'-0"



6 EDGE RESTRAINT
SECTION — SCALE: 1-1/2"=1'-0"



NOTE:
1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS; REFER TO SPECIFICATIONS FOR PRODUCT INFORMATION.

7 REMOVABLE BOLLARDS — d-removable security bollard.dwg
SECTION — SCALE: 1"=1'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX-XXXXXX, EXPIRATION DATE XX/XX/XXXX

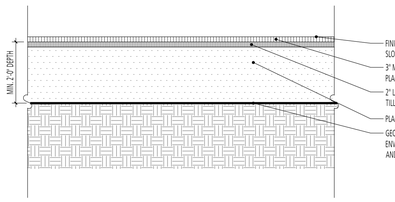
Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved
Drawing Title	HARDSCAPE DETAILS	Drawing Number	L3.00r2
Sheet			Of



NOTE:
1. CONTRACTOR SHALL REFER TO "ENVIRONMENTAL MANAGEMENT PLAN" AND GEOTECHNICAL REPORT FOR ADDITIONAL EARTHWORK REQUIREMENTS.

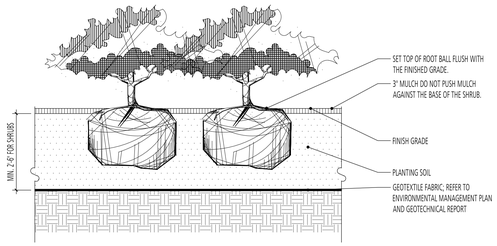
1 SOIL PLACEMENT DETAIL

d-bedprep.dwg

SECTION

SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL REFER TO "ENVIRONMENTAL MANAGEMENT PLAN" AND GEOTECHNICAL REPORT FOR ADDITIONAL EARTHWORK REQUIREMENTS.
2. COMPLETELY REMOVE ALL NON-BIODEGRADABLE CONTAINERS AND SCARIFY ROOTBALL.
3. FOR B&B, CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOTBALL.
4. PROVIDE 30" MIN. DEPTH OF CONTINUOUS PLANTING SOIL FOR SHRUB BEDS.
5. SHRUBS IN PLANTING BEDS SHALL BE CONTINUALLY MULCHED WITHIN A BED WITH CLEAN SPADED EDGE.



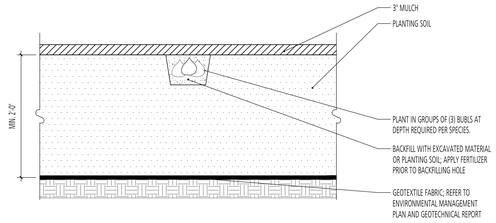
2 SHRUB PLANTING

d-shrub_planting.dwg

SECTION

SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR SHALL REFER TO "ENVIRONMENTAL MANAGEMENT PLAN" AND GEOTECHNICAL REPORT FOR ADDITIONAL EARTHWORK REQUIREMENTS.
2. IF BED IS MULCHED PRIOR TO BULB PLANTING PULL BACK MULCH PRIOR TO DIGGING HOLE.
3. ACCOUNT FOR DEPTH OF MULCH WHEN PLANTING BULBS.
4. INCORPORATE BULB PLANTING WITHIN PERENNIAL PLANTING.

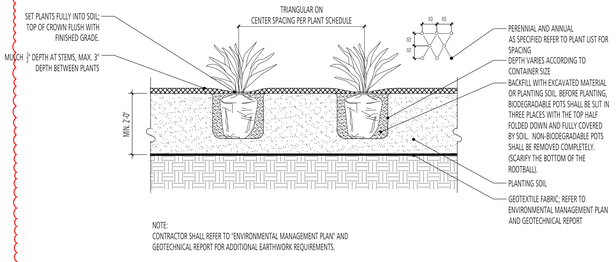


3 BULB PLANTING DETAIL (TYP.)

d-bulb planting detail.dwg

SECTION

SCALE: 1"=1'-0"



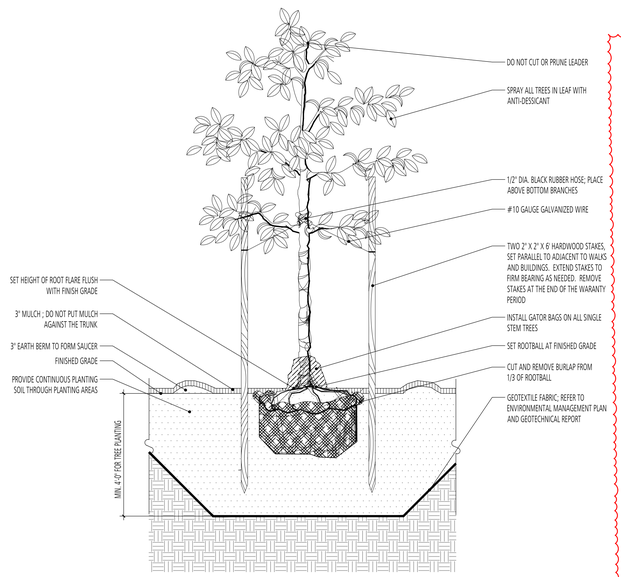
NOTE:
CONTRACTOR SHALL REFER TO "ENVIRONMENTAL MANAGEMENT PLAN" AND GEOTECHNICAL REPORT FOR ADDITIONAL EARTHWORK REQUIREMENTS.

4 PERENNIAL PLANTING DETAIL

d-grndcover_planting.dwg

SECTION

SCALE: 1/2" = 1'-0"



NOTE:
1. CONTRACTOR SHALL REFER TO "ENVIRONMENTAL MANAGEMENT PLAN" AND GEOTECHNICAL REPORT FOR ADDITIONAL EARTHWORK REQUIREMENTS.
2. REMOVE ANY BROKEN OR DAMAGED BRANCHES WITH CLEAN CUTS.
3. ALL TREES GREATER THAN 3" CALIPER SHOULD BE GUYED, RATHER THAN STAKED.
4. IF TREE COMES IN A BASKET, CUT TOP TWO ROWS OF WIRE IN FOUR PLACES AND FOLD DOWN INTO HOLE. CUT BURLAP AWAY FROM THE TRUNK AND FOLD DOWN INTO HOLE AFTER LOCATION AND DEPTH HAVE BEEN APPROVED BY THE OWNER.

5 TREE PLANTING

d-tree_planting.dwg

SECTION

SCALE: 1/2" = 1'-0"

2

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

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Revisions:

No.	Date	Description
1	1/13/2020	Addendum 1
2	1/28/2020	Addendum 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	Author	Drawn
Scale		Checker	Checked
Date	01/28/2019	Approver	Approved

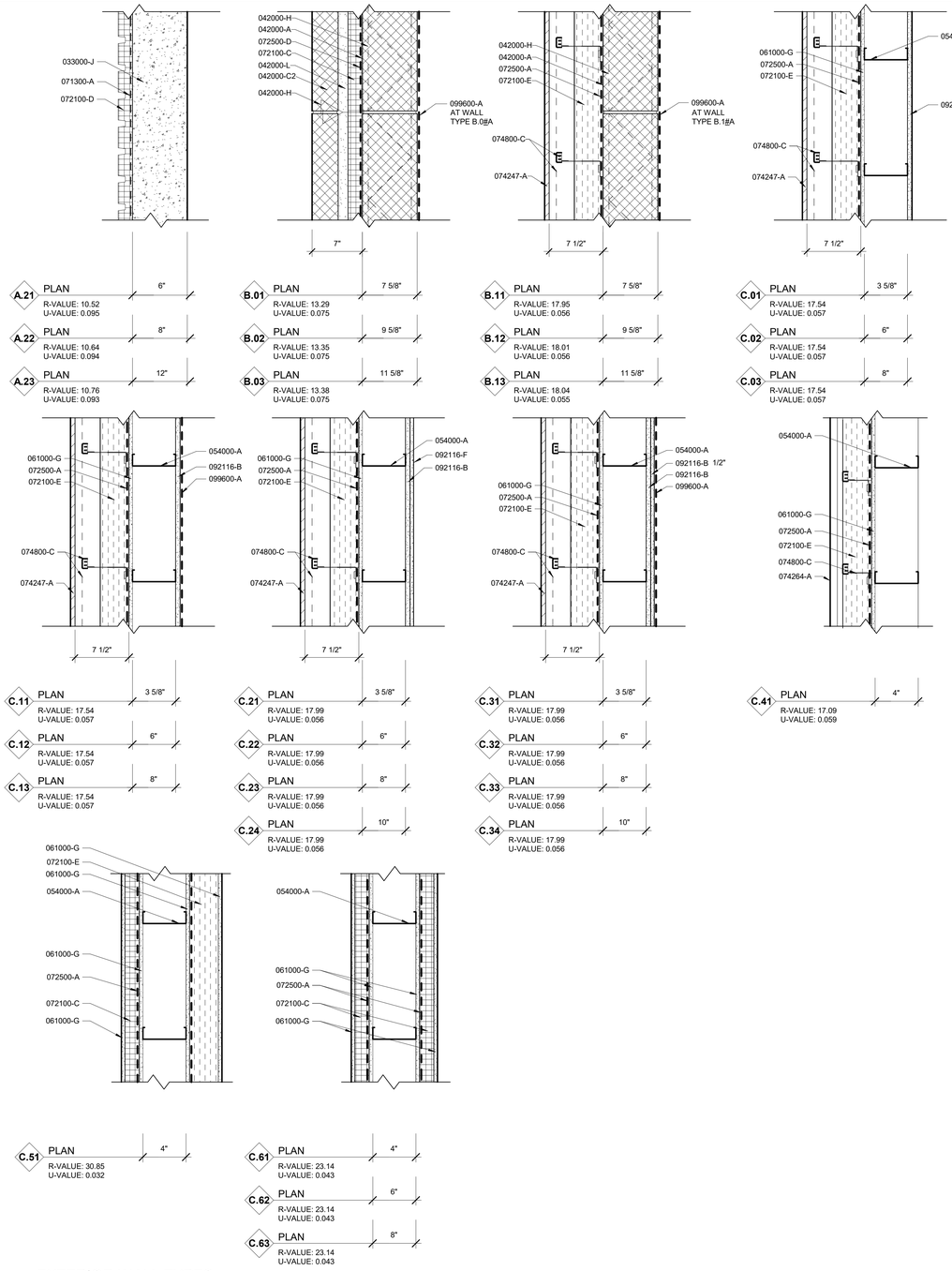
Drawing Title: PLANTING DETAILS

Drawing Number: L4.00 r2

Sheet: Of

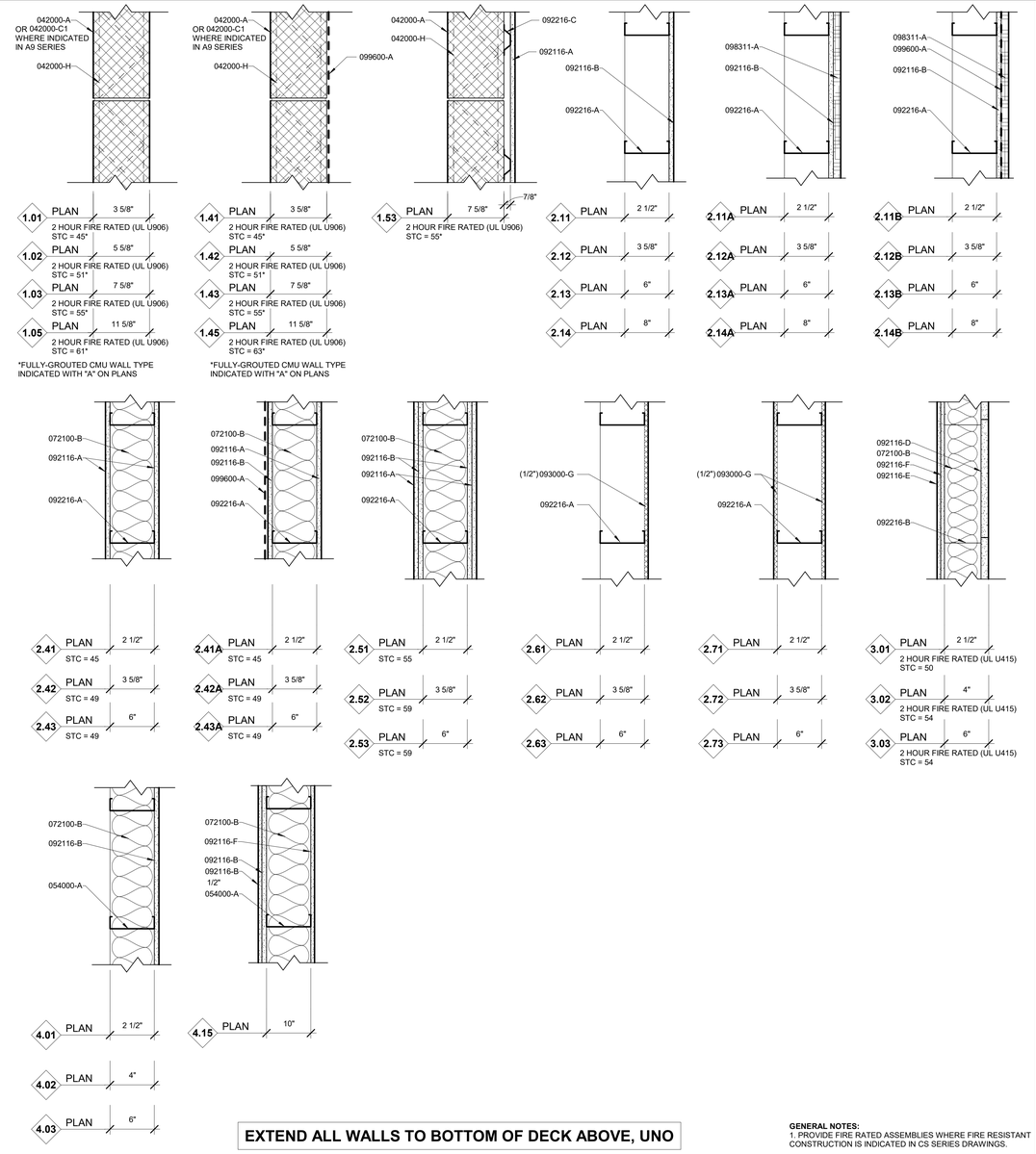
N:\18Proj\18010\06-Revit\Revit Model to Consultants\2019-11-08\18010-Middle Branch-Architectural.rvt

11/8/2019 3:30:51 PM



EXTERIOR WALL TYPES

1 1/2" = 1'-0"

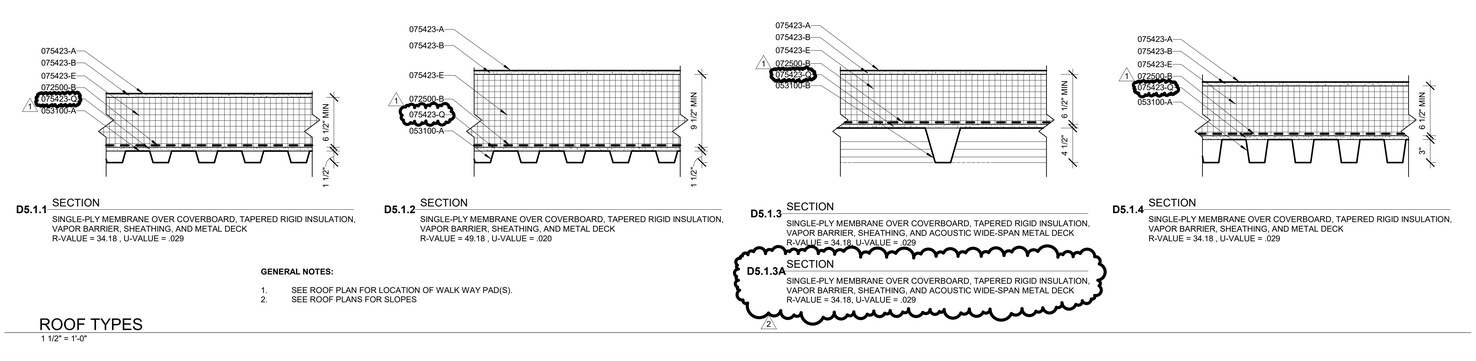


EXTEND ALL WALLS TO BOTTOM OF DECK ABOVE, UNO

INTERIOR WALL TYPES

1 1/2" = 1'-0"

GENERAL NOTES:
1. PROVIDE FIRE RATED ASSEMBLIES WHERE FIRE RESISTANT CONSTRUCTION IS INDICATED IN CS SERIES DRAWINGS.

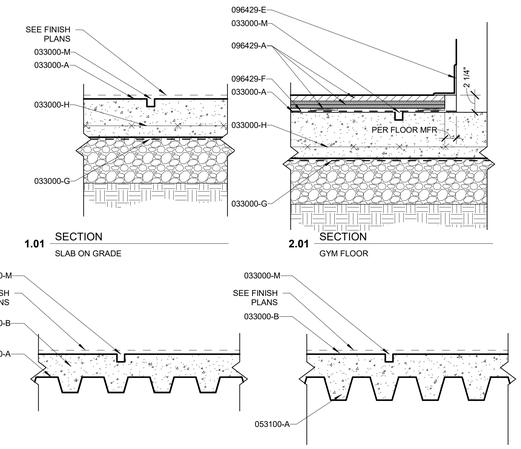


GENERAL NOTES:

1. SEE ROOF PLAN FOR LOCATION OF WALK WAY PAD(S).
2. SEE ROOF PLANS FOR SLOPES

ROOF TYPES

1 1/2" = 1'-0"



FLOOR TYPES

1 1/2" = 1'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

033000-A	CONCRETE SLAB ON GRADE (REFER TO STRUCTURAL FOR MORE INFORMATION)
033000-B	CONCRETE SLAB ON STEEL DECK (REFER TO STRUCTURAL FOR MORE INFORMATION)
033000-G	UNDER SLAB VAPOR BARRIER
033000-H	WELDED WIRE FABRIC (REFER TO STRUCTURAL FOR MORE INFORMATION)
033000-J	ANCHOR BOLTS
033000-M	CONTROL JOINT
042000-A	CONCRETE MASONRY UNIT, SIZE AS INDICATED
042000-C1	GROUND FACE CMU 1, SIZE AND COLOR AS INDICATED
042000-C2	GROUND FACE CMU 2, SIZE AND COLOR AS INDICATED
042000-H	JOINT REINFORCEMENT/MASONRY TIE
042000-L	CEMENTITIOUS GROUT
053100-A	STEEL DECK (REFER TO STRUCTURAL FOR MORE INFORMATION)
053100-B	ACOUSTIC METAL DECK (REFER TO STRUCTURAL FOR MORE INFORMATION)
054000-A	COLD-FORMED STEEL FRAMING, SIZE AS INDICATED
061000-G	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
071300-A	SELF-ADHERING MEMBRANE WATERPROOFING
072100-B	BATT INSULATION, 5 1/2" UNO (OR MAX THICKNESS FOR LOCATION)
072100-C	RIGID INSULATION BOARD, 2" THICK UNO
072100-D	RIGID INSULATION BOARD WITH DRAINAGE CHANNEL AND FILTER FABRIC, 2" THICK UNO
072100-E	MINERAL WOOL INSULATION BOARD, 4" THICK UNO
072500-A	VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-B	VAPOR-IMPERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-D	BELOW GRADE VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
074247-A	CONCRETE PANEL
074264-A	ALUMINUM COMPOSITE PANEL
074800-C	THERMAL BRACKET
075423-A	TPO ROOFING
075423-B	COVER BOARD
075423-E	ROOF INSULATION
075423-Q	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
092116-A	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, 5/8" THICKNESS UNO
092116-B	GYPSUM BOARD, MOISTURE RESISTANT TYPE 'XP', 5/8" THICKNESS UNO
092116-D	GYPSUM BOARD, MOISTURE RESISTANT SHAFTLINER PANELS TYPE 'XP', 1" THICKNESS
092116-E	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, TYPE 'C', 1/2" THICKNESS
092116-F	GYPSUM BOARD, MOISTURE RESISTANT, TYPE 'C', 1/2" THICKNESS
092216-A	NON-STRUCTURAL METAL STUD, SIZE AS INDICATED
092216-B	NON-STRUCTURAL METAL SHAFTWALL STUD, SIZE AS INDICATED
092216-C	HAT SHAPED METAL FURRING CHANNEL, SIZE AS INDICATED
093000-G	CEMENTITIOUS BACKER BOARD, 1/2" THICKNESS UNO
096429-A	GYMNASIUM WOOD FLOORING SYSTEM
096429-E	BASE TRIM
096429-F	VAPOR RETARDER
098311-A	SHREDDED WOOD ACOUSTIC PANEL; PAINTED PT-1 UNO, 2" THICK UNO
099600-A	MULTI-LAYER IMPERMEABLE SURFACE

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

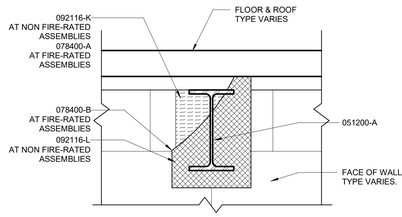
Revisions:

No.	Date	Description
1	1/13/2020	ADDENDUM 1
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

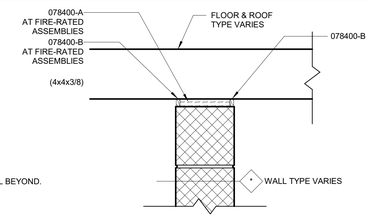
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	1 1/2" = 1'-0"	KMS	Checked
Date	12/13/2019	AER	Approved
Drawing Title	CONSTRUCTION TYPES, TYPICAL DETAILS, AND DIAGRAMS	Drawing Number	AC.1r2
Sheet			Of



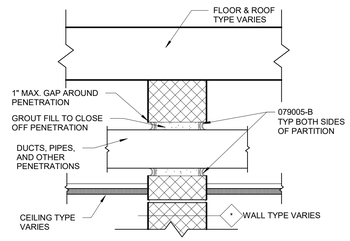
TYP BEAM/JOIST PENETRATION @ WALL

SECTION



TYP HEAD OF WALL - FIRE RATED CONSTR

SECTION



TYP PENETRATION - MASONRY

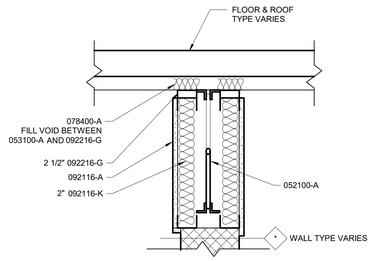
SECTION

NOTES:
1. DUCTS, PIPES, AND OTHER PENETRATIONS ARE NOT TO MAKE RIGID CONTACT WITH CMU OR MASONRY. CENTER IN PARTITION OPENING.

2. PROVIDE HANGERS TO SUPPORT DUCTS AND PIPES. DO NOT CARRY WEIGHT ON PARTITION.

3. USE CMU OR BRICK FILLER PIECES TO CLOSE OFF LARGE OPENINGS AROUND DUCTS.

4. SEAL ALL PENETRATIONS WITH RESILIENT SEALANT TO CLOSE GAPS. USE FIRE SEALANT AT RATED PARTITIONS.

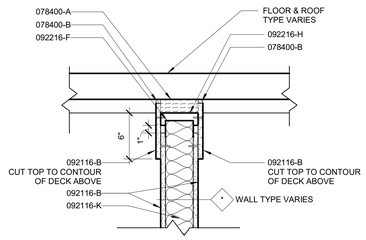


NON-RATED CMU WALL UNDER JOIST

SECTION

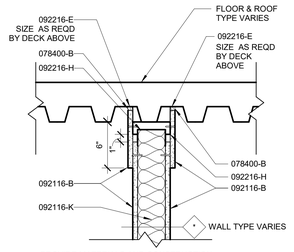
1 AC.2 TYPICAL MASONRY WALL DETAILS

1 1/2" = 1'-0"



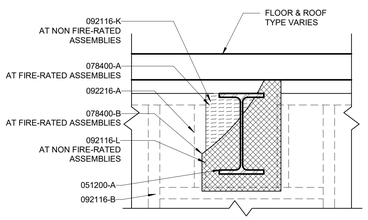
TYP HEAD OF WALL - FIRE RATED CONSTR

SECTION



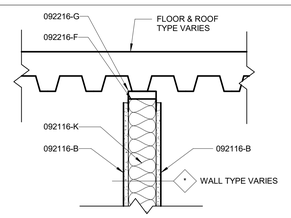
TYP HEAD OF WALL - FIRE RATED CONSTR

SECTION



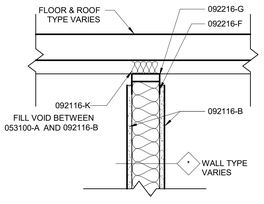
TYP BEAM/JOIST PENETRATION @ WALL

SECTION



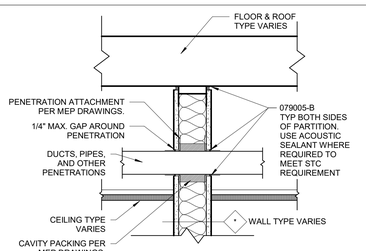
TYP HEAD OF WALL - NON-FIRE RATED CONSTR

SECTION



TYP HEAD OF WALL - NON-FIRE RATED CONSTR

SECTION



TYP PENETRATION - GYPSUM BOARD

SECTION

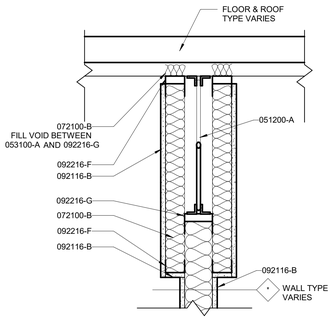
NOTES:

1. DUCTS, PIPES, AND OTHER PENETRATIONS ARE NOT TO MAKE RIGID CONTACT WITH GWB OR STUDS. CENTER IN PARTITION OPENING.

2. PROVIDE HANGERS TO SUPPORT DUCTS AND PIPES. DO NOT CARRY WEIGHT ON PARTITION.

3. USE GWB FILLER PIECES TO CLOSE OFF LARGE OPENINGS AROUND DUCTS.

4. SEAL ALL PENETRATIONS WITH RESILIENT SEALANT TO CLOSE GAPS. USE FIRE SEALANT AT RATED PARTITIONS.

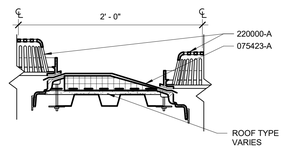


NON-RATED STUD WALL UNDER JOIST

SECTION

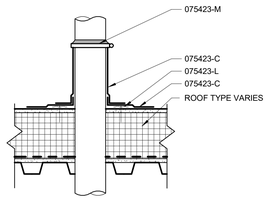
2 AC.2 TYPICAL WALL DETAILS

1 1/2" = 1'-0"



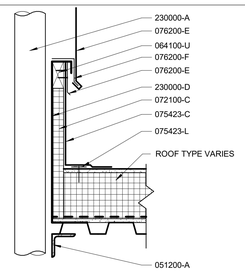
TYP ROOF & OVERFLOW DRAINS @ SUMP

SECTION



TYP PLUMBING ROOF PENETRATION

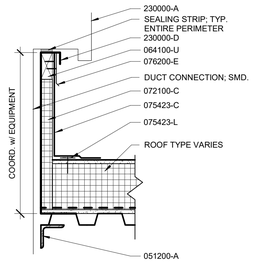
SECTION



TYP HVAC PIPING PENETRATION

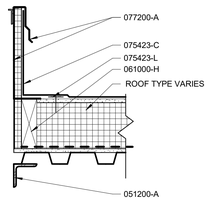
SECTION

NOTE: SEE MECHANICAL DRAWINGS FOR METAL HOOD INFORMATION @ HVAC PIPING PENETRATIONS



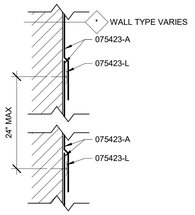
TYP EQUIPMENT ROOF CURB

SECTION



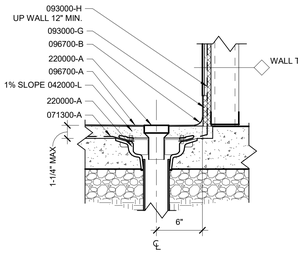
TYP ROOF HATCH CURB

SECTION



INTERMEDIATE WALL FLASHING ATTACHMENT

SECTION

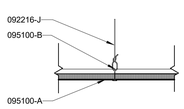


4 AC.2 SHOWER DETAIL

1 1/2" = 1'-0"

3 AC.2 TYPICAL ROOF DETAILS

1 1/2" = 1'-0"

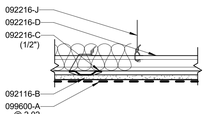


1.01 SECTION

24" X 24" ACP
NRC = 0.70

1.02 SECTION

24" X 24" PLASTIC PAINTED FINISH ACP
NRC = 0.55

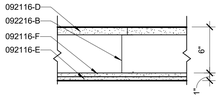


2.01 SECTION

5/8" GWB ON MTL. STUD

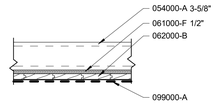
2.02 SECTION

5/8" WEATHER RESISTANT GWB ON MTL. STUD



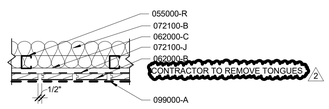
3.01 SECTION

HORIZONTAL SHAFT WALL
2 HOUR FIRE RATED (NER-258)



4.01 SECTION

TONGUE AND GROOVE WOOD PLANK
CLASS B MINIMUM

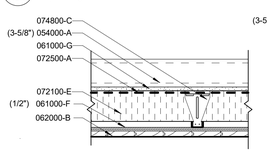


5.01 SECTION

ACOUSTIC WOOD PLANK CEILING
CLASS B MINIMUM

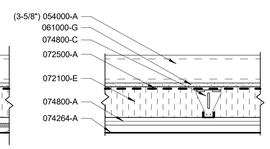
5 AC.2 CEILING TYPES

1 1/2" = 1'-0"



1.01 SECTION

TONGUE AND GROOVE WOOD PLANK SOFFIT
R-VALUE = 19.12

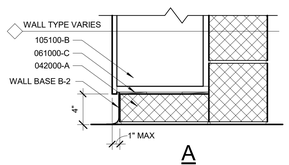


1.11 SECTION

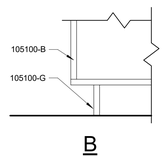
ALUMINUM COMPOSITE PANEL SOFFIT
R-VALUE = 17.82

6 AC.2 SOFFIT TYPES

1 1/2" = 1'-0"



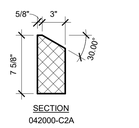
A



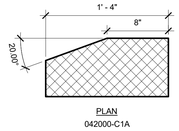
B

7 AC.2 TYPICAL LOCKER BASE

1 1/2" = 1'-0"



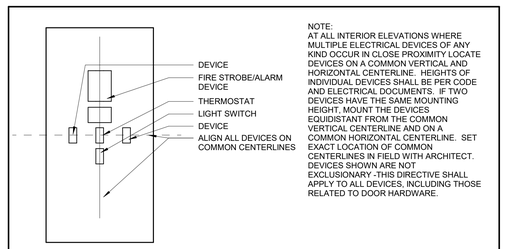
SECTION
042000-C2A



PLAN
042000-C1A

8 AC.2 SPECIAL SHAPES - CMU

1 1/2" = 1'-0"



UNIVERSAL INTERIOR ELEVATIONS AT DEVICES

12 6 0 12

SCALE OF INCHES
1 1/2" = 1'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

042000-A	CONCRETE MASONRY UNIT, SIZE AS INDICATED
042000-C1A	GROUND FACE CMU 1, SPECIAL SHAPE, SEE AC SERIES
042000-C2A	GROUND FACE CMU 2, SPECIAL SHAPE, SEE AC SERIES
042000-L	CEMENTITIOUS GROUT
051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
052100-A	STEEL JOIST (REFER TO STRUCTURAL FOR MORE INFORMATION)
053100-A	STEEL DECK (REFER TO STRUCTURAL FOR MORE INFORMATION)
054000-A	COLD-FORMED STEEL FRAMING, SIZE AS INDICATED
055000-R	SUSPENDED CEILING METAL SUB-FRAME
061000-C	SHIM
061000-F	PLYWOOD SHEATHING; FIRE-RETARDANT TREATED; 3/4" THICK UNO
061000-G	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
061000-H	FIRE-RETARDANT TREATED BLOCKING
062000-B	TONGUE AND GROOVE WOOD PANELING, 3/4" THICK (NIC)
062000-C	WOOD FURRING, 3/4" THICK
064100-U	BLOCKING
071300-A	SELF-ADHERING MEMBRANE WATERPROOFING
072100-B	BATT INSULATION, 5 1/2" UNO (OR MAX THICKNESS FOR LOCATION)
072100-C	RIGID INSULATION BOARD, 2" THICK UNO
072100-E	MINERAL WOOL INSULATION BOARD, 4" THICK UNO
072100-J	ACOUSTICALLY TRANSPARENT FABRIC
072500-A	VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
074264-A	ALUMINUM COMPOSITE PANEL
074800-A	VERTICAL RAIL
074800-C	THERMAL BRACKET
075423-A	TPO ROOFING
075423-C	TPO FLASHING
075423-L	FASTENER
075423-M	STAINLESS STEEL CLAMPING RING AND CONT BEAD OF SEALANT
076200-E	2-PIECE METAL COUNTER FLASHING
076200-F	CONTINUOUS LOCKING METAL CLEAT
077200-A	METAL CLAD INSULATION CURB WITH WOOD NAILER
078400-A	FIRE SAFING
078400-B	FIRESTOP SEALANT
079005-B	JOINT SEALANT
092116-A	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, 5/8" THICKNESS UNO
092116-B	GYPSUM BOARD, MOISTURE RESISTANT TYPE 'XP', 5/8" THICKNESS UNO
092116-D	GYPSUM BOARD, MOISTURE RESISTANT SHAFTLINER PANELS TYPE 'XP', 1" THICKNESS
092116-E	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, TYPE 'C', 1/2" THICKNESS
092116-F	GYPSUM BOARD, MOISTURE RESISTANT, TYPE 'C', 1/2" THICKNESS
092116-K	SOUND ATTENUATION BLANKET, SIZE AS INDICATED
092116-L	WIRE MESH FOR CONTAINMENT OF SOUND ATTENUATION
092216-A	NON-STRUCTURAL METAL STUD, SIZE AS INDICATED
092216-B	NON-STRUCTURAL METAL SHAFTWALL STUD, SIZE AS INDICATED
092216-C	HAT SHAPED METAL FURRING CHANNEL, SIZE AS INDICATED
092216-D	1 1/2" METAL CARRYING CHANNEL
092216-E	Z-FURRING; SIZE AS INDICATED
092216-F	NON-STRUCTURAL METAL STUD TRACK
092216-G	DEFLECTION TRACK
092216-H	FIRE STOP TRACK
092216-J	HANGER WIRE
093000-G	CEMENTITIOUS BACKER BOARD, 1/2" THICKNESS UNO
093000-H	WATERPROOF MEMBRANE
095100-A	ACOUSTICAL CEILING PANEL
095100-B	GRID SUSPENSION SYSTEM
096700-A	FLUID-APPLIED FLOORING
096700-B	FLUID-APPLIED FLOORING INTEGRAL COVE BASE
099000-A	WATER-BASED FIRE RETARDANT
099600-A	MULTI-LAYER IMPERMEABLE SURFACE
105100-B	HDPE LOCKER
105100-G	HDPE LOCKER BASE
220000-A	PLUMBING (REFER TO PLUMBING FOR MORE INFORMATION)
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)
230000-D	CURB (REFER TO MECHANICAL FOR MORE INFORMATION)

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020.

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

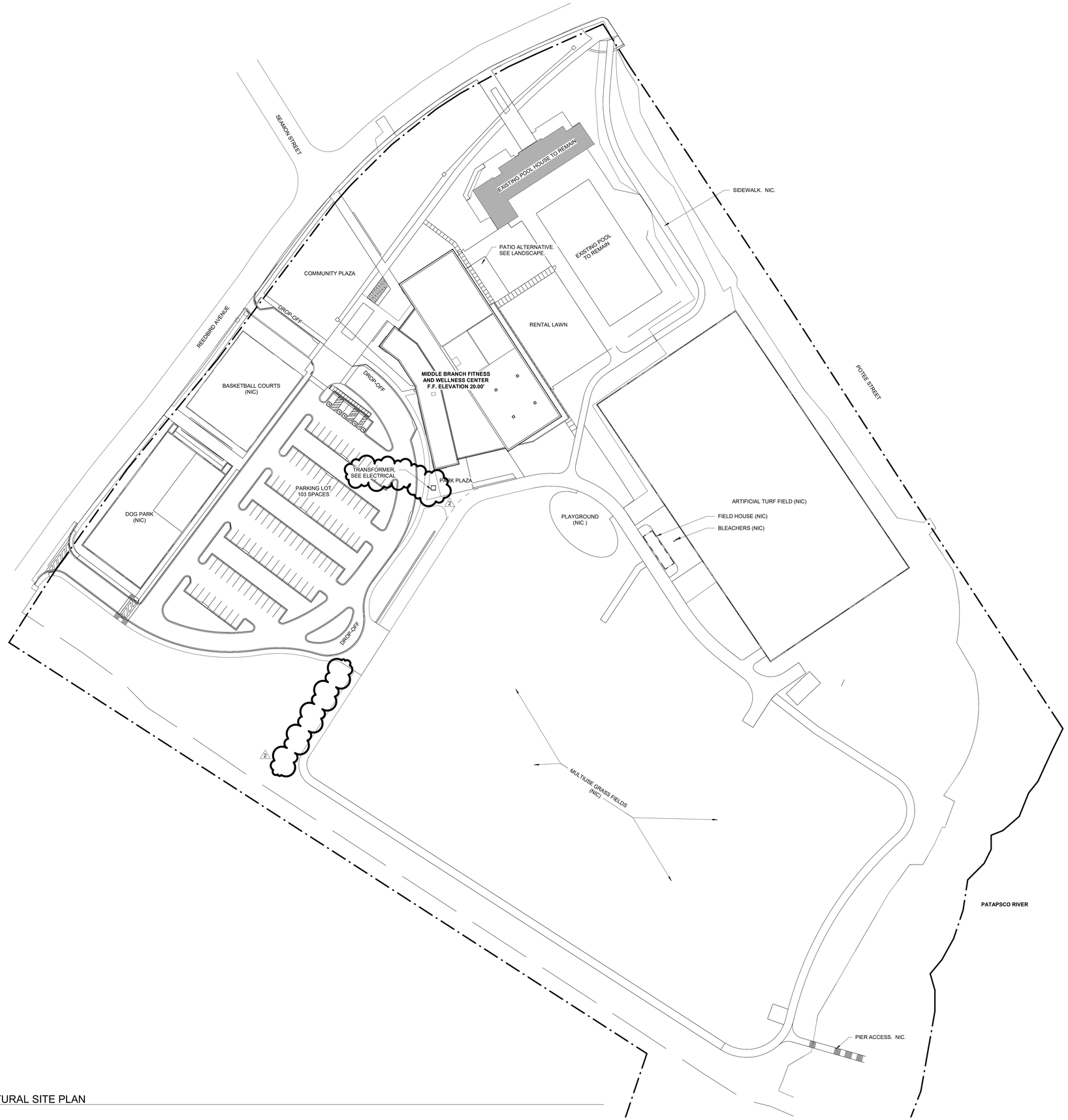
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

Drawing Title: CONSTRUCTION TYPES, TYPICAL DETAILS, AND DIAGRAMS

Drawing Number: AC.2r2

Sheet Of



1 AS.1 ARCHITECTURAL SITE PLAN
1" = 50'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

50 0 50 100
SCALE OF FEET
1" = 50'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

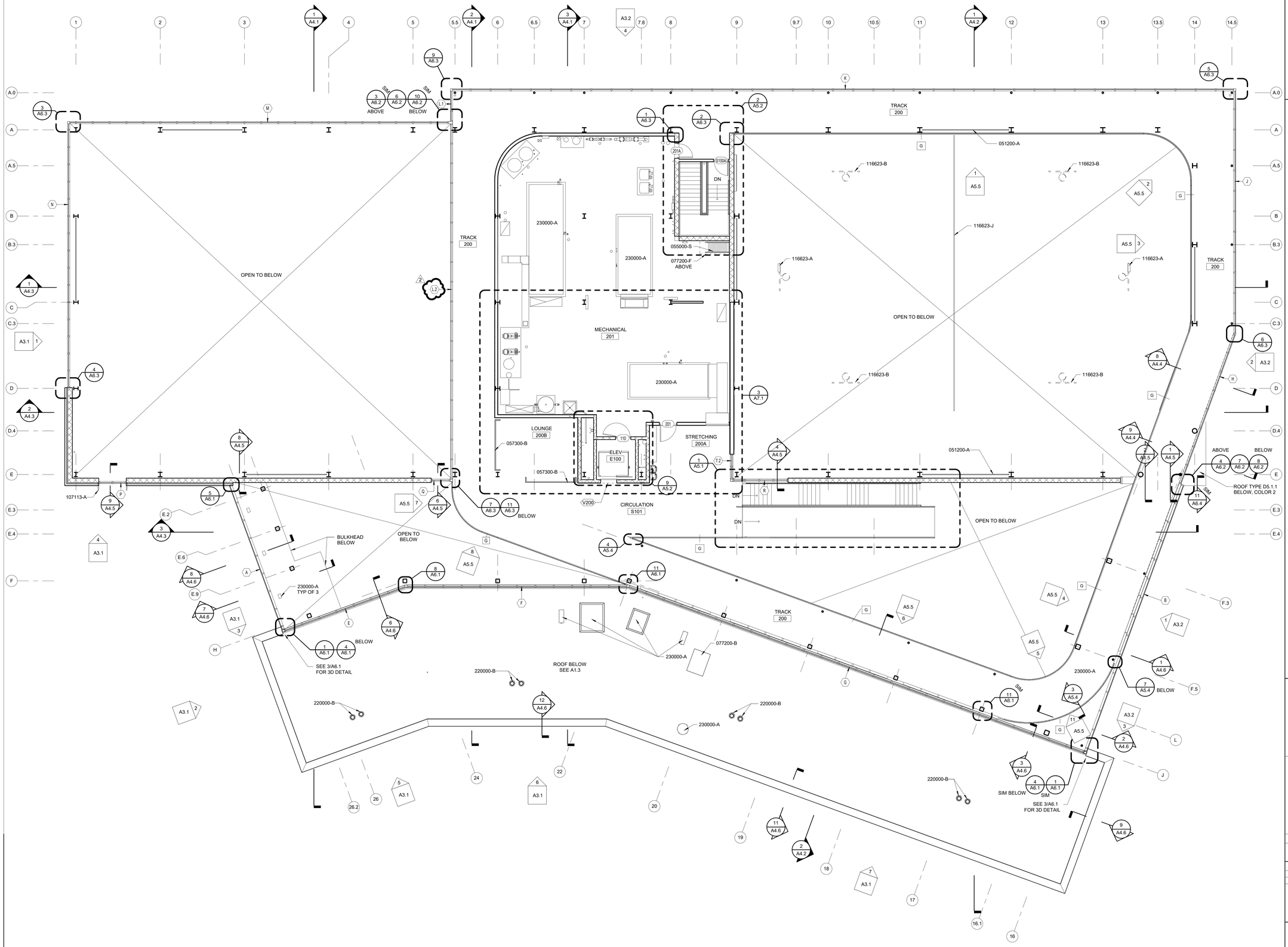
Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

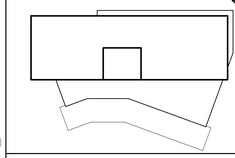
Job No.	#18010	KMS	Drawn
Scale	1" = 50'-0"	KMS	Checked
Date	12/13/2019	AER	Approved
Drawing Title			Drawing Number
ARCHITECTURAL SITE PLAN			AS.1r2
Sheet			Of



DRAWING NOTES:
1) STRUCTURAL STEEL THAT IS TO REMAIN EXPOSED SHALL BE ARCHITECTURALLY EXPOSED STRUCTURAL STEEL. SEE STRUCTURAL FOR ADDITIONAL INFORMATION.

1 A1.2 MEZZANINE FLOOR PLAN
1/8" = 1'-0"

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
055000-S	PREFABRICATED ALUMINUM SHIPS LADDER
057300-B	PERFORATED STEEL PANEL; PAINTED PT-3
077200-B	ROOF HATCH, LADDER ACCESS
077200-F	ROOF HATCH, SHIPS LADDER ACCESS
107113-A	ALUMINUM PLATE; 1/8" THICK, 3-COAT FLOUROPOLYMER FINISH - COLOR 3 UNO
116623-A	FORWARD FOLDING BASKETBALL BACKSTOP
116623-B	SIDE FOLDING BASKETBALL BACKSTOP
116623-J	GYMNASIUM DIVIDER CURTAIN, ALTERNATE NO.5
220000-B	ROOF DRAIN, SEE DETAIL 3/AC.2, REFER TO PLUMBING DOCUMENTS
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 9400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

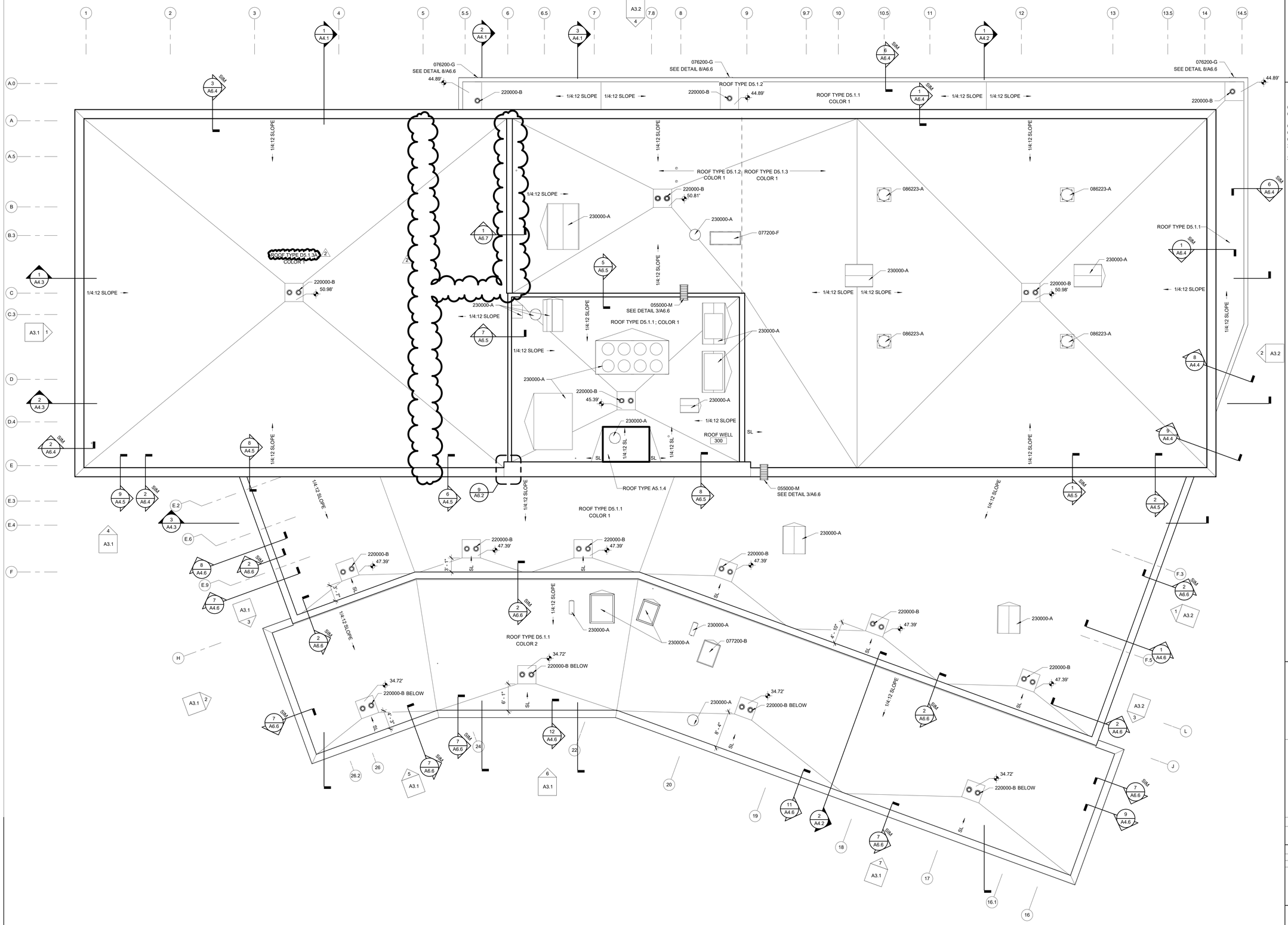
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	1/8" = 1'-0"	KMS	Checked
Date	12/13/2019	AER	Approved

Drawing Title: MEZZANINE FLOOR PLAN

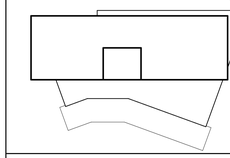
Drawing Number: A1.2r2

Sheet: Of



1 A1.3 ROOF PLAN
1/8" = 1'-0"

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

055000-M	PREFABRICATED ALUMINUM LADDER
076200-G	THROUGH WALL METAL SCUPPER OVERFLOW, WELDED WATER TIGHT
077200-B	ROOF HATCH, LADDER ACCESS
077200-F	ROOF HATCH, SHIPS LADDER ACCESS
086223-A	TUBULAR SKYLIGHT
220000-B	ROOF DRAIN, SEE DETAIL 3/AC.2, REFER TO PLUMBING DOCUMENTS
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)

ISSUED FOR BID

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

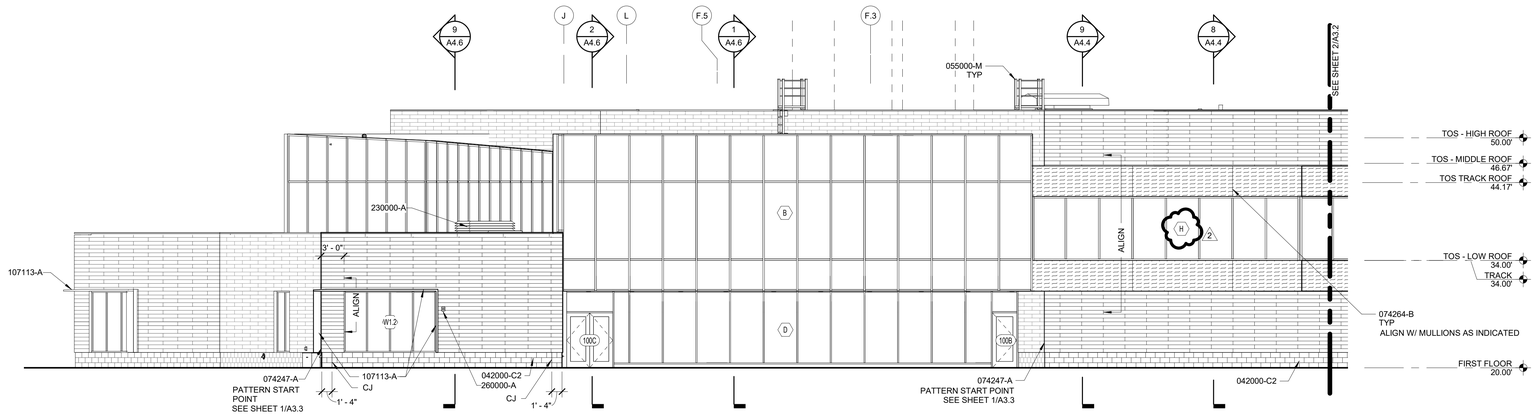
Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

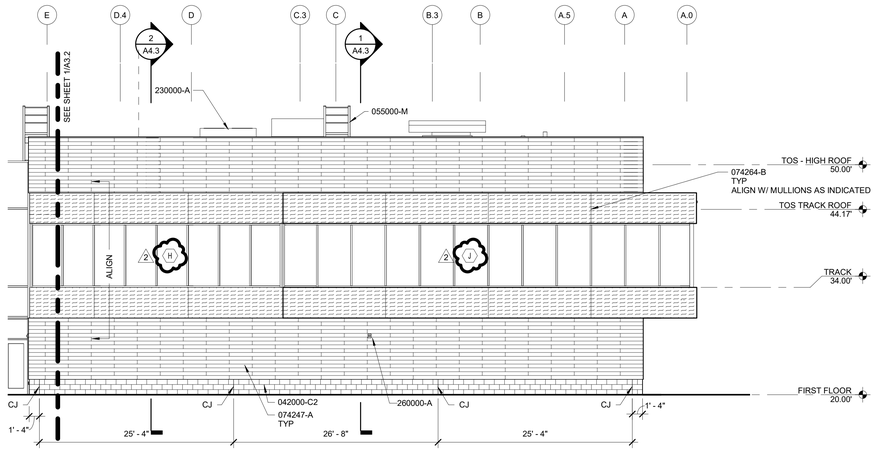
MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	1/8" = 1'-0"	KMS	Checked
Date	12/13/2019	AER	Approved
Drawing Title		Drawing Number	
ROOF PLAN		A1.3r2	
Sheet		Of	



1 A3.2 BUILDING ELEVATION
1/8" = 1'-0"
FROM 1 / A1.1



2 A3.2 BUILDING ELEVATION
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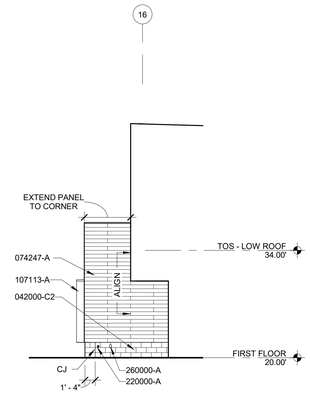
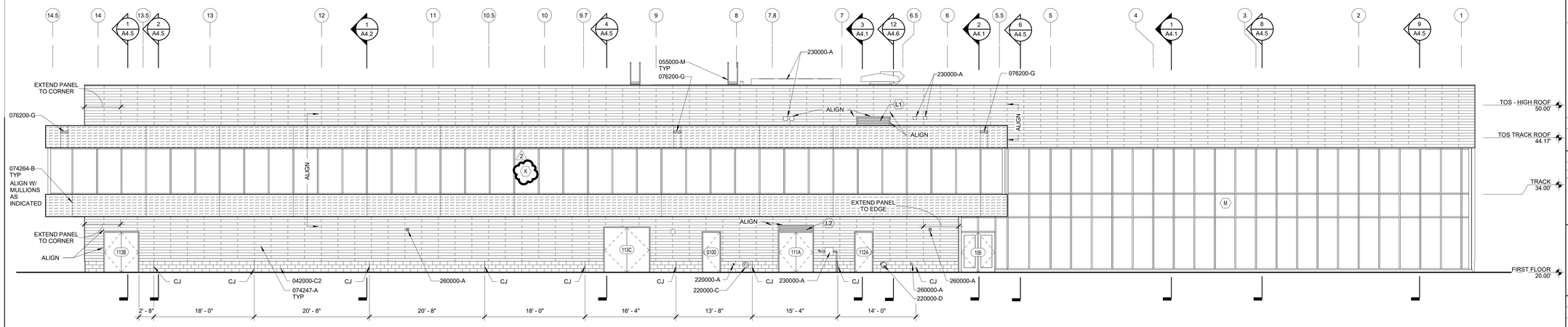
FROM 1 / A1.1



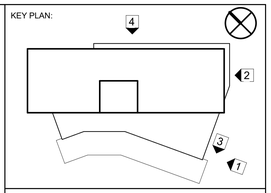
3 A3.2 BUILDING ELEVATION
1/8" = 1'-0"
FROM 1 / A1.1



4 A3.2 BUILDING ELEVATION
1/8" = 1'-0"
FROM 1 / A1.1

EXTERIOR MATERIALS LEGEND			
FINISH TYPES			
HATCH	MATERIAL DESCRIPTION	MFR/STYLE/COLOR	SECTION
	HIGH PERFORMANCE CONCRETE PANELS	TAKTL SELECT, SEE DETAIL 1/A3.3 FOR PATTERN & COLORS	074247-A
	GROUND FACE CMU	8X16X4 WESTBROOK / GROUND FACE / GF 315 SHOULDICE / TAPESTRY (WITHOUT BEVEL)/COLBY YORK / GEMSTONE / CUSTOM COLOR	042000-C2
	ALUMINUM COMPOSITE PANEL	ALUCOBOND, CUSTOM COLOR TO MATCH DRYLAC BENGAL RED	074264-A
NOTE: HATCHES ARE SPECIFIC TO A3 SHEETS ONLY.			

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

042000-C2	GROUND FACE CMU 2, SIZE AND COLOR AS INDICATED
055000-M	PREFABRICATED ALUMINUM LADDER
074247-A	CONCRETE PANEL
074264-A	ALUMINUM COMPOSITE PANEL
074264-B	ALUMINUM COMPOSITE PANEL REVEAL
076200-G	THROUGH WALL METAL SCUPPER OVERFLOW, WELDED WATER TIGHT
107113-A	ALUMINUM PLATE; 1/8" THICK, 3-COAT FLOUROPOLYMER FINISH - COLOR 3 UNO
220000-A	PLUMBING (REFER TO PLUMBING FOR MORE INFORMATION)
220000-C	OVERFLOW ROOF DRAIN, REFER TO PLUMBING DOCUMENTS
220000-D	THROUGH WALL DOWNSPOUT NOZZLE, REFER TO PLUMBING DOCUMENTS
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)
260000-A	ELECTRICAL (REFER TO ELECTRICAL FOR MORE INFORMATION)

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	EMG	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved
Drawing Title	EXTERIOR ELEVATIONS	Drawing Number	A3.2r2
Sheet			Of

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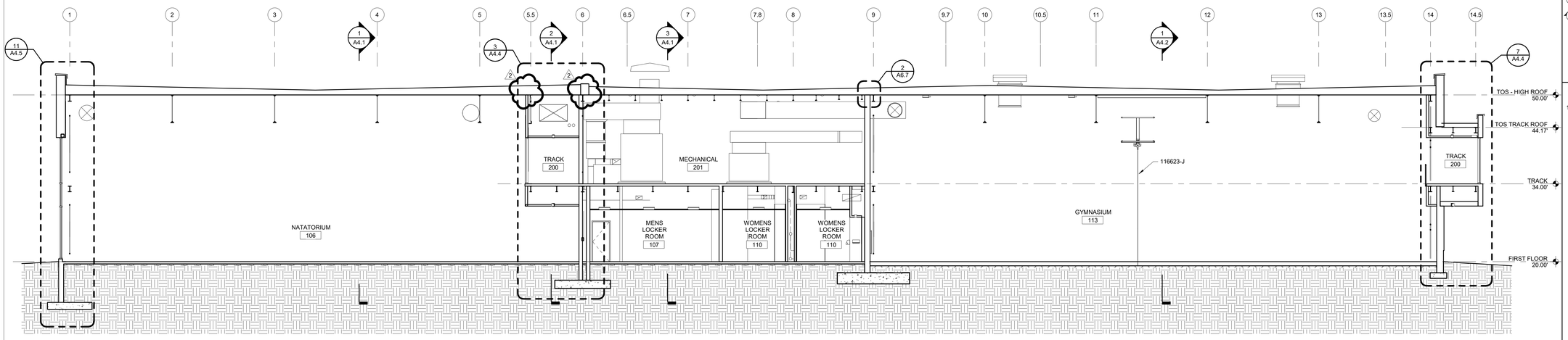

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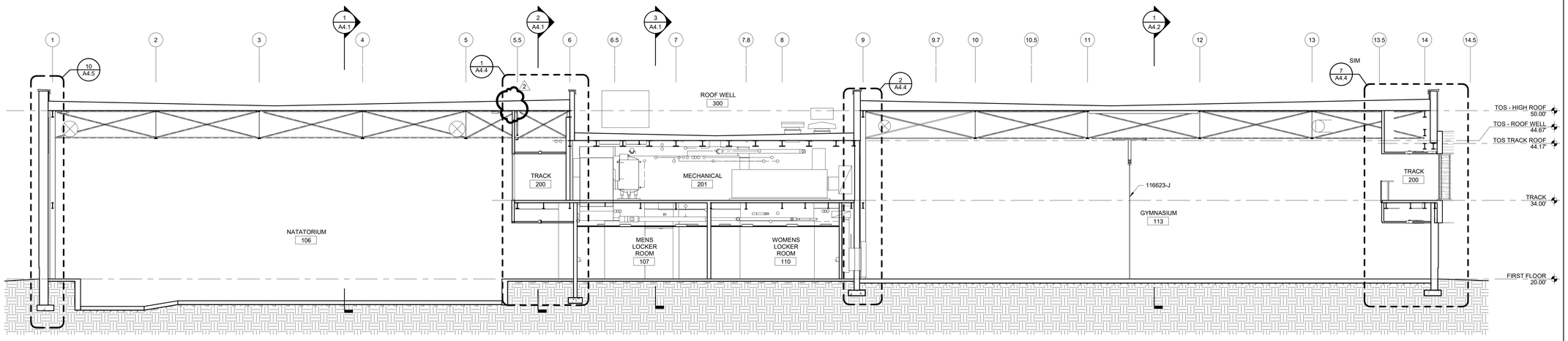
FROM 1 / A1.1



2 A4.3 BUILDING SECTION
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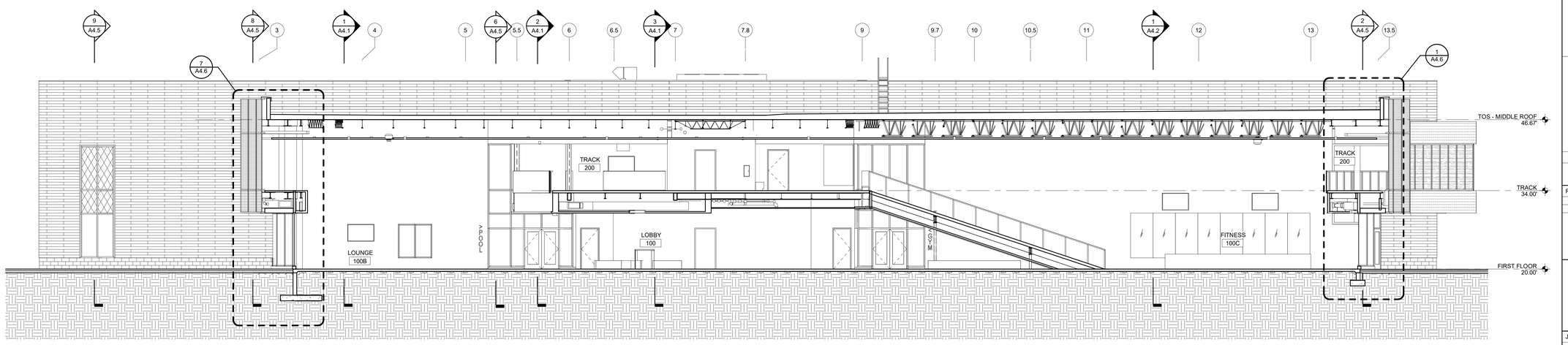
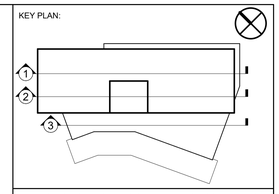
FROM 1 / A1.1



3 A4.3 BUILDING SECTION
1/8" = 1'-0"
FROM 1 / A1.1

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

116623-J GYMNASIUM DIVIDER CURTAIN, ALTERNATE NO.5

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-0009

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Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

Drawing Title: BUILDING SECTIONS

Drawing Number: A4.3r2

Sheet: Of

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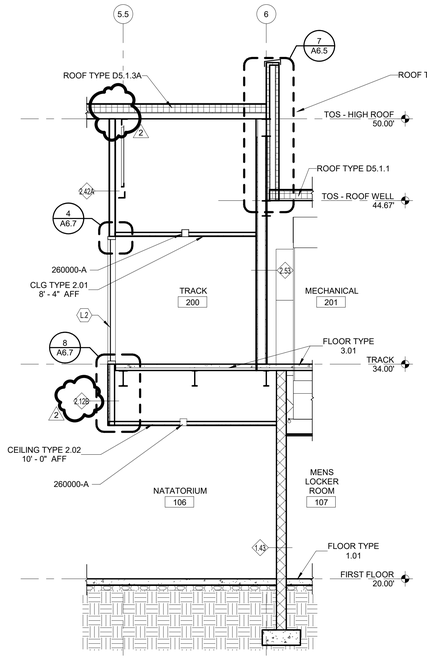
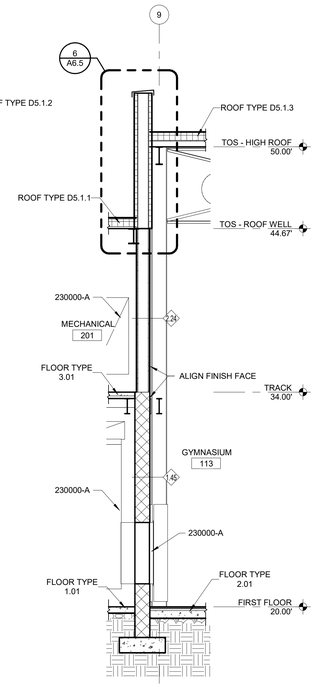


1 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 2 / A4.3



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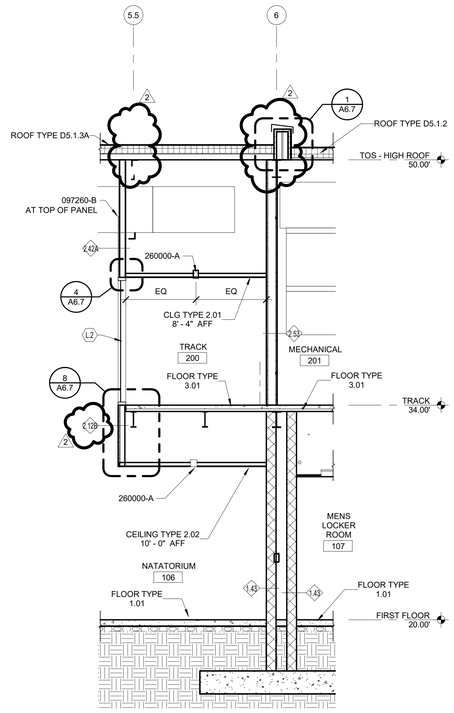
1/4" = 1'-0"
FROM 2 / A4.3



3 A4.4 WALL SECTION
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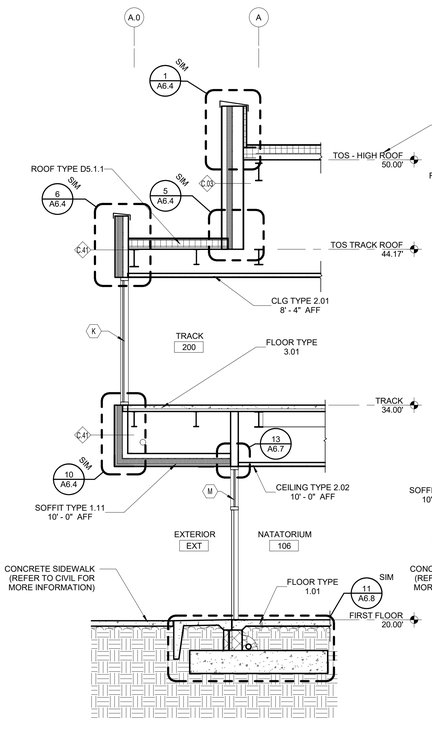
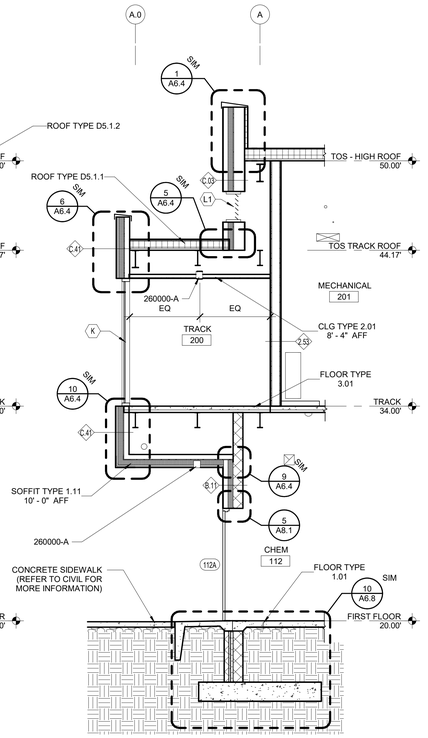
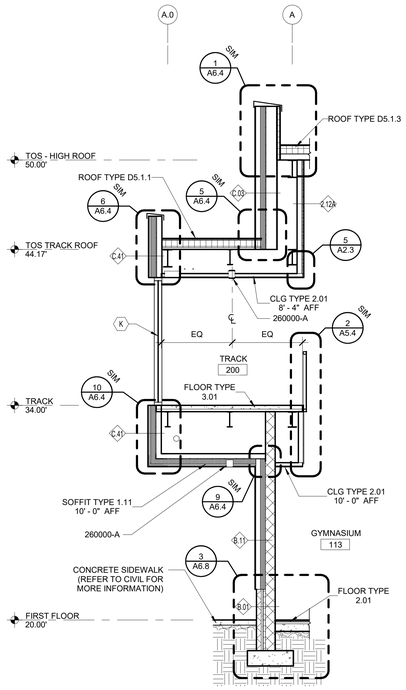
FROM 1 / A4.3



4 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 2 / A4.1



5 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 3 / A4.1



6 A4.4 WALL SECTION
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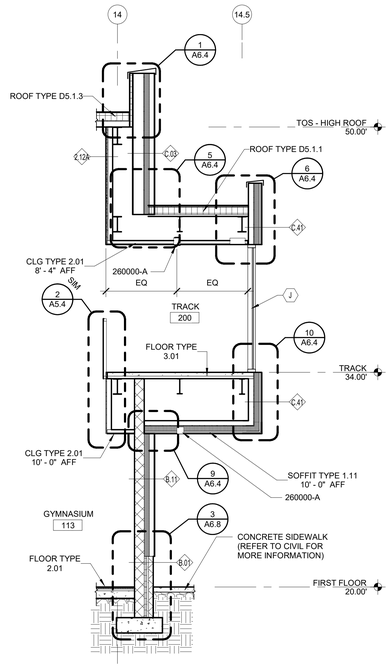
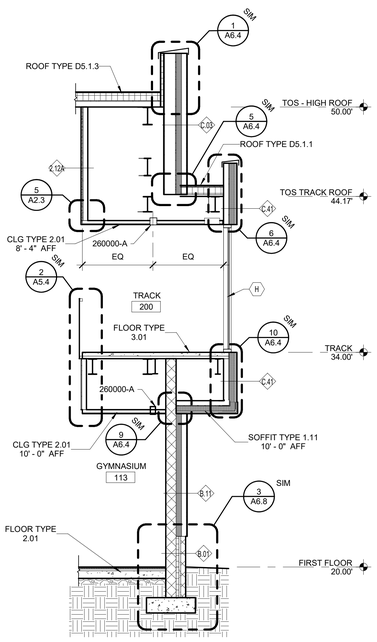
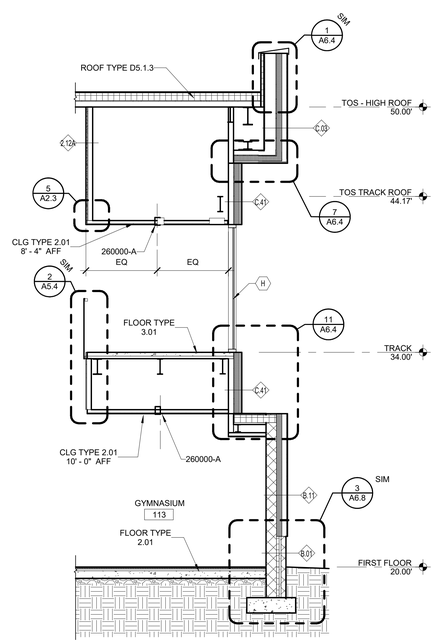
FROM 1 / A4.2



7 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 1 / A4.3

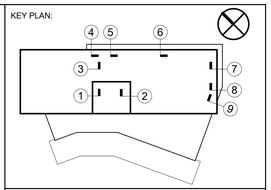


8 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 1 / A1.1



9 A4.4 WALL SECTION
1/4" = 1'-0"
FROM 1 / A1.1

KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

097260-B	ALUMINUM TRIM
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)
260000-A	ELECTRICAL (REFER TO ELECTRICAL FOR MORE INFORMATION)

4 0 4 8
SCALE OF FEET
1/4" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 9400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

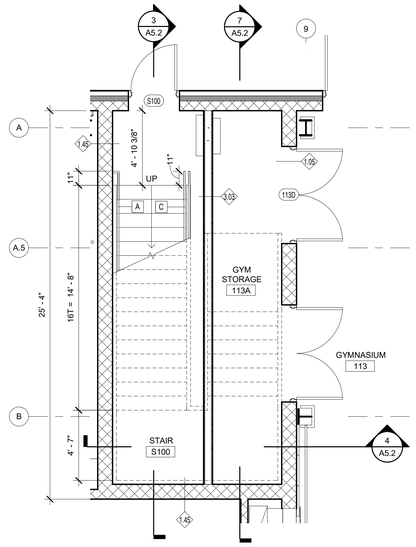
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

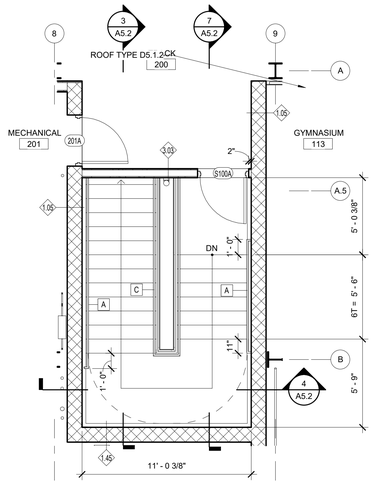
Drawing Title: WALL SECTIONS

Drawing Number: A4.4r2

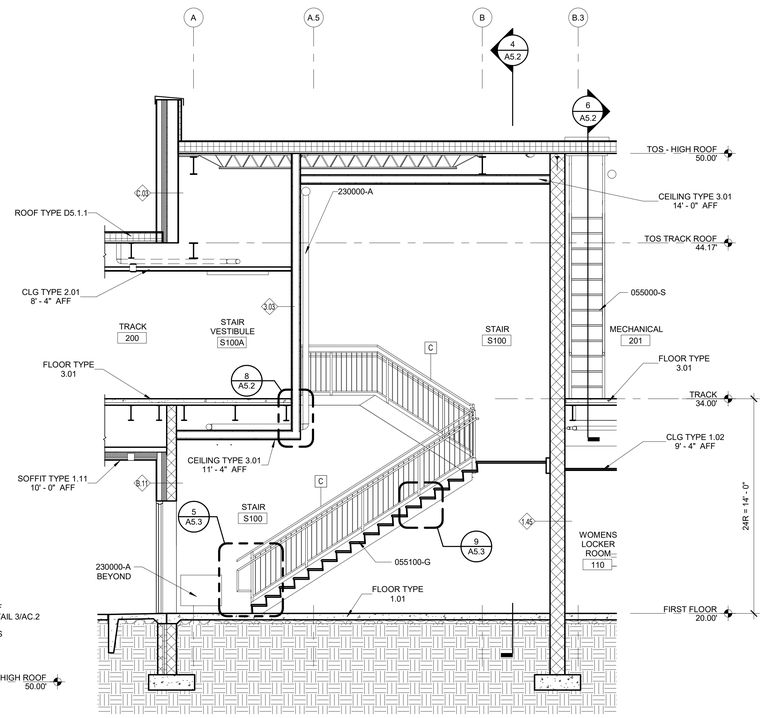
Sheet: Of



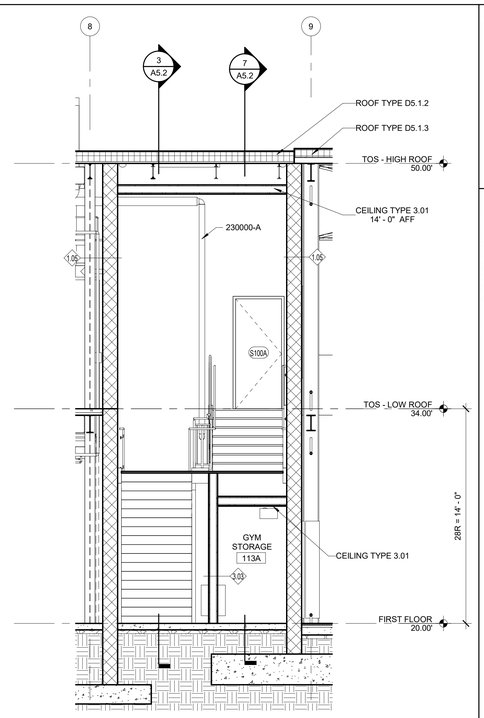
1 A5.2 STAIR 1 - FIRST FLOOR PLAN
1/4" = 1'-0"
FROM 9 / A1.1



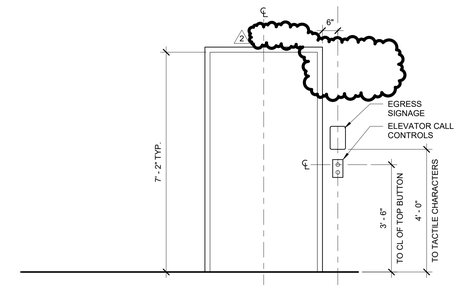
2 A5.2 STAIR 1 - MEZZANINE FLOOR PLAN
1/4" = 1'-0"
FROM 1 / A1.2



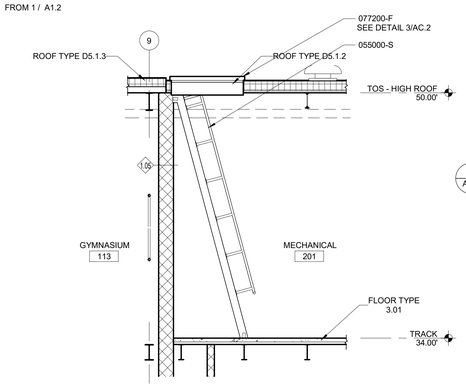
3 A5.2 STAIR SECTION
1/4" = 1'-0"
FROM 1 / A5.2



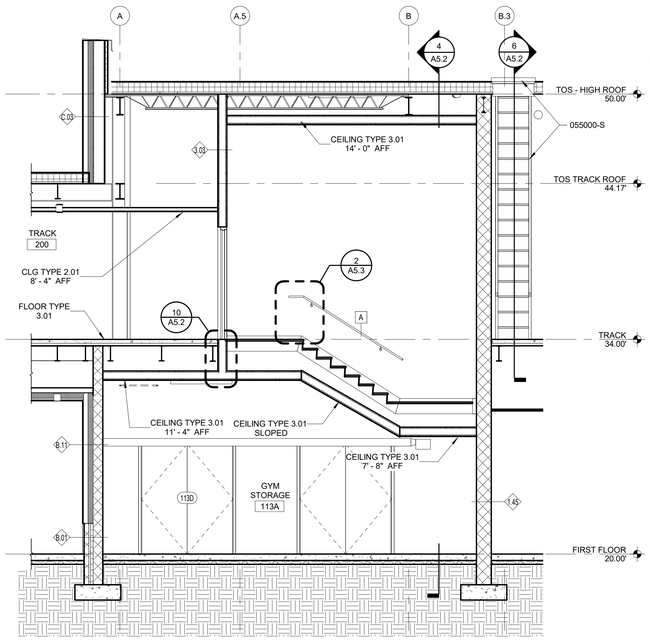
4 A5.2 STAIR SECTION
1/4" = 1'-0"
FROM 1 / A5.2



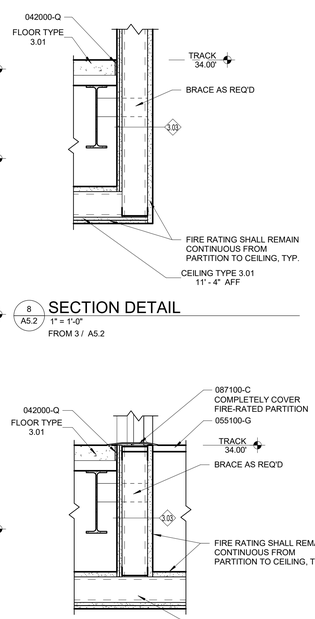
5 A5.2 TYPICAL ELEVATOR LOBBY ELEVATION
1/2" = 1'-0"
FROM 9 / A5.2



6 A5.2 SHIPS LADDER STAIR @ MECH ROOM
1/4" = 1'-0"
FROM 3 / A5.2

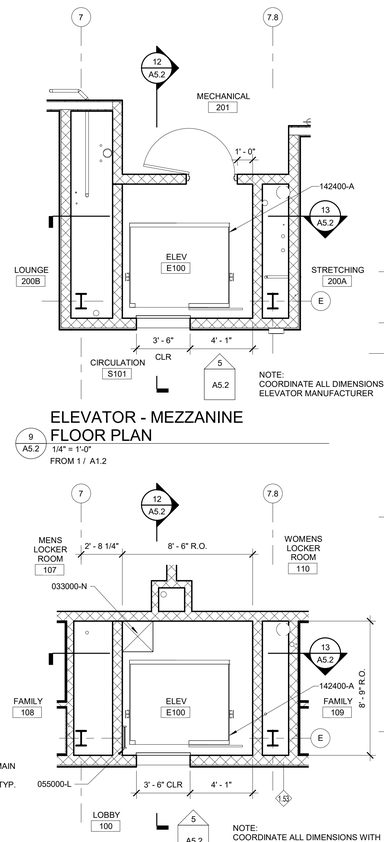


7 A5.2 STAIR SECTION
1/4" = 1'-0"
FROM 1 / A5.2



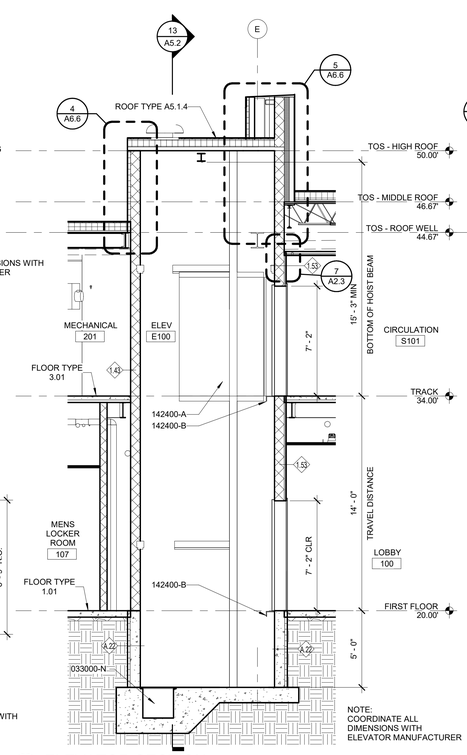
8 A5.2 SECTION DETAIL
1" = 1'-0"
FROM 3 / A5.2

10 A5.2 SECTION DETAIL
1" = 1'-0"
FROM 7 / A5.2

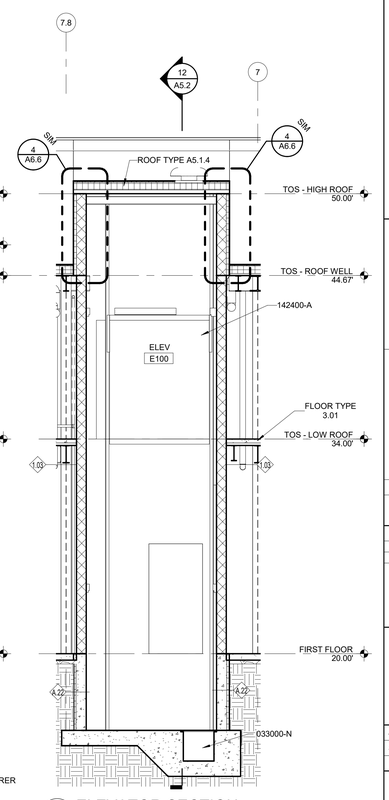


9 A5.2 ELEVATOR - MEZZANINE FLOOR PLAN
1/4" = 1'-0"
FROM 1 / A1.2

11 A5.2 ELEVATOR - FIRST FLOOR PLAN
1/4" = 1'-0"
FROM 1 / A1.1



12 A5.2 ELEVATOR SECTION
1/4" = 1'-0"
FROM 9 / A5.2



13 A5.2 ELEVATOR SECTION
1/4" = 1'-0"
FROM 9 / A5.2

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

033000-N	SUMP PIT (REFER TO STRUCTURAL FOR MORE INFORMATION)
042000-Q	COMPRESSIBLE FILLER
055000-L	ELEVATOR PIT LADDER
055000-S	PREFABRICATED ALUMINUM SHIPS LADDER
055100-G	PERFORATED STEEL RISER, PAINTED
077200-F	ROOF HATCH, SHIPS LADDER ACCESS
087100-C	THRESHOLD
142400-A	HYDRAULIC ELEVATOR
142400-B	SILL ANGLE
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)

4 0 4 8
SCALE OF FEET
1/4" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

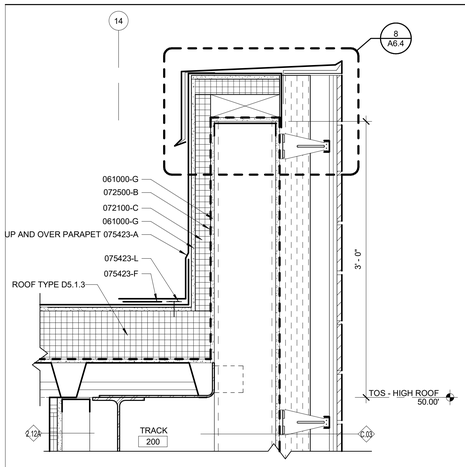
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	AWM	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

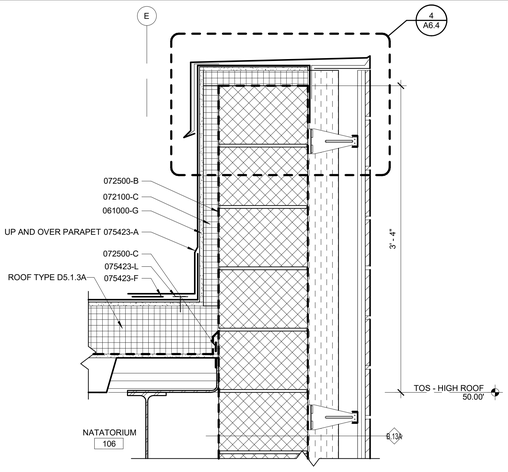
Drawing Title: STAIR AND ELEVATOR PLANS & SECTIONS

Drawing Number: A5.2r2

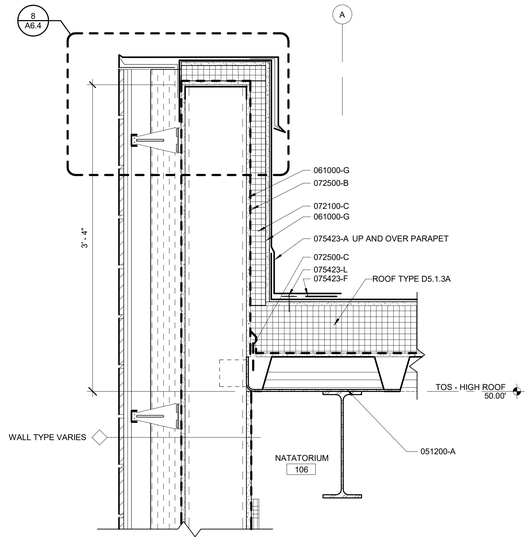
Sheet: Of



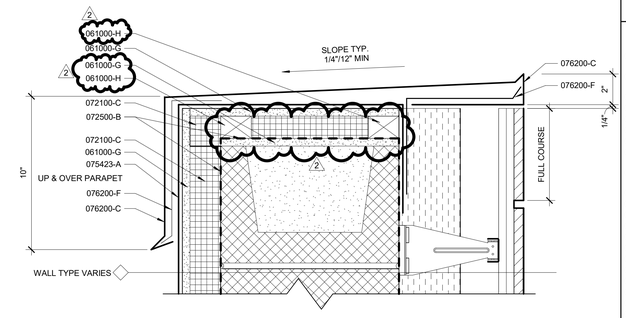
1 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.3



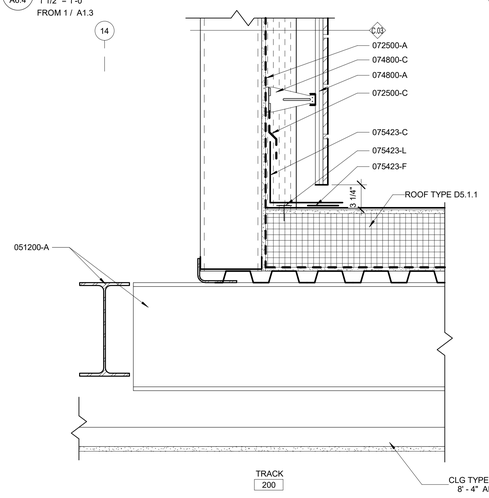
2 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.3



3 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.3



4 A6.4 SECTION DETAIL
3" = 1'-0"
FROM 2 / A6.4



5 A6.4 SECTION DETAIL
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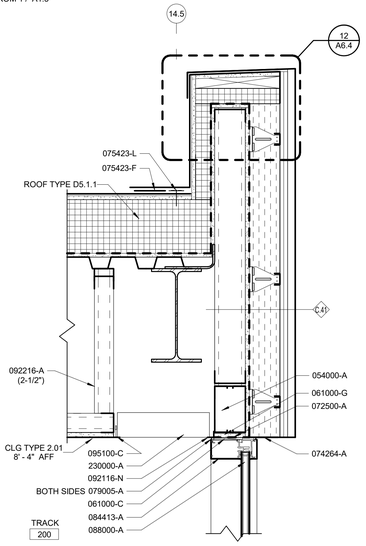
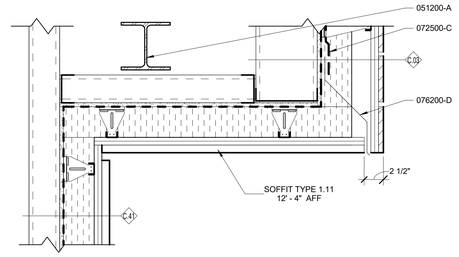
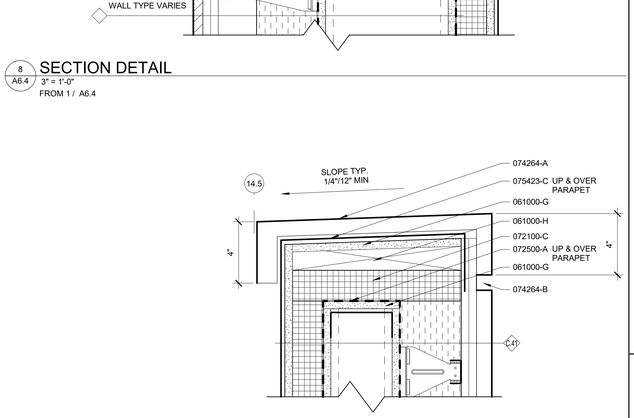
FROM 4 / A4.4



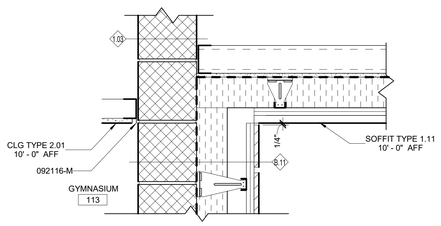
6 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.3



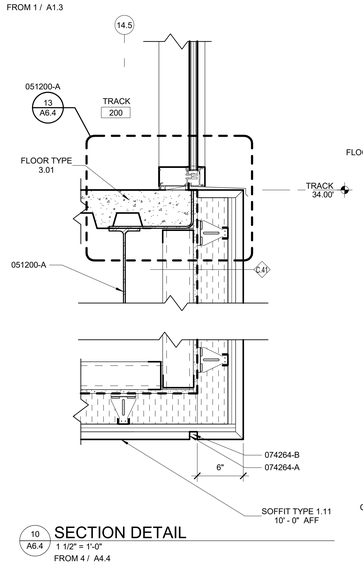
7 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 9 / A4.4



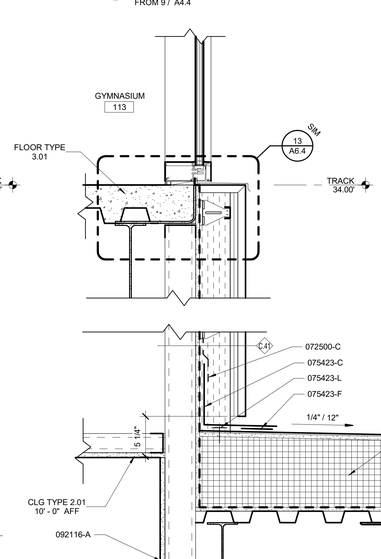
12 A6.4 SECTION DETAIL
3" = 1'-0"
FROM 6 / A6.4



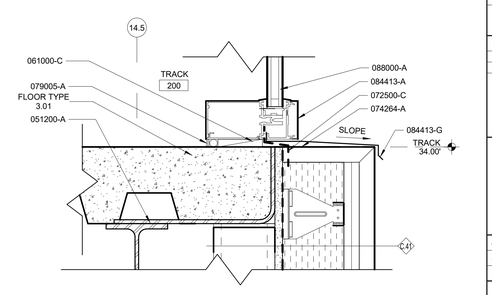
9 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 5 / A4.4



10 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 4 / A4.4



11 A6.4 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.2



8 A6.4 SECTION DETAIL
3" = 1'-0"
FROM 1 / A6.4

13 A6.4 SECTION DETAIL
3" = 1'-0"
FROM 10 / A6.4

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
054000-A	COLD-FORMED STEEL FRAMING, SIZE AS INDICATED
055000-C	STEEL BENT PLATE, SIZE AS INDICATED
061000-C	SHIM
061000-G	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
061000-H	FIRE-RETARDANT TREATED BLOCKING
072100-C	RIGID INSULATION BOARD, 2" THICK UNO
072500-A	VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-B	VAPOR-IMPERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-C	TRANSITION MEMBRANE
074264-A	ALUMINUM COMPOSITE PANEL
074264-B	ALUMINUM COMPOSITE PANEL REVEAL
074800-A	VERTICAL RAIL
074800-C	THERMAL BRACKET
075423-A	TPO ROOFING
075423-B	COVER BOARD
075423-C	TPO FLASHING
075423-F	TPO SPLICE TAPE
075423-L	FASTENER
076200-C	METAL COPING
076200-D	METAL FLASHING
076200-F	CONTINUOUS LOCKING METAL CLEAT
079005-A	JOINT SEALANT AND BACKER ROD
084413-A	GLAZED ALUMINUM CURTAIN WALL
084413-G	BRAKE METAL, FINISH TO MATCH CURTAIN WALL
088000-A	GLAZING, REFER TO A8 SERIES FOR GL TYPE
092116-A	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, 5/8" THICKNESS UNO
092116-M	METAL "F" REVEAL MOLDING, FRY REGLET DRMF 625-50 OR EQUAL
092116-N	METAL CORNER BEAD
092216-A	NON-STRUCTURAL METAL STUD, SIZE AS INDICATED
095100-C	ACOUSTICAL CEILING EDGE TRIM, "L" MOLDING
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)
260000-A	ELECTRICAL (REFER TO ELECTRICAL FOR MORE INFORMATION)

12 6 0 12
SCALE OF INCHES
1 1/2" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 9400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

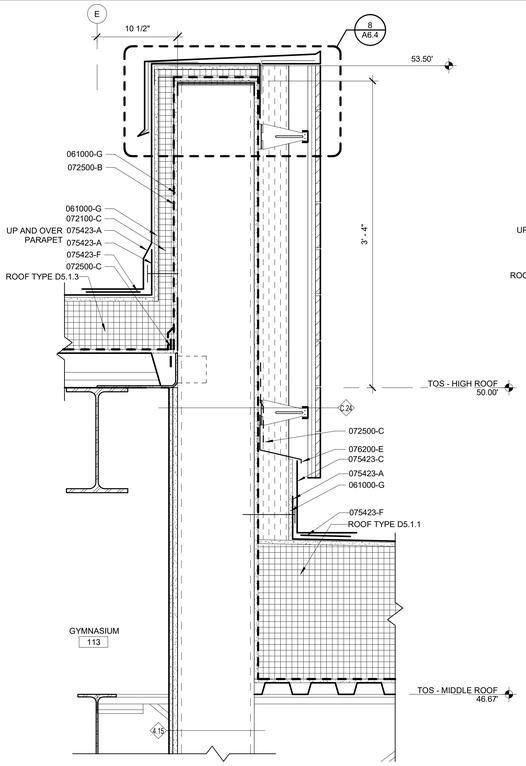
BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	KMS	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

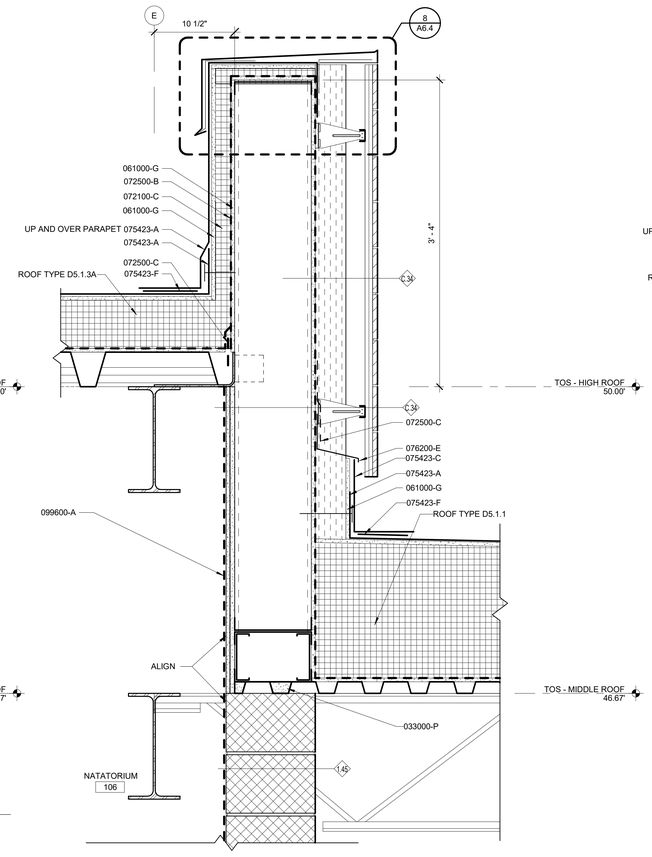
Drawing Title: SECTION DETAILS

Drawing Number: A6.4r2

Sheet: Of



1 A6.5 SECTION DETAIL
1 1/2" = 1'-0"
FROM 1 / A1.3



2 A6.5 SECTION DETAIL
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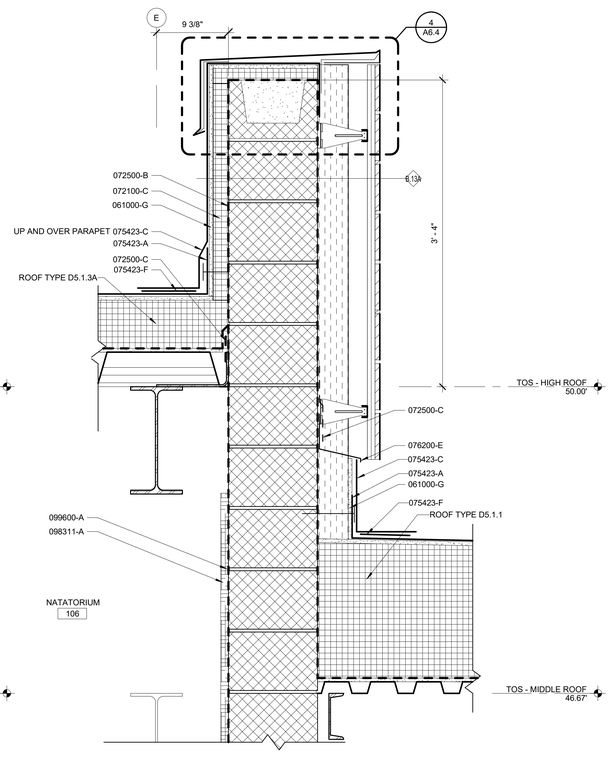
FROM 3 / A4.5



3 A6.5 SECTION DETAIL
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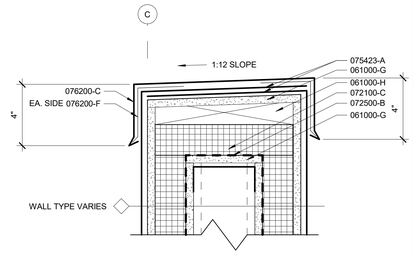
FROM 8 / A4.5

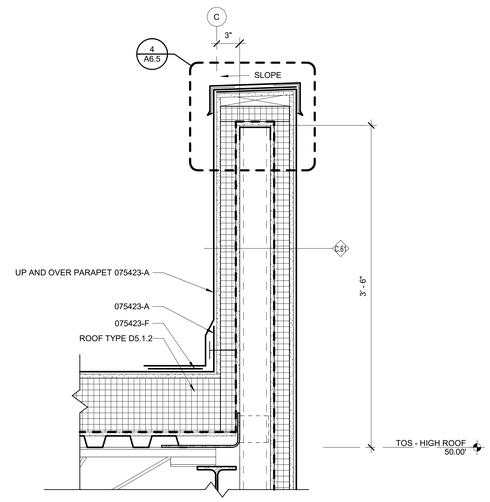


4 A6.5 SECTION DETAIL
3" = 1'-0"
FROM 5 / A6.5

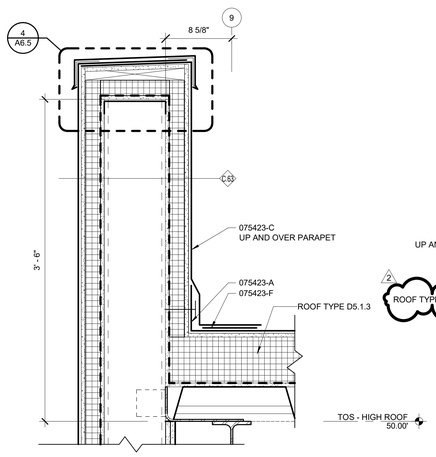
KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

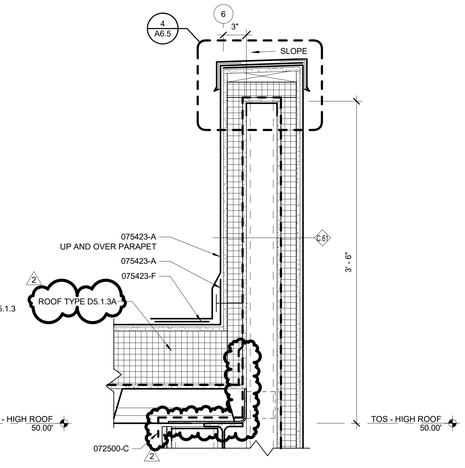
033000-P	NON-SHRINK GROUT
051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
054000-A	COLD-FORMED STEEL FRAMING, SIZE AS INDICATED
061000-G	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
061000-H	FIRE-RETARDANT TREATED BLOCKING
072100-C	RIGID INSULATION BOARD, 2" THICK UNO
072500-A	VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-B	VAPOR-IMPERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-C	TRANSITION MEMBRANE
075423-A	TPO ROOFING
075423-C	TPO FLASHING
075423-F	TPO SPLICE TAPE
076200-C	METAL COPING
076200-E	2-PIECE METAL COUNTER FLASHING
076200-F	CONTINUOUS LOCKING METAL CLEAT
092116-A	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, 5/8" THICKNESS UNO
092116-B	GYPSUM BOARD, MOISTURE RESISTANT TYPE 'XP', 5/8" THICKNESS UNO
098311-A	SHREDDED WOOD ACOUSTIC PANEL; PAINTED PT-1 UNO, 2" THICK UNO
099600-A	MULTI-LAYER IMPERMEABLE SURFACE



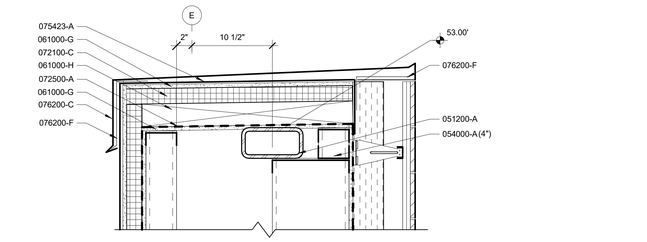
5 A6.5 SECTION DETAIL
1 1/2" = 1'-0"

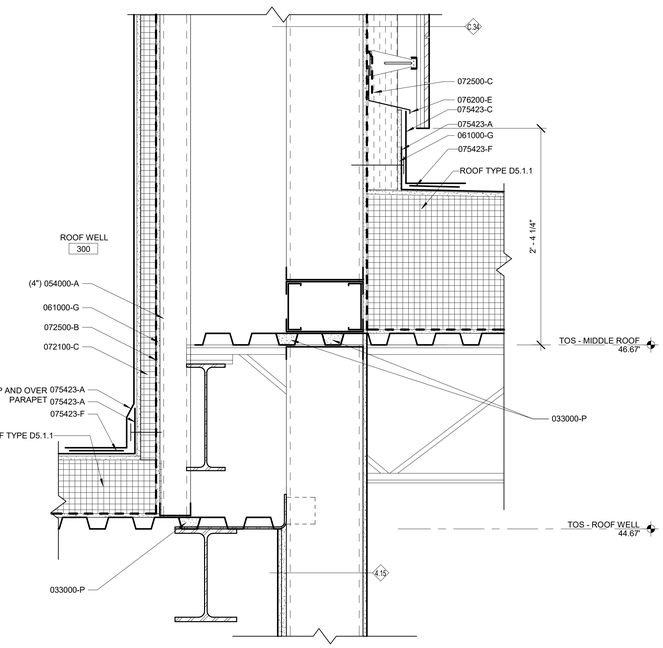


6 A6.5 SECTION DETAIL
1 1/2" = 1'-0"

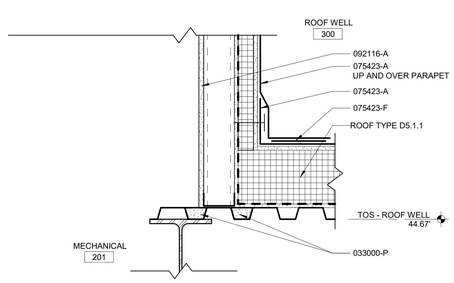


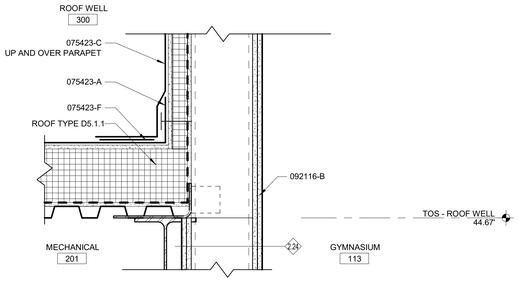
7 A6.5 SECTION DETAIL
1 1/2" = 1'-0"

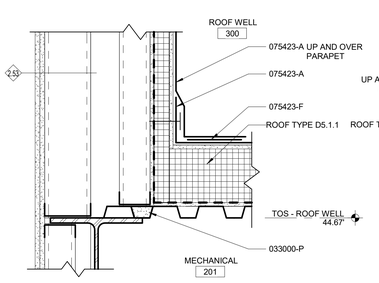




8 A6.5 SECTION DETAIL
1 1/2" = 1'-0"







12 6 0 12
SCALE OF INCHES
1 1/2" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND; LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	KMS	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

Drawing Title: SECTION DETAILS

Drawing Number: A6.5r2

Sheet: Of

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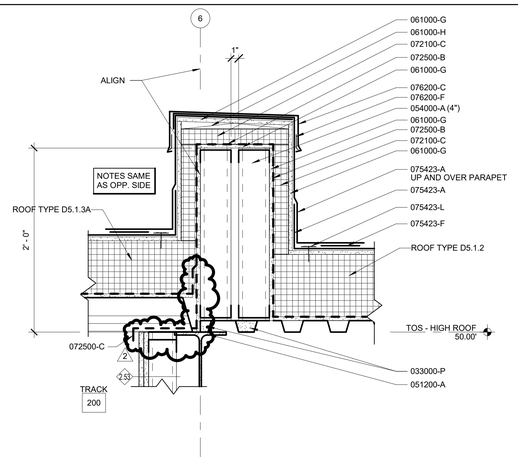
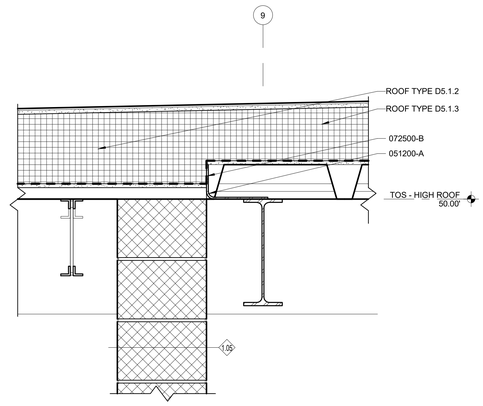


1 A6.7 **SECTION DETAIL**
1 1/2" = 1'-0"
FROM 1 / A1.3



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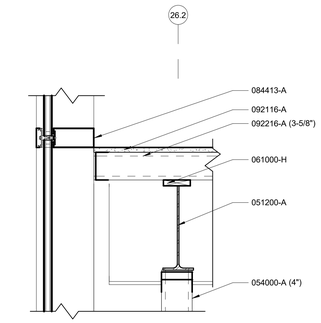
FROM 1 / A4.3



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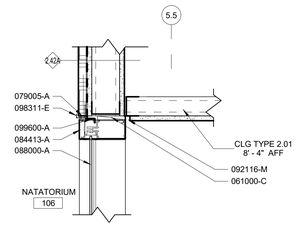
FROM 2 / A4.6



4 A6.7 **SECTION DETAIL**
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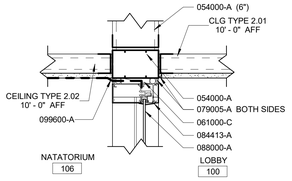

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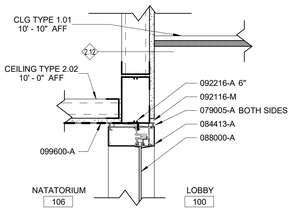
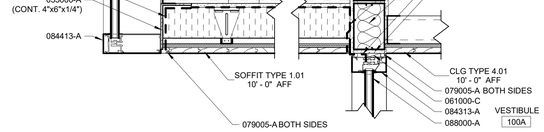
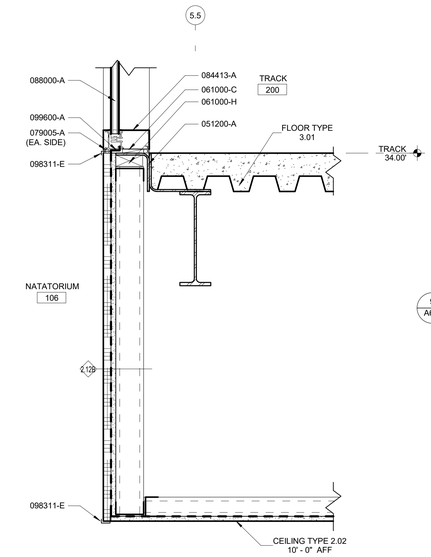
FROM 1 / A2.1



6 A6.7 **SECTION DETAIL**
1 1/2" = 1'-0"
FROM 1 / A2.1



7 A6.7 **SECTION DETAIL**
1 1/2" = 1'-0"
FROM 7 / A4.6



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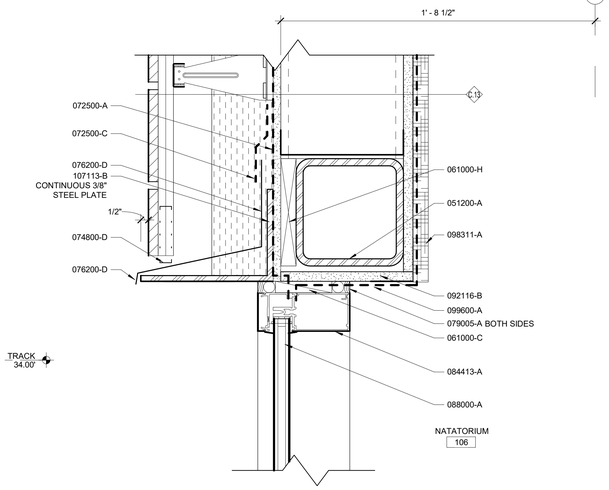
FROM 1 / A4.4



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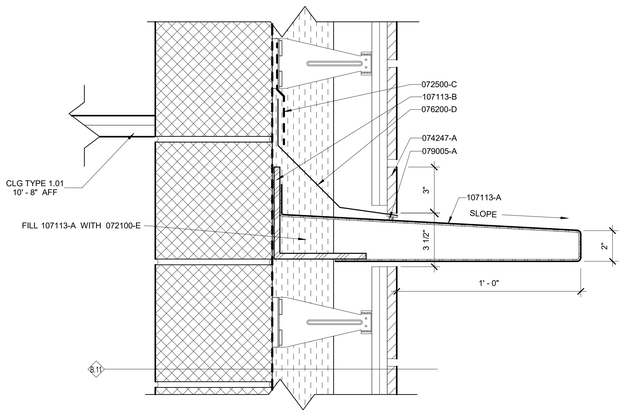
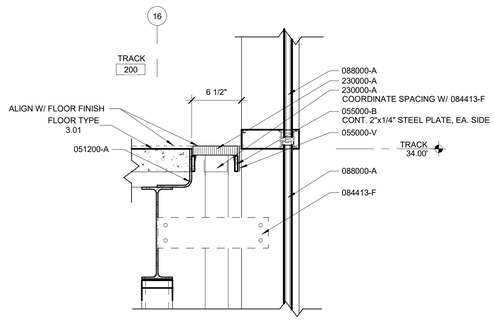
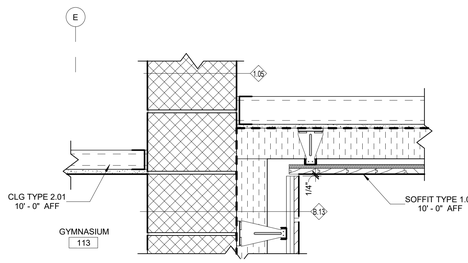
3" = 1'-0"
FROM 11 / A4.5



10 A6.7 **SECTION DETAIL**
3" = 1'-0"
FROM 11 / A4.6



11 A6.7 **SECTION DETAIL**
1 1/2" = 1'-0"



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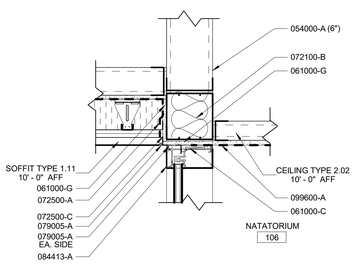
FROM 1 / A4.5



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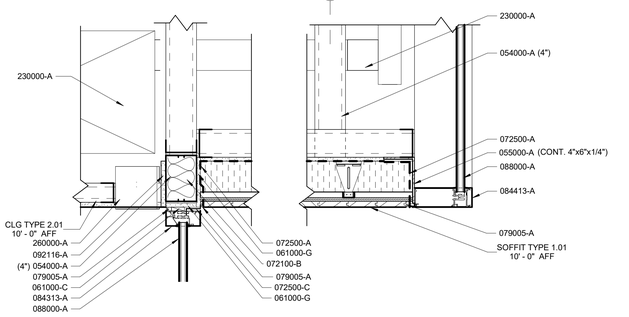
1 1/2" = 1'-0"
FROM 4 / A4.4



14 A6.7 **SECTION DETAIL**
1 1/2" = 1'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

033000-P	NON-SHRINK GROUT
051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
054000-A	COLD-FORMED STEEL FRAMING, SIZE AS INDICATED
055000-A	STEEL ANGLE, SIZE AS INDICATED
055000-B	STEEL PLATE, SIZE AS INDICATED
055000-V	VIBRATION DAMPENING TAPE
061000-C	SHIM
061000-G	EXTERIOR GYPSUM SHEATHING, 1/2" UNO
061000-H	FIRE-RETARDANT TREATED BLOCKING
072100-B	BATT INSULATION, 5 1/2" UNO (OR MAX THICKNESS FOR LOCATION)
072100-C	RIGID INSULATION BOARD, 2" THICK UNO
072100-E	MINERAL WOOL INSULATION BOARD, 4" THICK UNO
072500-A	VAPOR-PERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-B	VAPOR-IMPERMEABLE, AIR/WATER-RESISTIVE BARRIER
072500-C	TRANSITION MEMBRANE
074247-A	CONCRETE PANEL
074800-D	INSECT SCREEN
075423-A	TPO ROOFING
075423-F	TPO SPLICE TAPE
075423-L	FASTENER
076200-C	METAL COPING
076200-D	METAL FLASHING
076200-F	CONTINUOUS LOCKING METAL CLEAT
079005-A	JOINT SEALANT AND BACKER ROD
084313-A	GLAZED ALUMINUM STOREFRONT
084413-A	GLAZED ALUMINUM CURTAIN WALL
084413-F	CURTAIN WALL ANCHOR BRACKET
088000-A	GLAZING, REFER TO A8 SERIES FOR GL TYPE
092116-A	GYPSUM BOARD, ABUSE AND MOISTURE RESISTANT, 5/8" THICKNESS UNO
092116-B	GYPSUM BOARD, MOISTURE RESISTANT TYPE 'XP', 5/8" THICKNESS UNO
092116-M	METAL "F" REVEAL MOLDING, FRY REGLET DRMF 625-50 OR EQUAL
092216-A	NON-STRUCTURAL METAL STUD, SIZE AS INDICATED
098311-A	SHREDDED WOOD ACOUSTIC PANEL; PAINTED PT-1 UNO, 2" THICK UNO
098311-E	ALUMINUM J TRIM
099600-A	MULTI-LAYER IMPERMEABLE SURFACE
107113-A	ALUMINUM PLATE: 1/8" THICK, 3-COAT FLOUROPOLYMER FINISH - COLOR 3 UNO
107113-B	ALUMINUM ANGLE; SIZE AS INDICATED, 3-COAT FLOUROPOLYMER FINISH - COLOR 1 UNO
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)
260000-A	ELECTRICAL (REFER TO ELECTRICAL FOR MORE INFORMATION)

12 6 0 12
SCALE OF INCHES
1 1/2" = 1'-0"

6 3 0 6
SCALE OF INCHES
3" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

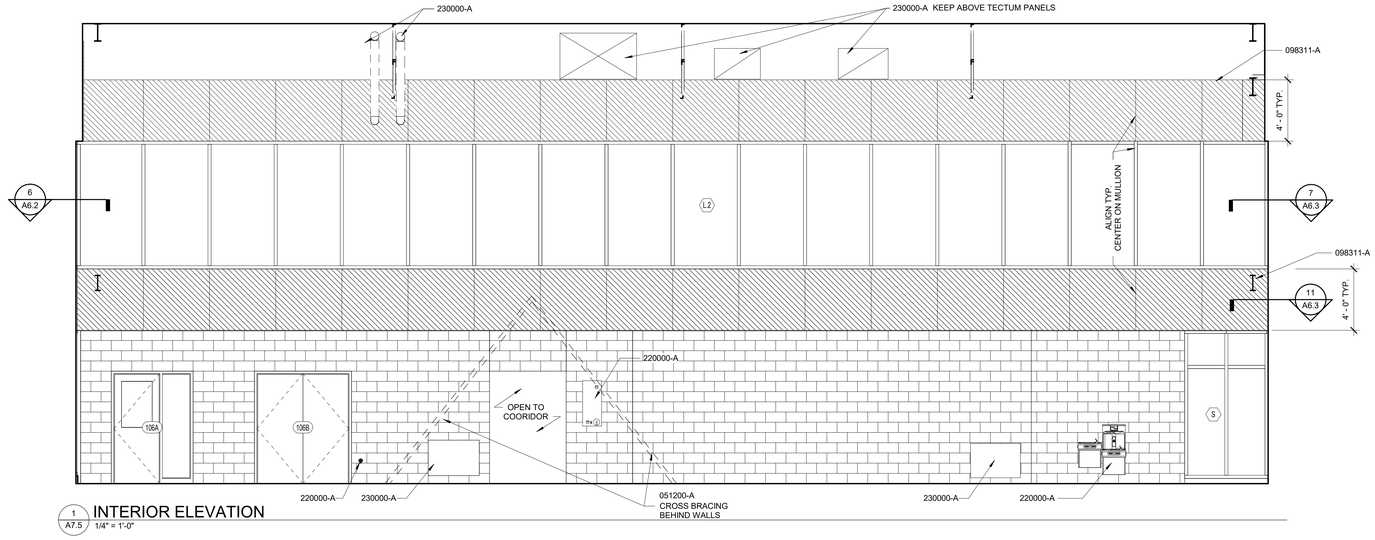
Revisions:

No.	Date	Description
2	1/28/2020	ADDENDUM 2

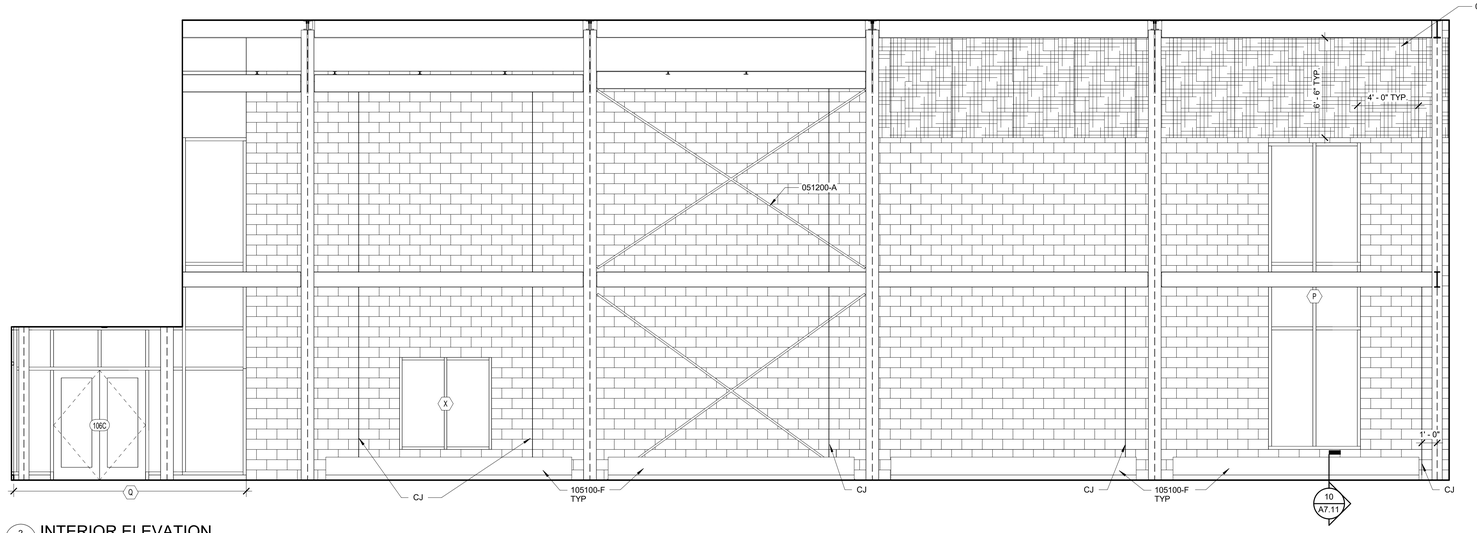
MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

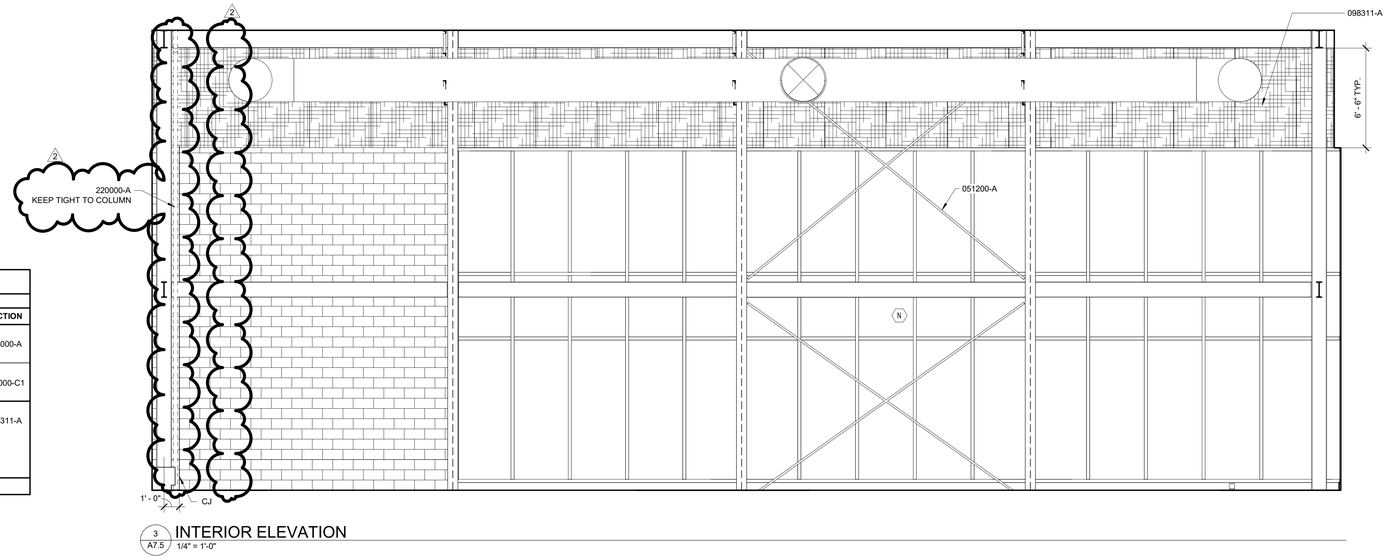
Job No.	#18010	AWM	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved
Drawing Title		Drawing Number	
SECTION DETAILS		A6.7r2	
Sheet			Of



1 A7.5 INTERIOR ELEVATION
1/4" = 1'-0"



2 A7.5 INTERIOR ELEVATION
1/4" = 1'-0"



3 A7.5 INTERIOR ELEVATION
1/4" = 1'-0"

INTERIOR MATERIALS LEGEND

FINISH TYPES

HATCH	MATERIAL DESCRIPTION	MFR/STYLE/COLOR	SECTION
	PORCELAIN TILE	CROSSVILLE RETROACTIVE 2.0, 6X24 COLOR A: ROYAL NAVY PTN COLOR B: SNOW BLIND PTN	093000-A
	GROUND FACE WHERE TAGGED	SEE A9 SERIES	042000-C1
	SHREDDED WOOD ACOUSTIC PANEL	TECTUM FINALE PTD PT-1	098311-A
	SHREDDED WOOD ACOUSTIC PANEL	TECTIUM FINALE PTD PT-3	

NOTE: HATCHES ARE SPECIFIC TO A7 SHEETS ONLY.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

042000-C1	GROUND FACE CMU 1, SIZE AND COLOR AS INDICATED
051200-A	STRUCTURAL STEEL (REFER TO STRUCTURAL FOR MORE INFORMATION)
093000-A	WALL TILE. SEE SCHEDULE
098311-A	SHREDDED WOOD ACOUSTIC PANEL; PAINTED PT-1 UNO, 2" THICK UNO
105100-F	HDPE CUBBIES WITH INTEGRAL BENCH
220000-A	PLUMBING (REFER TO PLUMBING FOR MORE INFORMATION)
230000-A	MECHANICAL (REFER TO MECHANICAL FOR MORE INFORMATION)

GENERAL NOTES

1. AT ALL INTERIOR ELEVATIONS IN FINISH AREAS WITH EXPOSED-STRUCTURE CEILINGS, PENETRATIONS MADE THROUGH WALLS SHALL BE ALIGNED HORIZONTALLY AND VERTICALLY ON A COMMON CENTERLINE AND IN A NEAT AND ORDERLY MANNER. PENETRATIONS INCLUDE, BUT ARE NOT LIMITED TO: DUCTWORK, CONDUIT, AND PIPING.
2. SEE UNIVERSAL INTERIOR ELEVATIONS AT DEVICES DETAIL FOR ADDITIONAL INFORMATION.
3. MECH, ELEC, PLUMBING EQUIPMENT SHOWN FOR REFERENCE ONLY. SEE M, E, P DRAWINGS FOR FULL DESCRIPTION.

4 0 4 8
SCALE OF FEET
1/4" = 1'-0"

ISSUED FOR BID

Seal:

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 8400, EXPIRATION DATE 12/21/2020

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BALTIMORE CITY RECREATION & PARKS

Job No.	#18010	JPB	Drawn
Scale	As indicated	KMS	Checked
Date	12/13/2019	AER	Approved

Drawing Title: INTERIOR ELEVATIONS

Drawing Number: A7.5r2

Sheet: Of

ABBREVIATIONS

@	-	AT, ABOUT	IN.	-	INCH
A.B.	-	ANCHOR BOLTS	INFO.	-	INFORMATION
ADDL.	-	ADDITIONAL	INT.	-	INTERIOR
ADH.	-	ADHESIVE			
ADJ.	-	ADJUST, ADJACENT	JT.	-	JOINT
AGGR.	-	AGGREGATE	JST.	-	JOIST
ALT.	-	ALTERNATE			
ALUM.	-	ALUMINUM	K	-	KIP (1000 LB)
ANC.	-	ANCHOR	KO	-	KNOCKOUT
APPD.	-	APPROVED			
APPROX.	-	APPROXIMATE, APPROXIMATELY	(LO)	-	LOW MEMBER
			L.L.	-	LIVE LOAD
ARCH.	-	ARCHITECTURAL	LB.	-	POUNDS (#)
ASSY.	-	ASSEMBLY	LD.	-	LOAD
AVG.	-	AVERAGE	LG.	-	LENGTH, LONG
			LLH	-	LONG LEG HORIZONTAL
B.O.S.	-	BOTTOM OF STEEL			
B.PL.	-	BASE PLATE	LLV	-	LONG LEG VERTICAL
B.S.	-	BOTH SIDES	LOC.	-	LOCATION
B.W.	-	BOTH WAYS	LVL	-	LEVEL
BET.	-	BETWEEN			
BLDG.	-	BUILDING	MATL.	-	MATERIAL
BLK.	-	BLOCK	MAX.	-	MAXIMUM
BLKG.	-	BLOCKING	MECH.	-	MECHANICAL
BM.	-	BEAM	MED.	-	MEDIUM
BOT.	-	BOTTOM	MET.	-	METAL
BRCG.	-	BRACING	MEZZ.	-	MEZZANINE
BRDG.	-	BRIDGING	MFR'S.	-	MANUFACTURER'S
BRG.	-	BEARING	MFR.	-	MANUFACTURE
BRK.	-	BRICK	MIN.	-	MINIMUM
			MISC.	-	MISCELLANEOUS
CFMF		COLD FORMED METAL FRAMING	MSNRY	-	MASONRY
			MTD.	-	MOUNTED
CIP	-	CAST-IN-PLACE			
C TO C	-	CENTER TO CENTER	N.I.C.	-	NOT IN CONTRACT
C.J.	-	CONSTRUCTION JOINT, CONTROL JOINT	N.S.	-	NEAR SIDE
			N.T.S.	-	NOT TO SCALE
C.J.P.	-	COMPLETE JOINT PENETRATION	NO.	-	NUMBER
CHAM.	-	CHAMFER	O.C.	-	ON CENTER
CHAN.	-	CHANNEL,]	O.D.	-	OUTSIDE DIAMETER
CHKR. PL	-	CHECKER PLATE	O.F.	-	OPPOSITE FACE
			O.H.	-	OPPOSITE HAND
CIR.	-	CIRCLE	OPNG.	-	OPENING
CL.	-	CLEAR, CLEARANCE	OPP.	-	OPPOSITE
CMU	-	CONCRETE MASONRY UNITS	P.P		PARTIAL PENETRATION
COL.	-	COLUMN			
CONC.	-	CONCRETE	P.S.I.	-	POUNDS PER SQUARE INCH
CONN.	-	CONNECTION			
CONST.	-	CONSTRUCTION	PAR.	-	PARALLEL
CONST.	-	CONTINUOUS	PC.	-	PIECE
COORD.	-	CONTRACTOR	PERP.	-	PERPENDICULAR
CRSE.	-	COURSE	PL.	-	PLATE
CSK.	-	COUNTERSINK	PLATF.	-	PLATFORM
CTR	-	CENTER	PR.	-	PAIR
CU. FT.	-	CUBIC FOOT	PREFAB	-	PREFABRICATED
CU. IN.	-	CUBIC INCH			
CU. YD.	-	CUBIC YARD	PSF, P.S.F.	-	POUNDS PER SQUARE FOOT
			PT.	-	POINT
D.L.	-	DEAD LOAD			
DBL.	-	DOUBLE	QTY.	-	QUANTITY
DEG.	-	DEGREE			
DEM.	-	DEMOLISH	R.	-	RADIUS
DET.	-	DETAIL	R.D.	-	ROOF DRAIN
DEV.	-	DEVELOP	R.H.	-	RIGHT HAND
DIA.	-	DIAMETER	R.L.	-	RAIN LEADER
DIAG.	-	DIAGONAL	R.O.	-	ROUGH OPENING
DIM.	-	DIMENSION	RD.	-	ROUND
DK.	-	DECK	REF.	-	REFERENCE
DN.	-	DOWN	REINF.	-	REINFORCING, REINFORCE
DP.	-	DEEP			
DVTL.	-	DOVETAIL	REQD.	-	REQUIRED
DWG.	-	DRAWING	REV.	-	REVISION
DWL.	-	DOWEL	RM.	-	ROOM
E.F.	-	EACH FACE	SCH.	-	SCHEDULE
E.J.	-	EXPANSION JOINT	SECT.	-	SECTION
E.W.	-	EACH WAY	SEP.	-	SEPARATE
E.O.S.	-	EDGE OF SLAB	SHT.	-	SHEET
EA.	-	EACH	SIM.	-	SIMILAR
EL.	-	ELEVATION	SP.(S)	-	SPACE(S)
ELEC.	-	ELECTRICAL	SPEC.	-	SPECIFICATION
ELEV.	-	ELEVATOR	SQ.	-	SQUARE
EMBD.	-	EMBEDMENT	STD.	-	STANDARD
ENGR.	-	ENGINEER	STIFF.	-	STIFFENER
EQ.	-	EQUAL	STIR.	-	STIRRUP
EQUIP.	-	EQUIPMENT	STL.	-	STEEL
EQUIV.	-	EQUIVALENT	STRUCT.	-	STRUCTURAL
EXP.	-	EXPOSED			
EXT.	-	EXTERIOR	SYM.	-	SYMMETRICAL
F.O.M.	-	FACE OF MASONRY	T.	-	TREAD
F.S.	-	FAR SIDE	T&B	-	TOP AND BOTTOM
FDN	-	FOUNDATION	TOS.	-	TOP OF STEEL
FIN.	-	FINISH	TEMP.	-	TEMPERATURE, TEMPORARY
FL.	-	FLOOR			
FLG.	-	FLANGE	THD.	-	THREAD
FRMG.	-	FRAMING	THK.	-	THICK
FT.	-	FOOT	THRU.	-	THROUGH
FTG.	-	FOOTING	TOT.	-	TOTAL
			TRANSV.	-	TRANSVERSE
GA.	-	GAGE	TYP.	-	TYPICAL
GALV.	-	GALVANIZED			
GEN.	-	GENERAL	U.N.O.	-	UNLESS NOTED OTHERWISE
GR.	-	GRADE			
GRTG.	-	GRATING			
GVL.	-	GRAVEL	V.I.F.	-	VERIFY IN FIELD
			VERT.	-	VERTICAL
(H)	-	HIGH MEMBER			
HDR	-	HEADER	W	-	WIDTH
HK.	-	HOOK	w/	-	WITH
HORIZ.	-	HORIZONTAL	w/o	-	WITHOUT
HT.	-	HEIGHT	W.P.	-	WORKING POINT
			WT.	-	WEIGHT
I.D.	-	INSIDE DIAMETER	W.W.F.	-	WELDED WIRE FABRIC
I.F.	-	INSIDE FACE		-	WELDED WIRE REINFOREMENT

SYMBOL LEGEND

ELEVATION SYMBOL

PLAN NORTH

SECTION OR DETAIL NUMBER
ON SHEET DRAWING

NEW GRID LINES

OPENING IN FLOOR OR ROOF

RTU — MECHANICAL ROOF TOP UNITS (RTU)

DIRECTION OF DECK SPAN

TF## — AXIAL TRANSFER FORCE TO BE DEVELOPED IN MEMBER CONNECTION TO COLUMN

L## — LINTEL, SEE SCHEDULE

K## — KICKER, SEE SCHEDULE

SF## — STEPPED FOOTING, SEE DETAIL

##K — END REACTION OF MEMBER FOR SHEAR CONNECTION DESIGN

SLAB STEP

99 — DRAWING REVISION NUMBER

REVISION CLOUD

JOIST BRIDGING. BRIDGING SHALL COMPLY WITH S.J.I. REQUIREMENTS

FIXED END MOMENT CONNECTION.

UNDERGROUND UTILITY PIPING

CENTERLINE

KB — KNEE BRACE

S# — STRUTTED JOIST END

F(NO.) — FOOTING SIZE, SEE SCHEDULE

P(NO.) — PIER SIZE, SEE SCHEDULE

C(NO.) — COLUMN SIZE, SEE SCHEDULE

STRUCTURAL DRAWING LIST

SHEET NO.	SHEET TITLE
S1.0	GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS
S1.1	FIRST FLOOR AND FOUNDATION PLAN
S1.2	MEZZANINE FLOOR & LOW ROOF FRAMING PLANS
S1.3	TRACK ROOF FRAMING PLAN
S1.4	ROOF FRAMING PLAN
S1.5	ADD ALTERNATE - HYDRAULIC DOOR & GYM DIVIDER CURTAIN
S2.1	FRAME ELEVATIONS
S2.2	FRAME ELEVATIONS & WALL ELEVATIONS
S2.3	WALL ELEVATIONS
S3.1	JOIST LOADING DIAGRAMS
S4.1	WALL SECTIONS
S4.2	WALL SECTIONS
S4.3	WALL SECTIONS
S4.4	WALL SECTIONS
S4.5	WALL SECTIONS
S4.6	WALL SECTIONS
S5.1	TYPICAL DETAILS
S5.2	TYPICAL DETAILS
S5.3	TYPICAL DETAILS
S5.4	TYPICAL DETAILS
S6.1	SCHEDULES

COMPONENTS & CLADDING PRESSURES

ROOF PRESSURES	**10 SF**	**50 SF**	**100 SF**
NEGATIVE ZONE 1	-22 PSF	-21 PSF	-20 PSF
NEGATIVE ZONE 2	-37 PSF	-28 PSF	-24 PSF
NEGATIVE ZONE 3	-37 PSF	-28 PSF	-24 PSF
POSITIVE ZONE 1	10 PSF	10 PSF	10 PSF
POSITIVE ZONE 2 & 3	20 PSF	18 PSF	17 PSF
OVERHANG ZONE 1&2	-31 PSF	-30 PSF	-30 PSF
OVERHANG ZONE 3	-31 PSF	-30 PSF	-30 PSF
WALL PRESSURES	**10 SF**	**50 SF**	**100 SF**
NEGATIVE ZONE 4	-22 PSF	-19 PSF	-17 PSF
NEGATIVE ZONE 5	-27 PSF	-21 PSF	-17 PSF
POSITIVE ZONE 4 & 5	20 PSF	17 PSF	15 PSF
PARAPET PRESSURES	**10 SF**	**50 SF**	**100 SF**
CASE A: INTER. ZONE	51 PSF	35 PSF	33 PSF
CASE A: CORNER ZONE	51 PSF	35 PSF	33 PSF
CASE B: INTER. ZONE	-36 PSF	-30 PSF	-25 PSF
CASE B: CORNER ZONE	-41 PSF	-32 PSF	-25 PSF

NOTES:
1. ALL WIND DESIGN LOADS TO BE DETERMINED AND APPROVED BY A REGISTERED DESIGN PROFESSIONAL FOR COMPONENTS AND CLADDING NOT DESIGNED BY THE ENGINEER OF RECORD.
2. VALUES GIVEN ABOVE ARE NOMINAL WIND PRESSURES(ASD VALUES).

GENERAL NOTES

1. DESIGN LOADS:
   - A. LIVE LOADS:
     - a. ROOF = 30 P.S.F. + APPLICABLE SNOW DRIFT.
     - b. ALL SECOND FLOOR [EXCEPT MECH. ROOM] = 100 P.S.F.
     - c. MECHANICAL ROOMS = 125 P.S.F.
     - d. FIRST FLOORS = 100 P.S.F.
     - e. STAIRS/RUNNING RAMP = 100 P.S.F.
   - B. DEAD LOADS:
     - a. ALL ROOFS EXCEPT HIGH ROOF = 30 P.S.F.
     - b. HIGH ROOF = 35 P.S.F.
     - c. SUPERIMPOSED DEAD LOAD ON DECK = 17 P.S.F.
   - C. WIND LOAD DESIGN PARAMETERS:
     - a. V_{ult}=120 MPH, Vasd=93 MPH
     - b. WIND EXPOSURE C,
     - c. I_w = 1.00,
     - d. RISK CATEGORY = III,
     - e. G_{cpi} = 0.18
     - f. SEE THIS SHEET FOR COMPONENTS & CLADDING.
   - D. SNOW LOAD DESIGN PARAMETERS:
     - a. P_g = 30 P.S.F.,
     - b. C_e = 0.9,
     - c. RISK CATEGORY = III,
     - d. I_s = 1.1,
     - e. C_t = 1.00,
     - f. P_f = 18.9 P.S.F., Pf (MIN.)= 30 P.S.F.
   - E. SEISMIC LOAD DESIGN PARAMETERS:
     - a. S_1 = 0.128,
     - b. S_s = 0.051,
     - c. SITE CLASS = E,
     - d. S_{DS} = 0.214,
     - e. S_{D1} = 0.120,
     - f. USE GROUP II,
     - g. RISK CATEGORY = III,
     - h. I_e = 1.25,
     - i. DESIGN CATEGORY B,
     - j. R = 3.0, Ω_o = 3.0,
     - k. C_d = 3.0
     - l. DESIGN BASE SHEAR, V = 0.089W
     - m. BASIC STRUCTURAL/SEISMIC SYSTEMS: STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE; PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE.

2. STANDARDS & DESIGN STRESSES:
   - A. CONCRETE SPECIFICATION - ACI 318 & ACI 301. CONCRETE SHALL HAVE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE FOLLOWING:
     - a. 4000 P.S.I. NORMAL WEIGHT CONCRETE FOR ALL SLAB ON GRADE & ELEVATED FLOORS.
     - b. 3000 P.S.I. CONCRETE FOR ALL OTHER WORK.
   - B. REINFORCING BARS - A615, GRADE 60. EPOXY COATED FOR REINFORCEMENT BELOW SLAB LEVEL.
   - C. WIRE MESH - ASTM A185 (FLAT SHEETS FOR ELEVATED SLAB ON DECK)
   - D. STRUCTURAL STEEL -
     - a. AISC MANUAL OF STEEL CONSTRUCTION AND SPECIFICATIONS, 14TH ED. & AWS D1.1.
     - b. STRUCTURAL ASTM A-36 FOR W6, CHANNELS, ANGLES & PLATES.
     - c. ALL OTHER STRUCTURAL STEEL - ASTM A-992, GRADE 50.
     - d. STRUCTURAL STEEL PIPE - ASTM A-53, TYPE S, GRADE B.
     - e. STRUCTURAL STEEL TUBING - ASTM A-500, GRADE B.
   - E. COLD FORMED STEEL STUDS - AISI, SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS A.W.S.-D1.3 ASTM A 653, YIELD STRENGTH:
     - a. 50 K.S.I. 16 GA. & HEAVIER
     - b. 37 K.S.I. 18 GA.
     - c. 33 K.S.I. 20 GA.
     - d. FINISH: HOT-DIP GALVANIZED (G-60) PER ASTM A924.
   - F. BOLTS - ASTM A325 UNLESS NOTED OTHERWISE.
   - G. ANCHOR BOLTS - ASTM A1554, Grade 36 UNLESS NOTED OTHERWISE.
   - H. WELDING ELECTRODES - E70XX LOW HYDROGEN AS PER WELDING PROCEDURE RECOMMENDATION FOR EXISTING.
   - I. SHEAR STUDS - ASTM A108, & AWS D 1.1.
   - J. STEEL DECK - STEEL DECK INSTITUTE STANDARD SPECIFICATIONS.
   - K. STEEL JOIST - STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS.
   - L. MASONRY - BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES ACI 530-88/ASCE 5-88.
     - a. HOLLOW CONCRETE BLOCK -ASTM C90 -GRADE N-1 f'm =1500 PSI
     - b. SOLID CONCRETE BLOCK - ASTM C90 -GRADE N-1 f'm =1500 PSI
     - c. MORTAR - ASTM C270 - Type S
     - d. GROUT - ASTM C476 - f'g = 2500 PSI
   - M. THE INTERNATIONAL BUILDING CODE 2015.

3. DRAWINGS:
   THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SHALL PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE DRAWINGS. IF THERE ARE ANY QUESTION AS TO WHICH MATERIAL TO USE, THE CONTRACTOR MUST CHOOSE THE MATERIAL OF HIGHER QUALITY. EQUIPMENT LOCATIONS AND WEIGHTS ARE INDICATED FROM INFORMATION PROVIDED BY OTHER CONSULTANT. BEFORE PREPARATION OF SHOP DRAWINGS AND FIELD INSTALLATION, CONTRACTOR TO VERIFY EQUIPMENT LOCATIONS AND WEIGHTS, AND NOTIFY THE ENGINEER OF ANY DISCREPANCY.

4. FOUNDATIONS AND EARTH WORK:.
   - A. ELEVATIONS FOR FOUNDATIONS HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED.
   - B. ALL FOOTINGS SHALL BEAR ON IMPROVED SURCHARGED FILL AND ARE DESIGNED FOR A SOIL BEARING PRESSURE OF 2,000 P.S.F. AS RECOMMENDED IN GEOTECHNICAL REPORT [COMM NO. 16046.009] BY RUMMEL, KLEPPER & KAHL, LLP DATED DECEMBER 20, 2018.
   - C. DURING CONSTRUCTION, THE SOIL BEARING CONDITIONS AND ALLOWABLE SOIL BEARING PRESSURE MUST BE EXAMINED AND APPROVED BY A GEOTECHNICAL ENGINEER.
   - D. SHOULD IT BE FOUND NECESSARY TO VARY THE ELEVATIONS GIVEN TO SATISFY THE FOREGOING REQUIREMENTS, THE ARCHITECT, STRUCTURAL AND GEOTECHNICAL ENGINEER SHALL BE NOTIFIED BEFORE PROCEEDING WITH THE WORK.
   - E. ALL OVER EXCAVATION AND DISTURBED EARTH UNDER FOOTING SHALL BE REPLACED WITH LEAN CONCRETE (2,000 PSI) APPROVED BY GEOTECHNICAL ENGINEER.
   - F. FILL DIFFERENTIALS ON EITHER SIDE OF FOUNDATION WALLS SHALL NOT EXCEED 12".
   - G. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL FOUNDATION, FILL, COMPACTION, INSPECTION AND OTHER INFORMATION.
   - H. CONTRACTOR SHALL ADEQUATELY PROTECT ALL WALLS DURING BACKFILL OPERATIONS.

5. CONCRETE:
   - A. ALL REINFORCEMENT BELOW SLAB-ON-GRADE LEVEL SHOULD BE EPOXY COATED.
   - B. ALL EXPOSED CONCRETE WORK SHALL HAVE 5% - 7% AIR ENTRAINMENT.
   - C. CHAMFER ALL EXPOSED CORNERS OF FORMED CONCRETE - 3/4".
   - D. SUBMIT SHOP DRAWINGS FOR FABRICATION, BENDING, AND PLACEMENT FOR CONCRETE REINFORCEMENT, SHOWING BAR SCHEDULE STIRRUP SPACING, DIAGRAMS OF BENT BARS, ARRANGEMENT OF CONCRETE REINFORCEMENT INCLUDING SECTIONS AND DETAILS. PROVIDE ACCESSORIES AS REQUIRED.
   - E. UNLESS NOTED, ALL SPLICES IN REINFORCEMENT TO LAP MINIMUM 44x BAR DIAMETERS.
   - F. PROVIDE BOLSTERS OR CHAIRS FOR SLAB REINFORCEMENT SUPPORT.

6. STRUCTURAL STEEL, STEEL DECK & STEEL JOIST:
   - A. CONNECTIONS FOR STRUCTURAL STEEL SHALL BE SHOP WELDED. FIELD CONNECTIONS SHALL BE 3/4" DIAMETER A325 BOLTS UNLESS SHOWN OTHERWISE.
   - B. DESIGN HANGER CONNECTION WITH A SAFETY FACTOR OF 2.0. DETERMINE COMPOSITE STEEL BEAM REACTIONS FROM AISC MANUAL "TOTAL ALLOWABLE UNIFORM LOAD" USING A FACTOR OF 1.70.
   - C. STEEL JOIST MANUFACTURER TO BE A MEMBER OF THE STEEL JOIST INSTITUTE.
   - D. STEEL DECK MANUFACTURER TO BE A MEMBER OF THE STEEL DECK INSTITUTE.
   - E. ALL STRUCTURAL STEEL AND STEEL JOISTS TO RECEIVE ONE COAT OF MANUFACTURER'S STANDARD PAINT.
   - F. ALL DECKS SHALL BE GALVANIZED.
   - G. ALL STEEL EXPOSED TO WEATHER SHALL BE GALVANIZED.
   - H. FOR ALL DECKS, FOLLOW MANUFACTURES RECOMMENDATION FOR CONSTRUCTION LOADS.
   - I. REFER TO MANUFACTURER'S RECOMMENDATION FOR DECK SHORING REQUIREMENT DURING CONSTRUCTION.
   - J. CONSTRUCTION LOADS IN EXCESS OF 20 P.S.F. SHALL NOT BE PLACED ON FLOOR SLAB UNTIL CONCRETE HAS ATTAINED ITS DESIGN STRENGTH.
   - K. STEEL BEAMS SHALL BE FABRICATED AND ERECTED WITH CAMBER UP.
   - L. STEEL DECK SHALL BE CUT AS REQUIRED TO FIT AROUND OPENINGS, COLUMNS, BEAM TO COLUMN CONNECTION, PLATE AND OTHER MATERIAL ON TOP OF BEAM.

7. COLD-FORMED METAL FRAMING (CFMF):
   - A. ALLOW ADJUSTMENT FOR CONNECTIONS BETWEEN STUD FRAMING AND OTHER TRADES, SHAPES, ETC.
   - B. EXTERIOR WALL: PROVIDE 6" STEEL STUDS, UNLESS NOTED OTHERWISE. ACTUAL SIZE AND SPACING SHALL BE DETERMINED BY THE COLD FORMED METAL DESIGN ENGINEER, BUT SPACING SHALL NOT EXCEED 16" ON CENTER. ALL CONNECTIONS FOR COLD FORMED METAL FRAMING SHALL BE DESIGNED BY THE COLD FORMED METAL DESIGN ENGINEER.

8. MASONRY:
   - A. ALL SOLID MASONRY PIERS SHALL BE BONDED TO ADJACENT MASONRY.
   - B. FILL CELLS OF CMU SOLID WITH MORTAR IN COURSE DIRECTLY BELOW ALL CHANGES IN THICKNESS OF WALL.
   - C. UNLESS NOTED, ALL VERTICAL REBARS ARE PLACED AT THE CENTER LINE OF THE CMU WALL. PROVIDE REBAR POSITIONER FOR ALL REINFORCEMENT IN CMU WALLS.
   - D. FILL CMU WITH GROUT AT ALL REINFORCEMENT.

9. ANCHORS IN CONCRETE AND MASONRY:
   - A. POST INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON STRUCTURAL DRAWINGS.
   - B. THE INSTALLATION OF POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS SHALL BE APPROVED BY THE ENGINEER OF RECORD.
   - C. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
   - D. SUBMITTAL OF ALL PROPOSED PRODUCTS, WITH TECHNICAL DATA AND CURRENT ICC-ESR REPORTS IS REQUIRED FOR REVIEW AND APPROVAL BY EOR. ADDITIONAL APPLICATION CALCULATIONS MAY BE REQUIRED BY THE EOR.
   - E. ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWING.
   - F. THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND MADE AVAILABLE TO THE EOR/IOR AS REQUESTED
   - G. THE FOLLOWING MANUFACTURER'S HAVE BEEN PRE-APPROVED FOR SUBMITTAL.
     - a. DEWALT/POWERS FASTENERS
     - b. HILTI INC.
     - c. SIMPSON
   - H. CONCRETE ANCHORS:
     - a. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.
     - b. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC308 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.
     - c. PRE-APPROVED ADHESIVE ANCHORS INCLUDE: CAST-IN-PLACE INSERTS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC446 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE RECOGNITION.
   - I. MASONRY ANCHORS:
     - a. MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106.
     - b. ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58.
   - J. POWER ACTUATED FASTENERS:
     - a. POWER ACTUATED FASTENERS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70.

10. SHOP DRAWINGS:
    SHOP DRAWINGS OF STRUCTURAL STEEL, STEEL JOISTS, STEEL DECK, REINFORCING BARS AND COLD FORMED METAL FRAMING SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, AND SUCH REVIEW SHALL BE SECURED BEFORE FABRICATION IS BEGUN. ALL SHOP DRAWINGS SHOULD BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR BEFORE FORWARDING TO THE ENGINEER. ALL REVISIONS TO SHOP DRAWINGS SHOULD BE CLEARLY IDENTIFIED BY CLOUDS AND REVISION MARKS.

11. INSPECTION AND NOTIFICATION:
    - A. ALL STRUCTURAL WORK SHOULD BE INSPECTED AND TESTED BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, CHAPTER 17.
    - B. CONCRETE SHALL BE SAMPLED AND TESTED ACCORDING TO ACI 301, AND THE RESULTS OF THE TESTS SHALL BE FORWARDED TO THE ENGINEER FOR REVIEW.
    - C. ALL REINFORCEMENT IN-PLACE, STRUCTURAL STEEL, STEEL JOIST, STEEL DECK, AND COLD-FORMED METAL FRAMING SHALL BE INSPECTED BY AN INDEPENDENT INSPECTION AGENCY APPROVED BY THE ENGINEER, AND THE RESULTS SHALL BE FORWARDED TO THE ENGINEER PRIOR TO COVERING WORK. INSPECTOR TO REVIEW STRUCTURAL WORKS IN PLACE FOR COMPLIANCE WITH CONTRACT DOCUMENTS, SPECIFICATION AND SHOP DRAWINGS. IN CASE OF CONFLICTING INFORMATION, CONSULT STRUCTURAL ENGINEER FOR CLARIFICATION.
    - D. NOTIFY ENGINEER FOR REVIEW OF REINFORCEMENT IN-PLACE PRIOR TO POURING ANY CONCRETE.
    - E. PERFORM FIELD DENSITY TESTS FOR COMPACTED FILL UNDER SLABS ON GRADE IN ACCORDANCE WITH GEOTECHNICAL REPORT BY AN APPROVED GEOTECHNICAL ENGINEER AND FORWARD THE RESULTS TO THE ENGINEER FOR REVIEW PRIOR TO PLACING CONCRETE.
    - F. FAISANT ASSOCIATES, INC WILL NOT PERFORM THE REQUIRED THIRD PARTY INSPECTION AS PART OF HIS/HER DESIGN SERVICE. THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH INSPECTION SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHALL IT BE CONSTRUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT, UNLESS THE ENGINEER SPECIFICALLY SO STATES IN WRITING.
    - G. FAISANT ASSOCIATES, INC. WILL NOT BE RESPONSIBLE FOR JOB SITE SAFETY AND CONSTRUCTION MEANS AND METHODS.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

FAISANT ASSOCIATES, INC.
Consulting Structural Engineers

Seal:

GWWO INC.
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BALTIMORE, MARYLAND 21231, 410-332-1009

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I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 15236, EXPIRATION DATE 01/16/2021

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	As indicated	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS

Drawing Number: S1.0r2

Sheet: Of

F-1823

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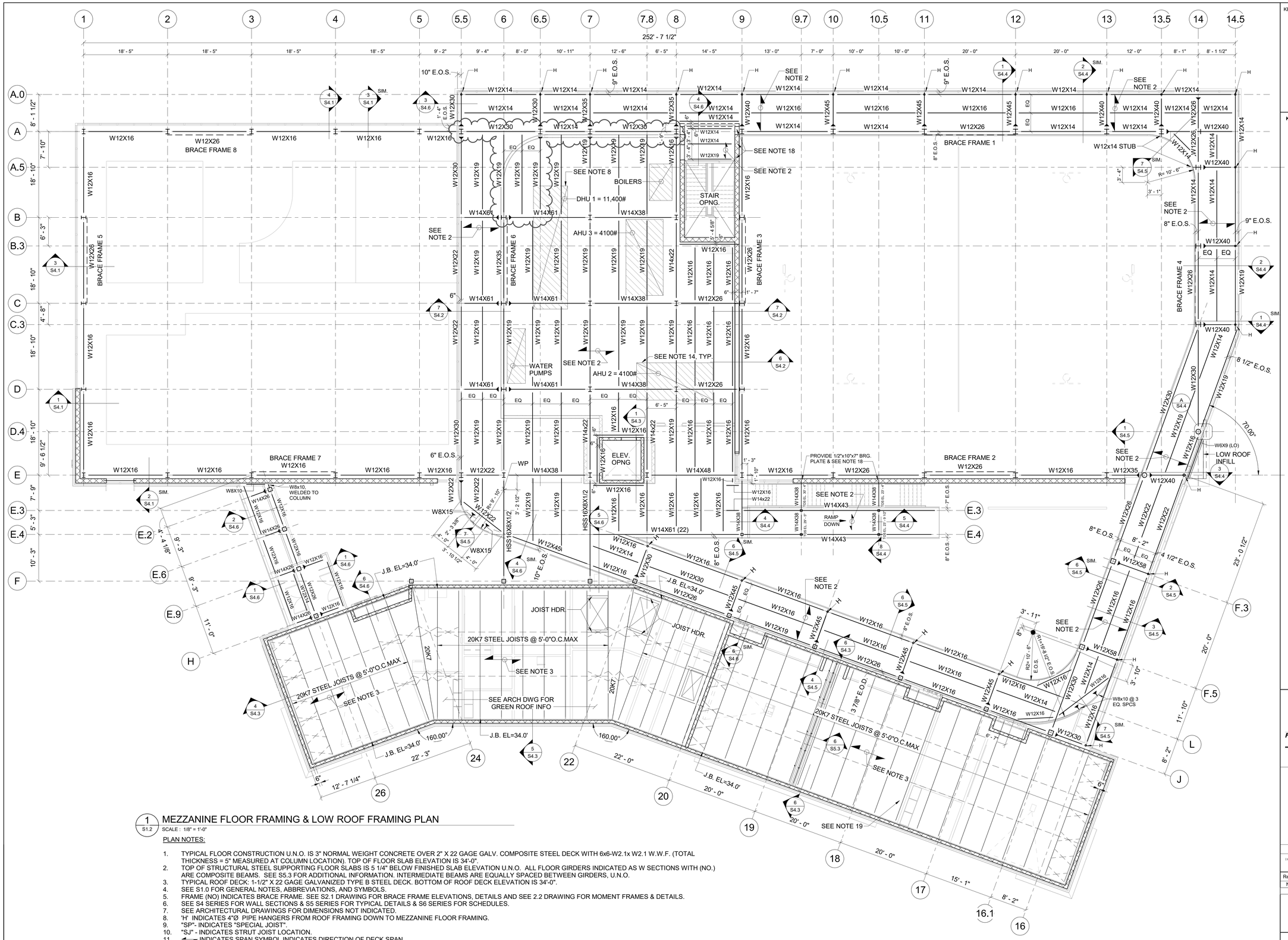

1 MEZZANINE FLOOR FRAMING & LOW ROOF FRAMING PLAN

S1.2 SCALE : 1/8" = 1'-0"

PLAN NOTES:

1. TYPICAL FLOOR CONSTRUCTION U.N.O. IS 3" NORMAL WEIGHT CONCRETE OVER 2" X 22 GAGE GALV. COMPOSITE STEEL DECK WITH 6x6-W2.1x W2.1 W.W.F. (TOTAL THICKNESS = 5" MEASURED AT COLUMN LOCATION). TOP OF FLOOR SLAB ELEVATION IS 34'-0".
2. TOP OF STRUCTURAL STEEL SUPPORTING FLOOR SLABS IS 5 1/4" BELOW FINISHED SLAB ELEVATION U.N.O. ALL FLOOR GIRDERS INDICATED AS W SECTIONS WITH (NO.) ARE COMPOSITE BEAMS. SEE S5.3 FOR ADDITIONAL INFORMATION. INTERMEDIATE BEAMS ARE EQUALLY SPACED BETWEEN GIRDERS, U.N.O.
3. TYPICAL ROOF DECK: 1-1/2" X 22 GAGE GALVANIZED TYPE B STEEL DECK. BOTTOM OF ROOF DECK ELEVATION IS 34'-0".
4. SEE S1.0 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.
5. FRAME (NO) INDICATES BRACE FRAME. SEE S2.1 DRAWING FOR BRACE FRAME ELEVATIONS, DETAILS AND SEE 2.2 DRAWING FOR MOMENT FRAMES & DETAILS.
6. SEE S4 SERIES FOR WALL SECTIONS & S5 SERIES FOR TYPICAL DETAILS & S6 SERIES FOR SCHEDULES.
7. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
8. 'H' INDICATES 4"Ø PIPE HANGERS FROM ROOF FRAMING DOWN TO MEZZANINE FLOOR FRAMING.
9. "SP"- INDICATES "SPECIAL JOIST".
10. "SJ" - INDICATES STRUT JOIST LOCATION.
11. ◄► INDICATES SPAN SYMBOL INDICATES DIRECTION OF DECK SPAN.
12. ►— INDICATES MOMENT CONNECTION. SEE S5.3 FOR ADDITIONAL INFO.
13. INDICATES ROOFTOP EQUIPMENT. SEE MECHANICAL DRAWINGS FOR LOCATIONS & SIZES OF FLOOR, ROOF, & WALL PENETRATIONS. SEE S5.2 FOR DETAILS. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR OPENING AND RTU SIZES AND LOCATIONS. CONTRACTOR SHALL COORD. ROOF JOIST LOC. WITH RTU CURB & OPNG. REQUIREMENTS.
14. INDICATES JOIST BRIDGING. BRIDGING SHALL COMPLY WITH S.J.I. REQUIREMENTS. SEE 4/S4.3 INDICATES CROSS BRACING @ 4'-0" O.C. MAXIMUM, U.N.O., FOR LATERAL WALL BRACING. SEE 10/S5.2 FOR JOIST BRIDGING.
15. INDICATES STRUCTURAL MASONRY WALLS.
16. INDICATES OPENING, SEE 2/S5.2 FOR ADDITIONAL INFORMATION. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION, U.N.O.
17. LINTELS - SEE DRAWING S2.3. SEE LINTEL SCHEDULE NOTES ON S5.4 FOR REQUIREMENTS AT CMU WALLS AND MISCELLANEOUS MECHANICAL WALL OPENINGS.
18. PROVIDE 1/2"x7"x7" BEARING PLATE AT STEEL BEAM BEARINGS UNLESS NOTED OTHERWISE ON PLAN & SEE 6/S5.4 FOR DETAIL.
19. (No.) SHOWN AT MEMBER ENDS INDICATES END REACTION IN KIPS. IF NO REACTION IS INDICATED, PROVIDE CONNECTION WITH A CAPACITY OF NOT LESS THAN 12 KIPS.
20. J.B. EL. X'-X" - INDICATES TOP OF JOIST BEARING ELEVATION REFERENCED TO THE 20'-0" TOP OF SLAB-ON-GRADE ELEVATION.

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

SCALE OF FEET
1/8" = 1'-0"

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Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	1/8" = 1'-0"	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: MEZZANINE FLOOR & LOW ROOF FRAMING PLANS

Drawing Number: S1.2r2

Sheet: Of

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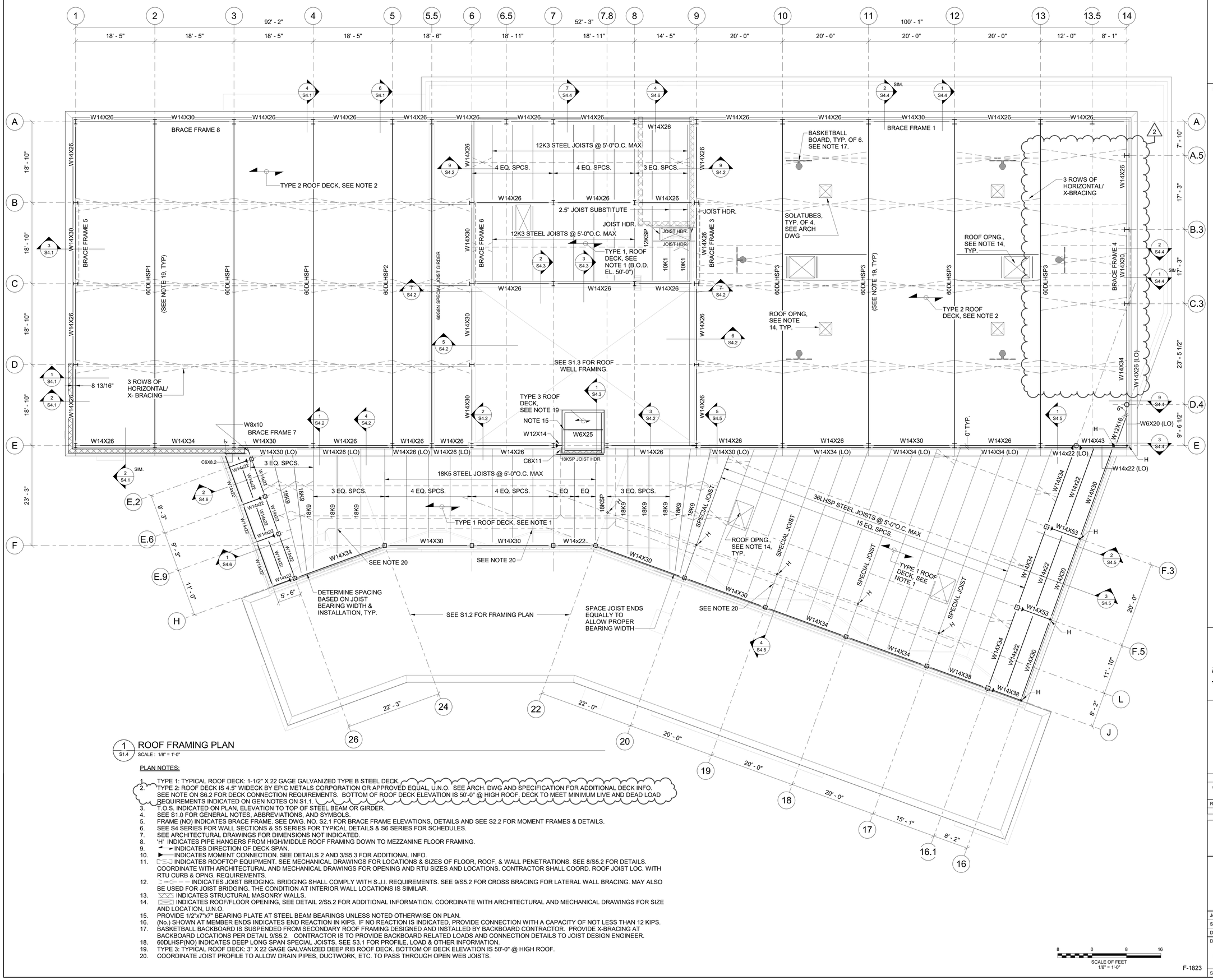

1 S1.4 ROOF FRAMING PLAN

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

PLAN NOTES:

1. TYPE 1: TYPICAL ROOF DECK: 1-1/2" X 22 GAGE GALVANIZED TYPE B STEEL DECK.
2. TYPE 2: ROOF DECK IS 4.5" WIDECK BY EPIC METALS CORPORATION OR APPROVED EQUAL, U.N.O. SEE ARCH. DWG AND SPECIFICATION FOR ADDITIONAL DECK INFO. SEE NOTE ON S6.2 FOR DECK CONNECTION REQUIREMENTS. BOTTOM OF ROOF DECK ELEVATION IS 50'-0" @ HIGH ROOF. DECK TO MEET MINIMUM LIVE AND DEAD LOAD REQUIREMENTS INDICATED ON GEN NOTES ON S1.1.
3. T.O.S. INDICATED ON PLAN, ELEVATION TO TOP OF STEEL BEAM OR GIRDER.
4. SEE S1.0 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.
5. FRAME (NO) INDICATES BRACE FRAME. SEE DWG. NO. S2.1 FOR BRACE FRAME ELEVATIONS, DETAILS AND SEE S2.2 FOR MOMENT FRAMES & DETAILS.
6. SEE S4 SERIES FOR WALL SECTIONS & S5 SERIES FOR TYPICAL DETAILS & S6 SERIES FOR SCHEDULES.
7. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
8. 'H' INDICATES PIPE HANGERS FROM HIGH/MIDDLE ROOF FRAMING DOWN TO MEZZANINE FLOOR FRAMING.
9. INDICATES DIRECTION OF DECK SPAN.
10. INDICATES MOMENT CONNECTION. SEE DETAILS 2 AND 3/S5.3 FOR ADDITIONAL INFO.
11. INDICATES ROOFTOP EQUIPMENT. SEE MECHANICAL DRAWINGS FOR LOCATIONS & SIZES OF FLOOR, ROOF, & WALL PENETRATIONS. SEE 8/S5.2 FOR DETAILS. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR OPENING AND RTU SIZES AND LOCATIONS. CONTRACTOR SHALL COORD. ROOF JOIST LOC. WITH RTU CURB & OPNG. REQUIREMENTS.
12. INDICATES JOIST BRIDGING. BRIDGING SHALL COMPLY WITH S.J.I. REQUIREMENTS. SEE 9/S5.2 FOR CROSS BRACING FOR LATERAL WALL BRACING. MAY ALSO BE USED FOR JOIST BRIDGING. THE CONDITION AT INTERIOR WALL LOCATIONS IS SIMILAR.
13. INDICATES STRUCTURAL MASONRY WALLS.
14. INDICATES ROOF/FLOOR OPENING, SEE DETAIL 2/S5.2 FOR ADDITIONAL INFORMATION. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION, U.N.O.
15. PROVIDE 1/2"x7"x7" BEARING PLATE AT STEEL BEAM BEARINGS UNLESS NOTED OTHERWISE ON PLAN.
16. (No.) SHOWN AT MEMBER ENDS INDICATES END REACTION IN KIPS. IF NO REACTION IS INDICATED, PROVIDE CONNECTION WITH A CAPACITY OF NOT LESS THAN 12 KIPS.
17. BASKETBALL BACKBOARD IS SUSPENDED FROM SECONDARY ROOF FRAMING DESIGNED AND INSTALLED BY BACKBOARD CONTRACTOR. PROVIDE X-BRACING AT BACKBOARD LOCATIONS PER DETAIL 9/S5.2. CONTRACTOR IS TO PROVIDE BACKBOARD RELATED LOADS AND CONNECTION DETAILS TO JOIST DESIGN ENGINEER.
18. 60DLHSP(NO) INDICATES DEEP LONG SPAN SPECIAL JOISTS. SEE S3.1 FOR PROFILE, LOAD & OTHER INFORMATION.
19. TYPE 3: TYPICAL ROOF DECK: 3" X 22 GAGE GALVANIZED DEEP RIB ROOF DECK. BOTTOM OF DECK ELEVATION IS 50'-0" @ HIGH ROOF.
20. COORDINATE JOIST PROFILE TO ALLOW DRAIN PIPES, DUCTWORK, ETC. TO PASS THROUGH OPEN WEB JOISTS.

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

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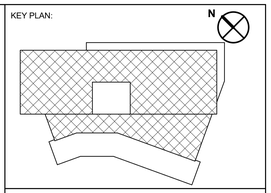
KEY PLAN:



KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

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Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	1/8" = 1'-0"	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: ROOF FRAMING PLAN

Drawing Number: S1.4r2

Sheet: Of

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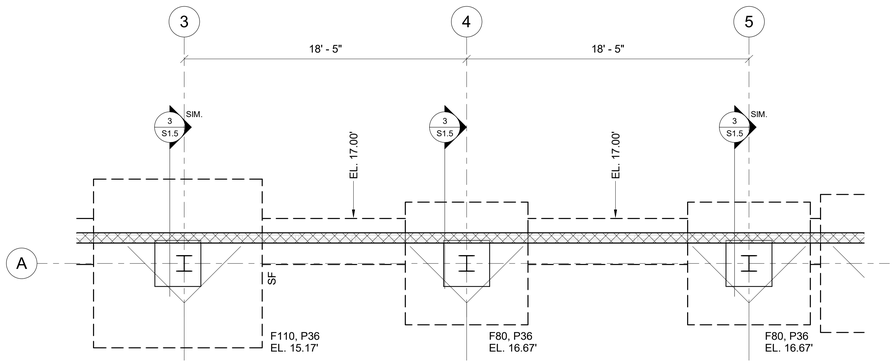
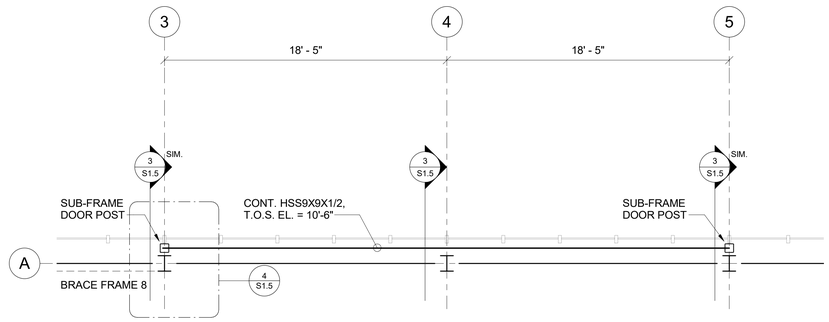


1 S1.5 PARTIAL FLOOR PLAN (ADD ALT. #2)

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

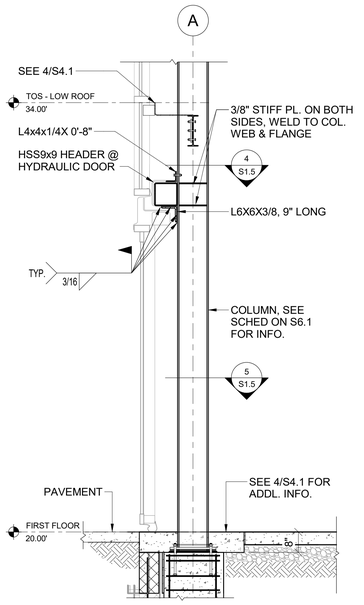
PLAN NOTES:
1. SEE S6.1 FOR COLUMN, PIER & FOOTING SCHEDULES.
2. EL. (NO.) - INDICATES BOTTOM OF CONCRETE FOOTING ELEVATION.
3. F(NO.) - INDICATES FOOTING MARK. SEE S6.1 FOR FOOTING SCHEDULE.
4. SF INDICATES STEPPED FOOTING, SEE 3/S5.1. UNLESS NOTED, PROVIDE STEPPED FOOTINGS AS REQUIRED FROM LOW TO HIGH FOOTINGS PER TYPICAL DETAIL.



2 S1.5 PARTIAL FRAMING PLAN @ DOOR HEADER (ADD ALT. #2)

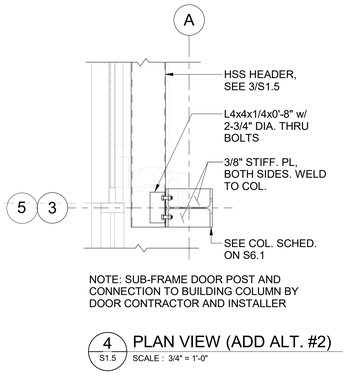
SCALE : 1/4" = 1'-0"

PLAN NOTES:
1. T.O.S. INDICATED ON PLAN, ELEVATION TO TOP OF STEEL BEAM OR GIRDER.
2. SEE S1.0 FOR GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS.
3. FRAME (NO) INDICATES BRACE FRAME. SEE DWG. NO. S2.1 FOR BRACE FRAME ELEVATIONS AND DETAILS.
4. SEE S4 SERIES FOR WALL SECTIONS & S5 SERIES FOR TYPICAL DETAILS & S6 SERIES FOR SCHEDULES.
5. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.



3 S1.5 WALL SECTION (ADD ALT. #5)

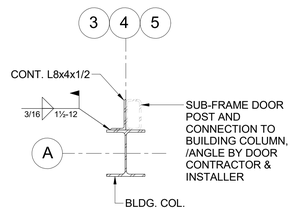
SCALE : 1/2" = 1'-0"



NOTE: SUB-FRAME DOOR POST AND CONNECTION TO BUILDING COLUMN BY DOOR CONTRACTOR AND INSTALLER

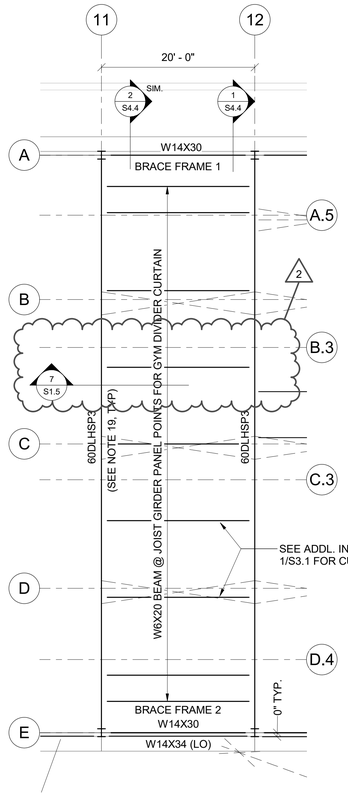
4 S1.5 PLAN VIEW (ADD ALT. #2)

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



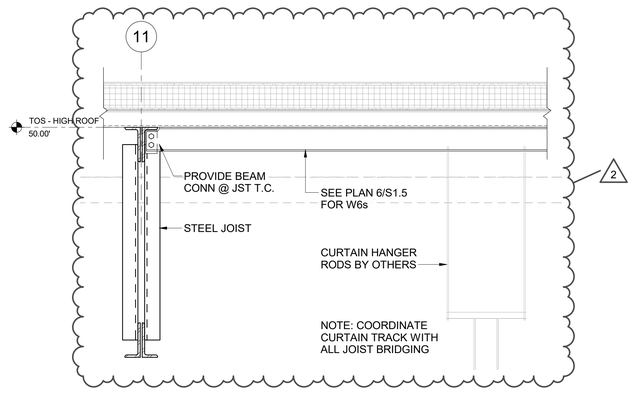
5 S1.5 PLAN VIEW (ADD ALT. #2)

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



6 S1.5 ROOF FRAMING PLAN (ADD ALT #5)

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



7 S1.5 ROOF SECTION (ADD ALT. #5)

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

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

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Revisions:

No.	Date	Description
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MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	As indicated	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: ADD ALTERNATE - HYDRAULIC DOOR & GYM DIVIDER CURTAIN

Drawing Number: S1.5r2

Sheet: Of

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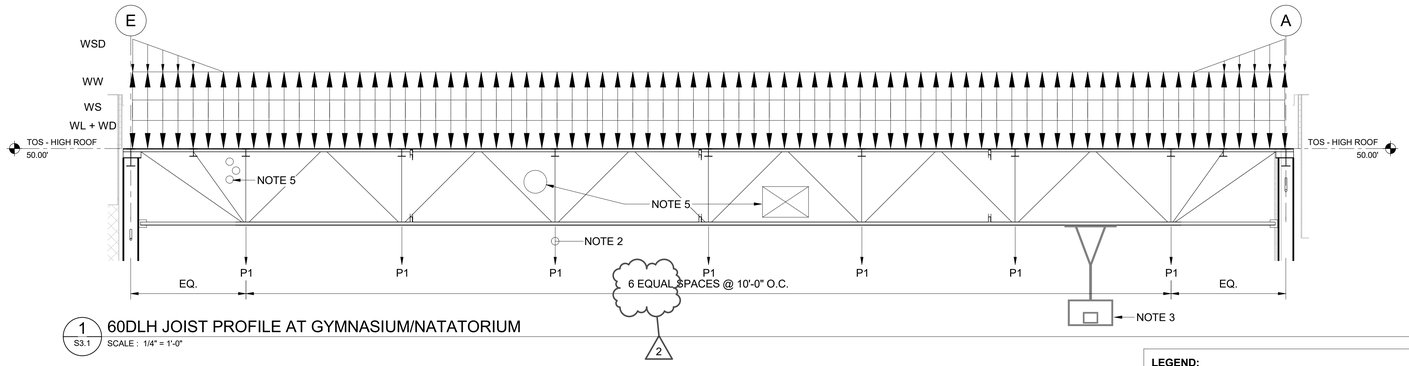
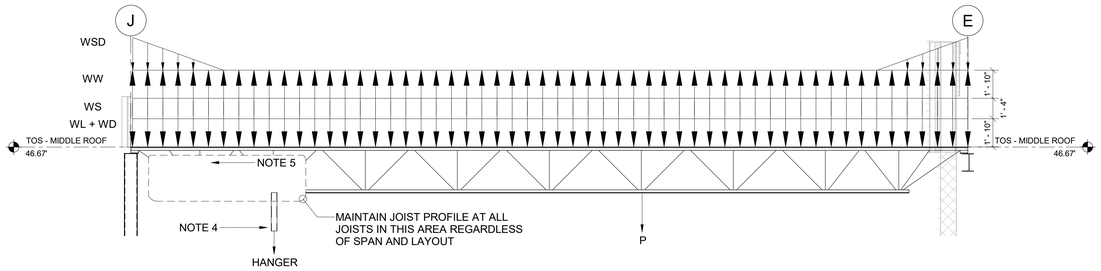


1 S3.1 60DLH JOIST PROFILE AT GYMNASIUM/NATATORIUM

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

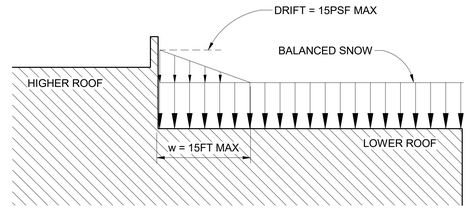


2 S3.1 36LH JOIST PROFILE AT NEXUS

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

3 S3.1 18K JOIST PROFILE AT NEXUS

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



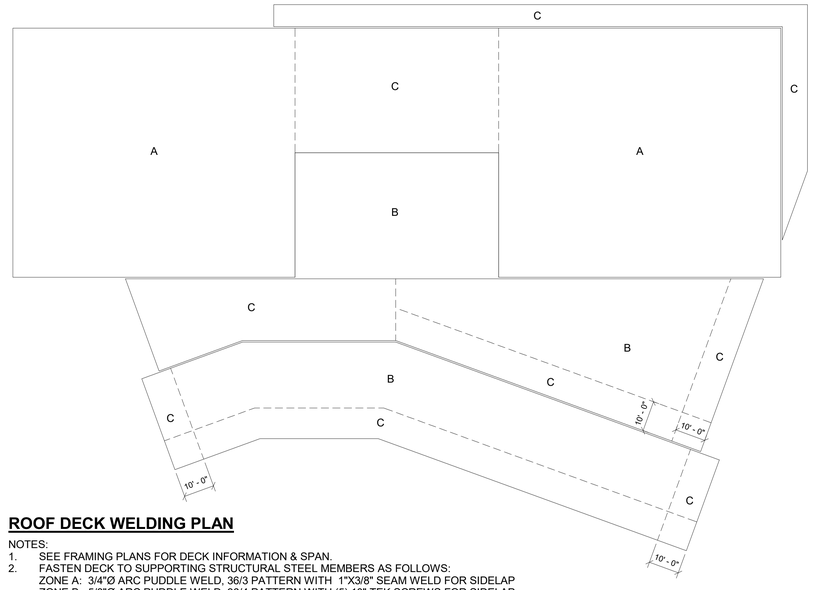
SNOW DRIFT DIAGRAM

LEGEND:

WD - ROOF DEAD LOAD
WL - ROOF LIVE LOAD
WS - ROOF SNOW LOAD
WSD - ROOF SNOW DRIFT LOAD [SEE THIS SHEET]
WW - WIND LOAD
P1 = 200 LBS [GYM DIVIDER CURTAIN]

JOIST PROFILE NOTES:

1. SEE GENERAL NOTE 1 FOR DEAD, LIVE, SNOW, WIND LOAD INFORMATION AND THE COMPONENTS & CLADDING CHART ON S1.1.
2. SEE S1.5 FOR ADDL. INFO FOR BEAMS @ JOIST GIRDER PANEL POINTS FOR GYM DIVIDER CURTAIN.
3. SEE NOTE 17 ON S1.4 FOR BASKETBALL BACKBOARD INFORMATION.
4. SEE S1.2, S1.4 & S4 SERIES FOR LOCATIONS OF ALL HANGER POSTS.
5. COORDINATE ALL JOIST PROFILES FOR PIPES/DUCTS ETC.
6. COORDINATE LOADS AT JOIST BOTTOM CHORD WITH FOLDING PARTITION MFR.
7. SEE THIS SHEET FOR SNOW DRIFT INFORMATION.



ROOF DECK WELDING PLAN

NOTES:
1. SEE FRAMING PLANS FOR DECK INFORMATION & SPAN.
2. FASTEN DECK TO SUPPORTING STRUCTURAL STEEL MEMBERS AS FOLLOWS:
   ZONE A: 3/4"Ø ARC PUDDLE WELD, 36/3 PATTERN WITH 1"X3/8" SEAM WELD FOR SIDELAP
   ZONE B: 5/8"Ø ARC PUDDLE WELD, 36/4 PATTERN WITH (5) 10" TEK SCREWS FOR SIDELAP
   ZONE C: 5/8"Ø ARC PUDDLE WELD, 36/7 PATTERN WITH (6) 10" TEK SCREWS FOR SIDELAP

4 S3.1 ROOF FASTENER PLAN

SCALE : 1" = 20'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

20 0 20 40
SCALE OF FEET
1" = 20'-0"

ISSUED FOR BID

FAISANT ASSOCIATES, INC.
Consulting Structural Engineers
Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009
Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER: 15236, EXPIRATION DATE 01/16/2021

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	As indicated	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: JOIST LOADING DIAGRAMS

Drawing Number: S3.1r2

Sheet: Of

F-1823

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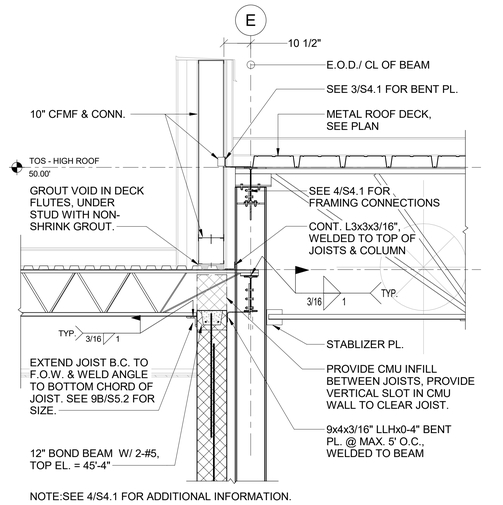
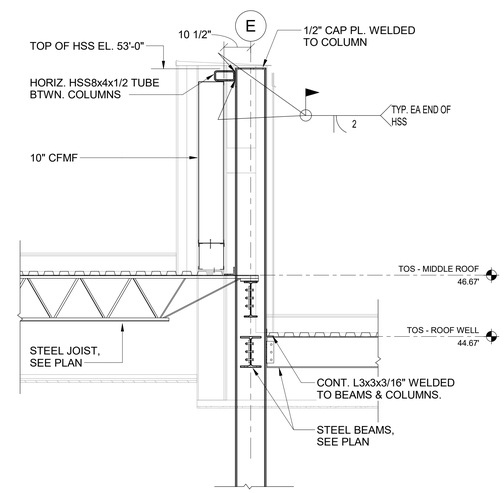


NOTE:SEE 4/S4.1 FOR ADDITIONAL INFORMATION.

1 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"

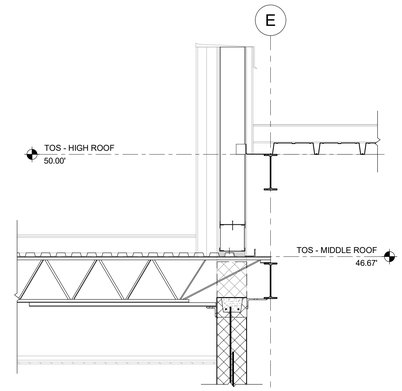


NOTE: SEE 1/S4.2 FOR ADDITIONAL INFORMATION.

2 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"

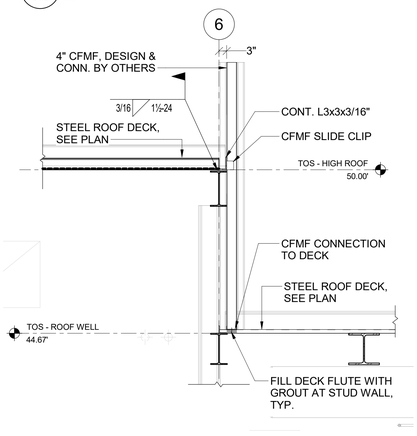
NOTE: SEE 1 & 2/S4.2 FOR ADDITIONAL INFORMATION.

3 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"

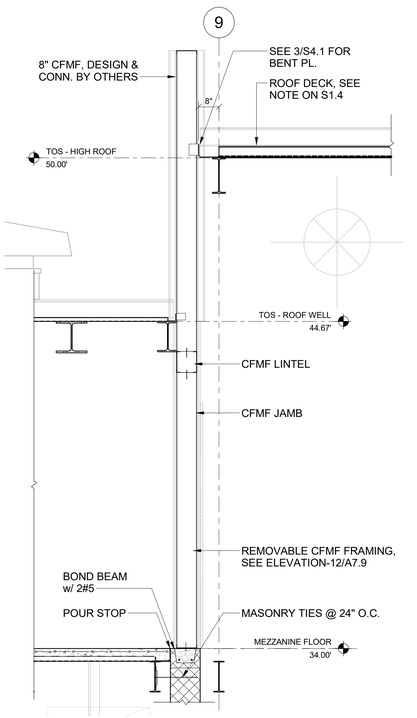


NOTE: SEE 1/S4.2 FOR ADDITIONAL INFORMATION.

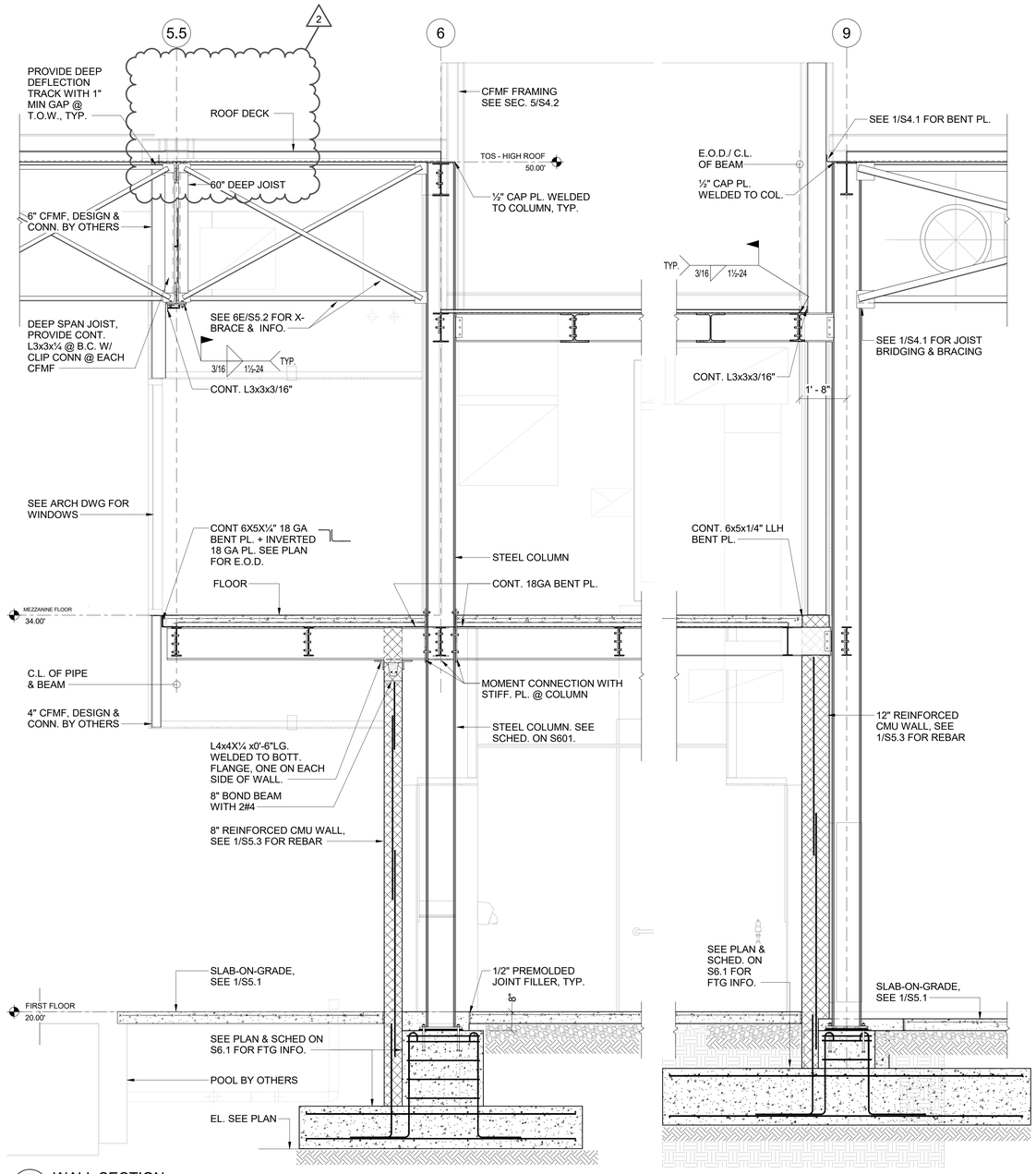
4 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"



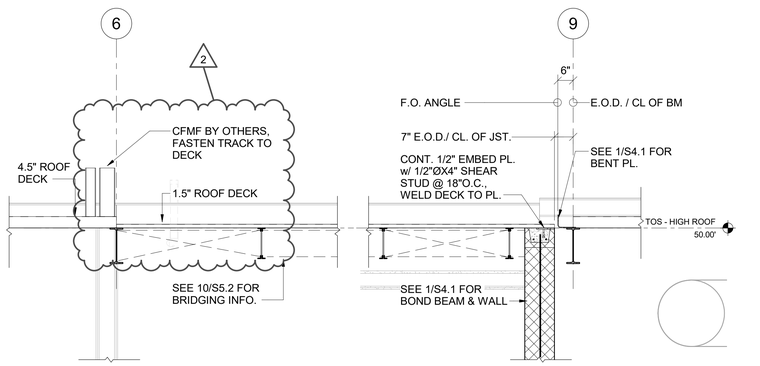
5 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"



6 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"



7 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"



9 S4.2 WALL SECTION
SCALE : 1/2" = 1'-0"

F-1823

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

2 0 2 4
SCALE OF FEET
1/2" = 1'-0"

ISSUED FOR BID

FAISANT ASSOCIATES, INC.
Consulting Structural Engineers

Seal:

G|W
W|O
GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 15236, EXPIRATION DATE 01/19/2021

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM #2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	YP/AM	Drawn
Scale	1/2" = 1'-0"	DR	Checked
Date	11/29/19	ACP	Approved

Drawing Title: WALL SECTIONS

Drawing Number: S4.2r2

Sheet: Of

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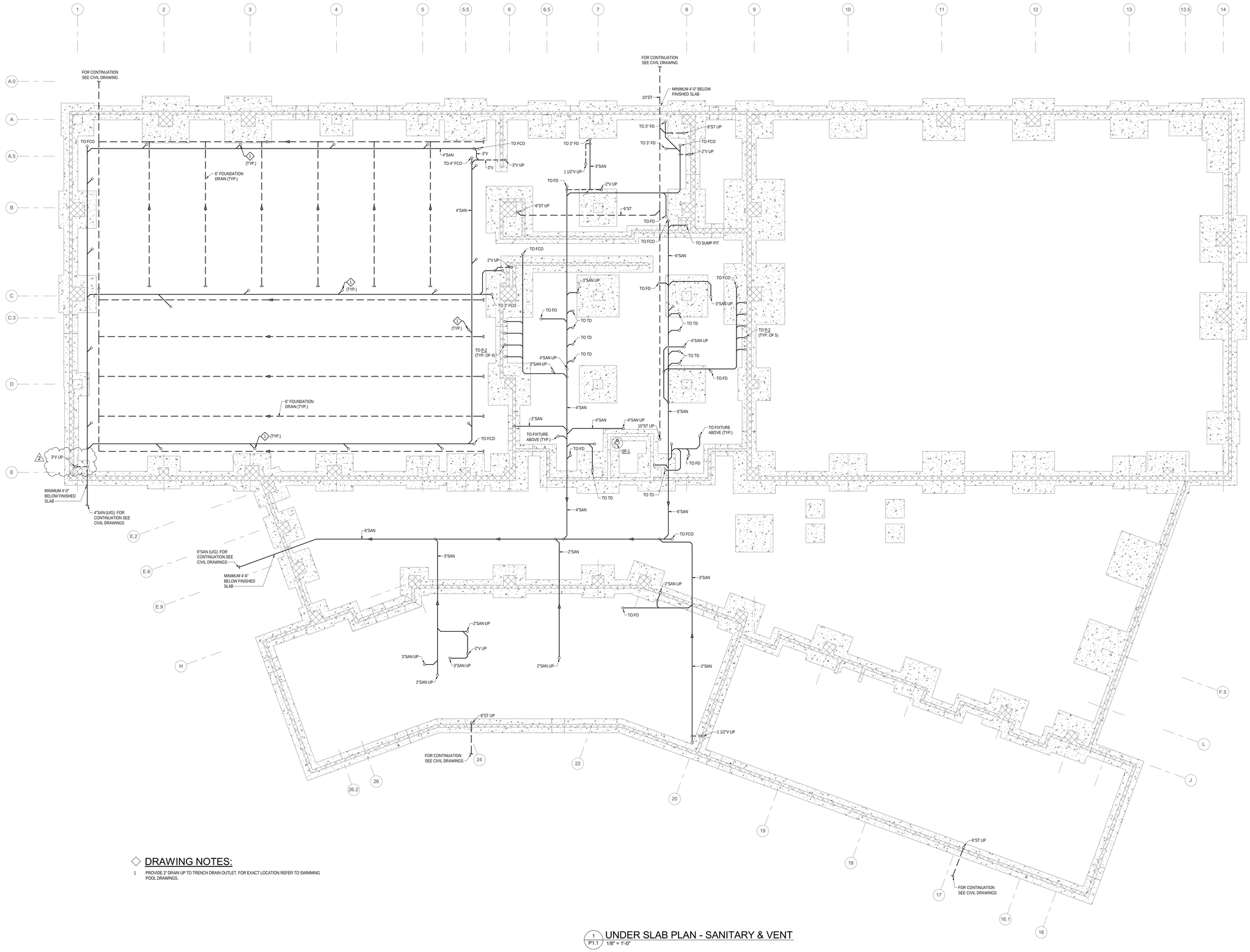


DRAWING NOTES:

1 PROVIDE 3" DRAIN UP TO TRENCH DRAIN OUTLET. FOR EXACT LOCATION REFER TO SWIMMING POOL DRAWINGS.

1 / P1.1 UNDER SLAB PLAN - SANITARY & VENT
1/8" = 1'-0"

KEY PLAN:

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

MIN ENGINEERING, INC.
10 SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX.XXXXXX, EXPIRATION DATE XX/XX/XXXX

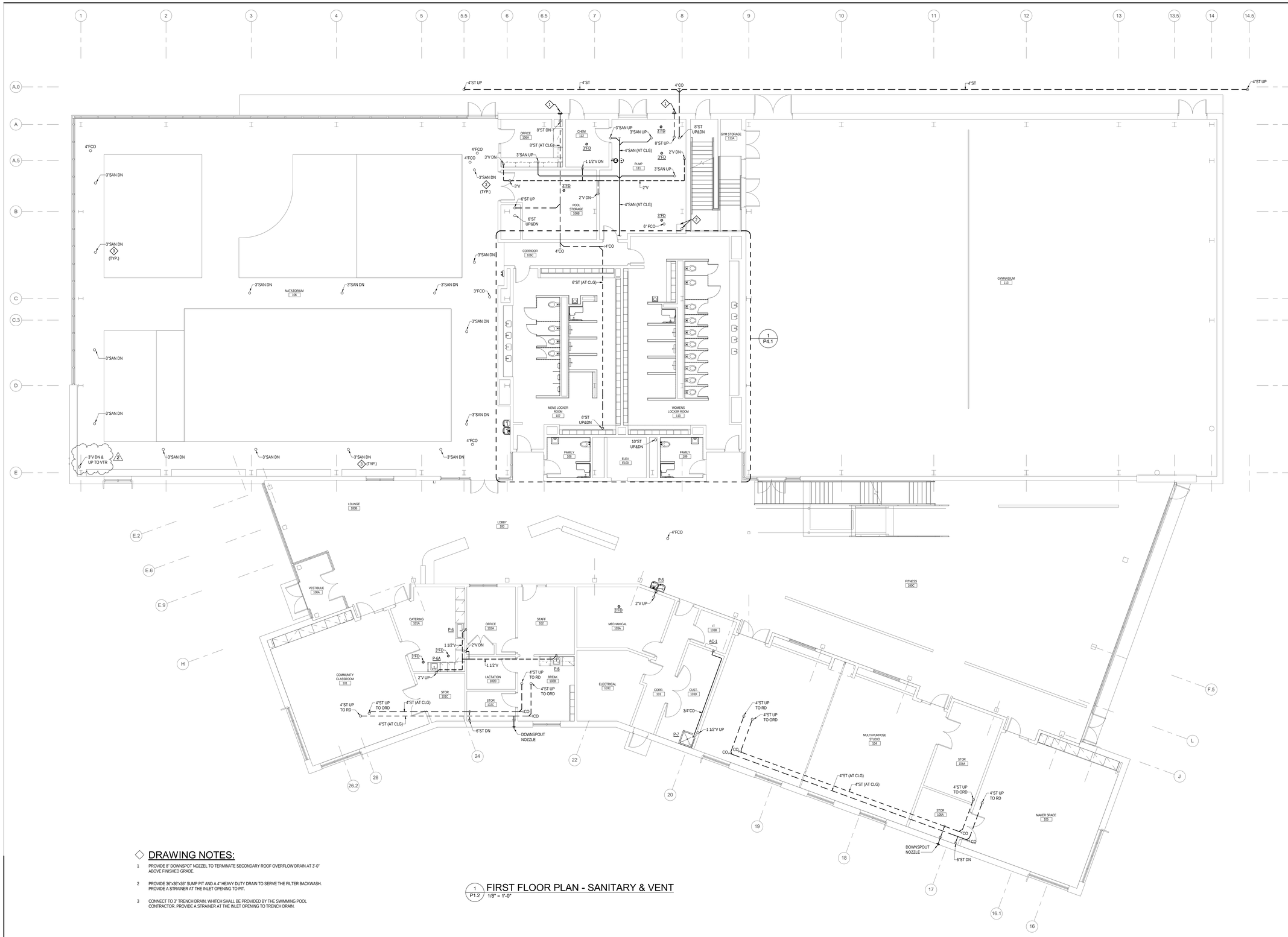
Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	Drawn
Scale	1/8" = 1'-0"	Checker	Checked
Date	11/29/2019	Approver	Approved
Drawing Title			Drawing Number
UNDER SLAB PLAN - SANITARY			P1.1r2
Sheet			Of



DRAWING NOTES:

1. PROVIDE 8" DOWNSPOT NOZZEL TO TERMINATE SECONDARY ROOF OVERFLOW DRAIN AT 3'-0" ABOVE FINISHED GRADE.
2. PROVIDE 36"x36"x36" SUMP PIT AND A 4" HEAVY DUTY DRAIN TO SERVE THE FILTER BACKWASH. PROVIDE A STRAINER AT THE INLET OPENING TO PIT.
3. CONNECT TO 3" TRENCH DRAIN, WHITCH SHALL BE PROVIDED BY THE SWIMMING POOL CONTRACTOR. PROVIDE A STRAINER AT THE INLET OPENING TO TRENCH DRAIN.

1 P1.2 FIRST FLOOR PLAN - SANITARY & VENT

1/8" = 1'-0"

KEY PLAN:

8 0 8 16

SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

MSN ENGINEERING, INC.
10 SUBBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER XXX,XXXXXX, EXPIRATION DATE XX/XX/XXXX

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	GK	Drawn
Scale	1/8" = 1'-0"	BE	Checked
Date	11/29/2019	SM	Approved

Drawing Title: FIRST FLOOR PLAN - SANITARY AND VENT

Drawing Number: P1.2r2

Sheet: Of

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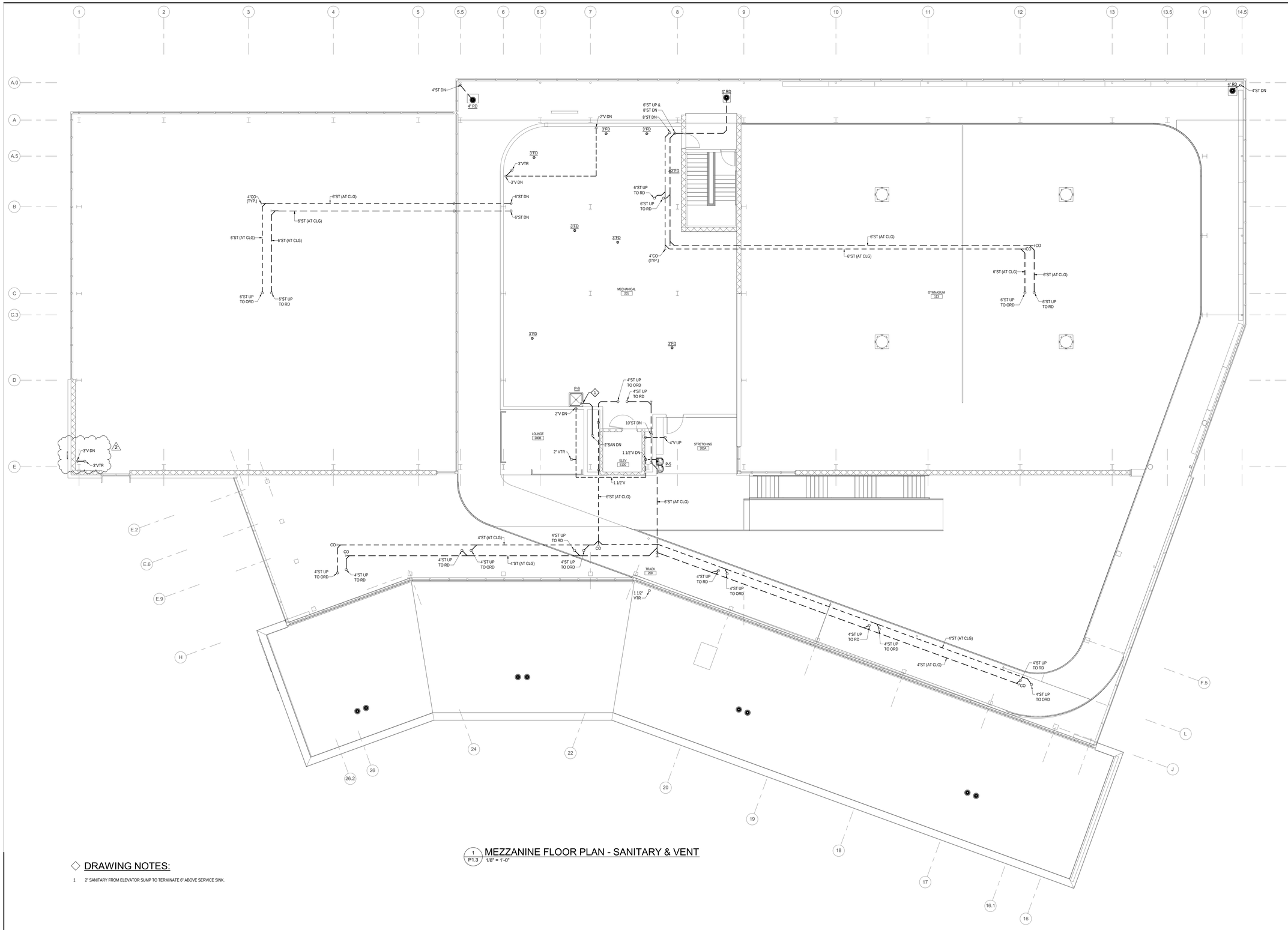

DRAWING NOTES:

1 2" SANITARY FROM ELEVATOR SUMP TO TERMINATE 6" ABOVE SERVICE SINK.

1 / P1.3 MEZZANINE FLOOR PLAN - SANITARY & VENT
1/8" = 1'-0"

KEY PLAN:

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

MIN ENGINEERING, INC.
10 SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX,XXXXXX, EXPIRATION DATE XX/XX/XXXX

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	GK	Drawn
Scale	1/8" = 1'-0"	BE	Checked
Date	11/29/2019	SM	Approved

Drawing Title: MEZZANINE FLOOR PLAN - SANITARY AND VENT

Drawing Number: P1.3r2

Sheet: Of

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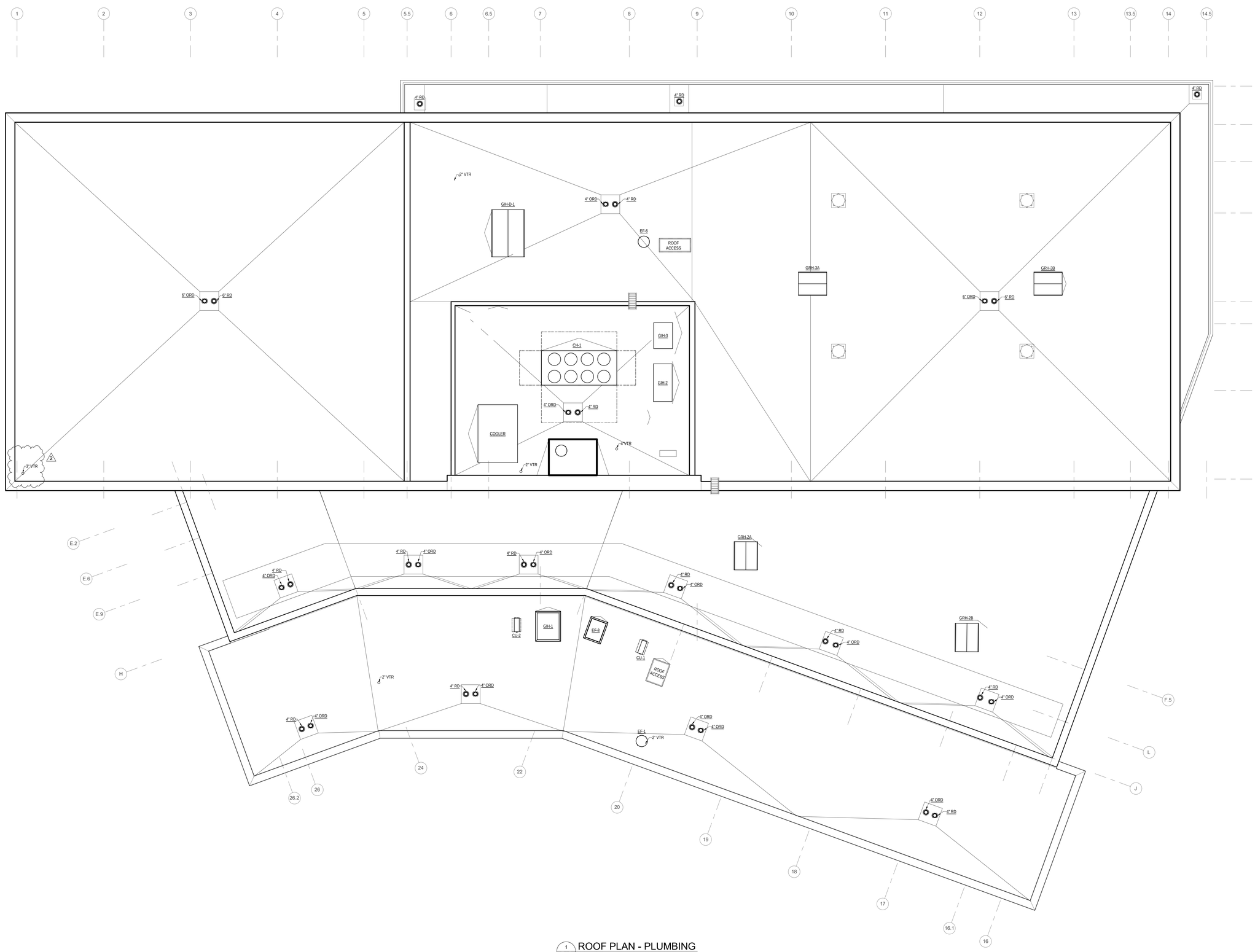

1 P1.6 ROOF PLAN - PLUMBING
1/8" = 1'-0"

KEY PLAN:

8 0 8 16
SCALE OF FEET
1/8" = 1'-0"

ISSUED FOR BID

MSN ENGINEERING, INC.
10 SUBBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER: XXX.XXXXXX, EXPIRATION DATE XX/XX/XXXX

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER AT CHERRY HILL

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	Drawn
Scale	1/8" = 1'-0"	Checker	Checked
Date	11/29/2019	Approver	Approved

Drawing Title: ROOF PLAN - PLUMBING

Drawing Number: P1.6r2

Sheet: Of

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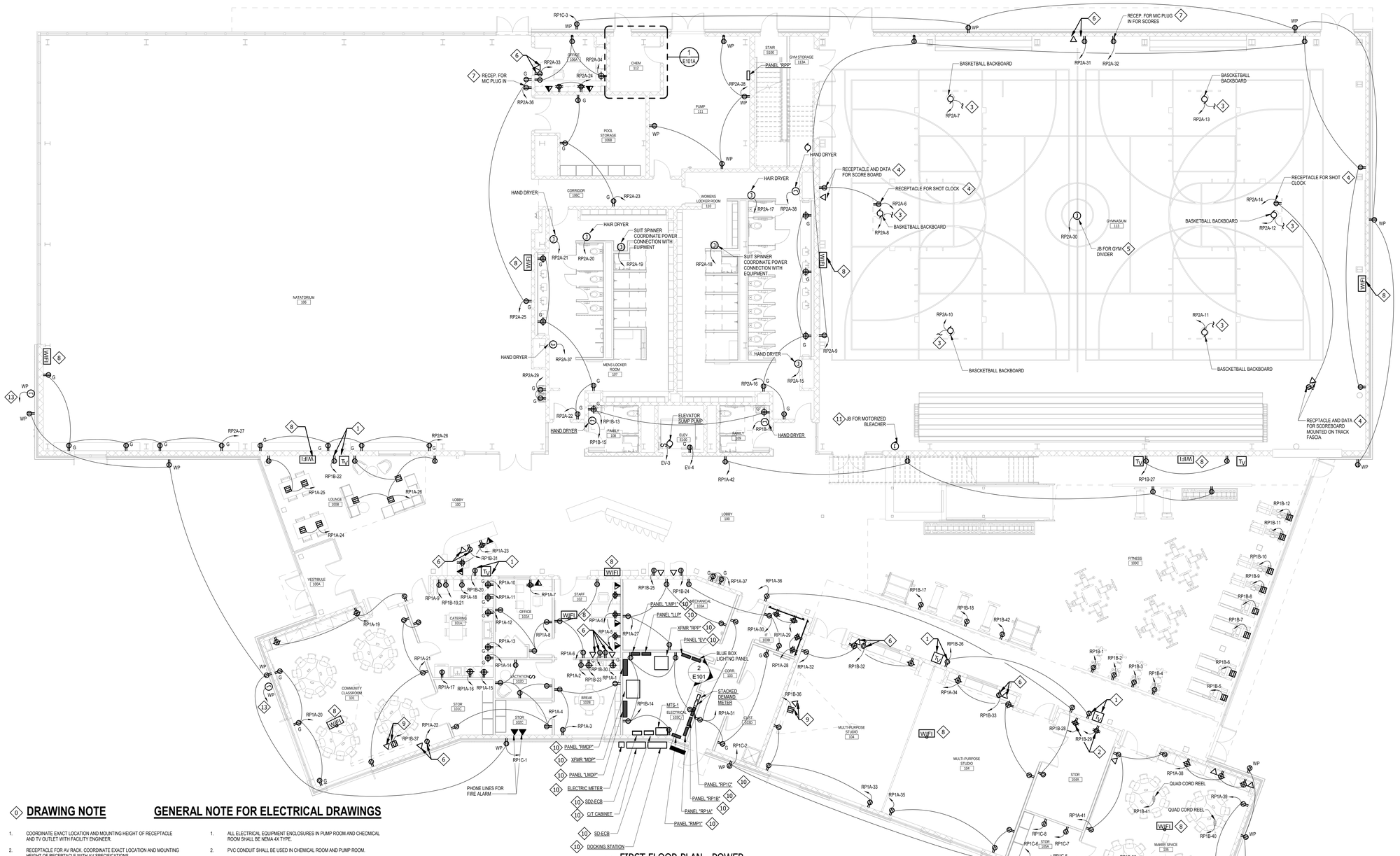
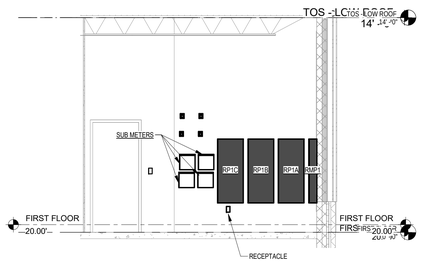


1 FIRST FLOOR PLAN - POWER
1/8" = 1'-0"



2 ELECTRICAL ROOM SECTION
1/4" = 1'-0"

0 DRAWING NOTE

1. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLE AND TV OUTLET WITH FACILITY ENGINEER.
2. RECEPTACLE FOR AV RACK. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLE WITH AV SPECIFICATIONS.
3. TO MOTORIZED BASKETBALL BACKBOARD. PROVIDE ALL THE REQUIRED RECEPTACLES, PLUG, AND AUDIBLE ALARM KIT PER MANUFACTURER'S REQUIREMENT. SEE ARCHITECTURAL SPECIFICATION FOR REQUIREMENTS.
4. RECEPTACLE FOR SHOT CLOCK AND SCOREBOARD. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH FACILITY ENGINEER. PROVIDE CONTROL WIRING AND CONDUITS PER MANUFACTURER'S REQUIREMENT AND NEC.
5. BASE BID: NO GYM DIVIDER.
   ALTERNATE NO 5: JUNCTION BOX FOR GYM DIVIDER. HOMERUN POWER THROUGH DIVIDER CONTROL UNIT. COORDINATE EXACT LOCATION OF CONTROL UNIT AND POWER CONNECTION WITH SUPPLIER.
6. RECEPTACLE AND DATA FOR AV EQUIPMENT. PROVIDE 1" EMPTY CONDUIT WITH PULL WIRE FROM THIS LOCATION TO ACCESSIBLE CEILING SPACE FOR AV EQUIPMENT WIRINGS. SEE AV SPECIFICATION FOR MORE INFORMATION.
7. RECEPTACLE FOR MIC PLUG FOR SCORES. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF RECEPTACLE WITH FACILITY ENGINEER.
8. WIRELESS ACCESS POINTS. PROVIDE 1" EMPTY CONDUIT WITH PULL WIRE FOR WIRELESS ACESS POINTS. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF WIRELESS ACCESS POINTS WITH AV SPECIFICATIONS/FACILITY ENGINEER.
9. RECEPTACLE AND DATA FOR CEILING MOUNTED PROJECTOR.
10. SEE POWER ONE-LINE DIAGRAM FOR DETAIL.
11. BASE BID: MANUALLY OPERATED BLEACHER.
    ALTERNATE NO 4: PROVIDE JUNCTION BOX FOR BLEACHER. PROVIDE BLEACHER DISCONNECT, CONTROLLER, WIRING, AND CONDUIT PER BLEACCHER MANUFACURER'S REQUIREMENTS AND RECOMMENDATIONS.
12. NOT USED.
13. HOMERUN THROUGH BLUE BOX LIGHTING CONTROL CIRCUIT LOCATED IN THE ELECTRICAL ROOM.

GENERAL NOTE FOR ELECTRICAL DRAWINGS

1. ALL ELECTRICAL EQUIPMENT ENCLOSURES IN PUMP ROOM AND CHECMICAL ROOM SHALL BE NEMA 4X TYPE.
2. PVC CONDUIT SHALL BE USED IN CHEMICAL ROOM AND PUMP ROOM.
3. PROVIDE WIRE GUARD FOR ALL ELECTRICAL DEVICES AND EQUIPMENT INSTALLED IN THE GYM.
4. THERE SHOULD NOT BE ANY VERTICAL CONDUITS ALONG GRID LINES H, F,AND J BETWEEN CEILING AND TOP OF MASONRY WALL.

KEY PLAN:

ISSUED FOR BID

MSN ENGINEERING, INC.
10 SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

Seal:

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX,XXXXXX, EXPIRATION DATE XX/XX/XXXX

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER

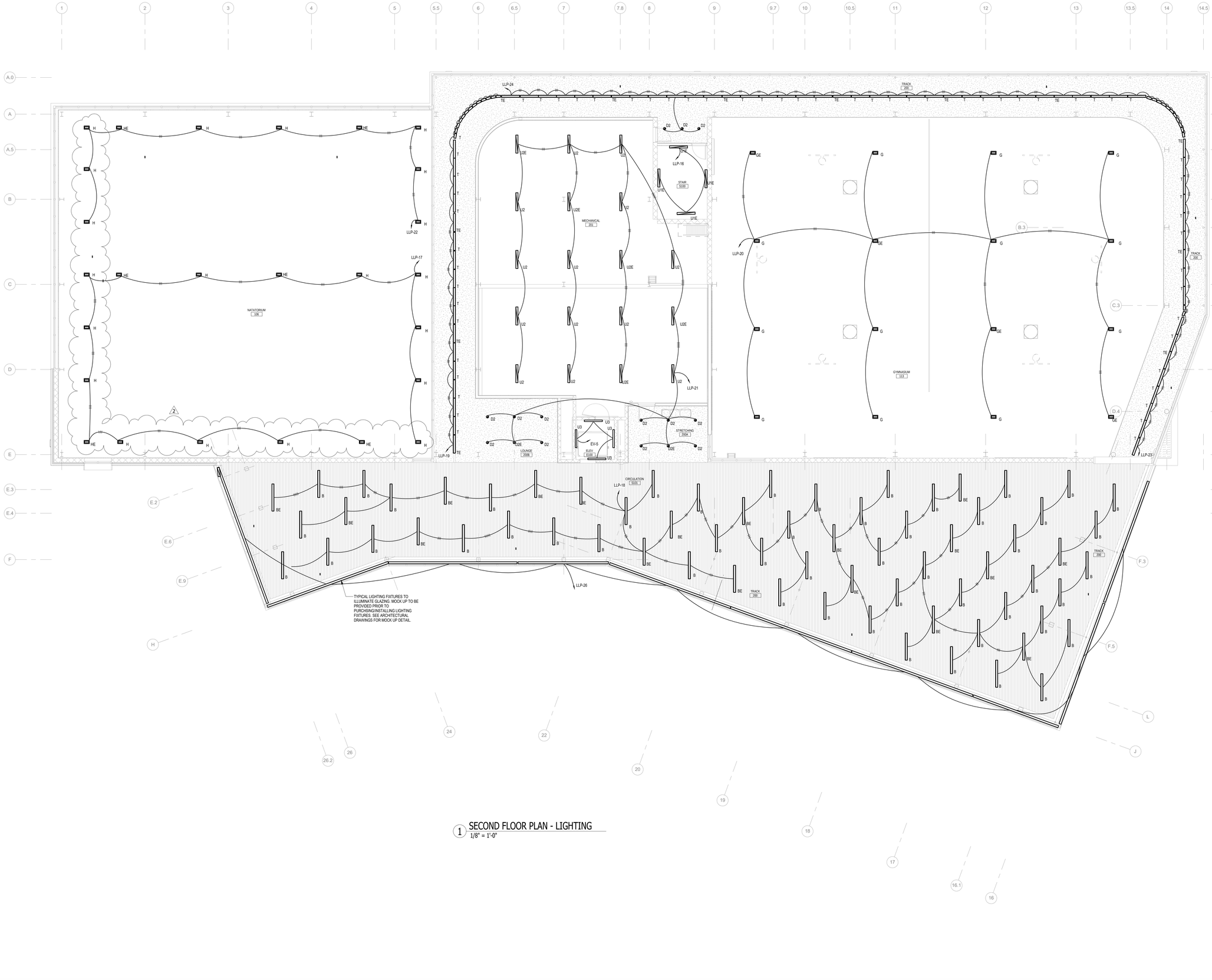
BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	Drawn
Scale	As indicated	Checker	Checked
Date	11/29/2019	Approver	Approved

Drawing Title: FIRST FLOOR PLAN - POWER

Drawing Number: E101r2

Sheet: Of



1 SECOND FLOOR PLAN - LIGHTING
1/8" = 1'-0"

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

MSN ENGINEERING, INC.
10 SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER XXX.XXXXXX, EXPIRATION DATE XX/XX/XXXX

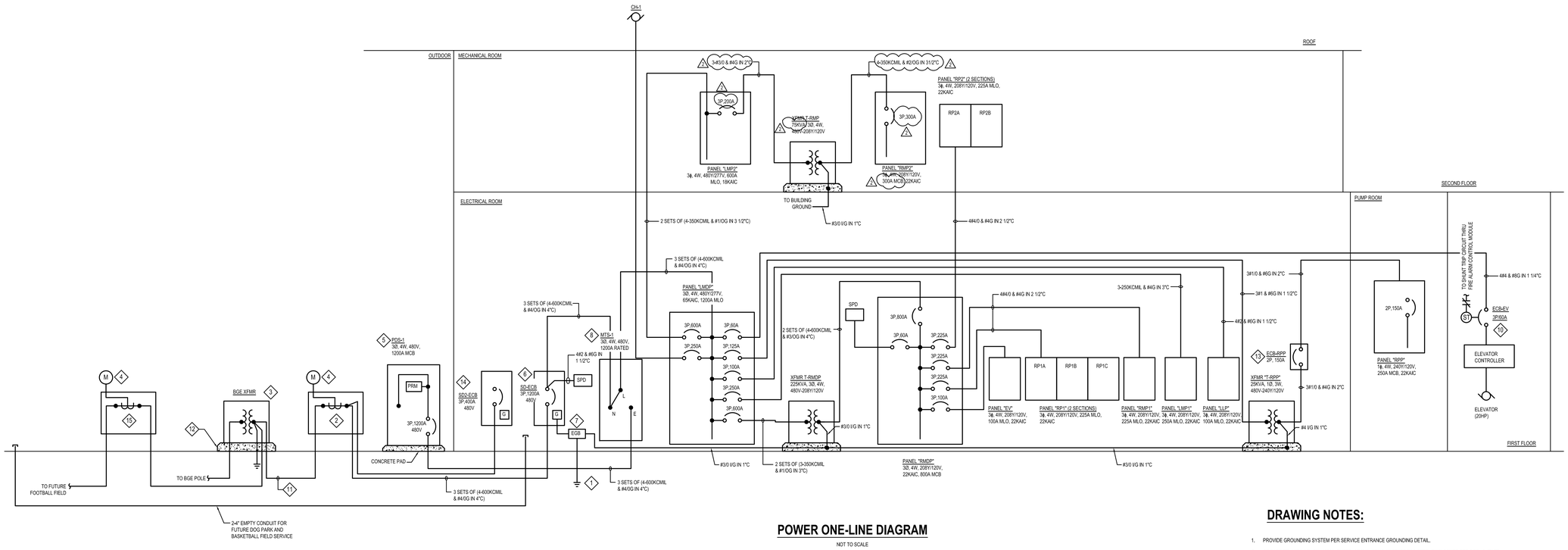
Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER

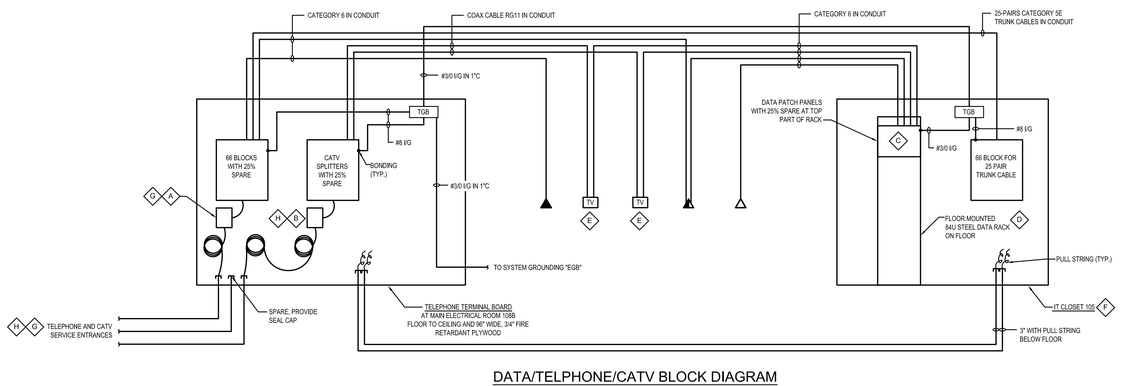
BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	Drawn
Scale	1/8" = 1'-0"	Checker	Checked
Date	11/29/2019	Approver	Approved
Drawing Title		Drawing Number	
SECOND FLOOR PLAN - LIGHTING		E202r2	
Sheet			Of



POWER ONE-LINE DIAGRAM

NOT TO SCALE



DATA/TELPHONE/CATV BLOCK DIAGRAM

NOT TO SCALE

DRAWING NOTES:

1. PROVIDE GROUNDING SYSTEM PER SERVICE ENTRANCE GROUNDING DETAIL.
2. CT CABINET, 480V, 3Ø, 4W, 1600A, BUSED, 65KAIC, NEMA 4X STAINLESS STEEL ENCLOSURE PER BGE. SUBMIT C/T CABINET SUBMITTAL TO BGE FOR REVIEW AND APPROVAL.
3. COORDINATE THE LOCATION OF UTILITY TRANSFORMER, GROUNDING AND PAD REQUIREMENTS WITH LOCAL UTILITY. PROVIDE GROUNDING AND PAD.
4. UTILITY METER SOCKET, NEMA 3R. COORDINATE LOCATION OF METER WITH LOCAL UTILITY. PROVIDE 1 1/2" FROM CT TO METER SOCKET ENCLOSURE. SUBMIT METER SOCKET SHOP DRAWING TO BGE FOR REVIEW AND APPROVAL.
5. PORTABLE GENERATOR DOCKING STATION:
   - 5.1. NEMA 4X STAINLESS STEEL WITH FREE STANDING ON PAD
   - 5.2. CAM STYLE INPUT/HOOKUP CONNECTION
   - 5.6. MAIN CIRCUIT BREAKER, 1200A 65KAIC
   - 5.7. PHASE ROTATION MONITOR
   - 5.8. 480V, 3Ø, 4W (A, B, C, NEUTRAL, G)
   - 5.9. SIX (6) SETS OF #4/0 2/0 CAM STYLE PORTABLE POWER CABLES PER PHASE (TOTAL 30 CABLES): PHASE A: BROWN, PHASE B: ORANGE, PHASE C: YELLOW, NEUTRAL: GRAY, GROUND: GREEN.
   - 5.10. TRYSTAR #GDS-08-5-P-800A-M-A-B-I-J-K2 OR APPROVAL EQUAL
6. SERVICE DISCONNECT, 3P PLUS SOLID NEURAL AND GROUND, 480V, 65KAIC, 1200A ENCLOSED CIRCUIT BREAKER, WITH LOCKABLE NEMA 1 ENCLOSURE AND MICROLOGIC TRIP UNIT, AND SUITABLE TO USE FOR SERVICE DISCONNECT. MICROLOGIC SHASLL HAVE THE FOLLOWING FEATURES;
   - I. LSIG TRIP CONFIGURATION WITH PROGRAMMABLE GROUND FAULT ALARM.
   - II. INCREMENTAL "FINE TUNING OF L, S, I, AND G PICKUP AND DELAY SETTINGS.
   - III. NEUTRAL PROTECTION
   - IV. POWER MEASUREMENT
   - V. LOCAL AND REMOTE SETTING. PROVIDE PROGRAMMING AND TRIP SETTING BASED ON OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY.

   SUBMIT SHOP DRAWINGS TO BGE FOR REVIEW AND APPROVAL.
7. SEE DETAIL 3/E502 AND 5/E502 FOR SYSTEM GROUNDING DETAILS.
8. MANUAL TRANSFER SWITCH, 480V, 3Ø, 4W, 1200A, 65KIC WITHSTAND RATING, NEMA 1 ENCLOSURE.
9. TO BUILDING STEEL/SYSTEM GROUNDING.
10. 3P, 480V, 60A, 65KAIC, ENCLOSED CIRCUIT BREAKER WITH SHUNT TRIP UNIT AND NEMA 1 ENCLOSURE. SEE DETAIL 7/E502 "ELEVATOR SHUNT TRIP CONTROL DETAIL" FOR SHUNT TRIP WIRING DETAIL. COORDINATE WITH FIRE ALARM CONTROL CONTRACTOR FOR IRE ALARM CONNECTION.
11. SERVICE ENTRANCE CONDUCTORS TO BE PROVIDED BY LOCAL UTILITY. CONTACT AND COORDINATE HOOKUP WITH LOCAL UTILITY AFTER SERVICE EQUIPMENT INSTALLATION INSPECTION IS PASSED.
12. CONTACT AND COORDINATE WITH LOCAL UTILITY FOR TRANSFORMER SIZE AND ASSOCIATED CONCRETE PAD REQUIREMENTS. PROVIDE PRECAST CONCRETE PAD PER UTILITY REQUIREMENTS.
13. 2 POLE PLUS SOLID NEUTRAL AND GROUND, 240V, 10KAIC, 150A ENCLOSED CIRCUIT BREAKER WITH NEMA 1 ENCLOSURE
14. SERVICE DISCONNECT FOR FUTURE DOG PARK AND BASKET BALL FIELD, 3P PLUS SOLID NEURAL AND GROUND, 480V, 65KAIC, 400A ENCLOSED CIRCUIT BREAKER, WITH LOCKABLE NEMA 1 ENCLOSURE AND MICROLOGIC TRIP UNIT , AND SUITABLE TO USE FOR SERVICE DISCONNECT. MICROLOGIC SHASLL HAVE THE FOLLOWING FEATURES;
   - I. LSIG TRIP CONFIGURATION WITH PROGRAMMABLE GROUND FAULT ALARM.
   - II. INCREMENTAL "FINE TUNING OF L, S, I AND G PICKUP AND DELAY SETTINGS.
   - III. NEUTRAL PROTECTION
   - IV. POWER MEASUREMENT
   - V. LOCAL AND REMOTE SETTING. PROVIDE PROGRAMMING AND TRIP SETTING BASED ON OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY. SUBMIT SHOP DRAWINGS TO BGE FOR REVIEW AND APPROVAL.
   - VI. DISCONNECT SHALL BE LOCKED ON THE OFF POSITION.
15. CT CABINET FOR FUTURE FIELD HOUSE AND FOOT BALL FIELD, 480V, 3Ø, 4W, XXA, BUSED, 65KAIC, NEMA 4X STAINLESS STEEL ENCLOSURE PER BGE. SUBMIT C/T CABINET SUBMITTAL TO BGE FOR REVIEW AND APPROVAL.

DATA/TELPHONE/CATV BLOCK DIAGRAM NOTES:

1. COORDINATE WIRING REQUIREMENTS WITH THE MANUFACTURER. COMPLY WITH THE REQUIREMENTS OF THE MANUFACTURER AND THE FOLLOWING:
   - 1.1. ALL COMMUNICATIONS AND COAXIAL CABLES, AND ALL CLASS 2 POWER LIMITED CIRCUITS SHALL COMPLY WITH ARTICLE 725, ARTICLE 800, ARTICLE 810, ARTICLE 820, ARTICLE 830, AND OTHER APPLICABLE ARTICLES OF THE NATIONAL ELECTRICAL CODE. PLENUM RATED, RISER RATED AND GENERAL-PURPOSE COMMUNICATIONS AND COAXIAL SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. CABLES SHALL BE SUITABLE FOR THEIR INTENDED USE. SECURE AND SUPPORT CABLE AT INTERVALS NOT EXCEEDING 3 FEET, OR AS REQUIRED BY THE MANUFACTURER, WHICHEVER IS LESS. CABLE SHALL RUN IN CONDUIT, 1" TRADE SIZE MINIMUM, UNDER THE FOLLOWING CONDITIONS: WHERE SUBJECT TO PHYSICAL DAMAGE; WHERE INSTALLED OUTDOORS OR WET LOCATIONS; WHERE EXPOSED; WHERE CONCEALED IN CONCRETE OR BLOCK WALLS; AND WHERE REQUIRED BY THE NEC.
   - 1.2. ALL OTHER CABLES AND CIRCUITS SHALL RUN IN CONDUIT, 1" TRADE SIZE MINIMUM.
2. SEE PLAN DRAWINGS FOR QUANTITIES AND LOCATIONS OF TELEPHONE OUTLETS, DATA OUTLETS AND TV OUTLETS.
3. PROVIDE 25% SPARE CAPACITY AT THE 66 PUNCH BLOCKS.
4. PROVIDE GROUNDING IN ACCORDANCE WITH THE NEC.
5. ALL CABLES SHALL BE PLENUM RATED.

DIAGRAM NOTES FOR TELEPHONE/DATA/CATV: ◇#

- A. VERIZON SERVICE TERMINATION BOX.
- B. CATV TERMINATION BOX.
- C. CATEGORY 6.
- D. COORDINATE MOUNTING LOCATION WITH OWNER.
- E. COMBO COAX AND DATA OUTLETS.
- F. PROVIDE 3/4" FIRE RETARDANT PLYWOOD FLOOR TO CEILING AND WALL TO WALL FOR ALL WALL SPACES.
- G. CONTACT AND COORDINATE WITH LOCAL TELEPHONE FOR SERVICE ENTRANCE FROM STREET. PROVIDE SERVICE PEDESTALS/HANDHOLES FROM STREET TO ELECTRICAL ROOM IN ACCORDANCE WITH LOCAL TELEPHONE REQUIREMENTS. SEE ELECTRICAL SITE PLAN FOR IDEAL PATHS OF TELEPHONE SERVICES AND LOCATIONS OF PEDESTALS/HANDHOLES.
- H. CONTACT AND COORDINATE WITH LOCAL CATV FOR SERVICE ENTRANCE FROM STREET TO BUILDING. PROVIDE SERVICE PEDESTALS/HANDHOLES FROM STREET TO ELECTRICAL ROOM IN ACCORDANCE WITH LOCAL CATV REQUIREMENTS. SEE ELECTRICAL SITE PLAN FOR IDEAL PATHS OF CATV SERVICES AND LOCATIONS OF PEDESTALS/HANDHOLES.

KEY PLAN:

ISSUED FOR BID

Seal:

MIN ENGINEERING, INC.
13' SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4092

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-1009

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NUMBER 38316, EXPIRATION DATE 01/05/2020

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	MY	Drawn
Scale	AS SHOWN	JY	Checked
Date	11/29/19	JY	Approved

Drawing Title: POWER ONE-LINE AND COMMUNICATION RISER DIAGRAM

Drawing Number: E501 r2

Sheet: Of

File Path

Date/Time Stamp

PANEL SCHEDULE: LMDP

LOCATION: ELECTRICAL 103C
SUPPLY FROM: MAIN DISCONNECT
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 1200 A
MAIN OC: MLO

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	PANEL "LLP" (ELEC 103C)	3	3-#1, 1-#1, 1-#8	100	100	3	10350	8117					3	400	250	3-#750, 1-#750, 1-#3	3	PANEL "LMP1" (ELEC 103C)	2
3	--		--	--	--	--			7413	4986			--	--	--	--		--	4
5	--		--	--	--	--					10586	5430	--	--	--	--		--	6
7	PANEL "RMDP" THRU XFMR "MDP"	3	2 runs of 3-#500, 1-#500, 1-#1	600	600	3	30884	70524					3	600	600	2 runs of 3-#500, 1-#500, 1-#1	3	PANEL "LMP2" (MEZZANINE)	8
9	--		--	--	--	--			32776	70953			--	--	--	--		--	10
11	--		--	--	--	--					24441	72945	--	--	--	--		--	12
13	ELEVATOR	3	3-#4, 1-#4, 1-#10	100	60	3	7479	0					3	125	200	3-#1/0, 1-#1/0, 1-#6	3	PANEL RPP THRU XFMR RPP	14
15	--		--	--	--	--			7479	0			--	--	--	--		--	16
17	--		--	--	--	--					7479	0	--	--	--	--		--	18
19	CH-1 (ROOF)		3-#350, 1-#350, 1-#4	400	250	3	56246	0					--	--	--	--		SPACE	20
21	--		--	--	--	--			56246	0			--	--	--	--		SPACE	22
23	--		--	--	--	--					56246	0	--	--	--	--		SPACE	24
25	SPARE		--	--	100	3	0	0					--	--	--	--		SPACE	26
27	--		--	--	--	--			0	0			--	--	--	--		SPACE	28
29	--		--	--	--	--					0	0	--	--	--	--		SPACE	30
31	SPARE		--	--	250	3	0	0					--	--	--	--		SPACE	32
33	--		--	--	--	--			0	0			--	--	--	--		SPACE	34
35	--		--	--	--	--					0	0	--	--	--	--		SPACE	36
37	SPARE		--	--	100	3	0	0					--	--	--	--		SPACE	38
39	--		--	--	--	--			0	0			--	--	--	--		SPACE	40
41	--		--	--	--	--					0	0	--	--	--	--		SPACE	42
					LOAD:		183575 VA		179853 VA		177118 VA								
					AMPS:		664 A		651 A		639 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI CIRCUIT BREAKER

TOTAL
CONNECTED LOADS: 540545 VA
TOTAL CONNECTED AMP: 650 A

PANEL SCHEDULE: RMDP

LOCATION: ELECTRICAL 103C
SUPPLY FROM: LMDP
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 120/208 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 800 A
MAIN OC: 800A MCB

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	PANEL "RP1" (ELEC 103C)	3	3-#300, 1-#300, 1-#4	225	225	3	12760	14004					3	225	225	3-#300, 1-#300, 1-#4	3	PANEL "RP2" (MEZZANINE)	2
3	--		--	--	--	--			15132	8928			--	--	--	--	2	--	4
5	--	2	--	--	--	--					9180	10560	--	--	--	--		--	6
7	RMP1	3	3-#300, 1-#300, 1-#4	225	225	3	4120	0					3	100	--	--		SPARE	8
9	--		--	--	--	--			8716	0			--	--	--	--		--	10
11	--		--	--	--	--					4701	0	--	--	--	--		--	12
13	SPARE		--	--	100	3	0	0					3	100	--	--		SPARE	14
15	--		--	--	--	--			0	0			--	--	--	--		--	16
17	--		--	--	--	--					0	0	--	--	--	--		--	18
19	SPARE		--	--	225	3	0	0					3	100	--	--		SPARE	20
21	--		--	--	--	--			0	0			--	--	--	--		--	22
23	--		--	--	--	--					0	0	--	--	--	--		--	24
25	SPARE		--	--	100	3	0	0					--	--	--	--		SPACE	26
27	--		--	--	--	--			0	0			--	--	--	--		SPACE	28
29	--		--	--	--	--					0	0	--	--	--	--		SPACE	30
31	SPACE		--	--	--	--	0	0					--	--	--	--		SPACE	32
33	SPACE		--	--	--	--			0	0			--	--	--	--		SPACE	34
35	SPACE		--	--	--	--					0	0	--	--	--	--		SPACE	36
37	SPACE		--	--	--	--	0	0					--	--	--	--		SPACE	38
39	SPACE		--	--	--	--			0	0			--	--	--	--		SPACE	40
41	SPACE		--	--	--	--					0	0	--	--	--	--		SPACE	42
					LOAD:		30884 VA		32776 VA		24441 VA								
					AMPS:		266 A		281 A		204 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI RECEPTACLE

TOTAL
CONNECTED LOADS: 88101 VA
TOTAL CONNECTED AMP: 245 A

PANEL SCHEDULE: LMP1

LOCATION: ELECTRICAL 103C
SUPPLY FROM: LMDP
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 250 A
MAIN OC: MLO

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	AHU-1 (MECHANICAL 103A)		3-#10, 1-#10, 1-#10	100	30	3	3878	2216					1	15	100	1-#14, 1-#14, 1-#14		PVAV-01 (CATERING/STOR 101)	2
3	--		--	--	--	--			3878	1108			1	15	100	1-#14, 1-#14, 1-#14		PVAV-03 (CUST 103D)	4
5	--		--	--	--	--					3878	1552	1	15	100	1-#14, 1-#14, 1-#14		PVAV-04/05 (STOR 104A/105A)	6
7	PVAV-02 (STOR 101C)		1-#14, 1-#14, 1-#14	100	15	1	2023	0					2	20	--	--		SPARE	8
9	SPARE		--	--	20	1			0	0			--	--	--	--	2	--	10
11	SPARE		--	--	20	1					0	0	1	20	--	--		SPARE	12
13	SPARE		--	--	20	1	0	0					3	30	--	--		SPARE	14
15	SPARE		--	--	20	1			0	0			--	--	--	--		--	16
17	SPARE		--	--	20	1					0	0	--	--	--	--		--	18
19	SPARE		--	--	20	1	0	0					2	20	--	--		SPARE	20
21	SPARE		--	--	20	1			0	0			--	--	--	--		--	22
23	SPARE		--	--	20	1					0	0	2	20	--	--		SPARE	24
25	SPARE		--	--	20	1	0	0					--	--	--	--		--	26
27	SPARE		--	--	20	1			0	0			2	20	--	--		SPARE	28
29	SPARE		--	--	20	1					0	0	--	--	--	--		--	30
31	SPACE		--	--	--	--	0	0					1	20	--	--		SPARE	32
33	SPACE		--	--	--	--			0	0			1	20	--	--		SPARE	34
35	SPACE		--	--	--	--					0	0	1	20	--	--		SPARE	36
37	SPACE		--	--	--	--	0	0					1	20	--	--		SPARE	38
39	SPACE		--	--	--	--			0	0			1	20	--	--		SPARE	40
41	SPACE		--	--	--	--					0	0	1	20	--	--		SPARE	42
					LOAD:		8117 VA		4986 VA		5430 VA								
					AMPS:		30 A		18 A		20 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI RECEPTACLE

TOTAL
CONNECTED LOADS: 18533 VA
TOTAL CONNECTED AMP: 22 A

PANEL SCHEDULE: RMP2

LOCATION: MECHANICAL 201
SUPPLY FROM: LMP2
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 120/208 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 300 A
MAIN OC: MCB 2

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	CO2 FEED UNIT (CHEM 112)		1-#12, 1-#12, 1-#12	100	20	1	360	360					1	20	100	1-#12, 1-#12, 1-#12		CO2 FEED UNIT (CHEM 112)	2
3	CO2 FEED UNIT (CHEM 112)		1-#12, 1-#12, 1-#12	100	20	1			360	360			1	20	100	1-#12, 1-#12, 1-#12		CO2 FEED UNIT (CHEM 112)	4
5	CO2 FEED UNIT (CHEM 112)		1-#12, 1-#12, 1-#12	100	20	1					360	360	1	20	100	1-#12, 1-#12, 1-#12		ACU CONTROL UNIT (CHEM 1112)	6
7	ACU CONTROL UNIT (CHEM 1112)		1-#12, 1-#12, 1-#12	100	20	1	360	180					1	20	100	1-#12, 1-#12, 1-#12		CHLORINE FEED (CHEM 1112)	8
9	CHLORINE FEED (CHEM 1112)		1-#12, 1-#12, 1-#12	100	20	1			180	180			1	20	100	1-#12, 1-#12, 1-#12		CHLORINE FEED (CHEM 1112)	10
11	HVAC CONTROL (PUMP 111)		1-#12, 1-#12, 1-#12	100	20	1					1000	1000	1	20	100	1-#12, 1-#12, 1-#12		HVAC CONTROL (PUMP 111)	12
13	AUTO DAMPER (PUMP 111)		1-#12, 1-#12, 1-#12	100	20	1	1000	150					1	20	100	1-#12, 1-#12, 1-#12		UH-2 (PUMP 111)	14
15	GRH CONTROL POWER		1-#12, 1-#12, 1-#12	100	20	1			300	1400			1	20	100	1-#10, 1-#10, 1-#10			16
17	HVAC		1-#12, 1-#12, 1-#12	100	20	1					996	1000	1	20	100	1-#12, 1-#12, 1-#12		HVAC CONTROL (MECH 201)	18
19	HVAC CONTROL (MECH 201)		1-#12, 1-#12, 1-#12	100	20	1	1000	1000					1	20	100	1-#12, 1-#12, 1-#12		HVAC CONTROL (MECH 201)	20
21	HVAC CONTROL (MECH 201)		1-#12, 1-#12, 1-#12	100	20	1			1000	696			1	20	100	1-#12, 1-#12, 1-#12		EF-6 (ROOF)	22
23	EF-5 (ROOF)		1-#10, 1-#10, 1-#10	100	20	1					1176	480	1	20	100	1-#12, 1-#12, 1-#12		EF-1 (ROOF)	24
25	EF-1 (ROOF)		1-#12, 1-#12, 1-#12	100	20	1	528	600					1	20	100	1-#12, 1-#12, 1-#12		HWH-2 (MECH 201)	26
27	HWH-1 (MECH 201)		1-#12, 1-#12, 1-#12	100	20	1			600	1920			1	20	100	1-#10, 1-#10, 1-#10		B-1 (MECH 201)	28
29	B-2 (MECH 201)		1-#10, 1-#10, 1-#10	100	20	1					1920	996	1	20	100	1-#12, 1-#12, 1-#12		HVAC	30
31			1-#12, 1-#12, 1-#12	100	20	1	880	472					1	20	100	1-#12, 1-#12, 1-#12		EF-2	32
33	EF-4(GYM STOR)		1-#12, 1-#12, 1-#12	100	20	1			23	0			1	20	--	--		SPARE	34
35	MOTOR		1-#12, 1-#12, 1-#12	400	20	1					23	0	1	20	--	--		SPARE	36
37	SPARE		--	--	20	1	0	0					1	20	--	--		SPARE	38
39	SPARE		--	--	20	1			0	0			1	20	--	--		SPARE	40
41	SPARE		--	--	20	1					0	0	1	20	--	--		SPARE	42
					LOAD:		6890 VA		7019 VA		9311 VA								
					AMPS:		57 A		59 A		78 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI RECEPTACLE

TOTAL
CONNECTED LOADS: 23220 VA
TOTAL CONNECTED AMP: 64 A

PANEL SCHEDULE: LMP2

LOCATION: MECHANICAL 201
SUPPLY FROM: LMDP
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 600 A
MAIN OC: MLO

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	AHU-2 (MEZZANINE) 15HP		3-#6, 1-#6, 1-#10	100	45	3	5817	3878					3	30	100	3-#10, 1-#10, 1-#10		AHU-3 (MEZZANINE) 10HP	2
3	--		--	--	--	--			5817	3878			--	--	--	--		--	4
5	--		--	--	--	--					5817	3878	--	--	--	--		--	6
7	PANEL "RMP2" THRU XFMR "RMP"	3	3-#250, 1-#250, 1-#6	400	200	3	6890	35708					3	150	200	3-#3/0, 1-#3/0, 1-#6		DHU-1 (MAZZANINE)	8
9	--	2	--	--	--	--			7019	35708			--	--	--	--		--	10
11	--		--	--	--	--					9311	35708	--	--	--	--		--	12
13	HYDRAULIC PUMP (STORAGE...		3-#12, 1-#12, 1-#12	100	20	3	942	582					3	20	400	3-#12, 1-#12, 1-#12		EF-3 (MECH 201)	14
15	--		--	--	--	--			942	582			--	--	--	--		--	16
17	--		--	--	--	--					942	582	--	--	--	--		--	18
19	CHWP-2 (7.5HP)		3-#10, 1-#10, 1-#10	100	25	3	3047	3047					3	25	100	3-#10, 1-#10, 1-#10		CHWP-1 (7.5HP)	20
21	--		--	--	--	--			3047	3047			--	--	--	--		--	22
23	--		--	--	--	--					3047	3047	--	--	--	--		--	24
25								1016					3	35	100	3-#8, 1-#8, 1-#10		HWP-2 (MECH 201) (7.5 HP)	26
27	CP-2 (7.5 HP)		3-#10, 1-#10, 1-#10	100	25	3			1016	1016			--	--	--	--		--	28
29	--		--	--	--	--					1016	1016	--	--	--	--		--	30
31	--		--	--	--	--	1016	7751					3	20	400	3-#12, 1-#12, 1-#12		ACC-1 (ROOF)	32
33	HEAT TRACE (GFCI CB)	6	1-#12, 1-#12, 1-#12	100	20	1			300	7751			--	--	--	--		--	34
35	PWP-1 (PUMP)		3-#12, 1-#12, 1-#12	100	20	3					831	7751	--	--	--	--		--	36
37	--		--	--	--	--	831	0					3	30	--	--		SPARE	38
39	--		--	--	--	--			831	0			--	--	--	--		--	40
41	SPARE		--	--	20	1					0	0	--	--	--	--		--	42
					LOAD:		70524 VA		70953 VA		72945 VA								
					AMPS:		255 A		256 A		264 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI CIRCUIT BREAKER

TOTAL
CONNECTED LOADS: 214423 VA
TOTAL CONNECTED AMP: 258 A

PANEL SCHEDULE: LLP

LOCATION: ELECTRICAL 103C
SUPPLY FROM:
MOUNTING: Surface
ENCLOSURE: Type 1

VOLTAGE: 480/277 Wye
PHASE: 3
WIRES: 4

A.I.C. RATING: SEE POWER RISER DIAGRAM
BUS RATING: 100 A
MAIN OC: MLO

Notes:

CKT	DESCRIPTION	PANEL NOTE	WIRE	Frame	Trip	P	A		B		C		P	Trip	Frame	WIRE	PANEL NOTE	DESCRIPTION	CKT
1	SIGNAGE		1-#12, 1-#12, 1-#12	100	20	1	500	500					1	20	100	1-#12, 1-#12, 1-#12		SIGNAGE	2
3	POLE LIGHT		--	--	20	1			1000	1000			1	20	--	--		POLE LIGHT	4
5	POLE LIGHT		--	--	20	1					1000	1000	1	20	--	--		POLE LIGHT	6
7	WALL PACK		--	--	20	1	1000	3682					1	20	100	1-#10, 1-#10, 1-#10		LTG. (FIRST FLOOR)	8
9	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1			1536	500			1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	10
11	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1					2124	1858	1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	12
13	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1	2029	1518					1	20	100	1-#10, 1-#10, 1-#10		LIGHTING	14
15	LIGHTING		1-#10, 1-#10, 1-#10	100	20	1			1557	172			1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	16
17	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1					0	2346	1	20	100	1-#10, 1-#10, 1-#10		LIGHTING	18
19	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1	890	15					1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	20
21	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1			1648	0			1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	22
23	LIGHTING		1-#12, 1-#12, 1-#12	100	20	1					626	1670	1	20	100	1-#10, 1-#10, 1-#10		LIGHTING	24
25	SPARE		--	--	20	1	0	240					1	20	100	1-#12, 1-#12, 1-#12		LIGHTING	26
27	SPARE		--	--	20	1			0	0			1	20	--	--		SPARE	28
29	SPARE		--	--	20	1					0	0	1	20	--	--		SPARE	30
31	SPARE		--	--	20	1	0	0					1	20	--	--		SPARE	32
33	SPARE		--	--	20	1			0	0			1	20	--	--		SPARE	34
35	SPARE		--	--	20	1					0	0	1	20	--	--		SPARE	36
37	SPACE		--	--	--	--	0	0					--	--	--	--		SPACE	38
39	SPACE		--	--	--	--			0	0			--	--	--	--		SPACE	40
41	SPACE		--	--	--	--					0	0	--	--	--	--		SPACE	42
					LOAD:		10350 VA		7413 VA		10586 VA								
					AMPS:		39 A		27 A		40 A								

PANEL NOTES
1. EXTERIOR WIRING SHALL BE A MINIMUM OF #10
2. WIRING FOR EXIT AND EMERGENCY LIGHTING CIRCUITS SHALL BE A MINIMUM... #10 IN DEDICATED CONDUIT AND OUTLET BOXES.
3. SEE POWER RISER DIAGRAM FOR WIRE SIZE AND CONDUIT SIZE.
4. PROVIDE DEMAND METER TO MONITOR KITCHEN LOADS.
5. FEED-THRU LUG
ST CIRCUIT BREAKER WITH SHUNT TRIP UNIT
6 PROVIDE GFCI RECEPTACLE

TOTAL
CONNECTED LOADS: 28337 VA
TOTAL CONNECTED AMP: 34 A

KEY PLAN:

KEYNOTES LISTED ON THIS SHEET ARE FOR CONVENIENCE ONLY. REFER TO SHEET CS.2 FOR COMPLETE LIST

ISSUED FOR BID

MSN ENGINEERING, INC.
10 SUDBROOK LN
PIKESVILLE, MARYLAND 21208, 410-486-4692

Seal:

GWWO INC.
800 WYMAN PARK DRIVE, SUITE 300
BALTIMORE, MARYLAND 21211, 410-332-3309

Seal:

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER XXX-XXXXXX, EXPIRATION DATE XX/XX/XXXX

Revisions:

No.	Date	Description
2	01/28/2020	ADDENDUM 2

MIDDLE BRANCH FITNESS & WELLNESS CENTER

BALTIMORE CITY RECREATION & PARKS

Job No.	18010	Author	Drawn
Scale		Checker	Checked
Date	11/29/2019	Approver	Approved

Drawing Title: PANEL SCHEDULES
Drawing Number: E602r2
Sheet: Of

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